SINCE 1876

SOMSO® MODELLE

ANATOMY • ZOOLOGY • BOTANY

MARCUS SOMMER SOMSO MODELLE GMBH

Friedrich-Rueckert-Str. 54, DE-96450 Coburg, Germany

Tel (00 49) 95 61 8 57 40 • Fax (00 49) 95 61 85 74 11

somso@somso.de • www.somso.de

The new SOMSO® main catalogue A77 has been published

Catalogues are a tangible and visible documentation of a company's level of performance. In that respect, this present main catalogue A 77 is evidence of the achievements of a family business, which is currently in the process of being handed over to the 5th generation.

All this would not have been possible without the loyalty of a clientele that recognises the immense amount of diligence, costs, planning, and hard work involved in the development and the creation of all SOMSO® Modelle. This commands gratitude and is at the same time an obligation to continue working according to our fathers' and forefathers' motto:
"Better is the enemy of good".

May this catalogue be a guide-book for all those who follow this principle when they make their choices.

Hans Sommer, Managing Director
Sonneberg and Coburg, March 2020

SINCE 1876

Nature is our Model SOMSO® Modelle

On 17th July 1876, Marcus Sommer senior founded the SOMSO Workshops in Sonneberg, Thuringia for the manufacture of anatomical models which, back then, were all made exclusively by hand. Son Fritz, grandson Marcus junior, his great-grandson Hans, and great-great-grandson Louis-Benedikt are responsible for the company SOMSO Modelle GmbH within the framework of its worldwide recognition.

A family business of over 140 years is an incentive, as well as a duty for the future, to continue the work of generations past. The tradition of the family business continues, with the 5th generation being appointed to the management body.

Taking the highest pedagogic and scientific requirements as a benchmark, SOMSO® has been manufacturing originals for more than 140 years. Their shape and functionality, as well as the fact that they can be disassembled, make them the tried and tested basis for stimulating teaching. **"Nature is our model"** - this is the guiding idea for the realistic representation of nature as the prototype.

Founder
Marcus Sommer Snr
∗ 14th Nov. 1845 - † 21st Jan. 1899

Fritz Sommer
∗ 27th Dec. 1879 - † 26th Sept. 1934

Marcus Sommer Jnr
∗ 25th Feb. 1907 - † 26th Dec. 1986

SINCE 1876

The SOMSO® Sun - a symbol for quality

The figurative mark of the SOMSO® Sun, the word marks SOMSO® and SOMSO-PLAST® as well as the green base for our models are nationally and internationally registered trademarks. Our manufacturing and delivery programme includes anatomical, zoological, and botanical teaching models. Continuous new developments and the on-going support by renowned scientists and experts guarantee up-to-date, solid, and pedagogically well-founded imparting of knowledge.

Examples of registration documents in Canada, India, the USA, and Japan.

SOMSO® copyright protection

SOMSO® Modelle are protected by copyright and bear the following nationally and internationally registered trademarks:

Word marks: SOMSO® and SOMSO-PLAST®

Figurative mark: SOMSO® Sun

Position mark: SOMSO®-base green

SOMSO® warranty

As a manufacturer recognised in professional circles, SOMSO® issues a 5-year warranty on service life and operational reliability of all models (proper use provided), with the exception of those which are not produced in SOMSO-PLAST®.

SOMSO® GUARANTEE 5 Years

SOMSO® philosophy of spare parts

Even after decades, SOMSO® Modelle guarantees the availability of spare parts. This is shown using, as examples, organs of the inner ear of models DS 3 and DS 5 (see page 45).

If necessary, an agreement can be reached for corrective maintenance to be performed in our workshops, on the basis of an estimate of costs.

SOMSO® MUSEUM SONNEBERG

Nature is our Model SOMSO® Modelle

Important preliminary Information

1. Scientific collaboration
Close collaboration with scientific institutions ensures that SOMSO® Modelle are consistently created and further developed in compliance with the current state of scientific knowledge.

2. SOMSO-PLAST®
SOMSO® Modelle - high-quality teaching materials for schools and universities since 1876 - the majority of which are made from virtually unbreakable SOMSO-PLAST® and consequently marked with an 'S' in the order number, e.g. AS 1.

3. Technical specifications
The versions, dimensions, and weights stated in the catalogue can change as a result of technical or scientific improvements. SOMSO® Modelle are mainly supplied with model descriptions that are prepared by proficient scientists.

4. Functional models
Functional models make biological processes more understandable. In this catalogue, all functional models are marked with an Ⓕ. All flexibly mounted skeleton parts of category QS are included in the functional models. Functional models are subject to normal wear and tear, due to the nature of the material.

5. SOMSO® characteristics
SOMSO® Modelle feature true-to-life representation technology, attention to detail, and can be disassembled.

6. Manufacturing
SOMSO® Modelle are manufactured by a highly qualified and skilled workforce - mainly by hand and exclusively in Sonneberg and Coburg.

7. Copyright
SOMSO® Modelle as well as the descriptive texts are protected by copyright. In case of any reproductions or unauthorised depictions of SOMSO® Modelle as well as in case of any unauthorised copies of the model descriptions, we reserve the right to assert injunctive reliefs and claims for damages. All rights regarding our catalogues are reserved, especially those of reproduction, copying of illustrations, duplication, translation as well as any form of photomechanical, electronic or digital reproduction, also in extracts.

The SOMSO®-Museum at the parent company in Sonneberg / Thuringia

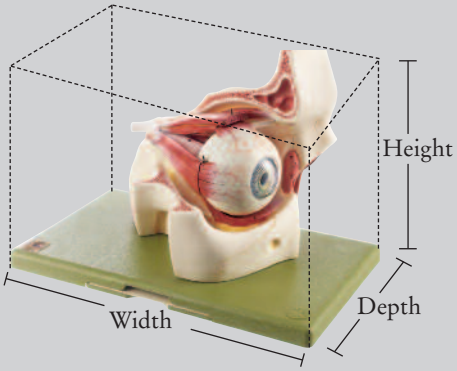
On the occasion of the company's 125th anniversary, family Sommer opened the SOMSO® Museum at the parent company in Sonneberg/Thuringia in 2001. Ten stations, which are constantly updated, showcase the multifaceted model culture of more than 140 years of company history. For more information, go to www.somso-museum.de

Content and Information for Stands, Bases, Base Plates, and Descriptions

Nature is our Model SOMSO® Modelle

Weights and Dimensions

The accompanying text of every SOMSO® Modell contains weights and dimensions. The dimensions given are cubic measures, describing the height, width, and depth of the entire model including the stand or base. The stated weight also includes the base, the stand or the board, as the case may be.

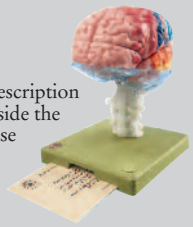


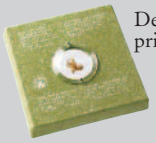
The Descriptions

Model descriptions are supplied in different versions and languages.

Depending on the model, the descriptions are supplied either separately or integrated in the base or the board.


Description in transparent cover on the base


Description inside the base


Description printed on

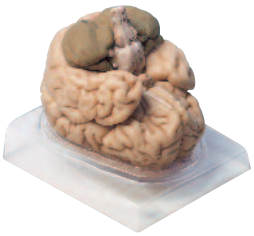
Content

Scope of Delivery of SOMSO® Modelle

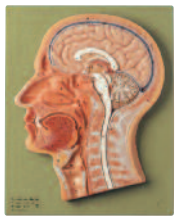
Virtually all models on the following pages are displayed either with stand or base, exactly as they are going to be delivered. Some models are displayed as free-standing. The pertinent text contains an exact description of the specific form of delivery of each model.

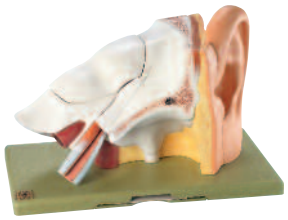
The following different forms are available:


Model under removable, transparent cover


Model on base, can be removed


Model on stand with green base, can be removed


Model on green board


Model on green base


Model on stand with green base

Custom-made SOMSO® Modelle

Black and white pictures of models

The black and white pictures of custom-made SOMSO® Modelle in the catalogue provide an overview of the variety of products that we manufacture and offer on request as individual pieces made from a plasticised material alongside the manufacture of our SOMSO® Modelle made in SOMSO-PLAST®.


F 7

Embryological Ziegler Models

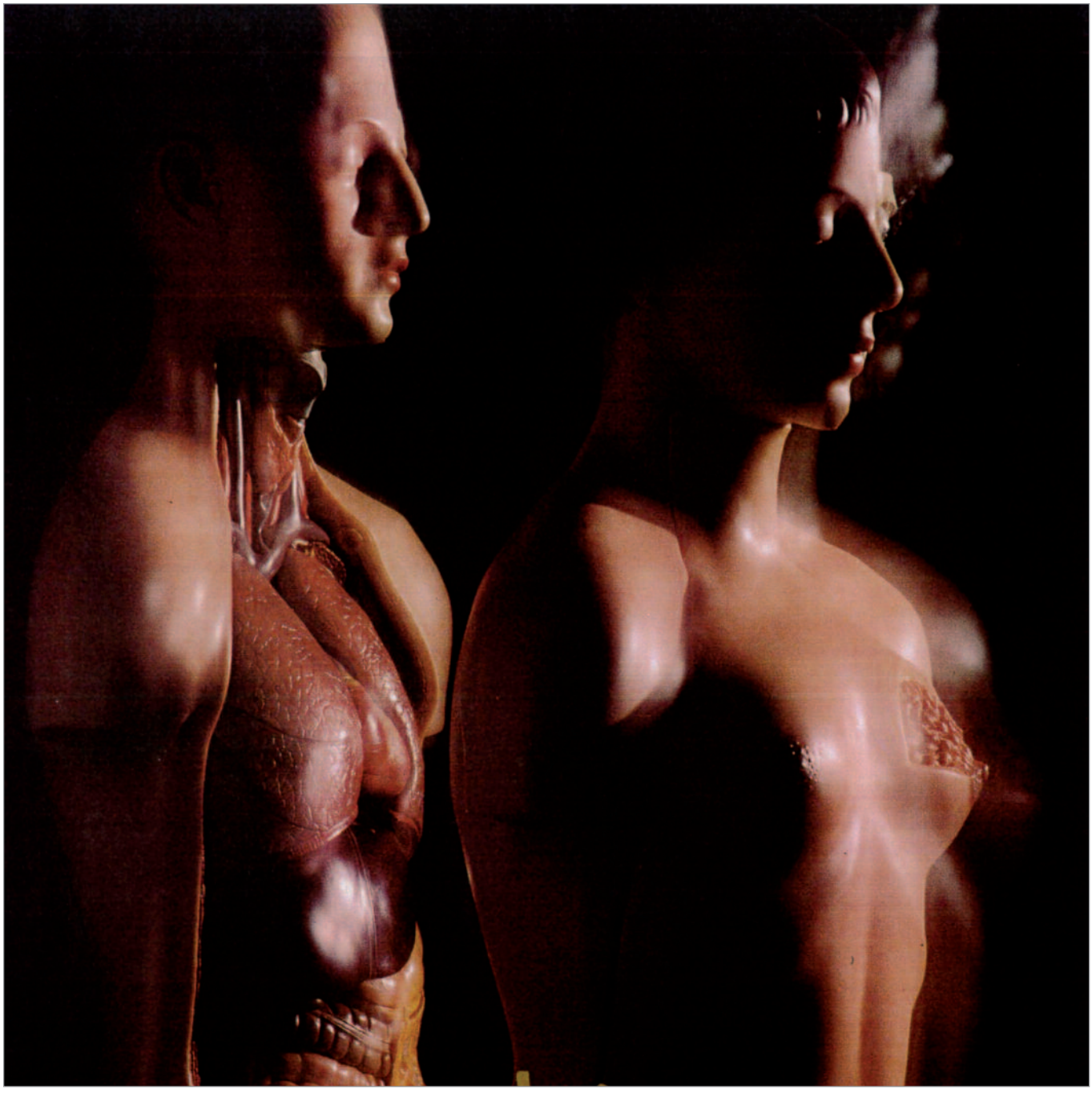
The majority of Ziegler Models displayed on pages 83 - 85 and 147 of our SOMSO® range of products are not made in SOMSO-PLAST® but are shown in colour.


M 48/3-8

Muscle Figures
Torso Models

Nature is our Model SOMSO® Modelle

Anatomy 1



Muscle Figures

Nature is our Model SOMSO® Modelle

Anatomy 1

Production »in detail«

Manufacturing SOMSO® Modelle requires a great degree of specialised and entirely manual work. Every model is perfected by craftsmanship. Technology and manual work form a rare symbiosis. SOMSO® Modelle have the unique single-piece character of manufacture. This way, their value exceeds that of a standard industrial product by far. SOMSO® Modelle owe their captivating "authenticity", which stands the test of both science and aesthetics, to this complex manufacturing process.

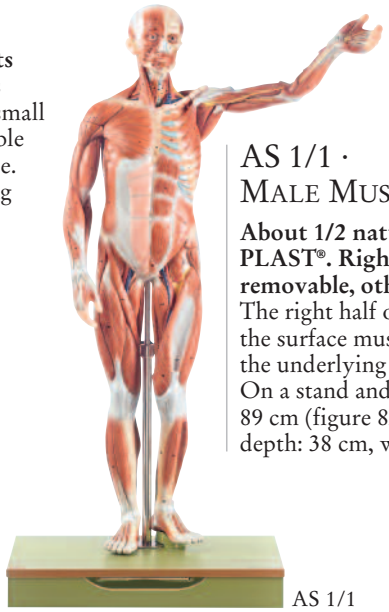
AS 1 · Male Muscle Figure

About 1/2 natural size, in **SOMSO-PLAST®. Separates into 27 parts in total:** cranium, brain (2 parts), thoracic and abdominal wall, halves of the lung (2 parts), heart (2 parts), liver, stomach, duodenum, with small and large intestines and pancreas, right arm, left arm with four removable muscles, muscles of the leg (9 parts), body. On a stand with green base. Height: 89 cm, (figure 82 cm), width: 56 cm, depth: 38 cm, weight: 7.7 kg

AS 1

AS 1/1 · Male Muscle Figure

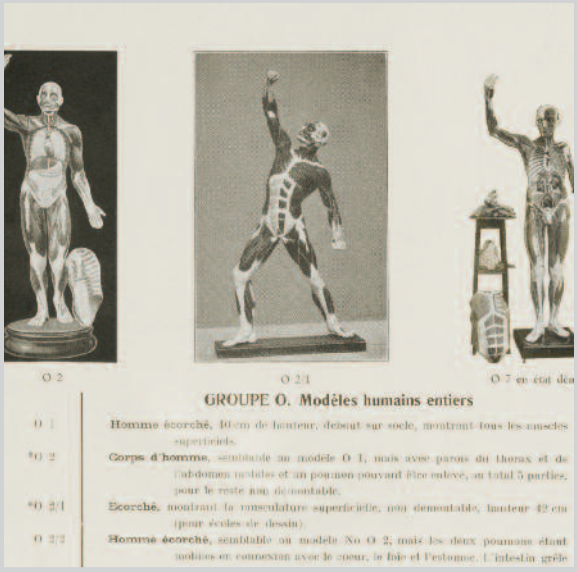
About 1/2 natural size, in **SOMSO-PLAST®. Right and left arm are removable, otherwise in one piece.** The right half of the body shows the surface muscles, on the left side the underlying musculature is shown. On a stand and green base. Height: 89 cm (figure 82 cm), width: 56 cm, depth: 38 cm, weight: 6.48 kg



AS 1/1

AS 1 individual parts

AS 1 back view



GROUPE O. Modèles humains entiers

O 1 Homme écorché, 80 cm de hauteur, debout sur socle, montrant tous les muscles superficiels.

*O 2 Corps d'homme, semblable au modèle O 1, mais avec parois du thorax et de l'abdomen mobiles et un poumon pouvant être enlevé, en total 5 parties, pour le reste non démontable.

*O 2/1 Ecorché, montrant la musculature superficielle, non démontable, hauteur 42 cm (pour écoles de dessin).

O 2/2 Homme écorché, semblable au modèle No O 2, mais les deux poumons étant mobiles en connexion avec le cœur, le foie et l'estomac, l'intestin grêle

Excerpt from the 60th Anniversary French catalogue

A striking example of the originality of SOMSO® Modelle – The Muscle Figure AS 3 – as shown in the 1936 French edition of the SOMSO® 60th Anniversary catalogue.

Muscle Figures

Nature is our Model SOMSO® Modelle

Anatomy 1

AS 3

AS 3/1

AS 3/1 · Muscle Figure

About 1/10 natural size, in **SOMSO-PLAST®. One piece study model** showing the topography of muscles. On a green base. Height: 23 cm (figure 21 cm), width: 13 cm, depth: 7 cm, weight: 350 g

AS 3 AP/NR · Male Muscle Figure with Colour Coding for the Identification of Motor Innervation

after Dr. Hans Schade. In **SOMSO-PLAST®**, as AS 3, which shows superficial musculature, but with the respective muscles and muscle groups colour coded for easy identification. **One piece model.** On a removable green base. Height: 53 cm (figure 50 cm), width: 33 cm, depth: 15 cm, weight: 2.1 kg

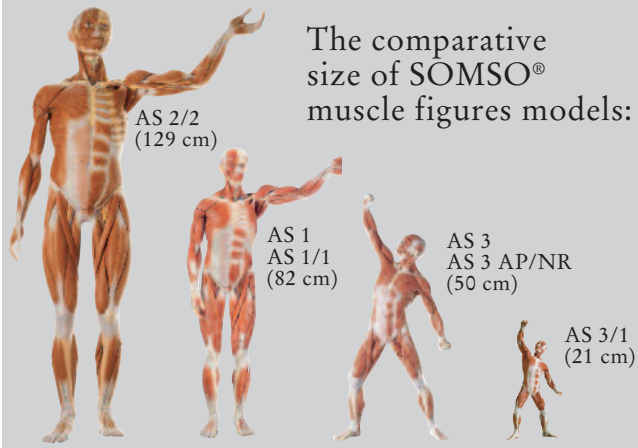
AS 3 AP/NR back view

AS 3 AP/NR

AS 3 back view

AS 3 · Male Muscle Figure

About 1/4 natural size, in **SOMSO-PLAST®. One piece model** which shows the topography of muscles. On a removable green base. Height: 53 cm (figure 50 cm), width: 33 cm, depth: 15 cm, weight: 2.1 kg

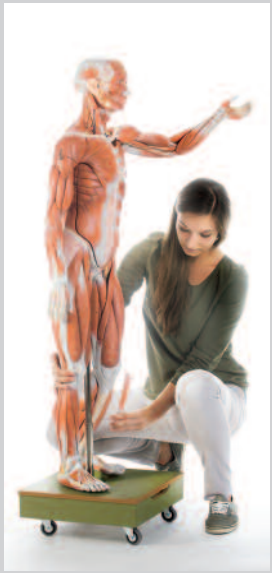


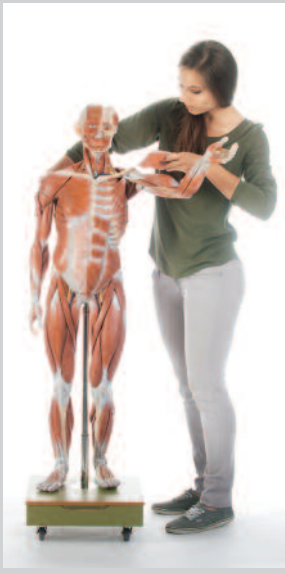
The comparative size of SOMSO® muscle figures models:

Muscle Figures

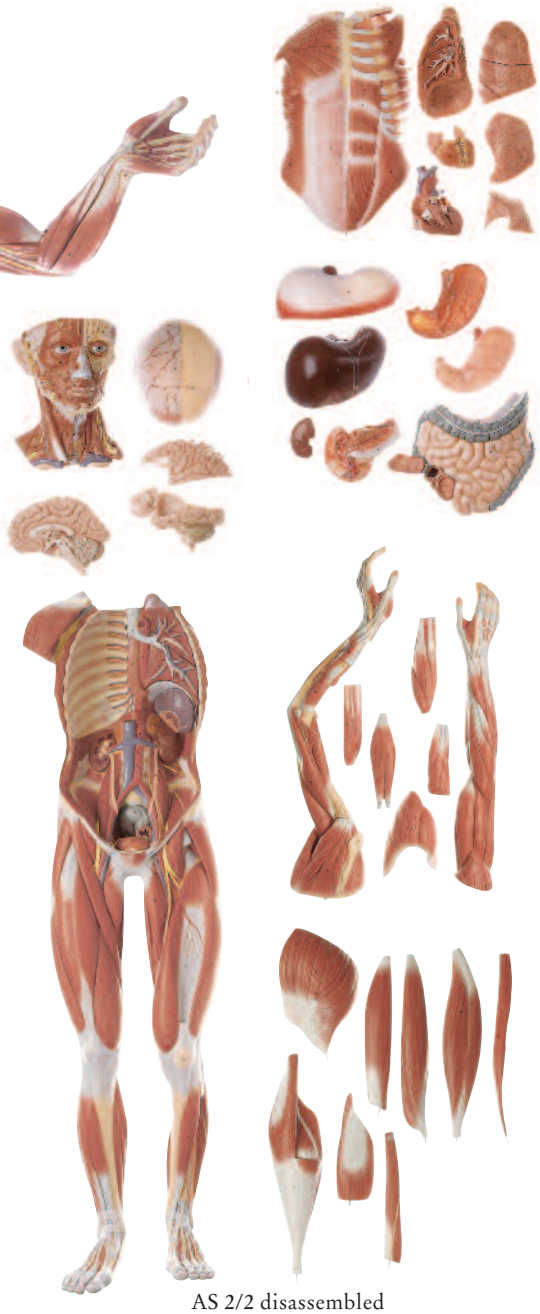
Nature is our Model SOMSO® Modelle

Anatomy 1





AS 2/2



AS 2/2 disassembled

AS 2/2 · Male Muscle Figure

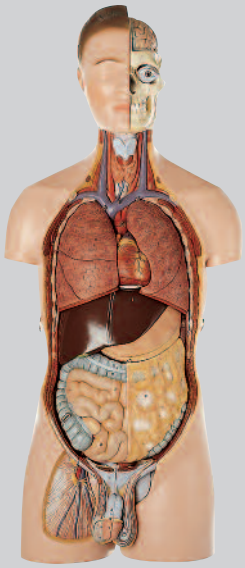
About 3/4 natural size, in SOMSO-PLAST®. Separates into 36 parts: body, head, vault of cranium, brain (3 parts), thoracic and abdominal wall, right lung (2 parts), left lung (2 parts), heart (2 parts), diaphragm, liver, stomach (2 parts), small and large intestine, duodenum with pancreas, ileocaecal valve, right half of kidney, right arm, left arm (6 parts), muscles of the left leg (8 parts). On a stand and green base with castors. Height: 145 cm (figure 129 cm), width: 70 cm, depth: 52 cm, weight: 22.5 kg

AS 2/2 back view

Torsos with interchangeable genitalia

SOMSO® Torsos have a long tradition of having interchangeable genitalia.

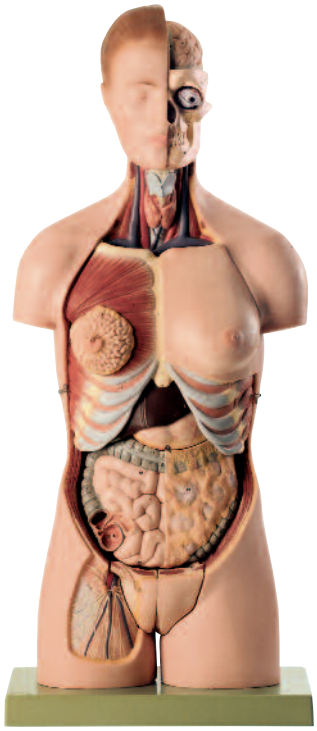
Manufacture of the next generation of SOMSO® Modelle commenced in 1970, following registration as a German utility model.



Torso Models

Nature is our Model SOMSO® Modelle

Anatomy 1

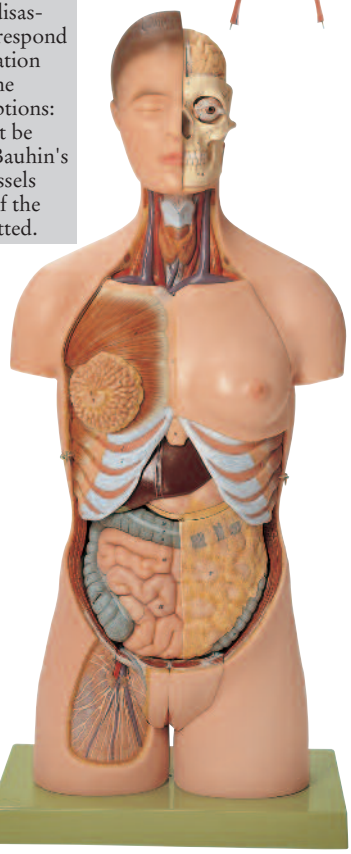


AS 4/1 · Torso with Head and Interchangeable Male and Female Genitalia

Natural size, in **SOMSO-PLAST®**. As AS 4 but **separates into 16 parts:** eye, female thoracic wall, halves of the lung (2 parts), heart (2 parts), liver, stomach, small and large intestine, female (2 parts) and male (4 parts) reproductive organs, torso. On a green base. Height: 92 cm. (torso 88 cm), width: 40 cm, depth: 26 cm, weight: 13.5 kg

AS 4/1

The model of the torso AS 4/1 can be disassembled to correspond with the illustration of AS 4, with the following exceptions: Stomach cannot be disassembled; Bauhin's valve, pelvic vessels and right half of the kidney are omitted.



AS 4

AS 4 disassembled

AS 4 · Torso with Head and Interchangeable Male and Female Genitalia

Natural size, in **SOMSO-PLAST®**. **Separates into 20 parts:** eye with optic nerve and muscles, female thoracic wall, halves of the lung (2 parts), heart (2 parts), liver, stomach (2 parts), small and large intestine with duodenum and pancreas, opening appendix, right kidney, pelvic vessels, female (2 parts) and male (4 parts) reproductive organs, torso. On a green base. Height: 92 cm (torso 88 cm), width: 40 cm, depth: 26 cm, weight: 13.4 kg

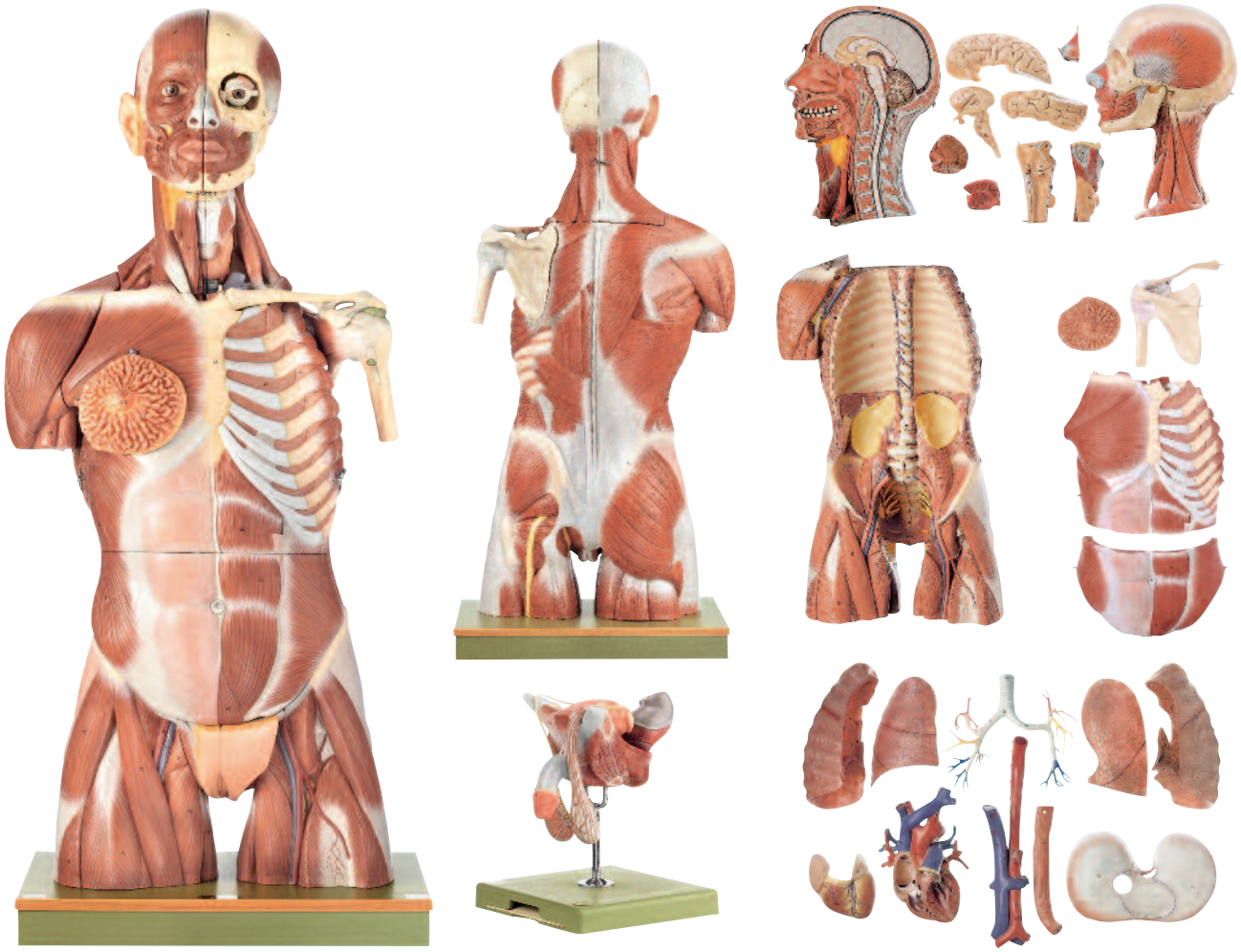
AS 6 - the only SOMSO® Muscle Torso Model where all the organs can be removed and the organ systems can be displayed separately. 377 details are identified in the comprehensive description.

Torso Models

Nature is our Model SOMSO® Modelle

Anatomy 1

Numbering the model-specific structures is done by hand including material- and time-intensive final coating

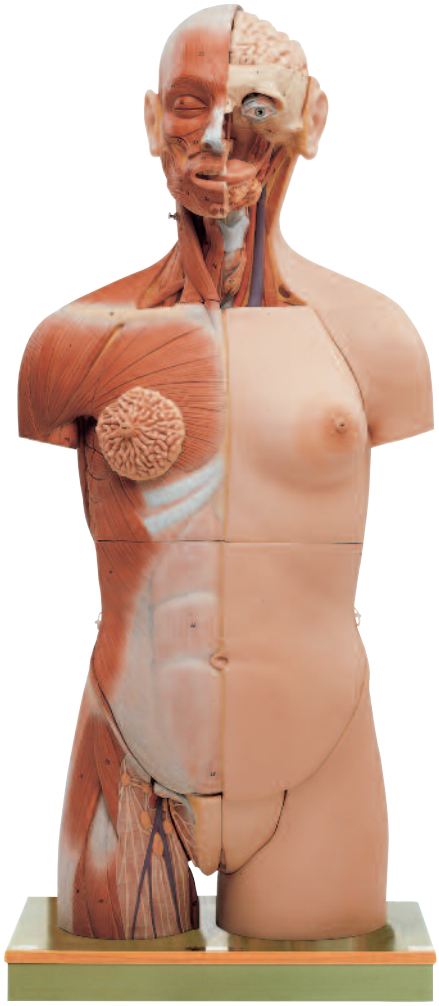


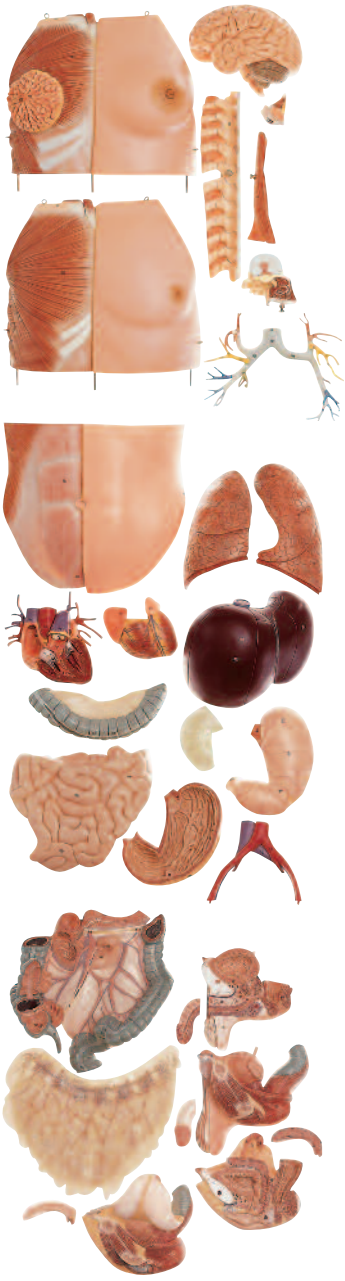
AS 6 · Muscle Torso with Head and Interchangeable Male and Female Genitalia

Natural size, in **SOMSO-PLAST®. Separates into 41 parts:** 10-part head removable at the top of the costal arch, thoracic and abdominal cover (2 parts), left shoulder joint, female mammary gland, right lung (2 parts), left lung (2 parts), heart (2 parts), bronchial tree, diaphragm, oesophagus, liver, stomach (2 parts), small and large intestine with duodenum and pancreas, opening appendix, spleen, descending aorta with inferior vena cava, right kidney and left kidney with ureter (3 parts), female genitalia (3 parts), male genital organs (4 parts), torso. On a green base. Height: 92.5 cm (torso 86 cm), width: 40 cm, depth: 27 cm, weight: 17.25 kg

SOMSO® Quality Control

Throughout the manufacturing process, SOMSO® Modelle are subject to continuous quality control. Within the framework of the final inspection, every model is individually marked, which provides information on the date of manufacture and the employee in charge.





AS 7 · Muscle Torso with Head, Open Back, and Interchangeable Male and Female Genitalia

Natural size, in **SOMSO-PLAST®. Separates into 32 parts:** left half of brain, eye with muscles and optic nerve, sternocleidomastoid muscle, female thoracic cover, male thoracic cover, abdominal cover, half of each lung (2 parts), heart (2 parts), bronchial tree, liver, stomach (2 parts), transparent cover of the kidney, small and large intestine with duodenum, opening appendix and peritoneum, pelvic vessels, female genitalia (4 parts), male genital organs (4 parts), spinous process of the thoracic vertebrae and first lumbar vertebra with prolapse of disc (L 1), torso. On a green base. Height: 90 cm, (torso 86 cm), width: 39 cm, depth: 26 cm, weight: 16.75 kg

Transparent Torso Models

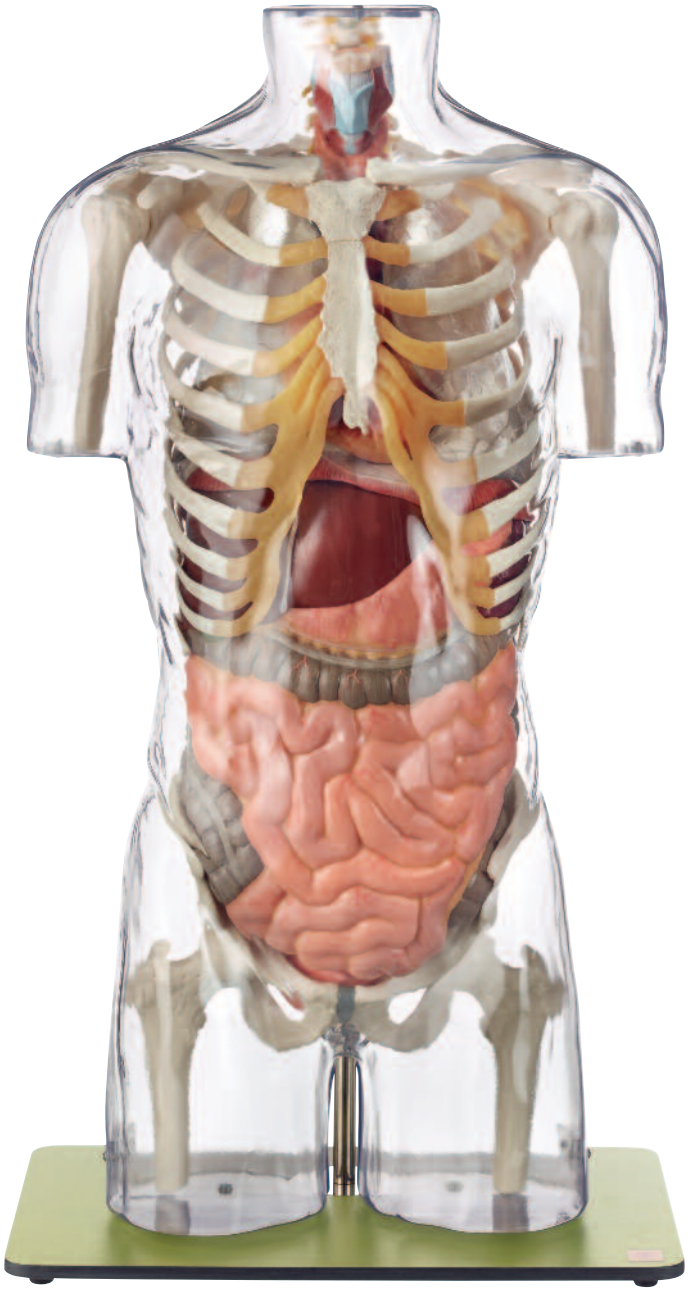
Nature is our Model SOMSO® Modelle

Anatomy 1

SOMSO® Modelle in museums

Special exhibition "Nature is our Model": Medical-biological models made from synthetic material, Deutsches Museum, Munich.
From 20th April to 15th October 1999

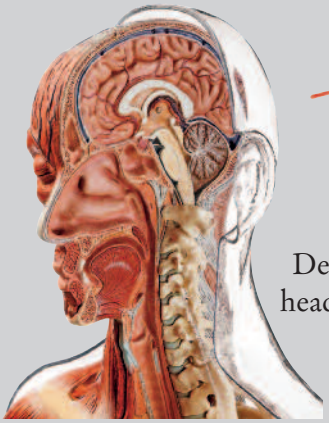
AS 9 dorsal view



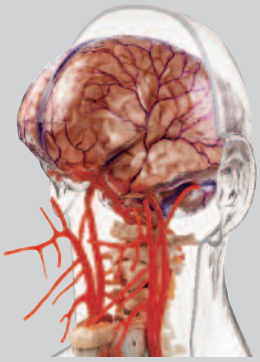
AS 9

AS 9 · Transparent Torso Model without Head

Natural size, made of **special plastic.** The transparent model shows the skeletal system together with the topography of the intestines. **In one piece.** On a green base. Height: 87 cm (torso 83 cm), width: 46 cm, depth: 30 cm, weight: 14.1 kg

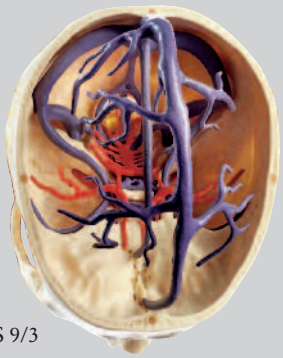


AS 9/1



AS 9/2

Detail views from the head of the Transparent Torso Models



AS 9/3

Torso Models

Nature is our Model SOMSO® Modelle

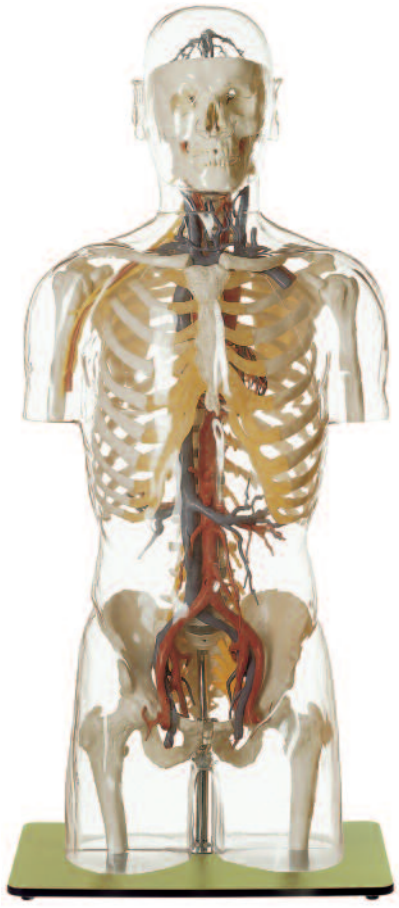
Anatomy 1

AS 9/1 · Transparent Muscle Torso Model with Head

Natural size, made of **special plastic.** The transparent model shows the skeletal system on the left side of the body and the superficial layers of muscles on the right. The relieftype median section enables demonstration of the relative position of the intestines. **In one piece.** On a green base. Height: 106 cm (torso 103 cm), width: 46 cm, depth: 30 cm, weight: 11.3 kg

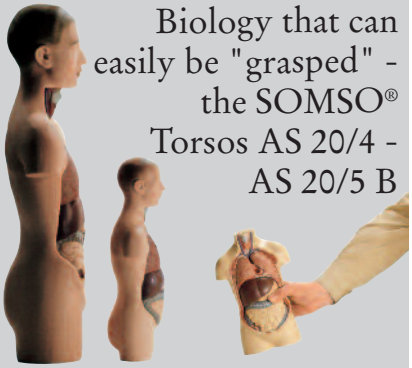
AS 9/2 · Transparent Torso Model with Head

Natural size, made of **special plastic.** The transparent model shows the skeletal system in conjunction with the topography of the intestines. The cranial bones are not shown in order to expose the brain and the blood vessels supplying it. **In one piece.** On a green base. Height: 106 cm (torso 103 cm), width: 46 cm, depth: 30 cm, weight: 15 kg



AS 9/3 · Transparent Torso Model with Blood Vessels and Head

Natural size, made of **special plastic.** The transparent model shows the skeletal system in conjunction with the most important blood vessels and nerves. **In one piece.** On a green base. Height: 106 cm (torso 103 cm), width: 46 cm, depth: 30 cm, weight: 12.1 kg

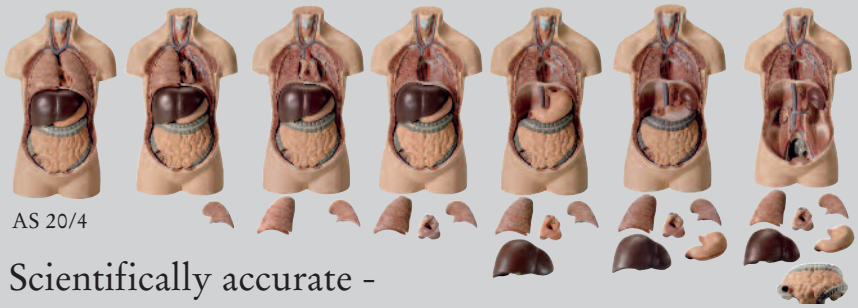


Biology that can easily be "grasped" - the SOMSO® Torsos AS 20/4 - AS 20/5 B

Torso Models

Nature is our Model SOMSO® Modelle

Anatomy 1



AS 20/4

Scientifically accurate - but only 26 cm tall. Practical - take to pieces in seven easy stages. Suitable - for group instruction. Quality mouldings - in durable SOMSO-PLAST®. Exceptional detail on a scale to match a child's imagination – easily manipulated by small hands.

AS 20/5 · Small Torso of Young Man with Head

About 1/3 natural size, in **SOMSO-PLAST®. Separates into 9 parts:** median section of the head (2 parts), right and left lung, heart, liver, stomach, small and large intestine, torso. Removable from brown base. Height: 36 cm (torso 35 cm), width: 18 cm, depth: 14 cm, weight: 2.17 kg

Illustrations of the Torso AS 20/4 are shown above

AS 20/5

AS 20/5 disassembled

AS 20/4 · Small Torso of Young Man without Head

About 1/3 natural size, in **SOMSO-PLAST®. Separates into 7 parts:** right and left lung, heart, liver, stomach, small and large intestine, torso. On a removable brown base. Height: 28 cm (torso 26 cm), width: 18 cm, depth: 14 cm, weight: 1.6 kg

AS 20/5 B · Small Torso of Young Man with Head

As AS 20/5, but black

AS 20/5 B

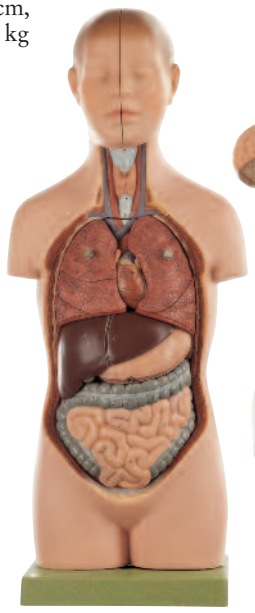
AS 20/4 B · Small Torso of Young Man without Head

As AS 20/4, but black

AS 20/4 B

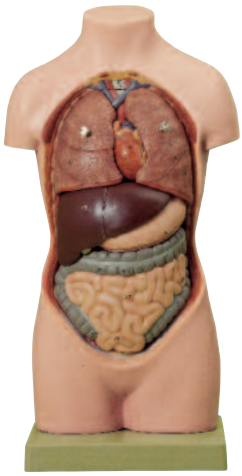
AS 20/1 · Small Torso of Young Man with Head

About 1/2 natural size, in **SOMSO-PLAST®. Separates into 11 parts:** left half of head, half brain, half of each lung (2 parts), heart (2 parts), liver, stomach, small and large intestine, half right kidney, torso. On a green base. Height: 52 cm (torso 49 cm), width: 21 cm, depth: 18 cm, weight: 3.4 kg



AS 20/1

AS 20/1 individual parts



AS 20

AS 20 · Small Torso of Young Man without Head

As AS 20/1, but without head, **separates into 9 parts.** On a green base. Height: 43 cm (torso 39 cm), width: 21 cm, depth: 18 cm, weight: 2.45 kg

The Torso AS 20 can be disassembled to correspond with the individual parts of AS 20/1, without the halves of the head and the brain.

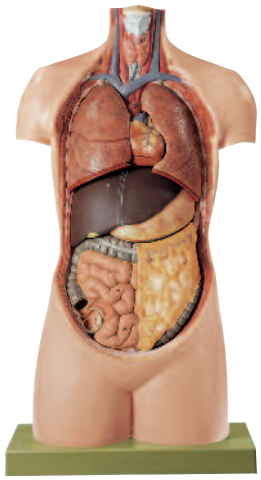
Stimulating Lessons

Especially in biology classes, it is all about identifying structures and connections. Be it human, animal or plant - the better the model represents reality, the easier it is for the learner to comprehend, to understand. To comprehend means to touch, to look - and the physical-material dimension is added to the intellectual dimension. SOMSO® Modelle are ideal tools to facilitate dynamic and stimulating teaching.

Torso Models

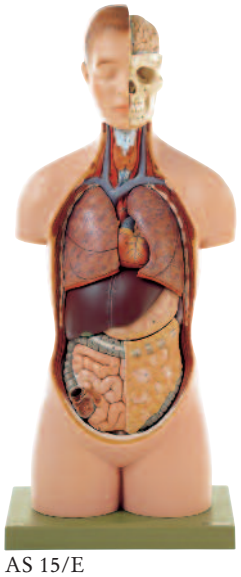
Nature is our Model SOMSO® Modelle

Anatomy 1



AS 11/E

The model of the torso AS 11/E can be disassembled to correspond with the illustration of AS 12, with the following exceptions: Pancreas, half of the kidney, and half of the bladder are omitted



AS 15/E

The model of the torso AS 15/E can be disassembled to correspond with the illustration of MT41, with the following exceptions: Stomach cannot be disassembled, eye, half of the kidney, half of the bladder, and the Bauhin's valve are omitted

AS 11/E · Torso of Young Man without Head

Natural size, in **SOMSO-PLAST®. Separates into 8 parts:** half of each lung (2 parts), heart (2 parts), liver, stomach, small and large intestine, torso. On a green base. Height: 73 cm (torso 69 cm), width: 39 cm, depth: 26, weight: 9.4 kg

AS 12 · Torso of Young Man without Head

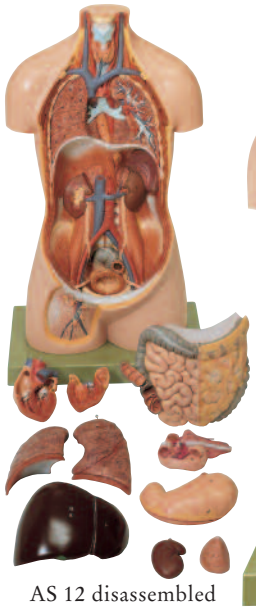
Natural size, in **SOMSO-PLAST®. Separates into 12 parts:** half of each lung (2 parts), heart (2 parts), liver, stomach, duodenum with pancreas, small and large intestine, opening appendix, bladder, half kidney, torso. On a green base. Height: 71 cm (torso 67 cm), width: 39 cm, depth: 26 cm, weight: 9.7 kg

AS 15/E · Torso of Young Man with Head

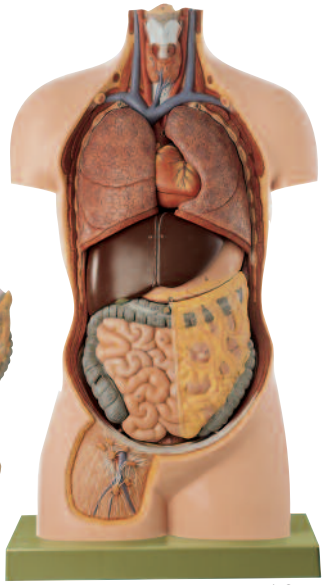
Natural size, in **SOMSO-PLAST®. Separates into 8 parts:** half of each lung (2 parts), heart (2 parts), liver, stomach, small and large intestine, torso. On a green base. Height: 92 cm (torso 87 cm), width: 39 cm, depth: 26 cm, weight: 10.3 kg

AS 16/1 · Torso of Young Man with Head

Natural size, in **SOMSO-PLAST®. Separates into 13 parts:** eye with muscles and optic nerve, half of each lung (2 parts), heart (2 parts), liver, stomach (2 parts), half of right kidney, small and large intestine, opening appendix, part of bladder, torso. On a green base. Height: 91 cm (torso 87 cm), width: 39 cm, depth: 26 cm, weight: 11.6 kg

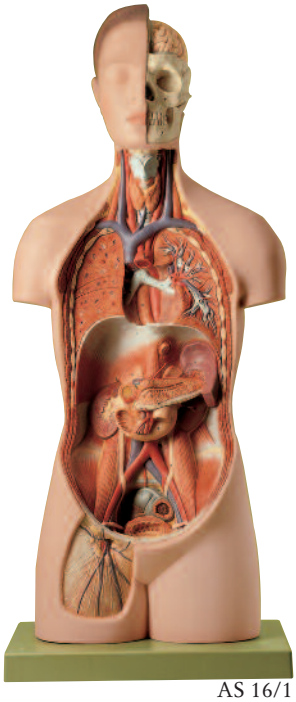


AS 12 disassembled



AS 12

AS 16/1 viscera



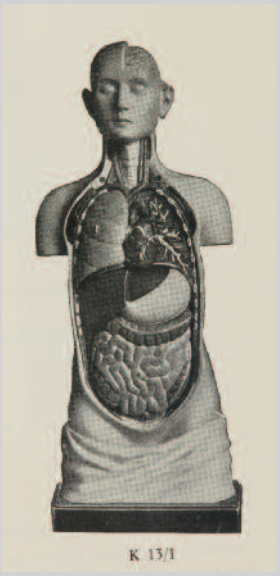
AS 16/1

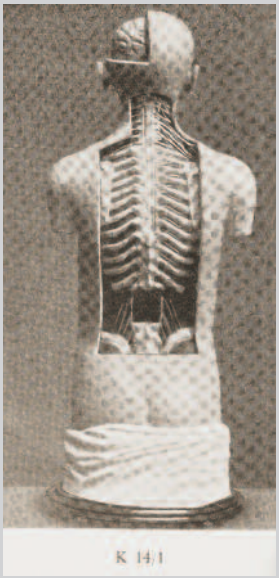
A reflection of the continuous further development of SOMSO® Male Torso Models since 1876.

Torso Models

Nature is our Model SOMSO® Modelle

Anatomy 1


K 13/1


K 14/1


K 21


AS 23/1 back view


AS 23/1

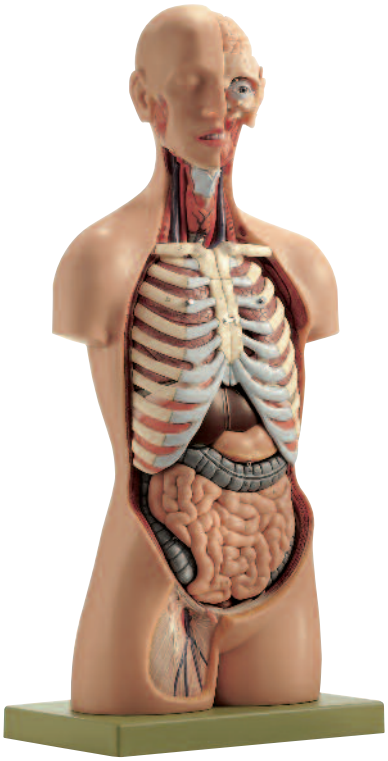

AS 23/1 viscera

AS 21 · Male Torso with Head

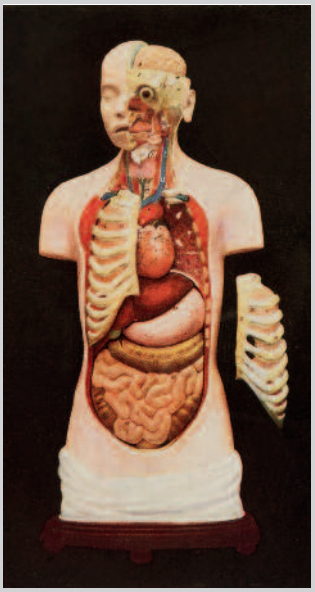
Natural size, in **SOMSO-PLAST®. Separates into 15 parts:** left half of brain, eye with muscles and optic nerve, halves of the lung (2 parts), heart (2 parts), liver, stomach, small and large intestine (3 parts), opening appendix, half of right kidney, half of bladder, torso. On a green base. Height: 91 cm (torso 85 cm), width: 39 cm, depth: 26 cm, weight: 12.1 kg

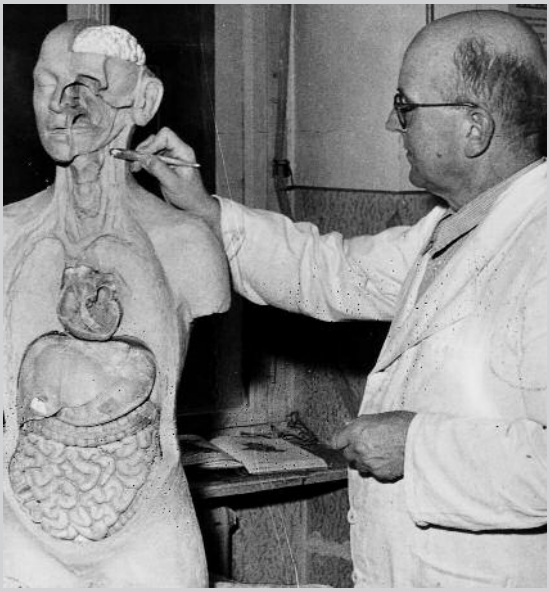
AS 23/1 · Male Torso with Head and Open Back

Natural size, in **SOMSO-PLAST®. Separates into 20 parts:** brain with arteries (4 parts), eye with muscles and optic nerve, halves of the lung (2 parts), heart (2 parts), liver, stomach (2 parts), small and large intestine (3 parts), opening appendix, omentum, half of right kidney, half of bladder, torso. On a green base. Height: 90 cm, (torso 86 cm), width: 39 cm, depth: 26 cm, weight: 12.6 kg


AS 21


AS 21 viscera





SOMSO® Model AS 21 in the development stage

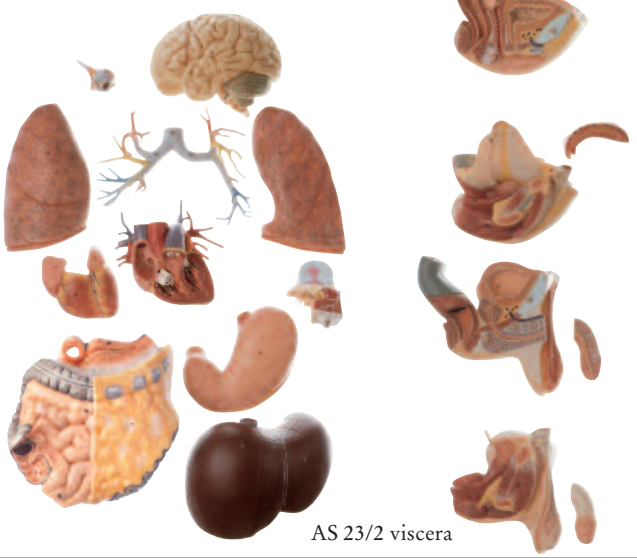
Following months of preparatory work under scientific supervision, modeller Max Döhler gives the model the finishing touches.

Torso Models

Nature is our Model SOMSO® Modelle

Anatomy 1

AS 23/2

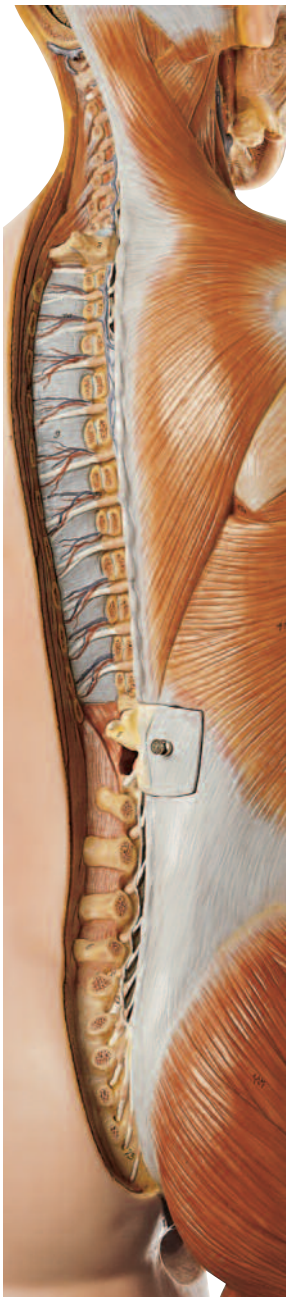


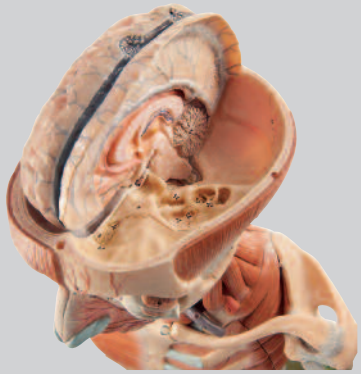
AS 23/2 viscera

AS 23/2 · Torso with Head, Open Back and interchangeable male and female genitalia

Natural size, in **SOMSO-PLAST®.** One side with muscles and interchangeable female and male genital organs. **Separates into 20 parts:** half of brain, eye with muscles and optic nerve, right and left half of lungs, heart (2 parts), bronchial tree, liver, stomach, small and large intestine with duodenum and pancreas, female genital organs (4 parts), male genital organs (4 parts), first lumbar vertebra with prolapse of disc (L 1), torso. On a green base. Height: 90 cm, (torso 86 cm), width: 39 cm, depth: 26 cm, weight: 12.84 kg

AS 23/2 - Detail:
Detachable first lumbar vertebra



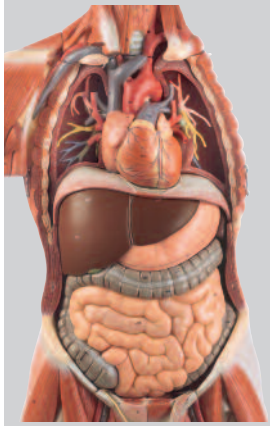


Torso Models

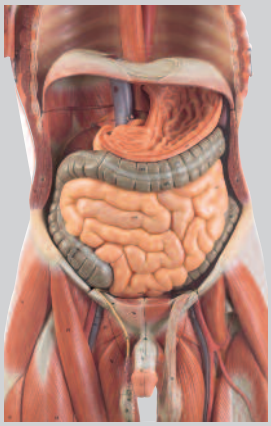
Nature is our Model SOMSO® Modelle

Anatomy 1

The Muscle Torso AS 17/1 – A comprehensive medium for anatomy studies with versatile visualisation possibilities.

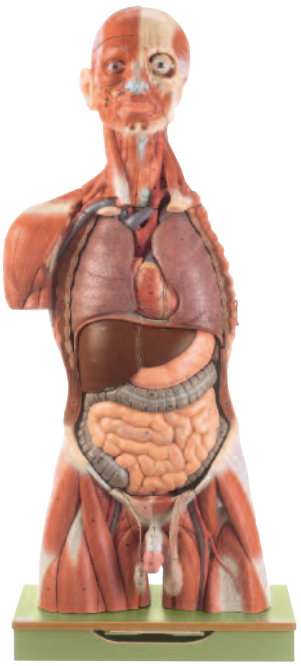


Detail: Circulatory organs of the thorax



Detail: Digestive organs

Detail: Male urogenital system



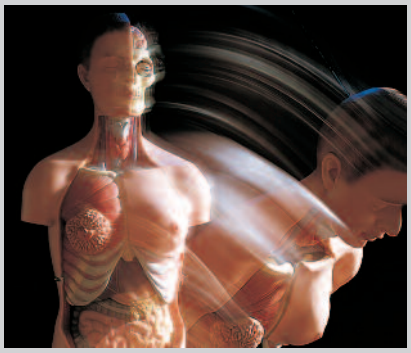
AS 17/1 · Muscle Torso with Head

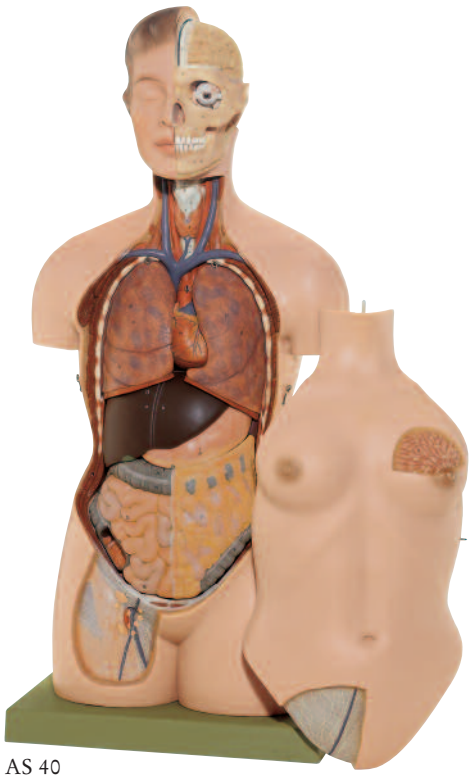
Natural size, in **SOMSO-PLAST®. Separates into 35 parts:** head (10 parts), shoulder joint, thoracic and abdominal cover (2 parts), lungs (4 parts), heart (2 parts), bronchial tree, diaphragm, oesophagus, liver, stomach (2 parts), small and large intestine with duodenum and pancreas, opening appendix, spleen, descending aorta with inferior vena cava, half kidney, male genital organs (4 parts), torso. On a green base. Height: 94 cm (torso 87 cm), width: 42 cm, depth: 29 cm, weight: 16.3 kg

SOMSO-PLAST® - Hard-wearing synthetic material for series production

The transition from papier mâché to the hard-wearing synthetic material, SOMSO-PLAST®, took many years. Models used in teaching, in particular, must have great mechanical resilience in addition to fulfilling their function as teaching aids. SOMSO® rigorously pursues routes to meet both sets of criteria.

SOMSO® understands the heavy-duty use that models are subjected to in class. Synthetic material, paint colours, and unbreakability are features which withstand the demands for models which can be disassembled. Numerous models, which have been used on a daily basis for decades, are testament to this.





AS 40

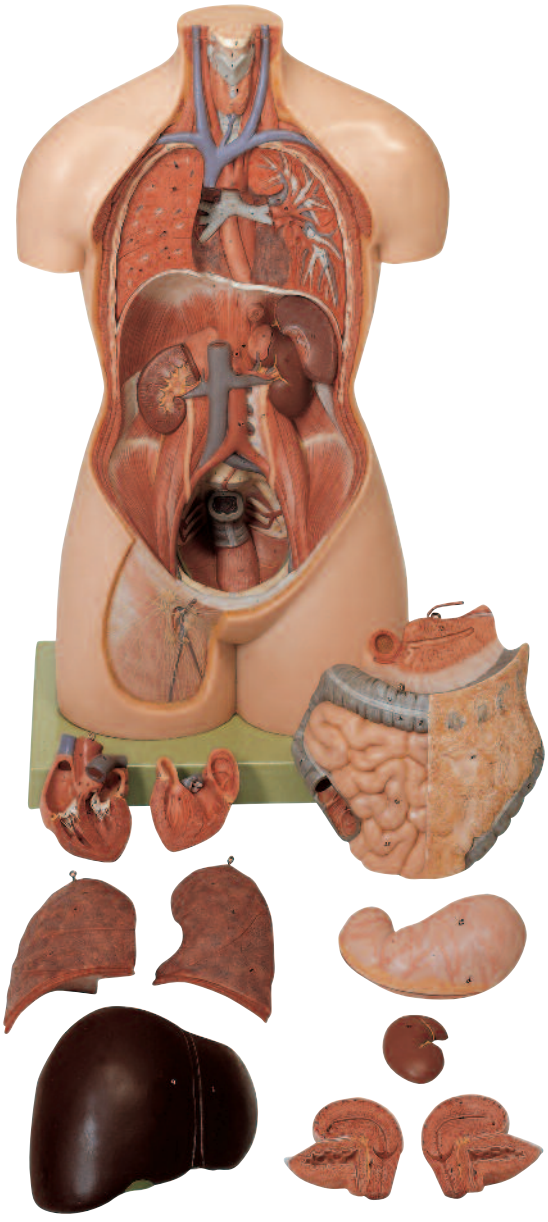
AS 40 viscera

AS 40 · FEMALE TORSO WITH HEAD

Natural size, in **SOMSO-PLAST®.** The thoracic and abdominal wall can be removed. **Separates into 13 parts:** eye, halves of the lungs (2 parts), heart (2 parts), liver, stomach, duodenum with small and large intestine, half of the kidney, internal genital organs with urinary bladder (2 parts), torso. On a green base. Height: 90 cm (torso 86 cm), width: 41 cm, depth: 26 cm, weight: 13 kg

AS 44 · FEMALE TORSO WITHOUT HEAD

Natural size, in **SOMSO-PLAST®.** As AS 40, but without head and thoracic and abdominal wall. **Separates into 11 parts.** On a green base. Height: 70 cm (torso 66 cm.), width: 41 cm, depth: 26 cm, weight: 10.5 kg



AS 44 disassembled

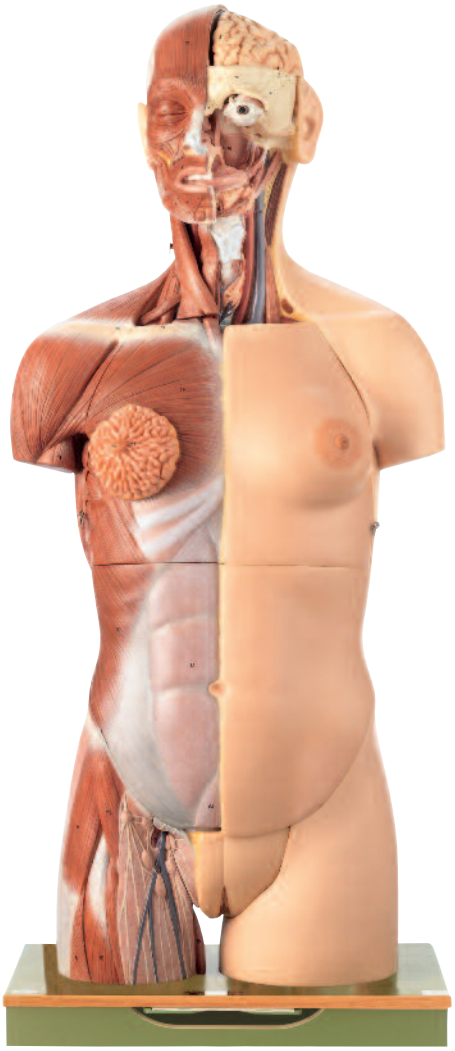
Torso Models

Nature is our Model SOMSO® Modelle

Anatomy 1

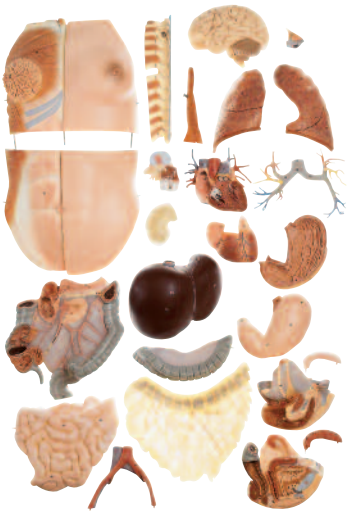
SOMSO® Modelle in science

SOMSO® Modelle are used in many areas of university education. The range comprises models which are precisely designed for lecture theatres in terms of their size and information value.



AS 50/1

AS 50/1 - back view



AS 50/1 - individual parts

AS 52 disassembled

AS 50/1 · Female Torso with Head

Natural size, in **SOMSO-PLAST®.** On one side representation of the muscles and opened back. **Separates into 27 parts:** half of the brain, eye with muscles and optic nerve, right sternocleidomastoid muscle, thoracic and abdominal cover (2 parts), right and left half of the lungs, heart (2 parts), bronchial tree, liver, stomach (2 parts), peritoneum, small and large intestine with duodenum (3 parts), opening appendix, transparent cover of kidney, pelvic vessels, female genital organs (4 parts), spinous processes of the thoracic vertebrae, first lumbar vertebra with prolapse of disc (L 1), torso. On a green base. Height: 90 cm (torso 87 cm), width: 39 cm, depth: 26 cm, weight: 15.1 kg

AS 52 · Interchangeable Female Genital Organs with a 10-week-old Fetus

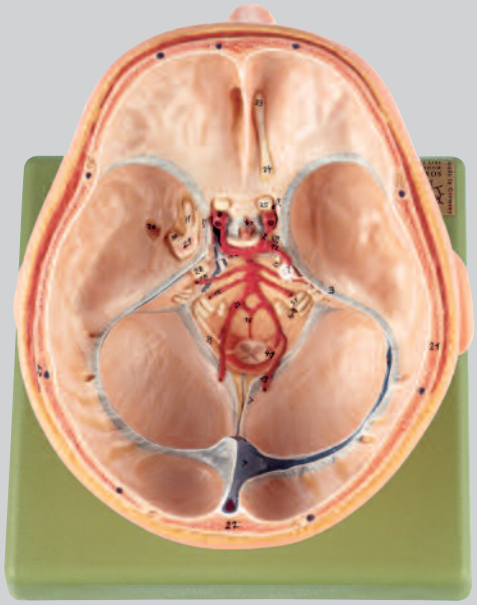
suitable for AS 50/1, **natural size,** in **SOMSO-PLAST®. Separates into 2 parts.** On a stand with green base. Height: 28 cm, width: 18 cm, depth: 18 cm, weight: 1 kg

Image of the historic Wax model of the Head A 34 – the predecessor of model BS 3 Head and Neck (see catalogue page 23)

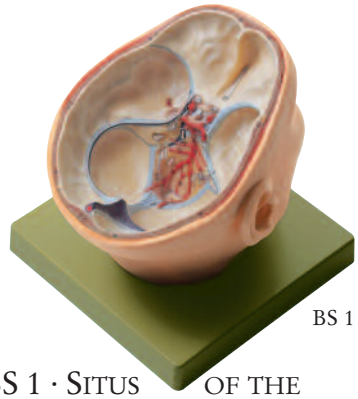
Head and Nervous system

Nature is our Model SOMSO® Modelle

Anatomy 2 + 3



The dura mater showing the fine structure of vessels and nerves in the base of the skull – basic anatomical knowledge, displayed in models BS 1, BS 2, BS 5, BS 5/1, and BS 5/2



BS 1

BS 1 · Situs of the Base of the Skull

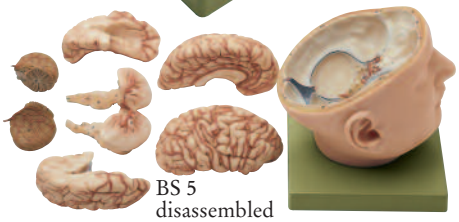
Natural size, in **SOMSO-PLAST®.** Showing the dura mater, the 12 pairs of cranial nerves and the basilar artery with branchings. **In one piece.** On a green base. Height: 19 cm, width: 18 cm, depth: 21 cm, weight: 1.35 kg

BS 2

BS 2 · Proportions of the Dura Mater

Natural size, in **SOMSO-PLAST®.** Showing the proportions of the dura mater and the sinus of the dura mater. The 12 pairs of cranial nerves and the basilar artery with branchings are exposed. **Comprises 2 parts.** On a green base. Height: 23 cm, width: 18 cm, depth: 21 cm, weight: 1.45 kg

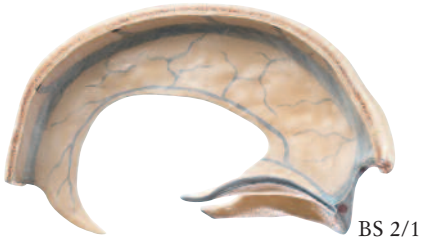
BS 5



BS 5 disassembled

BS 5 · Base of the Head

With removable 8-part brain with arteries. **Natural size,** in **SOMSO-PLAST®.** The dura mater, the 12 pairs of cranial nerves and the basilar artery are shown. **Comprises 9 parts in total.** On a green base. Height: 23 cm, width: 18 cm, depth: 20 cm, weight: 1.89 kg



BS 2/1

BS 2/1 · Dura Mater

Natural size, in **SOMSO-PLAST®.** Showing the sinus durae matris, falx cerebri and tentorium cerebelli. **In one piece.** Weight: 200 g

BS 5/1

BS 5/1 · Base of the Head

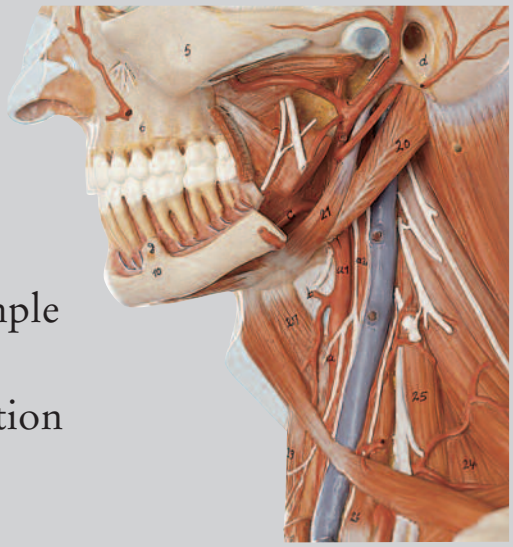
Natural size, in **SOMSO-PLAST®.** As BS 5, but showing the proportions of the dura mater (sinus of the durae matris, falx of the cerebrum, and the tentorium of the cerebellum are shown). **Comprises 10 parts in total.** On a green base. Height: 23.5 cm, width: 18 cm, depth: 20 cm, weight: 2.1 kg

BS 5/2

BS 5/2 · Base of the Head

Natural size, in **SOMSO-PLAST®.** As BS 5, but additionally with cranium. **Comprises 10 parts in total.** On a green base. Height: 23 cm, width: 18 cm, depth: 22 cm, weight: 2.35 kg

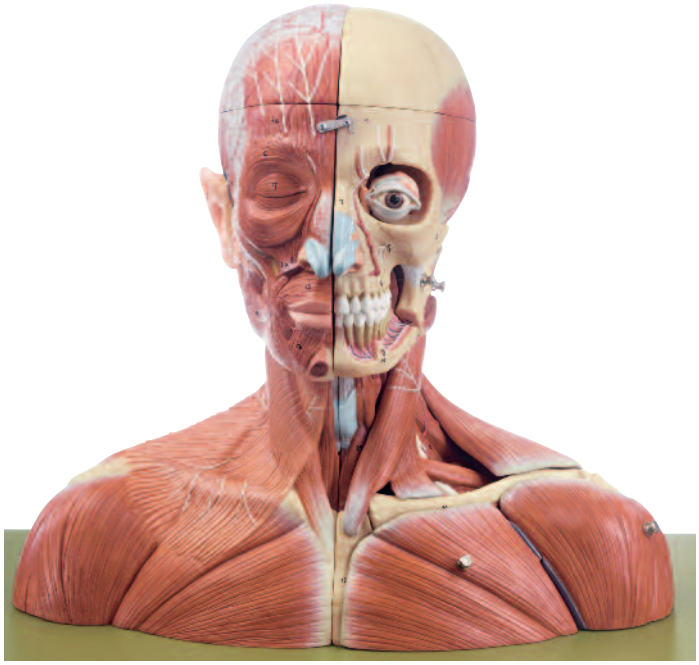
Model BS 3
Head and Neck – a universal representation of the head and neck anatomy. An example of the SOMSO® passion for perfection down to the most minute detail.



Representation in the opened-up temporomandibular joint area:
Displayed, among other things, are:
A. lingualis
A. alveolaris inferior
A. maxillaris
N. alveolaris inferior
N. lingualis
Chorda tympani

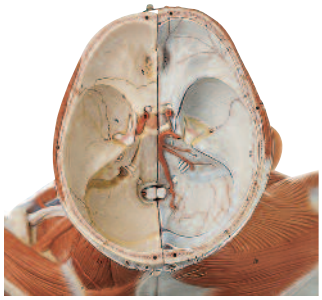
Head and Nervous system

Left half of the model



Left half of the calvarium removed and brain partly disassembled

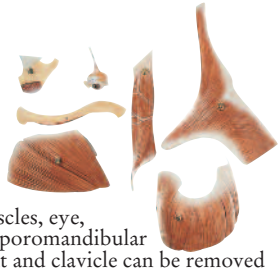
Median section of the right half of the model



Base of the skull from above

BS 3 · Head and Neck

Natural size, in **SOMSO-PLAST®.** The right side shows the mimic muscular system with the deep-set muscles. The left temporomaxillary joint and the sternocleidomastoid muscle are removable to show the carotid trigone. May be separated medially into two halves. After removing the cranium, the 8-part brain with arteries can be removed. **Separates into 19 parts:** Trapezius muscle, pectoralis major muscle, deltoid muscle and clavicle, eye with muscles and optic nerve. On a green base. Height: 38.5 cm, width: 48 cm, depth: 30 cm, weight: 6.25 kg



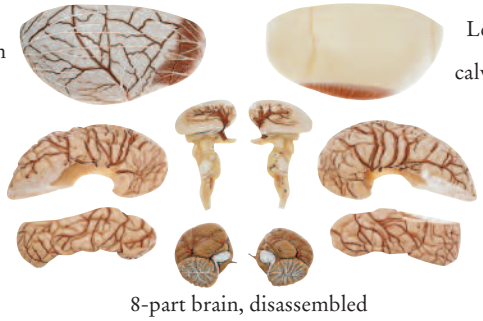
Muscles, eye, temporomandibular joint and clavicle can be removed

Right half of the model without calvarium

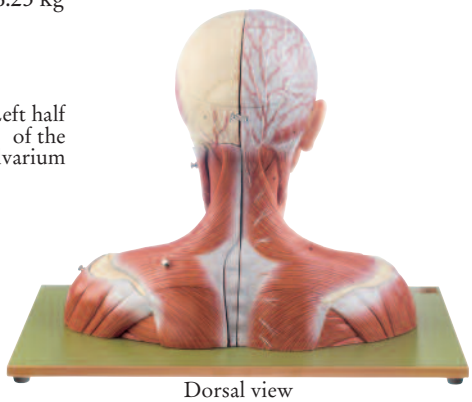
Median section of the left half of the model without brain and calvarium

Right half of the calvarium

Left half of the calvarium



8-part brain, disassembled



Dorsal view

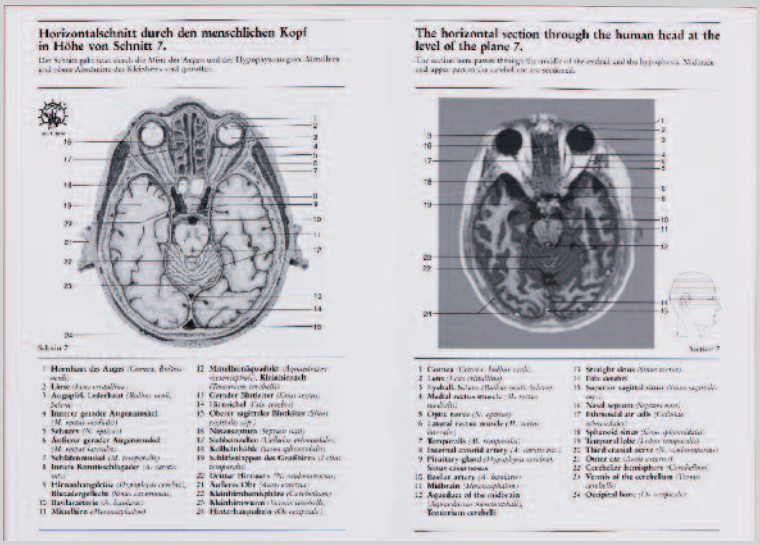
In practice, the exact assessment of MR images requires a great degree of experience and precise knowledge of the topography of the sectional images of the human head. Exact representation of the individual sectional planes enables them to be studied intensely and results in a total understanding of the spatial configuration of the head. Studying this head is the perfect preparation for future diagnosticians

Head and Nervous system

Nature is our Model SOMSO® Modelle

Anatomy 2 + 3

Extract from the description for the models BS 5/5, BS 5/6



BS 5/5

BS 5/5 view from above

BS 5/6 detail sectional plane 6

BS 5/5 · Anatomical Sectional Model of the Head

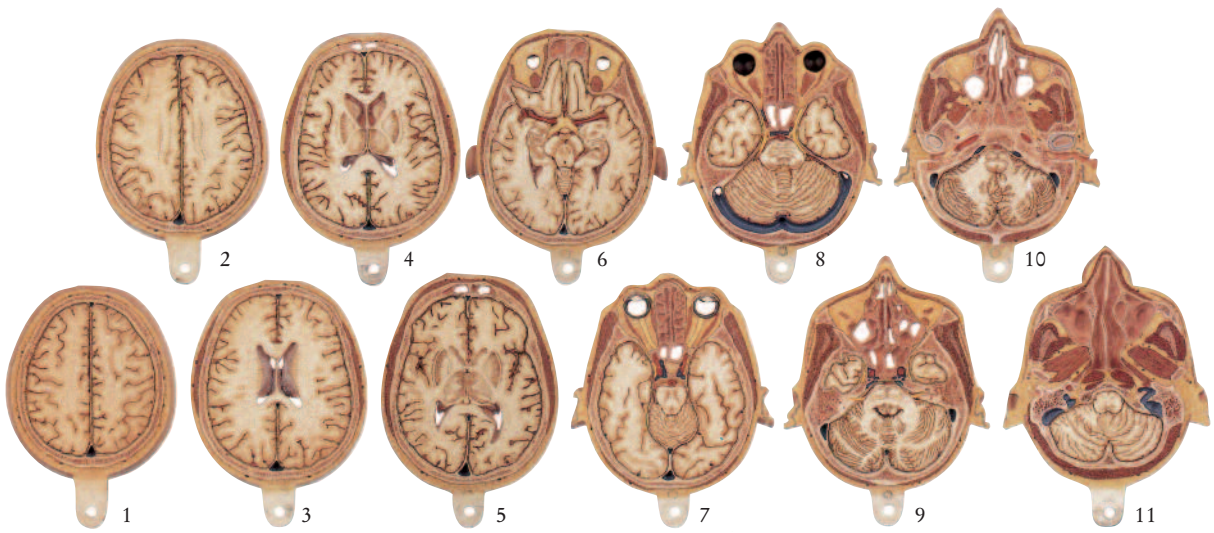
(combined with corresponding MR-Figures)

According to Prof. Dr. med. Dr. med. h.c. J. W. Rohen. The model shows the anatomical structures of 11 consecutive horizontal sections through the human head orientated in the plane usual in CT and MR imaging (CA-CP plane) and having the same section thickness (0.8 cm). The sections shown in the model are mounted to a vertical support so that they can be swivelled out individually and then compared with the respective CT or MR image. **Natural size** in special plastic. With explanatory booklet. On a green base. Height: 36 cm, width: 46 cm, depth: 30 cm, weight: 7 kg

BS 5/6 · Anatomical Section Model of the Head

(combined with corresponding MR-Figures)

According to Prof. Dr. med. Dr. med. h.c. J. W. Rohen. As BS 5/5 but with section relief in single colour. Height: 36 cm, width: 46 cm, depth: 30 cm, weight: 7 kg



BS 5/5 - The spatial configuration of the head in 11 sectional planes

BS 9
Half of the Head – detail showing: nerve and blood supply in the area of the parotid gland

BS 9
median section

BS 9 · Half of the Head

Natural size, in **SOMSO-PLAST®.**
The model shows the mimic musculature system of the right half of the head with the main superficial arteries, veins, and nerves including the area of the neck.
The median section shows brain, nose, mouth and pharynx, larynx and vertebral column of the neck. **In one piece.** On a stand with a green base.
Height: 42 cm, width: 18 cm, depth: 22 cm, weight: 1.55 kg

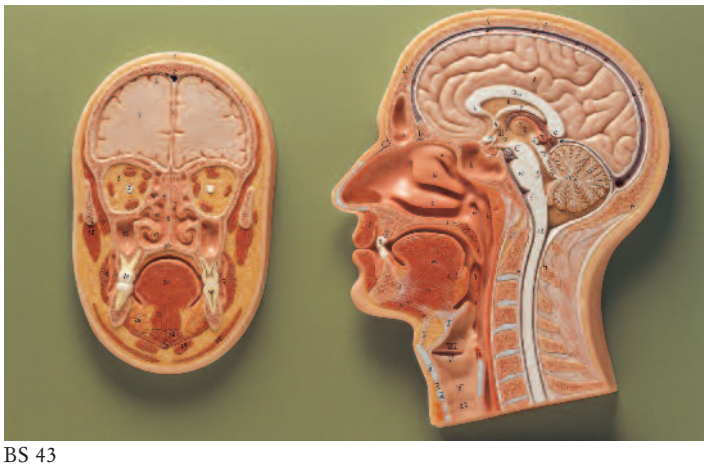
BS 6/1

BS 6/1 · Median Section of the Head

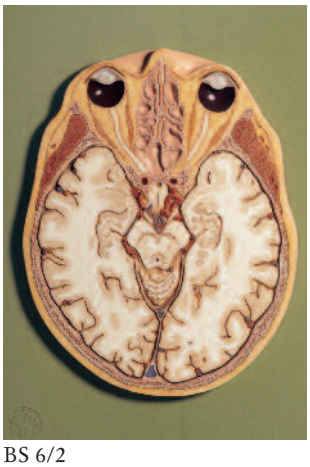
Natural size, in **SOMSO-PLAST®. Not detachable.** Mounted on a green board. Height: 32 cm, width: 25.5 cm, depth: 4.5 cm, weight: 1.1 kg

BS 43 · Median and Frontal Section of the Head

Natural size, in **SOMSO-PLAST®. Not detachable.** Mounted on a green board. Height: 30 cm, width: 48 cm, depth: 4 cm, weight: 2.7 kg



BS 43



BS 6/2

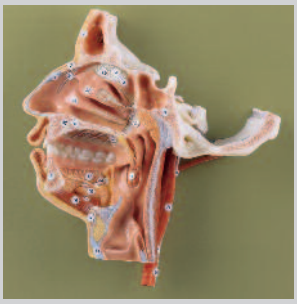
BS 6/2 · Horizontal Section of the Head at the plane of the Orbit

Natural size, at the plane of the orbit, in **special plastic. In one piece.** Mounted on a green board, under a removable transparent cover. Height: 26 cm, width: 32 cm, depth: 4 cm, weight: 1 kg

BS 7 · Model of the Head

Natural size, in **SOMSO-PLAST®.** Showing the muscles, nerves, and vessels at the right of the facial skull, in particular the trigeminal nerve and the facial nerve, network of vessels and nerves of the orbit and the upper and lower jaw. **In one piece.** Mounted on a green board under a removable transparent cover. Height: 32 cm, width: 26 cm, depth: 9.5 cm, weight: 1.1 kg

(see also illustration of BS 16 – right half of the model)



BS 8 · Model of the Head

Natural size, in **SOMSO-PLAST®.** Showing, in right median section, the muscles, nerves, and vessels in particular the cavities of nose and mouth. **In one piece.** Mounted on a green board under a removable transparent cover. Height: 32 cm, width: 26 cm, depth: 9.5 cm, weight: 1.1 kg

(see also illustration of BS 16 – left half of the model)

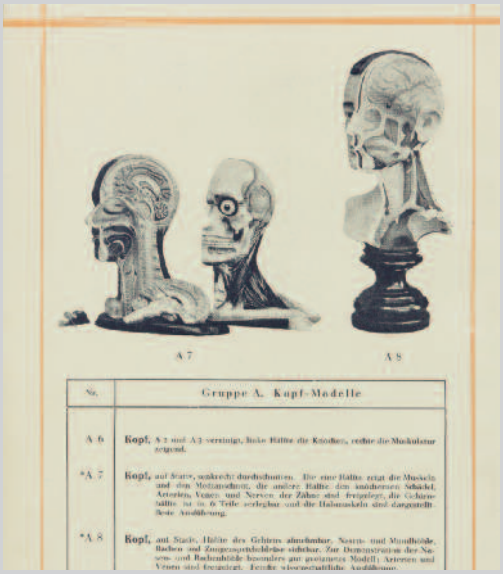
BS 16 - right half of the model

BS 16 - left half of the model

BS 16 with transparent cover

BS 16 · Nerves and Blood Vessels on the Facial Skull

Natural size, in **SOMSO-PLAST®.** Showing the muscles, nerves, and vessels, in particular trigeminal nerve and facial nerve. The tongue is removable. **Separates into 2 parts.** On a stand with a green base, under a removable transparent cover. Height: 22 cm, width: 33 cm, depth: 19 cm, weight: 1.3 kg



A 7 A 8

No.	Gruppe A. Kopf-Modelle
A 6	Kopf, A 2 und A 3 vereinigt, linke Hälfte die Knochen, rechte die Muskulatur zeigend.
*A 7	Kopf, auf Stativ, senkrecht durchschnitten. Die eine Hälfte zeigt die Muskeln und den Mediandurchschnitt, die andere Hälfte den inneren Schädel, Arterien, Venen und Nerven der Zähne und freipräpariert, die Gehirnhälfte ist in 6 Teile zerlegbar und die Hirnmuskeln sind dargestellt. Seite Abbildung.
*A 8	Kopf, auf Stativ, Hälfte des Gehirns abnehmbar, Nasen- und Mundhöhle, Rachen und Zungenmuskelchen sichtbar. Zur Demonstration der Nerven- und Blutgefäßhöhle besonders zur gesonderten Modell: Arterien und Venen sind freigelegt. Ferner wissenschaftliche Ausführung.

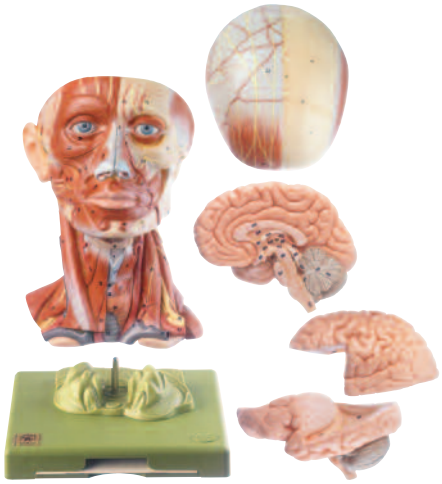
SOMSO®
models of the
Head through
the ages –
continuous change
documented by
an extract from
the anniversary
catalogue of 1936.

Head and Nervous system

Nature is our Model SOMSO® Modelle

Anatomy 2 + 3

BS 18



BS 18 disassembled

BS 18 · Head with Muscles, Vessels, and Nerves

About 3/4 natural size, in **SOMSO-PLAST®. Separates into 5 parts:** head, cranium, right half of brain and left half of brain, in 2 parts. Removable from a green base. Height: 28 cm, width: 18 cm, depth: 21 cm, weight: 2.1 kg

BS 17

BS 17 · Model of the Head

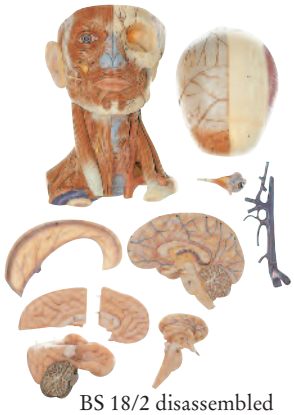
Natural size, in **SOMSO-PLAST®.** The model shows, in median section, part of the cervical vertebrae modelled three-dimensionally. **Not detachable.** On a green base. Height: 36 cm, width: 18 cm, depth: 23 cm, weight: 1.95 kg

BS 18/1 disassembled

BS 18/1

BS 18/1 · Head with Muscles

Natural size, in **SOMSO-PLAST®. Separates into 10 parts:** right and left half of the head, left half of the brain (4 parts), eye with muscles and optic nerve, right half of the tongue, larynx (2 parts). Removable from a green base. Height: 35 cm, width: 25 cm, depth: 28 cm, weight: 3.5 kg



BS 18/2 disassembled

BS 18/2

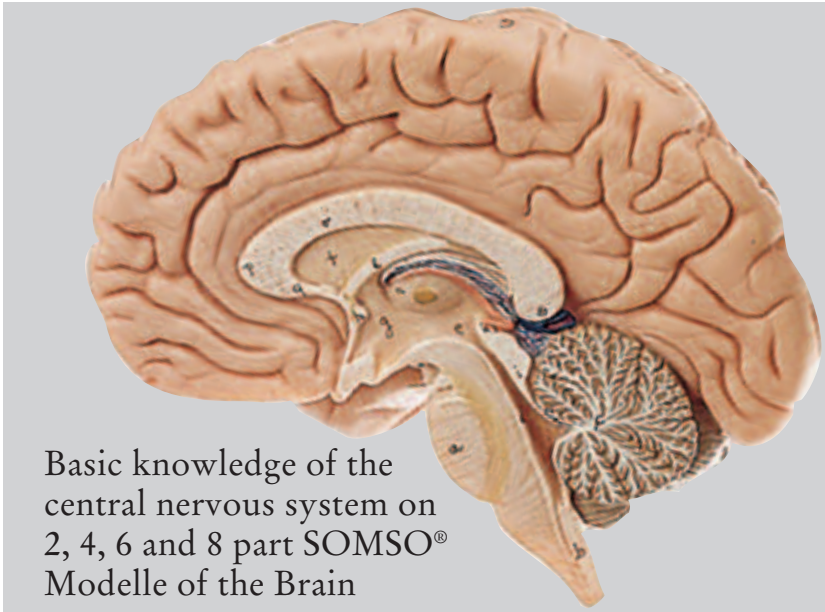
BS 18/2 · Head with Muscles

Natural size, in **SOMSO-PLAST®. Separates into 10 parts:** base of the head, cranium, eye, falx cerebri, right half of the brain, left half of the brain (4 parts), cervical vein. Removable from a green base. Height: 35 cm, width: 25 cm, depth: 28 cm, weight: 3.65 kg

Head and Nervous system

Nature is our Model SOMSO® Modelle

Anatomy 2 + 3



Basic knowledge of the central nervous system on 2, 4, 6 and 8 part SOMSO® Modelle of the Brain

BS 21 disassembled

BS 20/1 · Half of the Brain

Natural size, in SOMSO-PLAST®. Separates into 4 parts: frontal and parietal lobes, temporal and occipital lobes, medulla and cerebellum. Removable on a green base. Height: 18 cm, width: 17.5 cm, depth: 14 cm, weight: 950 g

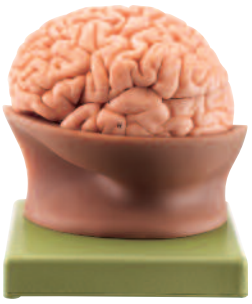
BS 20/1 - median section

BS 21 · Brain

Natural size, in SOMSO-PLAST®. Median Section. **Separates into 2 parts.** Removable on a transparent base. Height: 16 cm, width: 15 cm, depth: 18 cm, weight: 820 g

BS 22 · Brain

Natural size, in SOMSO-PLAST®. Median section. Right half separates into cerebellum, medulla and cerebral lobe. Left half in one piece. **Separates into 4 parts.** Removable on a transparent base. Height: 15.5 cm, width: 15 cm, depth: 18 cm, weight: 1 kg

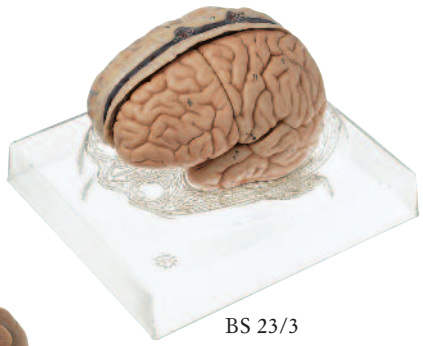


BS 20/1 - external view

BS 23/3 · Brain

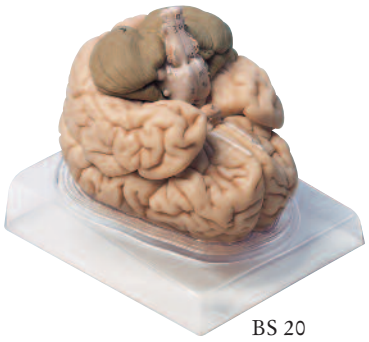
Natural size, in SOMSO-PLAST®.
The model rests in its natural position on a transparent base which has a cross sectional relief drawing. The right half of the brain shows the meninges with the arteries and veins. The dura mater can be removed. The left half of the brain separates into four parts: Cerebrum, in two parts, with front cutaway, temporal lobes with cerebellum and brain stem. **Comprises six parts in total.** Height: 15 cm, width: 20 cm, depth: 22 cm, weight: 1.3 kg

BS 22 disassembled



BS 23/3

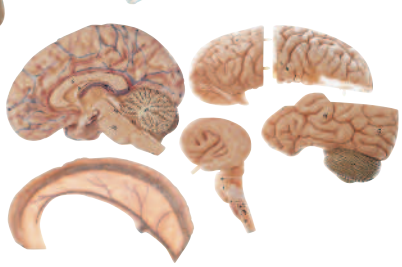
BS 20 disassembled



BS 20

BS 20 · Brain

Natural size, in SOMSO-PLAST®. Separates into 8 parts: frontal and parietal lobes (2 parts), temporal and occipital lobes (2 parts), medulla (2 parts), cerebellum (2 parts). Removable on a transparent base. Height: 15 cm, width: 15 cm, depth: 18 cm, weight: 1.19 kg



BS 23/3 disassembled

BS 24

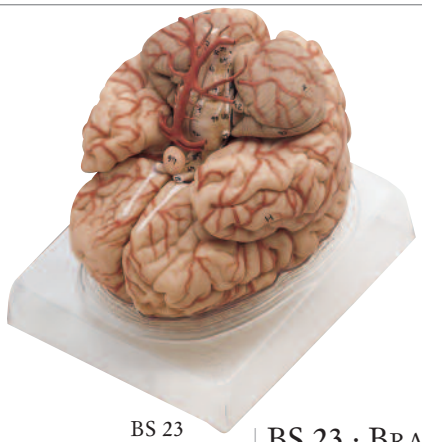
BS 24 · Ventricular Cavities of the Brain

Natural size, in **SOMSO-PLAST®.** From a specimen in the Anatomical Institute of Wuerzburg. **In one piece.** On a stand with green base. Height: 16 cm, width: 14 cm, depth: 16 cm, weight: 300 g

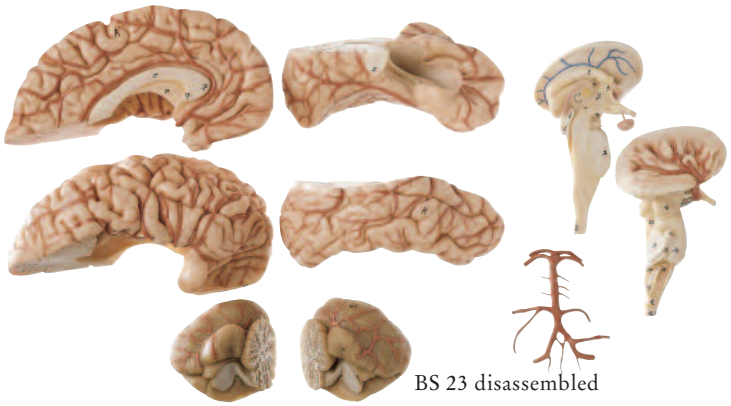
Head and Nervous system

Nature is our Model SOMSO® Modelle

Anatomy 2 + 3



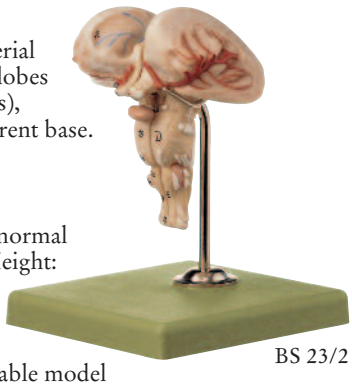
BS 23



BS 23 disassembled

BS 23 · Brain with Arteries

Natural size, in **SOMSO-PLAST®.** With representation of arterial network of vessels. **Separates into 9 parts:** frontal and parietal lobes (2 parts), temporal and occipital lobes (2 parts), medulla (2 parts), cerebellum (2 parts), and basilar artery. Removable on a transparent base. Height: 17 cm, width: 16 cm, depth: 17 cm, weight: 1.3 kg



BS 23/2

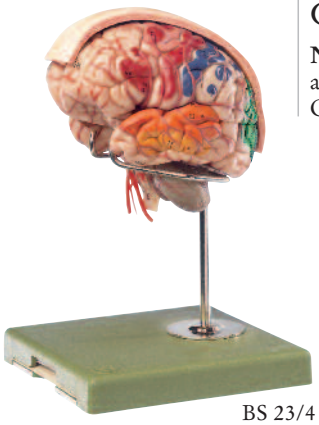
BS 23/1

BS 23/1 · Brain with Arteries

Natural size, in **SOMSO-PLAST®.** As BS 23, but mounted in normal position. **Separates into 9 parts.** On a stand with green base. Height: 27 cm, width: 18 cm, depth: 19 cm, weight: 1.54 kg

BS 23/2 · Medulla

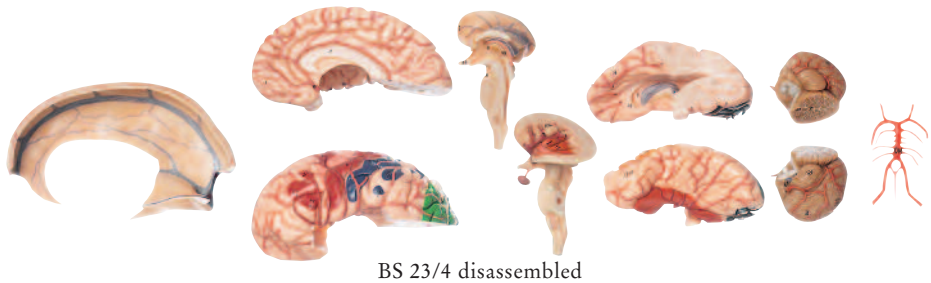
Natural size, in **SOMSO-PLAST®.** Median Section. An invaluable model for medical students. **Separates into 2 parts**. On a stand with green base. Height: 16 cm, width: 14 cm, depth: 16 cm, weight: 500 g



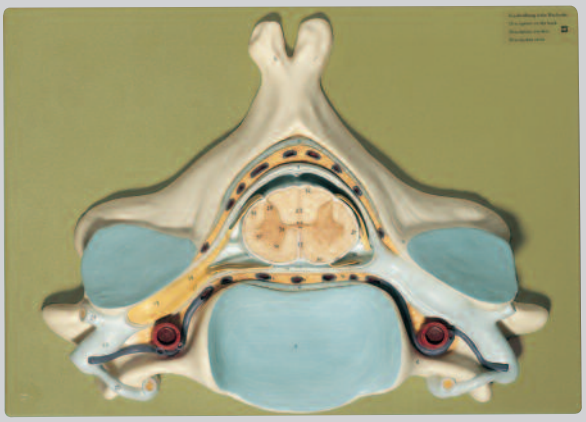
BS 23/4

BS 23/4 · Brain with Arteries, Falx cerebri and indicated Cytoarchitectural Areas

Natural size, in **SOMSO-PLAST®.** As BS 23/1, but with dura mater, falx cerebri and brain with indicated cytoarchitectural areas. **Separates into 10 parts**. On a stand with green base. Height: 25 cm, width: 18 cm, depth: 20 cm, weight: 1.6 kg

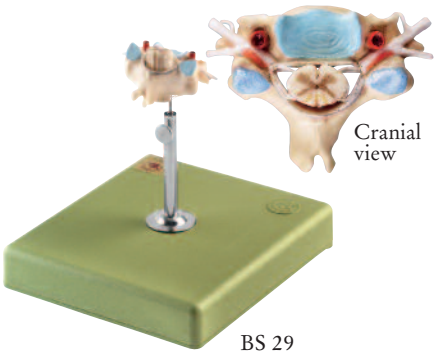


BS 23/4 disassembled



BS 30 · Fifth Cervical Vertebra

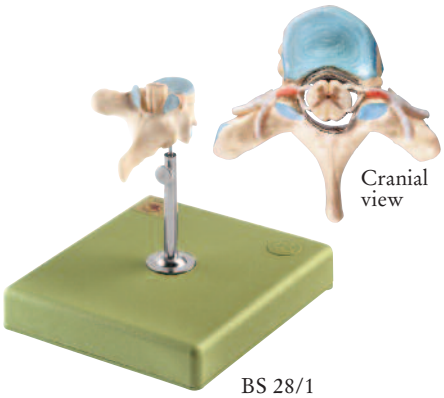
Enlarged approximately 7 times, in **SOMSO-PLAST®.** The model shows the spinal cord in transverse section with spinal nerves and spinal ganglion, artery and vein of the cervical vertebra. **In one piece.** Mounted on a green board. Height: 28 cm, width: 40 cm, depth: 10.5 cm, weight: 1.41 kg



BS 29

BS 29 · Cervical Vertebra (C VI) with Spinal Cord

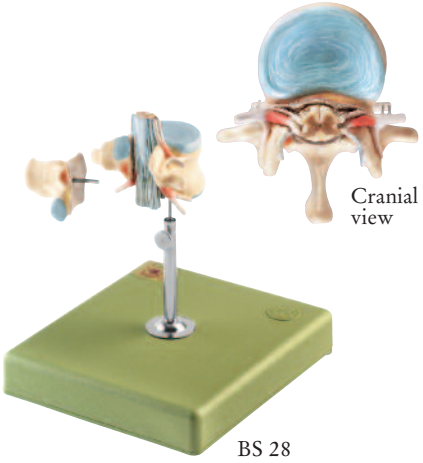
Natural size, in **SOMSO-PLAST®.** Spinal nerves, spinal ganglion, and vertebral artery are shown. Spinal cord also shown in transverse section. **In one piece.** On a stand with green base. Height: 14 cm, width: 14 cm, depth: 16 cm, weight: 350 g



BS 28/1

BS 28/1 · Thoracic Vertebra (TH II) with Spinal Cord

Natural size, in **SOMSO-PLAST®.** Spinal nerves, spinal ganglion, and spinal cord are shown in transverse section. **In one piece.** On a stand with a green base. Height: 14 cm, width: 14 cm, depth: 16 cm, weight: 300 g



BS 28

BS 28 · Lumbar Vertebra (L II) with Lumbar Region of Spinal Cord

Natural size, in **SOMSO-PLAST®.** Nerve endings, filum terminale, and cauda equina of the spinal cord (also in transverse section) are shown. **Separates into 2 parts.** On a stand with green base. Height: 14 cm, width: 14 cm, depth: 16 cm, weight: 350 g

BS 33

BS 33 · Spinal Cord

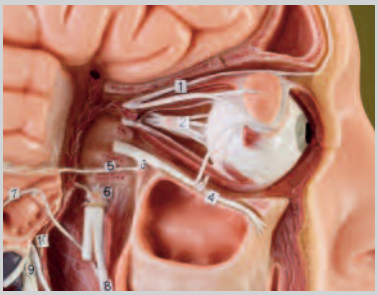
Model 1: Spinal cord with nerve branches, **enlarged approximately 5 times,** on stand with green base. Height: 22 cm, width: 19 cm, depth: 14 cm, weight: 400 g
Model 2: Transverse section through the spinal cord, **enlarged approximately 10 times,** on stand with green base. Height: 22 cm, width: 16 cm, depth: 14 cm, weight: 350 g. **Both models can not be disassembled** and in **SOMSO-PLAST®.** Total weight: 750 g

BS 32/37

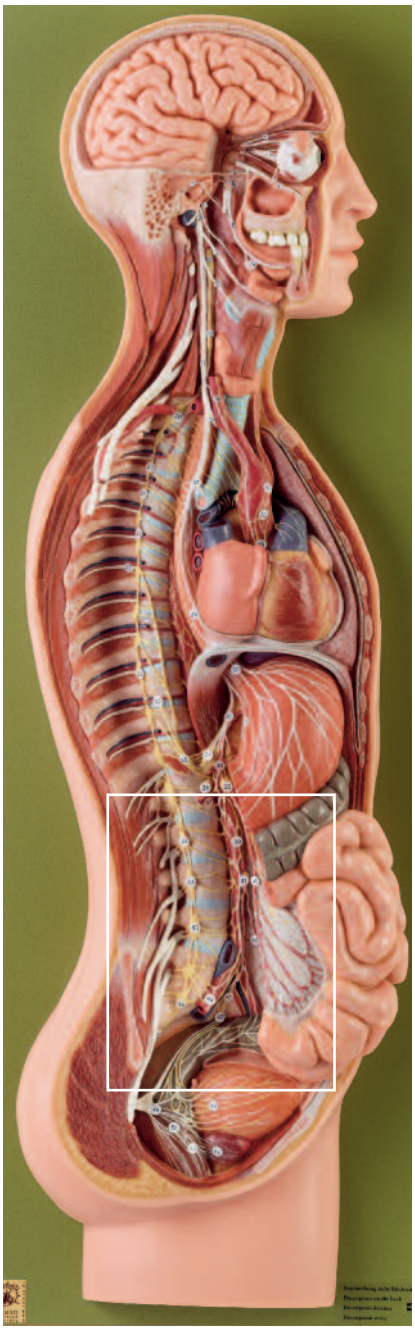
BS 32/37 · Spinal Cord

Model 1: Spinal cord with nerve branches, **enlarged approximately 5 times.** Model 2: Transverse section through the spinal cord, **enlarged approximately 10 times. In one piece** and in **SOMSO-PLAST®.** Mounted on a green board under a removable transparent cover. Height: 9 cm, width: 32 cm, depth: 19 cm, weight: 680 g

Quality is a multi-layered concern for SOMSO®. In detail, we measure the quality of material, scientific accuracy, paintwork, functionality, and durability. Models that undergo this test process are true SOMSO® Modelle. Thus, quality control becomes an important integral part of the entire manufacturing process, as it guarantees the user maximum functional and scientific accuracy.



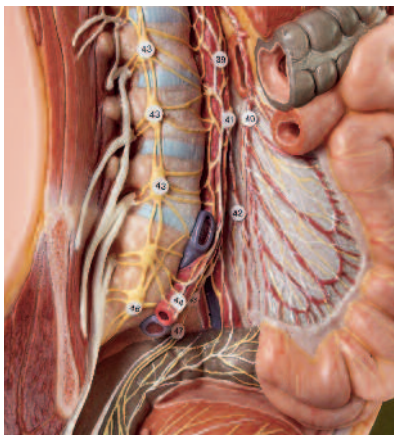
BS 26/1- Detail: Nerve supply of the eye



BS 26/1

BS 26/1 · SYMPATHETIC NERVOUS SYSTEM

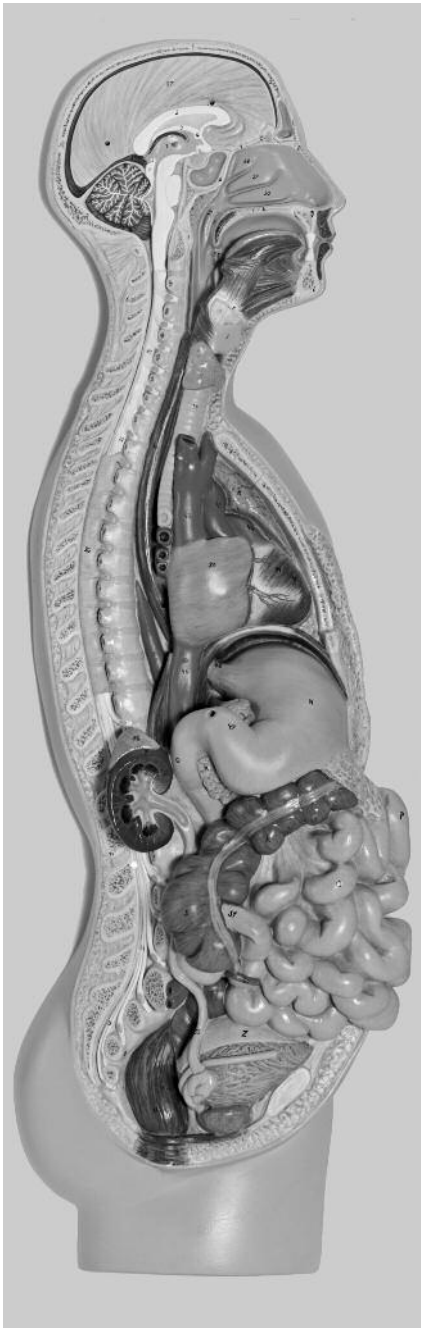
About 2/3 natural size, in **SOMSO-PLAST®.** Relief representation of the right side of the body, in particular the thoracic part, the cardiac plexus, and the pelvic plexus. **In one piece.** Mounted on a green board. Height: 75 cm, width: 25 cm, depth: 10 cm, weight: 4.3 kg



BS 26/1 - Detail: Nerves of the parasympathetic part of the pelvis

BS 26/2 · ENDOCRINE SYSTEM (in preparation)

About 2/3 natural size, in **SOMSO-PLAST®.** Relief representation of the right half of the body. Showing: pituitary gland, thyroid, thymus gland, pancreas, adrenal gland, female and male sexual glands. Mounted on a green board. Height: 75 cm, width: 25 cm, depth: 10 cm, weight: 4.5 kg



BS 26/2

Three Models of the Brain after Prof. Dr. med. Dr. med. h.c. J. W. Rohen

Fifteen-part brain model and transparent version

BS 25

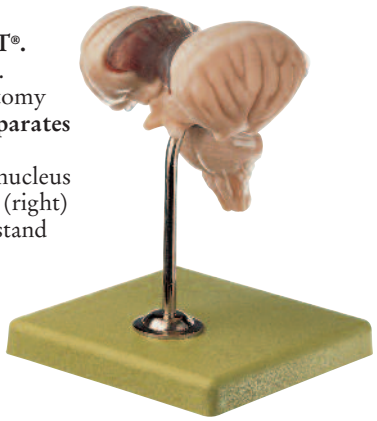
BS 25 · Model of Brain in 15 Parts

Natural size, in **SOMSO-PLAST®,** after Prof. Dr. med. Dr. med. h.c. J. W. Rohen, Anatomical Institute of the University of Erlangen. **Separates into 15 parts:** cerebral hemisphere (2 parts), temporal and occipital lobes with limbic system, cerebellum, frontal lobe, corpus callosum, brain stem (2 parts), corpus striatum, insula (2 parts), nucleus lentiformis (left), internal capsule (right), ventricles of the brain, transparent skull base with cervical spine on green base. Height: 24 cm, width: 18 cm, depth: 20 cm, weight: 1.8 kg

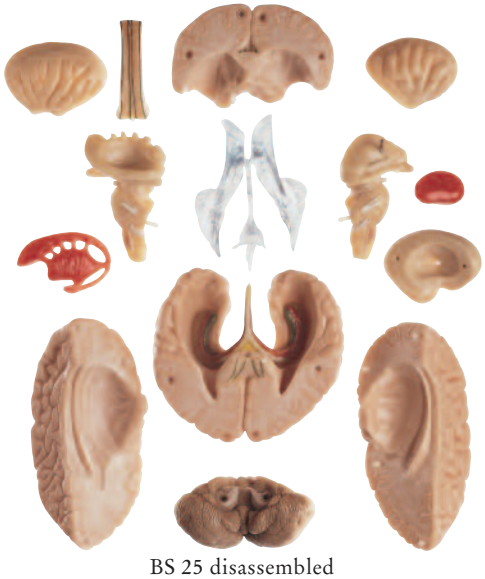
BS 25/2 disassembled

BS 25/2 · Model of Brain Stem in 8 parts

Natural size, in **SOMSO-PLAST®.** After Prof. Dr. med. Dr. med. h.c. J. W. Rohen, Department of Anatomy of the University of Erlangen. **Separates into 8 parts:** brain stem (2 parts), corpus striatum, insula (2 parts), nucleus lentiformis (left), internal capsule (right) and ventricles of the brain. On a stand with a green base. Height: 17 cm, width: 14 cm, depth: 16 cm, weight: 550 g

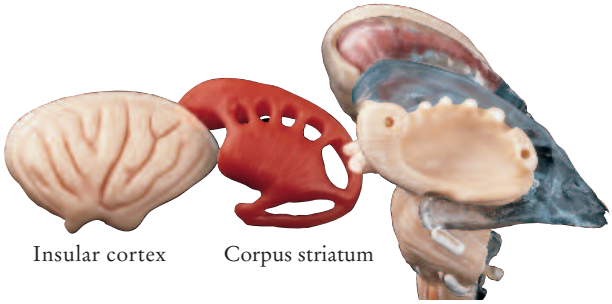


BS 25/2



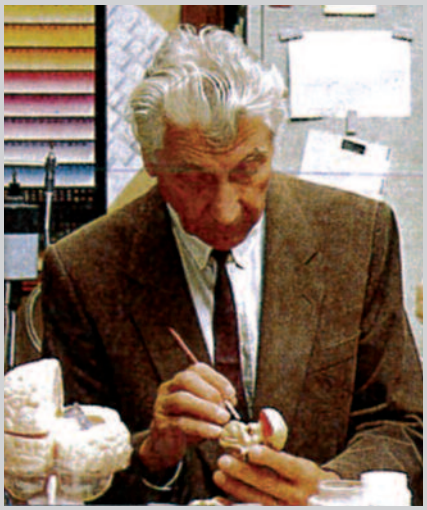
BS 25 disassembled

BS 25 - BS 25/2: Insular cortex and Corpus striatum partly disassembled from the brain stem



Insular cortex

Corpus striatum



Professor Rohen examining the model of the 15 part brain, which were developed in collaboration with him.

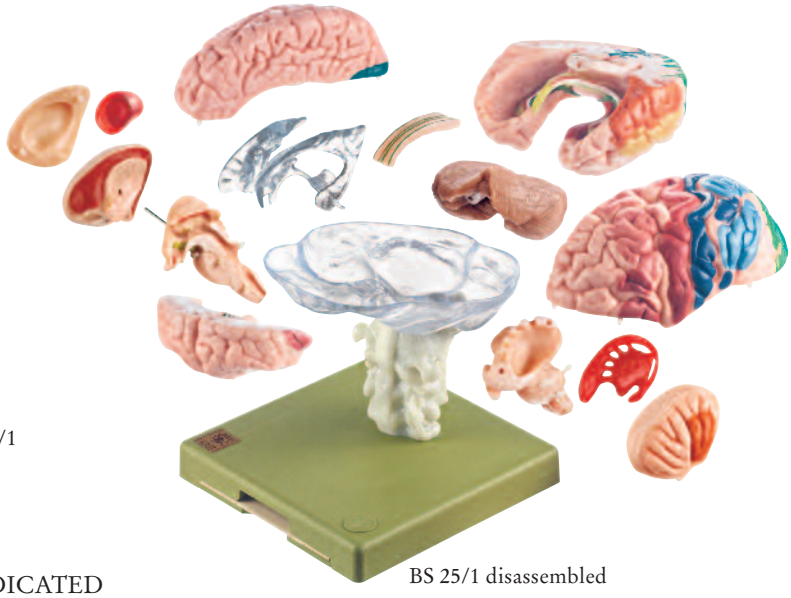
SOMSO® Modelle for school and science

SOMSO® Modelle are used in many areas of education.

The range of models takes into consideration the requirements of both a lecture theatre and a seminar.

Renowned professors contribute to the continuous development and improvement of SOMSO® Modelle.

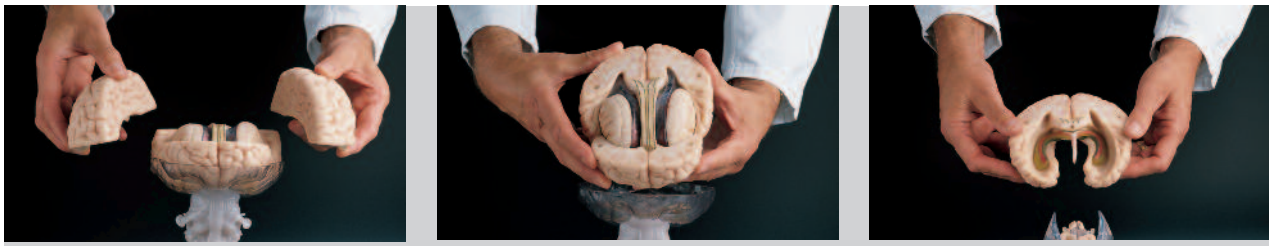
BS 25/1



BS 25/1 disassembled

BS 25/1 · Model of Brain with Indicated Cytoarchitectural Areas

Natural size, in **SOMSO-PLAST®.** After Prof. Dr. med. Dr. med. h.c. J. W. Rohen, Department of Anatomy of the University of Erlangen. **Separates into 15 parts:** cerebral hemisphere (2 parts), temporal and occipital lobes with limbic system, cerebellum, frontal lobe, corpus callosum, brain stem (2 parts), corpus striatum, insula (2 parts), nucleus lentiformis (left), internal capsule (right), ventricles of the brain, transparent skull base with cervical spine on green base. Height: 24 cm, width: 18 cm, depth: 20 cm, weight: 1.8 kg



The model as a whole and its parts – a wide variety of combinations

BS 25/T
Removal of the transparent right cortex and the right half of the sphenoid bone

BS 25/2-T · Model of Brain Stem in 12 parts

Modelled according to nature, in **SOMSO-PLAST®.** Brain stem from the transparent brain model BS 25/T. **Separates into 12 parts.** The ventricular cavities of the brain are extremely well modelled. A perfect teaching aid for medical students. On a stand with a green base. Height: 16 cm, width: 14 cm, depth: 16 cm, weight: 650 g

View from the caudal side

View from the front

BS 25/2-T

BS 25/T · Transparent Brain Model

Natural size, in **SOMSO-PLAST®.** After Prof. Dr. med. Dr. med. h.c. J. W. Rohen, Department of Anatomy of the University of Erlangen. **Separates into 15 parts:** transparent left cortex of the brain with sinus sagittalis connected with part of the base of the skull, the cervical vertebral column with spinal cord and vertebral artery; right transparent cortex of the brain, right half of the sphenoid bone, removable brain stem (separates into right and left halves), right and left insular cortex, left corpus striatum, right capsular interna, corpus callosum, fornix with limbicsystem, ventricle system as a whole, and right and left halves of the cerebellum. On a stand with a green base. Height: 30 cm, width: 18 cm, depth: 20 cm, weight: 1.28 kg

BS 25/T partly disassembled

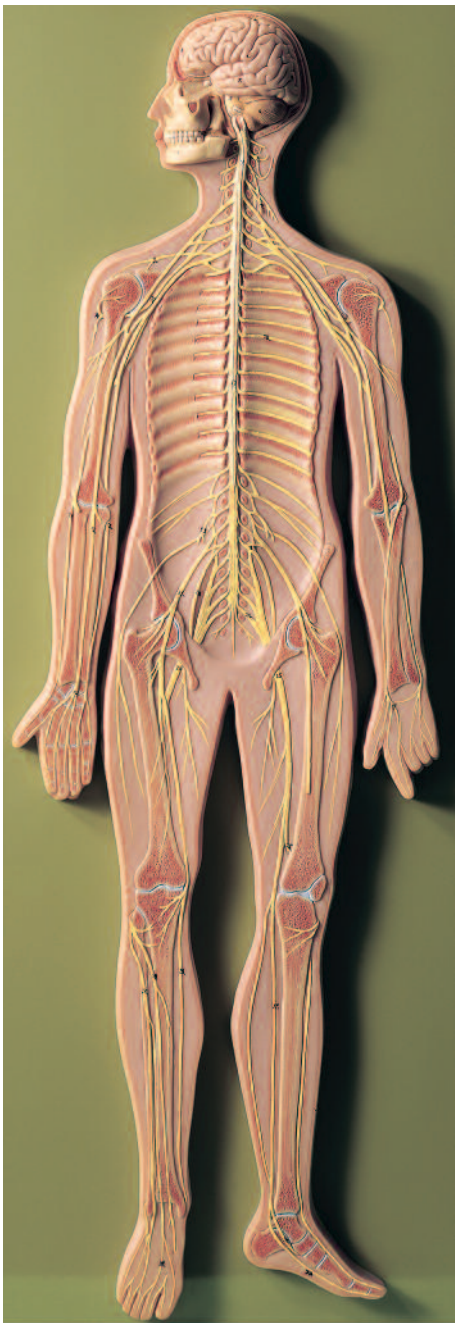
BS 25/T - BS 25/2-T
Detail: brain stem disassembled

BS 45

Head and Nervous system

Nature is our Model SOMSO® Modelle

Anatomy 2 + 3



BS 27

BS 45 · 5 Section Models of the Brain

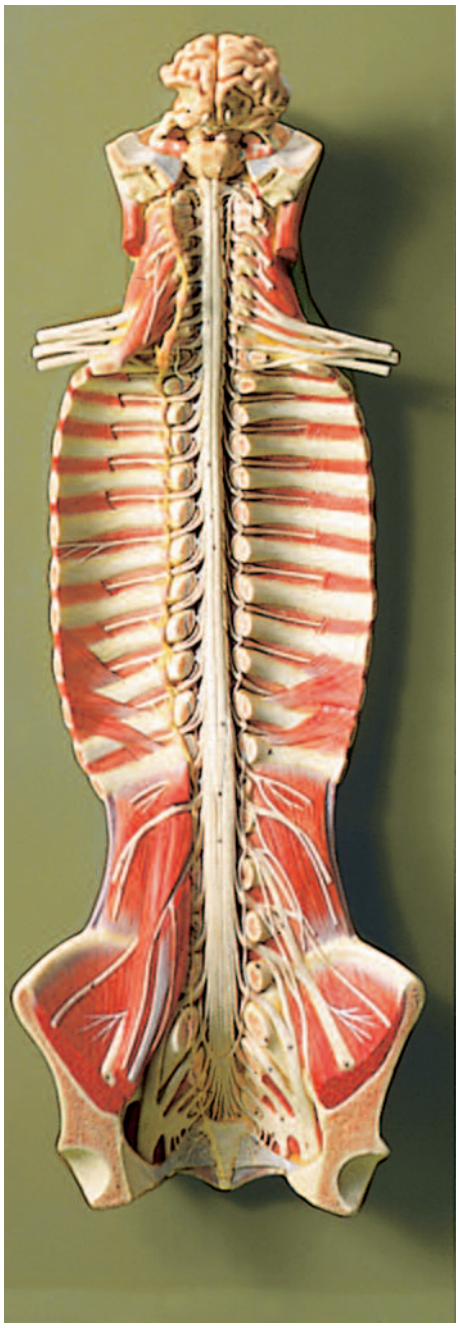
Natural size, in **SOMSO- PLAST®** and with the following features:
1. Left hemisphere. Cortical relief of the cerebrum and cerebellum;
2. Median section through the brain;
3. Cerebral ventricle (opened) and stem ganglia (viewed from above);
4. Horizontal section through the left hemisphere. Right: Lateral ventricle (opened) and adjoining nuclei with choroid plexus (cf. No. 3); 5. Frontal section through the brain and brain stem showing the subcortical nuclei and projection tracts. In display case with transparent cover.
Height: 50 cm, width: 58 cm, depth: 10.5 cm, weight: 5.5 kg

BS 27 · Nervous System

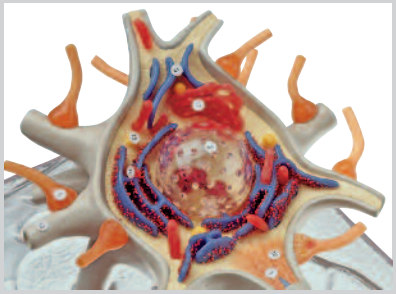
Relief model, **about 1/2 natural size,** in **SOMSO-PLAST®.** Schematic representation of the central and peripheral nervous system. **In one piece.** Mounted on a green board. Height: 90 cm, width: 32 cm, depth: 6 cm, weight: 4.6 kg

BS 31 · Spinal Cord in the Spinal Canal

Seen from the ventral side, **natural size,** in **SOMSO-PLAST®.** The model shows the brain stem and the spinal cord, as well as the nerve branches, up to the coccygeal plexus. On the left side, the sympathetic trunk with its connections to the central nervous system is shown. **In one piece.** Mounted on a green board. Height: 90 cm, width: 32 cm, depth: 19 cm, weight: 6.05 kg



BS 31



Head and Nervous system

Nature is our Model SOMSO® Modelle

Anatomy 2 + 3

Illustration on the left:
BS 35 – Detail: Inner nerve cell body after the front wall of the perikaryon (in transparent **SOMSO-PLAST®**) has been removed

BS 35 · Neuron

Enlarged approximately 2,500 times, in **SOMSO-PLAST®.** Consisting of nerve cell body and medullated nerve fibre. Based on electron-microscopic captures. **Separates into 3 parts.** Removable from transparent base. Height: 18 cm, width: 60 cm, depth: 17 cm, weight: 2.1 kg

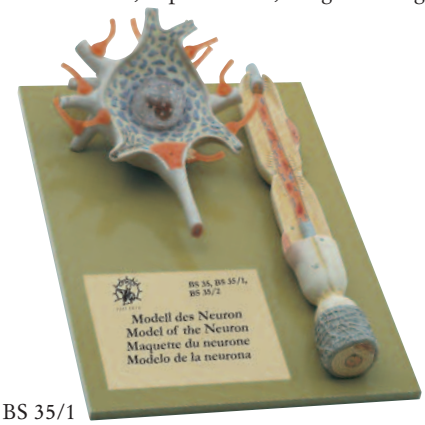
BS 35/3

BS 35/3 · Model of a Synapse

Many times enlarged, in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. Neurotubules, neuro filaments, synaptic vesicles, and the postsynaptic apparatus with membrane structure. **In one piece.** Removable on a transparent base. Height: 22 cm, width: 22 cm, depth: 22 cm, weight: 920 g

BS 35/1 · Neuron

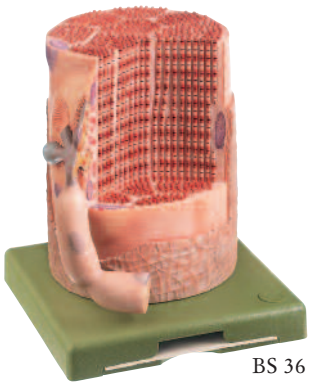
Enlarged approximately 2,500 times, in **SOMSO-PLAST®.** Talking into account structures that are recognisable under light optical and electron microscopes. With separate medullated nerve fibre. **In one piece.** Mounted on a green board. Height: 39 cm, width: 28 cm, depth: 14 cm, weight: 1.6 kg



BS 35/1

BS 36 · Transversely Striated Muscular Fibre with Motor End Plate

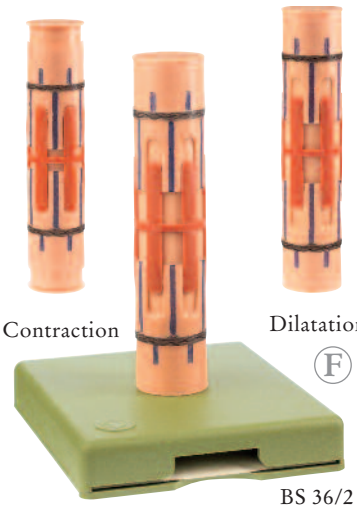
Enlarged approximately 4,000 times, in **SOMSO-PLAST®. In one piece.** On a green base. Height: 21 cm, width: 18 cm, depth: 18 cm, weight: 1,12 kg



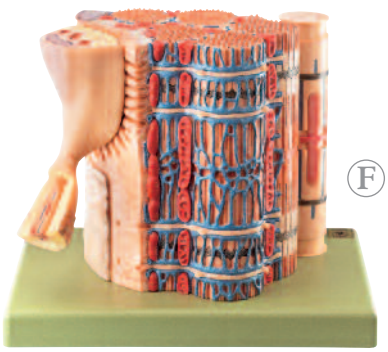
BS 36

BS 36/2 · Functional Model of a Myofibril

Enlarged approximately 10,000 times, in **SOMSO-PLAST®.** After Prof. Dr. med. Elke Lütjen-Drecoll and Prof. Dr. med. Dr. med. h.c. J. W. Rohen. **In one piece.** On a removable green base. Height: 21 cm, width: 14 cm, depth: 16 cm, weight: 480 g



BS 36/2

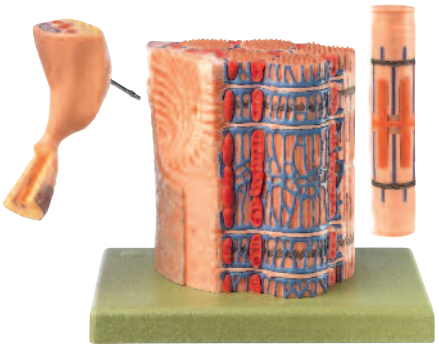


F

BS 36/1

BS 36/1 · Skeletal Muscle Fibre with Functional Model

Enlarged approximately 15,000 times, in **SOMSO-PLAST®.** After Prof. Dr. med. Elke Lütjen-Drecoll and Prof. Dr. med. Dr. med. h.c. J. W. Rohen. **Separates into 3 parts.** On a green base. Height: 21 cm, width: 26 cm, depth: 18 cm, weight: 1.75 kg



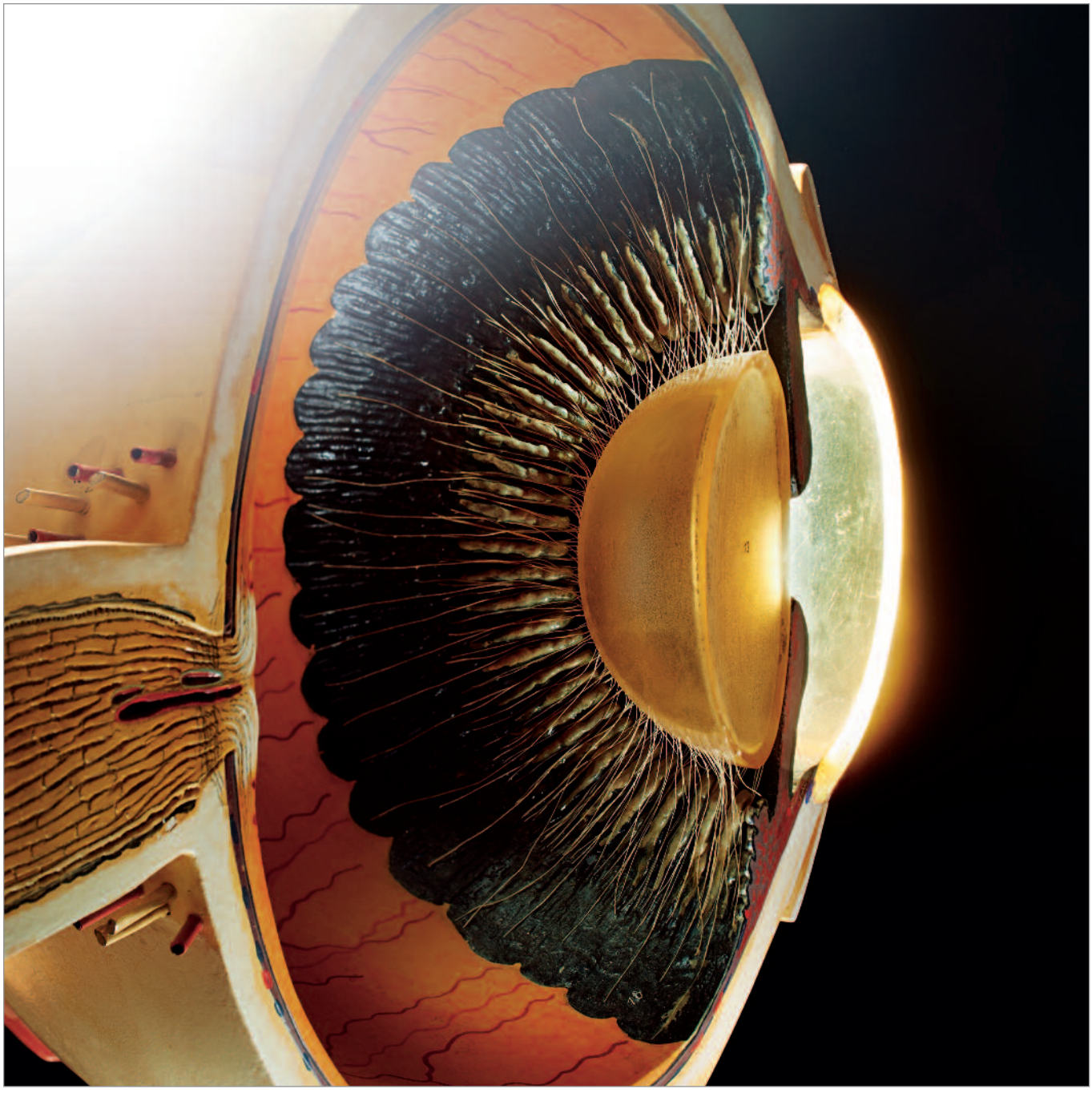
BS 36/1 disassembled

C 12 Detail: Eyeball SOMSO® Lecture Theatre Model enlarged approximately 15 times

Eye

Nature is our Model SOMSO® Modelle

Anatomy 4



Eye

Nature is our Model SOMSO® Modelle

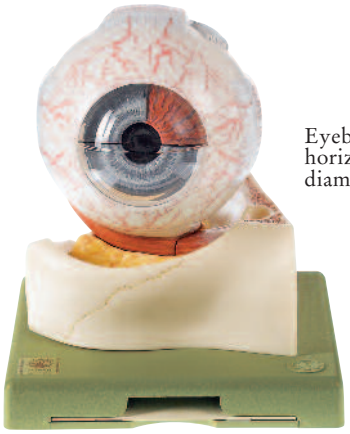
Anatomy 4

Comparison of SOMSO® Eye Models (referring to the size of the eyeball):

CS 2 • CS 2/2
enlarged approximately 3 times, diameter 8 cm

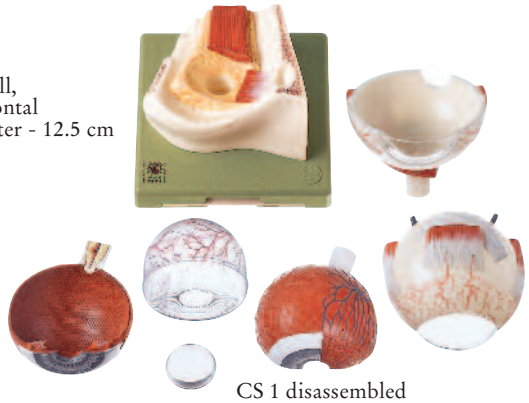
CS 5 • CS 13
enlarged approximately 4 times, diameter 9.5 cm

CS 1 • CS 4 • CS 7 • CS 8/1
CS 10 • CS 11 • CS 16
enlarged approximately 5 times, diameter 12.5 cm



CS 1

Eyeball, horizontal diameter - 12.5 cm



CS 1 disassembled

CS 1 · Eyeball

Enlarged approximately 5 times, in **SOMSO-PLAST®.** Resting in the lower bones of the orbit and sectioned horizontally. **Separates into 7 parts:** sclerotic membrane (2 parts), choroid membrane (2 parts), retina with vitreous humour, lens, bone of the orbit. On a green base. Height: 21 cm, width: 18 cm, depth: 18 cm, weight: 1.3 kg

CS 16

CS 16 · Eyeball

Enlarged approximately 5 times, in **SOMSO-PLAST®.** As CS 1, but with lacrimal organs and eyelids. **Separates into 8 parts.** On a green base. Height: 21.5 cm, width: 20 cm, depth: 18 cm, weight: 1.65 kg

Eyeball, horizontal diameter - 9.5 cm

CS 5 disassembled

CS 5

CS 5 · Eyeball

Enlarged approximately 4 times, in **SOMSO-PLAST®.** **Separates into 6 parts:** sclerotic membrane (2 parts), choroid membrane (2 parts), vitreous humour, lens. On a green base. Height: 19 cm, width: 16 cm, depth: 14 cm, weight: 600 g

CS 4 disassembled

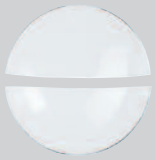
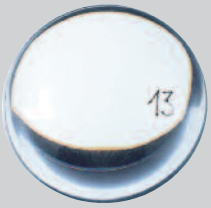
Eyeball, horizontal diameter - 12.5 cm

CS 4

CS 4 · Eyeball

Enlarged approximately 5 times, in **SOMSO-PLAST®.** Sectioned horizontally. **Separates into 6 parts:** upper half of the sclerotic membrane, choroid membrane (2 parts), retina with vitreous humour, lens, lower half of the sclerotic membrane. On a green base. Height: 21.5 cm, width: 14 cm, depth: 16.5 cm. weight: 900 g

Cornea and Lens suitable for SOMSO® Eye Models

	CS 2, CS 2/2	CS 5, CS 13	CS 1, CS 4, CS 16	CS 7, CS 8/1, CS 10, CS 11
Cornea				
	Order no.: CS 2-5	Order no.: CS 5-7	Order no.: CS 1-7	Order no.: CS 11-5
Lens		 (only for CS 5)		
	Order no.: CS 2-4	Order no.: CS 5-6	Order no.: CS 4-6	Order no.: CS 7-6

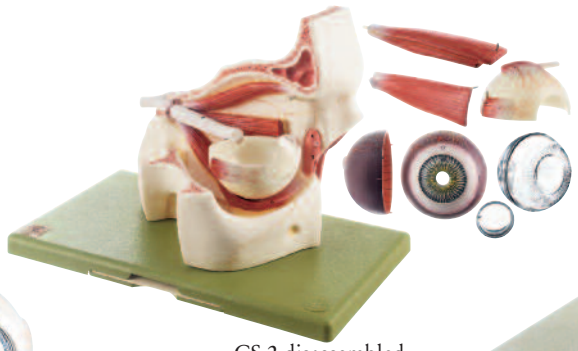
SOMSO® philosophy of spare parts

Even after decades, SOMSO® guarantees availability of spare parts. For example: Lens and cornea suitable for SOMSO® Modelle of the eye.

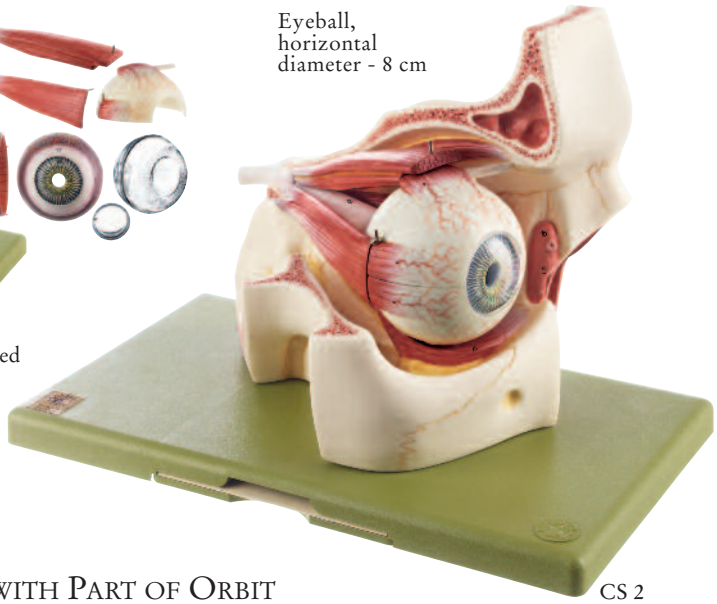
Eye

Nature is our Model SOMSO® Modelle

Anatomy 4



CS 2 disassembled

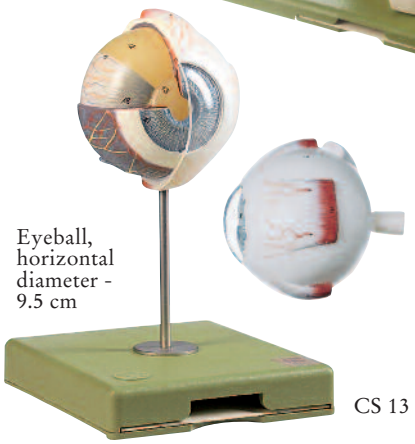


Eyeball, horizontal diameter - 8 cm

CS 2

CS 2 · Eyeball with Part of Orbit

Enlarged approximately 3 times, in **SOMSO-PLAST®** All six muscles of the eye are represented. The optic nerve is shown up to where it enters the base of the skull, the eyeball is sectioned horizontally. **Separates into 8 parts:** superior rectus and exterior straight muscle, upper half of the sclerotic membrane, choroid membrane and retina (2 parts), vitreous humour, lens, orbit with green base. Height: 23 cm, width: 32 cm, depth: 19 cm, weight: 1.65 kg



Eyeball, horizontal diameter - 9.5 cm

CS 13

CS 13 · Eyeball

Enlarged approximately 4 times, in **SOMSO-PLAST®.** The anatomy of the eyeball in different sectional levels is clearly visible. The model cannot be disassembled. On a stand with green base. Height: 23 cm, width: 14 cm, depth: 16 cm, weight: 500 g

Eyeball, horizontal diameter - 8 cm

CS 2/2 complete

CS 2/2 disassembled

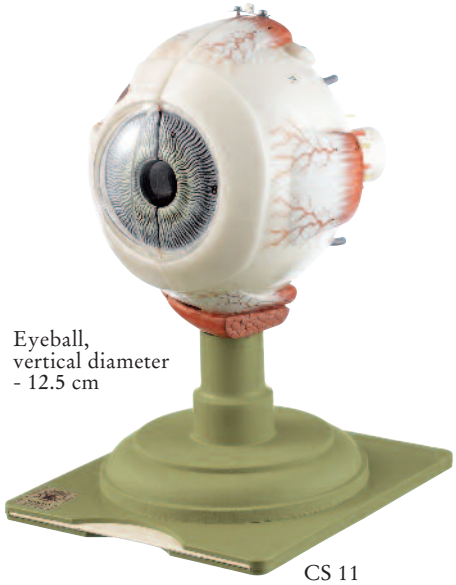
CS 2/2 · Eyeball with Part of Orbit

Enlarged approximately 3 times, in **SOMSO-PLAST®.** As CS 2, but with lacrimal organs and eyelids. **Separates into 9 parts.** On a green base. Height: 23 cm, width: 32 cm, depth: 19 cm, weight: 1.7 kg

Eye

Nature is our Model SOMSO® Modelle

Anatomy 4



Eyeball, vertical diameter - 12.5 cm

CS 11

CS 11 · Eyeball

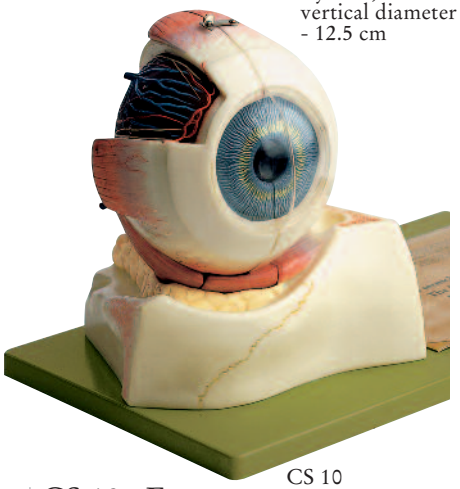
Enlarged approximately 5 times, in **SOMSO-PLAST®.** As CS 10, but the eyeball is mounted on the green base. **Separates into 2 parts.** Height: 22 cm, width: 14 cm, depth: 16 cm, weight: 850 g

Detail: Storage for the key

CS 11 disassembled

Eyeball, vertical diameter - 12.5 cm

CS 7 partly disassembled



Eyeball, vertical diameter - 12.5 cm

CS 10

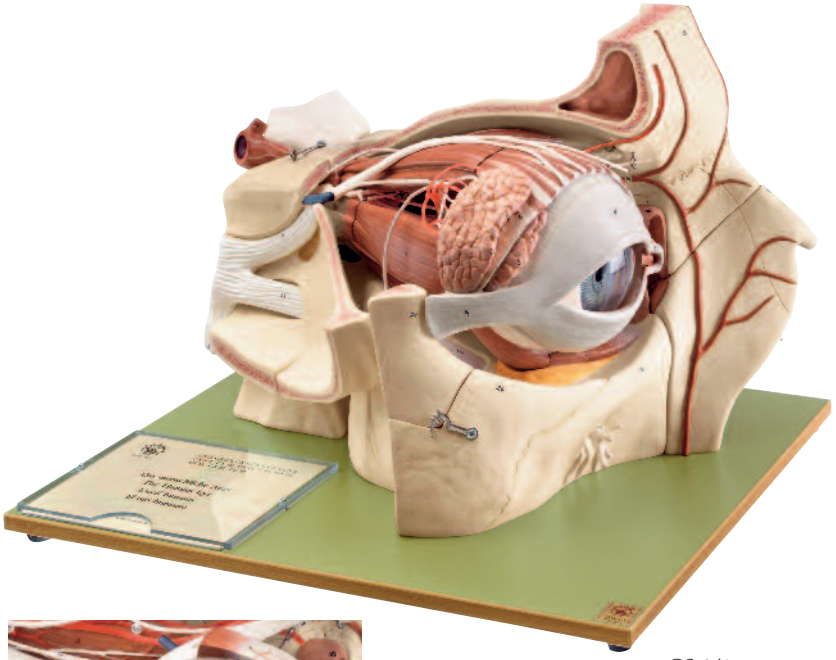
CS 10 · Eyeball

Enlarged approximately 5 times, in **SOMSO-PLAST®.** Resting in the bone of the base of the orbit. Median section. In the left half, the lens and vitreous humour are fixed. The right half shows the sclerotic membrane partially opened from the outside in order to expose the retina. The interior side shows the ciliary body and the background of the eye. A section of the retina shows the structural scheme of the choroid membrane with retina. **Separates into 3 parts.** On a green base. Height: 20 cm, width: 32 cm, depth: 19 cm, weight: 1.4 kg

CS 7 · Eyeball

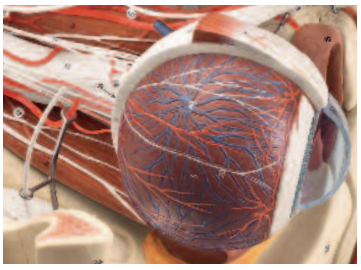
Enlarged approximately 5 times, in **SOMSO-PLAST®.** Resting in the lower bones of the orbit. **Separates into 5 parts:** Median section of the eyeball (the lens is fixed in the left half), vitreous humour, the right half separates into sclerotic membrane and choroid membrane - part with retina showing a microscopic schematic reproduction of the retina. On a green base. Height: 20 cm, width: 32 cm, depth: 19 cm, weight: 1.4 kg

Model CS 8/1 - Topography of the Orbital Cavity combines attention to detail and precise craftsmanship. Clearly presented: modelling of the six ocular muscles, representation of the lachrymal apparatus and the supporting apparatus of the eyelids, filigree reproduction of the vascularisation with 17 arteries and 29 nerves.

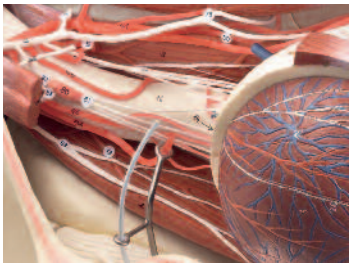


CS 8/1 · TOPOGRAPHY OF THE ORBIT

Enlarged approximately 5 times, in **SOMSO-PLAST®.** The orbital process of the frontal bone and the small wing of the sphenoid bone have been removed in order to allow a view of the bony orbit. The six muscles of the eye are modelled very clearly and the superior and lateral straight muscles of the eyeball can be removed. **Separates into 9 parts:** Median section of the eyeball (the lens is fixed in the left half), vitreous humour, the right half of sclerotic membrane and choroid membrane with retina can be removed. All important nerves and blood vessels are represented. Lacrimal organs with eyelids. On a green base. Height: 33.5 cm, width: 45 cm, depth: 37 cm, weight: 8.5 kg



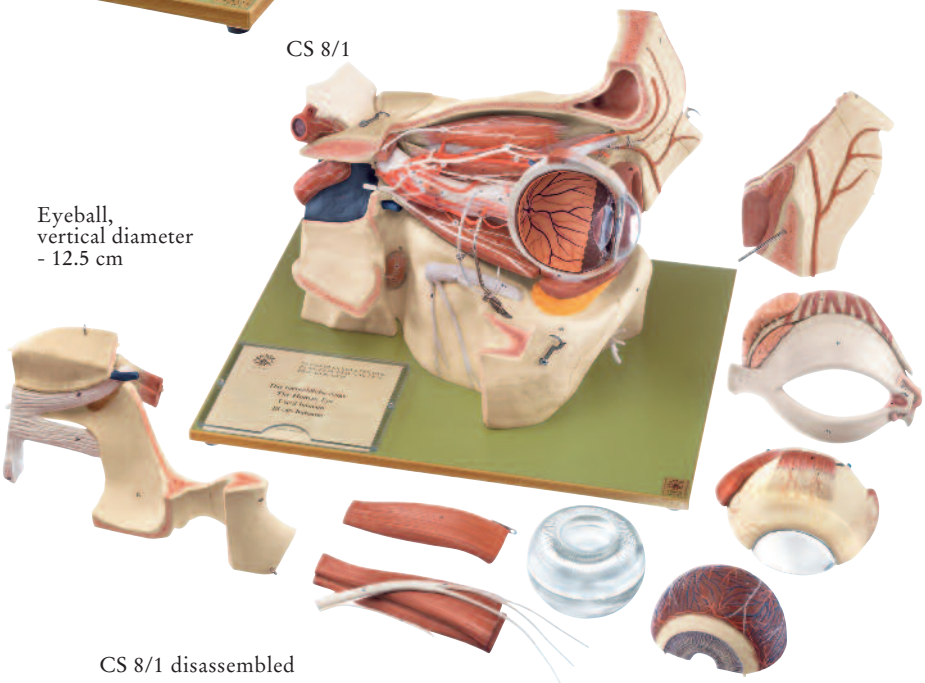
CS 8/1 Representation of the ciliary nerve and the venous and arterial plexus



CS 8/1 Representation of the ciliary ganglion

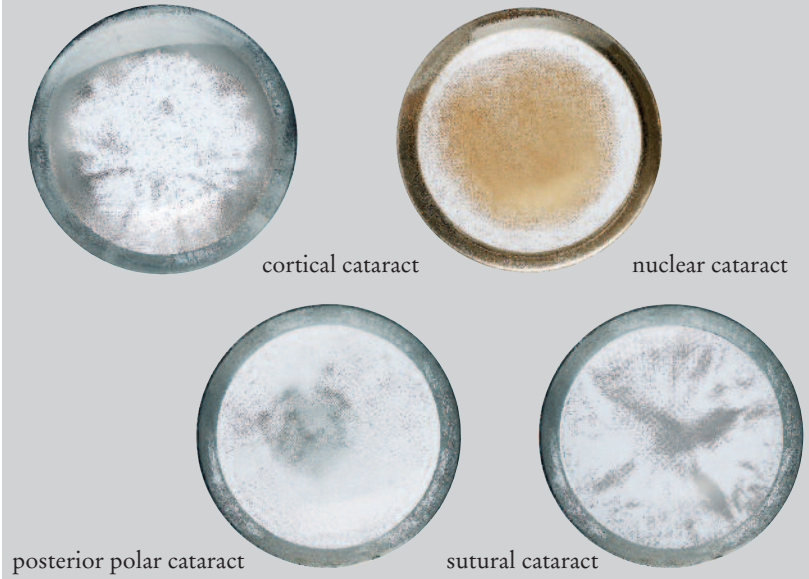
CS 8/1

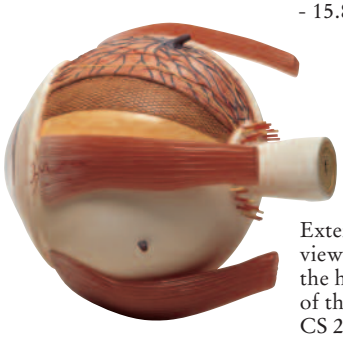
Eyeball, vertical diameter - 12.5 cm



CS 8/1 disassembled

Forms of cataract that can be inserted into the Model of the Eye CS 22:





External view of the half of the eye CS 21/1

Eyeball, vertical diameter - 15.8 cm

CS 21/1

CS 21/1 · RIGHT HALF OF THE HUMAN EYE ON A BASE

Enlarged approximately 6 times. Eyeball diameter 15.8 cm, in **SOMSO-PLAST®. In one piece.** Removable from a transparent base. Height: 19 cm, width: 21 cm, depth: 18.5 cm, weight: 1.1 kg

CS 22

Eyeball, horizontal diameter - 8 cm

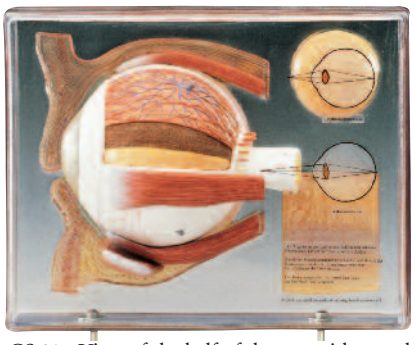
CS 22 disassembled

CS 22 · CATARACT EYE MODEL

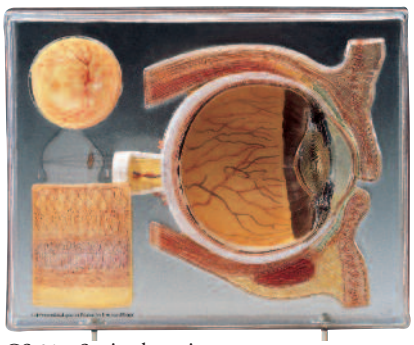
Enlarged approximately 3 times, in **SOMSO-PLAST®.** Shown are four forms of cataract:
1. cortical cataract (cataracta corticalis),
2. nuclear cataract (cataracta nuclearis),
3. posterior polar cataract (cataracta polaris posterior),
4. coronary cataract (cataracta coronaria).
Height: 13 cm, length: 16 cm, depth: 16 cm, weight: 570 g

CS 21 · DISPLAY CASE HUMAN EYE

Enlarged approximately 6 times, in a display case. Made of special plastic. The model displays a sagittal section of the orbital cavity on the one side. Additionally, the ocular fundus and the electron-microscopic fine structure of the retina are shown separately. The other side of the model shows the eyeball (ø 15.8 cm) with the muscle attachments. **Cannot be disassembled.** Height: 37 cm, width: 48 cm, depth: 15 cm, weight: 2.5 kg



CS 21 - View of the half of the eye with muscles



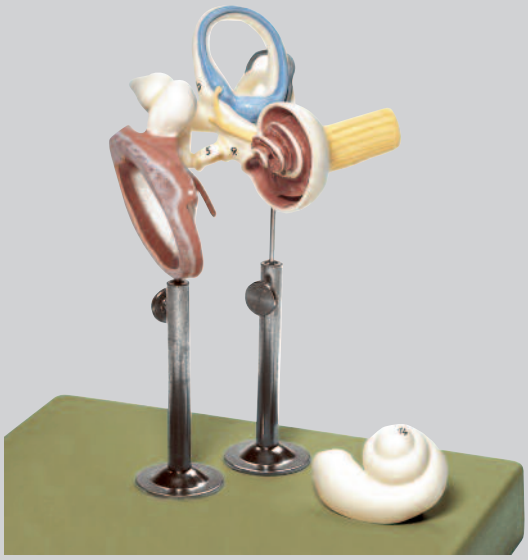
CS 21 - Sagittal section

Illustration QS 8/53 Artificial temporal bone. Shown opened, actual size (see catalogue page 108)

Ear

Nature is our Model SOMSO® Modelle

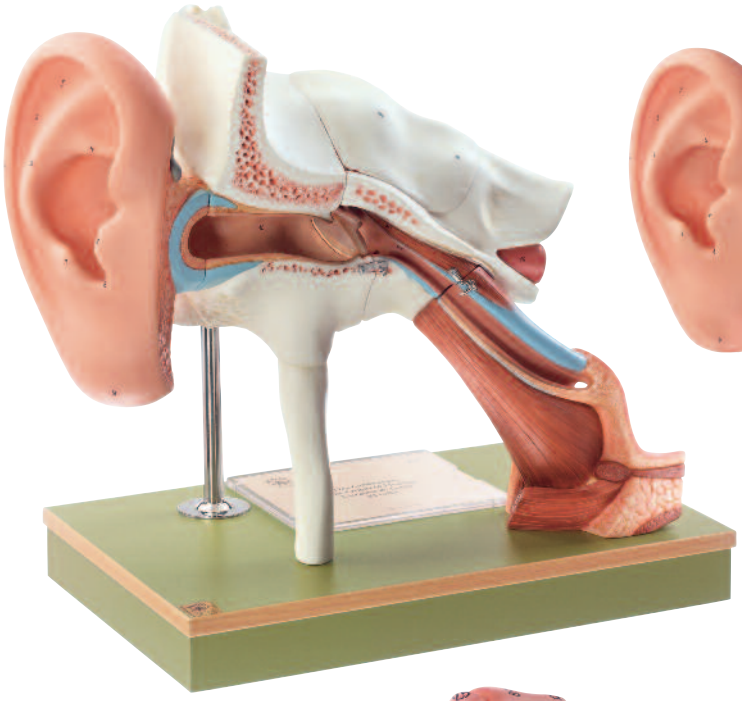
Anatomy 5



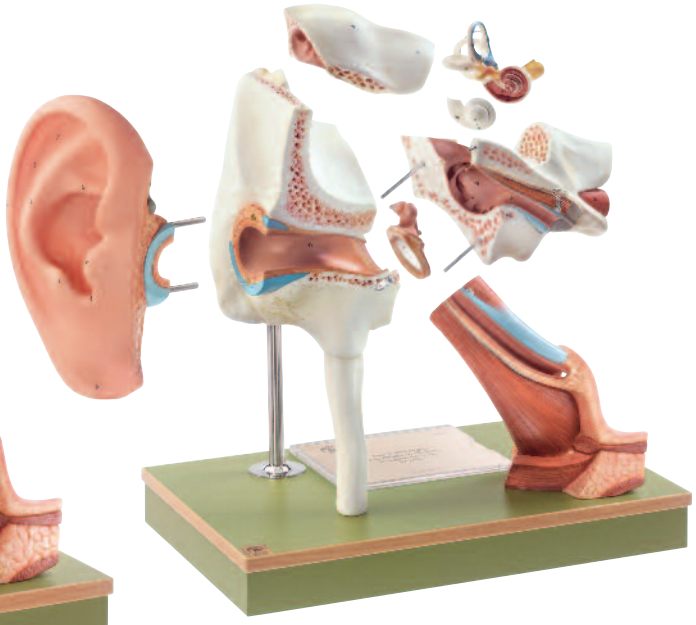
DS 17 disassembled

DS 17 · Labyrinth with Ossicles and Tympanic Membrane

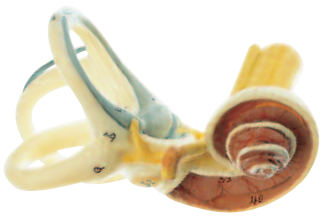
Enlarged approximately 4 times, in **SOMSO-PLAST®.** The model clearly shows the organs of the middle ear space and the inner ear. The membranous and bony labyrinths are shown and the cochlea can be opened. **Separates into 3 parts.** On a stand with green base. Height: 20 cm, width: 14 cm, depth: 16 cm, weight: 370 g



DS 1



DS 1 disassembled

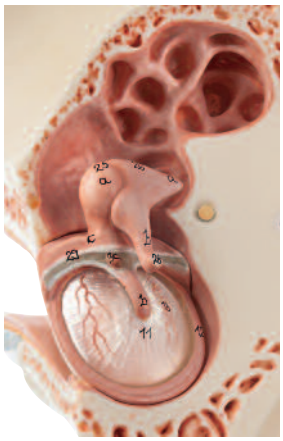


Detail: opened cochlea

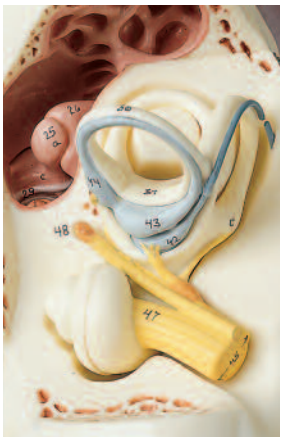
Tympanic membrane

DS 1 · Ear with Pinna

Enlarged approximately 4 times, in **SOMSO-PLAST®.**
Separates into pinna, petrous bone (3 parts), tympanic membrane with malleus and incus, labyrinth (2 parts), Eustachian tube.
8 parts in total. On a stand with green base. Height: 41 cm, width: 44 cm, depth: 27 cm, weight: 4.5 kg



Detail: Tympanic membrane with malleus and incus



Detail: Labyrinth with cochlea and auditory nerve

DS 3-4 Tympanic membrane with malleus and incus, suitable for DS 3

DS 3-5 Labyrinth with stapes, suitable for DS 3

DS 5-4 Tympanic membrane with malleus and incus, suitable for DS 5

DS 5-5 Labyrinth with stapes, complete, suitable for DS 5

DS 5-5/1 Labyrinth with stapes, but without upper part of the cochlea of DS 5

DS 5-5/2 Upper part of the cochlea, suitable for the labyrinth of DS 5-5/1

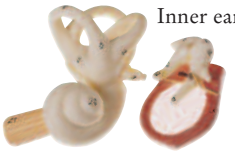
SOMSO® philosophy of spare parts

Even after decades, SOMSO® guarantees the availability of spare parts. This is shown using, as examples, organs of the inner ear of models DS 3 and DS 5

Ear

Nature is our Model SOMSO® Modelle

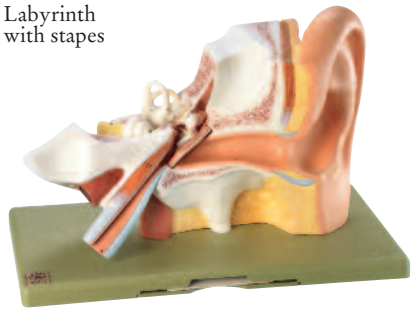
Anatomy 5



Inner ear of DS 3

Tympanic membrane with malleus and incus

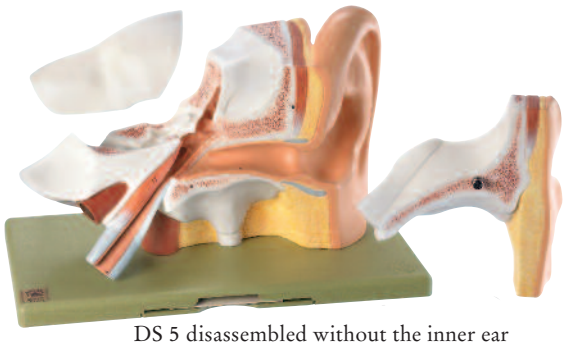
Labyrinth with stapes



DS 3

DS 3 · Ear

Enlarged approximately 3 times, in **SOMSO-PLAST®.** Tympanic membrane with malleus and incus as well as removable labyrinth with stapes. **3 parts in total.** On a green base. Height: 21 cm, width: 32 cm, depth: 19 cm, weight: 1.25 kg



DS 5 disassembled without the inner ear

Inner ear of DS 5

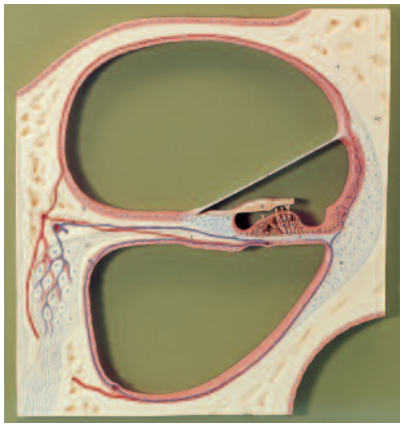
Labyrinth with stapes, disassembled

Tympanic membrane with malleus and incus

DS 5

DS 5 · Ear

Enlarged approximately 3 times, in **SOMSO-PLAST®. Separates into 6 parts.** On a green base. Height: 21 cm, width: 32 cm, depth: 19 cm, weight: 1.65 kg

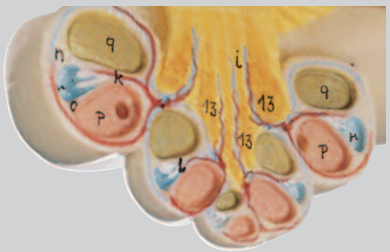


DS 10

DS 10 Detailed display of the organ of Corti

DS 10 · Section Through the Central Spiral of the Cochlea

Enlarged approximately 350 times, in **SOMSO-PLAST®.** The scala vestibuli, the scala tympani, the cochlear duct with tectorial membrane, and the organ of Corti are shown. **Cannot be disassembled.** On a green board. Height: 49 cm, width: 46 cm, depth: 5 cm, weight: 3.8 kg



Detail DS 13 and DS 14:
Section through the cochlea

Ear

Nature is our Model SOMSO® Modelle

Anatomy 5

DS 14

DS 14 · Labyrinth

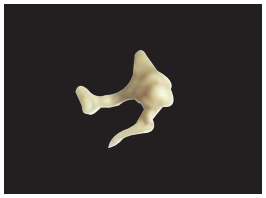
Enlarged approximately 18 times, in **SOMSO-PLAST®.** The superior semicircular canal and vestibule open showing the saccule and utricle. Cochlea separates longitudinally. The network of nerves of the organ of balance is represented. **Separates into 2 parts.** On a stand with green base. Height: 31 cm, width: 24 cm, depth: 18 cm, weight: 1.1 kg

QS 69

QS 69 · The Three Auditory Ossicles

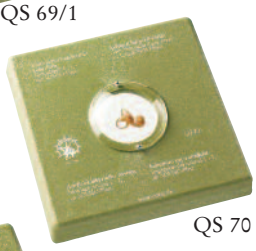
Natural size, in **SOMSO-PLAST®.** Malleus, incus, and stapes mounted under a transparent cover. Removable from green base. Height: 3 cm, width: 12 cm, depth: 12 cm, weight: 80 g

QS 69/1



QS 69/1 · The Three Auditory Ossicles

Natural size, in **SOMSO-PLAST®.**
Malleus, incus, and stapes mounted in natural position under a transparent cover. Removable from green base. Height: 3 cm, width: 12 cm, length: 12 cm, weight: 80 g



QS 70

QS 70 · Artificial Bony Labyrinth

Natural size, in **SOMSO-PLAST®.**
The labyrinth is mounted under a transparent cover. Removable from green base. Height: 3 cm, width: 12 cm, depth: 12 cm, weight: 80 g

QS 70/1

QS 70/1 · The Three Auditory Ossicles with Bony Labyrinth

Natural size, in **SOMSO-PLAST®.**
Mounted in natural position under a transparent cover. Removable from green base. Height: 3 cm, width: 12 cm, length: 12 cm, weight: 80 g

DS 13
disassembled

DS 13 · Labyrinth

Enlarged approximately 18 times, in **SOMSO-PLAST®.** The superior semicircular canal and vestibule are open, showing the saccule and utricle. The cochlea separates longitudinally. **2 parts in total.** On a stand with green base. Height: 30 cm, width: 24 cm, depth: 18 cm, weight: 1.1 kg

DS 18

DS 18 · Ossicles

After Prof. Dr. Neubert, **enlarged approximately 19 times,** in **SOMSO-PLAST®.** Consisting of the malleus, incus, and stapes. **Separates into 3 parts.** On a stand with green base. Height: 20 cm, width: 18 cm, depth: 18 cm, weight: 700 g

ES 3 Lower Jaw of a 12-Year-Old (see catalogue page 48)

Teeth and Jaw

Nature is our Model SOMSO® Modelle

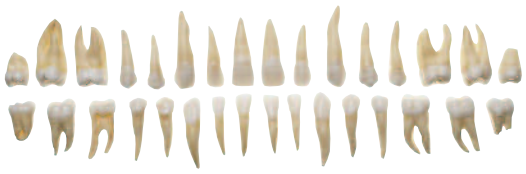
Anatomy 6

ES 4 disassembled

ES 4

ES 4 · Lower Jaw of an 18-Year-Old

Enlarged approximately 3 times, in **SOMSO-PLAST®.** The model shows the left half of the lower jaw. The part of the jaw covering the roots of the teeth is removable. The canine and first molar can be removed. Caries shown on the second molar. **Separates into 6 parts.** On a stand with green base.
Height: 34 cm, width: 34 cm, depth: 18 cm, weight: 1.6 kg



ES 1 Set of teeth of an adult.
Bottom right molar with two roots can be disassembled.

ES 1

ES 1 · Set of Teeth of an Adult

Natural size, in **SOMSO-PLAST®. Consisting of 32 artificial teeth** in a transparent box that can be opened.
Height: 4.5 cm, width: 15 cm, depth: 9.5 cm, weight: 300 g

ES 3

ES 3 · Lower Jaw of a 12-Year-Old

Second dentition, (shown in the left half of the lower jaw) **enlarged approximately 3 times,** in **SOMSO-PLAST®.** Dental caries on the first and second molar. **In one piece.** On a green base. Height: 18 cm, width: 31.5 cm, depth: 8 cm, weight: 800 g
(For detail see page 47)

ES 13 · Half of the Upper and Lower Jaw

Natural size, in **SOMSO-PLAST®.** Showing the nerves and vessels and the main dental diseases. **In one piece.** Under removable transparent cover. On a green base. Height: 10 cm, width: 18 cm, depth: 18 cm, weight: 400 g

ES 13/1

ES 13/1 · Upper and Lower Jaw

Natural size, in **SOMSO-PLAST®. Separates into 2 parts** showing the nerves, vessels, and the main diseases. On a removable stand with green base. Height: 20 cm, width: 14 cm, depth: 16 cm, weight: 410 g

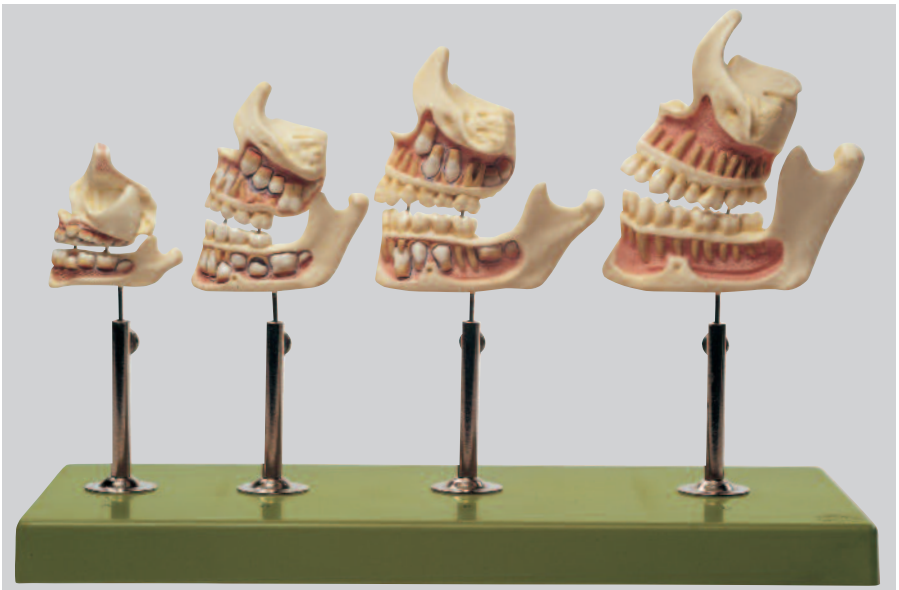
ES 4/1 · Lower Jaw of an 18-Year-Old

Separates into 6 parts as ES 4, but the removable canine tooth shows periodontitis and dental caries in advanced stages. The first molar shows inflammation of the dental pulp. On a stand with green base. Height: 34 cm, width: 34 cm, depth: 18 cm, weight: 1.6 kg

ES 13

ES 4/1 disassembled

ES 4/1



ES 14

ES 14 · Development of a Set of Teeth

Natural size, in **SOMSO-PLAST®.** Shows the upper and lower jaw of a newborn child, a 5-year-old child, a 9-year-old child, and an adult. **In one piece.** On a stand with green base. Height: 22 cm, width: 34 cm, depth: 15 cm, weight: 810 g

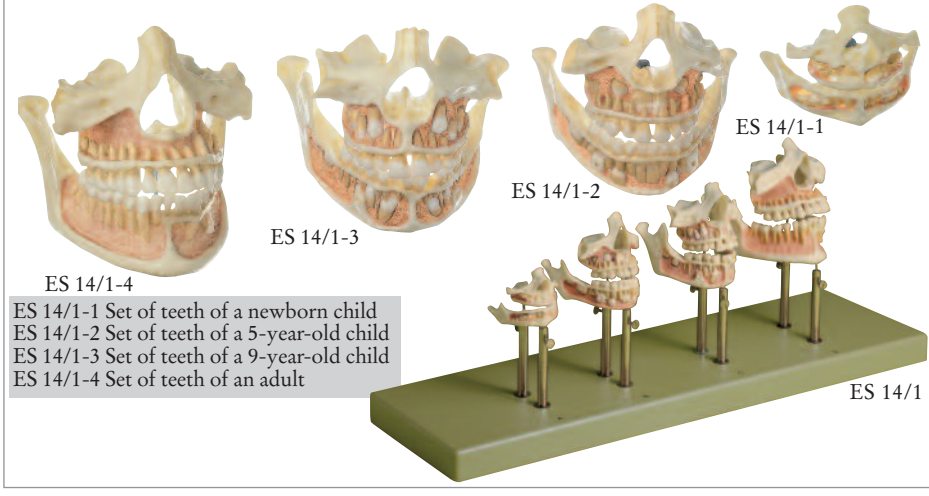
Teeth and Jaw

Nature is our Model SOMSO® Modelle

Anatomy 6

ES 11

ES 11/5 disassembled | ES 11/4 | ES 11/3 | ES 11/2 disassembled | ES 11/1



ES 14/1-4 | ES 14/1-3 | ES 14/1-2 | ES 14/1-1 | ES 14/1

ES 14/1-1 Set of teeth of a newborn child
ES 14/1-2 Set of teeth of a 5-year-old child
ES 14/1-3 Set of teeth of a 9-year-old child
ES 14/1-4 Set of teeth of an adult

ES 8 disassembled

ES 8 · Molar Tooth with Caries

Enlarged approximately 8 times, in **SOMSO-PLAST®. Separates into 3 parts** showing dental caries in initial and advanced stages. On a stand with green base. Height: 22 cm, width: 16 cm, depth: 14 cm, weight: 760 g

ES 11 · Five Models of Teeth

Enlarged approximately 8 times. Each model mounted on a stand with green base, in **SOMSO-PLAST®. Separates into 11 parts.** Weight: 3 kg

As individual models:
ES 11/1 - Lower Incisor
ES 11/2 - Lower Canine
ES 11/3 - Lower Molar with One Root
ES 11/4 - Lower Molar with Two Roots
ES 11/5 - First Upper Molar with Three Roots

ES 14/1 · Development of a Set of Teeth

Fully exposed. **Natural size,** in **SOMSO-PLAST®.** Shows the upper and lower jaw in the following order: set of teeth of a newborn child, a 5-year-old child, a 9-year-old child and an adult. Upper and lower jaw can each be removed. **Separates into 8 parts.** On a stand with green base. Height: 20 cm, width: 48 cm, depth: 15 cm, weight: 1.2 kg

The Development of a Set of Teeth ES 14/1 is also available individually mounted as ES 14/1-1 - ES 14/1-4.

Molars ruined by caries

Healthy teeth

Granuloma

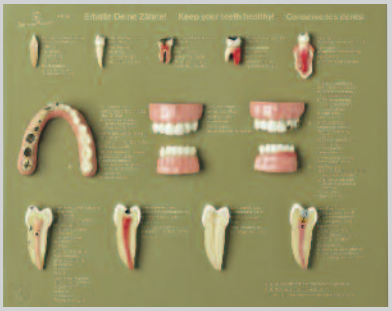
Detail model 6 from ES 6

Detail model 18 from ES 7

Teeth and Jaw

Nature is our Model SOMSO® Modelle

Anatomy 6

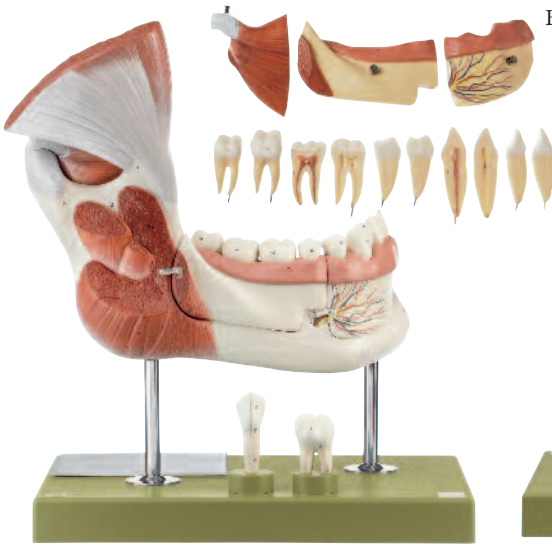


ES 6 · Case of Teeth "Keep your Teeth healthy"

Natural size and enlarged teeth, in **SOMSO-PLAST®.** Both healthy and decayed teeth are shown in a series of 12 models. **In one piece.** Mounted on a green board under a removable transparent cover. Height: 26 cm, width: 32 cm, depth: 4 cm, weight: 750 g

ES 7 · Case of Teeth "Odontopathies"

Natural size teeth, in **SOMSO-PLAST®.** The main dental diseases are shown in a series of 25 models. **In one piece.** Mounted on a green board under a removable transparent cover. Height: 26 cm, width: 32 cm, depth: 4 cm, weight: 800 g



ES 21 - outer view

ES 21 - individual parts

ES 21 - inner view

ES 21 · Right Lower Jaw with Muscles

Enlarged approximately 3 times, in **SOMSO-PLAST®.** The temporo-maxillary joint is shown. **Separates into 14 parts.** On a stand with green base. Height: 47 cm, width: 41 cm, depth: 26 cm, weight: 3.2 kg

ES 22

ES 22 · Model of a Set of Teeth

Enlarged approximately 3 times, with large tooth-brush to demonstrate tooth brushing, in **SOMSO-PLAST®.** After an original at the Bundeszentrale für gesundheitliche Aufklärung (Federal Centre for Health Education) in Cologne. Height: 16 cm, width: 20 cm, depth: 28 cm, weight: 1.3 kg

ES 12 disassembled

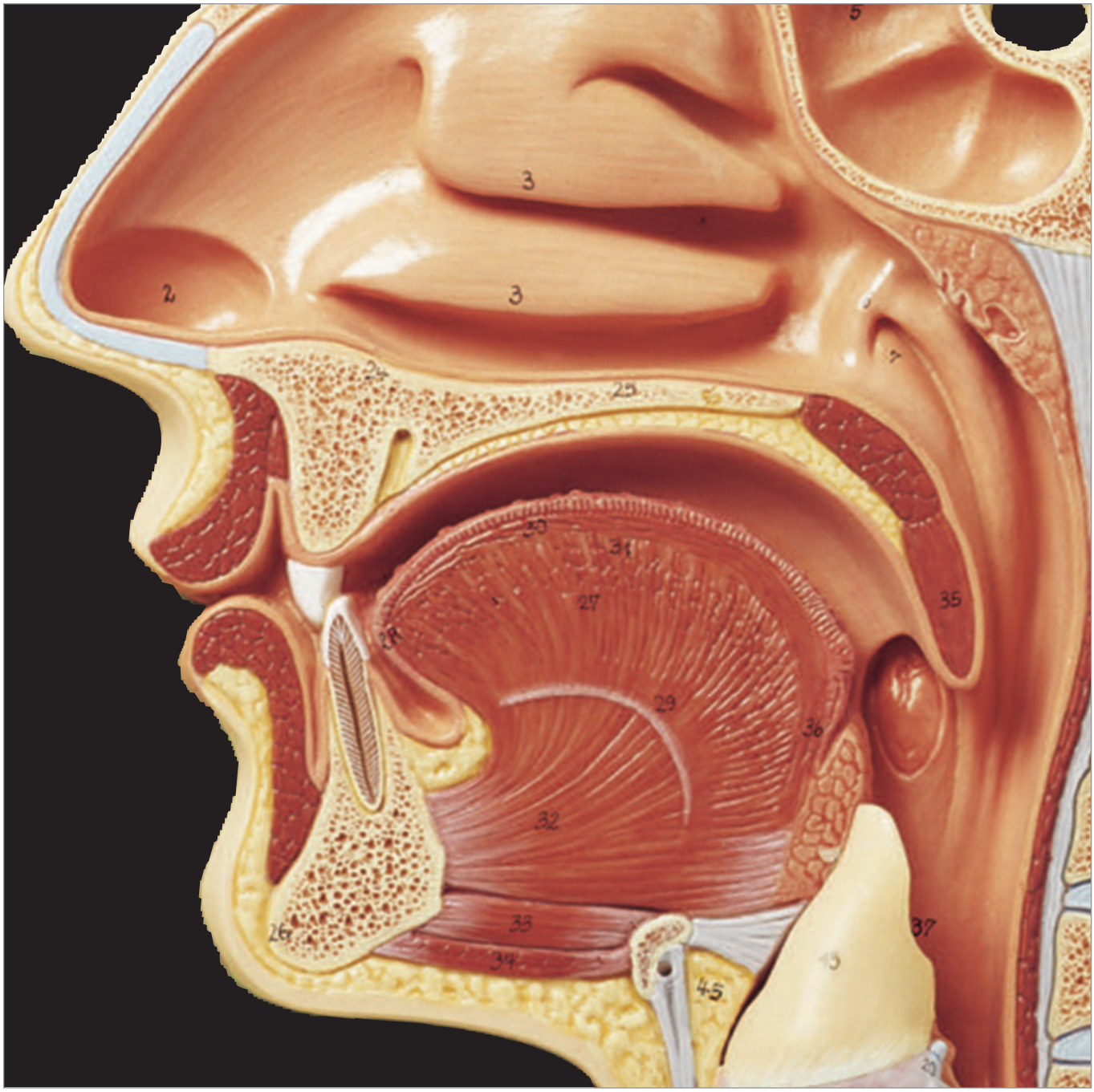
ES 12

Height of the model ES 12: 32 cm

ES 12 · Right Lower First Molar

Dens molaris, **enlarged approximately 16 times,** in **SOMSO-PLAST®. Separates into 6 parts.** With a pull-out green base. Height: 31.5 cm, width: 32 cm, depth: 32 cm, weight: 5 kg

FS 4 Detail: Cavities of Nose, Mouth, and Throat (see catalogue page 52)



Crossing of the windpipe and oesophagus can be demonstrated

Ⓕ

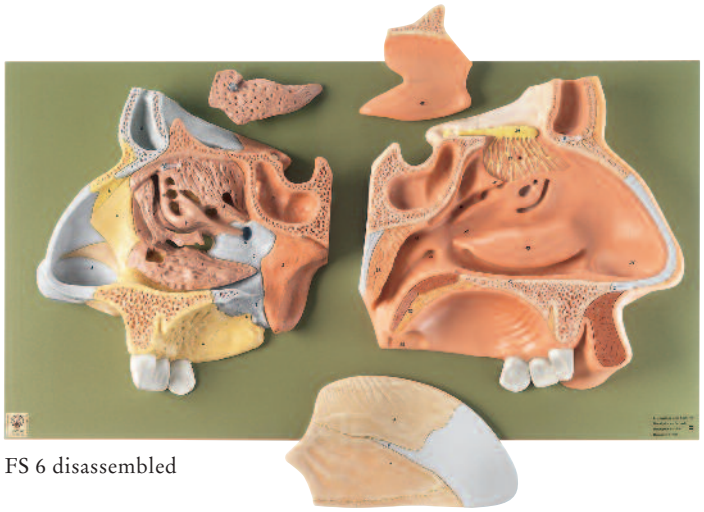
FS 4 disassembled

FS 4 · Median Section of the Cavities of Nose, Mouth, and Throat

Enlarged approximately 2 times, in **SOMSO-PLAST®.** Larynx removable, epiglottis elastic and movable, the crossing of the windpipe and oesophagus can be easily demonstrated. **Separates into 2 parts.** On a green base. Height: 39 cm, width: 28 cm, depth: 9 cm, weight: 1.76 kg

(For detail see page 51)

FS 3/1 (disassembles as FS 3)



FS 6 disassembled

FS 3 · Nose and Nasal Cavities

Enlarged approximately 2 times, in **SOMSO-PLAST®.** Median section. The left half shows the bones of the base of the skull with removable upper and lower nasal conchae. Right half of the model shows the mimic muscles and the mucous membrane of the nose with removable nasal septum. **Separates into 6 parts.** On a green base. Height: 26 cm, width: 26 cm, depth: 28 cm, weight: 4.6 kg

FS 3/1 · Nose and Nasal Cavities

Enlarged approximately 2 times, in **SOMSO-PLAST®.** **Separates into 6 parts** as FS 3, but the bones of the base of the skull are coloured. On a green base. Height: 26 cm, width: 26 cm, depth: 28 cm, weight: 4.6 kg

FS 6 · Nose

Enlarged approximately 3 times, in **SOMSO-PLAST®.** An instructive double model, which clearly shows the complicated structure of bones and the nasal cavity covered by mucous membrane. Individual cartilages and bones are coloured. The nasal concha can be removed (entry to the ethmoidal labyrinth is visible). The right side shows the nasal septum (removable) and the mucous membrane of the nasal cavity with the three nasal passages and nasal conchae. The middle concha can be removed so that the olfactory nerve and olfactory lobe can be seen. **Separates into 5 parts.** On a green base. Height: 38 cm, width: 72 cm, depth: 8 cm, weight: 5.81 kg

FS 3

FS 3 disassembled

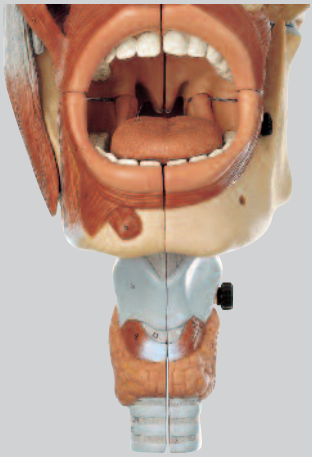
Anatomy of the nasal cavity, oral cavity, and pharyngeal cavity including larynx, perfectly shown in SOMSO® Model FS 5:

Upper section of the model:

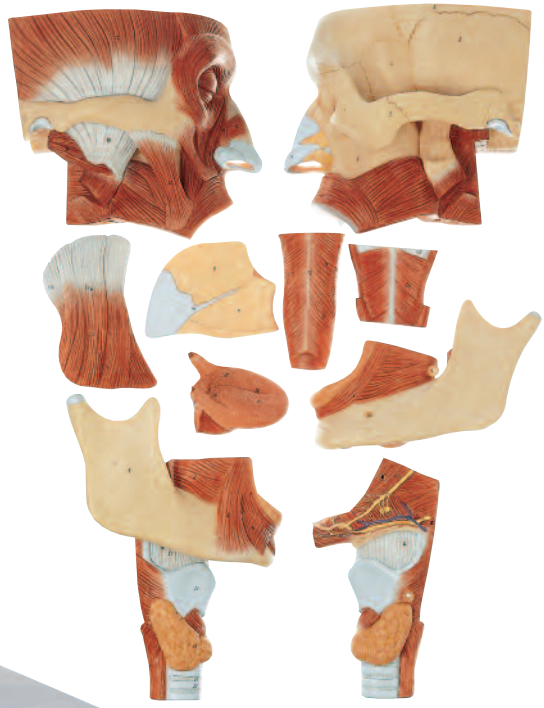
Left side of the cranial bone
Right side of mimic musculature
Median section through the nasal cavity
Upper mouth cavity, and upper pharynx

Bottom section of the model:

Lower jaw
Removable tongue
Larynx
Pharyngeal wall
Sagittal section through the larynx



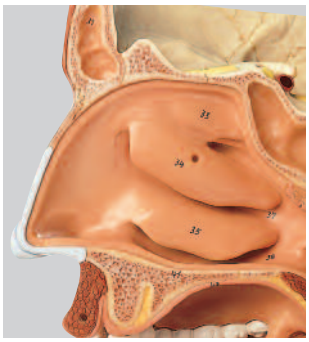
FS 5



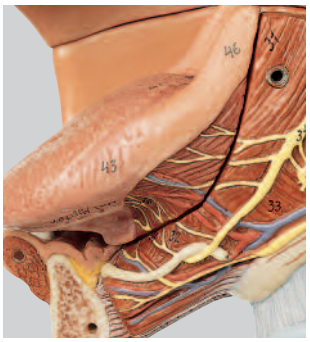
FS 5 disassembled

FS 5 · Cavities of Nose, Mouth, and Throat with Larynx

Enlarged approximately 2 times, in **SOMSO-PLAST®.** Upper part: left side bones of the skull, right side mimic muscles, median section through the nasal cavity, upper cavity of the mouth and upper region of the throat. Lower part: lower jaw, removable tongue, larynx, pharyngeal wall, sagittal section through the larynx. **Separates into 10 parts.** On a removable green base. Height: 49 cm, width: 26 cm, depth: 39 cm, weight: 5.8 kg

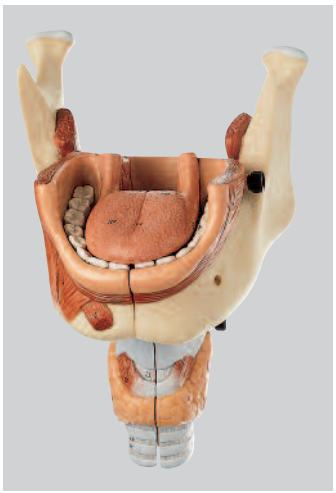


Detail of nasal conchae



Detail of the lingual nerve with excretory duct of the submandibular gland

Detail of the epiglottis and palatoglossal arch

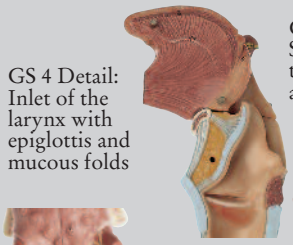


Lower part of the model with mandible and larynx

Nose, Tongue, and Larynx

GS 4 · Larynx with Tongue

Natural size, in **SOMSO-PLAST®.** Larynx: cartilages, ligaments, muscles, relief of mucous membrane, and thyroid gland are shown. The front part of the lower jaw is removable. Tongue separates into 2 parts medially. Sublingual gland and submandibular gland are shown. **Separates into 5 parts.** On a green base. Height: 23 cm, width: 14 cm, depth: 16 cm, weight: 860 g



GS 4 Detail: Inlet of the larynx with epiglottis and mucous folds

GS 4 Detail: Sagittal section through tongue and larynx

GS 4 Detail: View from the dorsal side

GS 4

GS 4 disassembled

GS 3 · Larynx

Natural size, in **SOMSO-PLAST®.** Cartilaginous skeleton, ligamentous apparatus, muscles, relief of mucous membrane, and thyroid gland are shown. **Separates into 2 parts.** On a green base. Height: 18 cm, width: 14 cm, depth: 16 cm, weight: 450 g

GS 3

GS 3 disassembled

FS 8 · Tongue

Natural size, in **SOMSO-PLAST®.** Median section with one part of the lower jaw removable. **Separates into 3 parts.** On a stand with green base. Height: 15.5 cm, width: 14 cm, depth: 16 cm, weight: 450 g

FS 8

GS 7

GS 7 disassembled

F 7

F 7 · Tongue

Enlarged approximately 3 times, Median section, separates into 2 parts. Part of the lower jaw and sublingual gland can be removed. **Altogether separates into 4 parts.** On a stand with green base. Height: 36 cm, width: 39 cm, depth: 26 cm, weight: 4 kg

GS 7 · Larynx

Enlarged approximately 2 times, in **SOMSO-PLAST®.** Separates into 2 halves medially. Removable parts are: right thyroid cartilage, cricothyroid muscle, and thyrohyoid muscle. The inner and outer laryngeal muscles, the relief of mucous membrane, artery and nerve supply, and the cartilaginous skeleton can be demonstrated. **Separates into 5 parts in total.** On a stand with green base. Height: 24.5 cm, width: 16 cm, depth: 14 cm, weight: 850 g

GS 4/1 disassembled

GS 4/1 · Larynx with Trachea

Natural size, in **SOMSO-PLAST®.** Left half of the larynx removable. Shows: cartilages, trachea with bronchial tree, and the individual segmental bronchi. Ligamentous apparatus, muscles, and relief of mucous membrane of the larynx are shown. Thyroid gland represented. **Separates into 2 parts.** Height: 36 cm, width: 19 cm, depth: 8 cm, weight: 600 g

GS 4/2

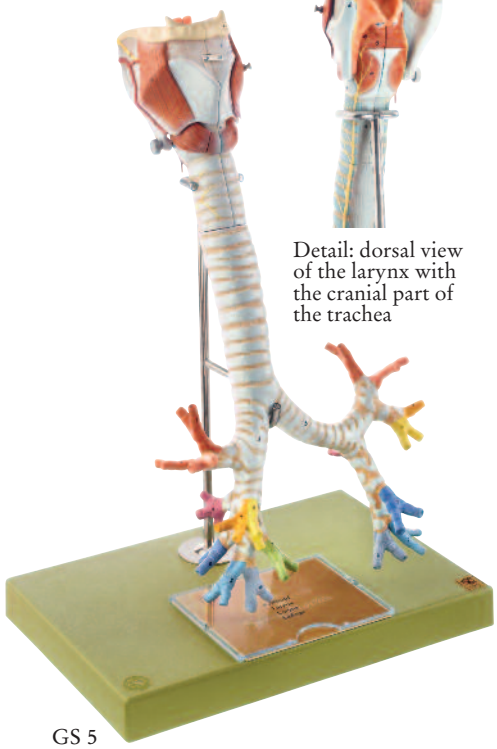
GS 4/2 · Larynx with Trachea

Natural size, in **SOMSO-PLAST®.** As GS 4/1, but on a stand with green base. **Separates into 2 parts.** Height: 39 cm, width: 20 cm, depth: 18 cm, weight: 1 kg

Nose, Tongue, and Larynx

Nature is our Model SOMSO® Modelle

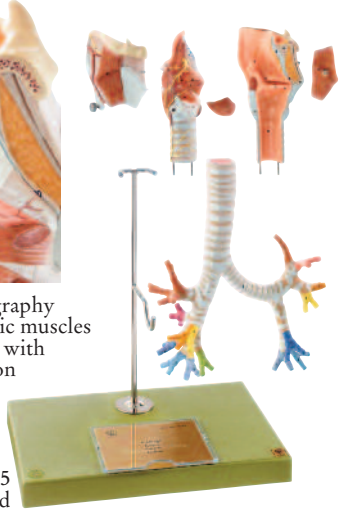
Anatomy 7 + 8



GS 5

Detail: dorsal view of the larynx with the cranial part of the trachea

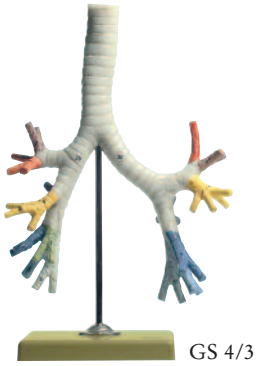
Detail: topography of the intrinsic muscles of the larynx with vascularisation



GS 5 disassembled

GS 5 · Larynx with Trachea

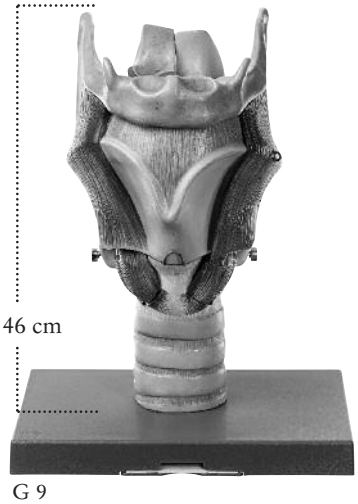
Enlarged approximately twice, in **SOMSO-PLAST®.** Larynx and trachea can be separated at the level of the 6th tracheal cartilage. Larynx separates into 2 parts, medially. The right thyroid cartilage, the cricothyroid muscle, and the thyrohyoid muscle are removable. The trachea shows its structure, bifurcation into the main bronchi, and division into the lobular bronchi. **Separates into 6 parts.** On a stand with green base. Height: 58 cm, width: 39 cm, depth: 26 cm, weight: 2.35 kg



GS 4/3

GS 4/3 · Bronchial Tree

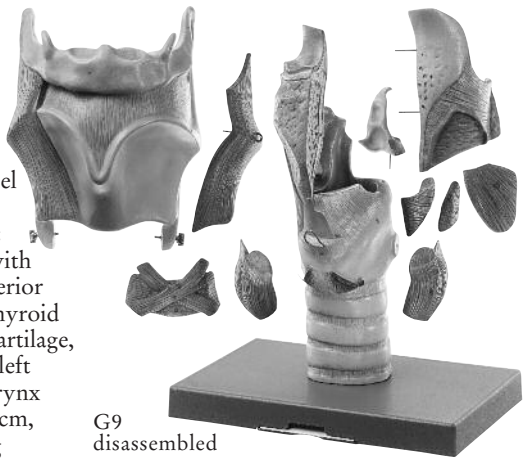
Natural size, in **SOMSO-PLAST®.** The colours of the segmental bronchi are contrasted to correspond with the broncho-pulmonary segments. **In one piece.** On a stand with green base. Height: 29 cm, width: 18 cm, depth: 14 cm, weight: 600 g



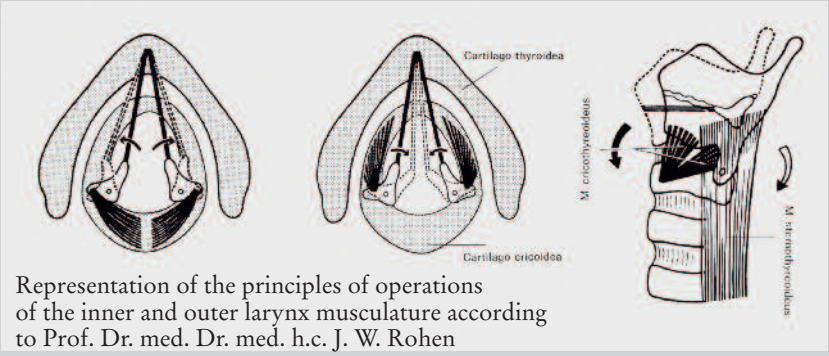
G 9

G9 · Larynx (Lecture Theatre Model)

Enlarged approximately 5 times. The demonstration of the exact anatomy of the larynx is especially remarkable in this model because of its size and the large number of detachable pieces. **Separates into 11 parts:** left thyrohyoid muscle, thyroid cartilage with hyoid bone, left half of epiglottis, left posterior cricoarytenoid muscle, right and left cricohyroid muscle, arytenoid muscle, left arytenoid cartilage, left thyro-arytenoid muscle - pars vocalis, left lateral cricoarytenoid muscle, and right larynx with trachea. On a green base. Height: 50 cm, width: 39 cm, depth: 26 cm, weight: 6.3 kg



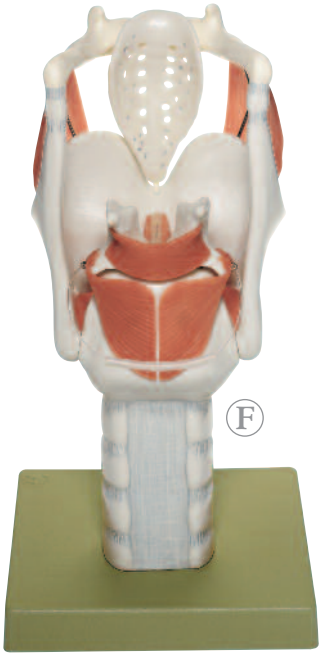
G9 disassembled



Representation of the principles of operations of the inner and outer larynx musculature according to Prof. Dr. med. Dr. med. h.c. J. W. Rohen

The following functions can be demonstrated with the model GS 10:

1. Opening of the Glottis
2. Closing of the Glottis
3. Changes in Tension of the Vocal Cord
4. Separator Position



GS 10 Rear view

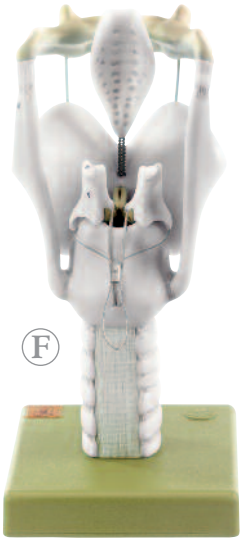
GS 10 (F)

GS 10 - Rotational Movement of the Arytenoid Cartilage

GS 10 - Tilting of the Thyroid Cartilage

GS 10 · Functional Model of the Larynx

Enlarged approximately 3 times, in **SOMSO-PLAST®.** The opening and closing of the glottis, the variation in tension of the vocal cord, and the change of position can be demonstrated in an intuitively accessible way. **This model cannot be disassembled.** On a green base. Height: 33 cm, width: 18 cm, depth: 18 cm, weight: 1.4 kg



Rear view

GS 6

Front view

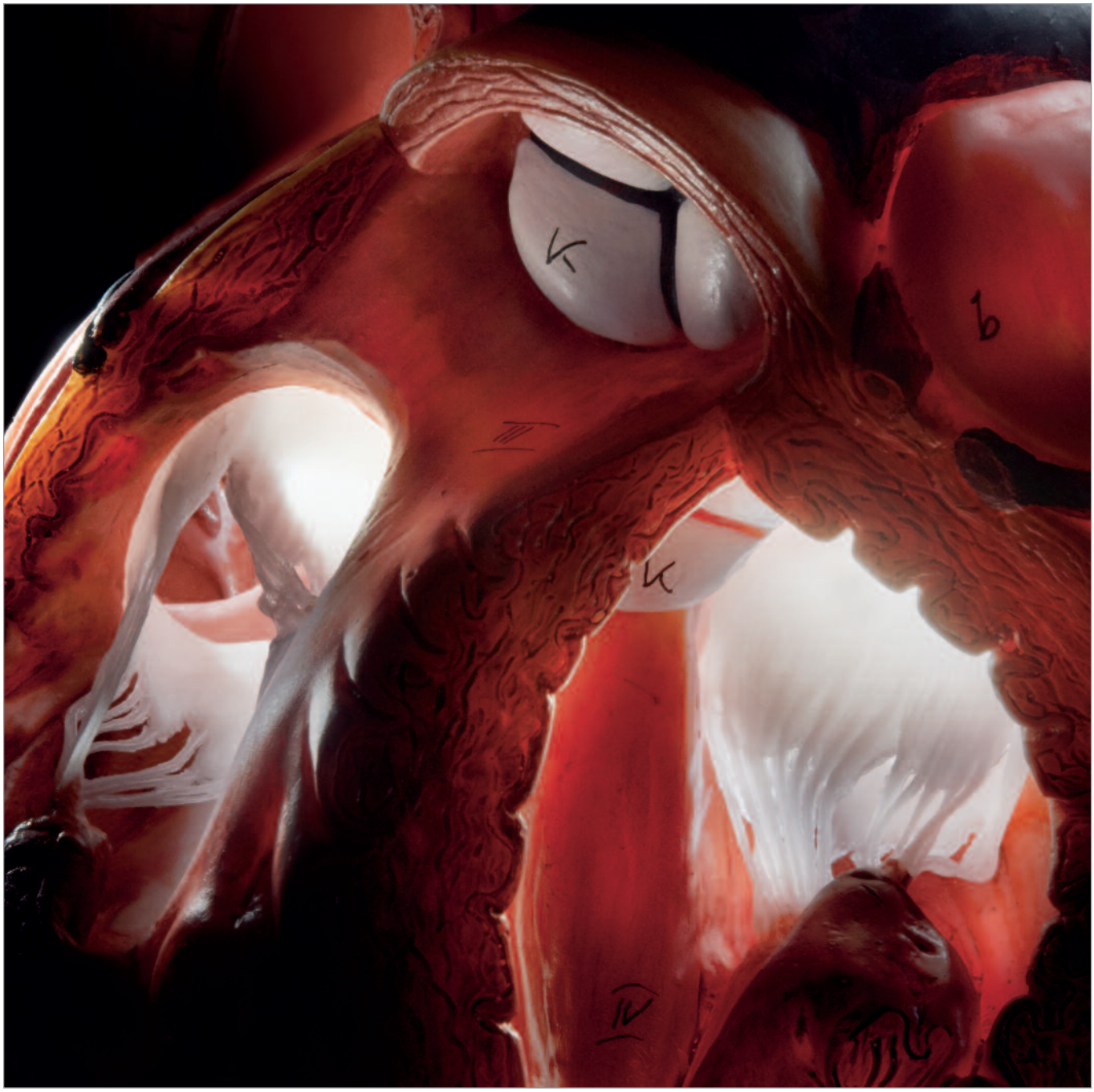
GS 6 - Opening of the Glottis

GS 6 - Closing of the Glottis

GS 6 · Cartilages of the Larynx

Functional model, **enlarged approximately 2.5 times,** in **SOMSO-PLAST®.** Arytenoid cartilage, vocal folds and epiglottis are flexibly mounted. **Cannot be disassembled.** On a green base. Height: 29 cm, width: 14 cm, depth: 16 cm, weight: 850 g

Detail of HS 5: Bicuspid and tricuspid valve (for a description of the model see catalogue page 61)



Circulatory Organs

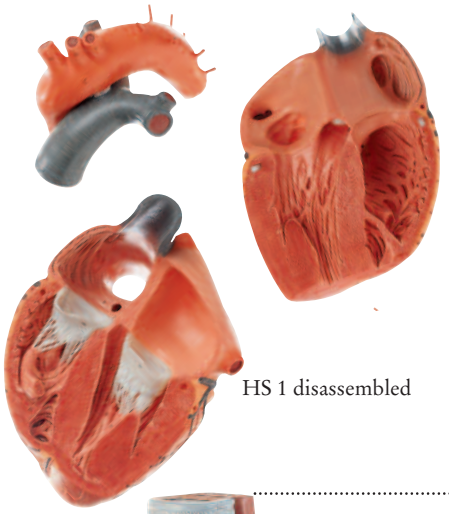
Nature is our Model SOMSO® Modelle

Anatomy 9

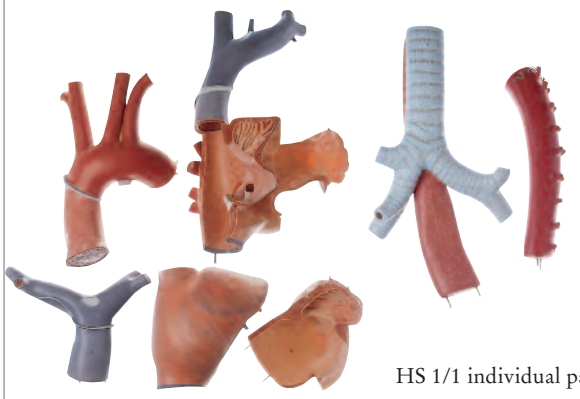
HS 1 · Heart

Enlarged approximately twice, in **SOMSO-PLAST®.** The heart, sectioned vertically, separates into 2 parts towards the level of the ventricular septum, after the aortic arch and superior vena cava have been removed. Both auricles and ventricles (with the bicuspid and tricuspid semilunar valves), as well as the sigmoid valves, can be seen. **Separates into 3 parts.** On a green base with a transparent vault of the diaphragm, showing the outline. Height: 33 cm, width: 25 cm, depth: 30 cm, weight: 3.5 kg

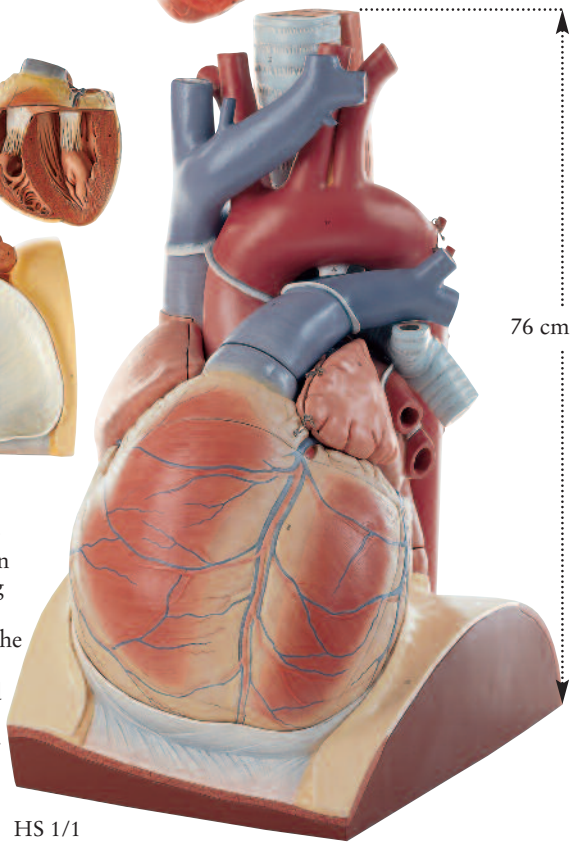
HS 1



HS 1 disassembled



HS 1/1 individual parts

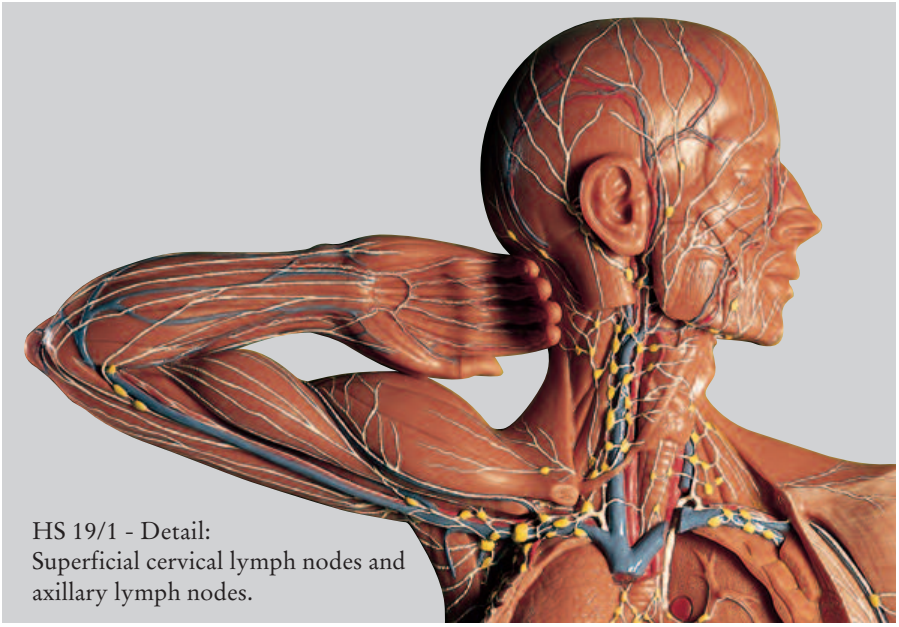


76 cm

HS 1/1

HS 1/1 · Heart (Lecture theatre model)

Enlarged approximately 4 times, in **SOMSO-PLAST®.** This model of the human heart can be separated and combined in many ways. It is mounted in a natural position on a diaphragm base and is of special interest for teaching in lecture theatres. The crown of the heart and the ventricular base can be demonstrated. The proportions of the pericardium can be demonstrated at the corresponding intersecting lines, the plane of the valve with semilunar and sigmoid valves and the passage of the coronary vessels can be demonstrated in their correlation. Trachea and oesophagus can be seen as well as the descending aorta. **Separates into 10 parts:** base of the diaphragm, ventricular base with ventricles (2 parts), crown of the heart, right auricle, left auricle, pulmonary artery, aorta (2 parts), trachea, and oesophagus. On a green base. Height: 76 cm, width: 48 cm, depth: 60 cm, weight: 24 kg



HS 19/1 - Detail:
Superficial cervical lymph nodes and axillary lymph nodes.

Circulatory Organs

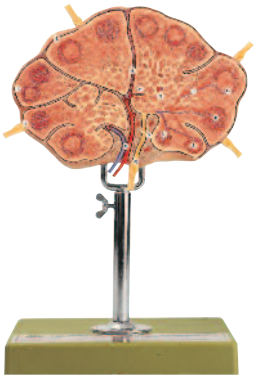
Nature is our Model SOMSO® Modelle

Anatomy 9

HS 10 · Circulatory System

Relief model, **1/2 natural size,** in **SOMSO-PLAST®.** General view of the network of vessels of the body. **In one piece.** Mounted on a green board. Height: 90 cm, width: 32 cm, depth: 7 cm, weight: 4.3 kg

HS 10



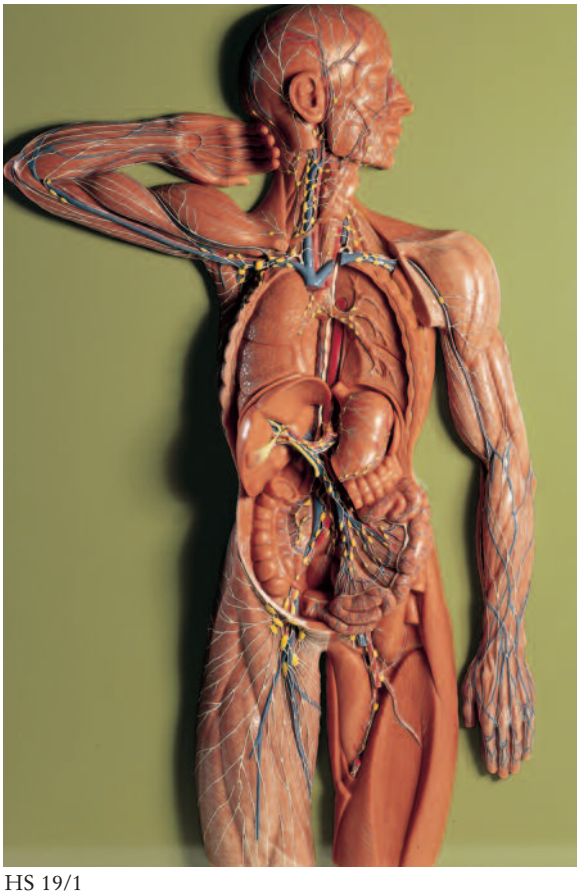
HS 19

HS 19 · Lymph Node

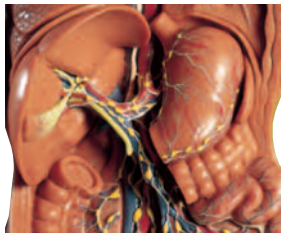
Sectional view, **enlarged approximately 25 times,** in **SOMSO-PLAST®.** Semi-schematic representation of the internal structure of a lymph node with afferent and efferent vessels. **Cannot be disassembled.** On a stand with green base. Height: 30 cm, width: 23 cm, depth: 18 cm, weight: 1 kg

HS 19/1 · Lymphatic System

Relief model, **approximately 2/3 natural size,** in **SOMSO-PLAST®. In one piece.** Mounted on a green board. Height: 84 cm, width: 54 cm, depth: 10 cm, weight: 8.25 kg

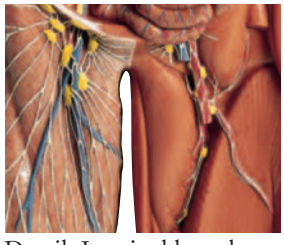


HS 19/1



Detail: Abdominal lymph nodes

Detail: Mesenteric lymph nodes



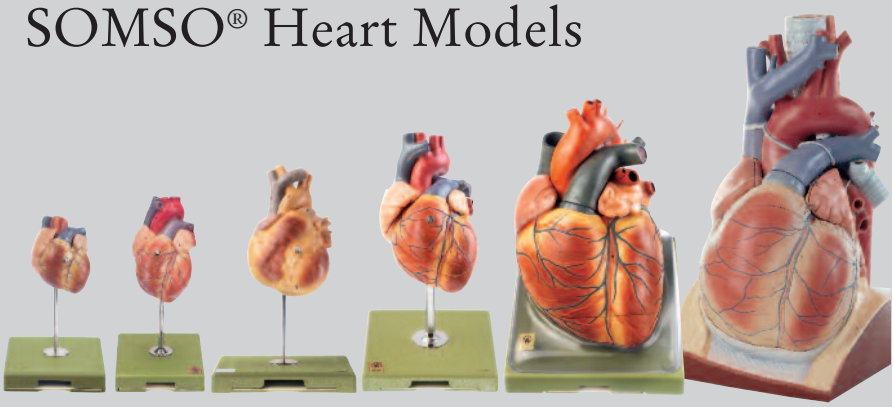
Detail: Inguinal lymph nodes

Circulatory Organs

Nature is our Model SOMSO® Modelle

Anatomy 9

Size comparison of SOMSO® Heart Models



HS 3	HS 4	HS 26	HS 5	HS 1	HS 1/1
3/4 natural size	Natural size	Cast from natural specimen	Enlarged approximately 1.5 times	Enlarged approximately 2 times	Enlarged approximately 4 times

HS 3 disassembled

HS 3

HS 3 · Heart

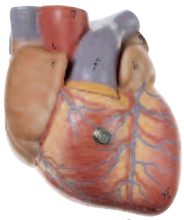
3/4 natural size, in **SOMSO-PLAST®. Separates into 2 parts.** On a stand with green base. Height: 23 cm, width: 14 cm, depth: 16 cm, weight: 600 g

HS 4 disassembled

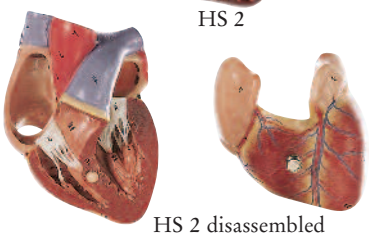
HS 4

HS 4 · Heart

Natural size, in **SOMSO-PLAST®. Separates into 2 parts.** On a stand with green base. Height: 28 cm, width: 14 cm, depth: 16 cm, weight: 750 g



HS 2



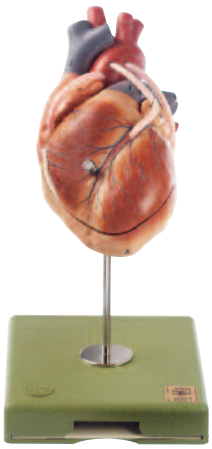
HS 2 disassembled

HS 2 · Heart

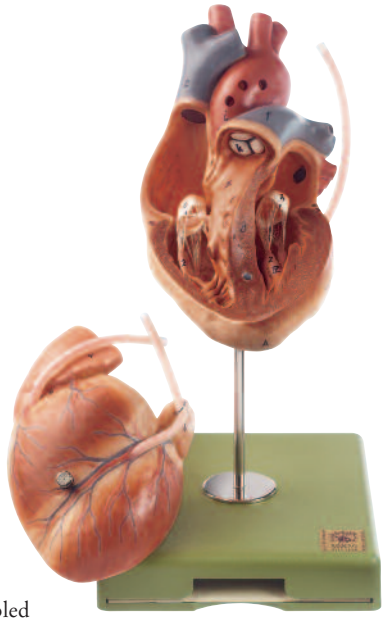
About 3/4 natural size, in **SOMSO-PLAST®.** Sectioned, the anterior part of the ventricles and the auricles are removable. The semilunar and sigmoid valves are shown. **Separates into 2 parts.** Height: 12 cm, width: 9 cm, depth: 7 cm, weight: 300 g

HS 15/1 · Model of the Heart with Bypass Vessels (Aortic Coronary Venous Bypass)

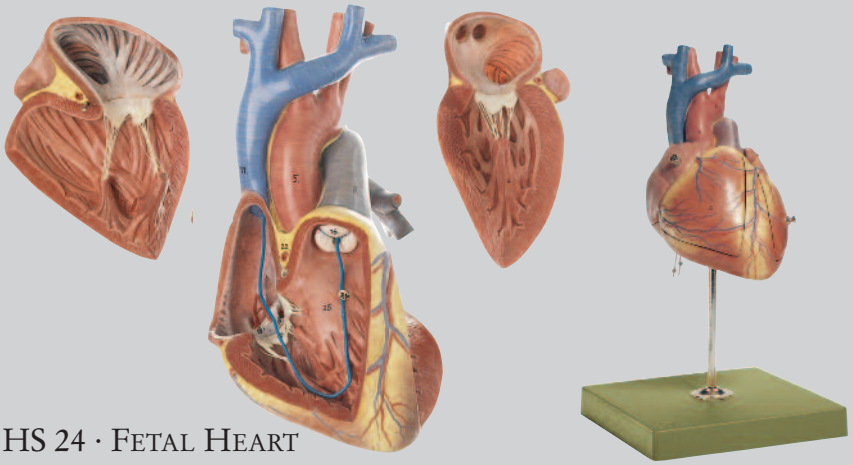
Natural size, in **SOMSO-PLAST®.** Developed in co-operation with Prof. Dr. Meisner. The model shows one venous bypass leading to the right coronary artery as well as the descending anterior inter-ventricular ramus (anterior wall) and the circumflex ramus of the left coronary artery. **Separates into 2 parts.** On a stand with green base. Height: 28 cm, width: 14 cm, depth: 16.5 cm, weight: 750 g



HS 15/1



HS 15/1 disassembled



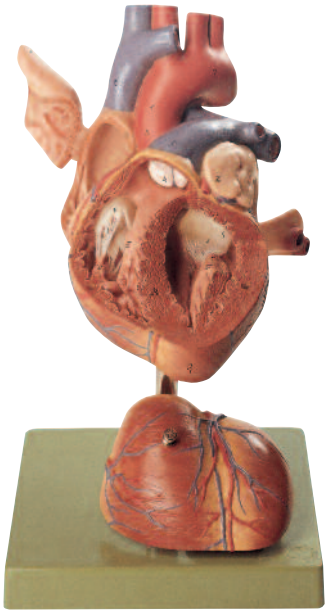
HS 24 · Fetal Heart

Enlarged approximately 3 to 4 times, in **SOMSO-PLAST®.** The model shows the heart of a fetus during the last weeks of pregnancy. The circulation of the blood is shown. **Separates into 3 parts.** On a stand with green base. Height: 33 cm, width: 18 cm, depth: 18 cm, weight: 1 kg. The model of heart defects OS 7 (catalogue page 98) forms a valuable supplement

Circulatory Organs

Nature is our Model SOMSO® Modelle

Anatomy 9

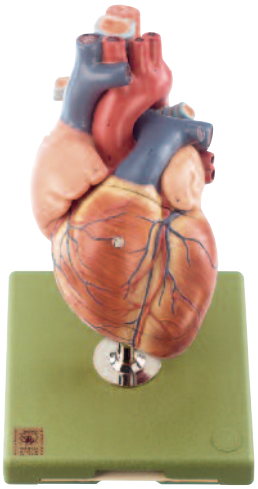


HS 5 disassembled

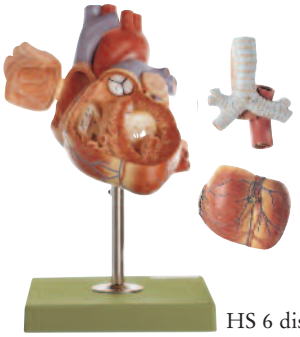
HS 5

HS 5 · Heart

Enlarged approximately 1.5 times, in **SOMSO-PLAST®. Separates into 4 parts.** On a stand with green base. Height: 32 cm, width: 18 cm, depth: 18 cm, weight: 1.25 kg



HS 6



HS 6 disassembled

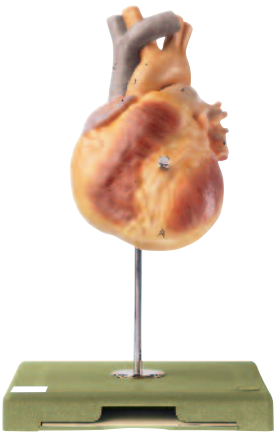
HS 6 · Heart

Enlarged approximately 1.5 times, in **SOMSO-PLAST®.** As HS 5, but with part of the trachea (up to the bifurcation) and oesophagus. **Separates into 5 parts.** On a stand with green base. Height: 32 cm, width: 18 cm, depth: 19 cm, weight: 1.4 kg

HS 26 · Heart

Modelled according to nature, in **SOMSO-PLAST®.** This model very clearly shows the inner sides of atria and ventricles, in particular the papillary muscles and the valves. **Separates into 2 parts.** On a stand with green base. Height: 31 cm, width: 18 cm, depth: 18 cm, weight: 850 g

HS 26 disassembled



HS 26

HS 6/1

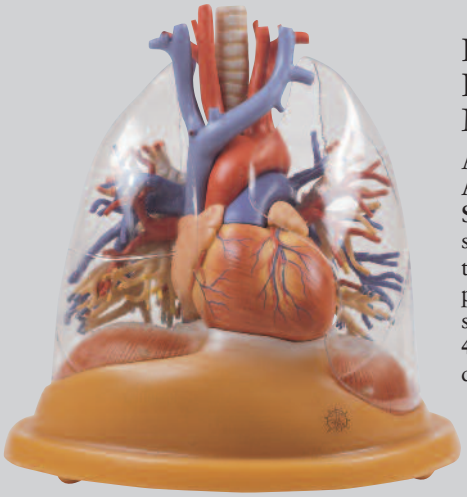
Detail HS 6/1: Crus sinistrum from the Truncus fasciculi atrioventricularis

HS 6/1 · Heart with Conducting System

Enlarged approximately 1.5 times, in **SOMSO-PLAST®.** Sectioned so that both ventricles and atria open to expose the valves. Large blood vessels near the heart and the heart muscles are shown. The conducting system and the excitation system of nerve tracts with the addition of the sinoauricular and atrioventricular nodes, the trunk, and the atrioventricular bundle are shown. **Separates into 4 parts.** On a stand with green base. Height: 32 cm, width: 18 cm, depth: 18 cm, weight: 1.25 kg

Circulatory Organs

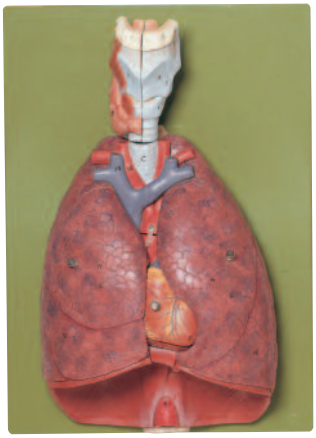
Anatomy 9



HS 8/2

HS 8/2 · Heart-Lung Table Model

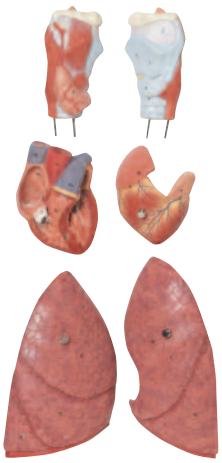
After Prof. Dr. J. A. Nakhosteen. **About 2/3 natural size,** in **SOMSO-PLAST®.** The model shows the tracheobronchial system, the heart, the major vessels, and the pulmonary vessels, extending to subsegmental divisions. **Separates into 4 parts.** Height: 26 cm, width: 25 cm, depth: 19 cm, weight: 1.5 kg

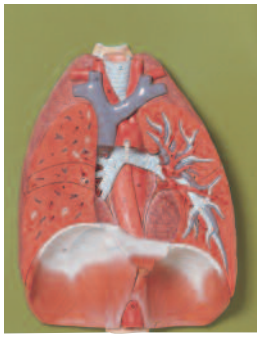


HS 7

HS 7 · Lungs with Heart, Diaphragm, and Larynx

3/4 natural size, in **SOMSO-PLAST®. Separates into 7 parts in total.** The model shows the viscera of the thorax. Separates into 7 parts: right and left lung, heart (2 parts), larynx (2 parts), base model. Bifurcation of the trachea and oesophageal hiatus with aortic hiatus in the diaphragm is demonstrated. On a green base. Height: 39 cm, width: 28 cm, depth: 12 cm, weight: 2.4 kg

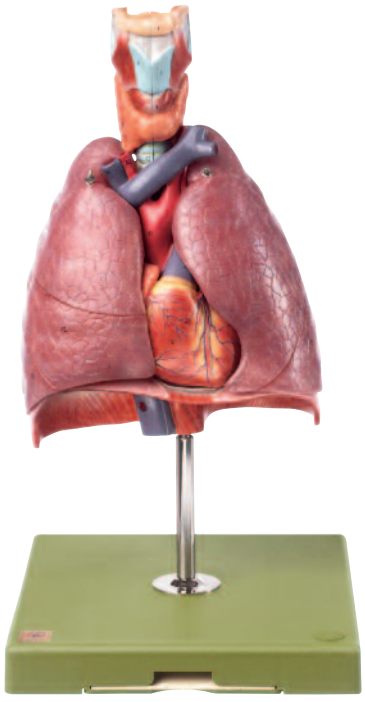




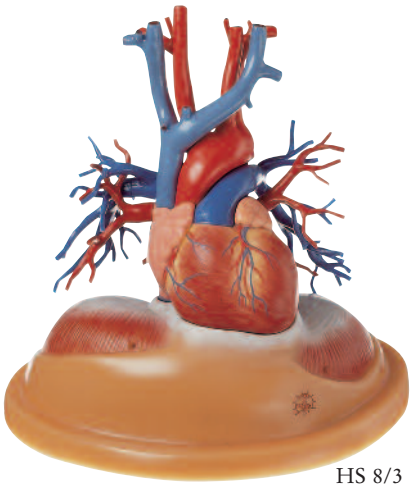
HS 7 disassembled

HS 8/1 · Topography of the Viscera of the Thorax

Natural size, in **SOMSO-PLAST®. Separates into 8 parts in total:** right and left lung, heart (2 parts), larynx (2 parts), and bronchial tree. On a stand with green base. Height: 50 cm, width: 25 cm, depth: 28 cm, weight: 3 kg



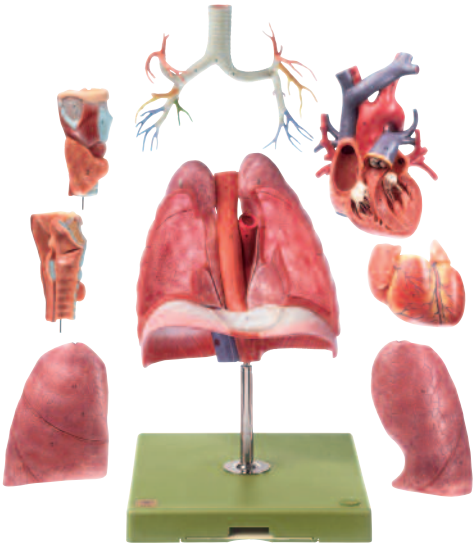
HS 8/1



HS 8/3

HS 8/3 · Heart Table Model

After Prof. Dr. J. A. Nakhosteen. The model shows in **2/3 natural size** the heart, the major vessels, and the pulmonary vessels, extending to subsegmental divisions. In **SOMSO-PLAST®. Separates into 2 parts.** Height: 26 cm, width: 25 cm, depth: 19 cm, weight: 1.2 kg



HS 8/1 disassembled

SOMSO® Modelle displayed in the Museum of Medical History at the Charité, Berlin

Within the framework of the permanent exhibition "Tracing Life", SOMSO® Modelle, displaying important organs or inter-related body systems, are shown in eight original showcases, alongside wet and dry specimens from the time of Virchow.

The Berlin Museum of Medical History at the Charité (East Facade)

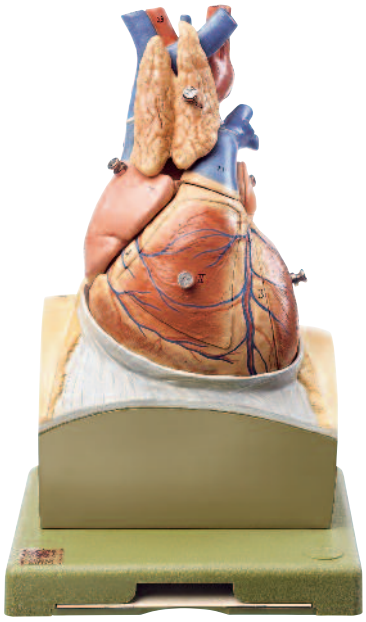
Circulatory Organs

HS 21

HS 21 disassembled

HS 21 · Anatomy of the Thorax

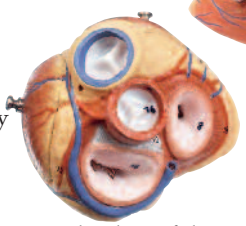
Natural size, in **SOMSO-PLAST®.** Separates into sternum, organs of the neck, right lung (3 parts), left lung (2 parts), heart (7 parts), bronchial tree, base model. **17 parts in total.** On a green base. Height: 52 cm, width: 39 cm, depth: 26 cm, weight: 7.15 kg. (Bronchial tree in HS 21: height: 28 cm, width: 23 cm, depth: 18 cm, weight: 540 g)



HS 22

HS 22 · Heart on Diaphragm Base

Natural size, in **SOMSO-PLAST®. Separates into 8 parts:** diaphragm with section of pericardium, thymus gland, apex of the heart, lower part of the ventricles and ventricles. 4 valves open to show the right and left atria and right and left ventricles. The proportions of the pericardium can be demonstrated at the corresponding intersecting lines, the plane of the valve with semilunar and sigmoid valves as well as the passage of the coronary vessels can be demonstrated. On a green base. Height: 29 cm, width: 18 cm, depth: 19 cm, weight: 1.5 kg

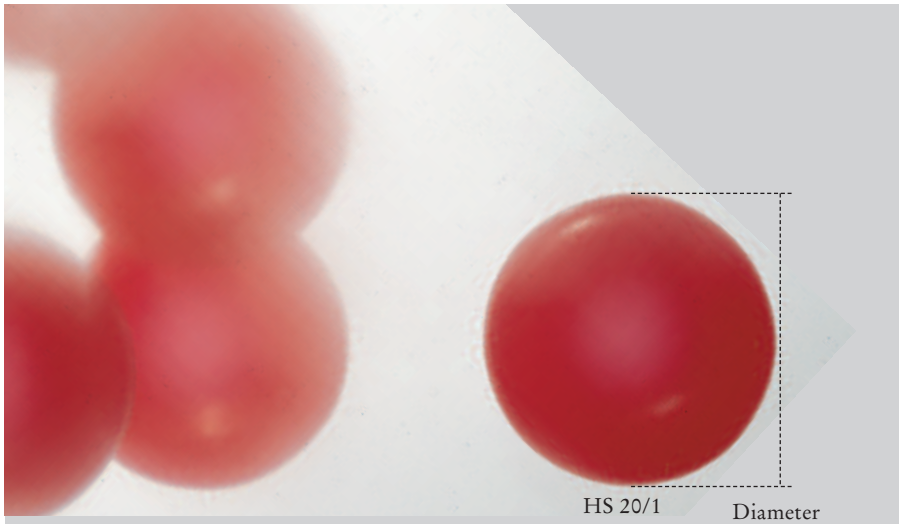


Detail - plane of the valve with semilunar and sigmoid valves

HS 22 disassembled

Circulatory Organs

Anatomy 9



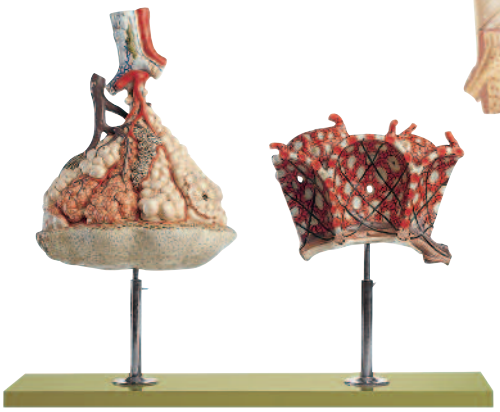
HS 20/1 · Red Blood Cell

Enlarged approximately 11.000 times, in **SOMSO-PLAST®. In one piece.** Weight: 80 g

HS 23/1

HS 23/1 · Lobule of the Lung

Enlarged approximately 150 times, in **SOMSO-PLAST®. In one piece.** On a stand with green base. Height: 47 cm, width: 24 cm, depth: 18 cm, weight: 1.55 kg



HS 23

HS 23 · Lobule of the Lung with Additional Model Pulmonary Alveoli

1. Lobule of the lung: enlarged approximately 150 times, in **SOMSO-PLAST®.** Representation of lobule with arterial and venous circulation and bronchial branches. One acinus open to show the alveolar duct.
2. Model of an adjacent alveolus: enlarged approximately 1000 times, in **SOMSO-PLAST®.** Representation of the alveolar wall, its vessels, the epithelial cover, and the elastic and muscular elements. The separate passage of the arterial and venous vessels is clearly visible at this magnification.
In one piece. On a stand with green base. Height: 45 cm, width: 48 cm, depth: 16 cm, weight: 2.65 kg

HS 25 · Fine Structure of an Artery and Veins

Enlarged many times, in **SOMSO-PLAST®.** The model has been made after a vascular preparation from the lower leg. Representation of the individual vascular layers. The valves of the vein are shown closed and open. **Separates into 3 parts.** On a green base. Height: 64 cm, width: 39 cm, depth: 30 cm, weight: 7.7 kg

HS 25 disassembled

HS 25/2

HS 25/2 · Artery and Vein

Enlarged many times, in **SOMSO-PLAST®.** The model has been made after a vascular preparation of the lower leg. Representation of the individual vascular layers, the valves of veins are shown closed and open. **In one piece.** On a green base. Height: 64 cm, width: 39 cm, depth: 30 cm. weight: 5.9 kg

HS 25/1 · Fine Structure of an Artery and Veins

Enlarged many times, in **SOMSO-PLAST®.** Description as for HS 25, but the painting is after Volkmann-Strauß-Elastica. **Separates into 3 parts.** On a green base. Height: 64 cm, width: 39 cm, depth: 30 cm, weight: 7.7 kg

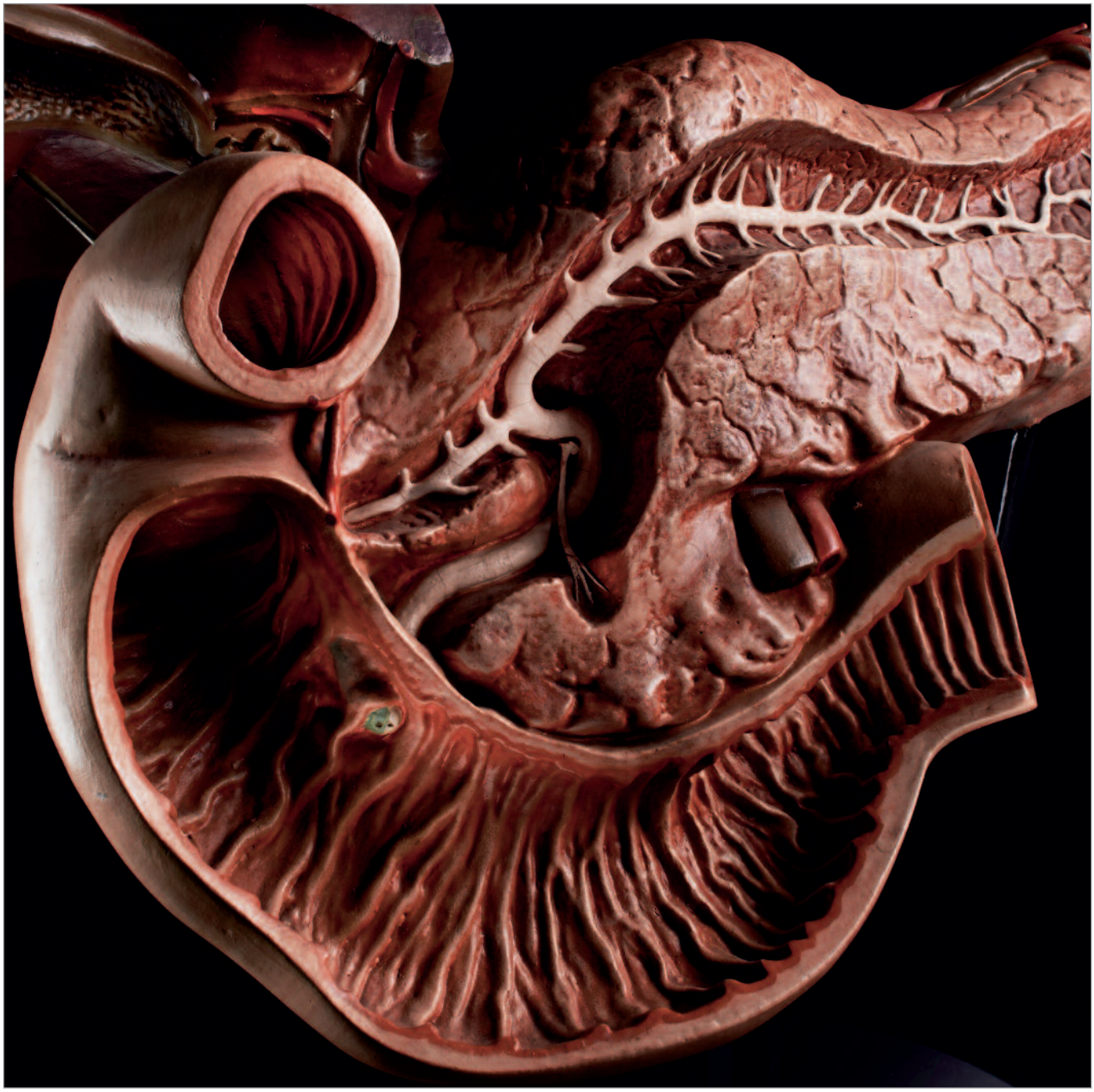
HS 25/1

Digestive Organs

Nature is our Model SOMSO® Modelle

Anatomy 10

Detail of J 12/1: Pancreatic duct with opening in the duodenum
(for a description of the model see page 67)



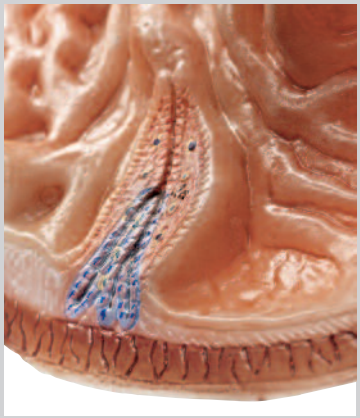
Digestive Organs

Nature is our Model SOMSO® Modelle

Anatomy 10

JS 4 disassembled

Section through a fundic gland microscopally magnified



JS 4 · Stomach

Natural size, in **SOMSO-PLAST®. Separates into 2 parts,** on a stand with green base. Height: 34 cm, width: 19 cm, depth: 18 cm, weight: 1.1 kg

JS 2/1

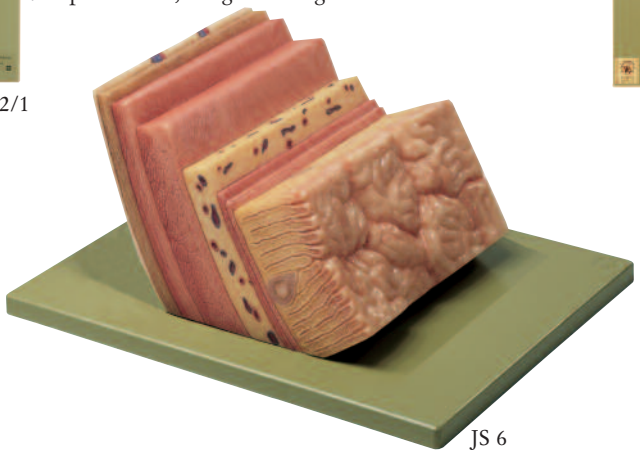
JS 14

JS 14 · Internal Surface of the Jejunum

Enlarged approximately 400 times, in **SOMSO-PLAST®.** After Prof. Dr. E. Wüstenfeld, Anatomical Institute, Würzburg. The digitiform protrusions represent villi, the indentations show crypts. A cut surface reveals the histological structure of a villus. **Cannot be disassembled.** On a green base. Height: 17 cm, width: 18 cm, depth: 18 cm, weight: 800 g

JS 6 · Stomach Wall

Enlarged many times. In **SOMSO-PLAST®.** The formation and structure of layers are shown by a transverse and vertical section. **In one piece.** Mounted on a green board. Height: 16 cm, width: 25.5 cm, depth: 32 cm, weight: 1.8 kg



JS 6

JS 2/2 disassembled

JS 2/1 · Digestive System

Natural size, relief model, partly opened, in **SOMSO-PLAST®** showing the alimentary canal from the mouth to the rectum. **Separates into 2 parts.** On a green board. Height: 90 cm, width: 32 cm, depth: 11 cm, weight: 4.7 kg

JS 2/2 · Digestive Tract

Natural size, relief model, in **SOMSO-PLAST®.** As JS 2/1, but the half section of the stomach can be opened. **Separates into 3 parts.** On a green board. Height: 90 cm, width: 32 cm, depth: 11 cm, weight: 5 kg

J 12/1
(without stand
and base)

J 12/1 - Detail:
dorsal view

J 12/1 · Pancreas

Enlarged on a scale of 1:3, made from a special plastic. Exact replica in connection with the opened-up duodenum, the gall bladder, and a section of the liver. The pancreatic duct is exposed. **Cannot be disassembled.** On a stand with green base. Height: 48 cm, width: 42 cm, depth: 24 cm, weight: 2 kg

Digestive Organs

Nature is our Model SOMSO® Modelle

Anatomy 10

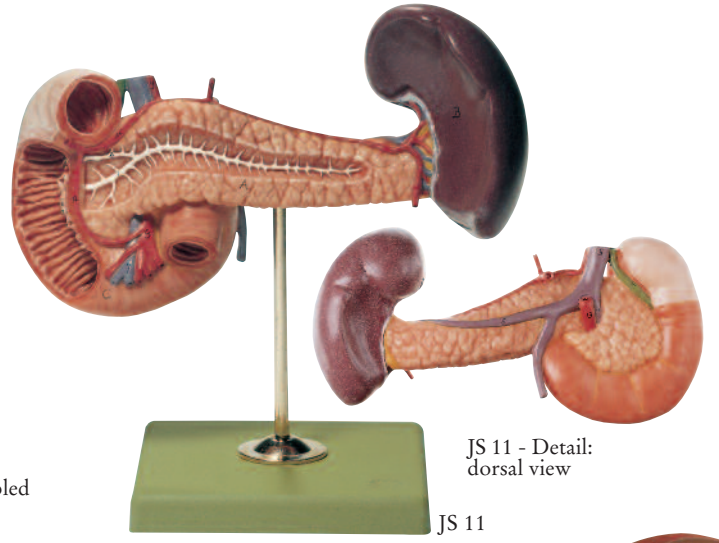
JS 7 · Appendix and Caecum

Natural size. In **SOMSO-PLAST®.** The colon wall in the region of the caecum can be opened. **Separates into 2 parts.** On a stand with green base. Height: 25 cm, width: 16 cm, depth: 14 cm, weight: 540 g

JS 7 disassembled

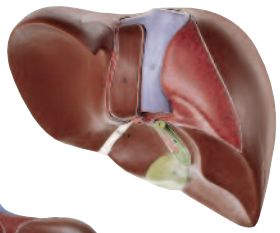
JS 11 · Pancreas with Spleen and Duodenum

Natural size, in **SOMSO-PLAST®.** On the pancreas, the pancreatic duct is shown up to its aperture; the duodenum is partly open. **In one piece.** On a stand with green base. Height: 23 cm, width: 20 cm, depth: 14 cm, weight: 600 g



JS 11 - Detail:
dorsal view

JS 11



JS 5 - Detail:
dorsal view

JS 5

JS 8 · Liver and Gall Bladder

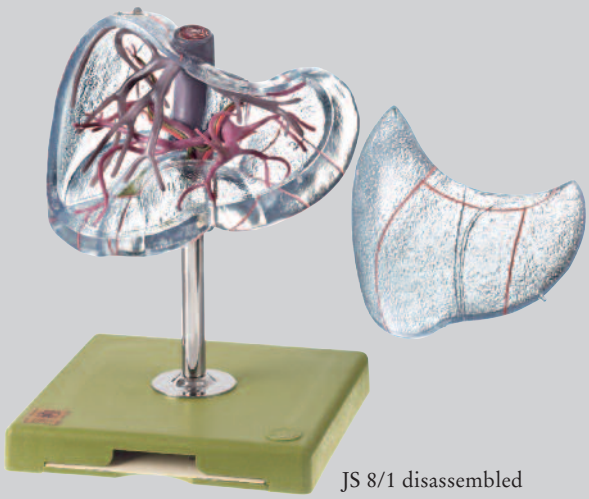
Enlarged approximately 1 1/2 times, in **SOMSO-PLAST®.** Open from the side facing the intestines to show the branches of the vessels in the liver and the bile duct system. **In one piece.** On a stand with green base. Height: 32 cm, width: 27 cm, depth: 18 cm, weight: 1.15 kg

JS 8 - Detail:
dorsal view

JS 8

JS 5 · Liver

Natural size, in **SOMSO-PLAST®.** Showing the four lobes of the liver, the beginnings of the peritoneum, the gall bladder, and vessels. **Cannot be disassembled.** On a stand with green base. Height: 26 cm, width: 19 cm, depth: 18 cm, weight: 880 g



JS 8/1 disassembled

JS 8/1 · Vascular Architecture of the Liver

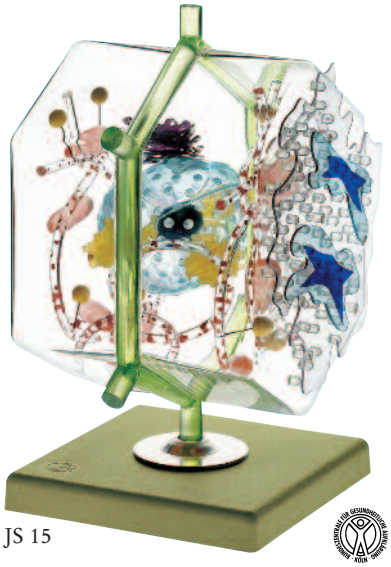
Natural size, in **SOMSO-PLAST®.** The model shows the liver from the front. The liver segments are indicated. The removable front part of the model makes the vascular architecture of the liver visible. **Separates into 2 parts.** On a stand with green base. Height: 27 cm, width: 19 cm, depth: 18 cm, weight: 800 g

JS 15 · Model of a Liver Cell

Enlarged many times, in special transparent plastic. After an original from the Bundeszentrale fuer gesundheitliche Aufklaerung at Cologne, Rhine. **In one piece.** On a stand with green base. Height: 27 cm, width: 15 cm, depth: 16 cm, weight: 650 g

J 8/2 · Model of the Surgical Division of the Liver into Segments

After Prof. Dr. med. F. Köckerling. **Natural size.** Showing the segments of the liver, the portal vein branches and the hepatic veins, as well as the segmental boundaries on the parenchymal surface. **Separates into 2 parts.** On a stand with green base. Height: 34 cm, width: 24 cm, depth: 21 cm, weight: 1.1 kg



JS 15

J 8/3 · Model of the Portal Vein

After Prof. Dr. med. F. Köckerling. **Natural size.** The model shows the normal vascular pattern of the portal vein. **In one piece.** On a stand with green base. Height: 35 cm, width: 21 cm, depth: 19 cm, weight: 700 g

J 8/4 · Model of the Hepatic Veins

After Prof. Dr. med. F. Köckerling. **Natural size.** The model shows the normal anatomy of the hepatic veins. **In one piece.** On a stand with green base. Height: 35 cm, width: 22 cm, depth: 24 cm, weight: 700 g

Further Cell Models

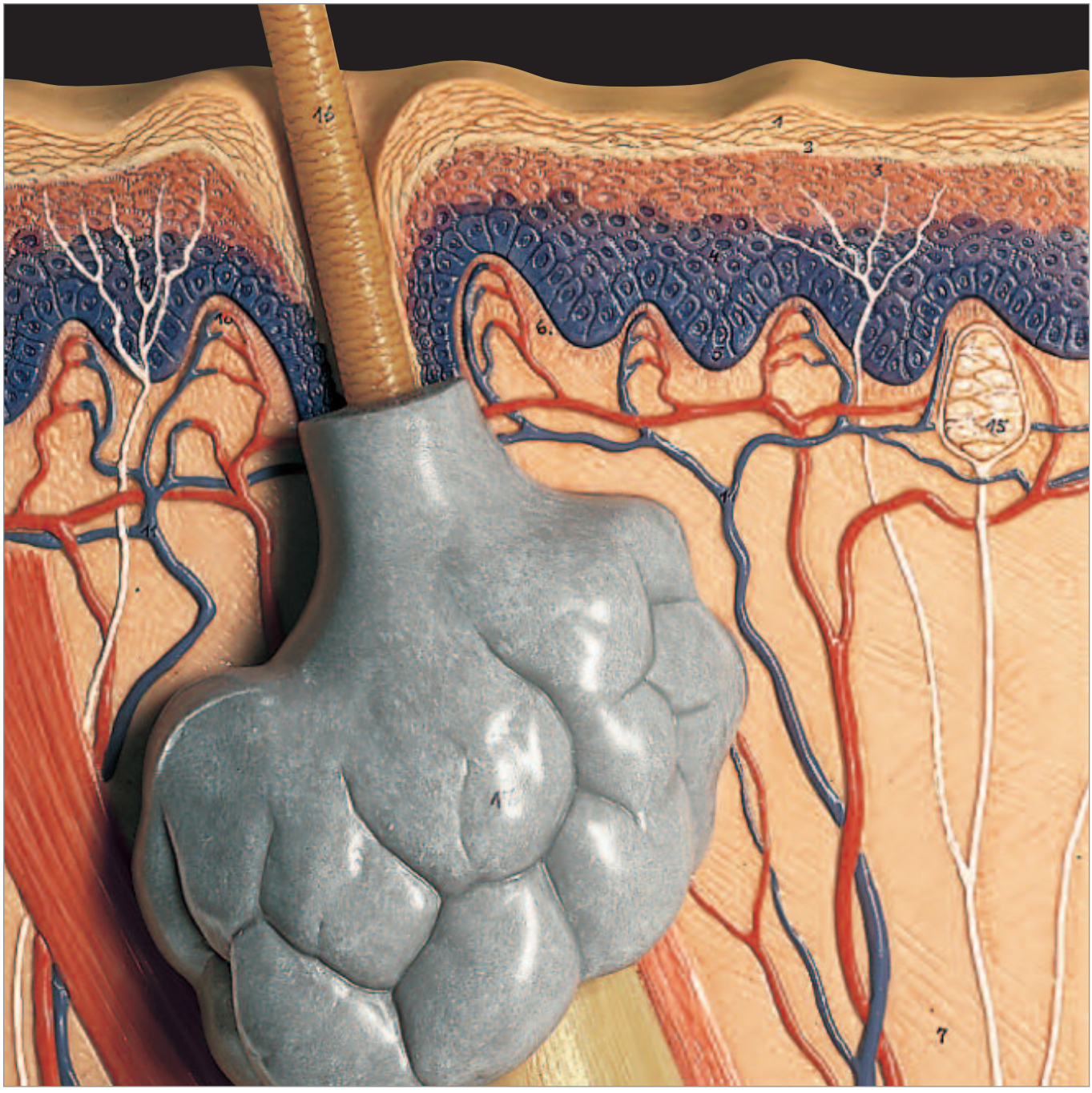
BS 35 · Neuron	page 36
BS 35/1 · Neuron	page 36
ZoS 110/1 · Animal Cell	page 145
ZoS 120 · Animal Cell	page 145

J 8/3

J 8/2

J 8/4

KS 7 Model of a Hair - Detail: Layers of the skin, hair shaft, and sebaceous gland
(see catalogue page 72)

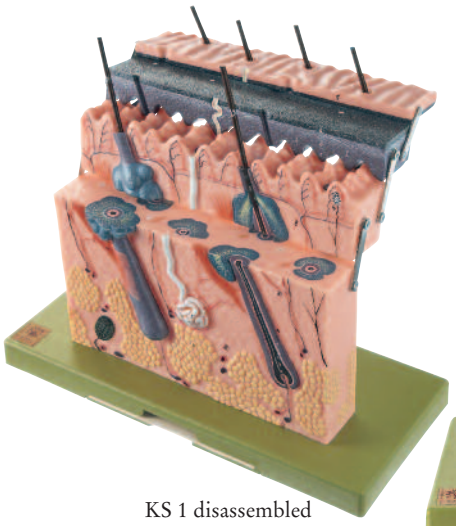


SOMSO® employees in 2001 during the 125th Anniversary Year, together with the fourth and fifth generations of the Sommer family who work in the company.

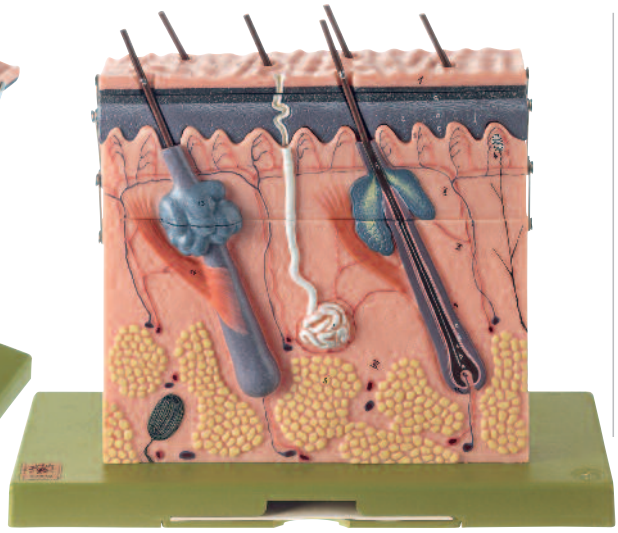
Anatomy of Skin and Hair

Nature is our Model SOMSO® Modelle

Anatomy 11



KS 1 disassembled



KS 1

KS 1 · Section of Skin

Enlarged approximately 70 times, in **SOMSO-PLAST®.** The layers of the skin can be separated to form terraces, showing the follicle and root of the hair (three-dimensional and in section), the sweat gland, and the sensory organs of the skin. **Separates into 4 parts.** On a green base. Height: 28 cm, width: 33 cm, depth: 15 cm, weight: 1.87 kg

KS 4 - Detail: Vater-Pacini corpuscles

KS 4

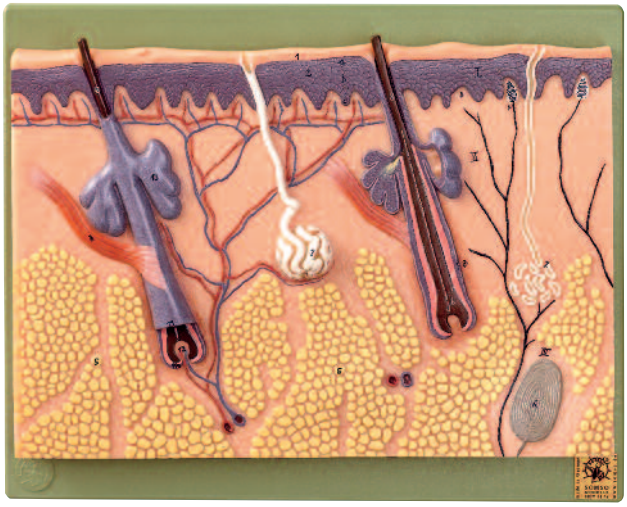
KS 4 · Block Model of the Skin

Enlarged approximately 70 times, in **SOMSO-PLAST®.** Showing the scalp with hair in different sectional planes. **Cannot be disassembled.** On a green base. Height: 27 cm, width: 34 cm, depth: 15 cm, weight: 1.8 kg

KS 4 – Detail: Layers of the skin

SOMSO® Modelle - 125 Years

During the celebrations on 17th July 2001, which marked the foundation day of SOMSO®, the Sommer family was presented with a firework display by the staff, in the shape of the SOMSO® Sun.



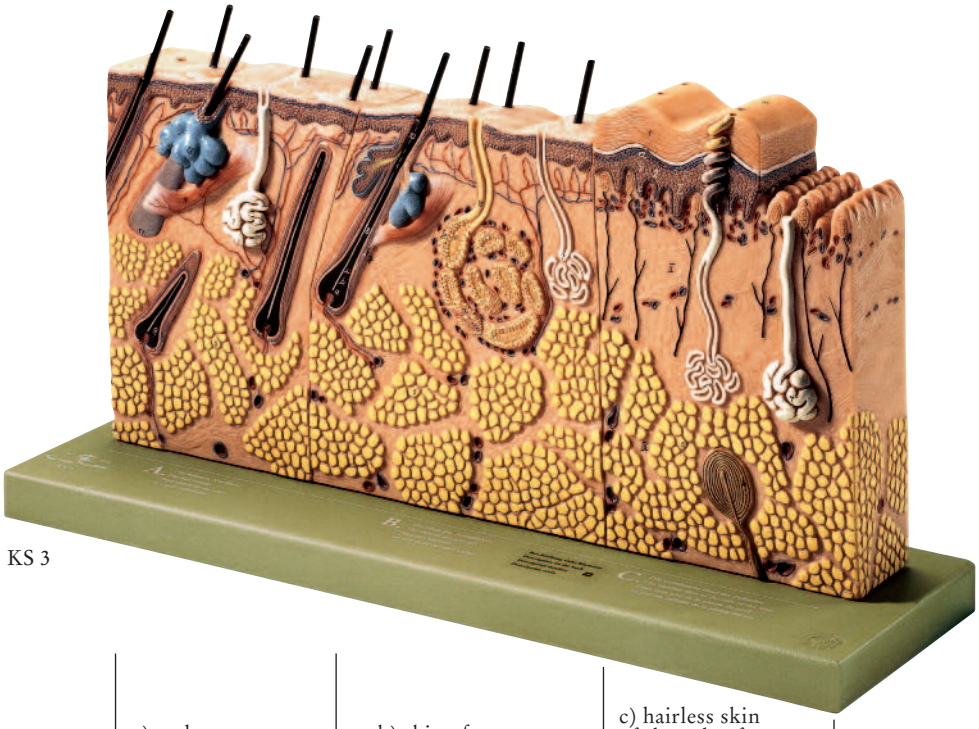
KS 2

KS 2 · Section of Skin

Enlarged approximately 70 times, in **SOMSO-PLAST®.** Relief model with two hair follicles (three-dimensional and in section). **In one piece.** Mounted on a green board. Height: 26 cm, width: 32 cm, depth: 5.5 cm, weight: 1.05 kg

KS 6 back view

KS 6 disassembled



KS 3

a) scalp with hair

b) skin of the axilla

c) hairless skin of the sole of the foot

KS 6 · Fingernail

Enlarged approximately 10 times, in **SOMSO-PLAST®.** Model of the last finger joint. The wall of the nail and half of the body of the nail are removable. **Separates into 3 parts.** On a green base. Height: 29 cm, width: 18 cm, depth: 18 cm, weight: 1.75 kg

KS 3 · Block Model of Sectional of Skin

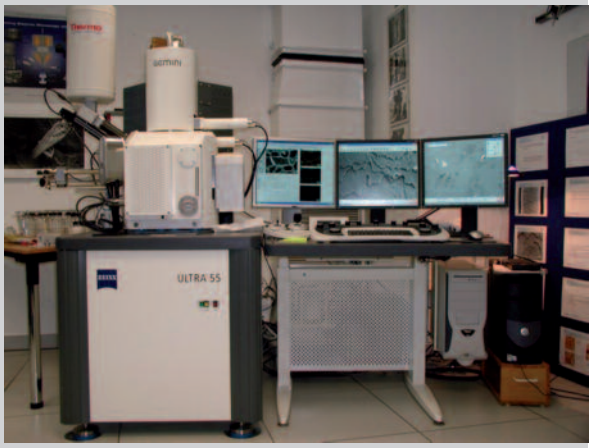
Enlarged approximately 70 times, in **SOMSO-PLAST®.** The model shows: a) scalp with hair, b) skin of the axilla, c) hairless skin of the sole of the foot. **Cannot be disassembled.** On a green base. Height: 26 cm, width: 48 cm, depth: 15 cm, weight: 2.43 kg

Anatomy of Skin and Hair

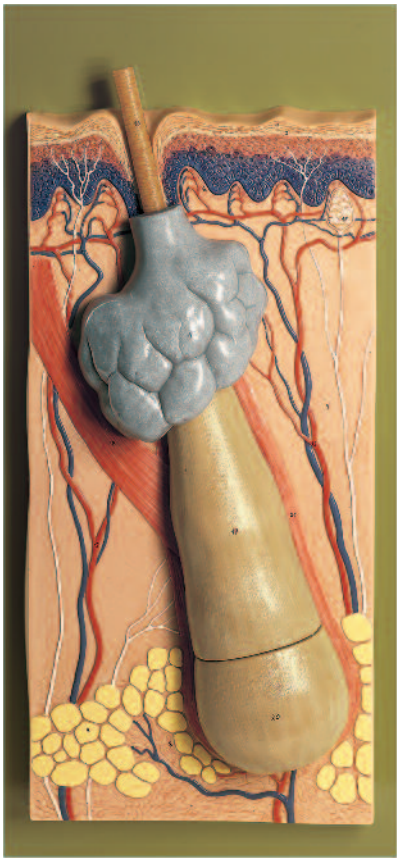
Nature is our Model SOMSO® Modelle

Anatomy 11

Under the scientific leadership and control of the Wella Research and Development Centre, the model of a hair, enlarged 4,000 times, was developed. The starting point was an extensive series of electron microscope studies.



WELLA



KS 7

KS 7 disassembled

KS 7 · Model of a Hair

Enlarged many times, in **SOMSO-PLAST®.** The microscopic structure of hair is shown in relation to the skin and the appending organs. The stratified structure of the hair is clearly shown. **Separates into 6 parts:** sebaceous gland, hair cuticle and cuticle of the sheath (3 parts), hair-bulb, skin relief. On a green base. Height: 65 cm, width: 30 cm, depth: 12 cm, weight: 5.35 kg (For detail see page 69)

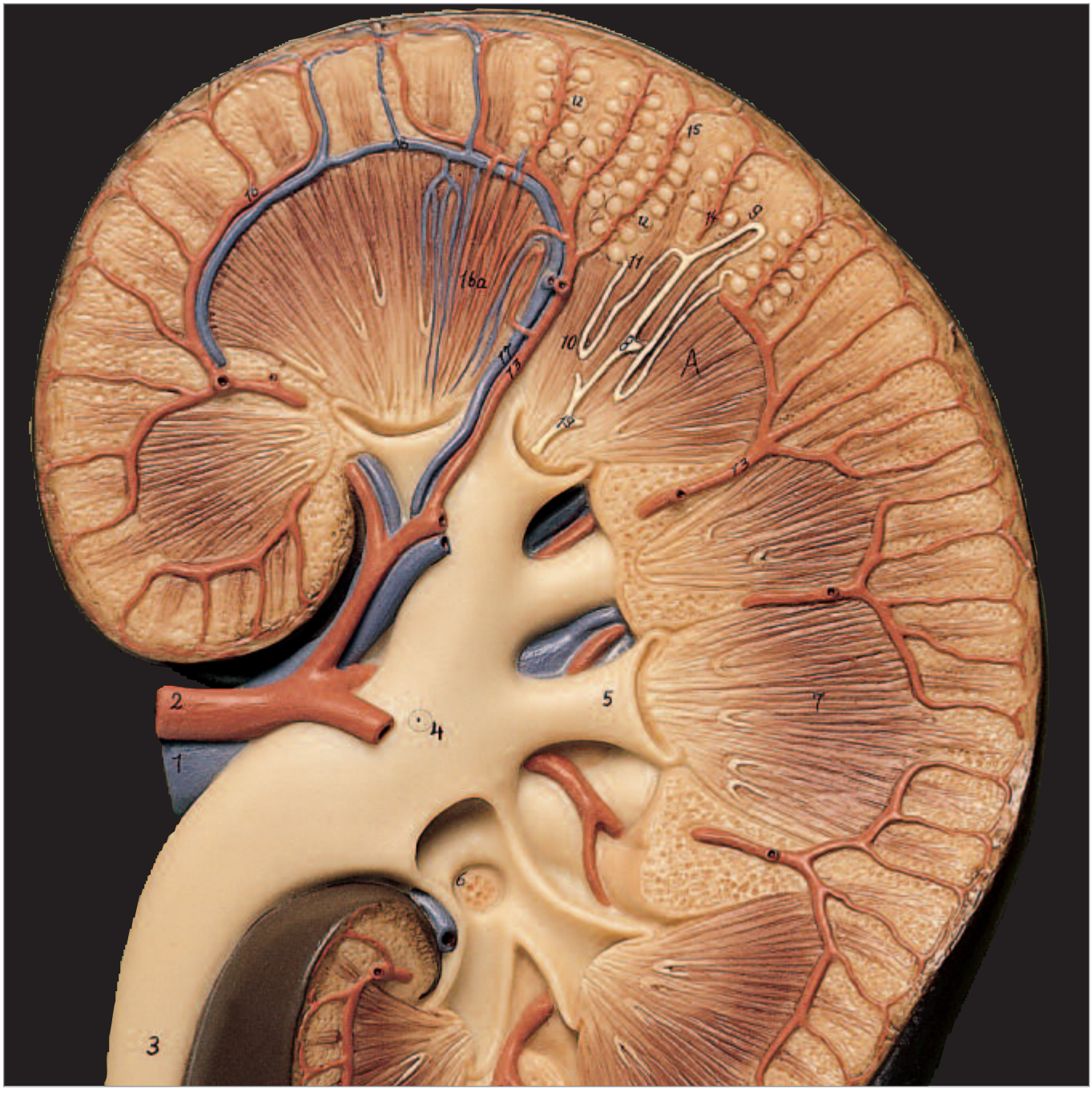
KS 13 · Model of a Human Hair

Enlarged 4,000 times, in special transparent plastic. The anatomical fine structure of the hair is shown in medial and horizontal section. After electron microscope pictures. One single cortical cell and one cuticle cell can be removed. **Separates into 3 parts.** On a base. Height: 48 cm, width: 35 cm, depth: 25 cm, weight: 2.9 kg

KS 13 disassembled

KS 13

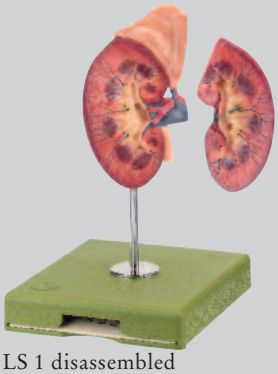
LS 4 - Detail: Right Kidney (see catalogue page 74)



Urinary Organs

Nature is our Model SOMSO® Modelle

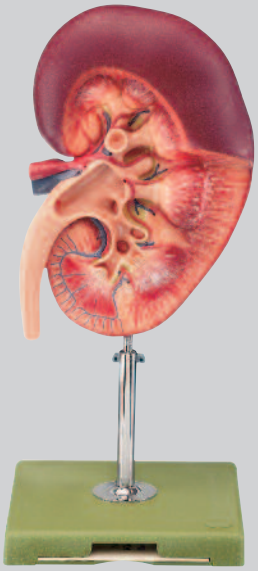
Anatomy 12



LS 1 disassembled

LS 1 · Right Kidney and Adrenal Gland

Natural size, in **SOMSO-PLAST®.** Kidney **separates into 2 halves** longitudinally. On a stand with green base. Height 23 cm, width 14 cm, depth 16 cm, weight 500 g



LS 5

LS 5 · Right Kidney

Enlarged approximately 3 times. In **SOMSO-PLAST®.** Tissue of the kidney partly removed at the back; renal pelvis open; renal pyramids in relief and shown in section, as are the cortical and adipose tissue. **In one piece.** On a stand with green base. Height: 41 cm, width: 20 cm, depth: 18 cm, weight: 1.3 kg

LS 9

LS 4 (Detail see page 73)

LS 6

LS 7

LS 4 · Right Kidney

Enlarged approximately 3 times, in **SOMSO-PLAST®.** Frontal section from behind, renal pyramid with their papillae entering the partly opened renal pelvis. Schematic representation of a nephron with its collecting duct system (loop of Henle). **Cannot be disassembled.** On a green board. Height: 32 cm, width: 26 cm, depth: 7 cm, weight: 1 kg

LS 6 · Nephron

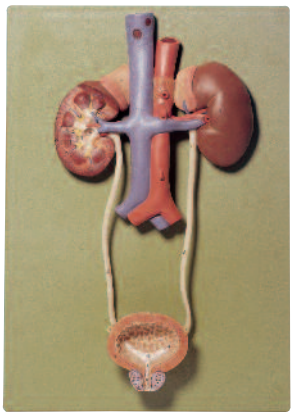
Enlarged approximately 120 times, in **SOMSO-PLAST®.** The model shows two nephrons with renal corpuscles, renal tubules, and collecting duct system. **Cannot be disassembled.** On a green board. Height: 32 cm, width: 26 cm, depth: 4 cm, weight: 710 g

LS 7 · Renal Corpuscle

Also called Malpighian corpuscle, **enlarged approximately 700 times,** in **SOMSO-PLAST®.** The model shows the afferent arteriole, the efferent arteriole, the capillaries of the glomerulus, the urinary pole, and the Bowman's capsule. **Cannot be disassembled.** On a green board. Height: 32 cm, width: 18.5 cm, depth: 9 cm, weight: 840 g

LS 9 · Kidney, Nephron and Renal Corpuscle

Models LS 4, LS 6, and LS 7, in **SOMSO-PLAST®.** Mounted together on one green board. **In one piece.** Height: 30 cm, width: 65 cm, depth: 9 cm, weight: 3.25 kg



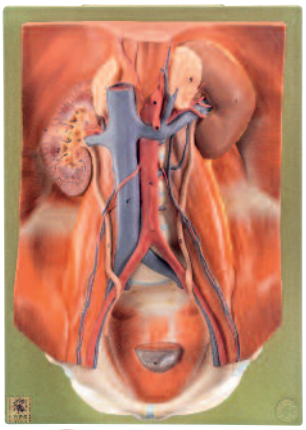
LS 3/1

LS 3 · Urinary Tract

Natural size, in **SOMSO-PLAST®,** Kidneys, ureters, adrenal glands and bladder with prostate, as well as the large abdominal vessels shown in position. **Separates into 4 parts.** Mounted on a green board. Height: 40 cm, width: 28 cm, depth: 13 cm, weight: 2.78 kg

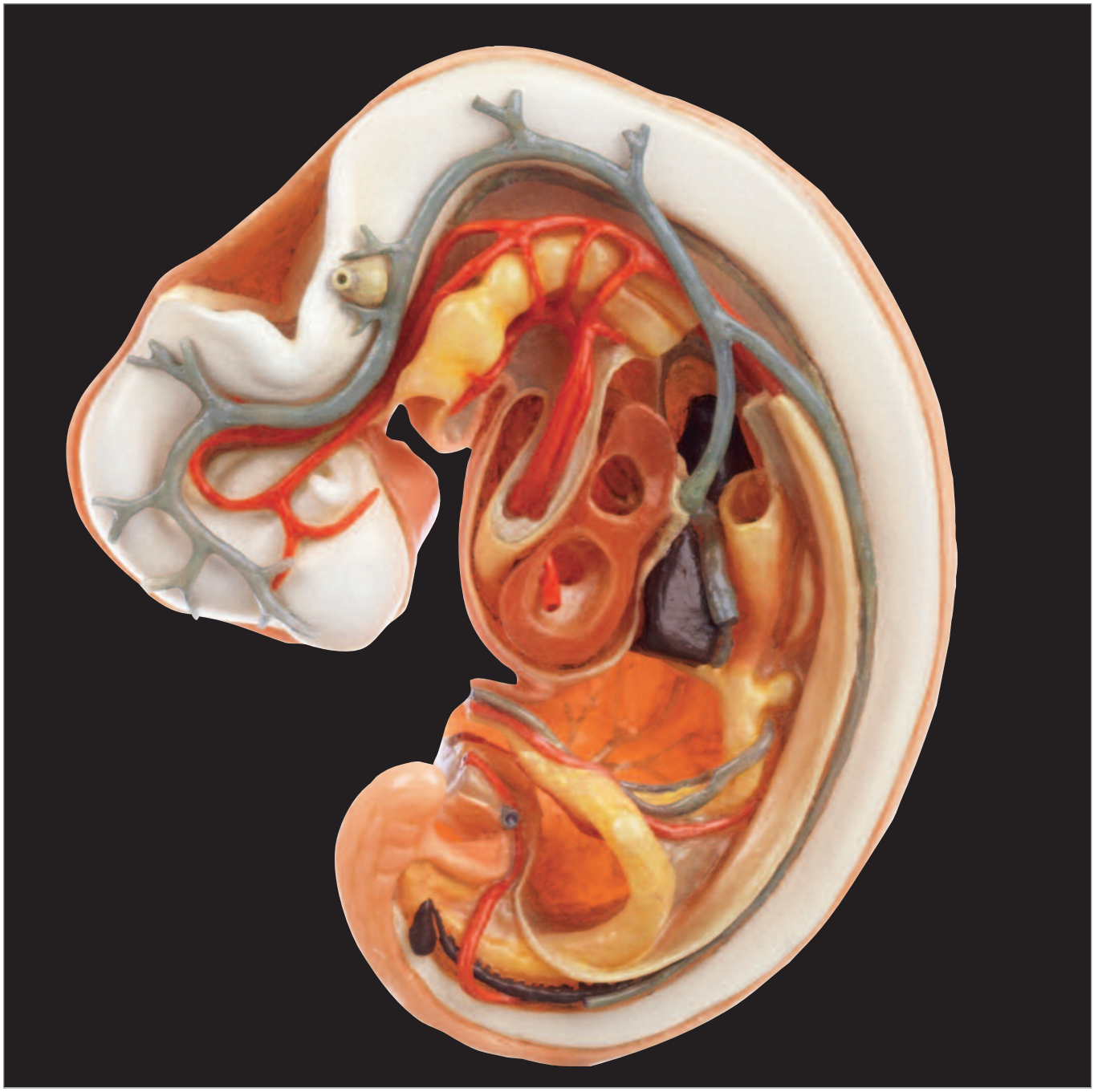
LS 3/1 · Urinary Tract

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a green base. Height: 39 cm, width: 28 cm, depth: 5.5 cm, weight: 1.15 kg



LS 3 disassembled

M 48/3-8 Human Embryo at the end of week four, opened at the side, with represenation of the vascular system (see catalogue page 85)



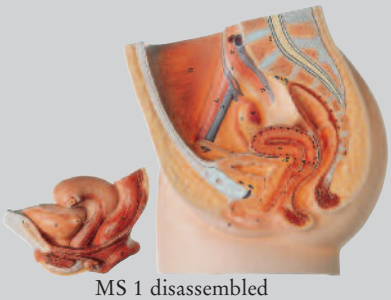
Genital Organs

Nature is our Model SOMSO® Modelle

Anatomy 13

MS 1 · Median Section of the Female Pelvis

Natural size, in **SOMSO-PLAST®.** Female genital organs with bladder and rectum three-dimensional and removable. **Separates into 2 parts.** Mounted on a green board. Height: 33 cm, width: 26 cm, depth: 12 cm, weight: 1.59 kg



MS 1 disassembled

MS 5 · Female Genital Organs

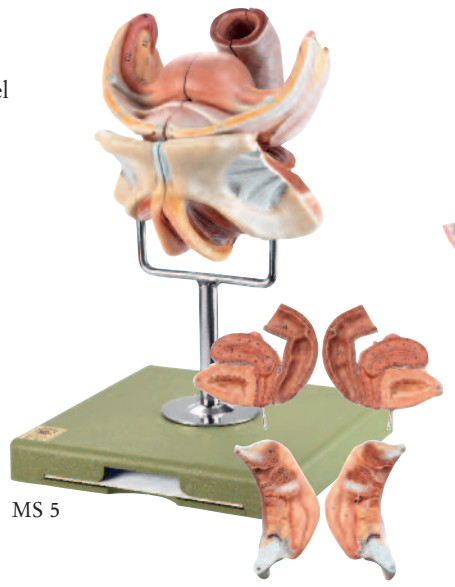
Natural size, in **SOMSO-PLAST®.** The model shows the internal and external female genital organs. Median section. The internal organs can be removed from the pelvic floor. **Separates into 4 parts.** On a stand with green base. Height: 26.5 cm, width: 18 cm, depth: 18 cm, weight: 1.1 kg

MS 5/1 · Female Genital Organs

Natural size, in **SOMSO-PLAST®.** Showing the internal and external genital organs with rectum and urinary bladder. **Separates into 4 parts.** On a stand and green base. Height: 24 cm, width: 18 cm, depth: 18 cm, weight: 1.0 kg

MS 5/2 · Model of the Female Sexual Organs

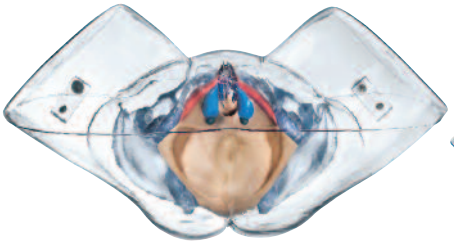
Natural size, in **SOMSO-PLAST®,** in a transparent skin cover made from special plastic. Developed in co-operation with Angelika Beck. Model of the female sexual organs based on current research which makes new aspects clear - both in relation to female sexuality and gender difference. Height: 21.5 cm, width: 49 cm, depth: 30 cm, weight: 2.5 kg



MS 5

MS 5 disassembled

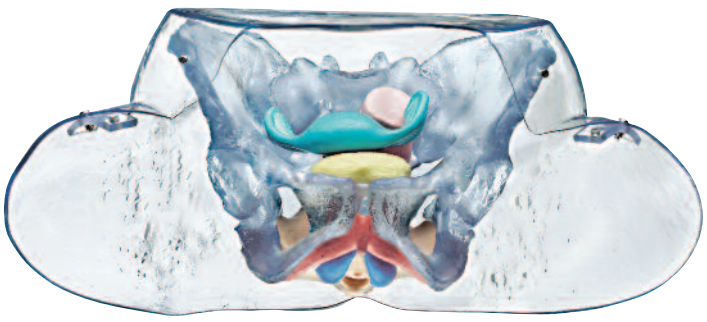
MS 5/1 disassembled



Caudal view

Cranial view

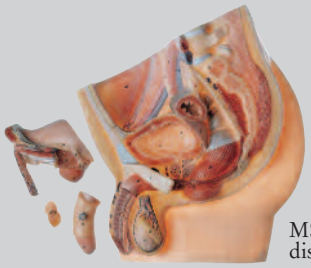
The transparent model of the female sexual organs is easy to open, allowing the internal organs to be viewed and touched, thus providing clear information on the location of the bladder, the vagina, and the intestines as well as on the size of the clitoris and on the location of the cavernous bodies. The female prostate (Prostata feminina) and its proximity to the vagina are visible. The organs predominantly involved in reproduction are coloured green, i.e. ovaries, fallopian tubes, uterus, and vagina. Organs not predominantly involved in reproduction are coloured yellow, orange, pink, and blue, i.e. bladder, urethra, female prostate (Prostata feminina), clitoris, and cavernous bodies. The intestines and muscles of the pelvic floor are coloured pale pink.



MS 5/2

MS 2 ·
Median Section of the Male Pelvis

Natural size, in **SOMSO-PLAST®.** Rectum, bladder with prostate and testicular duct, and external genital organs, fully exposed and removable. **Separates into 4 parts.** Mounted on a green board. Height: 33 cm, width: 26 cm, depth: 13 cm, weight: 1.47 kg

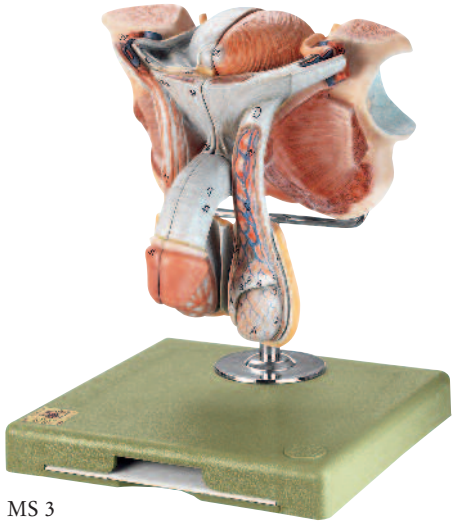


MS 2 disassembled

Genital Organs

Nature is our Model SOMSO® Modelle

Anatomy 13



MS 3

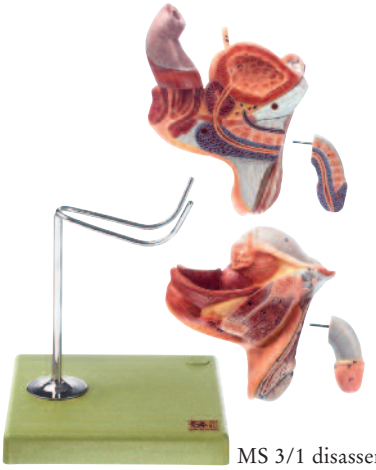
MS 3 disassembled

MS 3 ·
Male Genital Organs

Natural size, in **SOMSO-PLAST®.** Median section showing penis, prostate, bladder, seminal vesicle, spermatic cord, inguinal canal, and testicles. **Separates into 5 parts.** On a stand with green base. Height: 23.5 cm, width: 18 cm, depth: 20 cm, weight: 1.28 kg

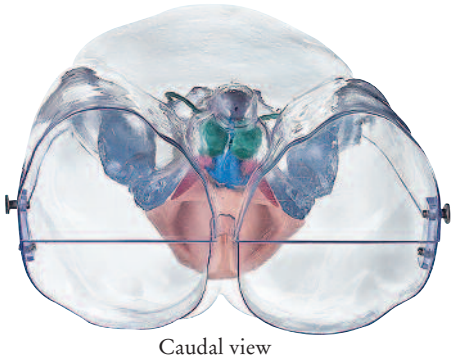
MS 3/1 ·
Male Genital Organs

Natural size, in **SOMSO-PLAST®.** Showing the internal and external organs of the small pelvis (median section). **Separates into 4 parts.** On a stand with green base. Height: 28 cm, width: 18 cm, depth: 18 cm, weight: 900 g



MS 3/1 disassembled

Cranial view



Caudal view

MS 3/2 ·
Model of the Male Sexual Organs

Natural size, in **SOMSO-PLAST®,** in a transparent skin cover made from special plastic. Developed in co-operation with Angelika Beck. Model of the male sexual organs based on current research which makes new aspects clear - both in relation to male sexuality and gender difference. Height: 28 cm, width: 36 cm, depth: 24 cm, weight: 2.8 kg

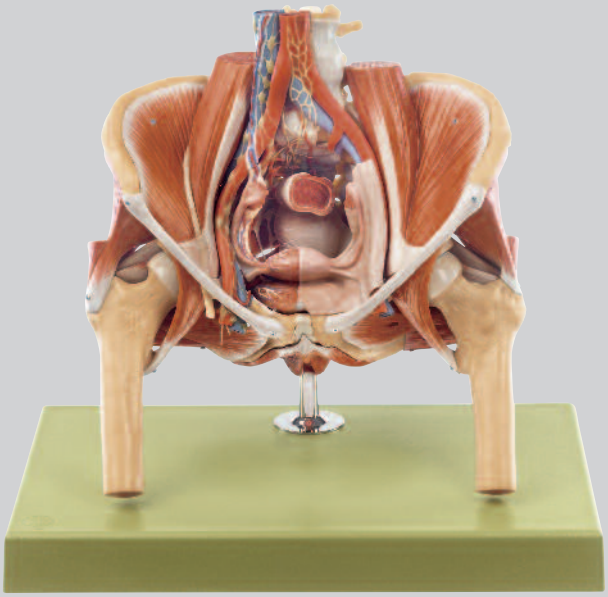
MS 3/2

The transparent model of the male sexual organs is easy to open, allowing the internal organs to be viewed and touched, thus providing clear information on the location of the bladder, the prostate, and the intestines as well as on the course of the spermatic duct, the location of the seminal vesicles and the ampulla, and the course of the different cavernous bodies. The organs predominantly involved in reproduction are coloured green, i.e. testes, epididymides, urethra and seminal duct, seminal vesicles, ampulla, and Cowper's glands. Organs not predominantly involved in reproduction are coloured yellow, orange, pink, and blue, i.e. bladder, prostate, glans, cavernous bodies pertinent to an erection and the urethra. The intestines and muscles of the pelvic floor are coloured pale pink.

Genital Organs

Nature is our Model SOMSO® Modelle

Anatomy 13

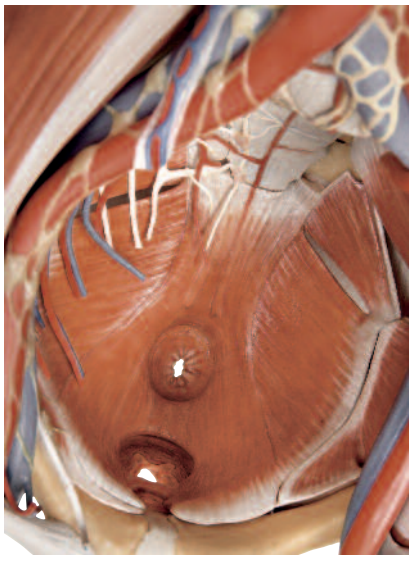


MS 8/4 · Model of the Female Pelvis

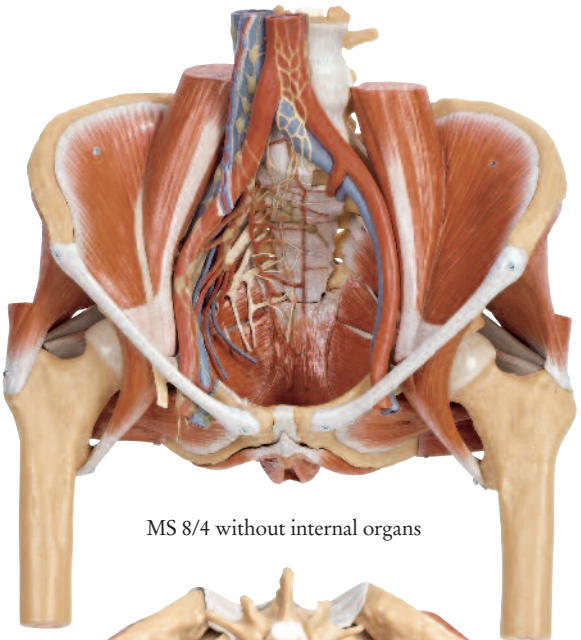
Natural size, in **SOMSO-PLAST®.** After Prof. Dr. med. Elke Lütjen-Drecoll and Prof. Dr. med. Dr. med. hc. J.W. Rohen. **Separates into 4 parts.** On a stand with green base. Height: 35 cm, width: 39 cm, depth: 26 cm, weight: 4.2 kg

Internal organs of the lesser pelvis with representation of the peritoneal relationships

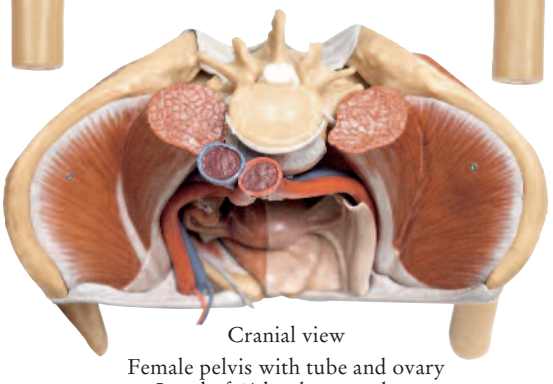
Internal organs of the lesser pelvis from dorsal side



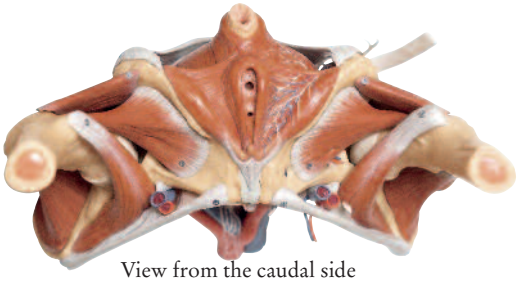
Internal pelvic floor muscles



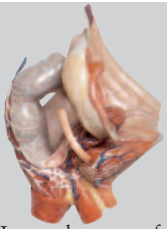
MS 8/4 without internal organs



Cranial view
Female pelvis with tube and ovary
Level of 4th lumbar vertebra.
Left - Representation of the peritoneal relationships



View from the caudal side
Female pelvic floor with hip joints and symphysis
Representation of the innervation of the external pelvic floor.



Internal organs of the lesser pelvis, view from dorsal side

Lig. sacrotuberale

External pelvic floor muscles

Pelvic floor muscles in detail

(see illustration left)

Model of the female pelvis MS 8/4 is a delicate model of the muscular floor of the pelvis:

Levator ani muscle with tendinous arch

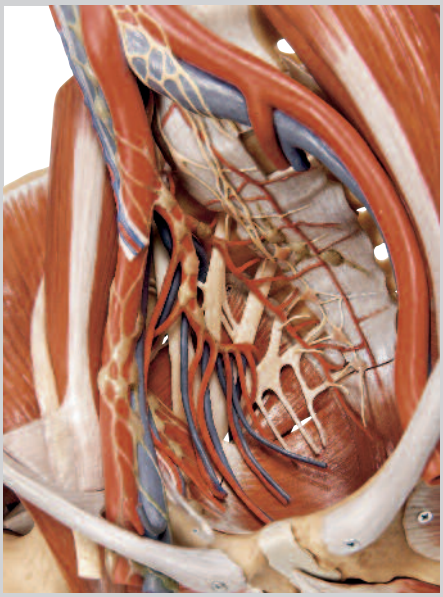
Urogenital hiatus (levator)

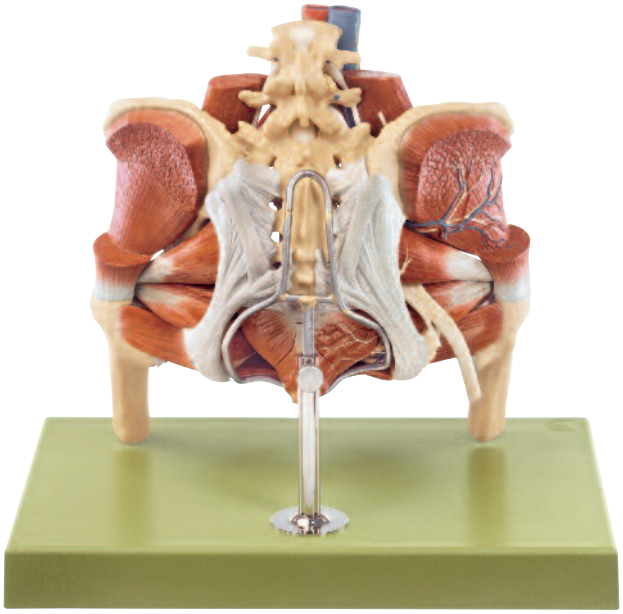
Coccygeus muscle

Internal obturator muscle

Attention to detail with SOMSO® quality

View of the most important vascular, nerve, and lymphatic supply on the right wall of the lesser pelvis.





MS 8/4 Dorsal view

MS 8/4 Removing from the stand

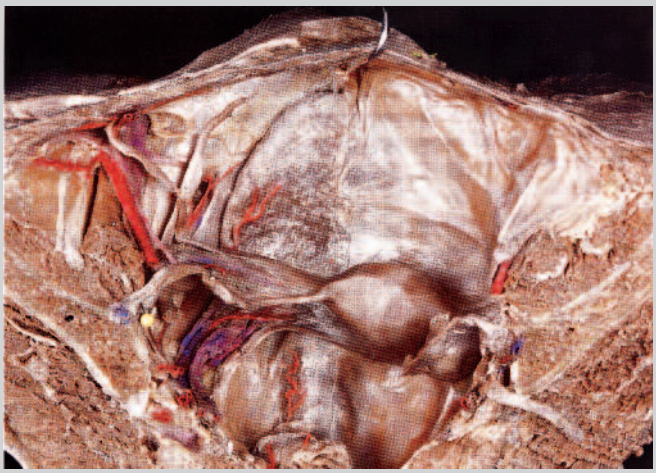


Illustration from the photographic atlas (5th edition - page 344)
"Human Anatomy" by Professor Dr. med. Dr. med. h.c.
J. W. Rohen, Professor Chihiro Yokochi, MD, and Professor
Dr. med. Elke Lütjen-Drecoll, Schattauer publishing house
"Female pelvis, internal sexual organs (from above).
On the left, the peritoneum has been removed."

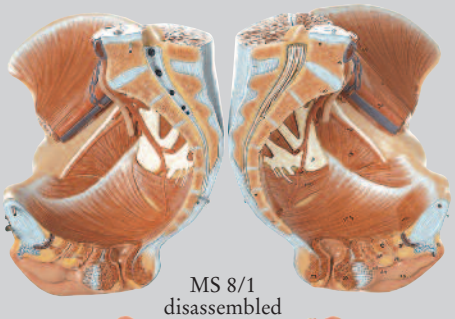
Elke Lütjen-Drecoll
is Professor of Anatomy and was the incumbent of the Chair of Anatomy II at the University of Erlangen-Nuremberg. She has received numerous scientific accolades and has been the President of The Academy of Sciences and Literature in Mainz.

Johannes W. Rohen
is Professor of Anatomy and was the incumbent of the Chair of Anatomy I and Head of the Institute for Anatomy at the University of Erlangen-Nuremberg. He has also been awarded with countless science prizes and honours.

Genital Organs

Nature is our Model SOMSO® Modelle

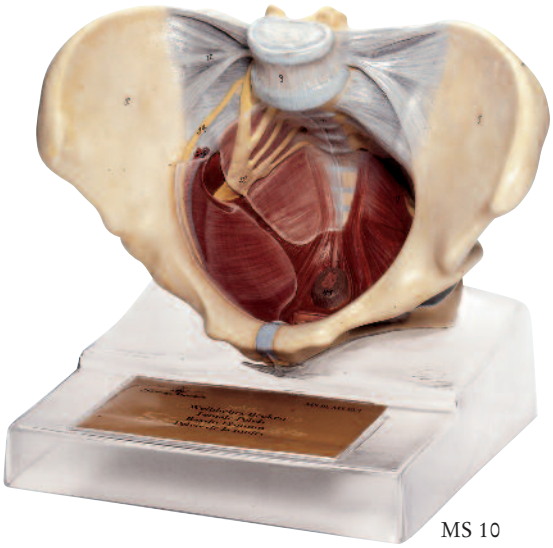
Anatomy 13



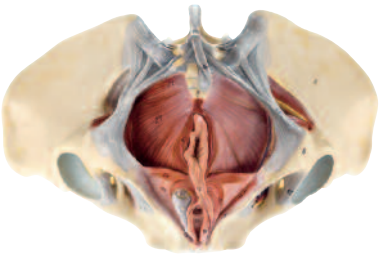
MS 8/1 disassembled

MS 8/1 · Female Pelvis

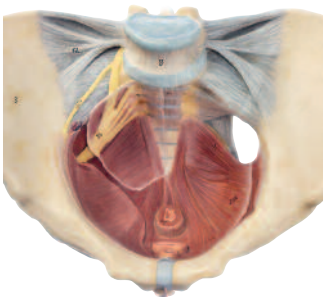
Natural size, in **SOMSO-PLAST®.** Representation of the external and internal genital organs with the pelvic muscles and the muscles of the pelvic floor as well as the network of nerves and vessels. **Separates into 4 parts: pelvis, median section (2 parts), and removable inner organs (2 parts).** On a removable transparent base. Height: 27 cm, width: 29 cm, depth: 26 cm, weight: 1.95 kg



MS 10



MS 10 Caudal view

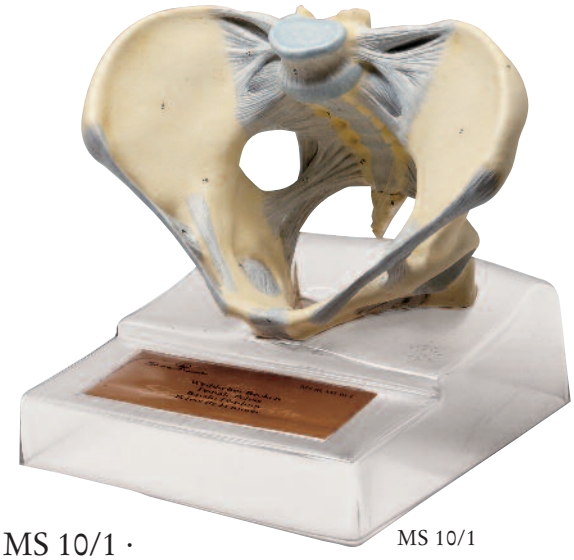


MS 10 Pelvic floor

MS 10 Dorsal view

MS 10 · Female Pelvic Floor

Natural size, in **SOMSO-PLAST®. In one piece.** On a removable transparent base. Height: 25 cm, width: 32 cm, depth: 26 cm, weight: 1.75 kg



MS 10/1

MS 10/1 Caudal view

MS 10/1 Dorsal view

MS 10/1 · Female Pelvis with Ligamentous Apparatus

Natural size, in **SOMSO-PLAST®. In one piece.** On a removable transparent base. Height: 25.5 cm, width: 27 cm, depth: 30 cm, weight: 1.7 kg

MS 42 complete
(without stand and base)

MS 41

MS 42 disassembled

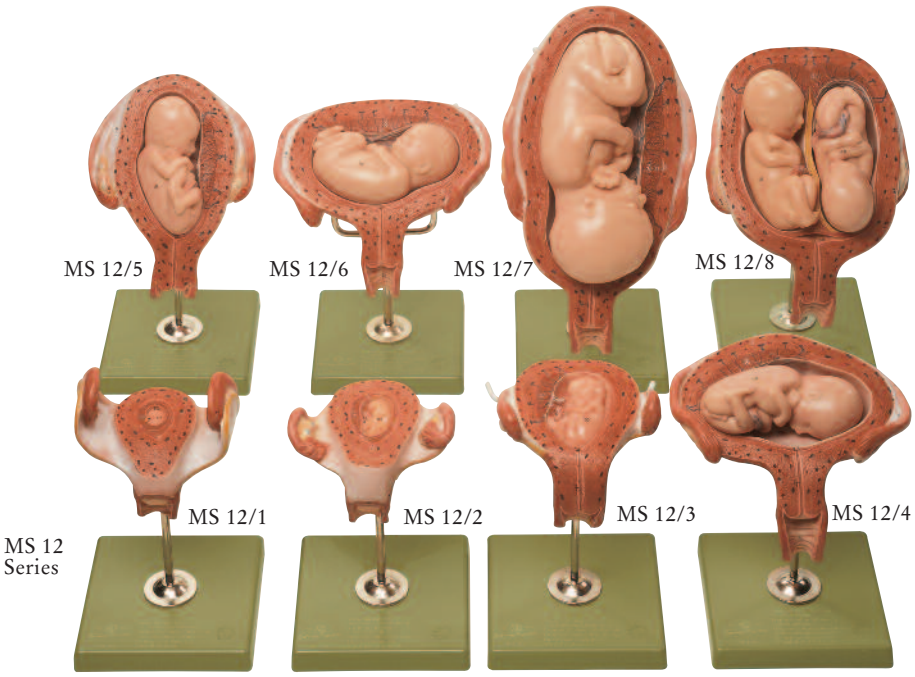
MS 41 · Internal Female Genital Organs

Natural size, in **SOMSO-PLAST®.** Uterus shown with bladder and ovaries. Median section. **Separates into 2 parts.** On a stand and green base. Height: 22 cm, width: 14 cm, depth: 16 cm, weight: 500 g

MS 42 · Internal Female Genital Organs

Natural size, in **SOMSO-PLAST®.** As MS 41, but the uterus is shown with an embryo in the 10th week. Formation of the placenta. **Separates into 2 parts.** On a stand with green base. Height: 23.5 cm, width: 14 cm, depth: 16 cm, weight: 640 g

MS 11



MS 12 Series

MS 11 · Embryo

Enlarged approximately 25 times, in **SOMSO-PLAST®.** The model shows an approximately 4-week-old embryo. **Cannot be disassembled.** On a stand with green base. Height 24 cm, width 14 cm, depth 16 cm, weight 550 g

MS 12 · Series showing pregnancy

Natural size, in **SOMSO-PLAST®.** 8 uterus representations with embryos and foetuses from 1st to 7th month of pregnancy. **14 parts in total.** Each model on an individual stand with green base. Total weight of the series 4.3 kg

MS 12/1 · Uterus with Embryo in First Month

In one piece. On stand and green base. Height: 20 cm, width: 12 cm, depth: 12 cm, weight: 310 g

MS 12/2 · Uterus with Embryo in Second Month

In one piece. On stand and green base. Height: 20 cm, width: 12 cm, depth: 12 cm, weight: 270 g

MS 12/3 · Uterus with Embryo in Third Month

In one piece. On stand and green base. Height: 20 cm, width: 12 cm, depth: 12 cm, weight: 300 g

MS 12/4 · Uterus with Fetus in Fourth to Fifth Month

Fetus, abdominal position and removable from the uterus. **Comprises 2 parts.** On a stand and green base. Height: 20 cm, width: 17 cm, depth: 13 cm, weight: 400 g

MS 12/5 · Uterus with Fetus in Fifth Month

Fetus, breech position and removable from the uterus. **Comprises 2 parts.** On a stand and green base. Height: 25 cm, width: 13 cm, depth: 12 cm, weight: 500 g

MS 12/6 · Uterus with Fetus in Fifth Month

Fetus, dorsal position and removable from the uterus. **Comprises 2 parts.** On a stand and green base. Height: 21 cm, width: 17 cm, depth: 13 cm, weight: 550 g

MS 12/7 · Uterus with Fetus in Seventh Month

Fetus, normal position and removable from the uterus. **Comprises 2 parts.** On a stand and green base. Height: 30 cm, width: 16 cm, depth: 15 cm, weight: 1.05 kg

MS 12/8 · Uterus with Twin Fetuses in Fifth Month

Normal position, each fetus is removable from the uterus. **Comprises 3 parts.** On a stand and green base. Height: 25 cm, width: 16 cm, depth: 15 cm, weight: 830 g

Embryonic Development

Nature is our Model SOMSO® Modelle

MS 11/3 · Human Embryo in the Third Month

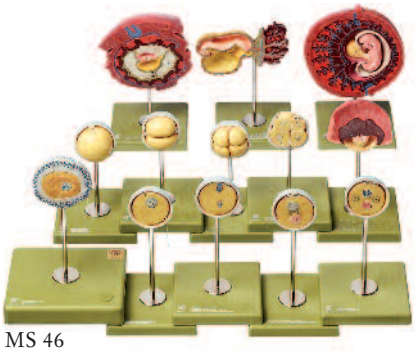
Enlarged 3 times, in **SOMSO-PLAST®.** After Prof. Dr. med. Hinrichsen. The model shows an embryo in the third month of pregnancy, **enlarged approximately 3 times in natural detail.** The embryo lies in a removable transparent amniotic sac, which is supported on a stand together with part of the placenta. **Separates into 3 parts.** Height: 23 cm, width: 17 cm, depth: 20 cm, weight: 1.1 kg

MS 15/1 · Human Development up to the Embryo at the End of the 1st Month

Shown by **13 individual models,** in **SOMSO-PLAST®.** Collection in a display case with removable transparent cover. Height: 50 cm, width: 58 cm, depth: 11 cm, weight: 5.68 kg

MS 15 · Fertilization and Development of the Human Ovum up to the 3rd Month

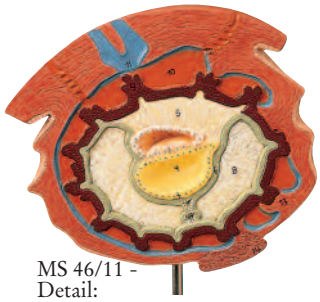
Shown by **16 different models,** in **SOMSO-PLAST®.** Collection in a display case with removable transparent cover. Height: 50 cm, width: 58 cm, depth: 11 cm, weight: 6.2 kg



MS 46

MS 46 · Human Development up to the Embryo at the End of the 1st Month

Shown by **13 models,** in **SOMSO-PLAST®.** Each model is individually mounted on a stand with green base. Total weight of the series 3.25 kg



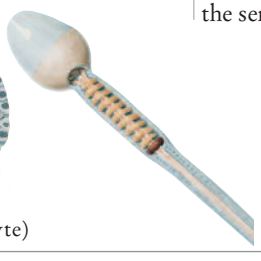
MS 46/11 - Detail: Human Embryo on the 15th day

MS 47

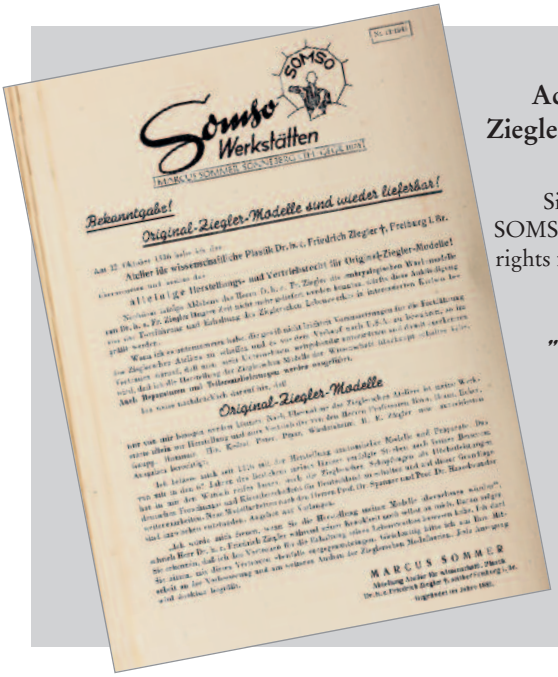
MS 47 · Fertilization and Development of the Human Ovum up to the 3rd Month

Shown by **16 models,** in **SOMSO-PLAST®.** Each model is mounted individually on a stand with green base. Total weight of the series 4 kg

MS 47/3 - Detail: female ovum (oocyte)



MS 47/1 - Detail: male germ cell



12th October 1936:

Acquisition of Dr. h.c. Friedrich Ziegler's studio for scientific plastic, Freiburg im Breisgau.

Since 1936, company Marcus Sommer SOMSO® Modelle has owned the exclusive rights for the manufacture and distribution of Original Ziegler Models.

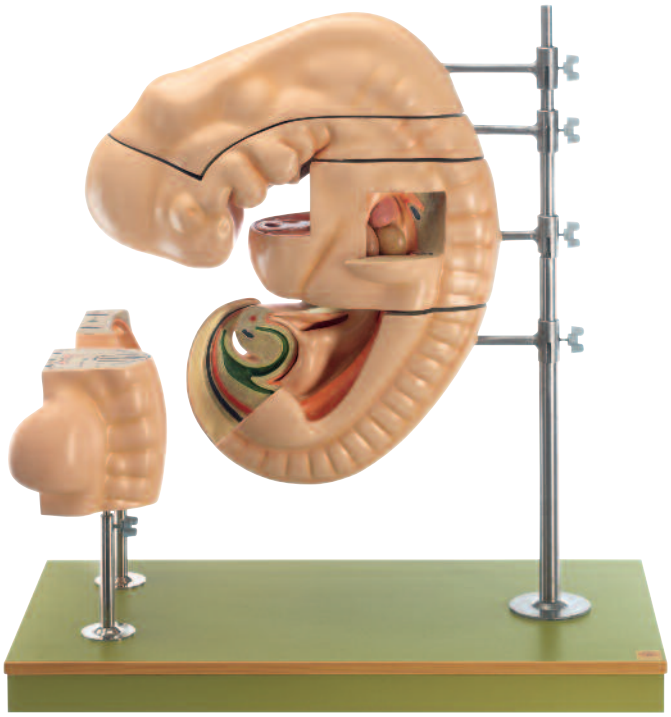
„... I would be delighted if you took over the manufacturing of my models...“
wrote Dr. h.c. Friedrich Ziegler to Marcus Sommer jnr in 1936.

This announcement that the life's work of the brothers Ziegler was going to be continued was welcomed by experts.

Embryonic Development

Nature is our Model SOMSO® Modelle

Anatomy 13

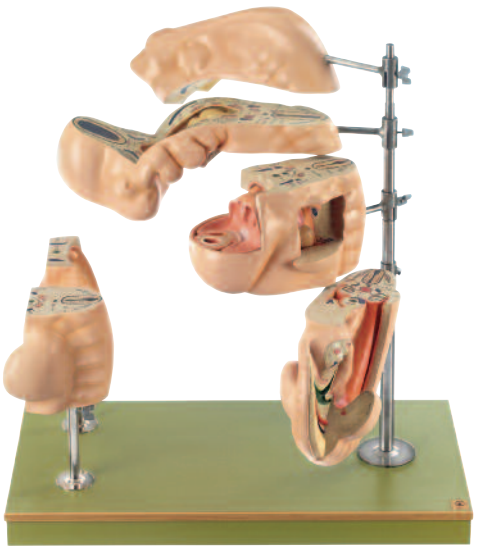


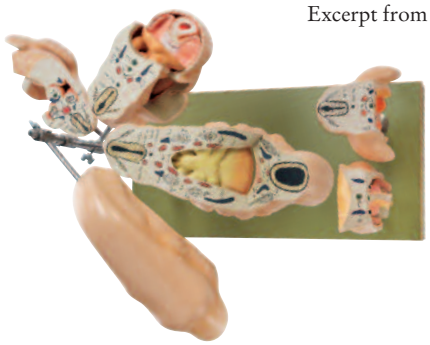
Friedrich Ziegler
Atelier für wissenschaftliche Plastik
Freiburg in Baden.

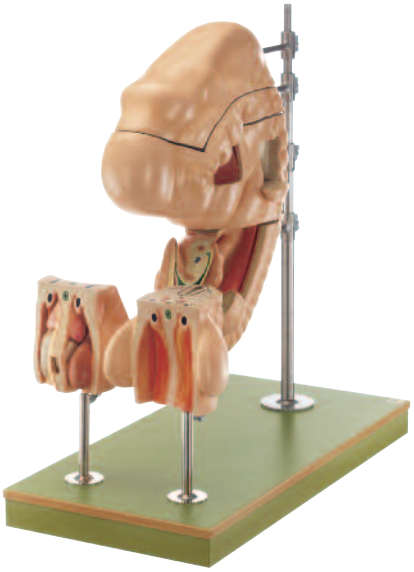
Prospectus
über die
Wachsmodelle eines menschlichen Embryo
von 6,8 mm Nackenlinie.

Nach den von Dr. Hans Piper unter Leitung von Prof. Franz Keibel gearbeiteten Plattenmodellen modelliert von Friedrich Ziegler.

Excerpt from original textbook for the Ziegler model no. 3a







M 48/3a · Model of a Human Embryo (Length 6.8 mm)

After Professor Dr. med. H. Piper. Height of the model: 45 cm (without stand). On a rotating stand with green base. Height: 67 cm, width: 60 cm, depth: 60 cm, weight: 8.3 kg

Embryonic Development

Nature is our Model SOMSO® Modelle

Anatomy 13

View of the scientific workshop of Friedrich Ziegler, portrayed in his catalogue from the 1930s.

MS 48/3-1 (without stand and base)

The models of series M 48/3, Anatomy of the Human Embryo, are also available individually:

MS 48/3-1 · Human Embryo
Approximately 28 days old, in **SOMSO-PLAST®. Enlarged 53 times.** Body opened from the side. Height: 24 cm, width: 18 cm, depth: 18 cm, weight: 750 g

MS 48/3-2 · Human Embryo
Approximately 28 days old. **Enlarged 53 times.** Body opened from the front. Height: 23.5 cm, width: 16 cm, depth: 14 cm, weight: 380 g

MS 48/3-3 · Human Embryo
Approximately 28 days old. **Enlarged 53 times.** Body seen from the dorsal side. Height: 20.5 cm, width: 16 cm, depth: 14 cm, weight: 310 g

M 48/3-4 · Human Embryo
Approximately 28 days old. **Enlarged 53 times.** Display of the tube of the internal organs. Height: 20.5 cm, width: 16 cm, depth: 14 cm, weight: 250 g

M 48/3-5 · Human Embryo
Approximately 4 weeks. **Enlarged 50 times.** Body opened from the side. Height: 29 cm, width: 16 cm, depth: 14 cm, weight: 480 g

M 48/3-6 · Human Embryo
Approximately 4 weeks. **Enlarged 50 times.** Body with opened thoracic and abdominal cavities. Height: 27 cm, width: 16 cm, depth: 14 cm, weight: 570 g

M 48/3-7 · Human Embryo
At the end of week four. **Enlarged 30 times.** Opened at the side. Height: 30 cm, width: 19 cm, depth: 18 cm, weight: 1.15 kg

M 48/3-8 · Human Embryo
At the end of week four. **Enlarged 30 times.** Opened at the side, with representation of the vascular system. Height: 29 cm, width: 20.5 cm, depth: 18 cm, weight: 1.15 kg

M 48/3 · Anatomy of Human Embryos

after original preparations by Professor Dr. med. W. His, developed by Dr. A. Ziegler, Freiburg im Breisgau. **Consisting of 8 models.** On a stand with green base. Weight 6.5 kg

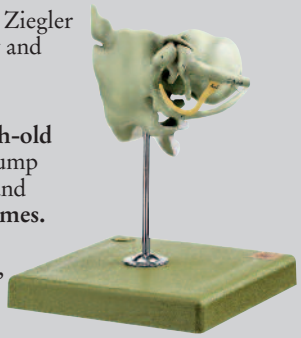
M 48/3 Series

MS 48/3-1 | M 48/3-2 | M 48/3-3 | M 48/3-4

Development of a Human Skeleton of the Head

After Professor Dr. med. Hertwig. Modelled by Friedrich Ziegler after the original preparations of the Institute of Anatomy and Biology in Berlin. Comprising:

M 48/20-1 Skeleton of the head of a three-month-old human embryo, crown-rump length: 8 cm, with larynx and hyoid bone. **Enlarged 8 times.** Mounted on a stand with green base. Height: 33 cm, width: 22 cm, depth 18 cm, weight: 850 g



M 48/20-2

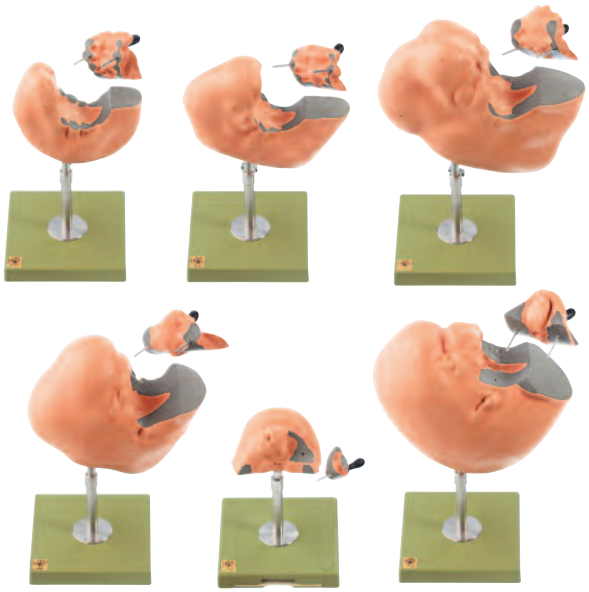
M 48/20-2 Labyrinth region of the skeleton of the head , enlarged 15 times, with the auditory ossicles, Meckel's cartilage, and the anulus tympanicus. Mounted on a stand with green base. Height: 24 cm, width: 18 cm, depth 18 cm, weight: 600 g

M 48/20-1

Embryonic Development

Nature is our Model SOMSO® Modelle

Anatomy 13



M 48 · Development of the Human Face

After Professor Dr. med. Peter. The series consists of 6 removable models showing the most important stages in the development of the human face. **Comprises 12 parts.** Each model individually mounted on a stand with green base. Weight of the series: 9.7 kg

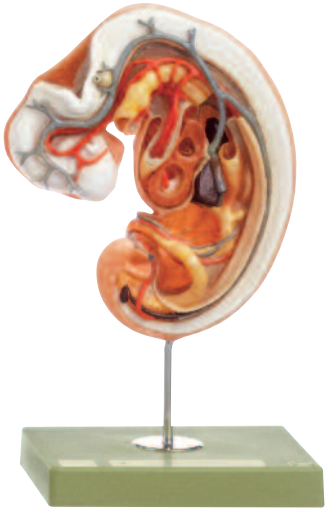
M 49 · Development of the Human Brain

After Professor Dr. med. W. His. The series consists of **8 fixed models.** Each model individually mounted on a stand with green base. Weight of the series: 10.4 kg

M 48/3-5

M 48/3-6

M 48/3-7



M 48/3-8 (For detail see page 75)

Left to right: Hans Sommer and Michael Whitebread, Director of company Adam,Rouilly Ltd., Sittingbourne, Kent at the opening of the exhibition "Leonardo da Vinci: Anatomist" at The Queen's Gallery, Buckingham Palace on 1st May 2012.

MS 4/1 · Fertilization Process

Represented by two frontal sections through the female genital organs. **Enlarged approximately twice,** in **SOMSO-PLAST®.** After an original from the Bundeszentrale fuer gesundheitliche Aufklaerung, Cologne, Rhine. **In one piece.** Mounted on a green board. Height: 32 cm, width: 90 cm, depth: 5 cm, weight: 4.2 kg

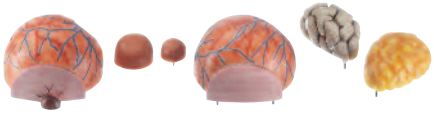
MS 47/16 · Model of the Placenta

Enlarged approximately 4 times, in **SOMSO-PLAST®.** The model shows the structure of the human placenta in half-relief, in cross section. **In one piece.** On a stand with green base. Height: 25 cm, width: 16 cm, depth: 14 cm, weight: 650 g

MS 4 dorsal view

MS 4

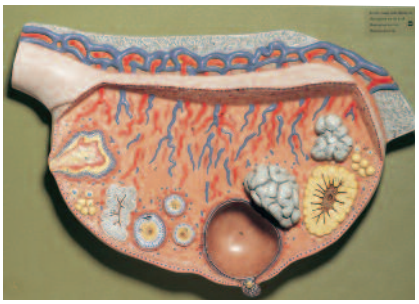
MS 47/16



MS 50 disassembled

MS 51 · Relief Model of the Ovary

Enlarged approximately 10 times, in **SOMSO-PLAST®.** Three-dimensional representation of the follicles in different stages of maturity, of the corpus rubrum, luteum, and albicans. **Cannot be disassembled.** On a green base. Height: 28 cm, width: 40 cm, depth: 8 cm, weight: 1.8 kg



MS 51

MS 4 · Female Genital Organs

Natural size, in **SOMSO-PLAST®.** Ventral and dorsal view of the internal genital organs, partly shown in section. **In one piece.** On a green base. Height: 11 cm, width: 18 cm, depth: 18 cm, weight: 500 g

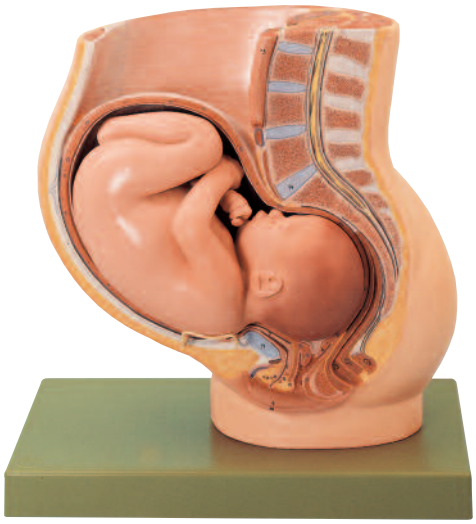
MS 50 · Model of the Ovary

Enlarged approximately 10 times, in **SOMSO-PLAST®.** The model shows a horizontal section parallel to the mesovarian margin with three-dimensional representation of the follicles in different maturation phases, the corpus rubrum, luteum, and albicans as well as atretic follicles, partly removable and exchangeable. **Separates into 13 parts.** On a stand with green base. Height: 28 cm, width: 40 cm, depth: 28 cm, weight: 3.1 kg

From 4th May until 7th October 2012, the largest collection of anatomical drawings by Leonardo da Vinci was on display at The Queen´s Gallery, Buckingham Palace.

Corresponding SOMSO® Modelle were chosen to complement many of these anatomical studies.

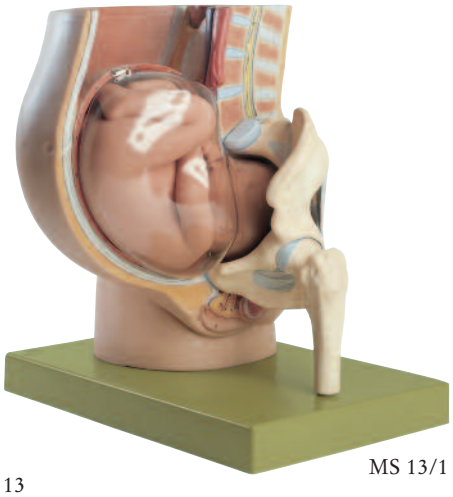
Photo:
Copyright Reserved
Royal Collection Trust ©
Her Majesty Queen Elizabeth II 2012



MS 13

MS 13 · Pelvis with Uterus in Ninth Month of Pregnancy

Natural size, in **SOMSO-PLAST®.** After Prof. Dr. med. Petry. The model shows the right half of the female pelvis in median section. Foetus can be removed. **2 parts in total,** on a green base. Height: 41 cm, width: 28 cm, depth: 40 cm, weight: 5.8 kg



MS 13/1

MS 13/1 · Pelvis with Uterus in Ninth Month of Pregnancy

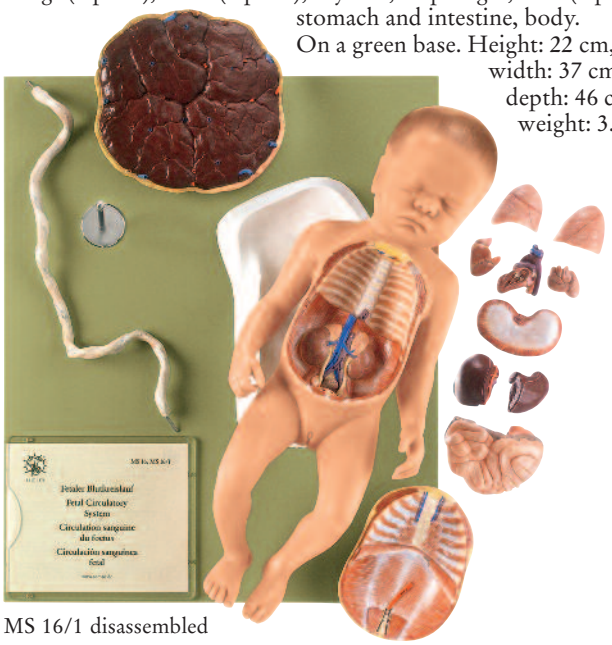
Natural size, in **SOMSO-PLAST®.** The model shows the right half of the female pelvis in median section. The left half shows the bones of the pelvis with femoral head and the transparent amniotic sac. Fetus removable. **Comprises 4 parts.** On a green base. Height: 41 cm, width: 39 cm, depth: 36 cm, weight: 6.6 kg

MS 16 · Fetal Circulatory System

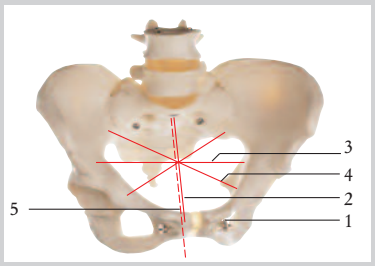
Natural size, in **SOMSO-PLAST®.** Represented on a female foetus (before birth) with umbilical cord and placenta. The thoracic and abdominal cavities as well as the heart are opened. The ductus venosus and the ductus arteriosus are shown. **Separates into 2 parts.** On a green base. Height: 48 cm, width: 30 cm, depth: 14 cm, weight: 2.85 kg

MS 16/1 · Female Fetus

Natural size, in **SOMSO-PLAST®.** The model shows a female fetus at the end of the pregnancy with placenta and umbilical cord. **Separates into 13 parts:** placenta, umbilical cord, abdominal cover, lungs (2 parts), heart (2 parts), thymus, diaphragm, liver (2 parts), stomach and intestine, body. On a green base. Height: 22 cm, width: 37 cm, depth: 46 cm, weight: 3.8 kg



MS 16/1 disassembled

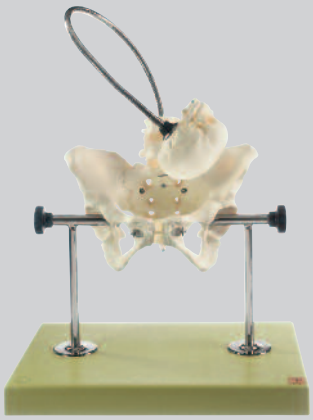


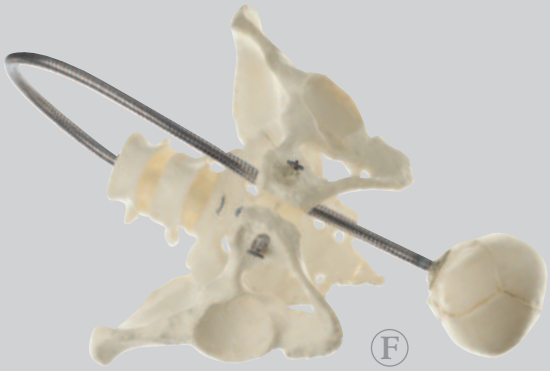
Birth

Nature is our Model SOMSO® Modelle

Anatomy 13

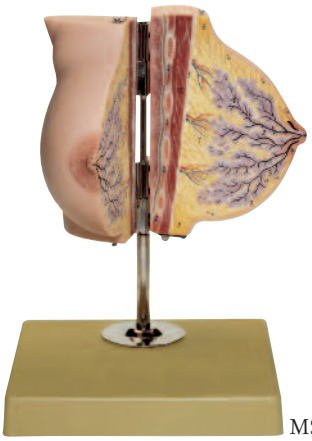
Dimensions of the female pelvis:
1 - Linea terminalis 37.9 cm
2 - Conjugata vera 11 cm
3 - Diameter transversa 13.2 cm
4 - Diameter obliqua 12.2 cm
5 - Conjugata diagonalis 12 cm





MS 21 · Obstetric Phantom

Natural size, in **SOMSO-PLAST®.** Model of the female pelvic bones (mounted and movable) and a fetal skull (size of the head 29.8 cm) attached by a flexible metal rod. On a stand with green base. Height: 42 cm, width: 39 cm, depth: 26 cm, weight: 3 kg



MS 7

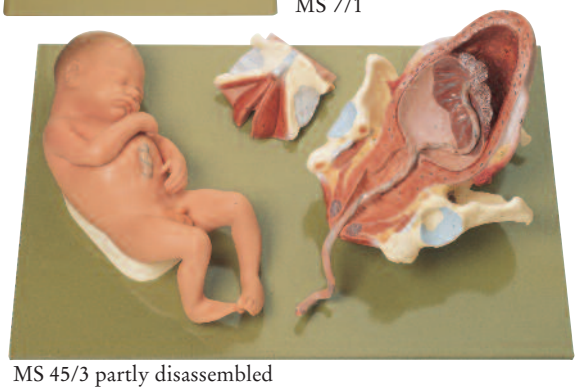
MS 7 · Mammary Gland in Resting Position

Somewhat enlarged, in **SOMSO-PLAST®.** After Prof. Dr. med. Petry. **Separates into 2 halves.** On a stand with green base. Height: 25.5 cm, width: 18 cm, depth: 18 cm. weight: 950 g

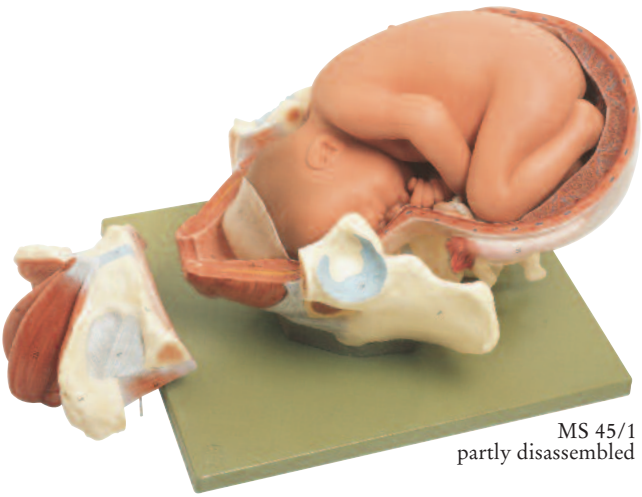
MS 7/1

MS 7/1 · Mammary Gland of a Breastfeeding Woman

Somewhat enlarged, in **SOMSO-PLAST®.** After Prof. Dr. med. Petry. **Separates into 2 halves.** On a stand with green base. Height: 31 cm, width: 18 cm, depth: 20 cm, weight: 1.35 kg



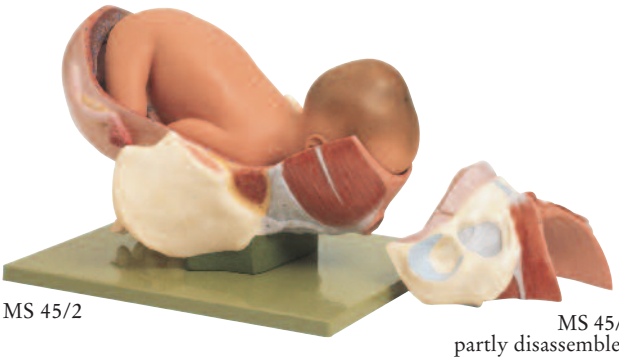
MS 45/3 partly disassembled



MS 45/1
partly disassembled

MS 45/1 · Birth - First Stage

Natural size, in **SOMSO-PLAST®.** The model shows the beginning of the birth process. Representation of the amniotic sac. **Separates into 3 parts.** On a green base. Height: 27 cm, width: 39 cm, depth: 28 cm, weight: 3.9 kg



MS 45/2

MS 45/2
partly disassembled

MS 45/2 · Birth - Second Stage

Natural size, in **SOMSO-PLAST®.** The model shows the birth process. Crowning of the head and presentation of the birth swelling. **Separates into 3 parts.** On a green base. Height: 26 cm, width: 39 cm, depth: 38 cm, weight: 3.45 kg

MS 45/3 · Birth - Third Stage

Natural size, in **SOMSO-PLAST®.** The model shows the new-born child, before it takes its first breath. In the uterus, the beginning of the afterbirth is shown. **Separates into 3 parts.** On a green base. Height: 21 cm, width: 61 cm, depth: 38 cm, weight: 5.1 kg

MS 52 · Nursing Baby, Female

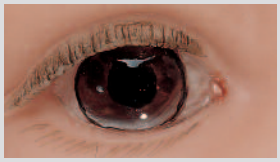
Corresponding to the size and weight of an approximately 6-week-old baby, in **soft SOMSO-PLAST®.** With ball joints, head moves easily and tilts backwards. Painted eyes. A perfect combination doll for bathing, dressing practice, and nursing exercises. Nose and ears are open, as the anus to insert a thermometer. Undressed. Size of the head 35.8 cm, length: 54 cm, weight: 3.3 kg

Ⓕ MS 52

Baby Care

Nature is our Model SOMSO® Modelle

Anatomy 13



1. Eye colours are available for the SOMSO® Nursing Babies MS 52 and MS 53 to special order.

2. The models MS 52 and MS 53 are available with an open or closed mouth.

3. There is a realistic auditory canal for ear care.

4. The models MS 52, MS 53, MS 57, MS 58, MS 59, MS 60, and MS 61 have soft and movable arms and legs.

5. Each baby has its own SOMSO® serial number for easy identification

MS 33/E · Doll for Baby Care

In **SOMSO-PLAST®.** Ball joints allow natural movement of the head, arms, and legs; with anus. Suitable for bathing, changing nappies, and practising holding. With brown artificial eyes. Undressed. Head circumference: 36 cm, length: 49 cm, weight: 3.1 kg

MS 33/E-B · Doll for Baby Care

As MS 33/E, with black skin colour.

MS 52/1 · Nursing Baby, Female

As MS 52, but with umbilical cord.

MS 52/A · Nursing Baby, Female

As MS 52, but an Asian Nursing Baby. Head circumference 35.8 cm, length: 54 cm, weight: 3.3 kg

MS 52/B · Nursing Baby, Female

As MS 52, with black skin colour. Head circumference 35.8 cm, length: 54 cm, weight: 3.3 kg

MS 53 · Nursing Baby, Male

As MS 52, but male. Head circumference 35.4 cm, length: 54 cm, weight: 3.5 kg

MS 53/1 · Nursing Baby, Male

As MS 53, but with umbilical cord. (Not illustrated)

MS 53/A · Nursing Baby, Male

As MS 53, but an Asian Nursing Baby. (Not illustrated)

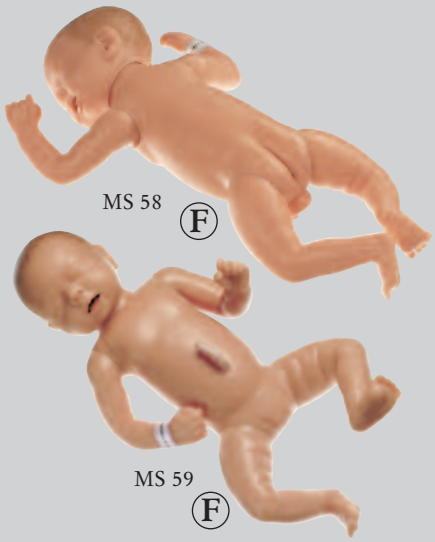
MS 53/B · Nursing Baby, Male

As MS 53, with black skin colour. (Not illustrated)

Baby Care

Nature is our Model SOMSO® Modelle

Anatomy 13



MS 58 Ⓕ

MS 59 Ⓕ

MS 58 · Newborn Baby, Male

In **soft SOMSO-PLAST®.**
With ball joints; head moves easily and tilts backwards. With open mouth, umbilical cord, and anus. Suitable for bathing, changing nappies, and practising holding. Undressed. Head circumference: 34 cm, length: 46 cm, weight: 2.2 kg

MS 59 · Newborn Baby, Female

In **soft SOMSO-PLAST®.**
With ball joints, head moves easily and tilts backwards. With open mouth, umbilical cord, and anus. For bathing, dressing practice, and nursing exercises. Undressed. Head circumference: 34 cm, length: 46 cm, weight: 2.2 kg

With order no. MS 58/B and MS 59/B, also available with black skin colour

MS 43 · Doll for Baby Care

Corresponding to the size and weight of a 6-week-old female baby, in **SOMSO-PLAST®.** Suitable for bathing in warm water. With ball joints, allowing natural movement of head, arms, and legs. Undressed. Head circumference: 38.9 cm, length: 56 cm, weight: 3.6 kg

MS 43/B · Doll for Baby Care

As MS 43, with black skin colour

MS 43 Ⓕ

MS 43/B Ⓕ

MS 43/3 B Ⓕ

MS 43/3 Ⓕ

MS 43/3 · Doll for Baby Care

As MS 43, **but corresponding to the size and weight of a 6-week-old male infant,** in **SOMSO-PLAST®.** Head circumference: 38.9 cm, length: 56 cm, weight: 3.3 kg

MS 43/3 B · Doll for Baby Care

As MS 43/3, with black skin colour.

MS 57 · Newborn Baby, Female

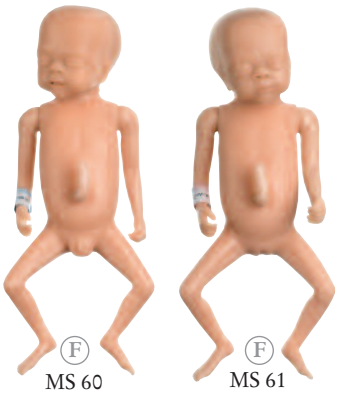
In **soft SOMSO-PLAST®.** With ball joints, head moves easily and tilts backwards. For bathing, dressing practice, and nursing exercises. Undressed. Head circumference: 32.6 cm, length: 45 cm, weight: 2 kg

MS 57/B · Newborn Baby, Female

As MS 57, with black skin colour.

MS 57 Ⓕ

Ⓕ MS 57/B



MS 60 Ⓕ

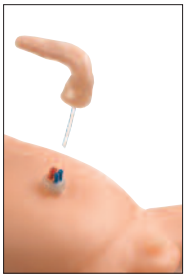
MS 61 Ⓕ

MS 60 · Premature Baby, Male

Corresponds approximately to a baby in 27th week of pregnancy.
In **soft SOMSO-PLAST®.**
With movable head and arms. Undressed. Head circumference: approximately 25.5 cm, length: approximately 35.5 cm, weight: 710 g

MS 61 · Premature Baby, Female

Corresponds approximately to a baby in 27th week of pregnancy.
In **soft SOMSO-PLAST®.**
With movable head and arms. Undressed. Head circumference: approximately 25.5 cm, length: approximately 35.5 cm, weight: 690 g



MS 60 and MS 61 Umbilical cord detail

NS 45 Section of the Hand (see catalogue pages 92 and 93)

NS 43 · Section through the Knee Joint

Natural size, in **SOMSO-PLAST®.** Sagittal section. **In one piece.** Height: 26 cm, width: 32 cm, depth: 4 cm. weight: 800 g

NS 44 · Section through the Hip Joint

Natural size, in **SOMSO-PLAST®.** Frontal section. **In one piece.** Height: 26 cm, width: 32 cm, depth: 4 cm, weight: 850 g

NS 45 · Section through the Hand

Natural size, in **SOMSO-PLAST®.** Sagittal section. **In one piece.** Height: 26 cm, width: 32 cm, depth: 4 cm, weight: 800 g

(illustration NS 43 - NS 48 see page 93)

NS 46 · Section through the Elbow Joint

Natural size, in **SOMSO-PLAST®.** Sagittal section. **In one piece.** Height: 26 cm, width: 32 cm, depth: 4 cm, weight: 790 g

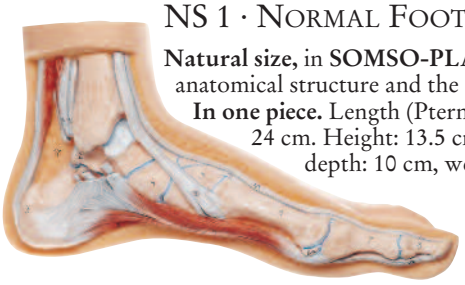
NS 47 · Section through a Normal Foot

Natural size, in **SOMSO-PLAST®.** Sagittal section. **In one piece.** Height: 26 cm, width: 32 cm, depth: 4 cm, weight: 800 g

NS 48 · Section through the Shoulder Joint

Natural size, in **SOMSO-PLAST®.** Frontal section. **In one piece.** Height: 26 cm, width: 32 cm, depth: 4 cm, weight: 800 g

NS 1 · Normal Foot

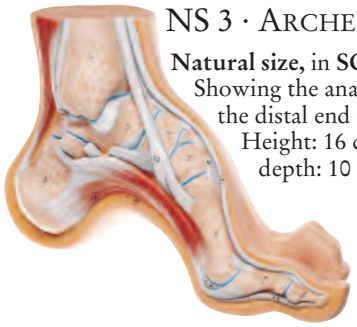


Natural size, in **SOMSO-PLAST®.** Showing the anatomical structure and the distal end of tibia. **In one piece.** Length (Pternion-Akropodion): 24 cm. Height: 13.5 cm, width: 26 cm, depth: 10 cm, weight: 450 g

NS 2 · Flat Foot

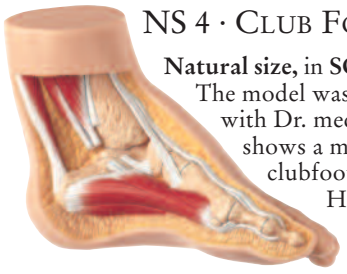
Natural size, in **SOMSO-PLAST®.** Showing the anatomical structure and the distal end of tibia. **In one piece.** Height: 13 cm, width: 26 cm, depth: 10 cm, weight: 420 g

NS 3 · Arched Foot



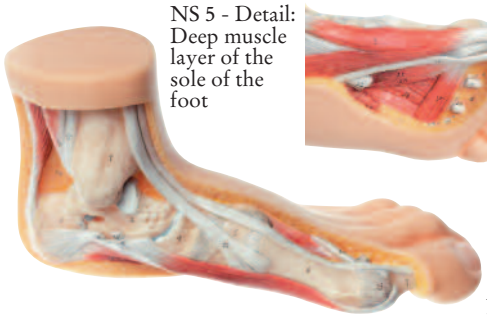
Natural size, in **SOMSO-PLAST®.** Showing the anatomical structure and the distal end of tibia. **In one piece.** Height: 16 cm, width: 24 cm, depth: 10 cm, weight: 470 g

NS 4 · Club Foot



Natural size, in **SOMSO-PLAST®.** The model was developed in co-operation with Dr. med. Urs Schneider. The model shows a medially exposed, primary clubfoot of an adult. **In one piece.** Height: 13 cm, width: 21 cm, depth: 10.5 cm, weight: 400 g

NS 5 - Detail: Deep muscle layer of the sole of the foot



NS 5

NS 5 · Hallux valgus model

Natural size, in **SOMSO-PLAST®.** The model was developed in co-operation with Dr. med. Urs Schneider. The acquired hallux valgus as an accompanying aspect of the pes transversoplanus or the pes valgus, planus, and transversoplanus is a common orthopaedic cluster of symptoms. **In one piece.** Height: 13 cm, width: 25 cm, depth: 10 cm, weight: 510 g

NS 7 · Normal Foot

Natural size, in **SOMSO-PLAST®.** Showing the surface muscles. **In one piece.** On a stand with green base. Height: 30 cm, width: 32 cm, depth: 18 cm, weight: 1.05 kg

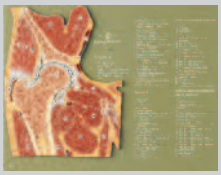
NS 7

NS 8

NS 8 · Normal Foot

Natural size, in **SOMSO-PLAST®.** Sagittal section through the inside of the foot. Showing the surface muscles at the right half of the foot. **In one piece.** On a stand with green base. Height: 35 cm, width: 25 cm, depth: 18 cm, weight: 1 kg


NS 43


NS 44


Detail: see page 91

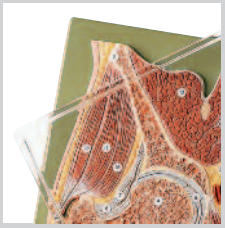
NS 45


NS 46


NS 47


NS 48

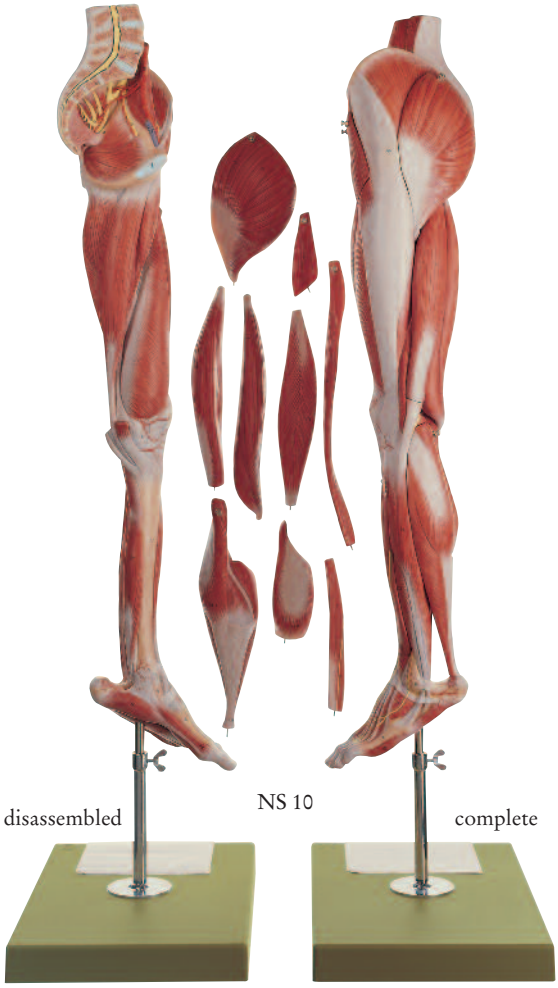
Sections of joints in **SOMSO-PLAST®**, in a series of models NS 43 – NS 48. Cast from natural bone sections with topography of muscles, ligaments, vessels, and nerves. Each with explanation on the green board. Under removable transparent cover.
(text information NS 43 - NS 48 see page 92)


Detail: transparent cover

Extremities and Joints

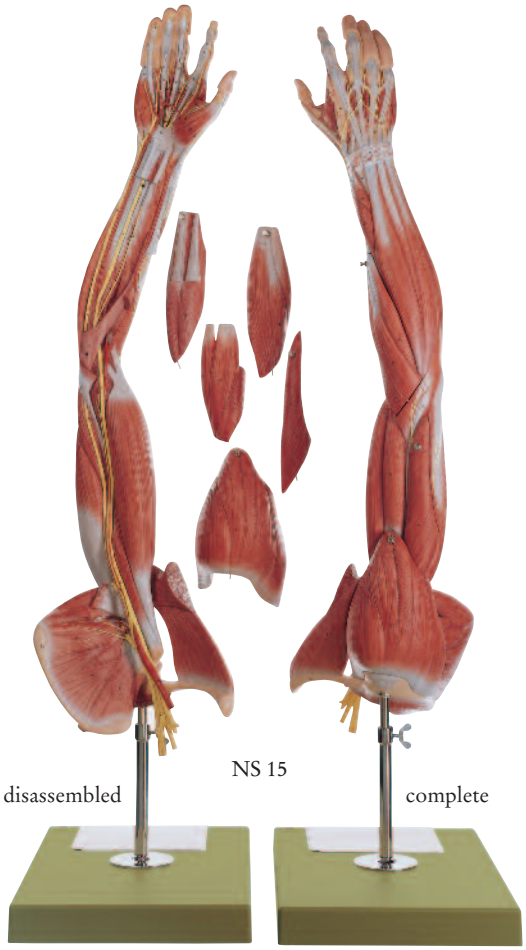
Nature is our Model SOMSO® Modelle

Anatomy 14



NS 10 · Muscles of the Leg with Base of Pelvis

Slightly smaller than natural size, in **SOMSO-PLAST®.** Showing the most important blood vessels and nerves in the left leg. **Separates into 10 parts.** The following muscles are removable: greater gluteal muscle, tensor muscle of the broad fascia, sartorius muscle, straight muscle of the femur, semimembranosus muscle, semitendinosus muscle, biceps muscle of the femur, digitorum longus muscle, triceps muscle of the calf. Mounted upright on a stand with green base. Height: 109 cm, width: 39 cm, depth: 26 cm, weight: 5.2 kg



NS 15 · Muscles of the Arm with Shoulder Girdle

Natural size, in **SOMSO-PLAST®.** Showing the network of blood vessels and nerves in the right arm. **Separates into 6 parts.** The following muscles are removable: deltoid muscle, lateral head of the triceps muscle of the arm, short and long extensor muscle of the radial wrist with brachioradial muscle, round pronator muscle - flexor muscle of the radial wrist - long palmar muscle, superficial flexor muscle of the fingers. Mounted upright on a stand with green base. Height: 105 cm, width: 39 cm, depth: 26 cm, weight: 4.83 kg

Extremities and Joints

Nature is our Model SOMSO® Modelle

Anatomy 14

The advantages of SOMSO® functional models NS 50 - NS 55:

1. Authentic reproduction of articulation
2. High-quality, durable, and flexible plastic for the ligaments
3. Screw connections used where possible (with the exception of NS 54 and NS 55)
4. Easy to handle when removed from the stand
5. Description key under the base
6. 5-year warranty (proper use provided)

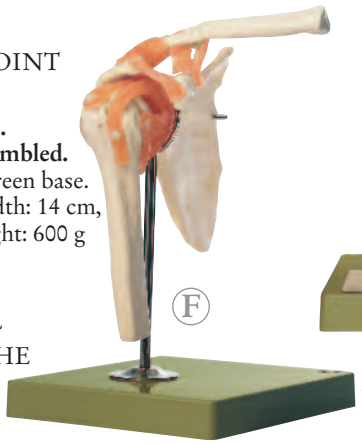
NS 17 · Shoulder Joint

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a stand with green base. Height: 23 cm, width: 14 cm, depth: 16 cm, weight: 600 g

NS 17

NS 53 · Functional Model of the Shoulder Joint

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a removable stand with green base. Height: 27.5 cm, width: 19 cm, depth: 18 cm, weight: 1 kg



NS 53

NS 18 · Elbow Joint

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a green base. Height: 23 cm, width: 14 cm, depth: 16 cm, weight: 300 g

NS 18

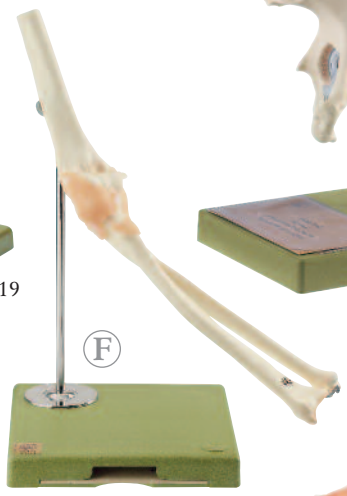
NS 52 · Functional Model of the Elbow Joint

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a removable stand with green base. Height: 35 cm, width: 24 cm, depth: 19 cm, weight: 800 g

NS 19 · Knee Joint

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a green base. Height: 24 cm, width: 14 cm, depth: 16 cm, weight: 620 g

NS 19



NS 52

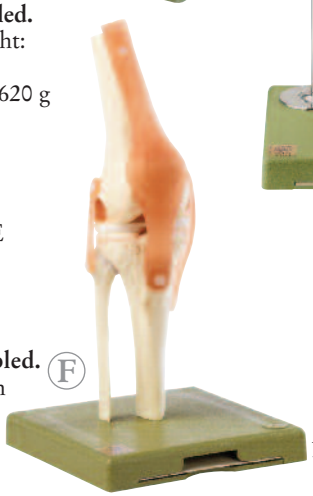
NS 20

NS 20 · Hip Joint

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a green base. Height: 28 cm, width: 18 cm, depth: 18 cm, weight: 800 g

NS 50 · Functional Model of the Knee Joint

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a removable green base. Height: 35 cm, width: 18 cm, depth: 18 cm, weight: 1 kg



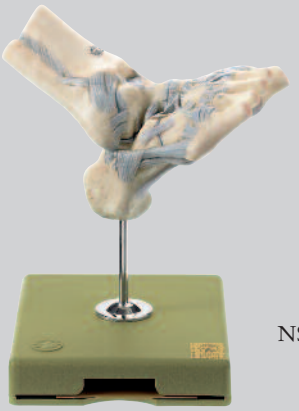
NS 50

NS 51

NS 51 · Functional Model of the Hip Joint

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a removable stand with green base. Height: 37 cm, width: 19 cm, depth: 18 cm, weight: 1.25 kg

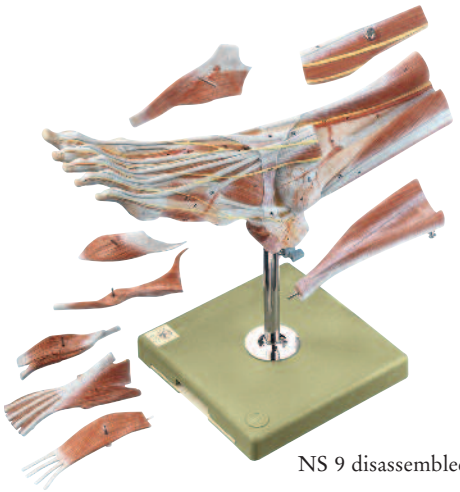
NS 37 disassembled



NS 37 frontal view

NS 37 · Ligaments of the Ankle with Open Talonavicular Joint

To show the deep-set ligaments. **Modelled according to nature,** in **SOMSO-PLAST®. Separates into 2 parts.** Height: 22.5 cm, width: 14 cm, depth: 19 cm, weight: 650 g

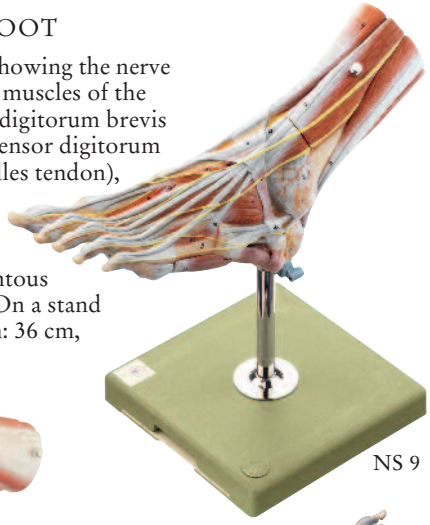


NS 9 disassembled

NS 9 · Muscles of the Foot

Natural size, in **SOMSO-PLAST®.** Showing the nerve and vascular supply. The layers of the muscles of the sole of the foot are removable (flexor digitorum brevis muscle, quadratus plantae muscle, extensor digitorum longus muscle, tendo calcaneus (Achilles tendon), abductor digiti minimi muscle, flexor hallucis brevis muscle, adductor hallucis muscle (oblique head), and abductor hallucis muscle. The ligamentous apparatus is shown. **9 parts in total.** On a stand with green base. Height: 31 cm, width: 36 cm, depth: 18 cm, weight: 1.45 kg

NS 9 - Sole of the foot



NS 9

NS 54

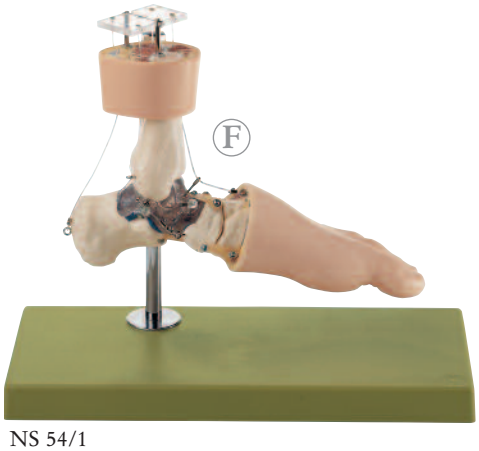
NS 54 · Functional Model of the Joints of the Foot

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a stand with green base (removable). Height: 28 cm, width: 28 cm, depth: 18 cm, weight: 810 g

NS 21 · Ankle Joints with Ligaments

Natural size, in **SOMSO-PLAST®.** Consisting of the bones of the foot and the lower part of the lower leg with ligamentous apparatus. **Cannot be disassembled,** on a stand with green base. Height: 29 cm, width: 18 cm, depth: 24 cm, weight: 750 g

NS 21



NS 54/1

NS 54/1 · Functional Model of the Tarsus

Natural size, in **SOMSO-PLAST®.** The model was developed in co-operation with Dr. med. Urs Schneider. This model shows the semiquantitative displacement of the individual tarsal bones during the transition from a neutral position of the non-weight-bearing foot to inversion and eversion. This is intended to provide an insight into the movement of the foot under physiological and pathological conditions. On a stand with green base. Height: 23 cm, length: 33.5 cm, depth: 15 cm, weight: 1.45 kg

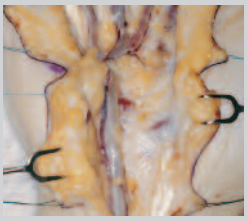
Extremities and Joints

Nature is our Model SOMSO® Modelle

Anatomy 14

Dr. med. Niels Benatar assessing model NS 13/1, together with Rudolf Galle from the SOMSO® Department of Development


1.



Opened Guyon's canal and palm, with ulnar nerve and artery, which form the superficial palm arch.


2.

Opened carpal tunnel with severely compromised median nerve.

NS 13/1 - Detail images:
1. M. Dupuytren (Dupuytren´s Disease)
2. N. medianus (Carpal tunnel syndrome)

Illustrations of surgical steps, courtesy of Dr. med. Niels Benatar


NS 13/1


NS 13/1 disassembled (in the same way as NS 13/1-E)


NS 13/1-E

NS 13/1 · Surgical Hand Model

Natural size, in **SOMSO-PLAST®.** After Dr. med. Niels Benatar. **The model comprises 8 parts, which can be disassembled.** Natural colours are used throughout, allowing the muscles, tendons, blood vessels, and nerves to appear as they would in a bloodless field during surgery. Interchangeable parts include typical pathological findings in carpal tunnel syndrome, trigger finger, and Dupuytren's Disease. On a stand with green base. Height: 33.5 cm, width: 18 cm, depth: 18 cm, weight: 850 g

NS 13/1-E · Surgical Hand Model in a didactic Colour-Scheme

Natural size, in **SOMSO-PLAST®.** After Dr. med. Niels Benatar. **The model comprises 8 parts, which can be disassembled.** Interchangeable parts include typical pathological findings in carpal tunnel syndrome, trigger finger, and Dupuytren's Disease. On a stand with green base. Height: 33.5 cm, width: 18 cm, depth: 18 cm, weight: 850 g

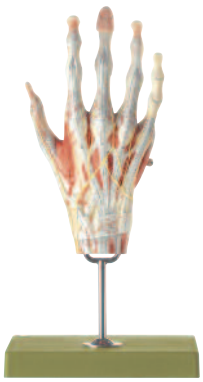

NS 21/1


NS 55

NS 13 · Muscles of the Hand with Base of the Forearm

Natural size, in **SOMSO-PLAST®.** Showing the blood vessels and nerves as well as the ligamentous apparatus. **Separates into 5 parts in total.** On a stand with green base. Height: 33.5 cm, width:14 cm, depth: 16 cm, weight: 720 g


NS 13 disassembled

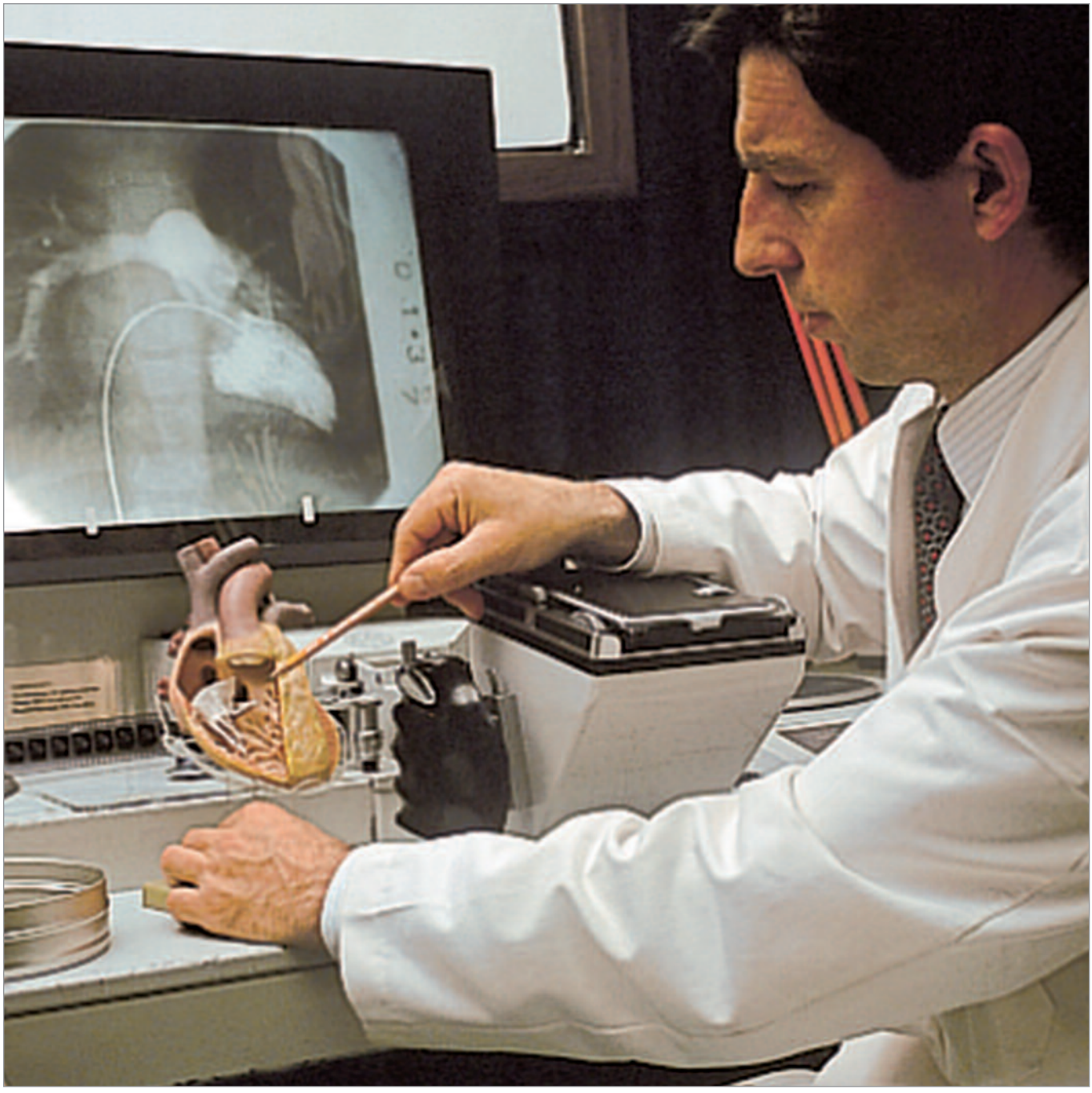

NS 13

NS 21/1 · Joints of Hand and Fingers with Ligaments

Natural size, in **SOMSO-PLAST®. In one piece,** on a stand with green base (removable). Height: 37 cm, width: 14 cm, depth: 16 cm, weight: 850 g

NS 55 · Functional Model of the Hand and Finger Joints

Natural size, in **SOMSO-PLAST®. Cannot be disassembled.** On a stand with green base (removable). Height: 39 cm, width: 18 cm, depth: 18 cm, weight: 600 g



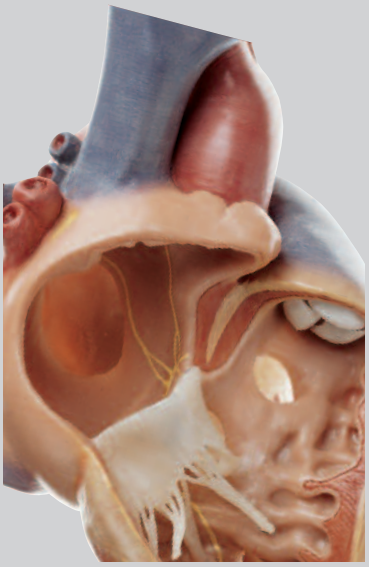
Pathological Collections

Nature is our Model SOMSO® Modelle

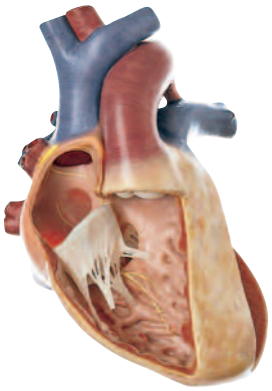
Anatomy 15

An exceptional medium for understanding congenital organic heart diseases:

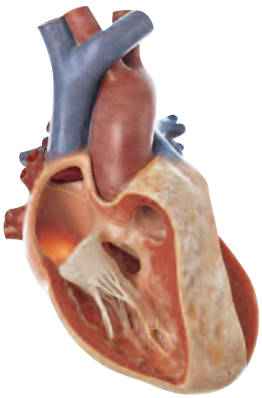
- For the education and further training of doctors, nurses, and students.
- For training specialists in cardiology and cardiac surgery.
- Four ideal models for basic medical training, clinical training, nursing schools, and patient information.



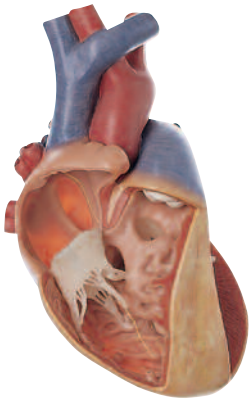
Detail OS 7/3: tricuspid valve



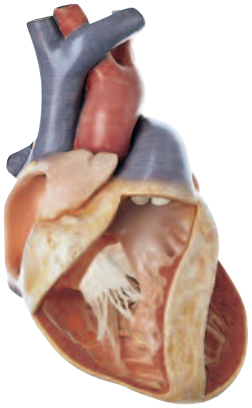
OS 7/1



OS 7/2



OS 7/3



OS 7/4

OS 7/1 · Transposition of Large Vessels

With defect of atrium and ventricular septum, Ductus Botalli. **Enlarged approximately 3 times,** in **SOMSO-PLAST®.** The typical feature of this congenital anomaly is that the aorta originates from the anterior (right) cardiac chamber (ventricle). **In one piece.** Removable from green base. Height: 20 cm, width: 14 cm, depth: 16 cm, weight: 700 g

OS 7/2 · Fallot's Tetralogy

Enlarged approximately 3 times, in **SOMSO-PLAST®.** This congenital heart defect is characterised by stenosis of the pulmonary valve and the outflow tract (infundibulum) of the right ventricle. **In one piece.** Removable from green base. Height: 20 c., width: 14 cm, depth: 16 cm, weight: 700 g

OS 7/3 · Various Defects of the Ventricular Septum

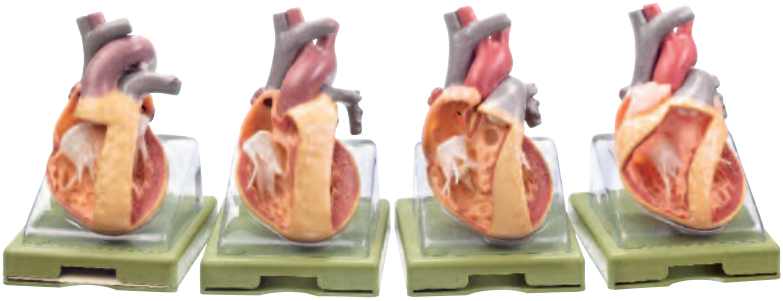
Enlarged approximately 3 times, in **SOMSO-PLAST®.** The most common defect of the ventricular septum is in the so-called membranous septum, i.e. in the upper part of the ventricular septum under the tricuspid valve. **In one piece.** Removable from green base. Height: 20 cm, width: 14 cm, depth: 16 cm, weight: 700 g

OS 7/4 · Total Atrioventricular Canal

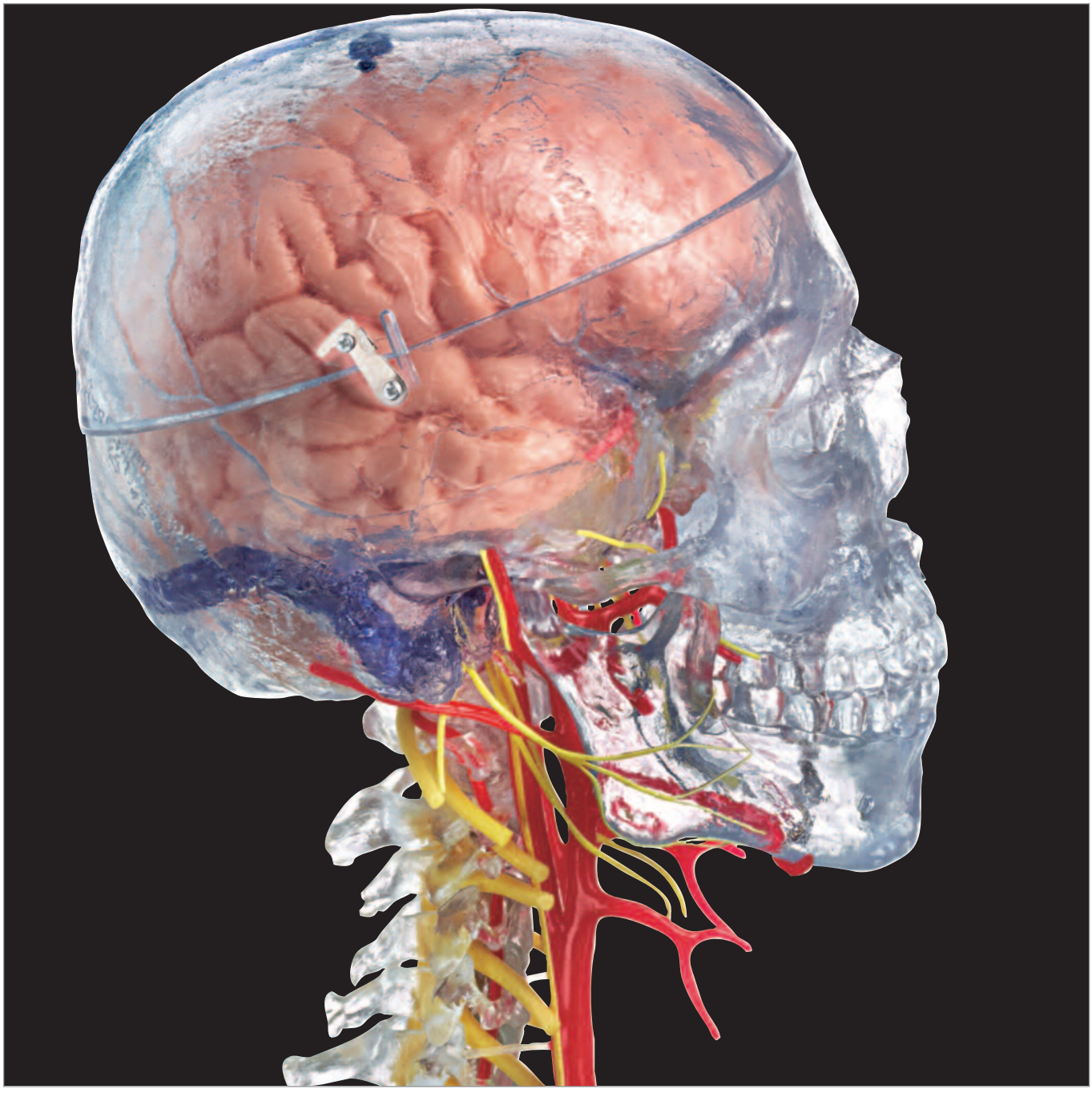
Enlarged approximately 3 times, in **SOMSO-PLAST®.** In the case of this rare congenital anomaly of the atrial and ventricular septum, there is a defect in every septum and the atrioventricular valve is not formed normally. **In one piece.** Removable from green base. Height: 20 cm, width: 14 cm, depth: 16 cm, weight: 650 g

OS 7 · Series of Models Representing Congenital Organic Heart Diseases

in **SOMSO-PLAST®. Comprises 4 individual models.** Description as for OS 7/1 to OS 7/4. A series of models representing congenital heart defects developed in co-operation with Prof. Dr. Meisner of the German Heart Centre, Munich. Weight: 2.75 kg



QS 65/7 Neuroanatomy Head Model (see catalogue page 100)



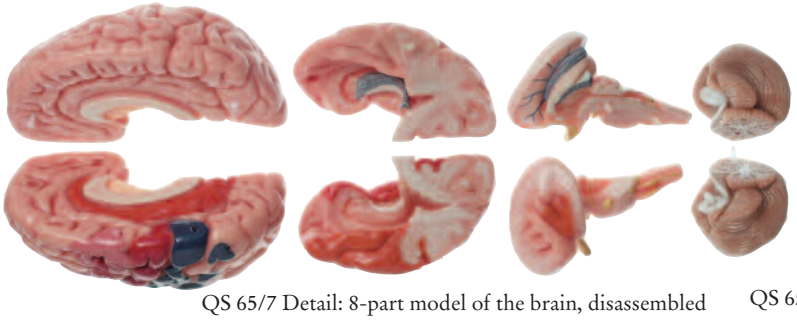
SOMSO® philosophy of employee training

SOMSO® Modelle are mainly made by hand and within the framework of continuous training of the next generation by experienced employees who pass on their wealth of outstanding performance and craft skills acquired over decades.

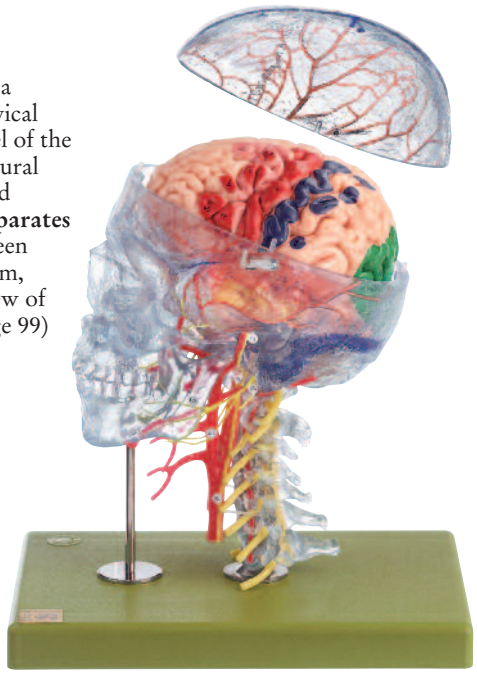
QS 65/7 Detail: Base of the skull from the inside

QS 65/7 · Neuroanatomy Head Model

Modelled according to nature, in **SOMSO-PLAST®.** Comprises a transparent human skull with cervical vertebral column and 8 part model of the brain with indicated cytoarchitectural areas. Shows the cranial nerves and the arterial network of vessels. **Separates into 10 parts.** On a stand with green base. Height: 29.5 cm, width: 18 cm, depth: 26 cm, weight: 2.28 kg (View of the right half of the model see page 99)



QS 65/7 Detail: 8-part model of the brain, disassembled



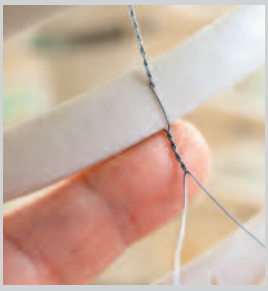
QS 65/7

QS 65/6 Detail: Base of the skull from the inside

QS 65/6

QS 65/6 · Artificial Base of Skull with Arteries

Modelled according to nature, in **SOMSO-PLAST®.** Comprises: base of skull, mandible, and cervical vertebrae with nerves. Representation of cervical arteries with internal passage through the base of skull with emphasis on basilar artery with complete circle of Willis. **In one piece.** Movable. On a stand with green base. Height: 27 cm, width: 18 cm, depth: 20 cm, weight: 1.2 kg



Artisan craftsmanship, in symbiosis with modern technology, perfects every model. SOMSO® models therefore have got the unique single piece character of a manufacture.

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

QS 7/20 · Artificial Male Human Skull with 8-part Brain

Modelled according to nature, in **SOMSO-PLAST®.** The model of the brain **can be disassembled** as follows: frontal and parietal lobes (2 parts), temporal and occipital lobes (2 parts), brain stem (2 parts), cerebellum (2 parts). Model of the skull **separates into 3 parts:** Calvarium, base of the skull, and mandible are mounted flexibly, weight: 1.6 kg

QS 7/20 partly disassembled

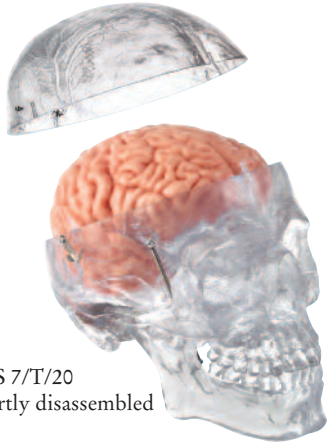
QS 7/20 disassembled

QS 7/20

QS 7/T/20 disassembled

QS 7/T/20

Skull dimensions see information page 111



QS 7/T/20 partly disassembled

QS 7/T/20 · Artificial Transparent Male Human Skull with 8-part Brain

Modelled according to nature, in **SOMSO-PLAST®.** The model of the brain **can be disassembled** as follows: frontal and parietal lobes (2 parts), temporal and occipital lobes (2 parts), brain stem (2 parts), cerebellum (2 parts). Model of the skull **separates into 3 parts:** Calvarium, base of the skull, and mandible are mounted flexibly, weight: 1.6 kg

QS 7 · Artificial Human Skull

Modelled according to nature, in **SOMSO-PLAST®,** calvarium can be removed, movable lower jaw. Lifelike reproduction of the bony skull, **separates into 3 parts.** Weight: 840 g

Detail: Numbering

QS 7/1 · Artificial Human Skull

Modelled according to nature, in **SOMSO-PLAST®.** Same specification as QS 7, but with numbering, **separates into 3 parts.** Weight: 840 g

QS 3/3

QS 3/3 · Artificial Skull of a Fetus

Modelled according to nature, in **SOMSO-PLAST®. Separates into 2 parts.** Circumference: 29.7 cm, weight: 160 g

QS 3/2

QS 3/2 · Artificial Skull of Child (About 6 Years Old)

Modelled according to nature, in **SOMSO-PLAST®. Separates into 2 parts.** Circumference: 44 cm, weight: 420 g

QS 3

QS 3 · Artificial Skull of a Newborn

Modelled according to nature, in **SOMSO-PLAST®.** Upper and lower jaw are open. **Separates into 2 parts.** Circumference: 33.9 cm, weight: 250 g

QS 1

QS 1 · Artificial Human Skull

Modelled according to nature, in **SOMSO-PLAST®.** With closed calvarium, movable lower jaw. **Separates into 2 parts.** Weight: 720 g

QS 3/E

QS 3/E · Artificial Skull of a Newborn

Modelled according to nature, in **SOMSO-PLAST®. Separates into 2 parts.** Circumference: 33.9 cm, weight: 180 g

QS 3/E Detail: Fontanelle

QS 7/E

QS 7/E · Artificial Human Skull

Modelled according to nature, in **SOMSO-PLAST®,** calvarium can be removed, movable lower jaw, **separates into 3 parts.** Weight: 840 g

QS 3/2-E

QS 3/2-E · Artificial Skull of Child (About 6 Years Old)

Modelled according to nature, in **SOMSO-PLAST®. 2 parts in total.** Circumference: 44 cm, weight: 470 g

Dimensions of the adult skulls see information page 111

Detail: Base of the skull

QS 2/1

QS 2/1 disassembled

QS 2/1 · Artificial Human Skull

Modelled according to nature, in **SOMSO-PLAST®.** Same specification as QS 2 but with numbering. **Separates into 3 parts.** Weight: 840 g

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

QS 2

QS 2 · Artificial Human Skull

Modelled according to nature, in **SOMSO-PLAST®.** Removable calvarium. Lower jaw is movable and modelled to show the roots of the teeth and their network of vessels. Base of the skull and calvarium with markings in colour of the venous sinus of the dura mater of the brain and the arteries. **Separates into 3 parts.** Weight: 840 g

QS 7/6

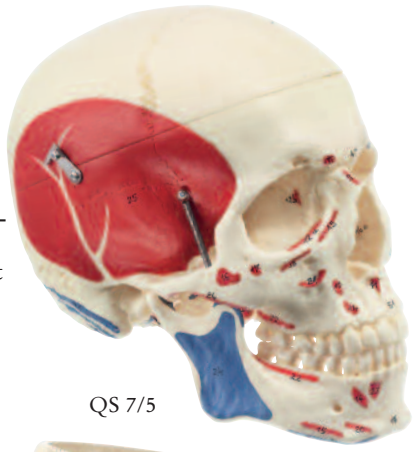
Skull dimensions see information page 111

QS 7/6 · Artificial Human Skull, Female

Modelled according to nature, in **SOMSO-PLAST®.** Removable calvarium. Lower jaw movable. Life-like reproduction of the bone structure. **Separates into 3 parts.** Weight: 840 g

QS 7/5 · Artificial Human Skull

Modelled according to nature, in **SOMSO-PLAST®.** As QS 7/1, but showing the areas of origin and insertion of the most important muscles of the head. **Separates into 3 parts.** Weight: 840 g



QS 7/5

QS 7/7

QS 7/7 · Artificial Human Skull

As QS 7, but without teeth (skull of an old man). **Separates into 3 parts.** Weight: 680 g

QS 7/2

QS 7/2 · Artificial Base of the Skull

Modelled according to nature, in **SOMSO-PLAST®.** Designed for medical students. **In one piece.** Weight: 550 g

QS 7/T

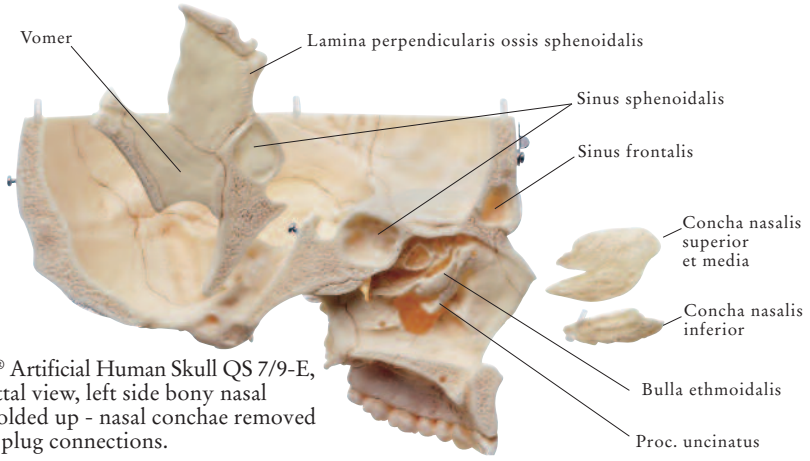
QS 7/T · Artificial Transparent Human Skull

Modelled according to nature, in **SOMSO-PLAST®.** Removable calvarium. Lower jaw movable. Life-like reproduction of the bone structure. **Separates into 3 parts.** Weight: 840 g

Artificial Bone Models

Anatomy 16

Professor Dr. med. Wolfgang Schmidt and Dr. med. Werner Scheller of the Anatomical Institute, University of Leipzig, examining the artificial 5- and 9-part models of the skull.

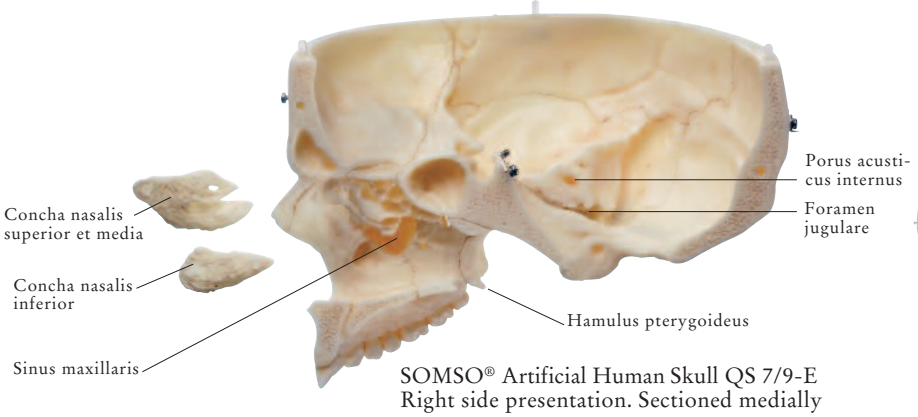


SOMSO® Artificial Human Skull QS 7/9-E, mid-sagittal view, left side bony nasal septum folded up - nasal conchae removed from the plug connections.

QS 7/8-E QS 7/9-E

Skull dimensions see information page 111

QS 7/8-E disassembled



SOMSO® Artificial Human Skull QS 7/9-E
Right side presentation. Sectioned medially

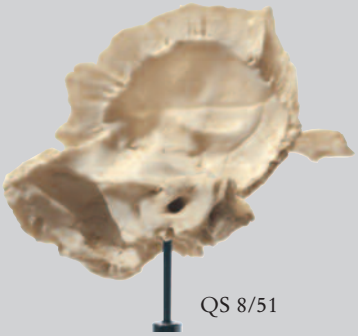
QS 7/9-E disassembled

QS 7/8-E · Artificial Human Skull

developed in co-operation with Prof. Dr. med. Wolfgang Schmidt and Dr. med. Werner Scheller, Anatomical Institute, University of Leipzig. **Modelled according to nature,** in **SOMSO-PLAST®.** After removing the calvarium and the lower jaw, the base of the skull - sectioned medially - separates into two halves where the nasal septum, the paranasal sinuses with the nasal conchae, and the ethmoidal bone are shown. The lower jaw is movable. **Separates into 5 parts.** Weight: 800 g

QS 7/9-E · Artificial Human Skull

developed in co-operation with Prof. Dr. med. Wolfgang Schmidt and Dr. med. Werner Scheller, Anatomical Institute, University of Leipzig. **Modelled according to nature,** in **SOMSO-PLAST®.** After removing the calvarium and the lower jaw, the base of the skull - sectioned medially - separates into two halves where the nasal septum, the paranasal sinuses with the nasal conchae, and the ethmoidal bone are shown. The nasal conchae can be removed. The lower jaw is movable. **Separates into 9 parts.** Weight: 800 g



QS 8/51

QS 8/51 · Artificial Temporal Bone

Modelled according to nature, in **SOMSO-PLAST®. In one piece.** On a stand with green base. Height: 19 cm, width: 14 cm, depth: 16 cm, weight: 280 g

QS 8/54 disassembled

QS 8/54 · Artificial Temporal Bone

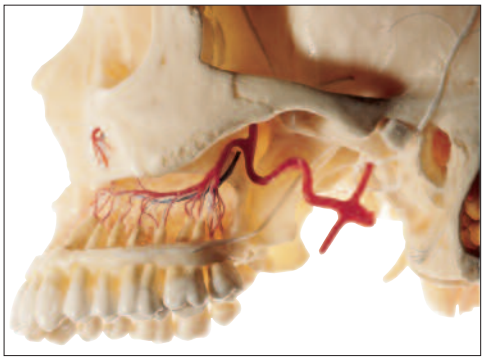
Modelled according to nature, in **SOMSO-PLAST®.** The opened tympanic cavity shows the tympanic membrane, the three auditory ossicles, the cochlea, and the semicircular canals. The labyrinth can be removed. **Separates into 4 parts.** On a stand with green base. Height: 19 cm, width: 14 cm, depth: 16 cm, weight: 330 g

The Models of the Auditory Ossicles as well as the Models of the Bony Labyrinth in natural size can be found on page 46.

Artificial Bone Models

Nature is our Model SOMSO® Modelle

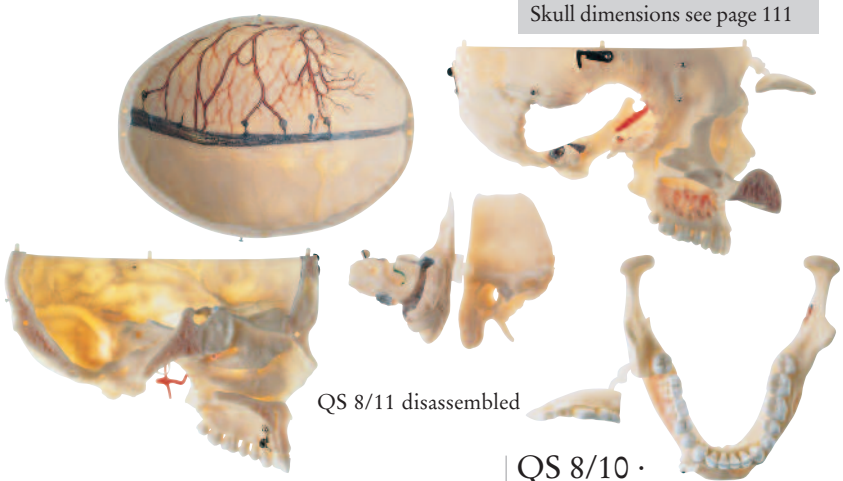
Anatomy 16



QS 8/11 - Detail: Maxillary artery and vascular supply of the maxillary teeth

QS 8/11 - Detail: Right mandible can be opened

Skull dimensions see page 111



QS 8/11 disassembled

QS 8/10

QS 8/10 · Artificial Skull of an Adult

Modelled according to nature, in **SOMSO-PLAST®.** As QS 8/11, but without representation of the blood vessels and nerves. **Separates into 10 parts.** Height: 20 cm, width: 18 cm, depth: 26 cm, weight: 1.45 kg

Models of the Skull QS 8/10, QS 8/11 and QS 8/11-S are supplied on a detachable green base with a transparent dust cover.

QS 8/11

QS 8/11 · Artificial Demonstration Skull of an Adult

Modelled according to nature, in **SOMSO-PLAST®.** With representation of the blood vessels and nerves (N. trigeminus and N. opticus etc.). **Separates into 10 parts:**

1. Calvarium with coloured vessels and blood supply of the hard meninx,
2. Base of the skull, sectioned medially,
3. Nasal septum removable. The paranasal sinuses and nasal conchae are shown,
4. The frontal sinus can be opened,
5. The maxillary sinus can be opened,
6. The right temporal bone can be taken out and opened. Representation of the bony labyrinths, the semicircular canals, the eardrum, and auditory ossicles. A radical mastoidectomy is shown on the left temporal bone.
7. Removable lower jaw and roots of the teeth are exposed (flap). Complete set of teeth.

Height: 20 cm, width: 18 cm, depth: 26 cm, weight: 1.45 kg

QS 8/11-S · Artificial Demonstration Skull of an Adult (Not illustrated)

Modelled according to nature, in **SOMSO-PLAST®.** As QS 8/11, but with numbering. Key in English and Latin. Height: 20 cm, width: 18 cm, depth: 26 cm, weight: 1.45 kg

The anatomical structure of the human skull, displayed on the 14- to 18-part models of the skull after Prof. Dr. med. Dr. med. h.c. J. W. Rohen (series QS 8/2 and QS 8/3)

QS 8/2 · 14-Part Model of the Skull

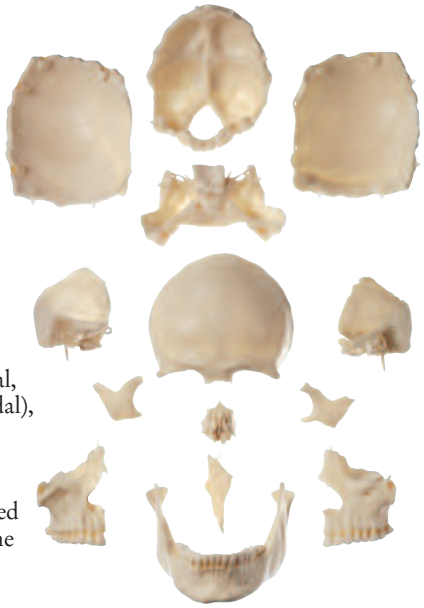
Modelled according to nature, in **SOMSO-PLAST®,** after Prof. Dr. med. Dr. med. hc. J.W. Rohen, Department of Anatomy, University of Erlangen. **The model of the skull comprises 14 individual parts,** that can be disassembled and put back together by way of plug connections. Besides the bones of the cranium (frontal, parietal, temporal, occipital, and sphenoidal), those of the viscerocranium (ethmoid, vomer, zygomatic, maxilla, mandible) can be isolated or re-assembled to form the mosaic of the entire skull. Weight: 640 g

QS 8/2 - QS 8/218

QS 8/218 · 18-Part Model of the Skull

Modelled according to nature, in **SOMSO-PLAST®,** after Prof. Dr. med. Dr. med. hc. J.W. Rohen, Department of Anatomy, University of Erlangen. **The model of the skull comprises 18 individual parts,** that can be disassembled and put back together by way of plug connections. Besides the bones of the cranium (frontal, parietal, temporal, occipital, and sphenoidal), those of the viscerocranium (ethmoid, vomer, palatine, zygomatic, maxilla, mandible) as well as the inferior nasal concha (concha nasalis inf.) can be isolated or re-assembled to form the mosaic of the entire skull. Weight: 640 g

See illustration of QS 8/318 for how QS 8/218 can be disassembled



QS 8/2 disassembled

The different versions of the series of the skull and the various possible combinations facilitate understanding of the unique structure of the human skull:

Versions of QS 8/2:

QS 8/2C	with Cervical Vertebral Column and Hyoid Bone
QS 8/2M	with Masticatory Muscles
QS 8/2C+M	with Masticatory Muscles, Cervical Vertebral Column, and Hyoid Bone

Versions of QS 8/3:

QS 8/3C	with Cervical Vertebral Column and Hyoid Bone
QS 8/3M	with Masticatory Muscles
QS 8/3C+M	with Masticatory Muscles, Cervical Vertebral Column, and Hyoid Bone

Versions of QS 8/218:

QS 8/218C	with Cervical Vertebral Column and Hyoid Bone
QS 8/218M	with Masticatory Muscles
QS 8/218C+M	with Masticatory Muscles, Cervica Vertebral Column, and Hyoid Bone

Versions of QS 8/318:

QS 8/318C	with Cervical Vertebral Column and Hyoid Bone
QS 8/318M	with Masticatory Muscles
QS 8/318C+M	with Masticatory Muscles, Cervical Vertebral Column, and Hyoid Bone

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

QS 8/3 and QS 8/318
See illustration of QS 8/2 for how QS 8/3 can be disassembled

QS 8/3 · 14-Part Model of the Skull

Modelled according to nature, in **SOMSO-PLAST®,** after Prof. Dr. med. Dr. med. h.c. J.W. Rohen, Department of Anatomy, University of Erlangen. **The model of the skull comprises 14 individual parts,** that can be disassembled and put back together by way of plug connections. The individual cranial bones are coloured. Besides the bones of the cranium (frontal, parietal, temporal, occipital, and sphenoidal), those of the viscerocranium (ethmoid, vomer, zygomatic, maxilla, mandible) can be isolated or re-assembled to form the mosaic of the entire skull. Weight: 640 g

QS 8/318 disassembled

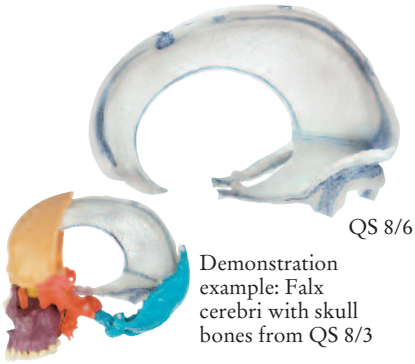
QS 8/318 · 18-Part Model of the Skull

Modelled according to nature, in **SOMSO-PLAST®,** after Prof. Dr. med. Dr. med. h.c. J.W. Rohen, Department of Anatomy, University of Erlangen. **The model of the skull comprises 18 individual parts,** that can be disassembled and put back together by way of plug connections. The individual cranial bones are coloured. Besides the bones of the cranium (frontal, parietal, temporal, occipital, and sphenoidal), those of the viscerocranium (ethmoid, vomer, palatine, zygomatic, maxilla, mandible) as well as the inferior nasal concha (concha nasalis inf.) can be isolated or re-assembled to form the mosaic of the entire skull. Weight: 640 g

QS 8/3C
QS 8/318C

QS 8/3 M QS 8/318M

QS 8/3C+M
QS 8/318C+M

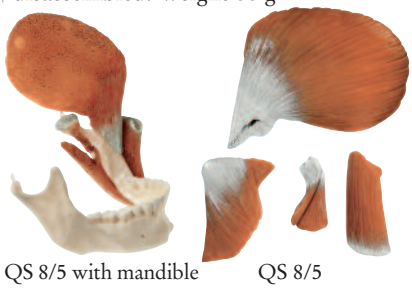


QS 8/6

Demonstration example: Falx cerebri with skull bones from QS 8/3

QS 8/6 · Falx Cerebri

Natural size, in **SOMSO-PLAST®,** after Prof. Dr. med. Dr. med. h.c. J. W. Rohen. The sinus of the brain (sinus durae matris) as well as the Pacchionian granulations are marked on the superior sagittal sinus of the falx cerebri, showing the drainage of the blood from the cerebral veins and of the cerebrospinal fluid. **Cannot be disassembled.** Weight 80 g



QS 8/5 with mandible QS 8/5

QS 8/5 · Complementary Set - Masticatory Muscles for the 14- and 18-Part Skull Models

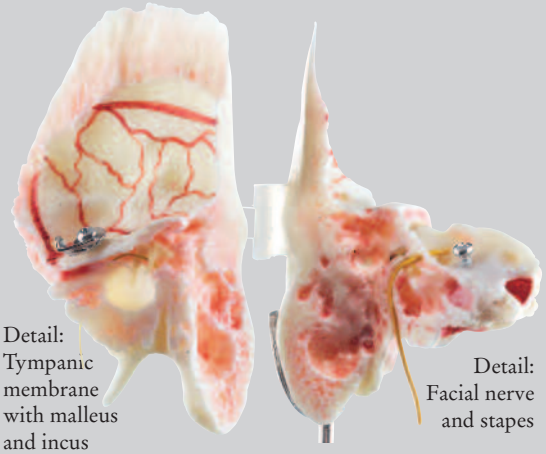
Modelled according to nature, in **SOMSO-PLAST®,** after Prof. Dr. med. Dr. med. h.c. J.W. Rohen, Department of Anatomy, University of Erlangen. Comprising masseter and temporalis muscles, medial and lateral pterygoideus muscles.

Can only be fitted subsequently if the model of the skull is sent in.

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16



Detail: Tympanic membrane with malleus and incus

Detail: Facial nerve and stapes

QS 8/53 · Artificial Temporal Bone

Modelled according to nature, in **SOMSO-PLAST®.** The opened tympanic cavity shows the tympanic membrane, the three auditory ossicles, the cochlea, and the semicircular canals. **Separates into 2 parts.** On a stand with green base. Height: 19 cm, width: 14 cm, depth: 16 cm, weight: 330 g (For details of QS 8/53 see page 43)

QS 9/1

QS 9/1 · Artificial Bauchene Skull of an Adult

Modelled according to nature, in **SOMSO-PLAST®. Comprises 22 parts.** Unmounted in a case. Height: 12.5 cm, width: 43 cm, depth: 32 cm, weight: 3.1 kg

All skull bones of versions QS 9/1, QS 9/2, and QS 9/3 are also available individually.

Example: Packaging of the 22 individual bones of QS 9/3

QS 9/2 · Artificial Bauchene Skull of an Adult

Modelled according to nature, in **SOMSO-PLAST®. Comprises 22 parts.** Unmounted, each bone individually packed on a green base with description printed on and in a transparent box. Weight: 2.2 kg. Illustration of the individual bones see also QS 9/1

QS 9/2

QS 9/3 · Artificial Bauchene Skull of an Adult

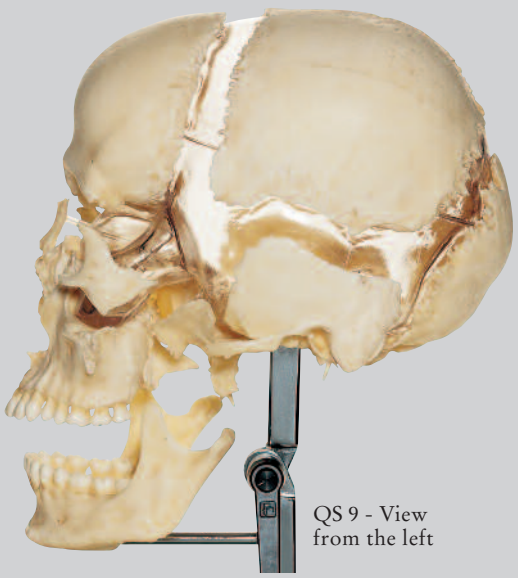
Modelled according to nature, in **SOMSO-PLAST®. Comprises 22 parts.** All bones supplied loose and unmounted in plastic bags in a cardboard box. Weight: 580 g. Illustration of the individual bones see also QS 9/1

QS 9/4 · Transparent Storage Case

(Illustration see QS 9/1)

For unmounted single bones of the bauchene skull. Height: 12 cm, width: 42 cm, depth: 30 cm, weight: 2.4 kg

Illustration of the individual bones of QS 9/1, QS 9/2, and QS 9/3



QS 9 - View from the left

Detail: Detaching and attaching individual bones

Detdetail: Articulated stand

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

QS 9

QS 9 disassembled

QS 9 · Artificial Bauchene Skull of an Adult

Modelled according to nature, in **SOMSO-PLAST®.** Natural representation of bone structure in all anatomical details. All the bones are mounted on a plastic base corresponding to the shape of the skull, and can be removed from this base. **Separates into 22 parts:** Os frontale, Os parietale (2 parts), Os temporale (2 parts), Os zygomaticum (2 parts), Os nasale (2 parts), Os occipitale, Maxilla (2 parts) with Os lacrimale, Concha nasalis inferior and Os palatinum, Vomer, Os ethmoidale, Os sphenoidale, Mandibula. Articulated stand on a green base to facilitate demonstrations. Height: 40 cm, width: 25 cm, depth: 28 cm, weight: 2.35 kg

QS 9/5 · Artificial Bauchene Skull of an Adult

Modelled according to nature, in **SOMSO-PLAST®.** As QS 9, but coloured. Articulated stand on a green base to facilitate demonstrations. Height: 40 cm, width: 25 cm, depth: 28 cm, weight: 2.35 kg

QS 9/5

QS 9/5 - View from the right

QS 9/5 disassembled

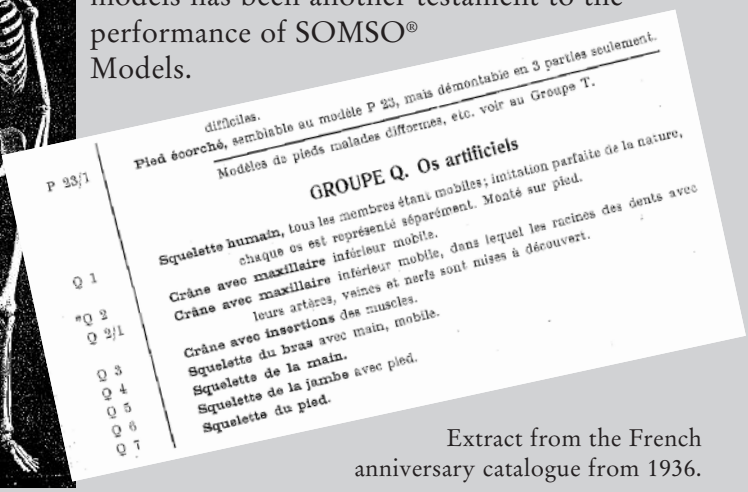
Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

Innovation and Tradition

Since 1936, the range of artificial bone models has been another testament to the performance of SOMSO® Models.



difficiles.

P 23/1 Pied écorché, semblable au modèle P 23, mais démontable en 3 parties seulement.

Modèles de pieds malades difformes, etc. voir au Groupe T.

GROUPE Q. Os artificiels

Q 1 **Squelette humain,** tous les membres étant mobiles; imitation parfaite de la nature, chaque os est représenté séparément. Monté sur pied.

*Q 2 **Crâne avec maxillaire** inférieur mobile.

Q 2/1 **Crâne avec maxillaire** inférieur mobile, dans lequel les racines des dents avec leurs artères, veines et nerfs sont mises à découvert.

Q 3 **Crâne avec insertions** des muscles.

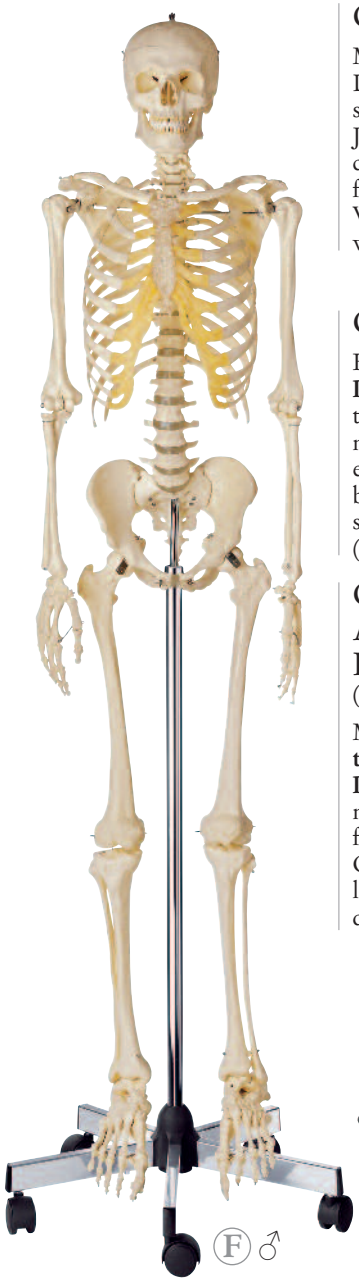
Q 4 **Squelette du bras** avec main, mobile.

Q 5 **Squelette de la main.**

Q 6 **Squelette de la jambe** avec pied.

Q 7 **Squelette du pied.**

Extract from the French anniversary catalogue from 1936.



QS 10/1 Male Skeleton

QS 10/1 · Artificial Human Skeleton

Male, **modelled according to nature,** in **SOMSO-PLAST®.** Lifelike representation of all anatomical details of the bone structure. Skull with removable calvarium and mandible. Joints are flexibly mounted, the upper and lower extremities can be removed. The right and the left foot can be detached from the lower legs. Mounted upright on a stand with castors. With a dust cover. Height: 180 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 11 kg

QS 10/8 · Artificial Human Skeleton

Female, **modelled according to nature,** in **SOMSO-PLAST®.** Lifelike representation of all anatomical details of the bone structure. Skull with removable calvarium and mandible. Joints are flexibly mounted, the upper and lower extremities can be removed. The right and the left foot can be detached from the lower legs. Mounted upright on a stand with castors. With a dust cover. Height: 181 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 11 kg

QS 10 · Artificial Human Skeleton

(not illustrated)

Male, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/1, but mounted on a stand with feet (illustration see detail QS 10). Height: 179 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 10.4 kg

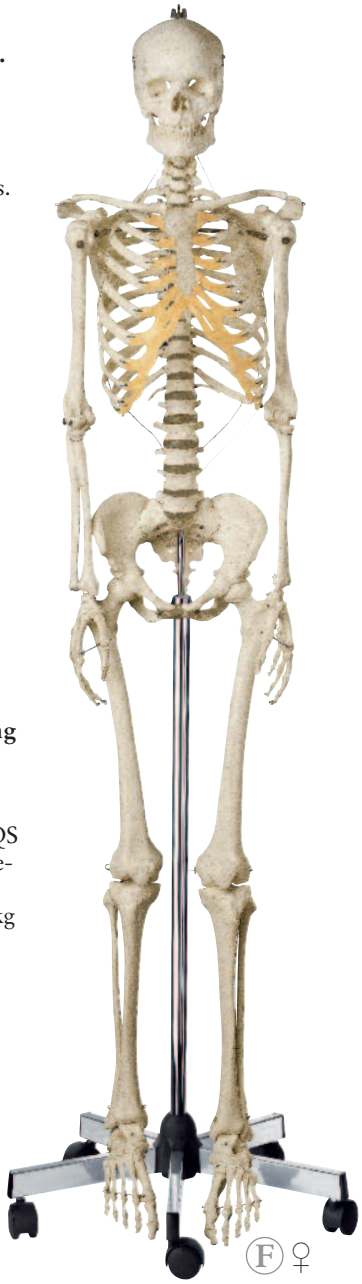
QS 10/7 · Artificial Human Skeleton

(not illustrated)

Female, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/8, but mounted on a stand with feet (illustration see detail QS 10/7). Height: 180 cm (skeleton 171 cm), width: 55 cm, depth: 55 cm, weight: 10.4 kg

Detail QS 10 and QS 10/7: Stable and functional stand with feet.

Detail: All Skeletons with Hyoid bone

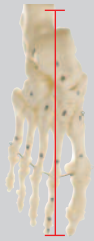


QS 10/8 Female Skeleton

Maximum cranium circumference:
♂ 51.2 cm

Hand skeleton length (Stylion-Dactylion III):
♂ 19 cm

Cranium length (Glabella Opisthocranion line):
♂ 17.5 cm



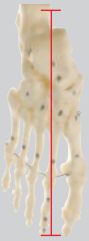
Cranium width (Euryon distance):
♂ 14.1 cm

Foot skeleton length (Pternion-Acropodion):
♂ 25 cm

Maximum cranium circumference:
♀ 50.8 cm

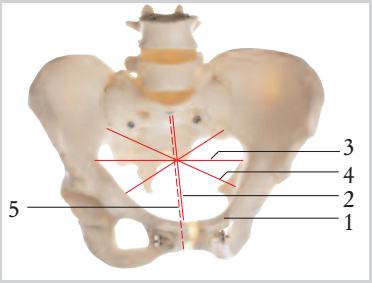
Hand skeleton length (Stylion-Dactylion III):
♀ 18 cm

Cranium length (Glabella Opisthocranion line):
♀ 18.3 cm



Cranium width (Euryon distance):
♀ 12.8 cm

Foot skeleton length (Pternion-Acropodion):
♀ 22.2 cm



Female Pelvis Measurements
1 - Linea terminalis circumference 37.9 cm
2 - Conjugata vera 11 cm
3 - Diameter transversa 13.2 cm
4 - Diameter obliqua 12.2 cm
5 - Conjugata diagonalis 12 cm

Nature is our Model SOMSO® Modelle

Anatomy 16

F ♂

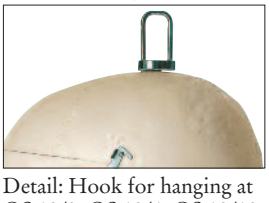
QS 10/3

QS 10/3 · Artificial Human Skeleton

Male, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/1, but with a hook in the skull for hanging (without stand). Height: 170 cm, width: 38 cm, depth: 28 cm, weight: 8.8 kg

QS 10/2 · Artificial Human Skeleton (not illustrated)

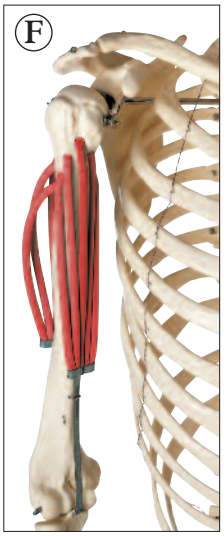
Male, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/1, but on one arm, the muscles of the upper arm are reproduced (illustration below). By bending or stretching the arm, the flexion or extension of the muscles can be shown. Schematic functional model. Mounted on a stand with castors. Height: 179 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 11 kg



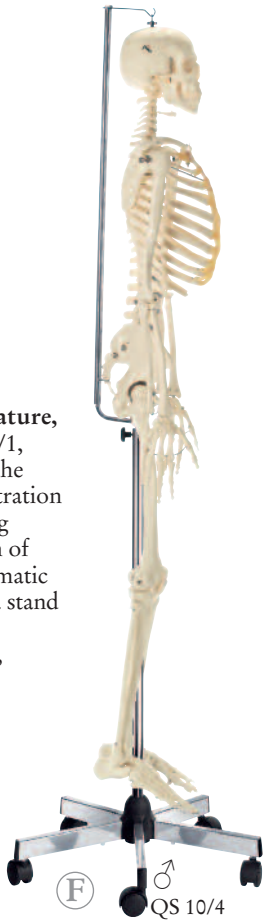
Detail: Hook for hanging at QS 10/3, QS 10/4, QS 10/10 and QS 10/11

Detail: Hook for hanging at QS 10/12, QS 10/13, QS 10/13 GA, and QS 10/14

Detail: QS 10/2 - Upper arm muscles



F



F ♂

QS 10/4

QS 10/4 · Artificial Human Skeleton

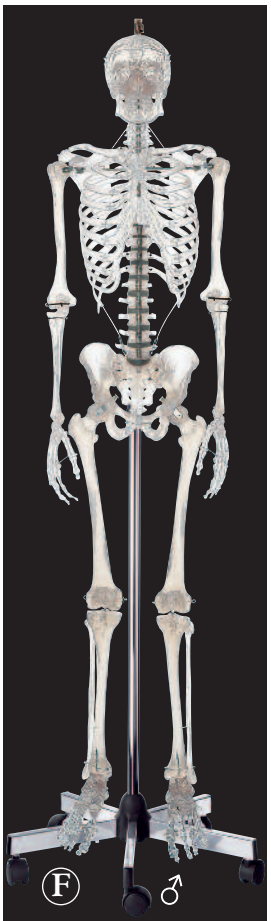
Male, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/1, but mounted on a hanging stand with castors. Height: 180 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 11.5 kg

F ♂

QS 10/E

QS 10/E · Artificial Human Skeleton

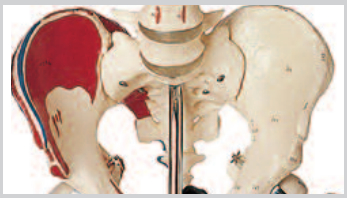
Male, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/1, but bones of the hand and foot are made in one piece. Mounted on a stand with castors. With a dust cover. Height 179 cm (skeleton 170 cm), width 55 cm, depth 55 cm, weight 11 kg



F ♂

QS 10/12 T

All artificial SOMSO® bone models are available as a transparent version as well and can be ordered with the suffix T.



QS 10/9 Detail: Muscle insertions and origins in the area of the iliac wing

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

QS 10/6 Detail: Ligaments of the shoulder joint

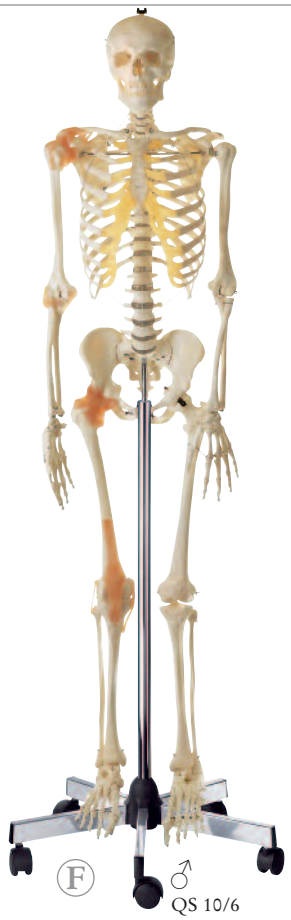
QS 10/6 Detail: Elbow joint ligaments

QS 10/6 Detail: Knee joint ligaments

QS 10/6 Detail: Hip joint ligaments

QS 10/6 +9L Detail: Ankle ligaments

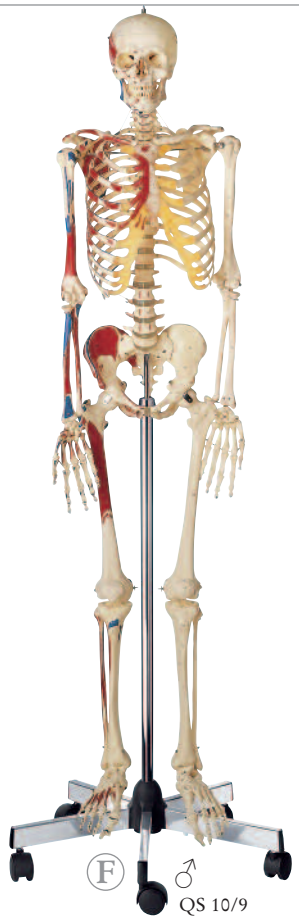
QS 10/6 +9L Detail: Wrist ligaments



QS 10/6

QS 10/6 · Artificial Human Skeleton

Male, **modelled according to nature,** in **SOMSO-PLAST®.** Same version as QS 10/1 but showing the ligaments of the knee, hip, elbow, and shoulder. Mounted on a stand with castors. Height: 180 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 11.5 kg



QS 10/9

QS 10/9 · Artificial Human Skeleton

Male, **modelled according to nature,** in **SOMSO-PLAST®.** Same version as QS 10/1 but the points of origin and insertion of the most important muscles from head to toe are coloured on the right side of the body. The individual bones are numbered on the left half. Height: 180 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 11 kg

QS 10/6+9

QS 10/6 + 9 · Artificial Human Skeleton

Male, **modelled according to nature,** in **SOMSO-PLAST®.** Same version as QS 10/1, but with additional display of the ligaments on the right half of the body, as with QS 10/6, and of the muscle insertions on the left half of the body, as with QS 10/9; the individual bones on the right half of the body are numbered. Height: 180 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 11.5 kg

QS 10/6+9L

QS 10/6 + 9L · Artificial Human Skeleton

Male, **modelled according to nature,** in **SOMSO-PLAST®.** Same specification as QS 10/6+9, but with additional wrist and ankle ligaments. Mounted upright on a stand with castors. Height: 180 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 11.5 kg

QS 10/12

QS 10/14 Detail: Upper body with pelvic girdle - dorsal view

QS 10/12 · Artificial Human Skeleton

Male, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/1, but with flexible vertebral column. Mounted standing upright with a stand for hanging with castors. Height: 180 cm (skeleton 170 cm), width: 55 cm, depth: 55 cm, weight: 11 kg

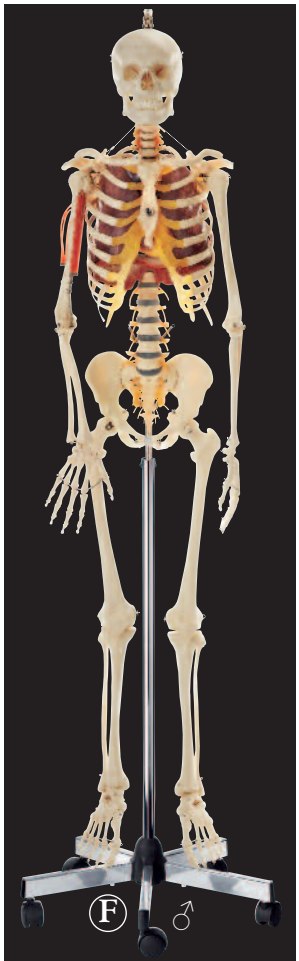
QS 10/14 · Artificial Human Skeleton

Male, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/1, but with flexible vertebral column and spinal cord with nerve endings. Mounted standing upright with a stand for hanging with castors. Height: 180 cm (skeleton 171 cm), width: 55 cm, depth: 55 cm, weight: 11.5 kg

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16



QS 10/14-Th+55 · Artificial Human Skeleton

Male, this special version, based on QS 10/14, includes flexible thorax, heart and diaphragm On the right arm are the flexor and extensor muscles, made from elastic material.

QS 10/13 · Artificial Human Skeleton

Female, **modelled according to nature,** in **SOMSO-PLAST®.** Skull with detachable cranium and lower jaw, joints are flexibly mounted, the upper and lower extremities can be detached. The right and the left foot can be detached from the lower legs. Mounted standing upright with movable vertebral column and stand for hanging with castors. Height: 180 cm (skeleton 171 cm), width: 55 cm, depth: 55 cm, weight: 11 kg

QS 10/13 GA · Artificial Human Skeleton

Female, **modelled according to nature,** in **SOMSO-PLAST®.** Same version as QS 10/13, but with additional movable thoracic cage and telescopic chest support. Stand for hanging with castors. Height: 180 cm. (skeleton 171 cm), width: 55 cm, depth: 55 cm, weight: 11 kg

QS 10/10 · Artificial Human Skeleton

(not illustrated)

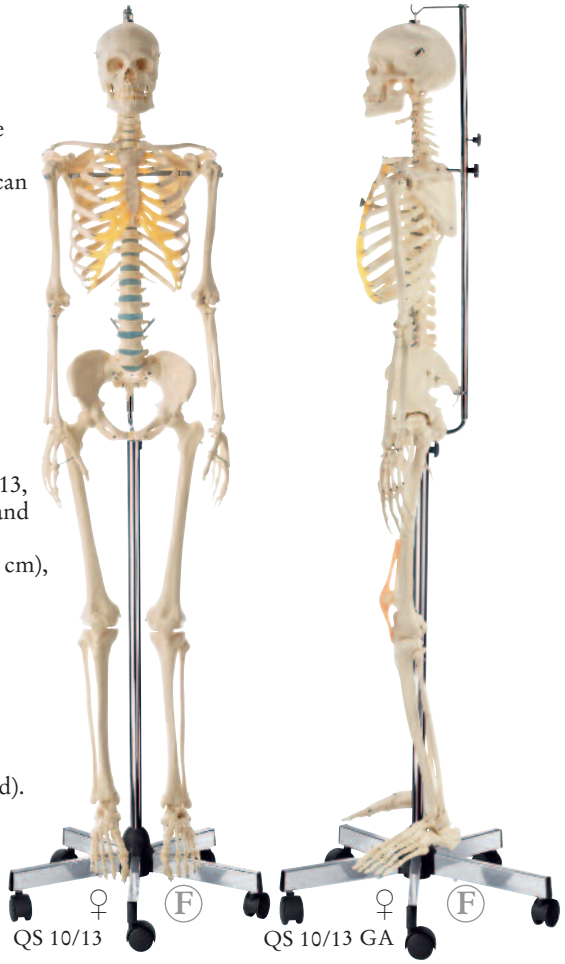
Female, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/8 but with a hook in the skull for hanging (without stand). Height: 171 cm, width: 39 cm, depth: 28 cm, weight: 8.5 kg

QS 10/11 · Artificial Human Skeleton

(not illustrated)

Male, **modelled according to nature,** in **SOMSO-PLAST®.** As QS 10/9, but with a hook in the skull for hanging (without stand). Height: 170 cm, width: 38 cm, depth: 28 cm, weight: 8.8 kg

Special versions of artificial SOMSO® Human Skeletons can be individually produced based on existing SOMSO® Modelle.



QS 10/13

QS 10/13 GA

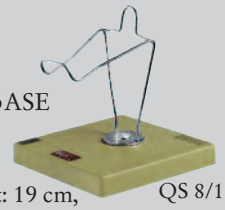
QS 10/13 and QS 10/13 GA Detail: Mobility of the lumbar spine

QS 10/13 GA Detail: Mobility of the cervical spine

QS 8

QS 8 · Transparent Dustproof Cover with green base

Suitable for SOMSO® Models of the Skull. Height: 21 cm, width: 32 cm, depth: 19 cm, weight: 600 g



QS 8/1

QS 8/1 · Metal Stand with green Base

Suitable for SOMSO® Models of the Skull. Height: 19 cm, width: 18 cm, depth: 18 cm, weight: 300 g

QS 8/E

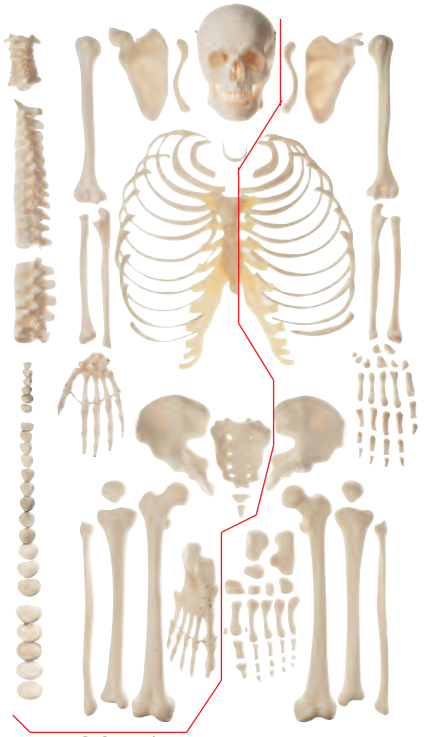
QS 8/E · Transparent Dustproof Cover with stopper and green base

Suitable for SOMSO® Models of the Skull. Height: 20 cm, width: 26 cm, depth: 18 cm, weight: 690 g

QS 8/4

QS 8/4 · Transparent Case

Hinged and made out of transparent plastic. Suitable for SOMSO® Models of the Skull. Weight: 900 g



QS 41/1

QS 40/1

QS 40/1 · Unmounted Human Skeleton

Male. **Modelled according to nature,** in **SOMSO-PLAST®.** With the exception of the skull (with removable calvarium and mandible), and one hand and one foot, all the bones are unmounted. Supplied in plastic bags in a carton. Height: 26 cm, width: 50 cm, depth: 31 cm, weight: 8.75 kg

QS 41/1 · Unmounted Human Half-Skeleton

Male. **Modelled according to nature,** in **SOMSO-PLAST®.** With the exception of the skull (with removable calvarium and mandible), and one hand and one foot, all the bones are unmounted. Supplied in plastic bags in a carton. Height: 26 cm, width: 50 cm, depth: 31 cm, weight: 5.5 kg

QS 40/4 · Unmounted Human Skeleton

as QS 40/1, but female

QS 41/4 · Unmounted Human Half-Skeleton

as QS 41/1, but female

QS 41/1-N · Unmounted Human Half-Skeleton

As QS 41/1, but the hand and the foot are mounted on nylon.

QS 16/1 · Hip bone (Os coxae)

Weight: 390 g

QS 16/3 · Sacrum

Weight: 270 g

QS 16/4 · Coccyx

Weight: 6 g

QS 16/5 · Sacrum with Coccyx

Weight: 280 g

QS 17 · Vertebra

Choose from cervical, thoracic or lumbar vertebra. For example: QS 17/1 1st cervical vertebra. Weight: cervical vertebra 20 g, thoracic vertebra 25 g, lumbar vertebra 50 g

QS 17/3 · Hyoid Bone

Weight: 4 g

QS 17/22 · Rib (Costa)

Alternatively 1. - 12. rib.
Weight: 10 - 30 g

QS 17/23 · Sternum

Weight: 220 g

QS 17/24 · Sternum without Costal Cartilage

(not illustrated)
Weight: 57 g

QS 17/31 · Disc (Discus intervertebralis)

Choose from cervical, thoracic or lumbar disc. Weight: 2 - 17 g

QS 18 · Scapula

Weight: 110 g

QS 19 · Clavicle

Weight: 40 g

QS 19/1 · Femur

Weight: 670 g

QS 19/2 · Humerus

Weight: 270 g

QS 19/3 · Ulna and Radius

Weight: 160 g

QS 19/4 · Tibia and Fibula

Weight: 460 g

QS 19/5 · Tibia

Weight: 390 g

QS 19/6 · Fibula

Weight: 70 g

QS 19/7 · Patella

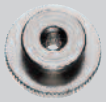
Weight: 30 g

QS 19/8 · Ulna

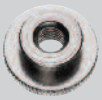
Weight: 80 g

Spare parts service for SOMSO® Human Skeletons

QS 40/100
Butterfly nut for the fastening of the skull



QS 40/200
Threaded knurled nut (diameter: 2.35 mm), suitable for shoulder, elbow, hip, knee, and ankle joint



QS 40/300
Threaded knurled nut (diameter: 4 mm), suitable for pelvic girdle and shoulder blade

If required and after consultation, spare parts for SOMSO® Human Skeletons are available and corrective maintenance is possible even after decades.

QS 40/3 · Box with compartments

for QS 40/1, QS 40/2, QS 40/4, QS 41/1, QS 41/2, QS 41/4, and QS 41/1-N.
Height: 24 cm, width: 60 cm, depth: 42 cm, weight: 4.5 kg

Example packaging of QS 40/1 in QS 40/3

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

QS 19/9 · Radius
Weight: 80 g

QS 19/10 · Foot Bone
Weight: 320 g

QS 19/11 · Foot Bone, mounted
(not illustrated)
Weight: 440 g

QS 19/20 · Hand Bone
Weight: 110 g

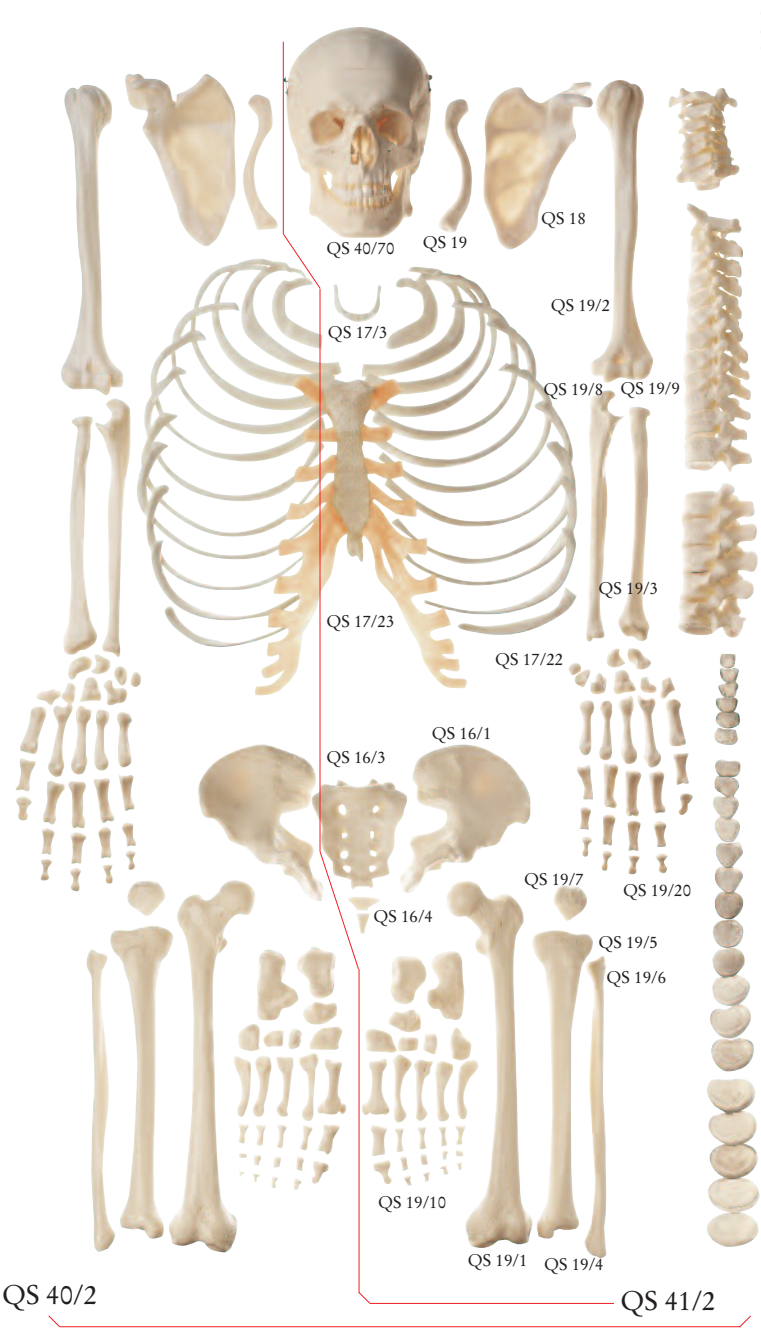
QS 19/21 · Hand Bone, mounted
(not illustrated)
Weight: 110 g

QS 19/71 · Calvarium
Weight: 230 g

QS 19/72 · Base of Skull
Weight: 520 g

QS 19/73 · Mandible
Weight: 88 g

QS 40/70 · Skull
(Without suspension hole) 3 parts, weight: 800 g



Individual bones are also available as left or right bones and can be ordered with the suffix R or L, e.g. QS 18-R scapula, right.

QS 40/2 · Unmounted Human Skeleton

Modelled according to nature, in **SOMSO-PLAST®.** With the exception of the skull (removable calvarium and mandible), all the bones are unmounted. Supplied in plastic bags in a carton. Height: 26 cm, width: 50 cm, depth: 31 cm, weight: 8.75 kg

QS 41/2 · Unmounted Human Half-Skeleton

Modelled according to nature, in **SOMSO-PLAST®.** With the exception of the skull (with removable calvarium and mandible), all the bones are unmounted. Supplied in plastic bags in a carton. Height: 26 cm, width: 50 cm, depth: 31 cm, weight: 5.15 kg

QS 61 · Bone Structure

Many times enlarged, in **SOMSO-PLAST®.** Shown in a wedge segment from the compact part of a hollow bone. **Cannot be disassembled.** On a green base. Height: 29 cm, width: 39 cm, depth: 26 cm, weight: 3 kg

QS 42

QS 42 · Collection of Typical Human Bones

Modelled according to nature, in **SOMSO-PLAST®.** Consisting of skull (mounted), scapula, clavicle, humerus, radius, ulna, carpal bones, bones of the index finger, 3 each right and left ribs, one each cervical, thoracic, and lumbar vertebra, pelvic bone, sacrum, coccyx, femur, tibia, fibula, tarsal bones, and bones of the big toe. Supplied in plastic bags in a carton. Height: 26 cm, width: 50 cm, depth: 31cm, weight: 3.8 kg

Optionally, the Skeletons of the Lower Extremity with Pelvis QS 13, QS 13/1, and QS 14 are available for the respective side of the body, e.g. QS 14R Skeleton of the Arm with Shoulder Girdle, right, and QS 14L Skeleton of the Arm with Shoulder Girdle, left

QS 14

QS 14 · Skeleton of the Arm with Shoulder Girdle

Modelled according to nature, in **SOMSO-PLAST®.** Mounted and movable. Length: 88 cm, weight: 700 g

QS 13

QS 13 · Skeleton of the Lower Extremity with Pelvis

Modelled according to nature, in **SOMSO-PLAST®.** Mounted and movable. Length: 100 cm, weight: 1.75 kg

QS 17/2

QS 17/2 · Collection of Vertebrae

Modelled according to nature, in **SOMSO-PLAST®.** Atlas, axis, cervical, thoracic and lumbar vertebrae mounted loosely on nylon. Weight: 150 g

QS 13/1 · Skeleton of the Lower Extremity with Half of the Pelvis

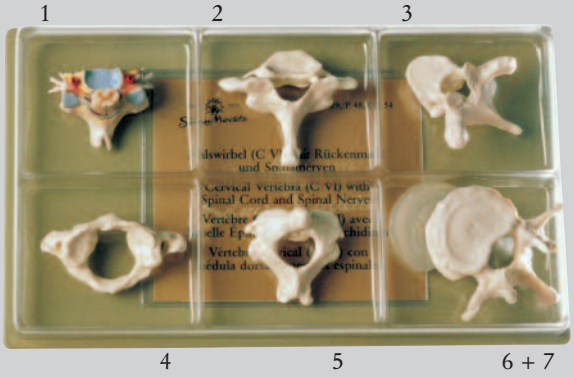
(not illustrated)

Modelled according to nature, in **SOMSO-PLAST®.** Flexibly mounted. Positional change of foot bones can be demonstrated due to the flexible assembly. Length: 100 cm, weight: 1.75 kg

QS 7/3

QS 7/3 · Hyoid Bone

Modelled according to nature, in **SOMSO-PLAST®. In one piece.** On a stand with green base. Height: 13 cm, width: 12 cm, depth: 12 cm, weight: 130 g



QS 54 · Collection Case "Vertebrae and Spinal Cord"

Modelled according to nature, in **SOMSO-PLAST®.** Comprising:
1. Cervical vertebra with spinal cord and nerve endings, with explanation,
2. Cervical vertebra, 3. Thoracic vertebra, 4. Atlas, 5. Axis, 6. Lumbar vertebra,
7. Intervertebral disc. In a transparent, protective box with compartments, can be removed from the green base. Height: 8 cm, width: 32.5 cm, depth: 19 cm, weight 800 g

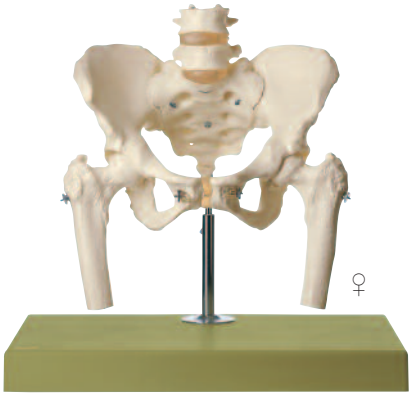
QS 27 · Skeleton of Female Pelvis

Modelled according to nature, in **SOMSO-PLAST®.**
With base of femur. Mounted on a stand with green base.
Height: 36 cm, width: 39 cm, depth: 26 cm, weight: 2.5 kg

QS 27/1 · Skeleton of Female Pelvis

(not illustrated)

Modelled according to nature, in **SOMSO-PLAST®.**
As QS 27 but without a stand and base. Weight: 1.6 kg



QS 27

QS 16

QS 26

QS 16 · Skeleton of Male Pelvis

Modelled according to nature, in **SOMSO-PLAST®.**
Consisting of the two iliac wings, symphysis, sacrum and coccyx, and 4th and 5th lumbar vertebrae with discs.
Mounted. Weight: 1.2 kg

QS 26 · Skeleton of Female Pelvis

Modelled according to nature, in **SOMSO-PLAST®.**
Consisting of the two iliac wings, symphysis, sacrum and coccyx, and 4th and 5th lumbar vertebrae with discs.
Mounted. Weight: 1.17 kg

QS 17/1

QS 17/C7

QS 17/TH6

QS 17/L4

QS 56

QS 57

QS 17/1 · First and Second Cervical Vertebrae

(Atlas and axis). **Modelled according to nature,** in **SOMSO-PLAST®.** Mounted and movable. Weight: 40 g

QS 17 · Vertebra

Modelled according to nature, in **SOMSO-PLAST®.** Choose from cervical, thoracic or lumbar vertebra. Weight: cervical vertebra 20 g, thoracic vertebra 25 g, lumbar vertebra 50 g

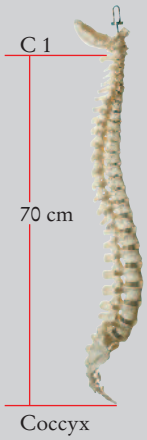
QS 56 · Atlas and Axis

Modelled according to nature, in **SOMSO-PLAST®.** Mounted on a stand with green base, so that the pivot of the head can be demonstrated. Height: 14.5 cm, width: 12 cm, depth: 12 cm, weight: 130 g

QS 57 · Atlas, Axis, and Squamous Part of the Occipital Bone

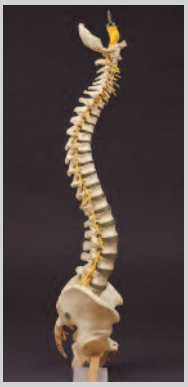
Modelled according to nature, in **SOMSO-PLAST®.** Mounted on a stand so that the pivot of the head in connection with the occipital bone can be demonstrated. On a stand with green base. Height: 19 cm, width: 14 cm, depth: 16 cm, weight: 500 g

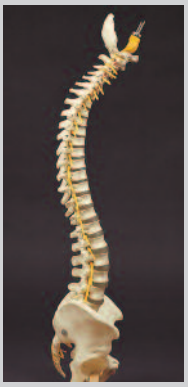
Vertebral column dimensions



SOMSO® vertebral columns can be used to demonstrate incorrect posture


1. Flat back


2. Hollow back


3. Round back

QS 15 · Vertebral Column

Modelled according to nature, in **SOMSO-PLAST®.** Consisting of occipital bone, cervical, thoracic, and lumbar vertebrae with sacrum and coccyx. **Not flexible.** Weight: 1.6 kg


Detail QS 15-N


QS 15

QS 15-N · Vertebral Column

Modelled according to nature, in **SOMSO-PLAST®.** As QS 15, but articulated on nylon. Weight: 1.25 kg

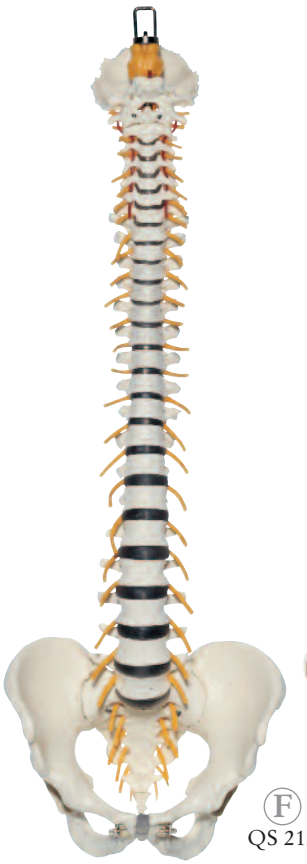
QS 20 · Vertebral Column with Pelvis

Modelled according to nature, in **SOMSO-PLAST®.** Consisting of occipital bone, cervical, thoracic, and lumbar vertebrae, sacrum and coccyx as well as iliac wings. **Not flexible.** Weight: 2.5 kg

QS 21 · Vertebral Column with Pelvis

Modelled according to nature, in **SOMSO-PLAST®.** As QS 20 but **flexibly mounted.** Designed for chiropractic demonstrations. Weight: 2.2 kg


QS 20 - QS 21


QS 21/1

QS 21/1 · Vertebral Column with Pelvis

Modelled according to nature, in **SOMSO-PLAST®. Flexibly mounted,** showing the arteria vertebralis, the spinal cord and the spinal nerves leaving it, and the connected ganglion cells. Consisting of occipital bone, cervical, thoracic, and lumbar vertebrae, sacrum and coccyx as well as iliac wings. Especially suitable for the demonstration of the curvature of healthy and pathological vertebral columns. Weight: 2.4 kg


QS 21/3

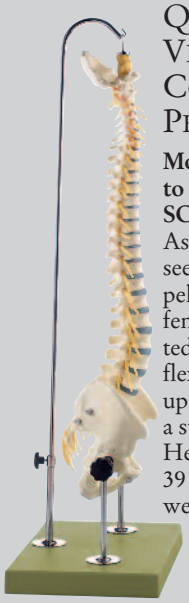
QS 21/3 · Vertebral Column with Pelvis

Modelled according to nature, in **SOMSO-PLAST®.** As QS 21/1. With stand for hanging. Weight 3.65 kg


QS 21/6

QS 21/6 · Vertebral Column with Pelvis

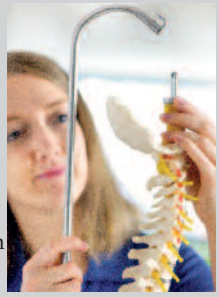
Modelled according to nature, in **SOMSO-PLAST®.** As QS 21/1, but cervical, thoracic and lumbar vertebrae are shown in colour. With stand for hanging. Weight: 3.6 kg

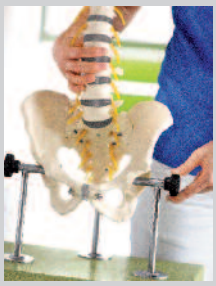


QS 21/2 · Vertebral Column with Pelvis

Modelled according to nature, in **SOMSO-PLAST®.** As QS 21/1, description see page 118, but the pelvis (axle of the femur joint) is mounted so that it is either flexible or fixed in the upright position. On a stand and green base. Height: 99 cm, width: 39 cm, depth: 26 cm, weight: 4.5 kg

F





Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

QS 21/4 F

QS 21/4 Detail: Laminectomy

QS 21/4 Detail: Prolapse of the intervertebral disc

QS 59

QS 21/5

QS 21/4 · Vertebral Column with Pelvis

Modelled according to nature, in **SOMSO-PLAST®.** As QS 21/1, with prolapse of the intervertebral disc and laminectomy. Weight: 2.4 kg

QS 21/5 · Vertebral Column with Pelvis

Modelled according to nature, in **SOMSO-PLAST®.** As QS 21/4 but with stand for hanging. Weight: 3.6 kg

QS 58 · Three Thoracic Vertebrae with Discs

Modelled according to nature, in **SOMSO-PLAST®.** Detachable. Mounted on a stand with green base. Height: 13 cm, width: 12 cm, depth: 12 cm, weight: 180 g

QS 59 · Three Lumbar Vertebrae with Discs

Modelled according to nature, in **SOMSO-PLAST®.** Detachable. Mounted on a stand with green base. Height: 13.5 cm, width: 12 cm, depth: 12 cm, weight: 380 g

QS 62 · Cervical Vertebral Column

Modelled according to nature, in **SOMSO-PLAST®.** Flexible, with spinal cord and nerve endings. Mounted on a stand with green base. Height: 18 cm, width: 12 cm, depth: 12 cm, weight: 290 g

QS 63 · Thoracic Vertebral Column

Modelled according to nature, in **SOMSO-PLAST®.** Flexible, with spinal cord and nerve endings. Mounted on a stand and green base. Height: 37 cm, width: 18 cm, depth: 18 cm, weight: 750 g

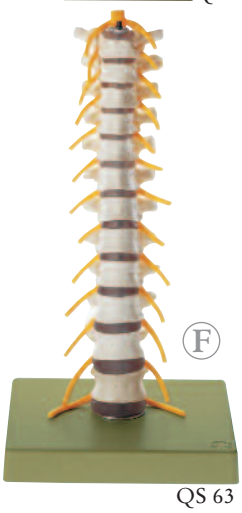
QS 64 · Lumbar Vertebral Column

Modelled according to nature, in **SOMSO-PLAST®.** Flexibly mounted, with dural sac and corresponding spinal nerves. Mounted on a stand and green base. Height: 37 cm, width: 18 cm, depth: 18 cm, weight: 1.2 kg

QS 58

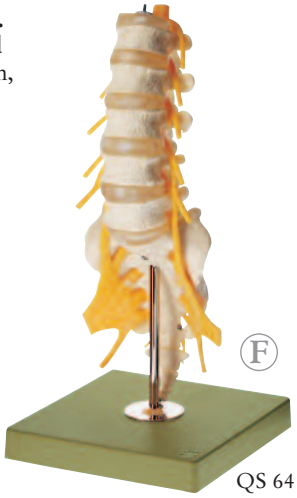
F

QS 62



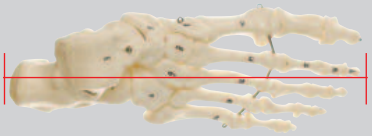
F

QS 63



F

QS 64



Foot skeleton length QS 22 – QS 25 (Pternion-Acropodion): 25 cm.

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

Detail: QS 23 Demonstration of flexible mounting

QS 23 · Skeleton of the Foot (Flexible Mounting)

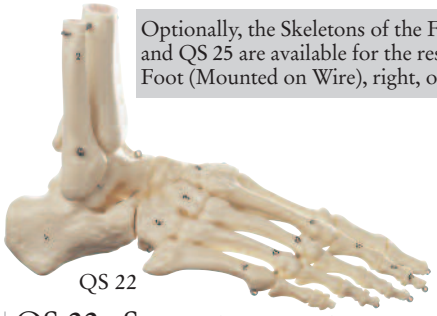
Modelled according to nature, in **SOMSO-PLAST®.** With distal ends of tibia and fibula. Flexibly mounted to show the change in position of the bones with a spread or flat foot. With numbering. Weight: 440 g

QS 23

QS 25 · Skeleton of the Foot (Flexible Mounting)

Modelled according to nature, in **SOMSO-PLAST®.** AS QS 23 but without distal ends of tibia and fibula. Weight: 320 g (not illustrated)

Optionally, the Skeletons of the Foot QS 22, QS 22-N, QS 22/1, QS 22/2, QS 23, QS 24, and QS 25 are available for the respective side of the body, e.g. QS 22 R Skeleton of the Foot (Mounted on Wire), right, or QS 22 L Skeleton of the Foot (Mounted on Wire), left



QS 22

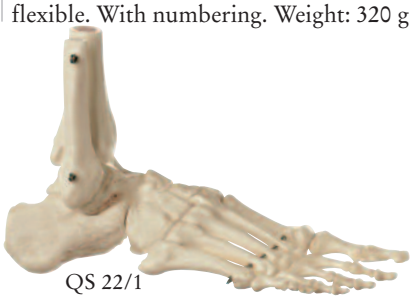
QS 22 · Skeleton of the Foot (Mounted on Wire)

Modelled according to nature, in **SOMSO-PLAST®.** With distal ends of tibia and fibula. Not flexible. With numbering. Weight: 440 g

QS 24

QS 24 · Skeleton of the Foot (Mounted on Wire)

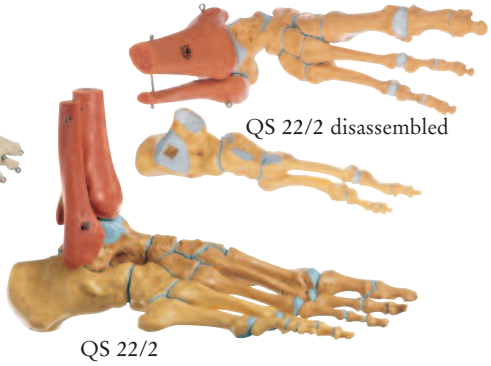
Modelled according to nature, in **SOMSO-PLAST®.** AS QS22 but without distal ends of tibia and fibula. Not flexible. With numbering. Weight: 320 g



QS 22/1

QS 22/1 · Skeleton of the Foot (Rigid)

Modelled according to nature, in **SOMSO-PLAST®,** with distal ends of tibia and fibula. **In one piece.** Weight: 440 g



QS 22/2 disassembled

QS 22/2

QS 22/2 · Skeleton of the Foot, Right (Rigid)

Modelled according to nature, in **SOMSO-PLAST®,** with distal ends of tibia and fibula. Medial and lateral ray of the foot and the articular surfaces are shown in colour. **Separates into 2 parts.** Weight: 420 g

QS 22/4 (F)

QS 22/4 · Skeleton of the Foot, Right (Movable Joints and Coloured)

Modelled according to nature, in **SOMSO-PLAST®,** with distal ends of the tibia and fibula. Model for demonstrating foot movement. The individual bones are coloured to assist familiarisation with the parts of the foot. **In one piece.** Weight: 450 g

QS 22/5 (F)

QS 22/5 · Skeleton of the Foot, Right (Movable Joints)

Modelled according to nature, in **SOMSO-PLAST®,** Model for demonstrating foot movement. Shows: the ankle joints, the tarsal bones, the metatarsophalangeal joints and the toe joints. **In one piece.** Weight: 450 g

QS 22-N (F)

QS 22-N · Skeleton of the Foot on Nylon

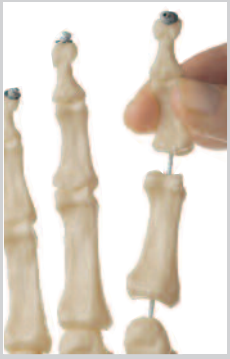
Modelled according to nature, in **SOMSO-PLAST®.** With distal ends of tibia and fibula. Nylon-mounted. With numbering. Weight: 440 g

Where technically possible, artificial foot skeletons are available to order assembled and articulated on nylon e.g. QS 22-N Skeleton of the Foot

QS 31/7 · Skeleton of the Hand with Base of Forearm (Flexible Mounting)

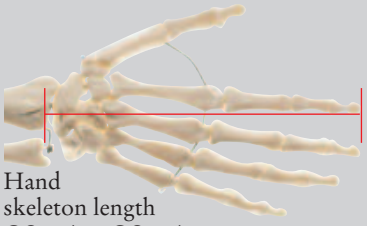
Modelled according to nature, in **SOMSO-PLAST®.**
Flexibly mounted, to show the change in position of the bones of the hand. With numbering. Weight: 170 g

Ⓕ QS 31/7



Detail QS 31/7:
Demonstration of flexible mounting

Optionally available for the respective side of the body:
QS 31/7R - Skeleton of the Hand with Base of Forearm (Flexible Mounting), right
QS 31/7L - Skeleton of the Hand with Base of Forearm (Flexible Mounting), left



Hand
skeleton length
QS 31/1 – QS 31/7
(Stylion-Dactylion III): 19 cm

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16

QS 31/1

QS 31/1 · Skeleton of the Hand with Base of Forearm (Mounted on wire)

Modelled according to nature, in **SOMSO-PLAST®.**
Rigidly mounted. With numbering. Weight: 170 g

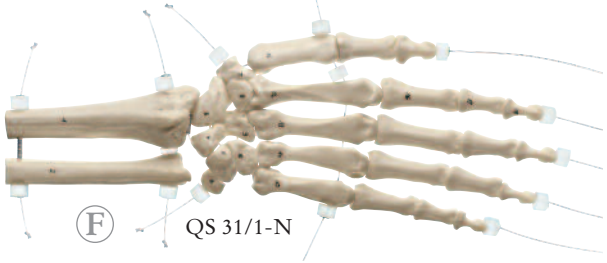
Optionally available for the respective side of the body:
QS 31/1R - Skeleton of the Hand with Base of Forearm (Mounted on wire), right
QS 31/1L - Skeleton of the Hand with Base of Forearm (Mounted on wire), left

QS 31/2

QS 31/2 · Skeleton of the Hand with Base of Forearm (Rigid)

Modelled according to nature, in **SOMSO-PLAST®.**
In one piece. Weight: 160 g

Optionally available for the respective side of the body:
QS 31/2R - Skeleton of the Hand with Base of Forearm (Rigid), right
QS 31/2L - Skeleton of the Hand with Base of Forearm (Rigid), left



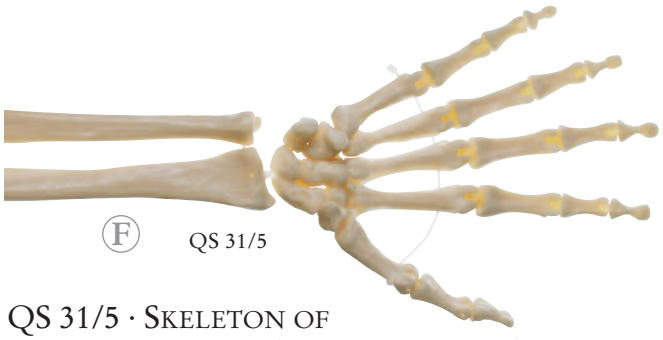
Ⓕ QS 31/1-N

Where technically possible, artificial hand skeletons are available to order assembled and articulated on nylon e.g. QS 31/1-N Skeleton of the Hand

Ⓕ QS 31/4

QS 31/4 · Skeleton of the Hand, Right (Movable Joint Mechanism and Coloured)

Modelled according to nature, in **SOMSO-PLAST®.**
with base of forearm. Model for demonstrating hand movement. The individual bones are coloured to assist familiarisation with the parts of the hand. **In one piece.** Weight: 200 g



Ⓕ QS 31/5

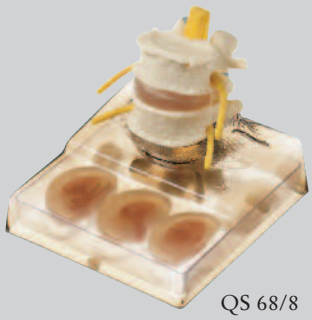
QS 31/5 · Skeleton of the Hand, Right (Movable Joints)

Modelled according to nature, in **SOMSO-PLAST®.**
Model for demonstrating hand movement. **In one piece.**
Weight: 200 g

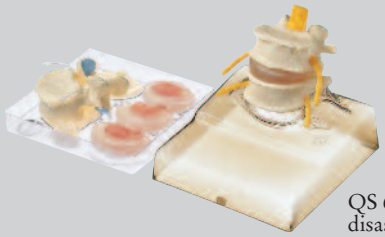
QS 31/1-N · Skeleton of the Hand with Base of Forearm on Nylon

Modelled according to nature, in **SOMSO-PLAST®.**
Nylon-mounted, to show the change in position of the bones of the hand. With numbering. Weight: 170 g

Optionally available for the respective side of the body:
QS 31/1-NR - Skeleton of the Hand with Base of Forearm on Nylon, right
QS 31/1-NL - Skeleton of the Hand with Base of Forearm on Nylon, left



QS 68/8



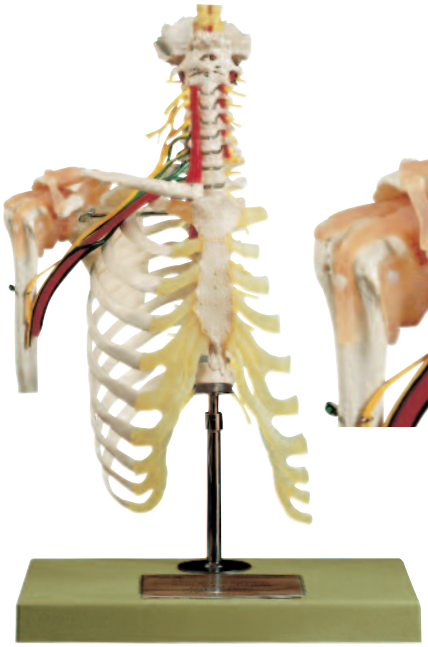
QS 68/8 disassembled

QS 68/8 · Intervertebral Disc Model

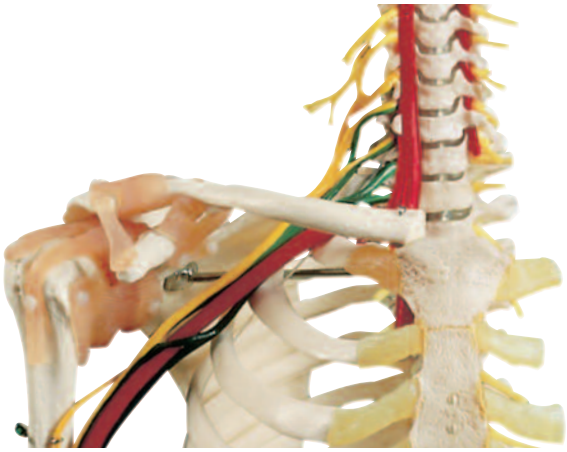
Modelled according to nature, in **SOMSO-PLAST®.** After Dr. Lie. Presentation of normal anatomy in conjunction with pathological changes:

I. Normal anatomy,
II. Annular fibrous connection according to Rumpert,
III. Dorso-lateral nuclear prolapse,
IV. Medial prolapse,
V. Spinal stenosis,
VI. L-4 Vertebral spondylolysis.

Separates into 10 parts. On a transparent base. Height: 13 cm, width: 14 cm, depth: 15 cm, weight: 550 g



QS 65/5

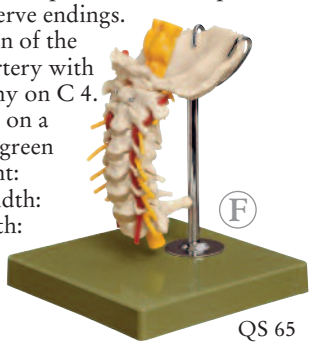


QS 65/5 · Cervical Vertebral Column with Shoulder Girdle

Modelled according to nature, in **SOMSO-PLAST®.** Showing the cervical plexus and the brachial plexus. Mounted on a stand with green base. Height: 59 cm, width: 39 cm, depth: 30 cm, weight: 3.4 kg

QS 65 · Cervical Vertebral Column

Modelled according to nature, in **SOMSO-PLAST®.** Flexible, with occipital bone, spinal cord with spinal bulb and nerve endings. Presentation of the vertebral artery with laminectomy on C 4. Removable on a stand with green base. Height: 23.5 cm, width: 14 cm, depth: 16 cm, weight: 700 g



QS 65

QS 65 Detail: Arteria vertebralis

QS 65 Detail: Laminectomy

QS 67

QS 68

QS 67 · Hernia of Dorsolateral Intervertebral Disc

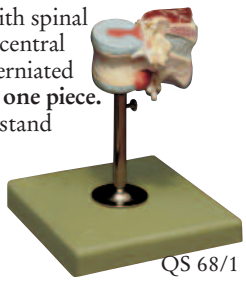
Modelled according to nature, in **SOMSO-PLAST®.** Prolapse of the nucleus pulposus (herniated disc) on the 4th and 5th lumbar vertebrae. Compression of the nerve root against the intervertebral foramen. 4th lumbar vertebra and intervertebral disc removable. **Comprises 3 parts.** On a stand with green base. Height: 12 cm, width: 12 cm, depth: 12 cm, weight: 270 g

QS 68 · Hernia of Central Intervertebral Disc

Modelled according to nature, in **SOMSO-PLAST®.** Prolapse of the nucleus pulposus (herniated disc) on the 4th and 5th lumbar vertebrae. Hernia causes displacement of the dural sac with cauda equina. 4th lumbar vertebra and intervertebral disc removable. **Comprises 3 parts.** On a stand with green base. Height: 12 cm, width: 12 cm, depth: 12 cm, weight: 280 g

QS 68/1 · First Lumbar Vertebra with Herniated Discs and Dorsal Muscles

Modelled according to nature, in **SOMSO-PLAST®.** The spinal cord with spinal nerves as well as a central and dorsolateral herniated disc are shown. **In one piece.** Removable. On a stand with green base. Height: 14 cm, width: 12 cm, depth: 12 cm, weight: 220 g



QS 68/1

QS 68/3

QS 68/3 · Central and Dorsolateral Herniated Disc

Modelled according to nature, in **SOMSO-PLAST®. Separates into 5 parts,** intervertebral discs can be replaced. On a transparent base. Height: 13 cm, width: 14 cm, depth: 15 cm, weight: 350 g


QS 66/4

QS 66/4 · Osteoporosis Model

Modelled according to nature, in **SOMSO-PLAST®,** according to Prof. Dr. med. H. R. Henche. Comparison of an osteoporotic and a healthy lumbar vertebra. There is a frontal section through the vertebral bodies, so that they can be opened by a hinged joint. **Comprises 4 parts.** On a transparent base. Height: 8 cm, width: 21 cm, depth: 15 cm, weight: 430 g


QS 66/3

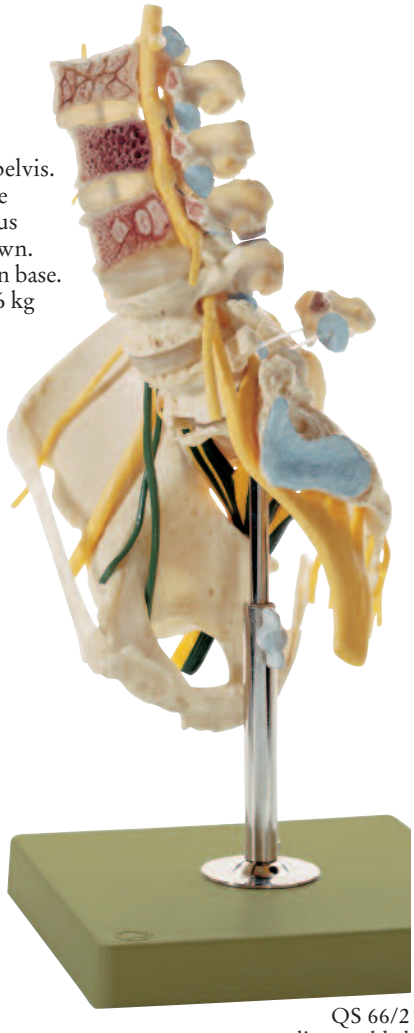
QS 66/3 · Lumbar Spinal Column - without Innervation

Modelled according to nature, in **SOMSO-PLAST®.** After Prof. Dr. med. H. R. Henche. Shows the many pathological conditions of the lumbar spine and the pelvis. **Separates into 2 parts.** Mounted on a stand with green base. Height: 37 cm, width: 23 cm, depth: 18 cm, weight: 1.35 kg

QS 66/2 · Lumbar Spinal Column - with Innervation

Modelled according to nature, in **SOMSO-PLAST®.** After Prof. Dr. med. H. R. Henche. Shows the many pathological conditions of the lumbar spine and the pelvis. The lumbar part of the cord, epidural cavity, all of the nerve roots, the plexus lumbalis, plexus sacralis, plexus coccygeus and the sympathetic trunk ganglia are shown. **Separates into 2 parts.** Mounted on a stand with green base. Height: 37 cm, width: 23 cm, depth: 18 cm, weight: 1.46 kg


QS 66/2 dorsal view

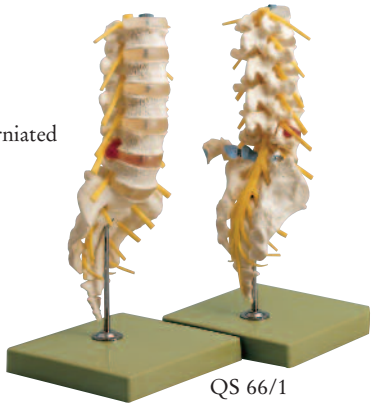

QS 66/2 disassembled



QS 66 Detail: Dorsolateral herniated disc

QS 66 · Lumbar Vertebral Column

Modelled according to nature, in **SOMSO-PLAST®.** With spinal cord and nerve endings. Shows dorsolateral herniated disc (prolapse of the nucleus pulposus). On a stand with green base. Height: 37 cm, width: 18 cm, depth: 18 cm, weight: 1.2 kg


QS 66/1

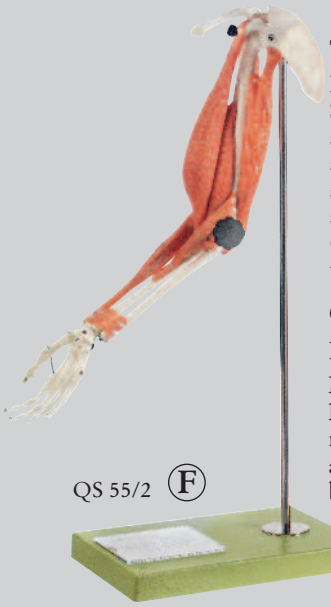
QS 66/1 · Lumbar Vertebral Column

Modelled according to nature, in **SOMSO-PLAST®.** As QS 66, but showing spondylolisthesis. On a stand with green base. Height: 37 cm, width: 18 cm, depth: 18 cm, weight: 1.2 kg

Artificial Bone Models

Nature is our Model SOMSO® Modelle

Anatomy 16



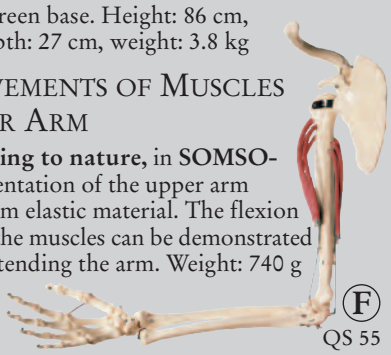
QS 55/2 Ⓕ

QS 55/2 · Movement of Muscles in the Upper Arm and Forearm

Modelled according to nature, in **SOMSO-PLAST®.** Showing the flexor and extensor muscles of the upper arm and the rotator muscles of the forearm. By bending and stretching the arm, the flexion and extension as well as the movements around the rotary axis, the pronation and supination of the muscles can be demonstrated. On a stand and green base. Height: 86 cm, width: 50 cm, depth: 27 cm, weight: 3.8 kg

QS 55 · Movements of Muscles in the Upper Arm

Modelled according to nature, in **SOMSO-PLAST®.** Representation of the upper arm muscles made from elastic material. The flexion and extension of the muscles can be demonstrated by flexing and extending the arm. Weight: 740 g



Ⓕ QS 55

QS 55/5

QS 55/5 disassembled

QS 55/7

QS 55/7 partly disassembled

QS 55/7 · Model of the Shoulder Joint

Modelled according to nature, in **SOMSO-PLAST®.** Developed in collaboration with Dr. med. Wolfgang Birkner. Representation of the ligaments, the capsule, and the muscles with an emphasis on the rotator cuff. **Separates into 12 parts.** On a stand with green base. Height 19 cm, width 18 cm, depth 18 cm, weight 800 g

Detail QS 55/7 rotator cuff

QS 55/6

QS 55/6 disassembled

QS 55/3 disassembled

QS 55/3

QS 55/5 · Model of the Arm Muscles

Modelled according to nature, in **SOMSO-PLAST®. Separates into 24 parts.** All muscles can be traced to their point of insertion (blue) and their origin (red) both singly and in relation to each other. On a stand with green base. Height: 87 cm, width: 41 cm, depth: 27 cm, weight: 5.4 kg

QS 55/3 · Demonstration Model of the Arm Muscles

Modelled according to nature, in **SOMSO-PLAST®. Separates into 10 parts.** The most important arm muscles can be traced to their points of insertion and origin both singly and in relation to each other. The muscle groups responsible for bending and stretching movements and pronation and supination can be demonstrated. On a stand with a green base. Height: 81 cm, width: 38 cm, depth: 38 cm, weight: 4.4 kg

QS 55/6 · Demonstration Model of the Shoulder Muscles

Modelled according to nature, in **SOMSO-PLAST®. Separates into 10 parts.** All muscles can be traced to their point of insertion (blue) and their origin (red) both in relation to each other and individually. On a green base. Height: 24 cm, width: 18 cm, depth: 26 cm, weight: 1.75 kg

S 7 Reconstruction of a Skull of Australopithecus afarensis (see catalogue page 128)

Documentation of Human Phylogeny

Nature is our Model SOMSO® Modelle

Anatomy 17

The SOMSO® series "Documentation of Human Phylogeny" was developed by taking casts from the collection of the Institute for Anthropology at the University of Göttingen (with the exception of the model of the skull of the Steinheim Prehistoric Man)

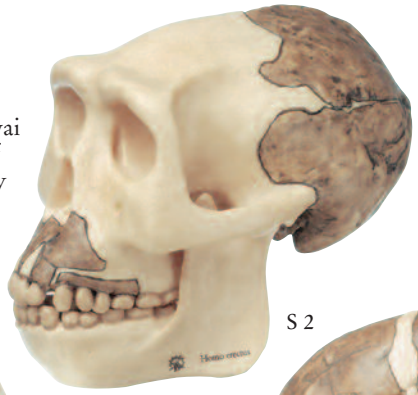
Evolutionary tree, after Henke and Rothe, 1999, showing the whole series

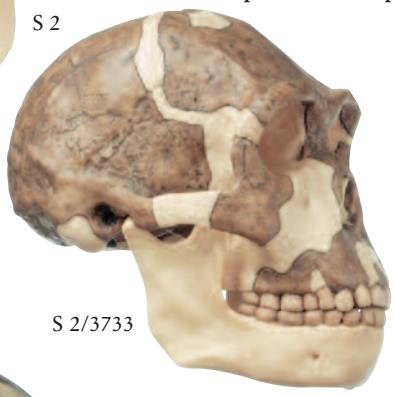
S 1 · Reconstruction of a Skull of Paranthropus boisei

Natural size, in **SOMSO-PLAST®,** after Prof. Dr. Christian Vogel. Site and dateof find: Olduvai Gorge (Tanzania, East Africa), 1959. Stratum of find: bottom bed I Olduvai. Age: approximately 1.8 million years, lower Pleistocene. **Separates into 2 parts.** Weight: 800 g

S 2 · Reconstruction of a Skull of Homo erectus

Natural size, in **SOMSO-PLAST®,** after Prof. Dr. Christian Vogel. Site and date of find: Sangiran (Central Java), 1936 and 1939. Stratum of find: Djetis formation. Age: approximately 1 million years, upper Pliocene. **Separates into 2 parts.** Weight: 820 g



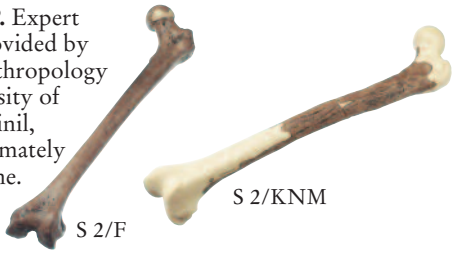


S 3 · Reconstruction of a Skull of Homo neanderthalensis

Natural size, in **SOMSO-PLAST®,** after Prof. Dr. Christian Vogel. Site and date of find: La Chapelle aux Saints (Dordogne France), 1908. Age: approximately 40,000 to 70,000 years, middle-upper Pleistocene (Würm glacial stage). **Separates into 2 parts.** Weight: 870 g

S 2/F · Reconstruction of a Thigh of Homo erectus (Trinil 3)

Natural size, in **SOMSO-PLAST®.** Expert guidance for the reconstruction provided by the Department for Prehistoric Anthropology and Human Ecology of the University of Göttingen. Site and date of find: Trinil, Java, Indonesia, 1892. Age: approximately 800,000 years, lower-mid Pleistocene. **Cannot be disassembled.** Weight: 600 g



S 2/3733 · Reconstruction of a Skull of Homo ergaster (KNM-ER 3733)

Natural size, in **SOMSO-PLAST®.** Expert guidance for the reconstruction provided by the Department for Prehistoric Anthropology and Human Ecology of the University of Göttingen. Site and date of find: Koobi Fora, East Turkana Region, Kenya, East Africa, 1975. Age: approximately 1.7 million years, upper Pliocene. **Separates into 2 parts.** Weight: 800 g

S 2/KNM · Reconstruction of a Thigh of Homo ergaster

Natural size, in **SOMSO-PLAST®.** Expert guidance for the reconstruction provided by the Department for Prehistoric Anthropology and Human Ecology of the University of Göttingen. Site and date of find: Koobi Fora, Kenya, East Africa, 1971. Age: approximately 300,000 years, middle Pleistocene. **Cannot be disassembled.** Weight: 760 g

S 11 · Skull of the Steinheim Prehistoric Man, Homo steinheimensis

Natural size, in **SOMSO-PLAST®.** Cast using a casting model from the collection of the State Museum of Natural History in Stuttgart and compared with the original finding. The model has been examined by Dr. R. Ziegler from the State Museum of Natural History in Stuttgart. Site and date of find: Steinheim an der Murr (north of Stuttgart, Germany), 1933. Age: approximately 250,000 years. **Cannot be disassembled.** Weight: 500 g

S 3/1 · Reconstruction of a Skull of Homo habilis (O.H. 24)

Natural size, in **SOMSO-PLAST®.** Expert guidance for the reconstruction provided by the Department for Prehistoric Anthropology and Human Ecology of the University of Göttingen. Site and date of find: Olduvai Gorge, region DK 1, east, 1968. Age: approximately 1.85 million years, Pliocene. **Separates into 2 parts.** Weight: 510 g

S 3/1

S 5/1 · Reconstruction of a Skull of Proconsul africanus

Natural size, in **SOMSO-PLAST®.** Expert guidance for the reconstruction provided by the Department for Prehistoric Anthropology and Human Ecology of the University of Göttingen. Site and date of find: Rusinga Island, Kenya, East Africa, 1948. Age: approximately 20 million years, early Miocene. **Separates into 2 parts.** Weight: 220 g

S 5/1

S 3/F · Reconstruction of a Thigh of Homo neanderthalensis

Natural size, in **SOMSO-PLAST®.** Expert guidance for the reconstruction provided by the Department for Prehistoric Anthropology and Human Ecology of the University of Göttingen. Site and date of find: Feldhofer Cave, Neander Valley near Düsseldorf, 1856. Age: approximately 40,000 - 50,000 years. **Cannot be disassembled.** Weight: 700 g

S 3/F

S 4

S 5

S 5/STs14

S 4 · Reconstruction of a Skull of Homo sapiens

Natural size, in **SOMSO-PLAST®,** after Prof. Dr. Christian Vogel. As an example of the Cromagnon man we have taken a skull from the series of finds from Predmost (Czech Republic). Site and date of find: Predmost (North Moravia), 1884 - 1928. Age: upper upper Pleistocene, approximately 25,000 years. **Separates into 2 parts.** Weight: 830 g

S 5 · Reconstruction of a Skull of Australopithecus africanus

Natural size, in **SOMSO-PLAST®,** after Prof. Dr. Christian Vogel. Site and date of find: Sterkfontein (Transvaal, South Africa), 1947. Age: approximately 2.3 to 2.8 million years, lower Pliocene. **Separates into 2 parts.** Weight: 570 g

S 5/STs14 · Reconstruction of a Pelvis of Australopithecus africanus

Natural size, in **SOMSO-PLAST®.** Expert guidance for the reconstruction provided by the Department for Prehistoric Anthropology and Human Ecology of the University of Göttingen. Site and date of find: Sterkfontein, Republic of South Africa, 1947. Age: approximately 2.2 -2.8 million years. **Cannot be disassembled.** Weight: 570 g

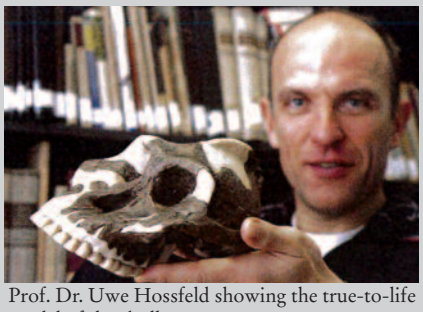
A SKULL YOU CAN TOUCH

A teaching model of a prehistoric human skull is created

2.3 to 2.6 million years ago, *Paranthropus aethiopicus* roamed the area around Lake Turkana in today's Kenya. The ancestor of humans, which belonged to the Hominini taxonomical tribe, mainly lived on a hard, plant-based diet. "With his strong masseter muscles, he was even able to crack nuts", says Prof. Dr. Uwe Hossfeld, head of the Biology Education Research Group team has one of the largest collections

Until today, there has been only one single skull fragment of a *Paranthropus aethiopicus,* which is kept in the National Museum of Kenya. Now company SOMSO® from Sonneberg/Coburg have made a reproduction of the skull that is true to the original. The model is going to be used in teaching at schools and universities. Prof. Hossfeld supported the company with this project as scientific advisor and has compiled an accompanying booklet for the model.

The Biology Education Research Group team has one of the largest collections of teaching materials in Germany.



Prof. Dr. Uwe Hossfeld showing the true-to-life model of the skull

Article reproduced from the Jena University Journal 12/15

S 7 · Reconstruction of a Skull of Australopithecus afarensis

Natural size, in **SOMSO-PLAST®.** Expert guidance for the reconstruction provided by the Department for Prehistoric Anthropology and Human Ecology of the University of Göttingen. Fossil sites of Australopithecus afarensis: Belohdelie, Fejej, Hadar (Denen Dora-Sidi Hakoma- and Kada Hadar-Member), Maka and Omo (Shungura and Usno Formation), Ethiopia, Laetoli (Lower and Upper Laetoli Beds), Tanzania. Age: 3.6 - 3.0 million years, upper Pliocene, **Separates into 2 parts.** Weight: 600 g. (For detail see page 125)

S 8

S 8 · Reconstruction of a Skull of Homo rudolfensis

Natural size, in **SOMSO-PLAST®.** Expert guidance for the reconstruction provided by the Department for Prehistoric Anthropology and Human Ecology of the University of Göttingen. Site and date of find: The reconstruction combined with the skull find of Koobi Fora, eastern Turkana region, Kenya, 1972, and the mandible find of Uraha, Malawi, 1991, age: approximately 2.5-1.9 million years, upper Pliocene. **Separates into 2 parts.** Weight: 750 g

S 7

S 10

S 10 base of the skull

S 6 · Lower Jaw from Mauer near Heidelberg, Homo heidelbergensis

Natural size, in **SOMSO-PLAST®,** after Prof. Dr. Christian Vogel. Site and date of find: Mauer (south-east of Heidelberg, Germany), 1907. Age: approximately 500,000 to 600,000 years, middle Pleistocene. **Cannot be disassembled,** with a green base and transparent cover. Height: 10 cm, width: 18 cm, depth: 18 cm, weight: 500 g

S 6

S 10 · Reconstruction of a Skull of Paranthropus aethiopicus

Natural size, in **SOMSO-PLAST®,** after Prof. Dr. Uwe Hossfeld, University of Jena. Site and date of find: West side of Lake Turana (Lake Rudolf), Kenya, 1985. Age: approximately 2.6 to 2.3 million years. **Cannot be disassembled,** with a green base. Height: 17 cm, width: 18 cm, depth: 26 cm, weight: 1.1 kg

Models of the Domestic Cat, Felis silvestris catus:
Figure on the right: ZoS 27
Figure on the left: ZoS 27/1
(See catalogue page 137)

Vertebrates

Cow,

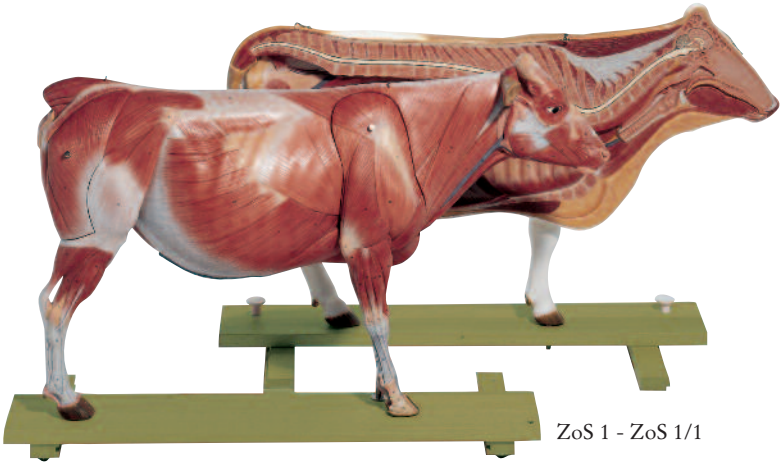
Bos primigenius taurus

Nature is our Model SOMSO® Modelle

Zoology 1

Introduction to zoology:

The order the offered SOMSO® zoology models are arranged in is mainly based on systematic aspects.



ZoS 1 - ZoS 1/1

ZoS 1 Visceral organs and removable muscles
(the model can be disassembled to also correspond to ZoS 1/1, whose stomach additionally disassembles into 3 parts - see fig. ZoS 6/1)

ZoS 1 - ZoS 1/1 Left half of the body (hide)

ZoS 1 - ZoS 1/1 Right half of the body (muscles) with visceral organs

ZoS 1 · Cow

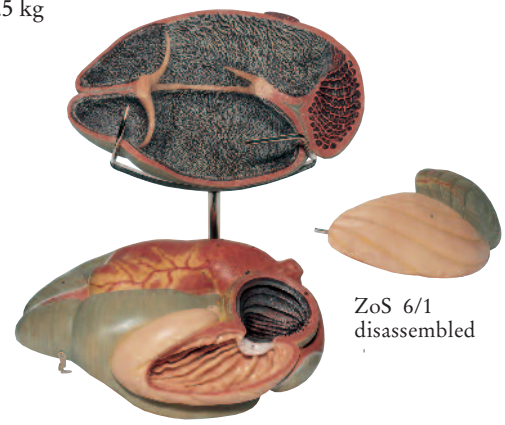
About 1/3 natural size, in **SOMSO-PLAST®.**
Median section. Separates into two halves. The left side shows the hide, the right side shows the surface muscular system. Right foreleg with shoulder blade and the biceps of the thigh are removable. The udder shows suspension, network of blood and lymphatic vessels. Visceral organs can be disassembled: Lungs, heart (2 parts), small and large intestine, ruminant stomach, uterus, and half of the udder. Showing the rumen puncture. **Comprises 11 parts.** Mounted on a green pull-out base with castors. Height: 54 cm, width: 85 cm (=length of the model), depth: 28 cm, weight: 17.4 kg

ZoS 1/1 · Cow

About 1/3 natural size, in **SOMSO-PLAST®.**
As model ZoS 1 but with ruminant stomach that can be disassembled - rumen, reticulum, omasum, abomasum. **Separates into 13 parts.** Mounted on a green pull-out base with castors.
Height: 54 cm, width: 85 cm (=length of the model), depth: 28 cm, weight: 17.5 kg

ZoS 6/1 · Ruminant Stomach of the Cow

1/3 natural size, in **SOMSO-PLAST®.**
Rumen and reticulum separate into 2 halves vertically and show the relief of the stomach lining; omasum and abomasum can be opened. **Separates into 3 parts.** Removable on a stand with green base.
Height: 35 cm, width: 28 cm, depth: 18 cm, weight: 2.5 kg



ZoS 6/1 disassembled

ZO 3 · DEMONSTRATION MODEL OF THE COW

1/4 natural size. The left side shows the hide, the right side shows the skeleton with the topography of the thoracic and abdominal intestines. Fore and hind legs removable. **Separates into 3 parts.** On a green base. Height: 41 cm, width: 66 cm (=length of the model), depth: 22 cm, weight: 4.7 kg

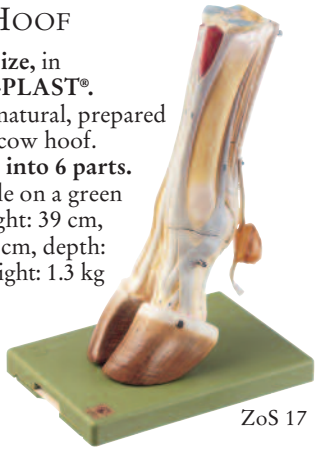
ZoS 5

ZoS 5 · MODELS OF SETS OF COW'S TEETH

In **SOMSO-PLAST®. Natural size** of the lower jaw showing ten different stages of growth: 14 days, 1 year, 1 1/2 years, 2 years, 3 years, 4 years, 5 years, 9 years, 14 years, and 18 years. **In one piece.** Individually mounted on green bases. Measurement of a single model: Height: 10 cm, width: 12 cm, depth: 12 cm, weight of the series: 1.8 kg

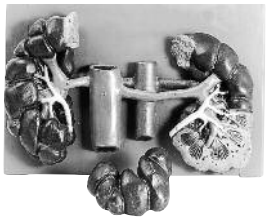
ZoS 17 · COW HOOF

Natural size, in **SOMSO-PLAST®.** Cast of a natural, prepared left front cow hoof. **Separates into 6 parts.** Removable on a green base. Height: 39 cm, width: 18 cm, depth: 26 cm, weight: 1.3 kg



ZoS 17

Zo 4 disassembled



Zo 7 disassembled

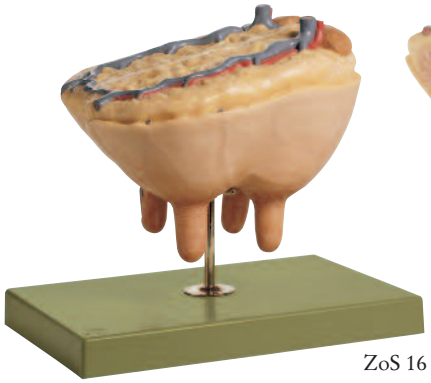
ZO 4 · NOSE OF COW

Natural size, modelled from a natural preparation. The model shows the nasal cartilage, glands, nasolabial plate, muscles, and bones. Folds and passages inside. **Separates into 2 parts.** On a green base. Height: 25 cm, width: 25 cm, depth: 20 cm, weight: 2 kg

ZO 7 · KIDNEYS OF THE COW

Natural size. With the inflowing and outflowing vessels, one kidney can be detached to show the pelvis of the kidney and the papillae. On a green board. **Separates into 2 parts.** Height: 35 cm, width: 48 cm, depth: 8 cm, weight: 2.2 kg

ZoS 17 disassembled

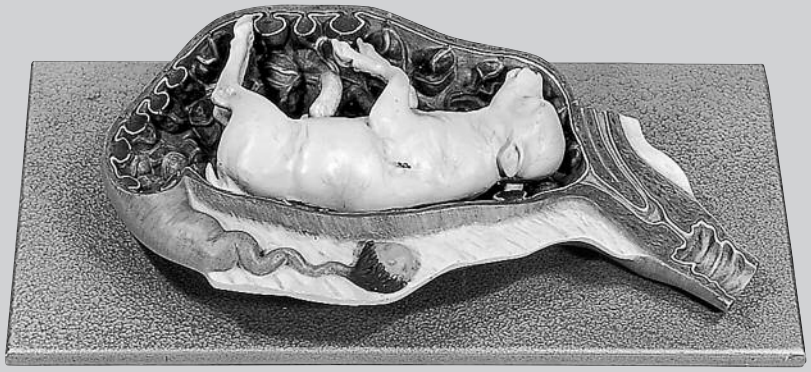


ZoS 16

ZoS 16 disassembled (without stand and base)

ZoS 16 · UDDER OF THE COW

Natural size, in **SOMSO-PLAST®.** After Prof. Dr. Vollmerhaus and Prof. Dr. Waibl. **Separates into 4 parts** in sagittal and vertical section, showing the arteries, veins, lymphatic vessels and milk passages and the four glandular regions. Removable on a stand with green base. Height: 35 cm, width: 39 cm, depth: 28 cm, weight: 5.5 kg



ZO 12 · UTERUS OF THE COW

Natural size. With removable fetus. **Comprises 2 parts.** Mounted on a green board. Height: 30 cm, width: 48 cm, depth: 13 cm, weight: 3.2 kg

Zo 8

ZO 8 · FEMALE GENITAL ORGANS OF THE COW

Natural size. Horn of uterus and vagina open. **In one piece.** Mounted on a green board. Height: 68 cm, width: 45 cm, depth: 9 cm, weight: 4.3 kg

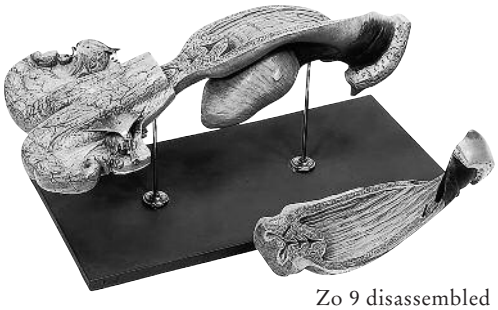
Zo 10

ZO 10 · COW - FEMALE PELVIS WITHOUT FETUS

About 2/3 natural size. Median section, uterus removable. **Comprises 2 parts.** On a green base. Height: 63 cm, width: 46 cm, depth: 30 cm, weight: 4.8 kg

ZO 9 · FEMALE GENITAL ORGANS OF THE COW

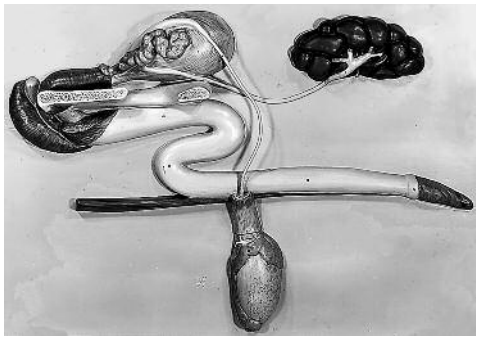
Natural size. Vagina detachable. **Comprises 2 parts.** On a stand and green base. Height: 25 cm, width: 38 cm, depth: 61 cm, weight: 3.8 kg



Zo 9 disassembled

ZO 13 · GENITAL ORGANS OF THE BULL WITH URINARY TRACT

Natural size. In one piece. Mounted on a green board. Height: 54 cm, width: 76 cm, depth: 11 cm, weight: 6.6 kg



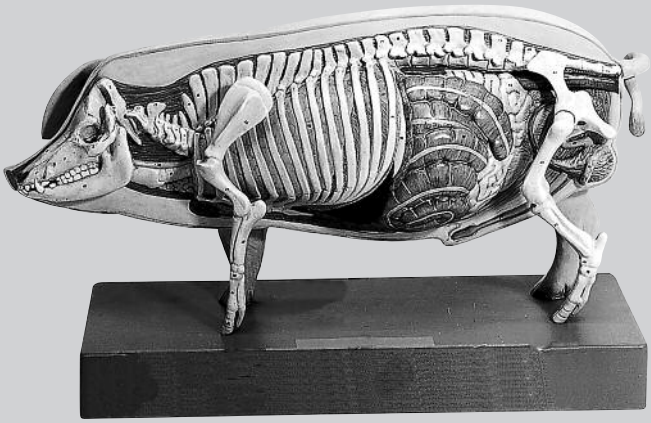
Zo 13

Zo 11 Detail - B: Uterus with fetus in breech presentation

Zo 11 Detail - A: Uterus with fetus in cephalic presentation

ZO 11 · COW - FEMALE PELVIS WITH INTERCHANGEABLE UTERUS

About 2/3 natural size. Separates into 5 parts. A. Fetus during birth in cephalic presentation and B. Fetus during birth in breech presentation. On a green base. Height: 64 cm, width: 68 cm, depth: 32 cm, weight: 18.5 kg

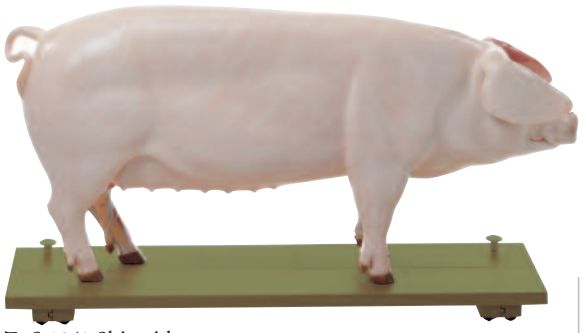


ZO 19 · MODEL OF THE PIG FOR DEMONSTRATION

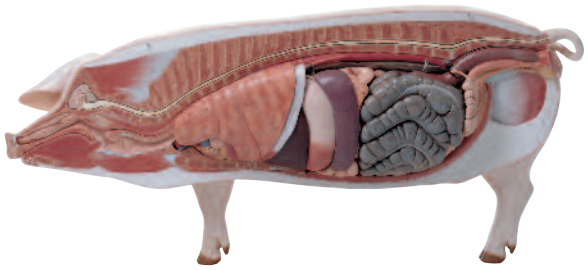
1/3 natural size. Right side shows the macroscopic anatomy, the left side the skeleton with topography of the thoracic and abdominal organs. The fore and hind legs of the skeleton are removable. **Comprises 3 parts.** On a green base. Height: 35 cm, width: 60 cm (=length of the model), depth: 20 cm, weight: 3.8 kg

ZOS 18/1 · MODEL OF A BREEDING PIG (DAM)

Approximately 1/2 natural size, in **SOMSO-PLAST®.** Based on a breeding pig from the Bavarian State Institute for Animal Breeding in Grub. Right side shows the skin, the other side shows the muscular system. The model is mounted on a green base which can be pulled out and separates into two halves medially. The left half of the head showing the muscular system, the main blood-vessels and glands (the parotid gland can be removed) as well as the auricular cartilage is removable, as is the left foreleg. After separating both halves, the left side shows the thoracic and abdominal cavity, the right side the thoracic and abdominal organs. **Separates into 17 parts:** the right half of body, left half of body, left half of head, parotid gland, left front leg, one lung, heart (2 parts), liver (2 parts), stomach (2 parts), pancreas, small intestine, large intestine, renal fat, and half of uterus. Height: 50 cm, width: 102 cm, (= length of the model), depth: 28 cm, weight: 21.8 kg

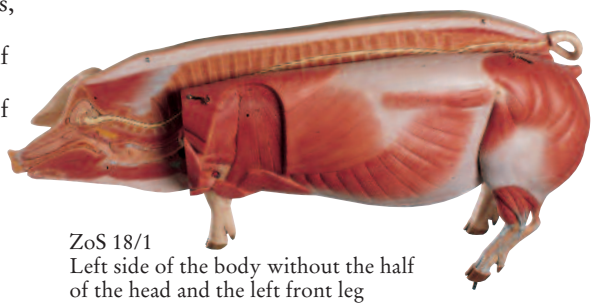


ZoS 18/1 Skin side

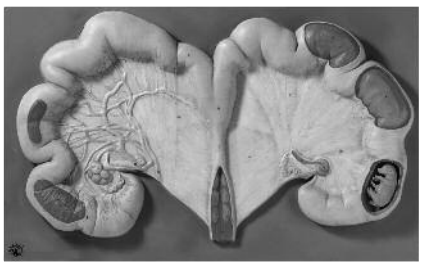


ZoS 18/1 Median section with visceral organs

ZoS 18/1
Individual parts



ZoS 18/1
Left side of the body without the half of the head and the left front leg



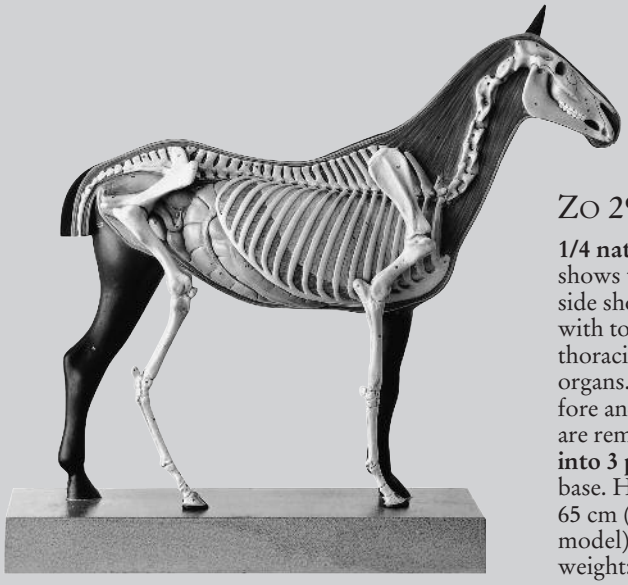
ZO 20 · UTERUS OF THE PIG WITH FETUS

Natural size, in one piece. Mounted on a green board. Height: 37 cm, width: 60 cm, depth: 7 cm, weight: 2.7 kg

Zo 21 disassembled

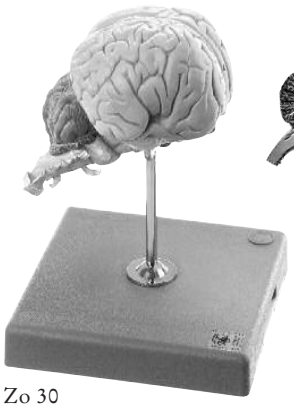
ZO 21 · STOMACH OF THE PIG

Natural size. Can be opened to show the relief of the folds of the mucous membrane. **Separates into 2 parts.** On a stand and green base. Height: 38 cm, width: 23 cm, depth: 18 cm, weight: 1.2 kg

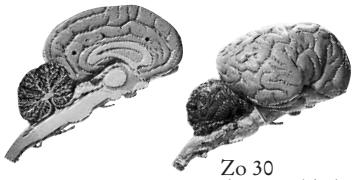


Zo 29 · Horse

1/4 natural size. Left side shows the hide. The right side shows the skeleton with topography of the thoracic and abdominal organs. The skeletons of the fore and hind extremities are removable. **Separates into 3 parts.** On a green base. Height: 59 cm, width: 65 cm (= length of the model), depth: 20 cm, weight: 4.1 kg



Zo 30



Zo 30 disassembled

Zo 30 · Brain of the Horse

Natural size. Median section. **Separates into 2 parts.** On a stand with green base. Height: 22 cm, width: 18 cm, depth: 18 cm, weight: 610 g

Zo 31 · Eyeball of the Horse

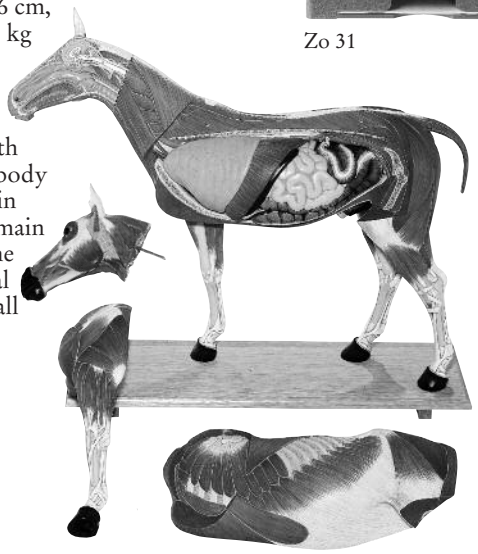
Enlarged 5 times linearly, cut horizontally, corium, vitreous humour, and lens removable. **Separates into 5 parts.** On a stand and green base. Height: 27 cm, width: 18 cm, depth: 18 cm, diameter 16 cm, weight: 1.2 kg

Zo 31 disassembled

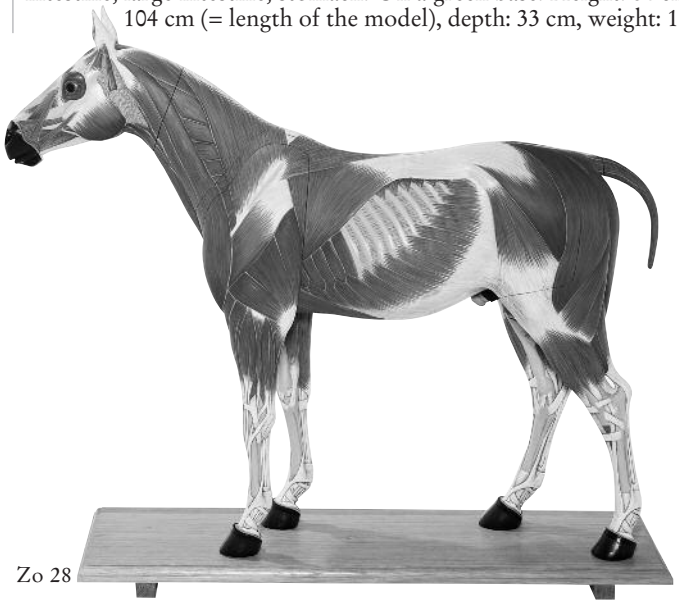
Zo 31

Zo 28 · Horse

Approximately 1/3 of the natural size. Shows the muscle structure on both sides, torso ventral separated along the dorso-ventral axis. Left side of the body together with foreleg is detachable, thoracic and abdominal organs shown in their exact topographic position as well as the male urogenital system and main blood vessels. **Separates into 14 parts:** right side of the body, left side of the body, right side of the head, left side of the head, left foreleg, left abdominal cavity, superficial gluteal muscle, tail, heart (2 parts), lungs, diaphragm, small intestine, large intestine, stomach. On a green base. Height: 84 cm, width: 104 cm (= length of the model), depth: 33 cm, weight: 16.6 kg



Zo 28 partly disassembled



Zo 28

Zo 28 Individual parts (without front leg and thoracic and abdominal wall)

ZoS 42/43 disassembled

ZoS 42/43 · Right Forefoot of the Horse with Ligamentous Apparatus, Vessels, and Nerves

Natural size, in **SOMSO-PLAST®. Separates into 7 parts.** Removable on a stand with green base. Height 29 cm, width 18 cm, depth 26 cm, weight 1.5 kg

ZoS 42/43

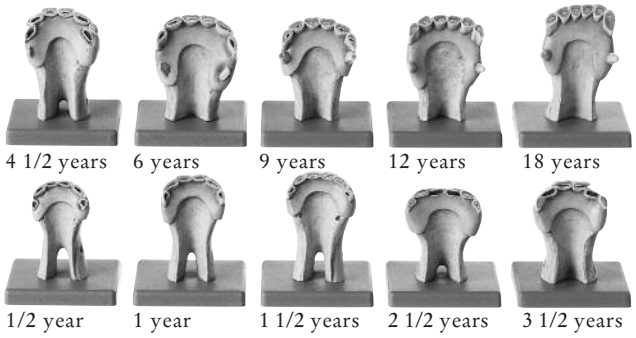
Model ZoS 42/43 Right Forefoot of the Horse with Ligamentous Apparatus, Vessels, and Nerves has been developed in co-operation with Prof. Dr. Helmut Waibl and Dr. Elisabeth Engelke of the Institute of Anatomy at the University of Veterinary Medicine Hanover.

Vertebrates

Horse, Equus ferus caballus

Nature is our Model SOMSO® Modelle

Zoology 1



4 1/2 years · 6 years · 9 years · 12 years · 18 years

1/2 year · 1 year · 1 1/2 years · 2 1/2 years · 3 1/2 years

Zo 33 · Sets of Teeth of a Horse

Natural size, modelled from the natural lower jaw showing 10 different stages of growth: at 1/2, 1, 1 1/2, 2 1/2, 3 1/2, 4 1/2, 6, 9, 12, and 18 years of age. Individually mounted on green bases. **In one piece.** Measurements of one model: Height: 13 cm, width: 12 cm, depth: 12 cm, weight of the series 2 kg

Zo 33

Zo 41 disassembled

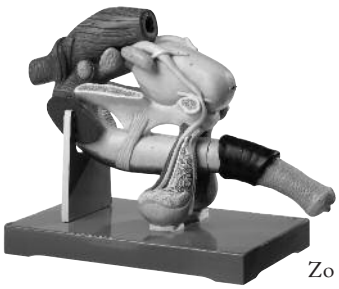
Zo 41 · Knee Joint of the Horse

Natural size. With ligaments. **Separates into 2 parts.** On a green base. Height: 42 cm, width: 18 cm, depth: 24 cm, weight: 1.1 kg

Zo 36 disassembled

Zo 36 · Stomach of the Horse

Natural size, separates into 2 halves. Removable from a green board. Height: 21 cm, width: 45 cm, depth: 37 cm, weight: 3.5 kg

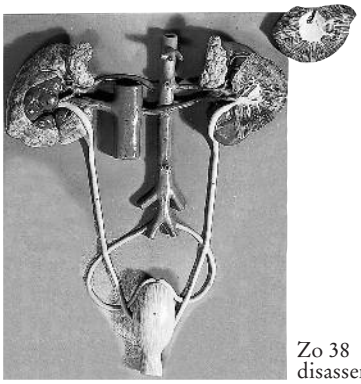


Zo 39

Zo 39 disassembled

Zo 39 · Genital Organs of a Stallion

Natural size. Median section. **Separates into 4 parts.** Removable from a green base. Height: 38 cm, width: 55 cm, depth: 22 cm, weight: 3.9 kg



Zo 38 disassembled

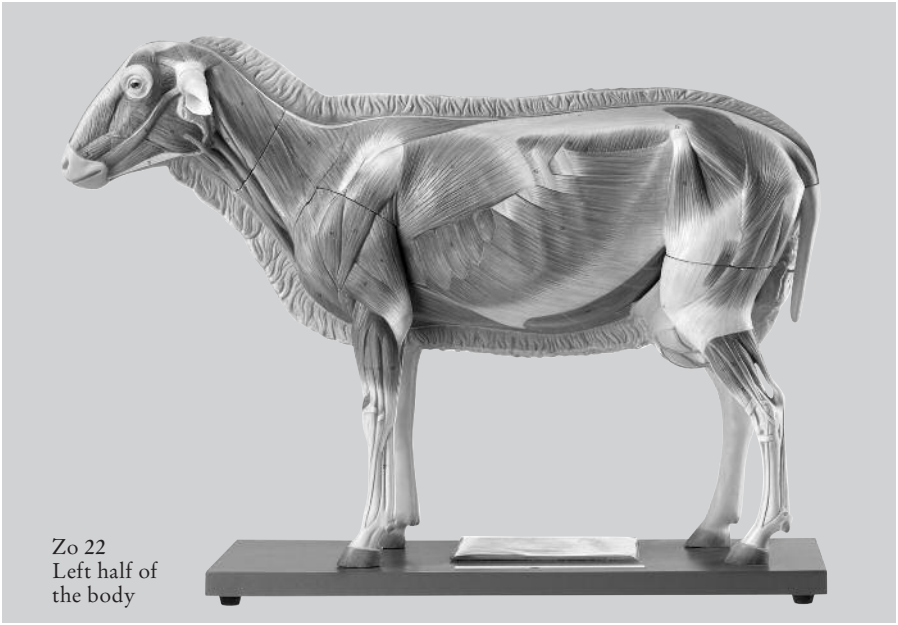
Zo 38 · Urinary Tract of a Male Horse

Natural size. Kidney comprises 2 parts. Mounted on a green board. Height: 59 cm, width: 44 cm, depth: 9 cm, weight: 3.4 kg

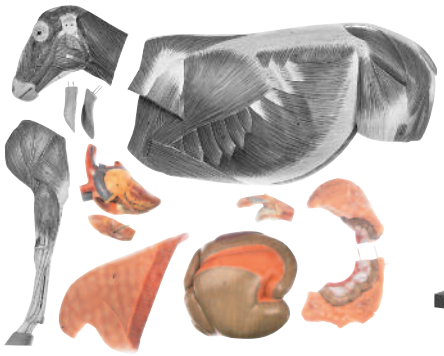
Zo 40

Zo 40 · Genital Organs of a Mare

Modelled from a natural specimen, **natural size.** Vagina and horn of uterus open. **In one piece.** Mounted on a green board. Height: 68 cm, width: 45 cm, depth: 8 cm, weight: 4.25 kg



Zo 22
Left half of the body

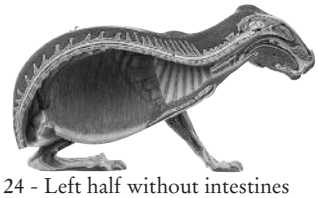


Zo 22 disassembled (the viscera are in SOMSO-PLAST®)

Zo 22 Skin side

Zo 22 · Sheep

Approximately 2/3 natural size. One side shows the skin, the other the muscular system. The left half of the head, the right and left ear, and the left foreleg are removable. After removing the abdominal wall, the topography of the thoracic and abdominal organs are displayed. Separates into: left half of lungs, heart (2 parts), stomach, small instestine (2 parts), and uterus. **Comprises 13 parts.** On a green base. Height: 49 cm, width: 70 cm, (= length of the model), depth: 20 cm, weight: 17 kg



Zo 24 - Left half without intestines

Removable ear and intestines

Zo 24 - Right half with intestines

Zo 24 - Muscle side

Zo 24 · Domestic Rabbit

Natural size, after a white buck rabbit which had won many prizes. **Separates into two halves medially.** The right side shows the pelt, the left half the muscular system and the topography of the thoracic and abdominal intestines which are removable. **Separates into 8 parts.** On a green base. Height: 30 cm, width: 52 cm (= length of the model), depth: 20 cm, weight: 5.6 kg

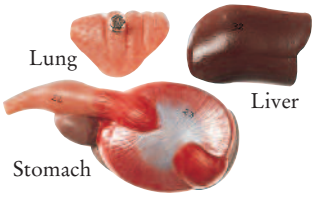
Zo 24 - Pelt side

ZoS 26

ZoS 26 · Domestic Hen

Natural size, in **SOMSO-PLAST®.** Modelled from a natural skeleton. The right side shows the plumage; the left side the organs. The torso can be easily removed from the plumage to show the muscular system. The following internal organs are removable: left lung, part of the liver, stomach. **Comprises 5 parts**. On a green base. Height: 49 cm, width: 43 cm, depth: 26 cm, weight: 2.55 kg

Topography of the muscles

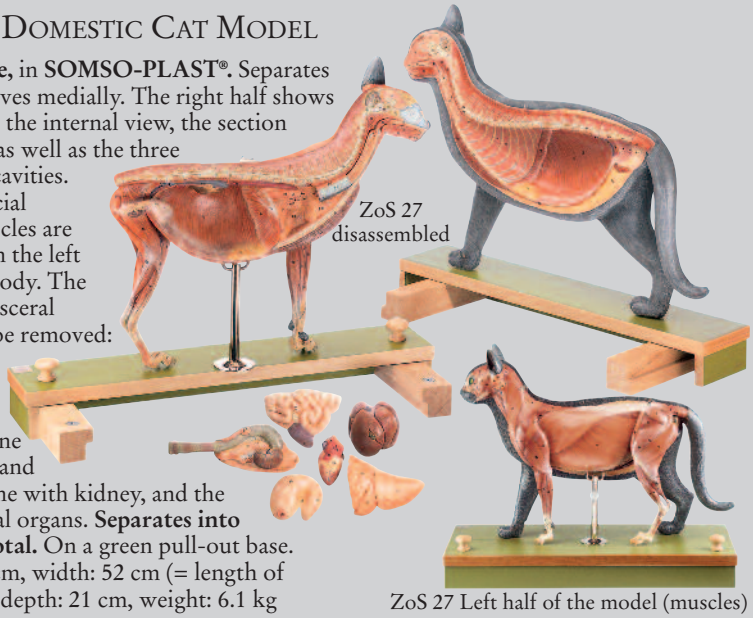


ZoS 26 individual parts

ZoS 26 Plumage

ZoS 27 · Domestic Cat Model

Natural size, in **SOMSO-PLAST®.** Separates into two halves medially. The right half shows the skin and the internal view, the section of the head as well as the three large body cavities. The superficial skeletal muscles are displayed on the left half of the body. The following visceral organs can be removed: right lung, heart, liver, stomach, small intestine with spleen and large intestine with kidney, and the female sexual organs. **Separates into 8 parts in total.** On a green pull-out base. Height: 43 cm, width: 52 cm (= length of the model), depth: 21 cm, weight: 6.1 kg

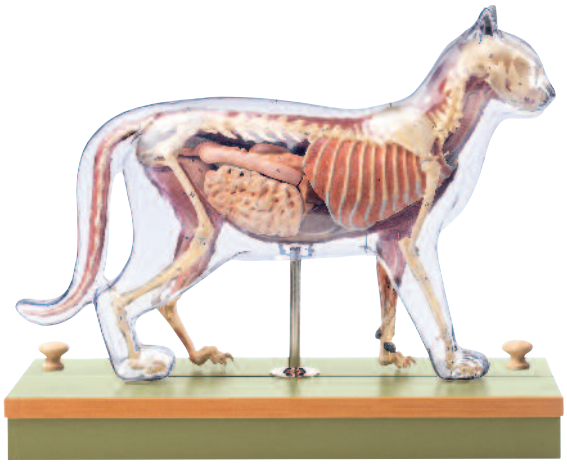


ZoS 27 Left half of the model (muscles)

Prof. Dr. Helmut Waibl and Dr. Elisabeth Engelke during the appraisal, together with modellers Viola Speer and Carola Behrens.

Vertebrates
Domestic Cat, Felis silvestris catus
Domestic Dog, Canis lupus familiaris

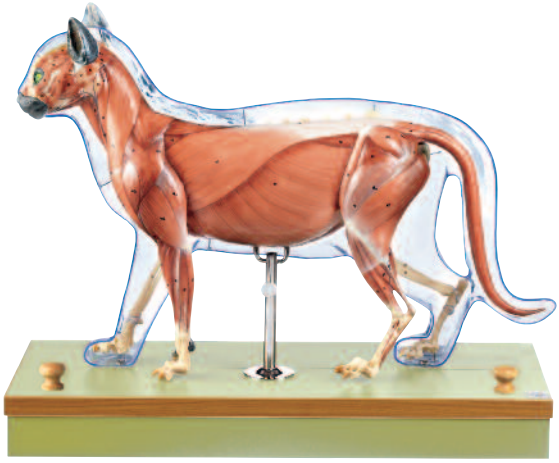
Zoology 1



ZoS 27/1 - Right half of the model (skeletal system)

Models ZoS 27, ZoS 27/1, and ZoS 109/1 developed in co-operation with Prof. Dr. Helmut Waibl and Dr. Elisabeth Engelke of the Institute of Anatomy at the University of Veterinary Medicine, Hanover.

The visceral organs of ZoS 27/1 can be disassembled, see fig. ZoS 27



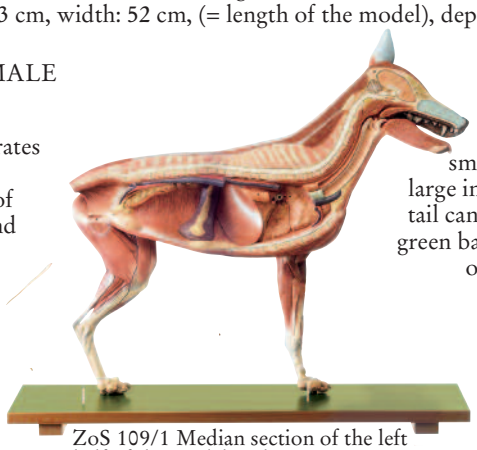
ZoS 27/1 - Left half of the model (muscles)

ZoS 27/1 · Domestic Cat Model

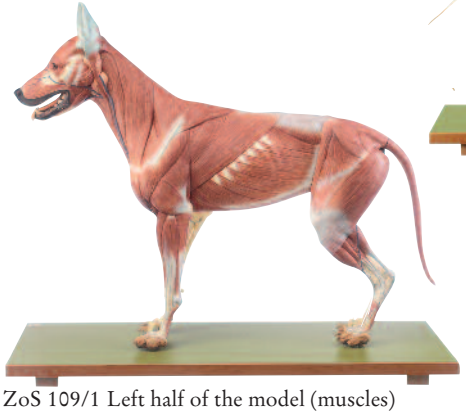
Natural size, in **SOMSO-PLAST®.** Separates into two halves medially. The right half shows the skeletal system in a transparent skin cover. The superficial skeletal muscles are displayed on the left half of the body and the median section shows the internal view of the body. The following visceral organs can be disassembled as follows: right lung, heart, liver, stomach, small intestine with spleen, large intestine with kidney, and the female sexual organs. The tail can also be removed. **Separates into 9 parts** in total, on a green pull-out base. Height: 43 cm, width: 52 cm, (= length of the model), depth: 21 cm, weight: 5.3 kg

ZoS 109/1 · Model of a Female German Shepherd Dog

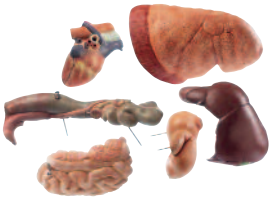
2/3 natural size, in **special plastic.** Separates into two halves medially. The right side shows the skeletal system. The left half of the model shows the skeletal muscles and the median section with a internal view of the body. The following visceral organs can be disassembled: right lung, heart, stomach, liver with right kidney, small intestine with duodenum and pancreas, large intestine with the female sexual organs. The tail can be removed. **Separates into 9 parts.** On a green base. Height: 62 cm, width: 74 cm. (= length of the model), depth: 25 cm, weight: 6.5 kg



ZoS 109/1 Median section of the left half of the model without intestines



ZoS 109/1 Left half of the model (muscles)



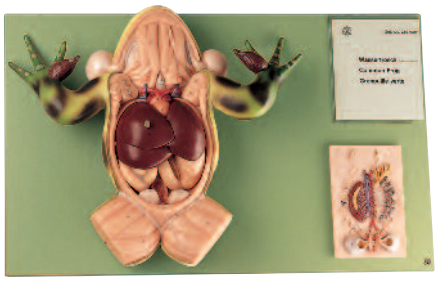
ZoS 109/1 intestines

ZoS 109/1 Right half of the model (skeletal system)

Detail of the head scales

ZoS 115 · Anatomy of the Head of a Snake

Common viper, Vipera b. berus (Linné). **Scale: 15:1,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. The model shows the general features of the head of a snake, the venom apparatus, and the distinguishing characteristics of the adder. **Cannot be disassembled,** removable on a stand with green base. Height: 31 cm, width: 50 cm, depth: 14.5 cm, weight: 1.7 kg



ZoS 100

Liver

Opened abdominal cavity

Gastrointestinal tract

Note ZoS 100 and ZoS 100/1:
In the past also called "water frog" - harmonisation of common names

ZoS 100 · Edible Frog

Pelophylax kl. esculentus (synonym: Rana kl. esculenta). After Christian Groß, Director of Studies. **Scale: 4:1,** in **SOMSO-PLAST®. Separates into 3 parts.** On a green board. Height: 38 cm, width: 61 cm, depth: 13 cm, weight: 4.6 kg

ZoS 105

ZoS 105 · Model of the Anatomy of a Bony Fish

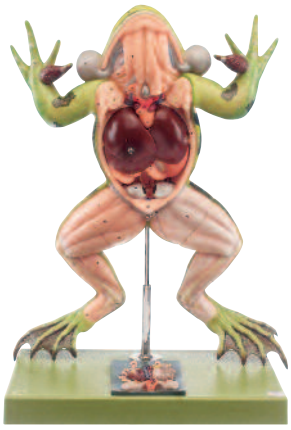
The model is that of a male mirror carp - Cyprinus carpio. In **SOMSO-PLAST®,** in **natural size.** Intestines, air-bladder, and testicles removable. **Separates into 4 parts.** On a stand with green base. Height: 35 cm, width: 48.5 cm, depth: 15 cm, weight: 1.7 kg

Disassembled visceral organs

ZoS 105 Skin side

ZoS 100/1 · Edible Frog

Pelophylax kl. esculentus (synonym: Rana kl. esculenta). After Christian Groß, Director of Studies. **Scale: 4:1,** in **SOMSO-PLAST®.** The model shows a male Edible Frog with sprayed-out legs and inflated vocal sacs. The dorsal view shows the characteristics of form, colour and marking. Liver and gastrointestinal tract can be removed. The hind legs can be removed at the thighs. The urinary and genital organs of a female edible frog are shown on a supplementary model for comparison. **Separates into 5 parts.** On a stand with green base. Height: 56 cm, width: 46 cm, depth: 28 cm, weight: 5.05 kg



ZoS 100/1 ventral side

ZoS 100/1 dorsal side

ZoS 100/1 disassembled

Invertebrates -

selection of representatives of the following simplified animal phylum classification, in descending level of order:

Echinoderms
Molluscs
Arthropods
Worms
Coelenterates
Protozoans

ZoS 117
Detail

ZoS 117

ZoS 117 disassembled

ZoS 117 · Roman Snail

Helix pomatia. **Scale: 6:1,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. From the right, you have a full view of the shell. Viewed from the left, the snail is opened. The portion of the intestinal canal between the retropharynx and the small intestine can be removed, fully revealing the hermaphroditic genital system. **Separates into 4 parts.** On a green base. Height: 28 cm, width: 70 cm, depth: 38 cm, weight: 7.5 kg

ZoS 119

ZoS 114

ZoS 114 · Common Starfish

Asterias rubens. **Scale approximately 3:1,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. **3 parts in total.** Removable on a stand with green base. Height: 33 cm, width: 50 cm, depth: 35 cm, weight: 3.1 kg

Arm in cross section

ZoS 119
disassembled

ZoS 119 · Swan Mussel

Anodonta cygnea, anatomical overview, right half of shell, of the pallium, and the gill removed, foot opened at the right side. **Scale: 4:1,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. On a green base, removable. **Separates into 7 parts.** Height: 35 cm, width: 61 cm, depth: 38 cm, weight: 8.5 kg

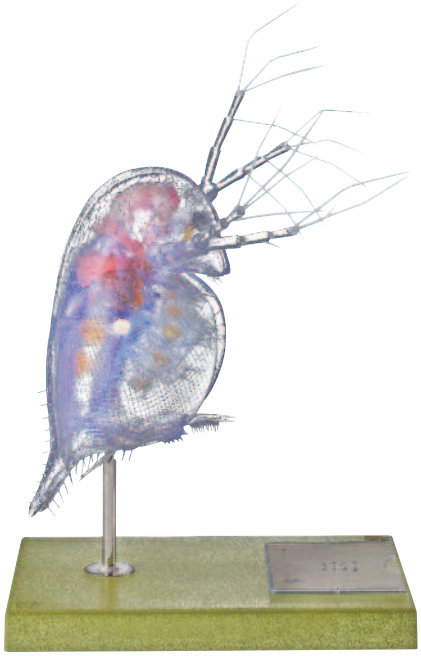
Detail of the adhesive pads and claws

Detail of the capitulum from underneath

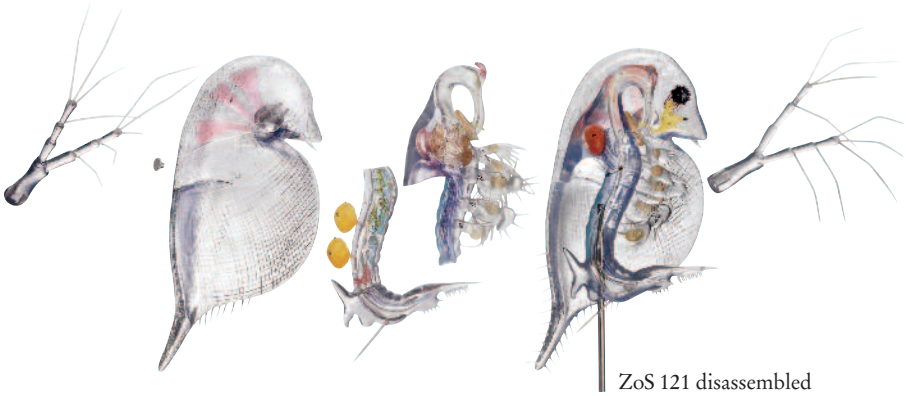
ZoS 122 · Tick

Castor bean Tick, lxodes ricinus, female. **Scale: 70:1.** Developed in co-operation with Christian Groß, Director of Studies, in **SOMSO-PLAST®.** **Cannot be disassembled.** Under transparent cover on removable green base. Height: 14 cm, width: 26 cm, depth: 28 cm, weight: 1.5 kg

ventral side



ZoS 121



ZoS 121 disassembled

ZoS 121 · Model of a Water Flea

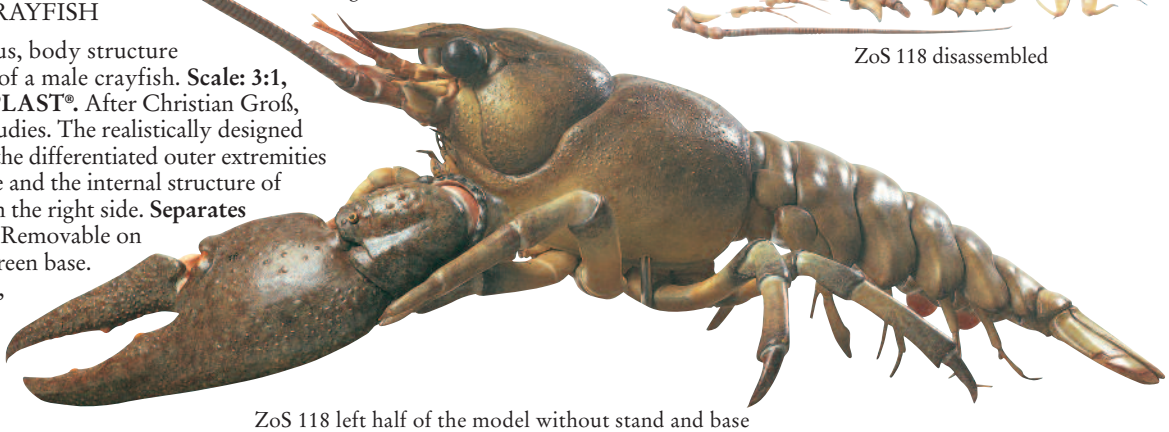
Daphnia pulex. In **SOMSO-PLAST®.** Female with summer eggs. After Christian Groß, Director of Studies. **Enlarged approximately 200:1.** The 35 cm tall, transparent model shows, apart from typical characteristics such as rowing-antennae, Right half of the shell and turgor extremities, many structural details. From the right side it separates into: right shell half with second antenna, part of the right half of the body with the five turgor-legs as well as the median-sectioned front third of the digestive tract; median-sectioned rear two thirds at the back of the digestive tract, right ovary, and two embryos. **Separates into 6 parts.** On a stand and green base. Height: 60 cm, width: 42.5 cm, depth: 39 cm, weight: 2.5 kg

ZoS 118 right half of the model

ZoS 118 disassembled

ZoS 118 · European Crayfish or Noble Crayfish

Astacus astacus, body structure and anatomy of a male crayfish. **Scale: 3:1,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. The realistically designed model shows the differentiated outer extremities on the left side and the internal structure of the crayfish on the right side. **Separates into 14 parts.** Removable on a stand with green base. Height: 31 cm, width: 75 cm, depth: 30 cm, weight: 5.1 kg



ZoS 118 left half of the model without stand and base

ZoS 47/5

ZoS 47/5 · Bark Beetle

Scale: 40:1, in **SOMSO-PLAST®.** Appraised by Christian Groß, Director of Studies. Enlarged and true-to-detail representation of the typographer beetle (Ips typographus – eight-toothed spruce bark beetle). On a stand with green base. **Cannot be disassembled.** Height: 17 cm, width: 32 cm, depth: 19 cm, weight: 900 g

ZoS 47/6

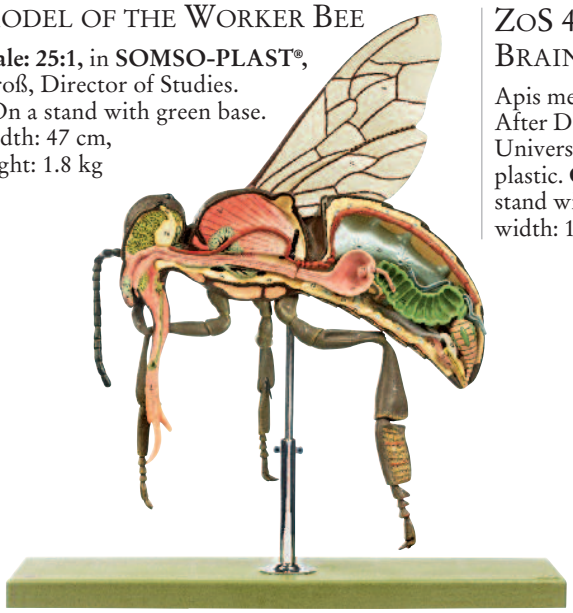
ZoS 47/6 · Bark Beetle - Development

Same version as ZoS 47/5, but with the following stages of development: egg, 2 x young larvae, fully-grown larva, pupa, and beetle. The models are displayed in a relief that is modelled on the feeding pattern. Additionally, the feeding pattern is displayed as a natural cast. **Separates into 5 parts.** On a brown base. Height: 20 cm, width: 40 cm, depth: 28 cm, weight: 1.6 kg

ZoS 47/1 · Model of the Worker Bee

Apis mellifica. **Scale: 25:1,** in **SOMSO-PLAST®,** after Christian Groß, Director of Studies. **3 parts in total.** On a stand with green base. Height: 50 cm, width: 47 cm, depth: 15 cm, weight: 1.8 kg

ZoS 48/1

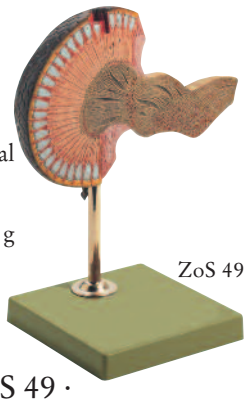


ZoS 47/1

ZoS 47/4 · Model of the Brain of a Honey Bee

Apis mellifica, **Scale: 50:1.** After Dr. Dorothea Brückner, University of Bremen. Made from special plastic. **Cannot be disassembled.** On a stand with green base. Height: 23 cm, width: 18 cm, depth: 18 cm, weight: 830 g

ZoS 47/4



ZoS 49

ZoS 49 · Ommateum or Compound Eye

Enlarged approximately 200 times, in **SOMSO-PLAST®.** Showing the histological fine structure. **Cannot be disassembled.** On a stand with green base. Height: 33 cm, width: 29 cm, depth: 18 cm, weight: 1.15 kg

ZoS 48/1 · Head of a Bee

Apis mellifica. **Scale: 50:1.** After Dr. E. Schicha, in **SOMSO-PLAST®. Separates into 2 parts.** On a stand with green base. Height: 35 cm., width: 18 cm., depth: 19 cm., weight: 1.1 kg.

ZoS 49/31

ZoS 49/31 · Common Housefly

Musca domestica. **Scale: 30:1.** After Dr. E. Schicha, in **SOMSO-PLAST®. Separates into 3 parts.** On a stand with green base. Height: 25 cm, width: 28 cm, depth: 21 cm, weight: 750 g

ZoS 48/4

ZoS 48/4 · Head of a Fly

Musca domestica. **Scale: 50:1,** after Dr. E. Schicha, in **SOMSO-PLAST®. Cannot be disassembled.** On a stand with green base. Height: 29 cm, width: 18 cm, depth: 21 cm, weight: 900 g

ZoS 47/2

ZoS 47/2 · Model of the Hind Legs of a Bee

Functional model, after Dr. E. Schicha. **Enlarged many times,** in **SOMSO-PLAST®.** The model is particularly well suited to illustrate the following functions: brushing off the bee's body with the combs, collecting the pollen in the corbicula on the outside of the tibia, movable joint between tibia and planta. **Cannot be disassembled.** On a stand with green base. Height: 42 cm, width: 18 cm, depth: 18 cm, weight: 650 g

ZoS 48 · Head of Carabus

Golden Ground Beetle, Carabus auratus, **Scale: 50:1,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. Lower jaw, lower lip, and both antennae are removable for demonstration purposes. Simplified facet structure. **Separates into 6 parts.** On a stand with green base. Height: 40 cm (with antennae), width: 70 cm, depth: 60 cm, weight: 3.2 kg

ZoS 48

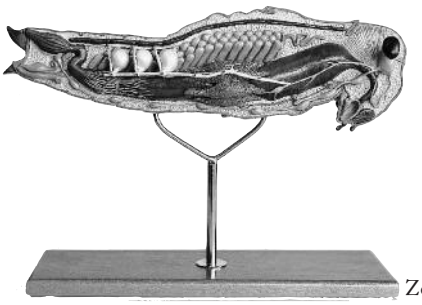
ZoS 48/6 · Model of the Head of a Cockroach

Periplaneta americana. After Dr. E. Schicha. Modelled from nature. **Scale: 50:1,** in **SOMSO-PLAST®.** Upper jaw and maxillae are movable and mounted to demonstrate the function. **Separates into 3 parts.** On a stand with green base. Height: 43 cm, width: 29 cm, depth: 18 cm, weight: 1.2 kg

ZoS 48/6

Zo 104 · Model of the Egyptian Migratory Locust, Female

Anacridium aegyptium. After natural preparations, **enlarged approximately 10 times**. After Christian Groß, Director of Studies. **In one piece.** On a stand with green base. Height: 30 cm, width: 48 cm, depth: 15 cm, weight: 1.5 kg



Zo 104

ZoS 49/3

ZoS 49/3 · Springtail

Sminthurus viridis (Collembola). **Scale: 90:1,** in **SOMSO-PLAST®. In one piece.** After Dr. E. Schicha. **Modelled from nature.** The mechanism of the furcula can be demonstrated. On a stand with green base. Height: 27 cm, width: 18 cm, depth: 26 cm, weight: 820 g

ZoS 49/20

ZoS 49/27

ZoS 49/14 · Termite

Coptotermes acinaciformis. A soldier termite or "white ant". **Scale: 50:1,** in **SOMSO-PLAST®.** After Dr. E. Schicha. **In one piece.** On a stand with green base. Height: 22 cm, width: 24 cm, depth: 18 cm, weight: 750 g

ZoS 49/20 · Head Louse

Pediculus humanus, var. capitis, in **SOMSO-PLAST®.** After Dr. E. Schicha. **Scale: 70:1. In one piece.** On a stand with green base. Height: 18 cm, width: 21 cm, depth: 18 cm, weight: 650 g

ZoS 49/22 · Aphid

Macrosiphum rosae. A wingless rose aphid, after Dr. E. Schicha, in **SOMSO-PLAST®. Scale: 80:1. In one piece.** On a stand with green base. Height: 32 cm, width: 24 cm, depth: 23 cm, weight: 720 g

ZoS 49/22

ZoS 49/14

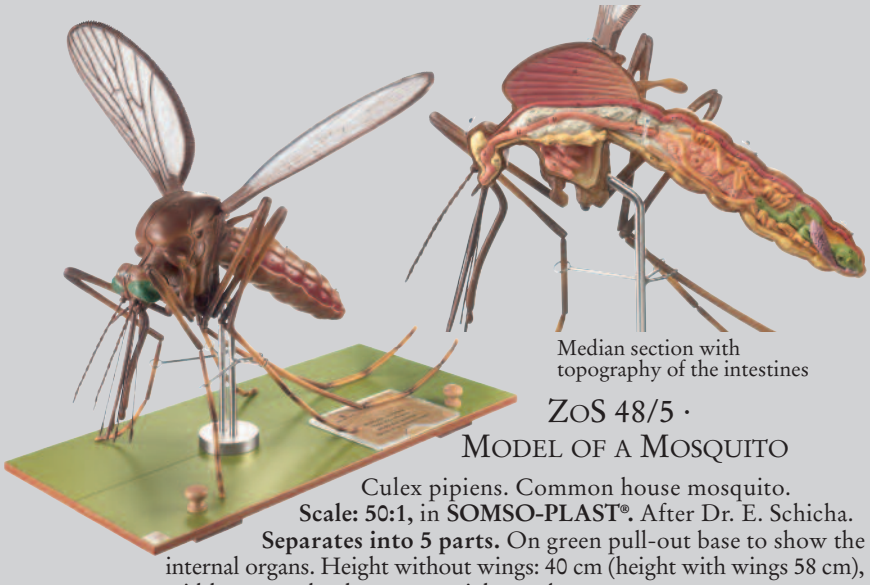
ZoS 49/32

ZoS 49/27 · Ant

Formica polyctena. A red forest ant, after Dr. E. Schicha, in **SOMSO-PLAST®. Scale: 30:1. In one piece.** On a stand with green base. Height: 20 cm, width: 19 cm, depth: 19 cm, weight: 700 g

ZoS 49/32 · Cat Flea

Ctenocephalides felis. In **SOMSO-PLAST®.** After Dr. E. Schicha. **Scale: 70:1. In one piece.** On a stand with green base. Height: 29 cm, width: 18 cm, depth: 14 cm, weight: 700 g



Median section with topography of the intestines

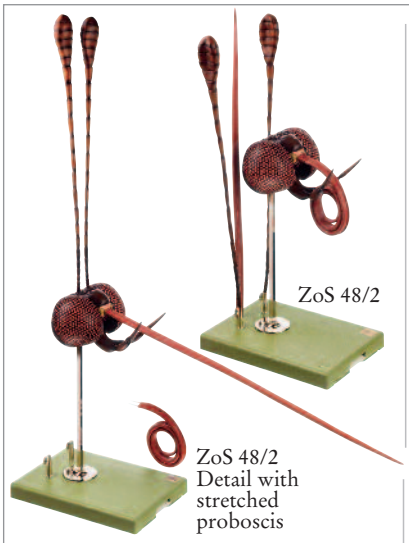
ZoS 48/5 · Model of a Mosquito

Culex pipiens. Common house mosquito. **Scale: 50:1,** in **SOMSO-PLAST®.** After Dr. E. Schicha. **Separates into 5 parts.** On green pull-out base to show the internal organs. Height without wings: 40 cm (height with wings 58 cm), width: 65 cm, depth: 32 cm, weight: 5.8 kg

Invertebrates - Arthropods
Insects
Worms

Nature is our Model SOMSO® Modelle

Zoology 2

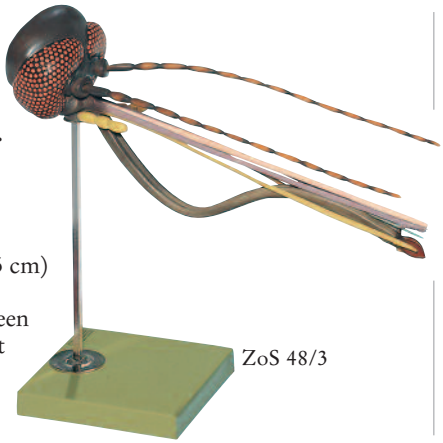


ZoS 48/2

ZoS 48/2 Detail with stretched proboscis

ZoS 48/2 · Head of a Butterfly

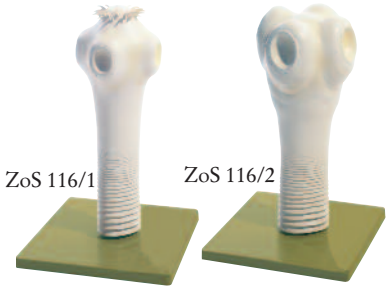
Pieris brassicae, **Scale: 50:1.** modelled from nature. After Dr. E. Schicha. In **SOMSO-PLAST®.** The proboscis is shown stretched out (Length: 54.5 cm) and coiled. **Separates into 5 parts.** On a stand with green base. Height: 58 cm (height with antennae 83 cm), width: 18 cm, depth: 26 cm, weight: 1.25 kg



ZoS 48/3

ZoS 48/3 · Head of a Mosquito

Culex pipiens. Head of a female mosquito. **Scale: 80:1.** After Dr. E. Schicha, in **SOMSO-PLAST®. Cannot be disassembled.** On a stand with green base. Height: 37 cm, width: 18 cm, depth: 46 cm, weight: 900 g



ZoS 116/1

ZoS 116/2

ZoS 116/1 · Head of the Pork Tapeworm or Armed Tapeworm

Taenia solium, **enlarged many times,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. **In one piece.** On a green base. Height: 29 cm, width: 18 cm, depth: 18 cm, weight: 800 g

ZoS 116/2 · Head of the Beef Tapeworm or Unarmed Tapeworm

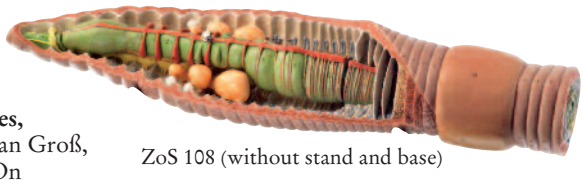
Taenia saginata, **enlarged many times,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. **In one piece.** On a green base. Height: 28 cm, width: 18 cm, depth: 18 cm, weight: 900 g

ZoS 116/3

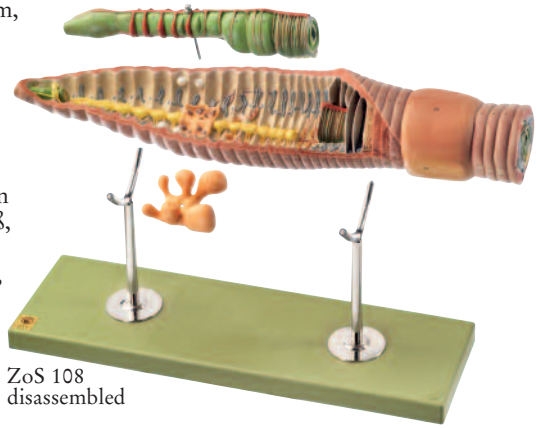
The models of the tapeworm are also available as a series under order no. ZoS 116/1-3

ZoS 116/3 · Model Board of the Tapeworms

Comparison of the pork tapeworm (Taenia solium) and the beef tapeworm (Taenia saginata), **enlarged many times over,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. The model illustrates: egg, cysticercus, some final segments in natural size and enlarged segments in varying degrees of maturation. **Cannot be disassembled,** on a green board. Height: 46 cm, width: 49 cm, depth: 9 cm, weight: 3.3 kg



ZoS 108 (without stand and base)



ZoS 108 disassembled

ZoS 108 · Common Earthworm

Lumbricus terrestris. **Scale: 25:1,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. **Separates into 3 parts.** Removable on a stand with green base. Height: 26 cm, width: 54 cm, depth: 15 cm, weight: 2.4 kg

ZoS 57 · DIVISION OF THE CELL

Enlarged many times, in **SOMSO-PLAST®.** Shown by **8 models:** Prophase, metaphase, anaphase, and telophase. These models show the process of indirect division (mitosis) in the living cell, seen photomicroscopically. Individually mounted on stands, with green bases. Weight of the series: 2.7 kg

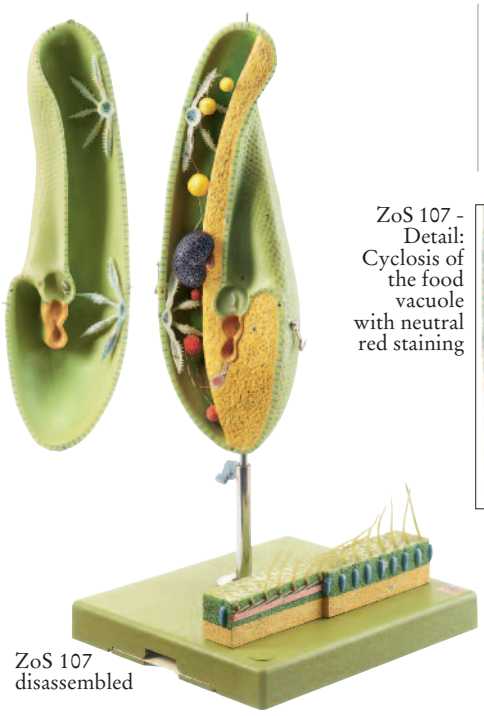
ZoS 101/1 · PLANKTONIC FORAMINIFERA

Globorotalia menardii. Original size 0.5 mm in diameter, **enlarged approximately 200 times,** in **SOMSO-PLAST®.** Developed in co-operation with Dr. Barbara Donner, research centre "Ocean Margins" at the University of Bremen. Weight: 104 g

ZoS 101 disassembled

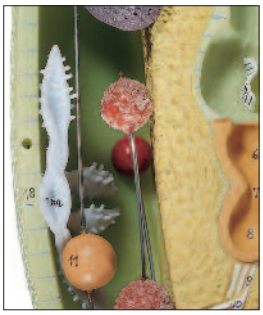
ZoS 101 · AMOEBA

Amoeba proteus. **Scale: 1,000:1,** after Prof. Dr. M. Lindauer and Christian Groß, Director of Studies. In **SOMSO-PLAST®.** Removable on a green base. **Separates into 2 parts.** The small pseudopodium can be opened up showing the structure after electron microscope magnification. Height: 8.5 cm, width: 39 cm, depth: 28 cm, weight: 1.45 kg



ZoS 107 disassembled

ZoS 107 - Detail: Cyclosis of the food vacuole with neutral red staining



ZoS 107 · PARAMECIUM

Paramecium. **Scale: 1,600:1,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. The model shows the cell of a protozoa: macro- and micronucleus, contractile vacuoles, cytostome with membranellae, myonemes and food vacuoles and the formation of the endo- and ectoplasm and the networkof neuronemes. A detailed block shows the structure of the pellicle of the ectoplasm and the position and order of the trichocysts and a range of cilia in typical order. **Separates into 2 parts.** On a stand with green base. Height: 55 cm, width: 28 cm, depth: 25 cm, weight: 2.9 kg

ZoS 106

ZoS 106 Detail: male germ cell

ZoS 106 · FRESH-WATER POLYP

Hydra, **enlarged approximately 30 times,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. The anatomy of the hydra is shown in longitudinal section: entoderm, mesoglea, ectoderm, male and female gametes, buds and mouth opening. A detailed block of the wall of the body in the region of stomach and intestine, **enlarged approximately 200 times,** clearly shows the microscopic structure in cross and longitudinal section, and especially the structure of the various types of cell (cnidoblasts, muscle cells, phagocytes, adenocytes, replacement cells, and the nerve network). **In one piece.** On a green base. Height: 42 cm, width: 41 cm, depth: 26 cm, weight: 2 kg

ZoS 57/4 · Chromosome Model

Scale: 50,000:1, in **SOMSO-PLAST®.** Developed in co-operation with Christian Groß, Director of Studies. **Cannot be disassembled,** on a stand with green base. Height: 47 cm, width: 18 cm, depth: 18 cm, weight: 1.1 kg

ZoS 57/4

ZoS 110/1 · Animal Cell

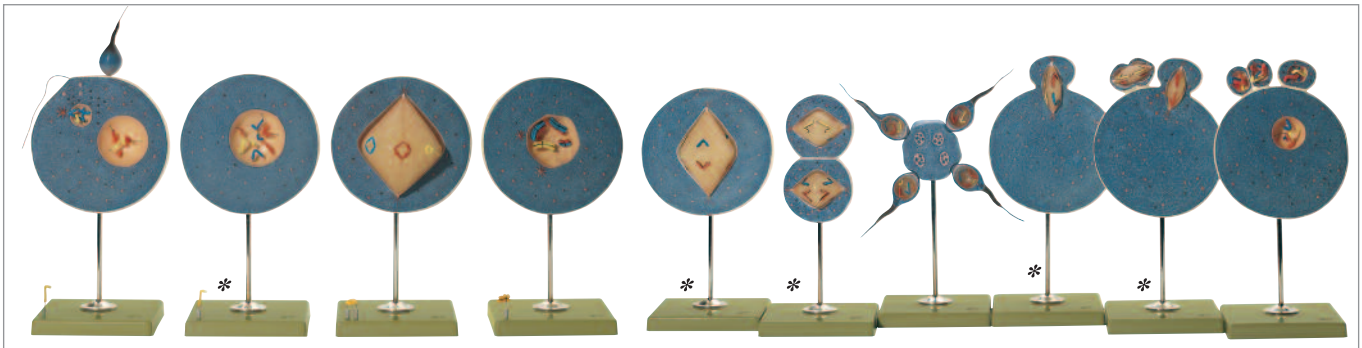
Scale: 10,000:1, in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. **Cannot be disassembled,** on a stand with green base. Height of the model: 22 cm, total height: 37 cm, width: 18 cm, depth: 18 cm, weight: 1 kg

ZoS 110/1

Animal Cell Genetics Development of Animals

Nature is our Model SOMSO® Modelle

Zoology 3



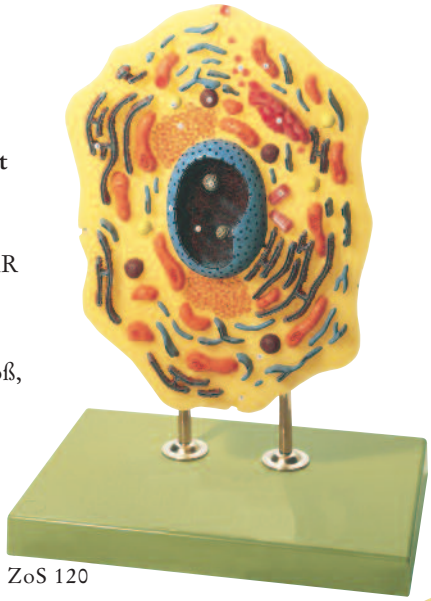
ZoS 57/2 (The stages marked with * make up model series ZoS 57/3)

ZoS 57/2 · Meiosis

As a component of reduction divisions, shown by **8 models with 2 explanatory introductory models, enlarged many times,** in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. **Cannot be disassembled.** Individually mounted on a stand with green base. Weight: 4.3 kg

ZoS 57/3 · Change of Nuclear Phases in the Maturation of Sperm and Ovum (Meiosis)

Enlarged many times. After Christian Groß, Director of Studies, in **SOMSO-PLAST®.** Chromosomes of paternal and maternal origin as well as gonosomes (can be exchanged in diploid phase) are shown in different colours. **The series consists of 5 individual models.** Each model is mounted on a stand with green base. Weight: 2.45 kg



ZoS 120

ZoS 120 · Animal Cell

Scale: 2,000:1, in **SOMSO-PLAST®.** After Christian Groß, Director of Studies. The model shows the fine structure of an animal cell. Area of application: Extended cell examination. **Cannot be disassembled,** on a stand with green base. Height: 52 cm, width: 39 cm, depth: 26 cm, weight: 3.9 kg

ZoS 57/1 · Mitosis

After Christian Groß, Director of Studies. **Enlarged many times,** in **SOMSO-PLAST®. The series consists of 8 individual models.** Each model is mounted on a stand with green base. **Cannot be disassembled.** Weight: 8.28 kg

ZoS 57/1

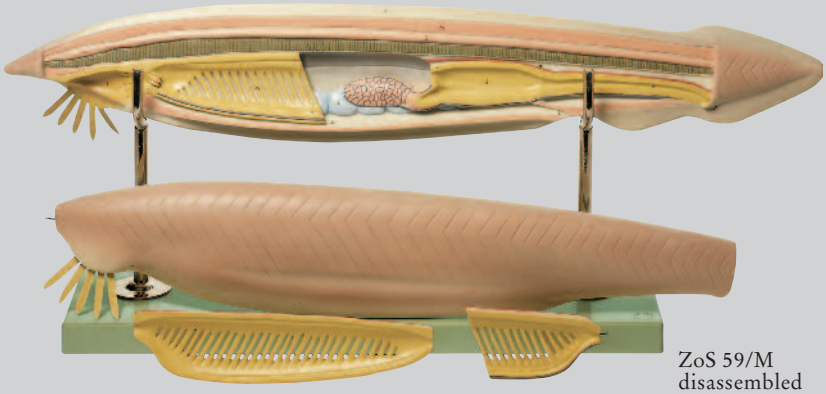
ZoS 60 · Complete Collection of Lancelets

Branchiostoma lanceolatum, consisting of ZoS 58 (A - J) and ZoS 59 (K - N). **13 models in total,** in **SOMSO-PLAST®**. Weight: 6.1 kg

Animal Cell Genetics Development of Animals

Nature is our Model SOMSO® Modelle

Zoology 3



ZoS 59/M disassembled

ZoS 59/M · Lancelet

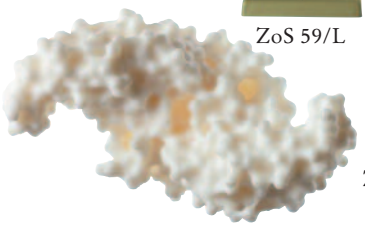
Branchiostoma lanceolatum. **Scale approximately 150:1,** in **SOMSO-PLAST®.** The **four-part** model shows the structure of the body of a fully-grown specimen: fin edges, muscle segments, position of the gonads, the nervous system, the chorda, intestine, and vascular system. Removable on a stand with green base. Height: 25 cm, width: 68 cm, depth: 15 cm, weight: 2.8 kg

ZoS 58

ZoS 59/K

ZoS 59/N

ZoS 59/L



ZoS 57/10

ZoS 58 · Equal Cleavage and Gastrulation in the Lancelet

Branchiostoma lanceolatum. **Scale approximately 500:1,** in **SOMSO-PLAST®. Represented on 9 models** on stand with green base, showing the different stages of cleavage, formation of blastula and primitive gut. **Cannot be disassembled.** Weight: 3.2 kg

ZoS 59/K · Longitudinal Section of the Larva of the Lancelet at the Beginning of Development

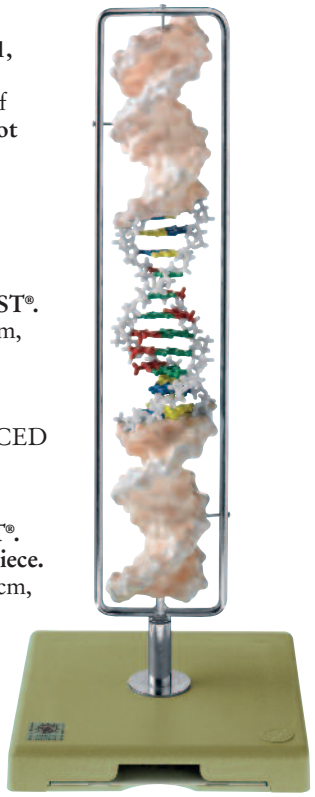
Enlarged approximately 150 times, in **SOMSO-PLAST®. In one piece.** On a stand with green base. Height: 23 cm, width: 20 cm, depth: 14 cm, weight: 300 g

ZoS 59/L · Longitudinal Section of the Larva of the Lancelet in advanced Development

Older larva of the lancelet with nine original segments, **enlarged approximately 150 times,** in **SOMSO-PLAST®.** The left external membrane has been removed. **In one piece.** On a stand with green base. Height: 23 cm, width: 24.5 cm, depth: 16 cm, weight: 620 g

ZoS 59/N · Lancelet Cross Section through the Branchia and middle Intestine Regions

Enlarged approximately 150 times, in **SOMSO-PLAST®. In one piece.** On a stand with green base. Height: 22 cm, width: 14 cm, depth: 16 cm, weight: 500 g



ZoS 57/20

ZoS 57/20 · DNA Double Helix (Type B-DNA)

Scale: 30 x 10^6 : 1, in **SOMSO-PLAST®.** Developed in co-operation with Prof. Dr. H. P. Jennissen, Dr. M. Laub, and Prof. Dr. G. Witt. **In one piece,** can be rotated on a green base. Based on data gained from X-ray structure analysis, the model shows a section of a DNA double helix. It complies essentially with the model of the DNA structure postulated by Watson and Crick in 1953. Height: 47.5 cm, width: 18 cm, depth: 18 cm, weight: 1 kg

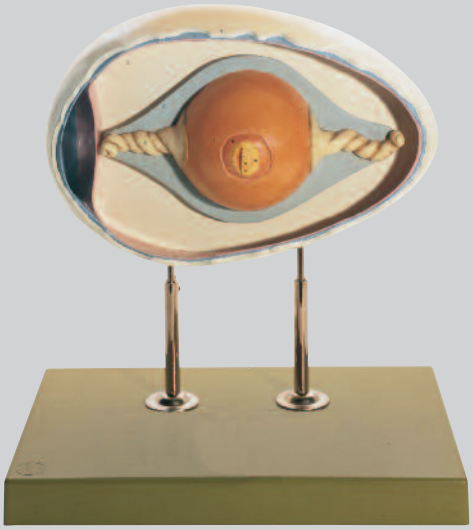
ZoS 57/10 · Protein Model (human bone morphogenetic protein BMP-2)

Scale: 20 x 10^6 : 1, in **SOMSO-PLAST®.** Developed in co-operation with Prof. Dr. H.P. Jennissen, Dr. M. Laub, and Prof. Dr. G. Witt. **Cannot be disassembled.** Under transparent cover on a green base. Height: 10 cm, depth: 18 cm, width: 18 cm, weight: 400 g

ZoS 57/10-E · Protein Model (human bone morphogenetic protein BMP-2, without ill.)

Scale: 11 x 10^6 : 1, in **SOMSO-PLAST®.** Developed in co-operation with Prof. Dr. H.P. Jennissen, Dr. M. Laub, and Prof. Dr. G. Witt. **In one piece.** With green base. Height: 6 cm, depth: 12 cm, width: 12 cm, weight: 130 g

Advance notice: ZoS 57/30 · t-RNA Model
Developed in co-operation with Prof. Dr. H.P. Jennissen, Dr. M. Laub and Prof. Dr. G. Witt. **In one piece,** with green base.


ZoS 103

ZoS 103 - ZoS 103/5 · Series of Models Showing the Embryonic Development of the Domestic Hen

Description as per ZoS 103 to ZoS 103/5. Series of **6 models,** in **SOMSO-PLAST®,** After Prof. Dr. M. Lindauer and Christian Groß, Director of Studies. Weight of the series: 9.9 kg

ZoS 103 · Reproduction of a Chicken Egg

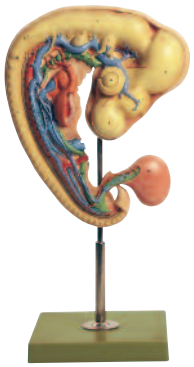
The model shows an unincubated, fertilised chickens egg. **Linearly enlarged 6,5 times.** In **SOMSO-PLAST®,** after Christian Groß, Director of Studies. **Cannot be disassembled,** on a stand with green base. Height: 41 cm, width: 39 cm, depth: 26 cm, weight: 3.6 kg

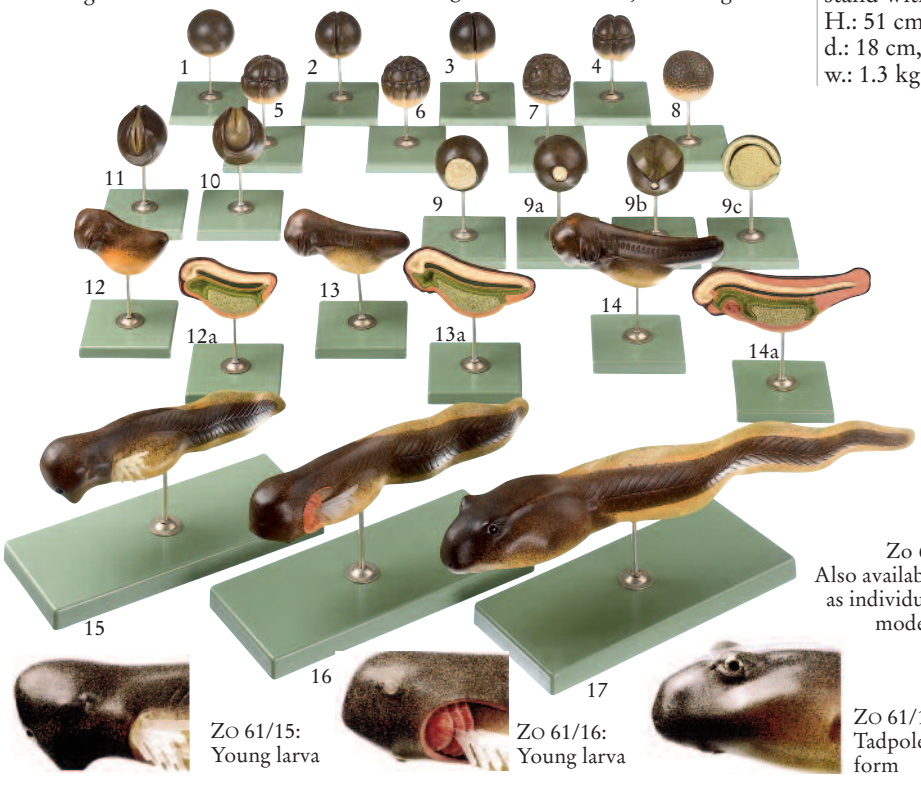

ZoS 103/1 Blastodisc of a Fertilised but non-incubated Chicken Egg Cannot be disassembled, on a stand with green base. H.: 41 cm, w.: 28 cm, d.: 18 cm, w.: 1.4 kg


ZoS 103/2 Chicken Embryo after approximately 20-25 hours of incubation Separates into 4 parts, on a stand with green base. H.: 41 cm, w.: 28 cm, d.: 18 cm, w.: 1.3 kg


ZoS 103/3 Chicken Embryo after approximately 33 hours of incubation Separates into 2 parts, on a stand with green base. H.: 40 cm, w.: 29 cm, d.: 18 cm, w.: 1.4 kg


ZoS 103/4 Chicken Embryo after approximately 50 hours of incubation Cannot be disassembled, on a stand with green base. H.: 51 cm, w.: 18 cm, d.: 18 cm, w.: 1.3 kg


ZoS 103/5 Chicken Embryo after approximately 4 days of incubation Cannot be disassembled, on a stand with green base. H.: 45 cm, w.: 26 cm, d.: 18 cm, w.: 1.75 kg



Zo 61
Also available as individual models

Zo 61/15: Young larva

Zo 61/16: Young larva

Zo 61/17: Tadpole form

Zo 61 · Models Showing the Development of the Frog

Consisting of **23 individual models** showing the development of a fertilised frog's egg to a tadpole. A new production of Ziegler models after Prof. Ecker. **Enlarged approximately 50 times.** Diameter of a natural egg approximately 1.5 mm

A. Stages of cleavage (Models 1 - 8)
B. Stages of gastrulation (Models 9 - 9c),
C. Organogenesis - formation of the neural tube (Models 10 - 11)
D. Development of the tadpole (Models 12 - 14a)
E. Swimming tadpoles (Models 15 - 17)

Each model individually mounted on a stand with green base and **in one piece.** Weight of the series: 10 kg

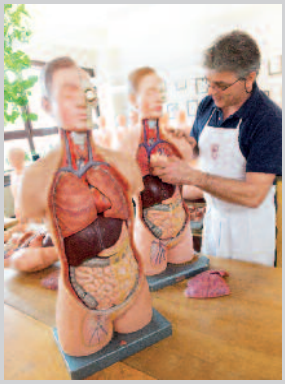
Producing original SOMSO®-Models requires a great deal of specialised and entirely manual work. Craftsmanship perfects every model.

Comparative Anatomy

Nature is our Model SOMSO® Modelle

Zoology 4

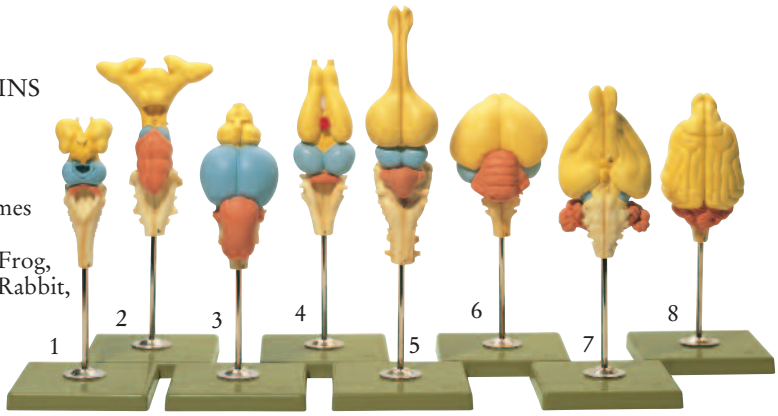







ZoS 55 · Models of Vertebrate Brains

In **SOMSO-PLAST®.** The series consists of the following **8 models** (some enlarged many times over): 1. River lamprey, 2. Dog fish, 3. Trout, 4. Frog, 5. Alligator, 6. Dove, 7. Rabbit, 8. Dog. **Cannot be disassembled.** Each model on an individual stand with green base. Weight: 2.2 kg



ZoS 55

ZoS 55/9

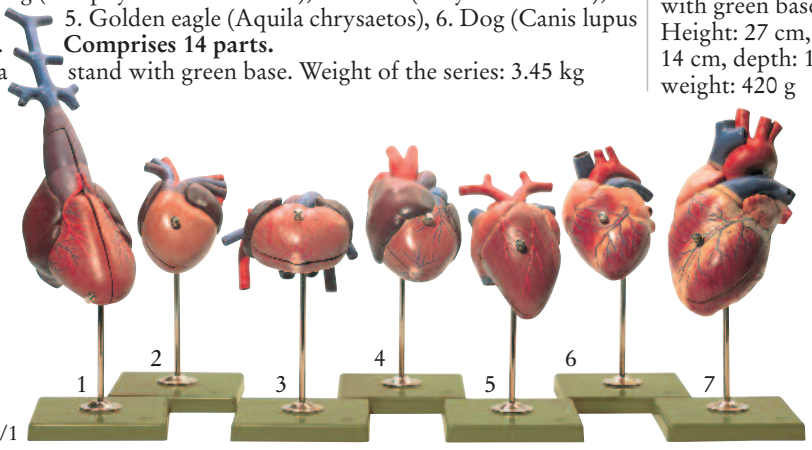
ZoS 55/9 · Model of Rat Brain

Enlarged approximately 4.25 times, in **SOMSO-PLAST®.** On a stand with green base. Height: 27 cm, width: 14 cm, depth: 16 cm, weight: 420 g

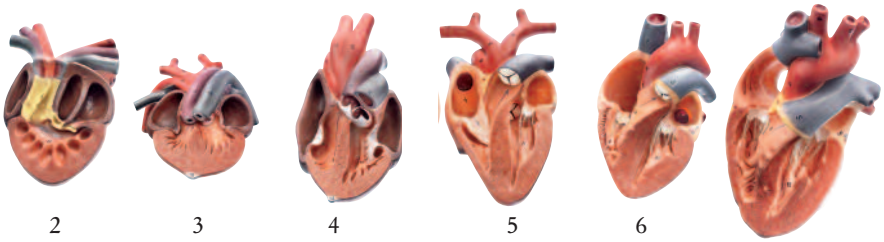
ZoS 54/1 · Models of Vertebrate Hearts

Can be disassembled, in **SOMSO-PLAST®.** The internal structure is shown in all its detail. The direction of the blood flow is marked. **7 models, natural size and partly enlarged.** 1. Teleost fish (Pike, Esox lucius), 2. Frog (Pelophylax kl. esculentus), 3. Turtle (Emys orbicularis), 4. Crocodile (Crocodylus niloticus), 5. Golden eagle (Aquila chrysaetos), 6. Dog (Canis lupus familiaris), 7. Human (Homo sapiens). **Comprises 14 parts.** Each model individually mounted on a stand with green base. Weight of the series: 3.45 kg

ZoS 54/1-1 disassembled

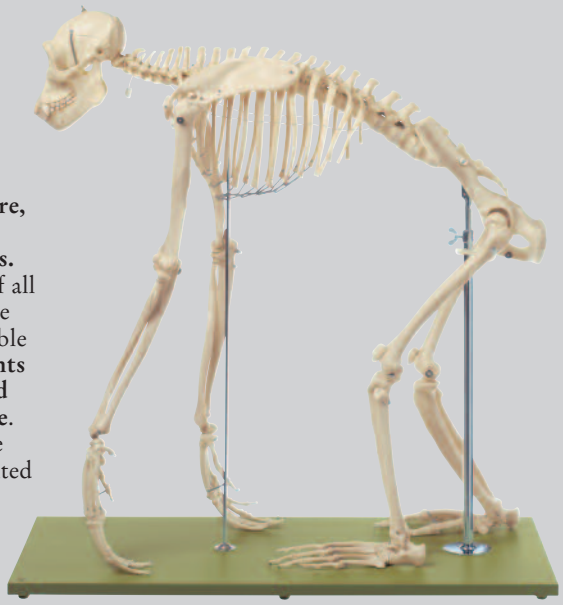


ZoS 54/1

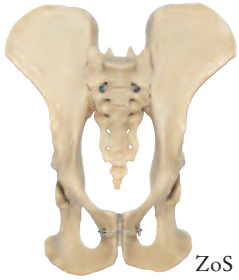


Internal view of models ZoS 54/1 numbers 2 – 7

ZoS 53/110 · Skeleton of a Chimpanzee



Pan troglodytes (Blumenbach 1799), male, **modelled according to nature,** in **SOMSO-PLAST®. Age: approximately 12 years.** True-to-life representation of all anatomical details of the bone structure. Skull with removable calvarium and mandible. **Joints flexibly mounted, upper and lower extremities removable.** The right and left foot can be detached from the leg. Mounted upright on a green stand. Height: 88 cm, width: 82 cm, depth: 40 cm, weight: 10.8 kg



ZoS 53/116

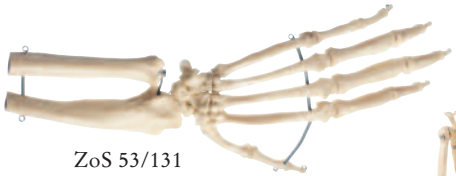
ZoS 53/116 · Pelvis of a Chimpanzee

Pan troglodytes (Blumenbach 1799), male, **modelled according to nature,** in **SOMSO-PLAST®,** weight: 650 g

ZoS 53/122

ZoS 53/122 · Foot Skeleton of a Chimpanzee

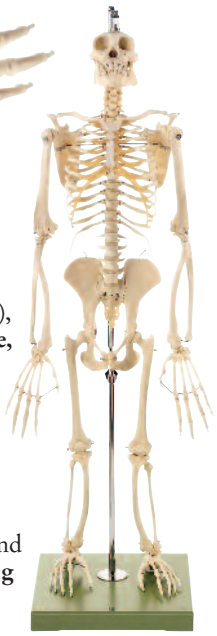
Pan troglodytes (Blumenbach 1799), male, **modelled according to nature,** in **SOMSO-PLAST®,** weight: 120 g



ZoS 53/131

ZoS 53/131 · Hand Skeleton of a Chimpanzee

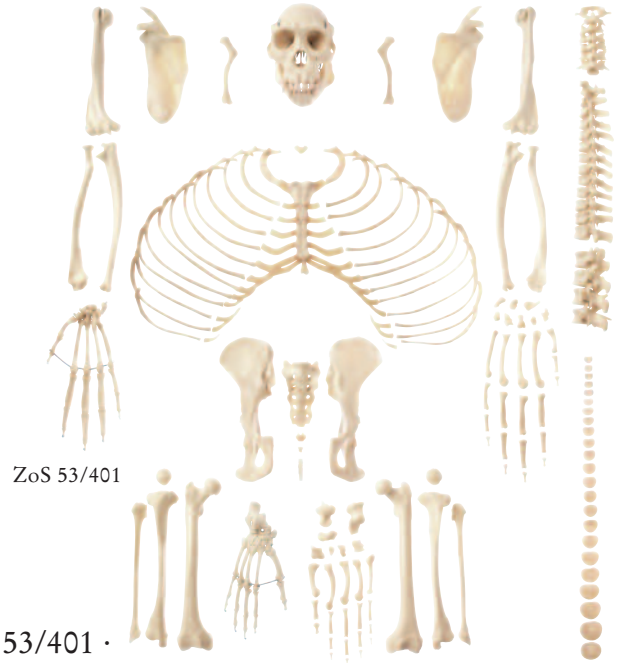
Pan troglodytes (Blumenbach 1799), male, **modelled according to nature,** in **SOMSO-PLAST®,** weight: 180 g



ZoS 53/110-4 · Skeleton of a Chimpanzee

Same version as ZoS 53/110, but standing upright, mounted on a stand with green base. **Modelled according to nature,** in **SOMSO-PLAST®,** Height: 144 cm, width: 38 cm, depth: 38 cm, weight: 9.5 kg

ZoS 53/110-4



ZoS 53/401

ZoS 53/401 · Unmounted Skeleton of a Chimpanzee

Pan troglodytes (Blumenbach 1799), male, **modelled according to nature,** in **SOMSO-PLAST®.** With the exception of the skull (with removable calvarium and mandible), and one hand and one foot, all the bones are unmounted. Supplied in plastic bags in a carton. Height: 22 cm, width: 51 cm, depth: 28 cm, weight: 5.3 kg

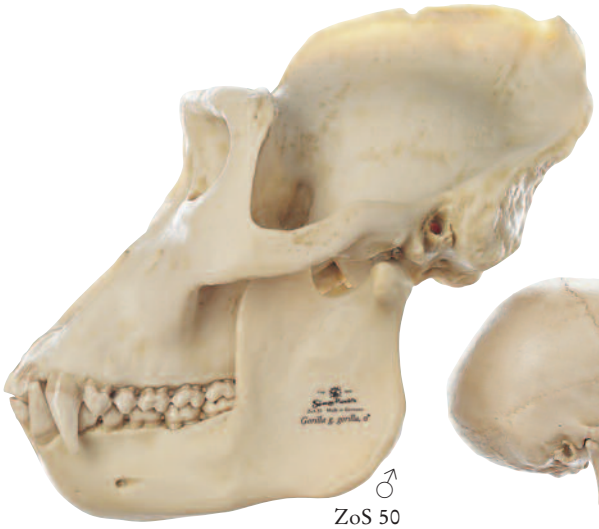
ZoS 53/142

ZoS 53/142 · Collection of Typical Chimpanzee Bones

Pan troglodytes (Blumenbach 1799), male, **modelled according to nature,** in **SOMSO-PLAST®.** Consisting of skull (3 parts), scapula, clavicle, humerus, radius, ulna, carpal bones, bones of the index finger, 3 each right and left ribs, one each cervical, thoracic, and lumbar vertebrae, hip bone, sacrum, coccyx, femur, tibia, fibula, tarsal bones, and bones of the big toe. Supplied in plastic bags in a carton. Height: 20 cm, width: 43 cm, depth: 24 cm, weight: 2.9 kg

The series of skulls of great apes ZoS 50 - ZoS 53/7 and the Skeleton of a Chimpanzee ZoS 53/110 is based on a co-operation with The Bavarian State Collection of Zoology in Munich.

♂ ZoS 52



♂ ZoS 50

ZoS 50 · Gorilla Skull

Gorilla g. gorilla (Savage and Wyman 1847), male. **Natural size,** in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 1.1 kg

♂ ZoS 50/1

ZoS 50/1 · Young Gorilla Skull

Gorilla g. gorilla (Savage and Wyman 1847), male (1 1/2 years old). **Natural size,** in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 280 g

♀ ZoS 51

ZoS 51 · Gorilla Skull

Gorilla g. gorilla (Savage and Wyman 1847), female. **Natural size,** in **SOMSO-PLAST®.** Mandible movable, and can be removed. Weight: 880 g

♀ ZoS 52/1

ZoS 52/1 · Orang Utan Skull

Pongo pygmaeus abelii (Clark 1826), female. **Natural size,** in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 390 g

♂ ZoS 52

ZoS 52 · Orang Utan Skull

Pongo pygmaeus (Hoppins 1763), male, **Natural size,** in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 600 g

ZoS 52/2

ZoS 52/2 · Skull of Young Orang Utan

Pongo Pygmaeus. **Natural size,** in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 250 g

Artisan craftsmanship perfects every SOMSO® Model

Comparative Anatomy

Nature is our Model SOMSO® Modelle

Zoology 4

♂ ZoS 53

ZoS 53/1

♀ ZoS 53/2

ZoS 53 · Chimpanzee Skull

Pan troglodytes (Blumenbach 1799), male. **Natural size,** in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight 450 g

♂ ZoS 53/107

♂ ZoS 53/107 disassembled

ZoS 53/2 · Chimpanzee Skull

Pan troglodytes (Blumenbach 1799), female. **Natural size,** in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 530 g

ZoS 53/107 · Chimpanzee Skull

Pan troglodytes (Blumenbach 1799), male. **Natural size,** in **SOMSO-PLAST®.** Cranium can be removed, mandible movable and can be removed. Weight 600 g

ZoS 53/1 · Chimpanzee Skull, juvenile

Pan troglodytes (Blumenbach 1799). **Natural size,** in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 160 g

♂ ZoS 53/3

ZoS 53/3 · Baboon Skull

Papio anubis (Blumenbach 1799), male. **Natural size,** in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 460 g

ZoS 53/5 · Tupaia-Skull

Tupaia glis (Diard, 1820), male. **Natural size**, in **SOMSO-PLAST®.** Mandible movable and can be removed. On a stand with green base under a transparent dust cover. Height: 8 cm, length: 12 cm, depth: 12 cm, Weight: 115 g

Illustration showing the actual size of 5cm

ZoS 53/4

ZoS 53/4 · Rhesus Monkey Skull

Macaca mulatto, male. **Natural size**, in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 160 g

ZoS 53/6

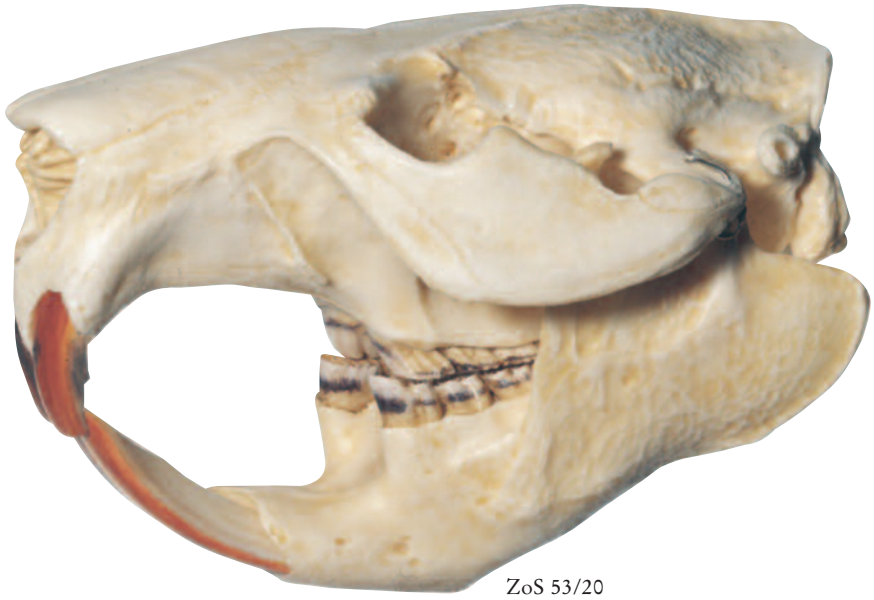
ZoS 53/6 · Howling Monkey Skull

Alouatta belzebul (Linnaeus, 1766) male. **Natural size**, in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 100 g

ZoS 53/7

ZoS 53/7 · Gibbon Skull

Hylobates syndactylus (Raffles, 1821), male. **Natural size**, in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 140 g

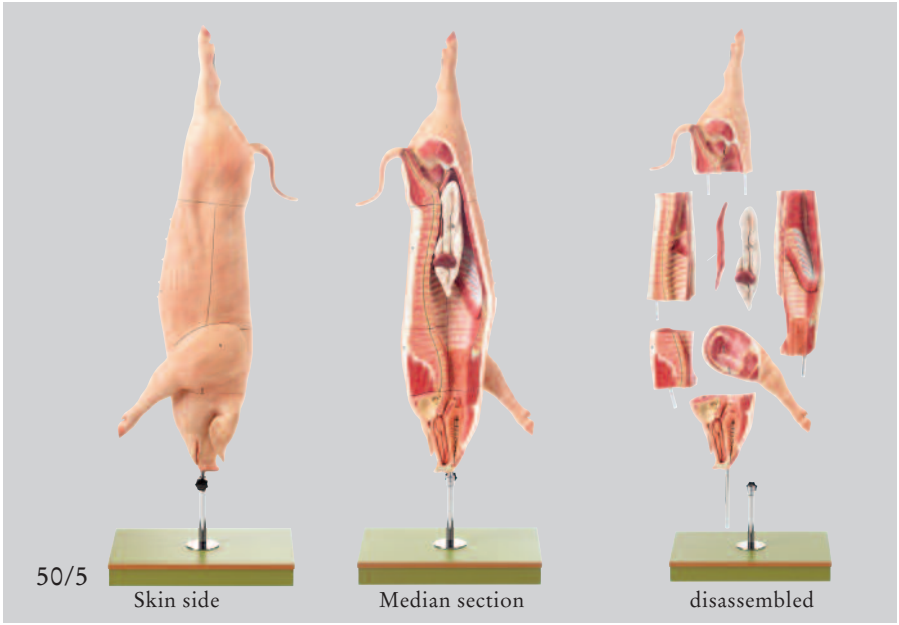


ZoS 53/20

ZoS 53/20
frontal

ZoS 53/20 · Beaver Skull

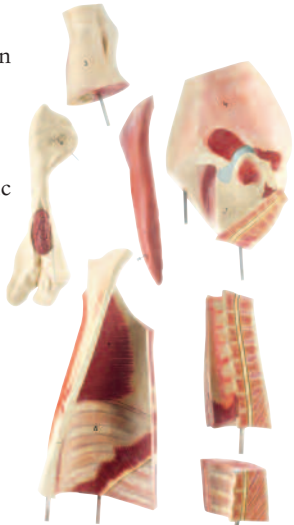
Castor fiber (Linnaeus, 1758). **Natural size**, in **SOMSO-PLAST®.** Mandible movable and can be removed. Weight: 300 g



50/5 Skin side | Median section | disassembled

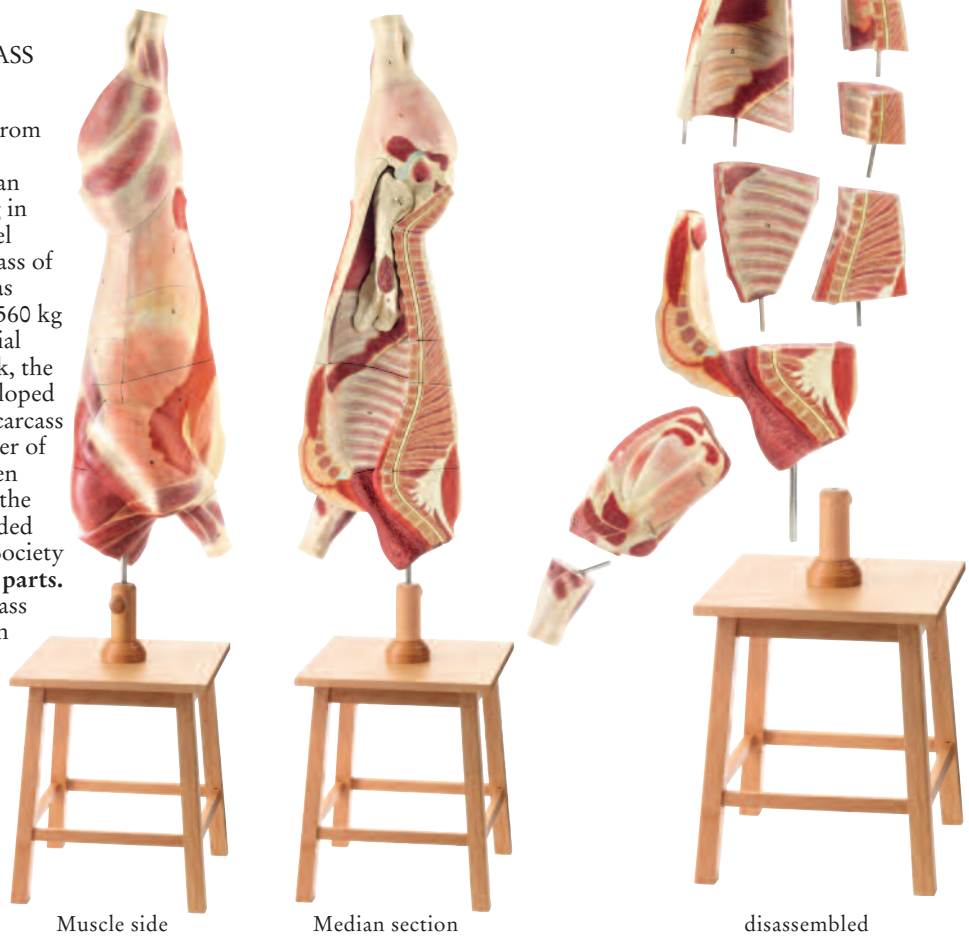
50/5 · MODEL OF THE CARCASS OF A PIG

2/3 of its natural size, made from **special plastic.** Developed in collaboration with the Bavarian Institute for Animal Breeding in Grub near Munich. The model shows the carcass of a porker that was slaughtered when it weighed 100 kg. Special features are the length of the body, the ample amount of meat and the low fat content. The model fundamentally complies with the method generally recommended by the German Agricultural Society (DLG) - "simplified DLG method of cutting". For that reason, it is of relevance for all areas of the Federal Republic of Germany and spans the methods of cutting up slaughter pigs used in different parts of the country, which are not always uniform. In total, the model **separates into 8 parts.** The essential parts of the carcass (ham with shank and foot, pork flare fat, fillet, loin with back fat, shoulder with shank and foot, belly with dewlap, neck with neck bacon, and head) can be demonstrated individually. Lines are drawn on to indicate further partitioning. On a stand with green base. Height: 119 cm, width: 38 cm, depth: 38 cm, weight: 10.24 kg



50/6 · MODEL OF THE CARCASS OF A YOUNG BULL

1/2 of its natural size, made from **special plastic.** Developed in collaboration with the Bavarian Institute for Animal Breeding in Grub near Munich. The model shows the left half of the carcass of a young fattening bull that was slaughtered when it weighed 560 kg and was 15 months old. Special features are the full thick flank, the broad back and the well-developed muscles in the shoulder. The carcass is evenly covered in a thin layer of surface fat. The model has been modelled in compliance with the method of cutting recommended by the German Agricultural Society (DLG) and **separates into 12 parts.** The essential parts of the carcass (suet and pelvic cavity fat with kidney, fillet, shank, haunch, roast beef, fore rib, hind quarter flank (front and rear part), chuck & blade, thin rib, brisket,shoulder, shin, and neck) can be demonstrated individually. On stand with base. Height: 190 cm, width: 45 cm, depth: 43 cm, weight: 18.4 kg

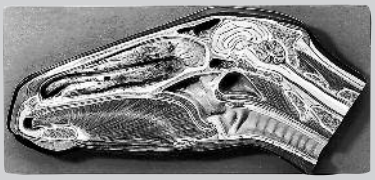


50/6 Muscle side | Median section | disassembled

The pathological models of the anatomy of domestic animals Zo 84 to Zo 89 provide targeted information by using natural casts for the identification of disease patterns and symptoms.

Professional Training Models

Nature is our Model SOMSO® Modelle



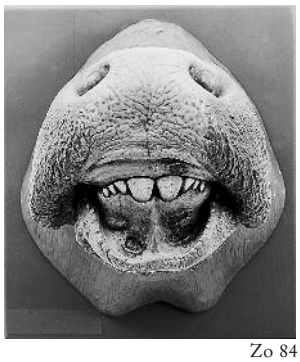
Zo 89

Zo 89 · Glanders in a Horse

Natural size. Median section through the nose and throat cavities, larynx showing the form of the disease. Mounted on a green board. **In one piece.** Height: 40 cm, width: 70 cm, depth: 8 cm, weight: 3.7 kg

The extensive SOMSO® Series of Figurines of Thoroughbred Animals illustrates the different breed standards in great detail and accuracy. The models are made mainly from plaster and supplied on a base. The special catalogue SOMSO® Figurines of Thoroughbred Animals is available on request.

Zo 62/I-6 · Thoroughbred Stallion "Dark Ronald"



Zo 84

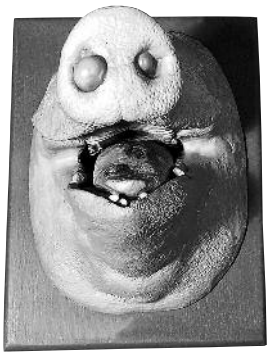
Zo 84 · Cow's Mouth with Mouth Disease

Natural cast. Mounted on a green board. **In one piece.** Height: 20 cm, width: 31 cm, depth: 26 cm, weight: 1.1 kg

Zo 85

Zo 85 · Cow´s Hoof with Foot Disease

Natural cast. On a green base. **In one piece.** Height: 24 cm, width: 18 cm, depth: 18 cm, weight: 700 g



Zo 87

Zo 86 · Cow´s Tongue with Mouth Disease

Natural cast. Mounted on a green board. **In one piece.** Height: 12 cm, width: 48 cm, depth: 14 cm, weight: 700 g

Zo 87 · Pig's Snout with Mouth Disease

Natural cast. Mounted on a green board. **In one piece.** Height: 16 cm, width: 25 cm, depth: 18 cm, weight: 1 kg

Zo 88

Zo 88 · Pig's Hoof with Foot Disease

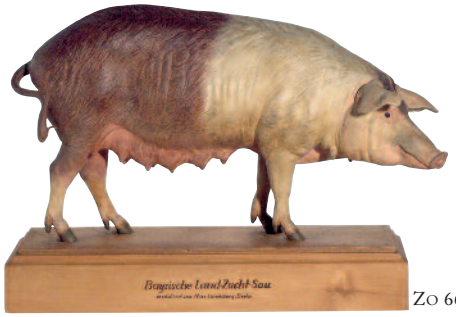
Natural cast. Mounted on a green board. **In one piece.** Height: 18 cm, width: 12 cm, depth: 12 cm, weight: 400 g

Zo 86

Zo 62/I-17

Zo 62/I-17 · O Bajar

Original Arabian thoroughbred mare from the Hungarian Royal Stud of Bábolna, modelled from the live animal by Max Landsberg, Berlin 1901



Zo 66/III-12

Zo 66/III-12 · Bavarian Breeding Pig

Modelled by Max Landsberg, Berlin

Zo 74/VIII-52

Zo 74/VIII-52 · Herkules, Dutch Bull

From the herd of the owner of Benefeldt Manor in Quoossen near Galingen, East Prussia. Modelled from the live animal by Max Landsberg. Berlin 1896

The models from the series "Realistic Animal Models" are impressive due to their natural shapes and structural detail as well as the nuances of their natural colouring.

Realistic, Life-Size Animal Models

Nature is our Model SOMSO® Modelle

Zoology 6

ZoS 1028
Green Lizard, male –
Illustration in natural size,
for description see page 164

Realistic, Life-Size Animal Models

Salamanders

Nature is our Model SOMSO® Modelle

Zoology 6

Christian Groß, Director of Studies

Amphibians And Reptiles Of Central Europe

This series of life-size, generic animal models made from SOMSO-PLAST® was first developed in co-operation with Christian Groß, Director of Studies, in 1981, and has been continuously expanded within the framework of his scientific advice since then.

Trinomial nomenclature has been used for the scientific names of the models. It provides information regarding the subspecies "form", which is typical or prevalent in Central Europe and which has been the template for the design of each respective model type.

All models are supplied with a transparent dust cover, with the description printed on the green base.

ZoS 1000 · Alpine Salamander, male

Salamandra a. atra
Total length: 14 cm,
H.: 9 cm, W.: 16 cm,
D.: 14 cm, Wt: 150 g

ZoS 1000/1 · Alpine Salamander, female

Salamandra a. atra
Total length: 15 cm,
H.: 9 cm, W.: 16 cm,
D.: 14 cm, Wt: 150 g

ZoS 1000/2 · Alpine Salamander, two juveniles

Salamandra a. atra
Total length: 5.3 cm,
H.: 6.5 cm, W.: 12 cm,
D.: 12 cm, Wt: 120 g

ZoS 1000/3 · Golden Alpine Salamander

Salamandra atra aurorae
Total length: 13.2 cm,
H.: 7.5 cm,
W.: 12 cm,
D.: 12 cm, Wt: 100 g

ZoS 1001/RV · Spotted Fire Salamander, male, red variant

Salamandra s. salamandra
Total length:
19.1 cm,
H.: 9 cm, W.: 16 cm,
D.: 14 cm, Wt: 330 g

Together with the Biological Model Makers Rudolf Galle and Manfred Eichler, Christian Groß, Director of Studies, compares a live specimen of the red variant of the fire salamander with the painted version of the SOMSO® model ZoS 1001/RV.

ZoS 1001 · Spotted Fire Salamander, male

Salamandra s. salamandra
Total length: 19.1 cm, H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 330 g

ZoS 1002 · Spotted Fire Salamander, female

Salamandra s. salamandra
Total length: 19 cm, H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 330 g

ZoS 1003 · Striped Fire Salamander, male

Salamandra s. terrestris
Total length: 19.1 cm, H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 300 g

ZoS 1003/1 · Striped Fire Salamander, female

Salamandra s. terrestris
Total length: 19 cm, H.: 9.5 cm,
W.: 16 cm, D.: 14 cm. Wt: 260 g

ZoS 1003/SV · Striped Fire Salamander, male, Solling population

Salamandra s. terrestris
Total length: 19.1 cm,
H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 300 g

ZoS 1004/3-1 Alpine Newt, male, and
ZoS 1004/3-2 Alpine Newt, female, both in their terrestrial form

ZoS 1004 Alpine Newt, Ichthyosaura a. alpestris, in its aquatic form and in its natural habitat

ZoS 1005 Palmate Newt, Lissotriton helveticus, in its aquatic form and in its natural habitat

Realistic, Life-Size Animal Models

Newts

Nature is our Model SOMSO® Modelle

Zoology 6

ZoS 1004 · Alpine Newt, male and female, in their aquatic form

Ichthyosaura a. alpestris
Total length: male: 8.9 cm, female: 9.5 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 170 g

ZoS 1004/1 · Alpine Newt, male, in its aquatic form

Ichthyosaura a. alpestris
Total length: 8.9 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 170 g

ZoS 1004/2 · Alpine Newt, female, in its aquatic form

Ichthyosaura a. alpestris
Total length: 9.5 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 170 g

ZoS 1004/3 · Alpine Newt, male and female, in their terrestrial form

Ichthyosaura a. alpestris
Total length: male: 8.9 cm, female: 9.5 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 170 g

ZoS 1004/3-1 · Alpine Newt, male, in its terrestrial form

Ichthyosaura a. alpestris
Total length: 8.9 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 170 g

ZoS 1004/3-2 · Alpine Newt, female, in its terrestrial form

Ichthyosaura a. alpestris
Total length: 9.5 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 170 g

ZoS 1005 · Palmate Newt, male and female, in their aquatic form

Lissotriton helveticus
Total length: male: 7.4 cm, female: 7.7 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 160 g

ZoS 1005/1 · Palmate Newt, male, in its aquatic form

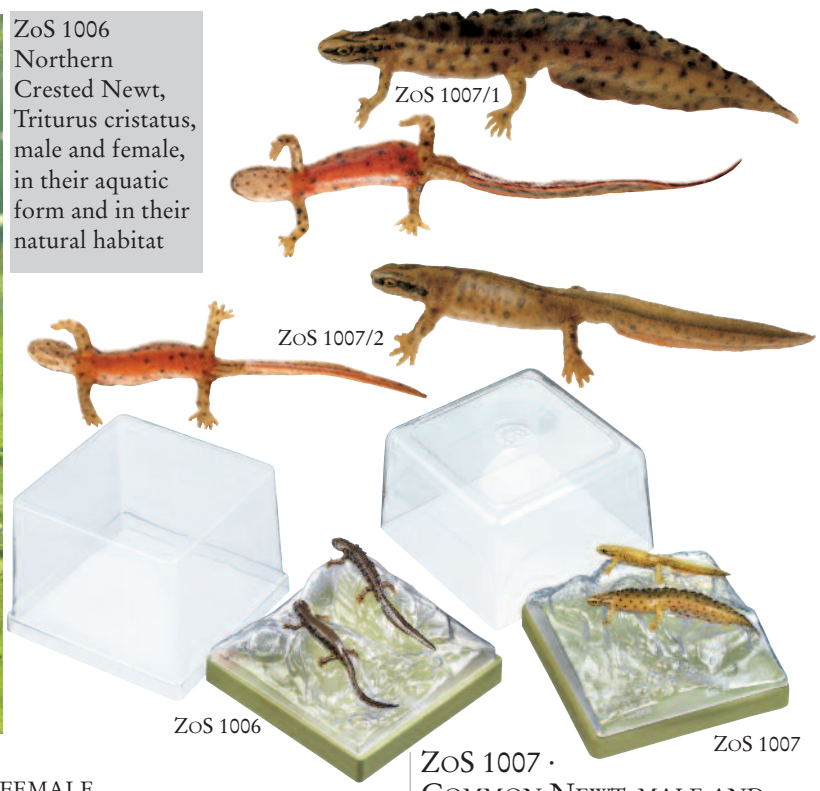
Lissotriton helveticus
Total length: 7.4 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 160 g

ZoS 1005/2 · Palmate Newt, female, in its aquatic form

Lissotriton helveticus
Total length: 7.7 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 160 g

ZoS 1007 Common Newt, Lissotriton v. vulgaris, male and female, in their aquatic form and in their natural habitat

ZoS 1006 Northern Crested Newt, Triturus cristatus, male and female, in their aquatic form and in their natural habitat



ZoS 1006 · Northern Crested Newt, male and female, in their aquatic form

Triturus cristatus
Total length: male: 14.8 cm, female: 14.3 cm. H.: 15 cm, W.: 18 cm, D.: 18 cm, Wt: 370 g

ZoS 1006/1 · Northern Crested Newt, male, in its aquatic form

Triturus cristatus
Total length: 14.8 cm, H.: 15 cm, W.: 18 cm, D.: 18 cm, Wt: 200 g

ZoS 1006/2 · Northern Crested Newt, female, in its aquatic form

Triturus cristatus
Total length: 14.3 cm, H.: 15 cm, W.: 18 cm, D.: 18 cm, Wt: 350 g

ZoS 1007 · Common Newt, male and female, in their aquatic form

Lissotriton v. vulgaris
Total length: male: 10.9 cm, female: 8.3 cm, H.: 8 cm, W.: 12 cm, D.: 12 cm, Wt: 200 g

ZoS 1007/1 · Common Newt, male, in its aquatic form

Lissotriton v. vulgaris
Total length: 10.9 cm, H.: 8 cm, W.: 12 cm, D.: 12 cm, Wt: 170 g

ZoS 1007/2 · Common Newt, female, in its aquatic form

Lissotriton v. vulgaris
Total length: 8.3 cm, H.: 8 cm, W.: 12 cm, D.: 12 cm, Wt: 170 g

ZoS 1015

ZoS 1015/1

ZoS 1015 · Green Toad, male

Bufotes v. viridis
(synonym: Bufo v. viridis)
Head-torso length: 6.8 cm, H.: 8 cm,
W.: 12 cm, D.: 12 cm, Wt: 180 g

ZoS 1015/1 · Green Toad, female

Bufotes v. viridis (synonym: Bufo v. viridis),
Head-torso length: 7.5 cm, H.: 7.5 cm,
W.: 12. cm, D.: 12 cm, Wt: 300 g

Realistic, Life-Size Animal Models

Midwife Toad, Yellow-bellied and Fire-bellied Toads, Common Spadefoot, True Toads

Nature is our Model SOMSO® Modelle

Zoology 6

ZoS 1008 · Midwife Toad with Spawn, male

Alytes o. obstetricans
Head-torso with spawn: 5.5 cm,
head-torso length: 4.2 cm, H.: 7.5 cm,
W.: 12 cm, D.:12 cm, Wt: 130 g

ZoS 1011 · Common Spadefoot

Pelobates f. fuscus
Head-torso length: 5.2 cm, H.: 6.5 cm,
W.: 12 cm, D.: 12 cm, Wt: 140 g

ZoS 1015/2 · Green Toad, female

Bufotes v. viridis
(synonym: Bufo v. viridis) -
Neusiedler-Lake-Population.
Head-torso length: 7.5 cm, H.: 7.5 cm,
W.: 12. cm, D.: 12 cm, Wt: 300 g

ZoS 1008/1 · Midwife Toad, female

Alytes o. obstetricans
Head-torso length: 4.2 cm, H.: 6 cm,
W.: 12 cm, D.: 12 cm, Wt: 120 g

ZoS 1014 · Natterjack Toad

Epidalea calamita
(synonym: Bufo calamita)
Head-torso length: 5.8 cm, H.: 7.5 cm,
W.: 12 cm, D.: 12 cm, Wt: 160 g

ZoS 1012 · Common Toad, male

Bufo b. bufo
Head-torso length: 7.0 cm, H.: 6.5 cm,
W.: 12 cm, D.:12 cm, Wt: 180 g

ZoS 1009 · Yellow-bellied Toad

Bombina v. variegata
Head-torso length:
4.5 cm, H.: 7.5 cm,
W.: 12 cm, D.: 12 cm,
Wt: 120 g

ventral side
ZoS 1009

ZoS 1013

ZoS 1013 · Common Toad, female

Bufo b. bufo
Head-torso length: 8.4 cm, H.: 9.5 cm,
W.: 16 cm, D.: 14 cm, Wt: 330 g

ventral side
ZoS 1010/1

ZoS 1010/1 · Fire-bellied Toad

Bombina bombina
Head-torso length: 4.6 cm, H.: 6 cm,
W.: 12 cm, D.: 12 cm, Wt: 140 g

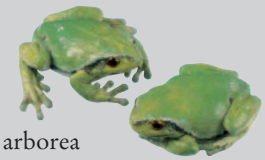
ZoS 1013/2 · Common Toad, pair in amplexus

Bufo b. bufo
Head-torso length:
female 9.4 cm,
male 6.9 cm, H.: 9.5 cm,
W.: 16 cm,
D.: 14 cm,
Wt: 400 g

ZoS 1013/2

Realistic, Life-Size Animal Models

Common Tree Frogs
True Frogs - Brown Frogs, Green Frogs

ZoS 1016/1 · Common Tree Frog, (2 models)

female, Hyla arborea
Head-torso length: normal posture 4.4 cm, at rest 4.3 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 150 g

ZoS 1016/2 · Common Tree Frog, female, normal posture

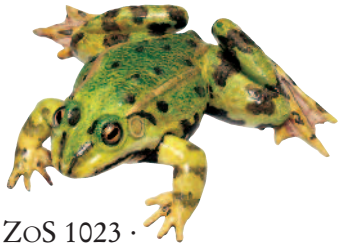
Hyla arborea
Head-tors length: 4.4 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 140 g

ZoS 1016/3 · Common Tree Frog, at rest

Hyla arborea
Head-torso length: 4.3 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 140 g

ZoS 1016/4 · Common Tree Frog, female, normal posture, rare light blue morph

Hyla arborea
Head-torso length: 4.4 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 140 g



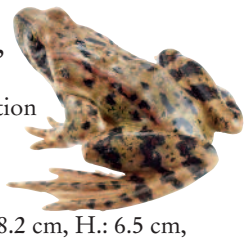
ZoS 1023 · Edible Frog*, male
Pelophylax kl. esculentus
Head-torso length: 6.3 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 160 g

ZoS 1024 · Edible Frog*, female
Pelophylax kl. esculentus
Head-torso length: 7.9 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 200 g

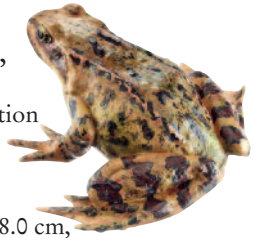
* In the past also called "Common water frog" - harmonisation of common names

ZoS 1023/2 · Jumping Edible Frog*, male
Pelophylax kl. esculentus
Overall length, jumping: 16.5 cm, Head-torso length: 7.2 cm, H.: 10 cm, W.: 16 cm, D.: 14 cm, Wt: 310 g

ZoS 1017 · Common Frog, male
Rana t. temporaria
Head-torso length: 8.2 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 180 g


ZoS 1017/CH · Common Frog, male, with dark pigmentation (typical for alpine populations)

Rana t. temporaria
Head-torso length: 8.2 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 180 g

ZoS 1018 · Common Frog, female
Rana t. temporaria
Head-torso length: 8.0 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 200 g


ZoS 1018/CH · Common Frog, female, with dark pigmentation (typical for alpine populations)

Rana t. temporaria
Head-torso length: 8.0 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 200 g

ZoS 1020 · Agile Frog
Rana dalmatina
Head-torso length: 5.2 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 200 g

ZoS 1019 · Moor Frog, male
Rana a. arvalis
Head-torso length: 5.8 cm, H.: 7.5 cm, W.: 12 cm, D.: 12 cm, Wt: 150 g


ZoS 1019/4 · Moor Frog – pair in amplexus, male in typical "mating blue"

Rana a. arvalis
Head-torso length: 7.9 cm, H.: 8 cm, W.: 12 cm, D.: 12 cm, Wt: 200 g

ZoS 1022 · Marsh Frog
Pelophylax ridibundus
Head-torso length: 9.3 cm, H.: 8.5 cm, W.: 12 cm, D.: 12 cm, Wt: 250 g

Realistic, Life-Size Animal Models

Green Frogs
Water frog complex
Water Frogs

Nature is our Model SOMSO® Modelle

Zoology 6

Water Frogs: Pool Frog (Pelophylax lessonae), Marsh Frog (Pelophylax ridibundus), and Edible Frog (Pelophylax kl. esculentus) - ZoS 1021* to ZoS 1024

There is a special genetic connection among the Central European water frogs - the "water frog complex". Unlike the true species Pool Frog and Marsh Frog, the Edible Frog originated from a cross breeding (hybridisation) of Pool Frog and Marsh Frog and is therefore a hybrid. Consequently, its scientific species name is occasionally put in inverted commas: Pelophylax "esculentus".

A special process of hybridogenesis facilitates the genesis of complex hybrid populations with a high percentage of triploid individuals capable of propagation, i.e. individuals with an additional - "stolen" (to steal in Greek is kleptein) - set of chromosomes. Therefore also Pelophylax kl. esculentus.

Model series ZoS 1021 - ZoS 1021/7 illustrates the great variety of colourations and markings of the Pool Frog. Together with the ability to "situationally" brighten or darken the green of the basic colouration, the result is numerous camouflage options for the frogs that are threatened by many predators. During the mating season, males are more or less yellow - sexual dimorphism. In specimens of the "striata" form, a dominant allele causes a bright green stripe along the middle of the back.

In this context, the prevalence of the latter within a population can be reflected upon, drawing on Mendel's Law of Dominance.

ZoS 1021 · Pool Frog*, male - with dorsal stripe

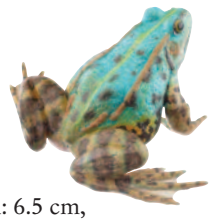
Pelophylax lessonae
Head-torso length: 5.7 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 160 g

ZoS 1021/4 · Pool Frog*, male - mating colouration

Pelophylax lessonae
Head-torso length: 5.7 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 160 g

ZoS 1021/1 · Pool Frog*, female - with dorsal stripe

Pelophylax lessonae
Head-torso length: 6.5 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 175 g



ZoS 1021/5 · Pool Frog*, female - bluish morph

Pelophylax lessonae
Head-torso length: 6.5 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 175 g

ZoS 1021/2 · Pool Frog*, male - without dorsal stripe

Pelophylax lessonae
Head-torso length: 5.7 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 160 g

ZoS 1021/6 · Pool Frog*, male - brownish morph

Pelophylax lessonae
Head-torso length: 5.7 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 160 g

ZoS 1021/3 · Pool Frog*, female - without dorsal stripe

Pelophylax lessonae
Head-torso length: 6.5 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 175 g

ZoS 1021/7 · Pool Frog*, female - brownish morph

Pelophylax lessonae
Head-torso length: 6.5 cm, H.: 6.5 cm, W.: 12 cm, D.: 12 cm, Wt: 175 g

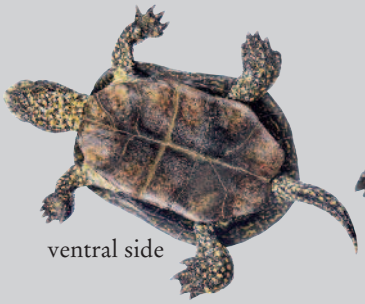
ZoS 1021, ZoS 1021/1, ZoS 1021/5, ZoS 1021/6, ZoS 1021/7 are representatives of the "striata" form * In the past also called "pool frog" - harmonisation of common names

Realistic, life-size Animal Models

Turtles
Lizards
Slow Worms

Nature is our Model SOMSO® Modelle

Zoology 6



ZoS 1025 · European Pond Turtle, male

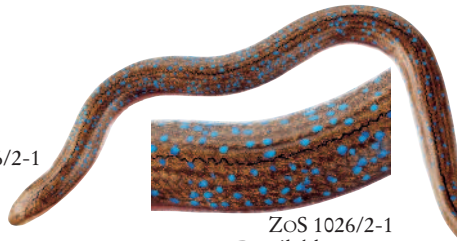
With the markings on the carapace in more muted colours – typical for the indigenous residual populations in Central Europe
Emys o. orbicularis
Total length: 25.1 cm, height at the withers*: 13.4 cm, H.: 10 cm, W.: 18 cm, D.: 18 cm, Wt: 510 g
*Height at the withers: Length along the central line of the carapace

ZoS 1025/1 · Hermann's Tortoise, male

Testudo hermanni boettgeri, Total length: 29 cm,
height at the withers*: 17.8 cm, H.: 15 cm, W.: 26.5 cm, D.: 29 cm, Wt: 1.35 kg
*Height at the withers: Length along the central line of the carapace

ZoS 1026 · Slow Worm

Anguis f. fragilis
Total length: 31.5 cm, H.: 6 cm,
W.: 12 cm, D.: 12 cm, Wt: 140 g



ZoS 1026/2-1 · Slow Worm, female, with blue spots, which are very rare for this sex

Anguis f. fragilis
Total length: 38.2 cm, H.: 6.5 cm,
W.: 32 cm, D.: 19 cm, Wt.: 470 g

ZoS 1026/2 · Slow Worm, female

Anguis f. fragilis, Total length: 38.2 cm, H.: 6.5 cm, W.: 32 cm, D.: 19 cm, Wt: 470 g

ZoS 1027 · Common Wall Lizard, male

Podarcis muralis brogniardii
Total length: 19.6 cm, H.: 9 cm,
W.: 16 cm, D.: 14 cm, Wt: 250 g

ZoS 1027/1 · Common Wall Lizard, female

Podarcis muralis brogniardii
Total length: 16.5 cm, H.: 9 cm, W.: 16 cm, D.: 14 cm, Wt: 300 g

Detail: ventral side

ZoS 1027/3 · Common Wall Lizard, female

Podarcis muralis nigriventris, Eastern Bavarian Passau population
Total length: 17.3 cm, H.: 9 cm, W.: 16 cm, D.: 14 cm, Wt: 250 g

ZoS 1027/2 · Common Wall Lizard, male

Podarcis muralis nigriventris, Eastern Bavarian Passau population. Total length: 19.9 cm, H.: 9 cm, W.: 16 cm, D.: 14 cm, Wt: 250 g

Detail: ventral side

Manfred Eichler, Biological Model Maker from the SOMSO® Painting Department, painting an animal model.

Realistic, life-size Animal Models

Lizards

Nature is our Model SOMSO® Modelle

Zoology 6

ZoS 1029/1 · Viviparous Lizard, female

Zootoca v. vivipara
Total length: 13.5 cm,
H.: 6.5 cm, W.: 12 cm,
D.: 12 cm, Wt: 120 g

ZoS 1030/1 · Sand Lizard, female grey-brown

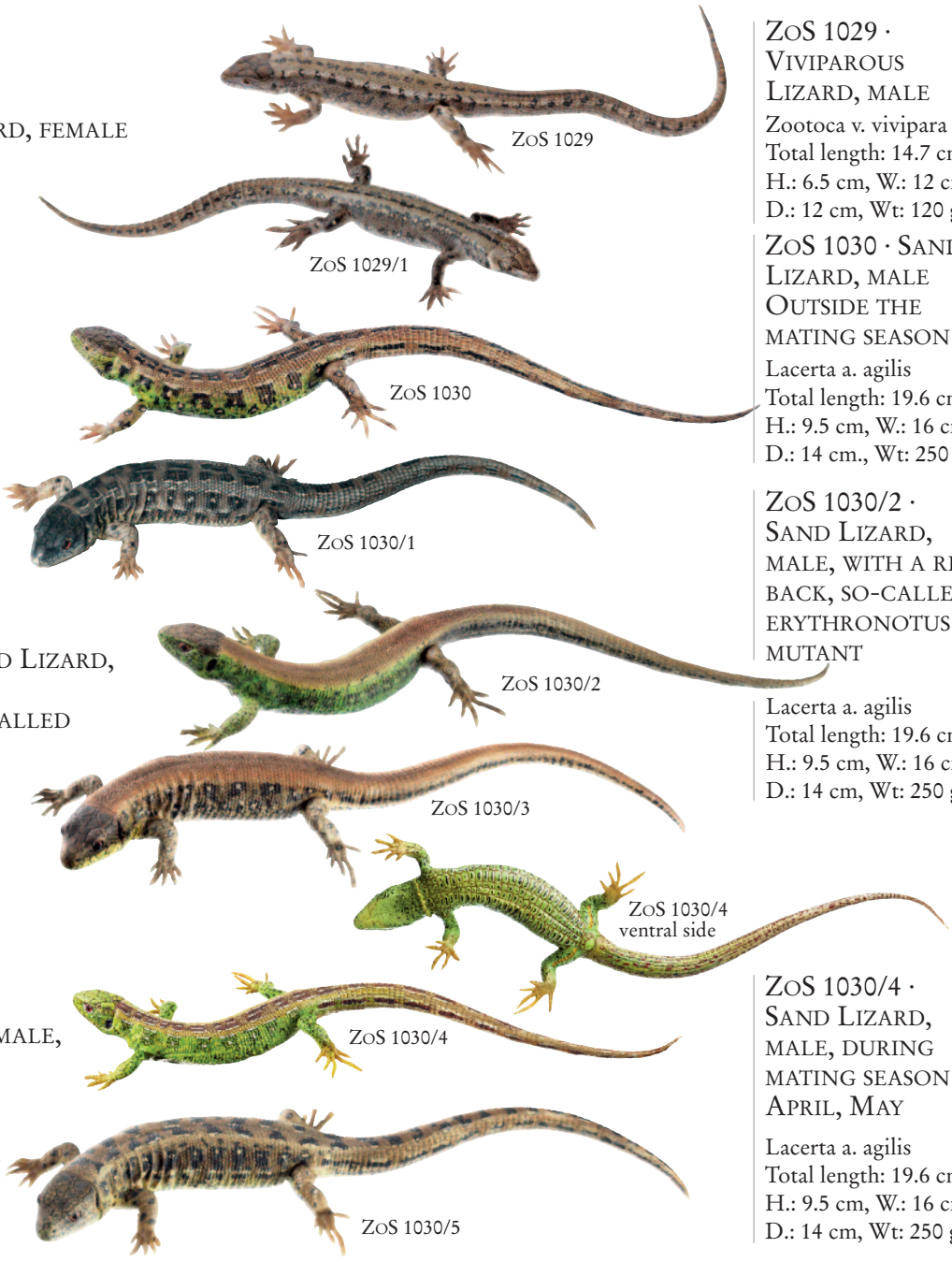
Lacerta a. agilis
Total length: 19.5 cm,
H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 330 g

ZoS 1030/3 · Sand Lizard, female, with a red back, so-called erythronotus mutant

Lacerta a. agilis
Total length: 19.5 cm,
H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 330 g

ZoS 1030/5 · Sand Lizard, female, pattern morph

Lacerta a. agilis
Total length: 19.5 cm,
H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 330 g



ZoS 1029 · Viviparous Lizard, male

Zootoca v. vivipara
Total length: 14.7 cm,
H.: 6.5 cm, W.: 12 cm,
D.: 12 cm, Wt: 120 g

ZoS 1030 · Sand Lizard, male outside the mating season

Lacerta a. agilis
Total length: 19.6 cm,
H.: 9.5 cm, W.: 16 cm,
D.: 14 cm., Wt: 250 g

ZoS 1030/2 · Sand Lizard, male, with a red back, so-called erythronotus mutant

Lacerta a. agilis
Total length: 19.6 cm,
H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 250 g

ZoS 1030/4 · Sand Lizard, male, during mating season - April, May

Lacerta a. agilis
Total length: 19.6 cm,
H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 250 g

Realistic, life-size Animal Models

Lizards
Green Lizard
Snakes

Nature is our Model SOMSO® Modelle

Zoology 6

ZoS 1028

(Image in natural size see page 155)

ZoS 1028 · Green Lizard, male

Lacerta viridis
Total length: 35.6 cm,
H.: 7 cm, W.: 32 cm,
D.: 19 cm, Wt: 500 g

ZoS 1028/1 · Green Lizard, female (half-grown)

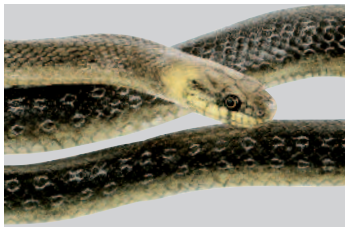
Lacerta viridis
Total length: 23.4 cm,
H.: 10 cm, W.: 14 cm,
D.: 16 cm, Wt: 300 g

ZoS 1028/1

ZoS 1031

ZoS 1031 · Aesculapian Snake, male

Zamenis longissimus
Total length: 84.6 cm,
H.: 7 cm, W.: 32 cm,
D.: 19 cm, Wt: 500 g



ZoS 1031/2 · Aesculapian Snake, male, olive brown

Zamenis longissimus
Total length: 84.6 cm, H.: 7 cm,
W.: 32 cm, D.: 19 cm,
Wt: 500 g

ZoS 1031 Detail: ventral side

ZoS 1031/1 · Aesculapian Snake, male, variant with light brown front of the body

Zamenis longissimus
Total length: 84.6 cm, H.: 7 cm,
W.: 32 cm, D.: 19 cm, Wt: 500 g

ZoS 1033

ZoS 1033 Detail
Characteristic yellow collar behind the head

ZoS 1033 · Grass Snake, female

Natrix natrix natrix
Total length: 84.9 cm,
H.: 9.5 cm, W.: 18 cm,
D.: 18 cm, Wt: 350 g

ZoS 1033/1 · Barred Grass Snake, female

Natrix natrix helvetica
(species status since 2017: Natrix helvetica)
Total length: 84.9 cm,
H.: 9.5 cm, W.: 18 cm,
D.: 18 cm, Wt: 350 g

ZoS 1033/1

Neozoan in Central Europe

ZoS 1222 · North American Bullfrog, male

Lithobates catesbeianus
(synonym: Rana catesbeiana)

Head-torso length: 14.5 cm, H.: 10 cm, W.: 18 cm, D.: 18 cm, Wt: 660 g

Realistic, life-size Animal Models

Snakes
Neozoan - North American Bullfrog

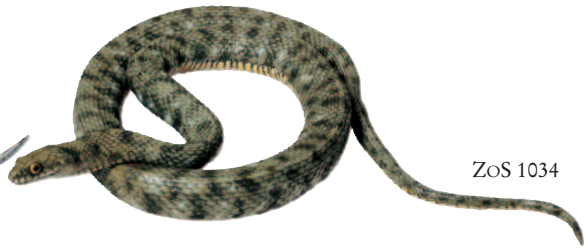
Nature is our Model SOMSO® Modelle

Zoology 6

ZoS 1032 · Smooth Snake, male

Coronella a. austriaca
Total length: 56.4 cm,
H.: 10 cm,
W.: 18 cm.,
D.: 18 cm,
Wt: 290 g

ZoS 1032



ZoS 1034

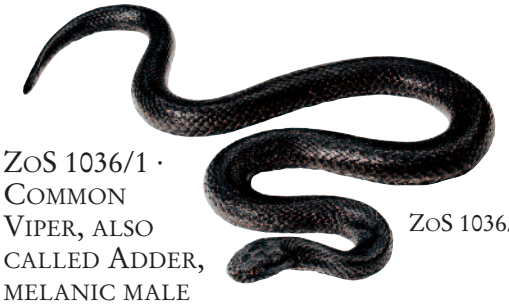
ZoS 1034 · Dice Snake

Natrix tessellata
Total length: 53.5 cm, H.: 10 cm, W.: 14 cm,
D.: 16 cm, Wt: 340 g

ZoS 1032/DA · Smooth Snake, male Danube population (Vienna) with reddish ventral scales

Coronella a. austriaca
Total length: 56.4 cm,
H.: 10 cm, W.: 18 cm,
D.: 18 cm, Wt: 290 g

ZoS 1032/DA Detail: ventral side



ZoS 1036/1 · Common Viper, also called Adder, melanic male

Vipera b. berus
Total length: 42 cm, H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 320 g

ZoS 1036/1

ZoS 1035 · Asp Viper

Vipera a. aspis
Total length: 71 cm,
H.: 10 cm,
W.: 18 cm,
D.: 18 cm,
Wt: 400 g

ZoS 1035

ZoS 1036

ZoS 1036
Detail: ventral side

ZoS 1036/2 · Common Viper, also called Adder, adult male

Vipera b. berus
Total length: 41.2 cm, H.: 9.5 cm, W.: 16 cm,
D.: 14 cm, Wt: 320 g

ZoS 1036/2

ZoS 1036 · Common Viper, also called Adder, young male

Vipera b. berus
Total length: 42 cm, H.: 9.5 cm, W.: 16 cm, D.: 14 cm, Wt: 280 g

Realistic, life-size Animal Models

Selected Representatives of the Western and Southern European Herpetofauna

Nature is our Model SOMSO® Modelle

Zoology 6

ZoS 1206 · Mediterranean Chameleon
Chamaeleo c. chamaeleon
Total length: 23.2 cm, H.: 20 cm, W.: 26 cm, D.: 18 cm, Wt: 730 g

ZoS 1037 · Nose-horned Viper (Sand Viper), female
Vipera a. ammodytes
Total length: 47 cm, H.: 10 cm, W.: 18 cm, D.: 18 cm, Wt: 330 g

ZoS 1230 · Western Three-toed Skink
Chalcides striatus
Total length: 28 cm, H.: 6.5 cm, W.: 32 cm, D.: 19. cm, Wt: 460 g

ZoS 1205 Female

ZoS 1205 Male

ZoS 1205 Male - crest details

ZoS 1205 · Marbled Newt, male and female, in their aquatic form
Triturus marmoratus
Total length: female 14.1 cm, male 13 cm, H.: 10 cm, W.: 18 cm, D.: 18 cm, Wt: 435 g

ZoS 1205/3 Male

ZoS 1205/3 Female

ZoS 1205/3

ZoS 1205/3 · Marbled Newt, male and female, in their terrestrial form
Triturus marmoratus
Total length: female 14.1 cm, male 13 cm, H.: 10 cm, W.: 18 cm, D.: 18 cm, Wt: 435 g

ZoS 1211/1

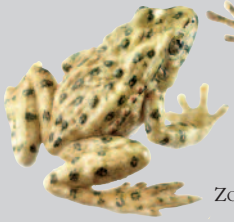
ZoS 1211/1, ZoS 1211/2, ZoS 1211/3
Common Parsley Frog, female

Pelodytes punctatus,
3 colour and
pattern morphs,
respectively

ZoS 1211/3

ZoS 1211/1 · Common Parsley Frog, female

Pelodytes punctatus
Head-torso length:
4.5 cm, H.: 6 cm,
W.: 12 cm,
D.: 12 cm,
Wt: 140 g



ZoS 1211/2

ZoS 1211/2 · Common Parsley Frog, female

Pelodytes punctatus
Head-torso length: 4.5 cm, H.: 6 cm,
W.: 12 cm, D.:12 cm, Wt: 140 g

ZoS 1211/3 · Common Parsley Frog, female

Pelodytes punctatus
Head-torso length:
4.5 cm, H.: 6 cm,
W.: 12 cm, D.: 12 cm,
Wt: 140 g

Realistic, life-size Animal Models

Selected Representatives of the Western and Southern European Herpetofauna and others

Nature is our Model SOMSO® Modelle

Zoology 6

ZoS 2001

ZoS 2001 · Long-snouted Seahorse, male - without skin filaments (Lobes, filaments)

Hippocampus guttulatus,
synonym: Hippocampus ramulosus
Size: 7.3 cm (with base 9 cm),
Wt: 50 g

ZoS 1223

Cane toad - originally native to the area between South Texas and the Amazon region, it has now become one of the best known, yet also worrying, neozoans disturbing the ecological equilibrium. Hallucinogenic ear gland secretion

ZoS 1223 · Cane Toad

Rhinella marina
(synonym: Bufo marinus)
Head-torso length: 14.8 cm, H.: 10 cm,
W.: 18 cm, D.: 18 cm, Wt: 465 g

ZoS 1204

ZoS 1204 · Moorish Gecko

Tarentola m. mauritanica
Total length: 14.5 cm,
H.: 8 cm, W.: 12 cm,
D.: 12 cm, Wt: 200 g

ZoS 1204 : Detail of the ventral side

ZoS 1208

ZoS 1208 · Red Slug

Arion rufus
Total length: 13.5 cm, H.: 6 cm,
W.: 12 cm, D.: 12 cm, Wt: 150 g

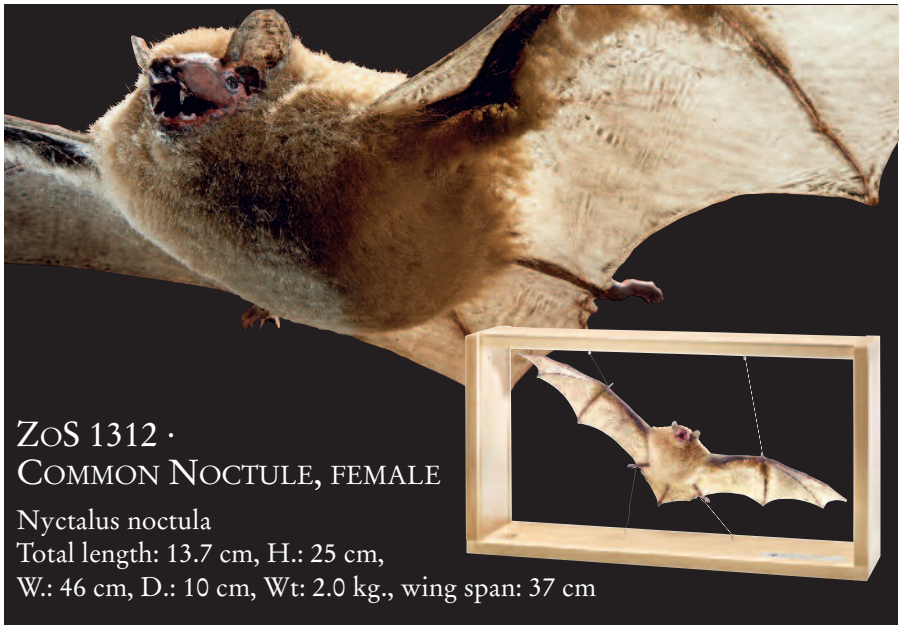
ZoS 1207

ZoS 1207 · Roman Snail

Helix pomatia
Total length: 8.5 cm, H.: 7.5 cm,
W.: 12 cm, D.: 12 cm, Wt: 100 g

Realistic , life-size Animal Models Bats

Nature is our Model SOMSO® Modelle



ZoS 1312 · Common Noctule, female

Nyctalus noctula
Total length: 13.7 cm, H.: 25 cm,
W.: 46 cm, D.: 10 cm, Wt: 2.0 kg., wing span: 37 cm

ZoS 1306 · Common Pipistrelle, male

Pipistrellus pipistrellus
Total length: 7.3 cm, H.: 25 cm,
W.: 27 cm, D.: 10 cm, Wt: 1.15 kg,
wing span: 22 cm

ZoS 1306

Detail ZoS 1309

Detail ZoS 1308

ZoS 1309 · Brown Long-eared Bat, female

Plecotus auritus
Total length: 7.5 cm, H.: 25 cm,
W.: 30 cm, D.: 10 cm, Wt: 1.4 kg,
wing span: 23 cm

All bat models are delivered in a display case with Plexiglas panes.

ZoS 1308 · Greater Mouse-eared Bat, male

Myotis myotis
Total length: 12.2 cm, H.: 25 cm,
W.: 35 cm, D.: 10 cm, Wt: 1.75 kg,
wing span: 29 cm

Most diurnal poison dart frogs can be split into two roughly equal-sized groups. The frogs that are inconspicuously or cryptically coloured for camouflage purposes and the frogs with bright (aposematic) colours. The colours of the latter group warn of more or less poisonous secretions. These are produced in poison glands, which can be spread out over the entire skin surface.

Realistic, life-size Animal Models
Poison dart frogs
Explanatory notes on the models

Poison dart frogs (Dentrobatidae) from Central and South America

Among the poison dart frogs, the species with bright and vibrant warning colours in particular are counted among the jewels of the animal kingdom of the tropical rain forests of Central and South America.

The frogs are more or less poisonous, by secreting (more than 500 different) alkaloids through their skin.

Expanding settlement and exploitation activities by humans as well as decades of Chytridiomycosis caused by the fungus Batrachochytrium have led to poison dart frogs being increasingly threatened with extinction.

Explanatory notes on the models
Since in almost all cases there are no uniform German names, the respective binomial scientific names are used as model names. Due to the enormous variety of different phenotypes within the poison dart frog species, there is no classification of subspecies. Instead, they are called morphs.

The models displayed here show the ideal types of colour morphs of individual species. For reasons of manufacturing economy, the individual colour morphs of the respective species are represented on the basis of a uniform basic shape, and are therefore all of the same size. The Head-Torso Length (HTL) of the models of a species is stated on the inscription on the base; in case of smaller morphs, this can differ upwards in comparison with their natural dimensions.

The uniform HTL of 2.5 cm was chosen for Oophaga pumilio (Strawberry Poison Dart Frog), which is very variable in terms of colour and size. In this case, there is a minimum size of the model - for manufacturing as well as didactical reasons such as being able to view and handle the model. In nature, the HTL values of all colour morphs offered under ZoS 1254 are just or significantly below 2.5 cm.

Besides the name of the morphs in inverted commas, the inscription on the base also contains information regarding the distribution - i.e. country and, where it makes sense, more exact location.

Realistic, life-size Animal Models

Poison dart frogs

Golden Poison Frog (Phyllobates terribilis)

Nature is our Model SOMSO® Modelle

ZoS 1250
Golden Poison Frog, female, "Quebrada Quangui" yellow

ZoS 1250/5
Golden Poison Frog, female, "Mint" mint green

ZoS 1250/3 · Golden Poison Frog, female, "La Brea" cream-coloured

The Golden Poison Frog from the Southwest of Colombia is considered to be particularly poisonous. Its scientific name, Phyllobates terribilis, is an indication of that. The skin secretions containing brachotoxin are used by the Emberá indigenous people to poison their blowgun arrows. It is assumed that the poison dart frogs ingest preliminary stages of their poison by eating insects containing batrachotoxin as food components.

ZoS 1250 · Golden Poison Frog, female, "Quebrada Quangui" yellow
Phyllobates terribilis
Colombia, Cauca Department, Rio Saija drainage.
Head-torso length: 4.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 147 g

ZoS 1250/3 · Golden Poison Frog, female, "La Brea" cream-coloured
Phyllobates terribilis
Colombia, Cauca Department, Rio Saija drainage
Head-torso length: 4.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 147 g

ZoS 1250/1 · Golden Poison Frog, female, "Quebrada Quangui" orange-yellow
Phyllobates terribilis
Colombia, Cauca Department, Rio Saija drainage
Head-torso length: 4.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 147 g

ZoS 1250/4 · Golden Poison Frog, female, "La Brea" cream-coloured with a hint of turquoise
Phyllobates terribilis
Colombia, Cauca Department, Rio Saija drainage
Head-torso length: 4.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 147 g

ZoS 1250/2 · Golden Poison Frog, female, "Quebrada Quangui" orange
Phyllobates terribilis
Colombia, Cauca Department, Rio Saija drainage
Head-torso length: 4.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 147 g

ZoS 1250/5 · Golden Poison Frog, female, "Mint" mint green
Phyllobates terribilis
Colombia, Cauca Department, Rio Saija drainage
Head-torso length: 4.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 147 g

ZoS 1251 ·
Green and Black Poison Dart Frog, female, "Caribbean"
light metallic green, black
Dendrobates auratus
Caribbean side of S-Nicaragua, Costa Rica, and Panama, Head-torso length: 4.1 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 141 g

Open-ground variant of ZoS 1251 Green and Black Poison Dart Frog, female - "Caribbean" at an on-site study from Christian Groß, Director of Studies

ZoS 1251/1 ·
Green and Black Poison Dart Frog, female, "Pacific"
green, black
Dendrobates auratus
Pacific side of Costa Rica, Panama, and Colombia. Head-torso length: 4.1 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 141 g

ZoS 1251/2 ·
Green and Black Poison Dart Frog, female, "Bronze", turquoise, lightly bronze-coloured
Dendrobates auratus
Panama, Coclé Province. Head-torso length: 4.1 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 141 g

ZoS 1251/3 ·
Green and Black Poison Dart Frog, female, "Bronze", turquoise, bronze-brown
Dendrobates auratus
Costa Rica, Puntarenas Province. Head-torso length: 4.1 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 141 g

ZoS 1251/4 ·
Green and Black Poison Dart Frog, female, "Calobre", blue, purple-black
Dendrobates auratus
Isthmus of Panama: Caribbean side. Head-torso length: 4.1 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 141 g

ZoS 1251/5 ·
Green and Black Poison Dart Frog, female, "Kuna Jala" dark brown, cream white
Dendrobates auratus
Panama, Caribbean Lowlands. Head-torso length: 4.1 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 141 g

ZoS 1251/6 ·
Green and Black Poison Dart Frog, female, "El Oro" (gold)
Dendrobates auratus
Panama. Head-torso length: 4.1 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 141 g

ZoS 1251/7 ·
Green and Black Poison Dart Frog, female, "Colón", brown, individual green spots
Dendrobates auratus
Panama, on both sides of the Panama Canal towards the Caribbean Sea. Head-torso length: 4.1 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 141 g

ZoS 1251/8 ·
Green and Black Poison Dart Frog, female, "Colón", black, individual green spots
Dendrobates auratus
Panama, on both sides of the Panama Canal towards the Caribbean Sea. Head-torso length: 4.1 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 141 g

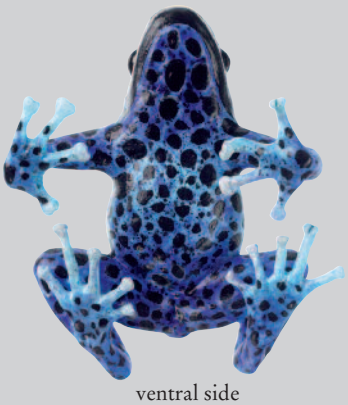
Realistic, life-size Animal Models

Poison dart frogs

Dyeing Poison Dart Frog (Dendrobates tinctorius)

Nature is our Model SOMSO® Modelle

Back and side



ventral side

ZoS 1252/4
Occasionally, the poisonous liquid, secreted in minuscule droplets, can be seen on the monochrome, black back section, especially of animals in the wild when they are exposed to a threat.

ZoS 1252
"Nominat"
is a large and particularly richly coloured poison dart frog

ZoS 1252 ·
Dyeing Poison Dart Frog, female, "Nominotypical Morph" black, yellow, blue
Dendrobates tinctorius
French Guiana. Head-torso length: 5.0 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 146 g

ZoS 1252/3 ·
Dyeing Poison Dart Frog, female, "Awaradam" black, yellow, turquoise, blue
Dendrobates tinctorius
Suriname, Head-torso length: 5.0 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 146 g

ZoS 1252/1 ·
Dyeing Poison Dart Frog, female, "Regina" black, yellow, throat and rear underside of the body slightly blue
Dendrobates tinctorius
French Guiana, Surroundings of Regina, Head-torso length: 5.0 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 146 g

ZoS 1252/1

ZoS 1252/1

ZoS 1252/2 ·
Blue Poison Dart Frog, female, "Azureus" blue, black spots
Dendrobates tinctorius "azureus"
Suriname, Sipaliwini Savanna, Head-torso length: 5.0 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 146 g

ZoS 1252/4 ·
Dyeing Poison Dart Frog, female, "Kaiser Mountains – dark variant", black, white, yellow (more or less)
Dendrobates tinctorius
Suriname, Head-torso length: 5.0 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 146 g

Many poison dart frogs, like the Oophaga pumilio “Guacimo” morph from Costa Rica depicted here, are adapted to microhabitats, e.g. bromeliads, where they reproduce and raise their young - brood care.

Realistic, life-size Animal Models

Poison dart frogs

Harlequin Poison Frog (Oophaga histrionica)

Nature is our Model SOMSO® Modelle

Zoology 6

ZoS 1253 ·
Harlequin Poison Frog, female, "Baudó" black, red
Oophaga histrionica
Colombia, Chocó Department, Head-torso length: 3.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 138 g

ZoS 1253/3 ·
Harlequin Poison Frog, female "Bullseye" brown, with orange spot on its back
Oophaga histrionica, Colombia, Risaralda Department.
Head-torso length: 3.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 138 g

ZoS 1253/1 ·
Harlequin Poison Frog, female "Pangaia" red, with black spots
Oophaga histrionica
Colombia, Chocó Department, Head-torso length: 3.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 138 g

ZoS 1253/4 ·
Harlequin Poison Frog, female, "Anchicayá" black, with yellow bands
Oophaga histrionica, Colombia, Valle del Cauca Department.
Head-torso length: 3.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 138 g

ZoS 1253/2 ·
Harlequin Poison Frog, female "Baudó" black, with orange spots
Oophaga histrionica
Colombia, Chocó Department, Head-torso length: 3.8 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 138 g

ZoS 1253/5
Harlequin Poison Frog, female, “Risaralda blue”
Oophaga histrionica
Colombia, Risaralda Department.
Head-torso length: 3.8 cm,
H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 138 g

Realistic, life-size Animal Models

Poison dart frogs

Strawberry Poison Dart Frog (Oophaga pumilio)

ZoS 1254/2 ·
Strawberry Poison Dart Frog, female, "Rio Blanco“ (generally "Blue Jeans")
orange-red with blue legs
Oophaga pumilio
Costa Rica, Provincia de San José. Head-torso length: 2.5 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 135 g

ZoS 1254 ·
Strawberry Poison Dart Frog, female, "Bri-Bri" red*
with black-brown dots
Oophaga pumilio
Costa Rica, Caribbean coast. Head-torso length: 2.5 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 135 g
* also called "strawberry (poison dart) frog" in a narrow case, due to its red colouring

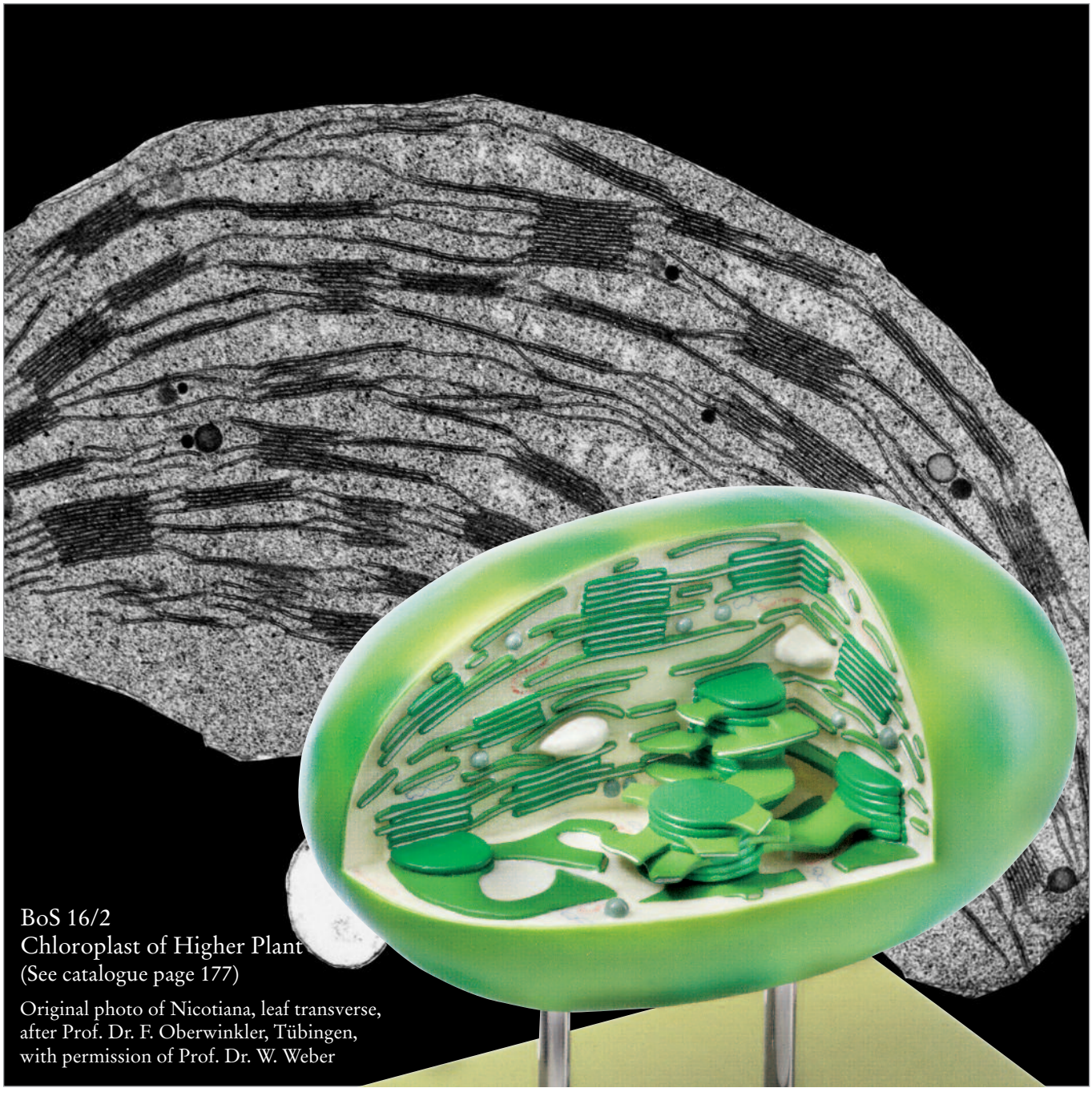
ZoS 1254/4 ·
Strawberry Poison Dart Frog, female, "Bastimentos West" cream-coloured/orange, brown spots/dots
Oophaga pumilio
Panama, Isla Bastimentos (Bocas del Toro Archipelago)
Head-torso length: 2.5 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 135 g

ZoS 1254/1 ·
Strawberry Poison Dart Frog, female, "Bastimentos West" red*, brown spots/dots
Oophaga pumilio
Panama, Isla Bastimentos (Bocas del Toro Archipelago).
Head-torso length: 2.5 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 135 g

ZoS 1254/5 ·
Strawberry Poison Dart Frog, female, "Aguacate" blue
Oophaga pumilio
Panama, Aguacate peninsula, Bocas del Toro Province
Head-torso length: 2.5 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 135 g

ZoS 1254/3 ·
Strawberry Poison Dart Frog, female, "Colón" green/yellow
with brown/black dots/spots
Oophaga pumilio
Panama, Isla Colón (Bocas del Toro Archipelago). Head-torso length: 2.5 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 135 g

ZoS 1254/6 ·
Strawberry Poison Dart Frog, female, "Colón" greenish/yellow, brown/black dots/spots
Oophaga pumilio
Panama, Isla Colón (Bocas del Toro Archipelago), Head-torso length: 2.5 cm, H.: 6 cm, W.: 12 cm, D.: 12 cm, Wt: 135 g



BoS 16/2
Chloroplast of Higher Plant
(See catalogue page 177)

Original photo of Nicotiana, leaf transverse,
after Prof. Dr. F. Oberwinkler, Tübingen,
with permission of Prof. Dr. W. Weber

Introduction to Botany:

SOMSO® Botanical Models are categorized mainly by plant system.

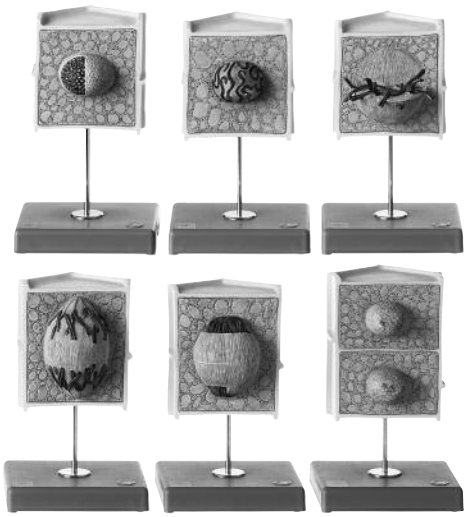
While the catalogue was being printed, it was brought to our knowledge that fungi are now classified as a separate group of organisms, of equal rank with the other kingdoms of plants and animals. Unfortunately, this new systematic classification can not be taken into consideration in the current catalogue.

Plant Morphology

Nature is our Model SOMSO® Modelle

Botany 1

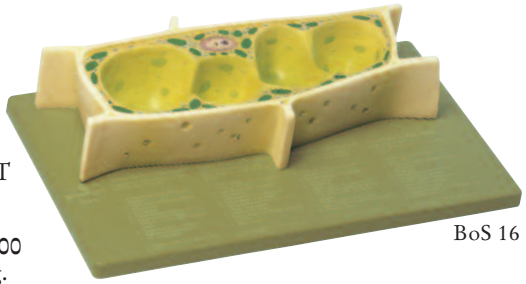
The following models are of a general nature and cannot be classified into the plant system:



Bo 22/1

Bo 22/1 · Series of Models showing the typical indirect Plant Mitosis

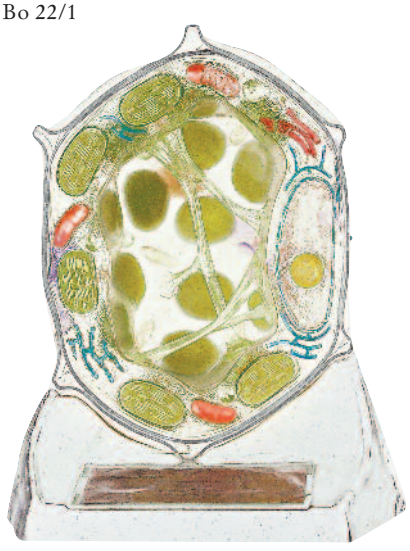
Enlarged approximately 4,500 times, after Prof. Dr. W. Jung. Shown in the cells of the root of the onion (Allium cepa). Models are made on the basis of double-stained microscopic slides (nucleus stained by haematoxylin-Heidenhain and plasma by eosin). **Comprises 6 individually mounted models. Each in one piece.** On a stand with green base. Weight of the series: 3.6 kg



BoS 16

BoS 16 · Plant Cell

Enlarged 3,000 times, in **SOMSO-PLAST®**. After Prof. Dr. W. Jung. Showing the microscopic fine structure. On a green base. **Cannot be disassembled.** H. 6.5 cm, W. 32 cm, D. 19 cm, Wt 860 g



BoS 16/1 back view

BoS 16/1 - Detail: nucleus

BoS 16/1 · Plant Cell

Enlarged approximately 6,000 times, made from special transparent plastic. After Prof. Dr. W. Weber. The model provides a slightly schematic picture of a mature cell from the assimilation tissue of a plant. It combines both light and electron microscope aspects and shows the cell components mostly with their electron microscopic structure. In addition to the layering of the cell wall it shows the configuration of the cytoplasm and the essential cell organelles, such as the nucleus, chloroplasts, mitochondria, endoplasmatic reticulum, dictyosomes, and ribosomes. The transparent material gives an insight into the structures behind the section thus eliminating the need for dismantling the model. The base represents the neighbouring cells. On a transparent base. **In one piece.** Height: 35 cm, width: 30 cm, depth: 26 cm, weight: 1.7 kg

List of SOMSO® models according to plant system

Plant Morphology

Nature is our Model SOMSO® Modelle

Botany 1

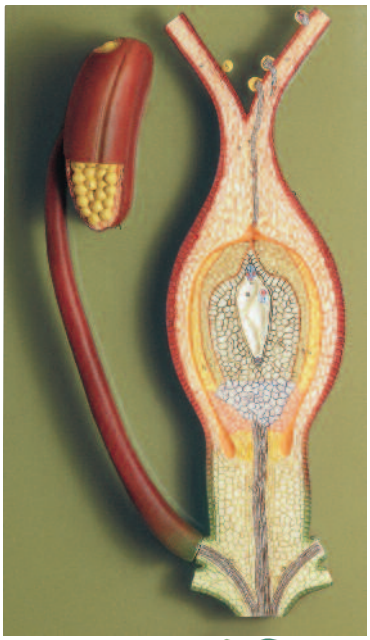
BoS 15/10 · Example of a not united Perianth of an Angiosperm Flower

Enlarged approximately 10 times, in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. The model shows the median longitudinal section of a flower with removable individual parts. **Separates into 11 parts.** On a green base. Height: 53 cm, width: 44 cm, depth: 38 cm, weight: 2.25 kg

BoS 15/10

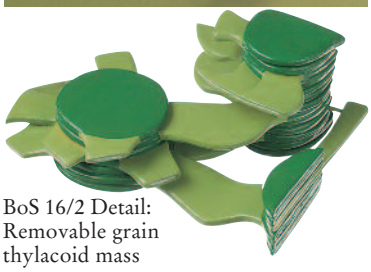
BoS 19 · Fertilisation of Angiosperms

Polygonum type, **enlarged 300 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. Longitudinal section showing ovary with germinating pollen grains and embryo sac, stamen with pollen in sagittal section. Showing in detail the microscopic structure. On a green base. **In one piece.** Height: 52 cm, width: 30 cm, depth: 13 cm, weight: 3 kg

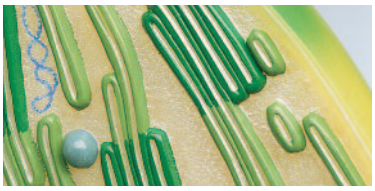


BoS 19

BoS 16/2
(For detail see page 175)



BoS 16/2 Detail: Removable grain thylacoid mass



BoS 16/2 Detail: grain and stromathylacoids

BoS 16/2 · Chloroplast of Higher Plant

Enlarged approximately 60,000 times, in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. The model shows the submicroscopic fine structure of a chloroplast on three vertical plane cross sections with the outer and inner chloroplast membrane, grain and stroma thylacoids, plastid stroma, starch inclusions, and osmiophile globules. The grain thylacoid masses lie in front of the cross section planes and can be taken out together with the linking stroma thylacoids. Due to the three cross sectional planes and the superimposed and removable parts, the model gives a depth of dimension as achieved when viewing cross sections through electron microscopes. **Separable into 2 parts.** On a stand with green base. Height: 36 cm, width: 39 cm, depth: 26 cm, weight: 3.5 kg

BoS 14/4 · Field Horsetail

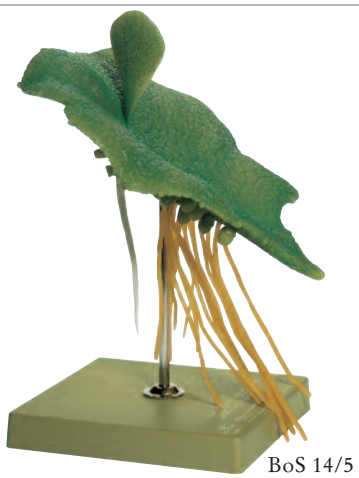
Equisetum arvense, sporophyll with sporangia, **enlarged approximately 50 times,** spore with unrolled and rolled up spore bands **enlarged approximately 500 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **In one piece.** On a stand with green base. Height: 24 cm, width: 33 cm, depth: 15 cm, weight: 900 g

BoS 14/4

BoS 14/4-A · Field Horsetail

Equisetum arvense, fertile shoot, **enlarged approximately 6 times,** sporophyll with sporangia **enlarged approximately 50 times,** vegetative shoot **enlarged approximately 3 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. On a stand with green base. **Cannot be disassembled.** Height: 36 cm, width: 33 cm, depth: 15 cm, weight: 1.2 kg

BoS 14/4-A



BoS 14/5

BoS 14/5 · Male Fern, Prothallium

Dryopteris filix-mas, **enlarged approximately 45 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. One group each of antheridia and archegonia are on the underside of the prothallium, as well as numerous rhizoids that serve to anchor it to the ground. A small fern has developed from the fertilized egg cell of an archegonium. It consists of a juvenile leaf and a first root. **In one piece.** On a stand with a green base. Height: 32 cm, width: 26 cm, depth: 22 cm, weight: 1.1 kg

BoS 14/5-A

BoS 14/5-A · Male Fern, Spore Formation

Dryopteris filix-mas, **enlarged approximately 550 times (sporangium) / 850 times (spore tetrad and germination),** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. A sub-model shows a sporangium in the moment of opening. In addition to this, a spore tetrad and a spore germinating onto a prothallium are shown and enlarged to a greater extent. **In one piece.** On a stand with green base. Height: 30 cm, width: 18.5 cm, depth: 19 cm, weight: 1.2 kg

BoS 14/6

BoS 14/6 · Moss, Gametophyte with Sporophyte

Mnium affine, **enlarged approximately 12 times, consists of 6 parts,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. The mature sporogonium with seta can be replaced with an immature sporogonium with seta, an antheridium or an archegonium. The calyptra on the mature sporogonium is detachable. On a stand with green base. H.: 37 cm, W.: 18 cm, D.: 20 cm, Wt: 930 g

BoS 14/3-A

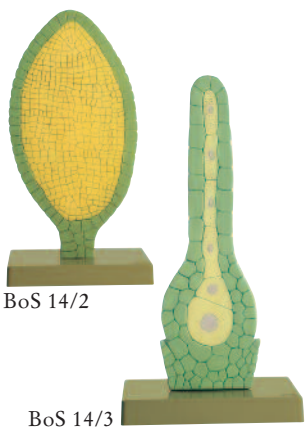
BoS 14/3-A · Liverwort

BoS 14/2 · Liverwort

Marchantia polymorpha. Antheridium, **enlarged approximately 1,500 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **In one piece.** On a green base. Height: 35 cm, width: 18 cm, depth: 18 cm, weight: 1.14 kg

BoS 14/3 · Liverwort

Marchantia polymorpha. Archegonium, **enlarged approximately 1,000 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **In one piece.** On a green base. Height: 35 cm, width: 18 cm, depth: 18 cm, weight: 720 g



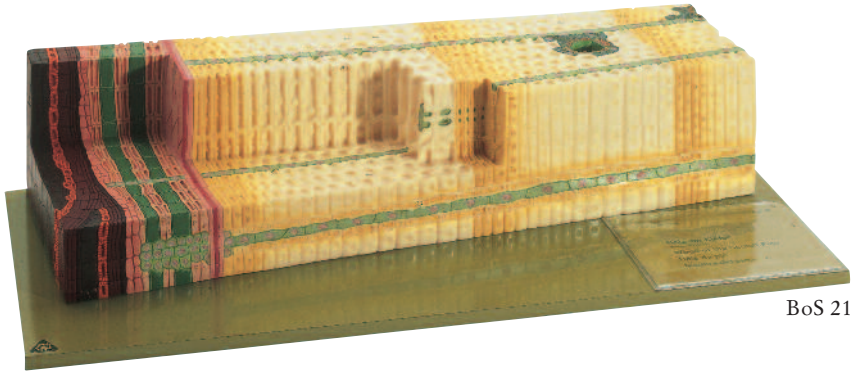
BoS 14/2

BoS 14/3

Marchantia polymorpha, **enlarged approximately 10 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. Thallus with three gemma cups each containing gemmae. The thallus becomes either male or female by attaching the two antheridial or two archegonial branches. One antheridial branch has been cut vertically and **one part of it can be removed. Separable into 6 parts.** On a green base. Height: 19 cm, width: 26 cm, depth: 32 cm, weight: 1 kg

BoS 15/7 · Model showing Germination

A collection for comparing the germination of rye **(10 times enlarged),** bean **(5 times enlarged),** and spruce **(20 times enlarged)**. In **SOMSO-PLAST®.** After Prof. Dr. W. Jung and Prof. Dr. W. Weber. The model clearly demonstrates that: 1) the rye seed (Secale cereale) seed pushes up from the soil a green shoot - monocotyle plant, 2) the bean (Phaseolus vulgaris) first appears as a two-leaved shoot - dicotyle plant and 3) the shoot of the spruce (Picea excelsa) appears from the soil by unfolding star-shaped cotyledons. **Separable into 8 parts.** On a green base. Height: 37 cm, width: 58 cm, depth: 21 cm, weight: 3.5 kg

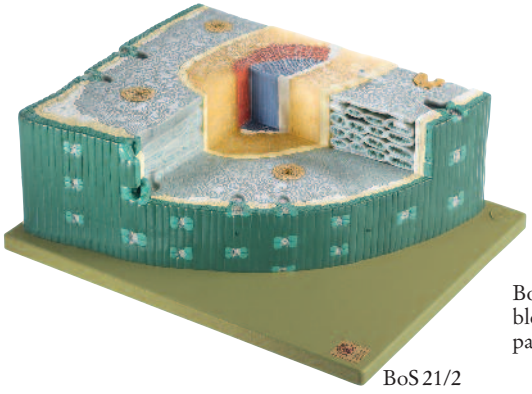


BoS 21

BoS 15/30

BoS 15/31

BoS 15/31-1



BoS 21/2

BoS 21/2 Detail: Detachable block from the mesophyll with upper palisade layer that can be swung open

BoS 21 · Anatomical Fine Structure of Pinewood

Pinus sylvestris, **enlarged approximately 350 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. The model shows the anatomical structure of pine wood in various sections: transverse, radial longitudinal, and tangential longitudinal through the cambium, early wood, late wood, and bark. **Cannot be disassembled,** on a green base. Height: 15 cm, width: 65 cm, depth: 25 cm, weight: 5.1 kg

BoS 15/30 · Pine, male

Pinus sylvestris, flower **enlarged approximately 18 times,** stamen **enlarged approximately 90 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **Cannot be disassembled.** On a stand with green base. Height: 26 cm, width: 32 cm, depth: 14 cm, weight: 1.15 kg

BoS 15/31 · Pine, female

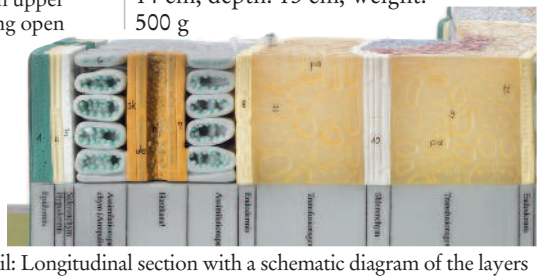
Pinus sylvestris, inflorescence **enlarged approximately 20 times,** seed scale with ovules and covering scale **enlarged approximately 80 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **Separates into 3 parts.** On a stand with green base. Height: 28 cm, width: 32 cm, depth: 14 cm, weight: 1.35 kg

BoS 15/31-1 · Pine Cone Scale

Pinus silvestris, **enlarged approximately 8 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. Mature seed scale with two winged seeds. **In one piece.** On a green base. Height: 18 cm, width: 14 cm, depth: 15 cm, weight: 500 g

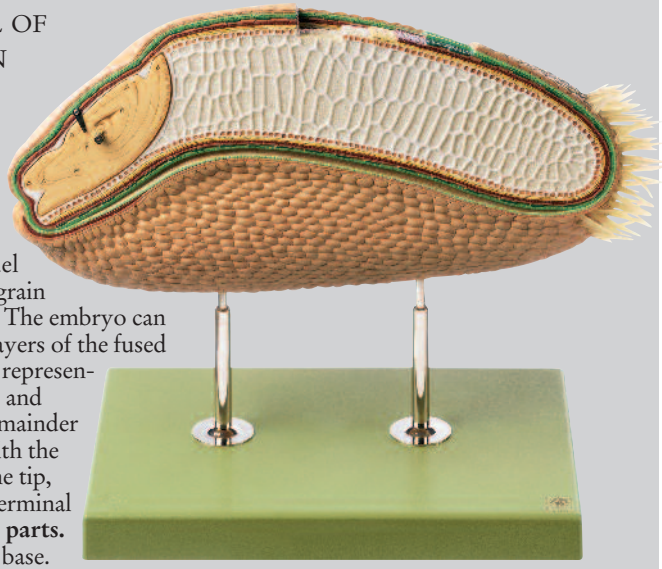
BoS 21/2 · Needle Leaf of the Black Pine (cross and longitudinal sections)

Pinus nigra, **enlarged approximately 300 times,** in **SOMSO-PLAST®. Separates into 3 parts,** on a green base. Height: 12 cm, width: 26 cm, depth: 32 cm, weight: 2.36 kg



BoS 21/2 Detail: Longitudinal section with a schematic diagram of the layers

BoS 18 · Model of a Wheat Grain Cross Section



Triticum aestivum L., **enlarged approximately 75 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. The model demonstrates a wheat grain divided longitudinally. The embryo can be removed. The cell layers of the fused fruit and seed shell are represented cross, longitudinal, and surface section. The remainder of the pistil cushion with the "beard" is located at the tip, opposite to the basal germinal layer. **Separable into 2 parts.** On a stand with green base. Height: 43 cm, width: 53 cm, depth: 26 cm, weight: 4.2 kg

BoS 15/2 · Garden Tulip, Flower

Tulipa gesneriana, **enlarged approximately 4 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. One half of the corolla can be removed to show the stamens and the pistil. **Separates into 3 parts.** On a green base. Height: 45 cm, width: 18 cm, depth: 16 cm, weight: 1.2 kg

BoS 15/2 disassembled

BoS 15/3 · Tulip Bulb

Tulipa gesneriana, **enlarged approximately 5 times,** in **SOMSO-PLAST®.** The model shows a longitudinal section of the structure of a sprouting tulip bulb. **Separates into 3 parts,** on a green base. Height: 30 cm, width: 18 cm, depth: 18 cm, weight: 810 g

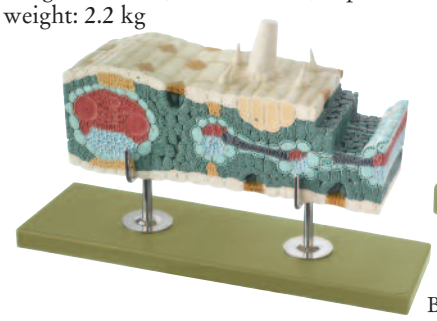
BoS 15/3

BoS 20/2 · Root Tip of a Monocotyledonous Plant in Longitudinal and Cross Section

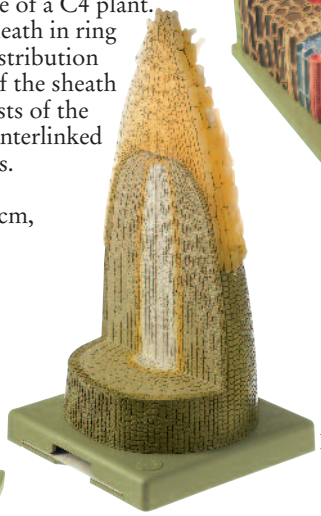
Barley, Hordeum vulgare, **enlarged approximately 200 times,** in **SOMSO-PLAST®. Cannot be disassembled,** on a green base. Height: 37 cm, width: 18 cm, depth: 18 cm, weight: 1.5 kg

BoS 17/3 · Maize Leaf in Longitudinal and Cross Section

Zea mays, **enlarged approximately 450 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. The model shows the special leaf structure of a C4 plant. The vascular bundles are enclosed by a sheath in ring form. Reflecting the biochemical work distribution during photosynthesis, the chloroplasts of the sheath are significantly larger than the chloroplasts of the mesophyll cells. The vascular bundles are interlinked with each other by transversal anastomoses. **In one piece,** on a stand with green base. Height: 28.5 cm, width: 48 cm, depth: 15 cm, weight: 2.2 kg

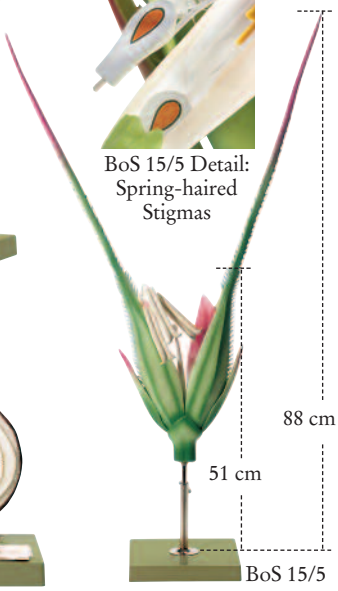


BoS 17/3



BoS 20/2

BoS 15/5 Detail: Spring-haired Stigmas



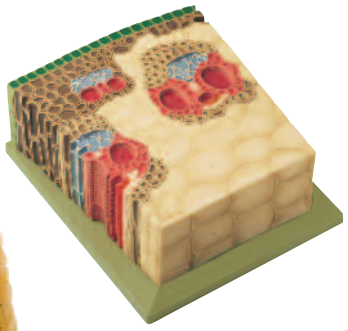
BoS 15/5

BoS 15/5 · Rye Spikelet

Secale cereale, **enlarged approximately 25 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. **Separates into 7 parts.** The grass spikelet model shows the typical structure of wind pollination. On a stand with green base. Height: 51 cm, width: 38 cm, depth: 18 cm, weight: 1.25 kg

BoS 22/3 · Section through the Peripheral Part of a Monocotyle Stem

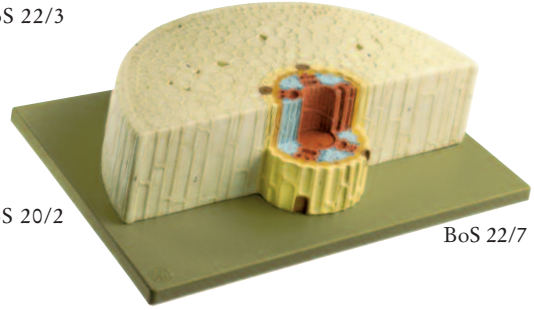
Maize, Zea mays, **enlarged approximately 550 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. **Cannot be disassembled,** on a green base. Height: 12 cm, width: 28 cm, depth: 39 cm, weight: 2.28 kg



BoS 22/3

BoS 22/7 · Shallot Root

Allium ascalonicum, **enlarged approximately 350 times,** in **SOMSO-PLAST®. Cannot be disassembled,** on a green base. Height: 10.5 cm, width: 39 cm, depth: 28 cm, weight: 2.56 kg



BoS 22/7

BoS 15/8 · Flower of the Grape Vine

Vitis vinifera, **enlarged approximately 50 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. The corolla leaves are fused as in nature. The corolla is removable as a whole. The ovary is cut longitudinally. One part can be removed with two of the five stamens and the two ovary compartments with ovules are to be seen. **Separable into 3 parts.** On a stand with green base. Height: 38 cm, width: 18 cm, depth: 18 cm, weight: 1.35 kg

BoS 14/10 · Military Orchid, Flower

Orchis militaris, **enlarged 13 times,** in **SOMSO-PLAST®** After Prof. Dr. W. Weber. The model depicts the complicated structure of an orchid flower. **Separable into 5 parts.** On a green base. Height: 26 cm, width: 19 cm, depth: 32 cm, weight: 900 g

BoS 1 partly disassembled

BoS 3

BoS 15/9

BoS 15/1

BoS 2

BoS 1 · Apple Blossom

Malus domestica, **enlarged approximately 10 times.** In **SOMSO-PLAST®,** after Prof. Dr. W. Jung. **Separates into 6 parts.** On a stand with green base. H.: 39 cm, W.: 45 cm, D.: 45 cm, Wt: 1.84 kg

BoS 2 · Apple Blossom - Cross Section of the Ovary

Malus domestica, **enlarged approximately 10 times.** In **SOMSO-PLAST®,** after Prof. Dr. W. Jung. **Cannot be disassembled.** On a stand with green base. H.: 20 cm, W.: 14 cm, D.: 16 cm, Wt: 420 g

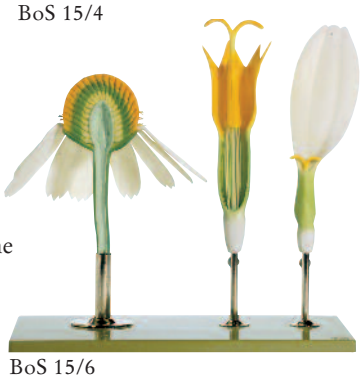
BoS 3 · Apple Blossom - Longitudinal Section of the Ovary

Malus domestica, **enlarged approximately 10 times.** In **SOMSO-PLAST®,** after Prof. Dr. W. Jung. **Cannot be disassembled.** On a stand with green base. H.: 39 cm, W.: 18 cm, D.: 18 cm, Wt: 650 g

BoS 15/4 · Scented Primrose

Cowslip, Primula officinalis, in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. Median section through one flower with a long and one with a short style, **enlarged approximately 13 times. In one piece.** On a stand with green base. Height: 43 cm, width: 34 cm, depth: 15 cm, weight: 1.1 kg

BoS 15/4



BoS 15/6

BoS 15/1 · Meadow Clary

Salvia pratensis, **enlarged approximately 15 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. **Cannot be disassembled,** on a stand with green base. The forward-rocking mechanism of the stamens can be demonstrated. H.: 36 cm, W.: 33 cm, D.: 18 cm, Wt: 840 g

BoS 15/9 · Potato Flower

Solanum tuberosum, **enlarged approximately 10 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. Seperable by removal of the ovary with style and stamens. The ovary is cut longitudinally and one half of the ovary with two stamens can be removed. **Separable into 3 parts.** On a stand with green base. Height: 39 cm, width: 24 cm, depth: 29 cm, weight: 1 kg

BoS 15/6 · Real Camomile

Matricaria chamomilla, inflorescence (anthodium), **enlarged approximately 9 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. Ligulate flower enlarged 20 times, tubular flower enlarged 80 times. **Cannot be disassembled.** On a stand with green base. H.: 33 cm, W.: 35 cm, D.: 16,5 cm, Wt: 1 kg

BoS 15/14 · Willow Flower, Male and Female

Enlarged approximately 80 times, in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **In one piece.** On a stand with green base. Height: 35 cm, width: 33 cm, depth: 15 cm, weight: 1 kg.

BoS 15/14-A · Willow Catkin

Enlarged approximately 8 times, in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. A male and a female catkin. Interchangeable and hinged. **Separable into 5 parts.** On a green base. Height: 37 cm, width: 18 cm, depth: 18 cm, weight: 1.34 kg

BoS 15/11

BoS 15/12 disassembled

BoS 15/15

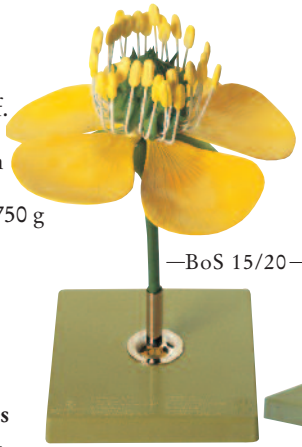
BoS 15/11 · Rape Flower

Brassica napus, **enlarged approximately 10 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **Separates into 2 parts.** On a stand with green base. Height: 35 cm, width: 29 cm, depth: 28 cm, weight: 750 g

BoS 15/12 · Rape Pod

Brassica napus, **enlarged approximately 8 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **Separates into 4 parts.** On a green base. Height: 51 cm, width: 18 cm, depth: 18 cm, weight: 650 g

BoS 15/16 disassembled



—BoS 15/20—

BoS 15/20-A Flower and BoS 15/20-B Fruit also available individually

BoS 15/20-A

BoS 15/20-B

BoS 15/20 · Buttercup, Flower and Fruit

Meadow buttercup, Ranuculus acer, **flower enlarged approximately 10 times, fruit enlarged approximately 20 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **Cannot be disassembled.** On a stand with green base. Flower: Height: 34 cm, width: 26 cm, depth: 26 cm, weight: 830 g. Fruit: Height: 30 cm, width: 18 cm, depth: 18 cm, weight: 740 g

BoS 15/21 disassembled

BoS 15/19

BoS 15/15 · Pea, Flower

Pisum sativum, **enlarged approximately 8 times,** in **SOMSO-PLAST®. Separates into 3 parts.** On a stand with green base. Height: 39 cm, width: 22 cm, depth: 32 cm, weight: 800 g

BoS 15/16 · Pea, Pod

Pisum sativum, **enlarged approximately 8 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **Separable into 3 parts.** On a stand with green base. Height: 15 cm, width: 39 cm, depth: 15 cm, weight: 1 kg

BoS 15/19 · Dandelion, Inflorescence, Individual Blossom and Fruit

Taraxacum officinale, **enlarged approximately 8 times + 16 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. On a green base. Height: 36 cm, width: 33 cm, depth: 18 cm, weight: 1.26 kg

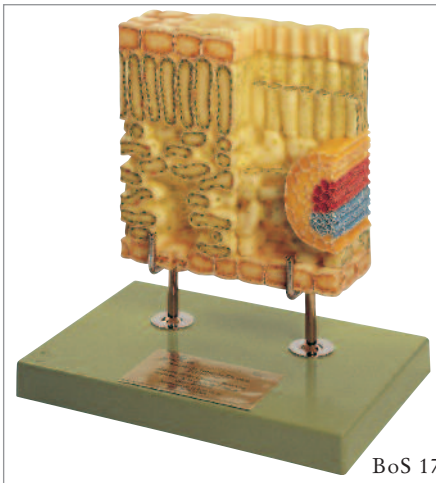
BoS 15/21 · Cherry Blossom

Sweet cherry, Prunus avium, **enlarged approximately 9 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **Separates into 3 parts.** On a stand with green base. Height: 30 cm, width: 30 cm, depth: 30 cm, weight: 800 g

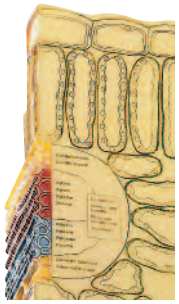
BoS 15/33 disassembled

BoS 15/33 · Fruit of the Cacao

Theobroma cacao. **Natural size,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **Separates into 7 parts.** On a green base. Height: 30 cm, width: 18 cm, depth: 26 cm, weight: 1.15 kg



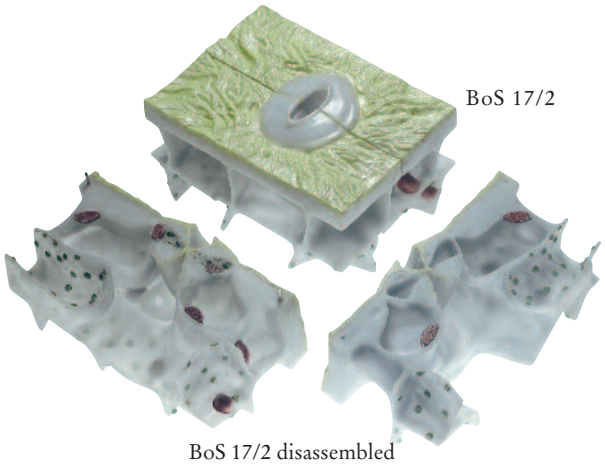
BoS 17/1



BoS 17/1 Detail: Pattern of the vascular bundle on the back of the model

BoS 17/1 · Section through a Christmas Rose Leaf

Helleborus niger, **enlarged 700 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. The model shows the upper epidermis with cuticula, the assimilatory parenchyma (differentiated in palisade and spongy tissue with vascular bundle) and the lower epidermis with stomata. **In one piece,** on a stand with green base. Height: 40 cm, width: 39 cm, depth: 26 cm, weight: 3.72 kg

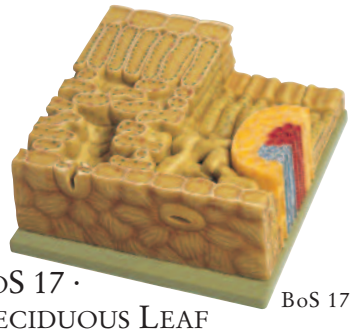


BoS 17/2

BoS 17/2 disassembled

BoS 17/2 · Stoma from the Lower Surface of a Christmas Rose Leaf

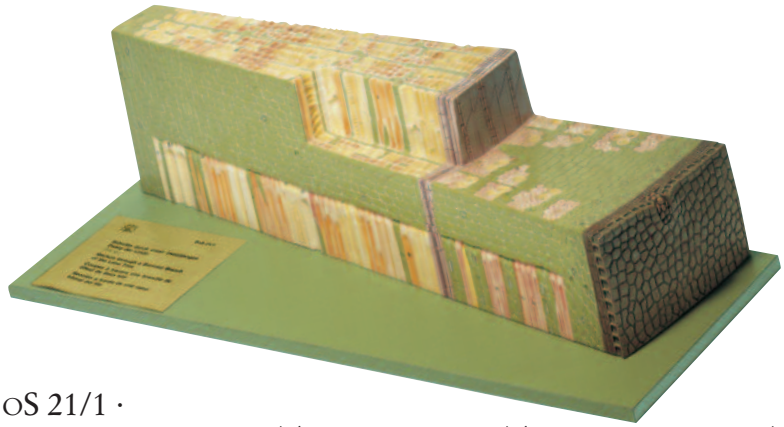
Helleborus niger, **many times enlarged,** in **SOMSO-PLAST®.** After Dr. Gerlach, Botanical Institute Erlangen. Shown are guard cells, subsidiary cells, respiratory cavity. One half of the model shows the stoma, the other the function which can be demonstrated symbolically. **Separable into 2 parts.** Height: 21.5 cm, width: 39 cm, depth: 28 cm, weight: 5.1 kg



BoS 17

BoS 17 · Deciduous Leaf of the Christmas Rose

Helleborus niger, **enlarged 700 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. Cross and longitudinal sections, showing the microscopical fine structure. **Cannot be disassembled.** On a green base. Height: 39 cm, width: 28 cm, depth: 11.5 cm, weight: 2.8 kg



BoS 21/1

BoS 21/1 · Section through a Two-year-old Twig of the Lime Tree

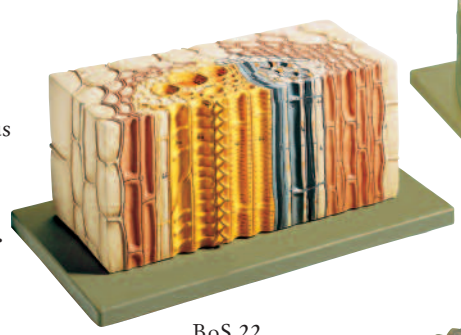
Tilia sp., **enlarged approximately 350 times,** in **SOMSO-PLAST®.** After preparations and drawings made by Prof. Dr. W. Jung. Sections through the dispersed porous type of wood show all the elements of the wood structure (transverse, longitudinal radial, and longitudinal tangential). **Cannot be disassembled,** on a green base. Height: 19 cm, width: 65 cm, depth: 25 cm, weight: 4.8 kg

The majority of the SOMSO® Botanical Models have been developed in close co-operation with Professor Dr. W. Weber.

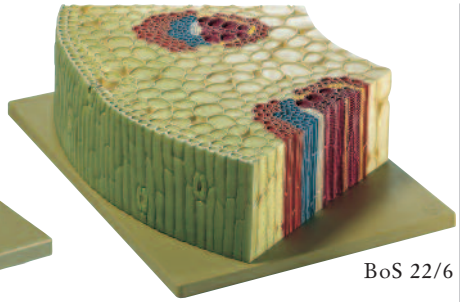
Professor Weber († 2011) together with Mrs Viola Speer, taking a look at the model of a Section Through the Stem of a One-year-old Lime Tree BoS 22/4-E.

BoS 22 · Open Collateral Vascular Bundle

of a dicotyledonous plant, **enlarged approximately 550 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. **Cannot be disassembled.** On a green base. Height: 14 cm, width: 32 cm, depth: 19 cm, weight: 1.4 kg



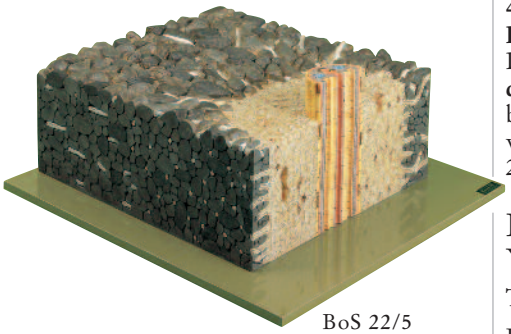
BoS 22



BoS 22/6

BoS 22/6 · Section through the Peripheral Part of the Stem of the Creeping Buttercup

Ranunculus repens, **enlarged approximately 450 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. **Cannot be disassembled,** on a green base. Height: 11 cm, width: 39 cm, depth: 28 cm, weight: 2.9 kg



BoS 22/5

BoS 22/5 · Young Root of the Buttercup

Ranunculus acer, sectional model, **enlarged approximately 300 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. **In one piece.** On a green base. Height: 22 cm, width: 46 cm, depth: 49 cm, weight: 7.3 kg

BoS 22/4 · Section through the Stem of a One Year Old Dicotyledonous Plant

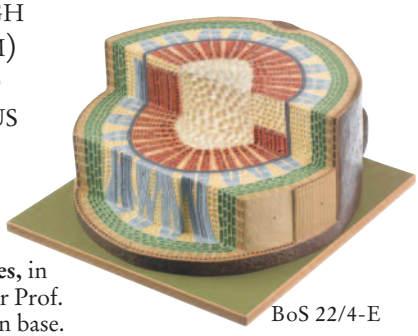
Lime tree, Tilia cordata, somewhat simplified, **enlarged approximately 125 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. **In one piece.** On a green base. Height: 33 cm, width: 31 cm, depth: 31 cm, weight: 4.3 kg

BoS 22/4

BoS 22/5-E

BoS 22/4-E · Section through the Wood (Stem) a One Year Old Dicotyledonous Plant

Small-leaved lime, Tilia cordata, slightly simplified, **enlarged approximately 125 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Weber. On a green base. **Cannot be disassembled.** Height: 16 cm, width: 31 cm, depth: 31 cm, weight: 3.2 kg



BoS 22/4-E

BoS 4/10

BoS 4/10 · Model of Hazelnut Pollen Grain

Corylus avellana, **enlarged approximately 3,800 times,** in **SOMSO-PLAST®.** After Prof. Dr. Beug. **In one piece.** Weight: 100 g

BoS 22/5-E · Young Root of the Meadow Buttercup

Ranunculus acer, **enlarged approximately 300 times,** in **SOMSO-PLAST®.** After Prof. Dr. W. Jung. **Cannot be disassembled,** on a green base. Height: 13 cm, width: 39.5 cm, depth: 28 cm, weight: 2.1 kg

While the catalogue was being printed, Dr. Dieter Bräuninger has thankfully brought it to our attention that fungi are now classified as a separate group of organisms, of equal rank with the other kingdoms of plants and animals. Unfortunately, this new systematic classification can not be taken into consideration in the current catalogue.

BoS 244 Porcelain Fungus (see catalogue page 195)

The historic model of the Penny Bun from our SOMSO®-Museum was made around the turn of the 19th century and laid the foundation for our current entire range of fungi models, comprising more than 200 species.

Fungi Models

Nature is our Model SOMSO® Modelle

Botany 5

Detail:
Stem and SOMSO® company label with the information Sonneberg – Duchy of Saxe-Meiningen

Detail:
Descriptive text on the bottom of the base

BoS 23 · Death Cap

Amanita phalloides (VAILL. ex FR.) LINK. Group showing the seven most important stages of development, mounted on a green base. Deadly poisonous and extremely dangerous!

Detail:
Gills on the underside of the cap

BoS 24 · Honey Fungus

Armillaria mellea (VAHL ex FR.) P. KUMM. Group showing 6 different stages of development, mounted on a green base. Poisonous when raw and edible when cooked!

BoS 25 · Death Cap

Amanita phalloides (VAILL. ex FR.) LINK. 4 stages. Deadly poisonous and extremely dangerous!

BoS 28 · Chanterelle

Cantharellus cibarius FR. Edible.

BoS 26 · Field Mushroom

Agaricus campestris (L.) FR. Edible.

Bo 27 · Plums and Custard

Tricholomopsis rutilans (SCHFF. ex FR.) SING. Edible.

BoS 29 · Orange Bolete

Leccinum aurantiacum (BULL.) GRAY. Edible.

Detail:
Fine structure of the stem and the underside of the cap

BoS 31 · Penny Bun

Boletus edulis BULL. ex FR. Edible.

Bo 30 · Primrose Brittlegill

Russula sardonia FR. em ROM. Poisonous

BoS 36 · Slippery Jack

Suillus luteus (L. ex FR.) S.F. GRAY. Edible.

Bo 32 · Fleecy Milkcap

Lactarius vellereus (FR.) FR. Edible.

Bo 37 · Pig's Ear

Gomphus clavatus (PERS. ex FR.) S.F. GRAY. Edible.

Bo 33 · Grey Knight

Tricholoma terreum (SCHFF. ex FR.) KUMM. Edible.

Bo 38 · Velvet Roll-Rim

Paxillus atrotomentosus (BATSCH) FR. Of inferior quality.

BoS 34 · Bitter Bolete

Tylopilus felleus (BULL. ex. FR.) P. KARST. Inedible.

BoS 39 · Brown Roll-Rim

Paxillus involutus (BATSCH) FR. Poisonous.

Bo 35 · Rufous Milkcap

Lactarius rufus (SCOP. ex FR.) FR. Edible.

BoS 40 · Blusher

Amanita rubescens (PERS. ex FR.) GRAY. Edible.

SOMSO®
Fungi Models,
convincingly
natural

The model of the
Fly Agaric
BoS 41 in its habitat
of a large cluster.

Fungi Models

Nature is our Model SOMSO® Modelle

Botany 5

BoS 41 · Fly Agaric
Amanita muscaria (L. ex FR.) HOOKER. Poisonous.

Bo 42 · Gassy Webcap
Cortinarius traganus FR. Poisonous.

BoS 43 · Bay Bolete
Xerocomus badius (FR.) KÜHN. ex GILB. Edible.

BoS 44 · Horse Mushroom
Agaricus arvensis SCHFF. ex FR. Edible.

BoS 46 · Parasol Mushroom
Macrolepiota procera (SCOP. ex FR.) SING. Top edible. (Especially big mush-room).

BoS 47 · Velvet Bolete
Suillus variegatus (SWARTZ ex FR.) O. KTZE. Edible.

BoS 48 · Yellow Knight
Tricholoma flavovirens (PERS. ex FR.) LUND et NANNF. Poisonous.

BoS 49 · False Chanterelle
Hygrophoropsis aurantiaca (WULF. ex FR.) R. MRE. Edible, but of inferior quality.

Bo 50 · Brick Cap
Hypholoma sublateritium (FR.) QUÉL. Inedible.

BoS 51 · Saffron Milkcap
Lactarius deliciosus (L. ex FR.) GRAY. Edible.

BoS 45 · Parasol Mushroom
Macrolepiota procera (SCOP. ex FR.) SING. Top edible.

BoS 52 · Woolly Milkcap
Lactarius torminosus (SCHFF. ex FR.) S.F. GRAY. Poisonous.

BoS 53 · Devil's Bolete
Boletus satanas LENZ. Poisonous.

BoS 54 · Shingled Hedgehog
Sarcodon imbricatus (L. ex FR.) P. KARST. Edible, when young.

BoS 55 · Gypsy Mushroom
Rozites caperata (PERS. ex FR.) KARST. Edible.

BoS 56 · Common Earthball
Scleroderma citrinum PERS. Poisonous.

BoS 57 · Common Puffball
Lycoperdon perlatum PERS. ex PERS. Edible, when young.

Bo 58 · Trumpet Chanterelle Mushroom
Cantharellus tubaeformis (BULL ex FR.) QUÉL. Edible.

BoS 59 · Horn of Plenty
Craterellus cornucopioides (L. ex FR.) PERS. Edible.

BoS 60 · Field Blewit
Lepista personata (FR. ex FR.) CKE. Edible.

BoS 61 · Common Stinkhorn
Phallus impudicus L. ex PERS. Inedible.

BoS 62 · Honey Fungus
Armillaria mellea (VAHL ex FR.) P. KUMM Poisonous when raw and edible when cooked!

BoS 63 · Sheathed Woodtuft
Kuehneromyces mutabilis (SCHFF. ex FR.) SING. et SM. Edible.

Bo 64 · Albatrellus confluens
(ALB. et SCHW. ex FR.) KOTL. et POUZ. Edible when young

Detail BoS 79:
for text, see below, in numerical order

Fungi Models

Nature is our Model SOMSO® Modelle

Botany 5

BoS 71 · Greville's Bolete
Suillus grevillei (KLOTZSCH) SING. Edible.

BoS 72 · Panther Cap
Amanita pantherina (DC. ex FR.) SECR.
Very Poisonous.

Bo 73 · Weeping Milk Cap
Lactarius volemus FR.
Edible.

Bo 80 · Amethyst Deceiver
Laccaria amethystina (BOLT. ex HOOKER) MURR.
Edible.

Bo 81 · Shaggy Scalycap
Pholiota squarrosa (PERS. ex FR.) KUMM.
Inedible.

Bo 89 · Butter Bolete
Boletus appendiculatus (SCHFF. ex FR.) SECR. Edible.

Bo 90 · Albatrellus pes-caprae
(PERS. ex FR.) POUZ.
Edible.

Bo 82 · Birch Polypore
Piptoporus betulinus (BULL. ex FR.) KARST.
Inedible.

Bo 65 · Sweet Tooth
Hydnum repandum (L. ex FR.), Edible.

BoS 66 · False Death Cap
Amanita citrina (SCHFF.) S.F. GRAY.
Poisonous.

Bo 67 · Scaly Wood Mushroom
Agaricus silvaticus (SCHFF. ex SECR.), Edible.

BoS 68 · Rough-Stemmed Bolete
Leccinum scabrum (BULL. ex FR.) S.F. GRAY.
Edible.

Bo 69 · Slimy Spike Cap
Gomphidius glutinosus (SCHFF. ex FR.) FR.
Edible

Bo 70 · Bovine Bolete
Suillus bovinus (L. ex FR.) O. KTZE. Edible (tough).

Bo 74 · Clouded Funnel Mushroom
Lepista nebularis (FR.) HARMAJA.
Edible in small quantities.

Bo 75 · Sulphur Tuft
Hypholoma fasciculare (HUDS. ex FR.) KUMM.
Poisonous.

Bo 76 · Ramaria mairei
DONK.
Inedible.

Bo 77 · Bitter Beech Bolete
Boletus calopus FR. Poisonous.

BoS 78 · Forest Lamb
Albatrellus ovinus (SCHFF. ex FR.) KOTL. et POUZ.
Edible.

BoS 79 · Cauliflower Fungus
Sparassis crispa (WULF.) ex FR.
Edible.
Detail: see illustration above

Bo 83 · Ugly Milk-cap
Lactarius necator (BULL. em. PERS. ex FR.) KARST.
Inedible.

Bo 84 · Dotted Stem Bolete
Boletus erythropus (FR. ex FR.) PERS.
Edible.

Bo 85 · Beautiful Clavaria
Ramaria formosa (PERS. ex FR.) QUÉL.
Poisonous.

Bo 86 · Peppery Milkcap
Lactarius piperatus (L. ex FR.) S.F. GRAY.
Edible after special treatment.

Bo 87 · Agaricus macros-porus
(MOLL. et SCHFF.) PILÁT. Edible.

Bo 88 · Lingzhi Mushroom
Ganoderma lucidum (CURT. ex FR.) KARST.
Inedible.

Bo 91 · Yellow Stagshorn
Calocera viscosa (PERS. ex FR.) FR.
Inedible.

Bo 92 · Entire Russula
Russula integra L. ex FR.
Good edible mushroom.

Bo 93 · Tall Bog Russula
Russula paludosa BRITZ.
Good edible mushroom.

Bo 94 · Stinking Russula
Russula foetens PERS. ex FR.
Inedible.

Bo 95 · Hollow Bolete
Boletus cavipes (OPAT.) KALCHBR.
Edible.

BoS 96 · Sickener Mushroom
Russula emetica FR. Poisonous.

Bo 97 · Yellow Foot

Cantharellus xanthopus (PERS.) DUBY. Edible.

Bo 98 · Miller Mushroom

Clitopilus prunulus (SCOP. ex FR.) KUMM. Edible.

BoS 99 · Wood Blewit

Lepista nuda (BULL. ex FR.) CKE. Fairly useful for cooking.

Bo 105 · Old Man of the Woods

Strobilomyces floccopus (VAHL ex FR.) KARST. Inedible (bitter).

Bo 106 · Suede Bolete

Xerocomus subtomentosus (L. ex FR.) QUÉL. Edible.

Bo 107 · Mealy Funnel

Clitocybe vibecina (FR.) QUÉL. Edible according to Ricken; should be avoided, however, due to risk of confusion.

Fungi Models

Nature is our Model SOMSO® Modelle

Botany 5

Bo 100 · Dove-Coloured Tricholoma

Tricholoma columbetta (FR.) KUMM. Edible.

Bo 108 · Parrot Toadstool

Hygrocybe psittacina (SCHFF. ex FR.) WÜNSCHE. Mildly poisonous

Bo 118 · Russula olivacea

(SCHFF. ex SECR.) FR. Edible.

Bo 101 · Dryad's Saddle Fungus

Polyporus squamosus HUDS. ex FR. Edible when very young.

Bo 109 · Ochre Brittlegill

Russula ochroleuca PERS. ex FR. Edible when young.

Bo 119 · Orange Webcap

Cortinarius mucosus (BULL. ex FR.) KICKX. Edible.

Bo 110 · Boletus Chrysenteron

Xerocomus chrysenteron (BULL. ex ST.-AM.) QUÉL. Edible.

Bo 113 · Crab-of-the-Woods

Laetiporus sulphureus (BULL. ex FR.) MURR. Edible when young.

Bo 114 · Hare´s Ear

Otidea onotica (PERS. ex FR.) FUCK. Edible.

Bo 120 · Grey Milkcap

Lactarius vietus FR. Not suitable as edible mushroom.

Bo 115 · Red-Banded Cortinarius

Cortinarius armillatus (FR. ex FR.) FR. Edible.

Bo 121 · Veiled Oyster Mushroom

Pleurotus dryinus (PERS. ex FR.) P. KUMM. Edible when young.

Bo 103 · Giant Leucopax

Aspropaxillus giganteus (SOW. ex FR.) KÜHN. et MRE. Edible.

Bo 111 · Grisette

Amanita vaginata (BULL. ex FR.) QUÉL. Edible.

Bo 116 · Brown Slimecap

Chroogomphus rutilus (SCHFF. ex FR.) O.K. MILLER. Edible.

Bo 122 · Common Earthball

Scleroderma citrinum PERS. Poisonous.

Bo 104 · Whitelaced Shank

Megacollybia platyphylla (PERS. ex FR.) KOTL. et POUZ. Top edible.

Bo 112 · Crab Brittlegill

Russula xerampelina (SCHFF. ex SECR.), Edible.

Bo 117 · Grey Spotted Amanita Mushroom

Amanita spissa (FR.) KUMM. Edible; great risk of confusion.

Bo 123 · Aniseed Cockleshell

Lentinellus cochleatus (PERS. ex FR.) KARST. Edible when young.

Fungi Models

Nature is our Model SOMSO® Modelle

Botany 5

Bo 131 · Pestle Puffball
Calvatia excipuliformis (PERS.) PERD. Young Edible.

Bo 138 · Meadow Waxcap
Camarophyllus pratensis (PERS. ex FR.) KUMM. Edible.

Bo 139 · Orange Peel Fungus
Aleuria aurantia (PERS. ex FR.) FUCK. Edible.

BoS 130 · Shaggy Ink Cap
Coprinus comatus (MÜLL. ex FR.) PERS. Edible when young.

Bo 140 · Tawny Funnel Cap
Lepista inversa (SCOP. ex FR.) PAT. Edible.

Bo 124 · Spotted Toughshank
Collybia maculata (A. et S. ex FR.) KUMM. Inedible.

Bo 132 · Cortinarius cinnamomeo-luteus
(ORTON) MOS. Poisonous.

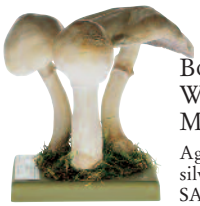
BoS 141 · Lurid Bolete
Boletus luridus SCHFF. ex FR. Partly edible, poisonous when raw.

Bo 144 · Pap Milkcap
Lactarius mammosus FR., Edible, mised mushroom, suitable for pickling in vinegar

Bo 125 · Oyster Mushroom
Pleurotus ostreatus (JACO. ex FR.) KUMM. Edible.

Bo 133 · Domecap Mushroom
Lyophyllum fumosum (PERS. ex FR.) ORTON. Edible.

Bo 142 · Rooting Bolete
Boletus radicans PERS. ex FR. Inedible, but not poisonous.



Bo 145 · Wood Mushroom
Agaricus silvicola (VITT.) SACC. Edible.

Bo 126 · Fenugreek Milkcap
Lactarius helvus FR. Poisonous! Dried in small quantities, condiment mushroom

Bo 134 · Bluing Bolete
Gyroporus cyanescens (BULL. ex FR.) QUÉL. Edible.

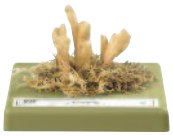
Bo 143 · Sooty Milkcap
Lactarius fuliginosus FR. Edible.

Bo 146 · Clustered Psathyrella
Psathyrella hydrophila (BULL ex MÉRAT) MRE. Edible.

Bo 127 · Blackening Brittlegill
Russula nigricans (BULL.) FR. Inedible.

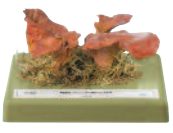
Bo 135 · Lepista gilva
(PERS. ex FR.) ROZE. Edible.

Bo 147 · Beefsteak Fungus
Fistulina hepatica SCHFF. ex FR. Edible when young.

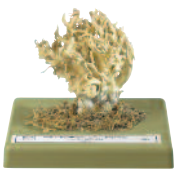


Bo 128 · Strap Coral
Clavariadelphus ligula SCHFF. ex FR. Edible, but not very tasty.

Bo 136 · Scaly Rustgill
Gymnopilus sapineus (FR.) MRE. Inedible.



Bo 129 · Apricot Jelly
Tremiscus helvelloides (DC. ex FR.) DONK. Edible.



Bo 137 · Yellow Coral Mushroom
Ramaria flava (SCHFF. ex FR.) QUÉL. Edible.

Bo 148 · Russet Scaly Tricholoma

Tricholoma vaccinum (PERS. ex FR.) KUMM. Suspicious.

Bo 155 · Spotted Toughshank

Gyromitra infula (SCHFF. ex FR.) QUÉL. Edible.

BoS 156 · Deadly Fibrecap

Inocybe patouillardii BRES. Very poisonous!

Bo 149 · Sessile Earthstar

Geastrum fimbriatum FR. Inedible.

Bo 157 · Blistered Cup Fungus

Peziza vesiculosa BULL. ex FR. Edible.

Fungi Models

Nature is our Model SOMSO® Modelle

Botany 5

Bo 150 · Velvet Shank Mushroom

Flammulina velutipes (CURT. ex FR.) SING. Edible.

Bo 158 · A group of Black Morel

Morchella conica PERS. ex FR. Edible. Comparisons Bo 151

Bo 163 · Rooting Shank Mushroom

Oudemansiella radicata (RELHAN ex FR.) SING. Edible.

Bo 151 · Conic Morel

Morchella conica PERS. ex FR. Edible.

Bo 165 · Golden Coral

Ramaria aurea (SCHFF.) QUÉL. Edible.

BoS 152 · Yellow Morel

Morchella esculenta (L.) PERS. Edible.

BoS 159 · Deadly Fibrecap

Inocybe patouillardii BRES., as BoS 156, but as a group with the 6 most important stages of development. Very poisonous.

Bo 164 · Penny Bun Bolete

Boletus edulis BULL. ex FR. Group of big yellow Boletus. Head diameter 17 cm, Edible. Comparisons BoS 225

Bo 160 · St George's Mushroom

Calocybe gambosa (FR.) DONK. Edible.

BoS 153 · Spotted Toughshank

Gyromitra esculenta (PERS. ex. FR.) FR. Poisonous.

Bo 161 · Grass-Green Russula

Russula aeruginea LINDBL. Edible

Bo 154 · White Saddle

Helvella crispa (SCOP.) ex FR. Edible.

Bo 162 · Eastern Flat-topped Agaricus

Agaricus meleagris PECK (J. SCHFF.) Poisonous.

BoS 166 · Devil's Bolete

Huge Specimen, Top diameter 20 cm, Boletus satanas LENZ. Poisonous. Comparisons BoS 53

Bo 172 · Stinking Dapperling

Lepiota cristata (BOLTON ex FR.) KUMM. Inedible.

Bo 173 · Clustered Domecap

Lyophyllum decastes (FR.) SING. Edible.

Bo 174 · Contrary Webcap

Cortinarius varius (SCHFF. ex FR.) FR. Edible.

BoS 181 · Pavement Mushroom

Agaricus bitorquis (QUêL) SACC. Edible.

Bo 182 · Portobello Mushroom

Agaricus hortensis (CKE.) PILAT. Edible.

Bo 183 · Hazel Bolete

Leccinum griseum (QUêL.) SING. Edible.

Bo 167 · Torn Fibrecap

Inocybe fastigiata (SCHFF. ex FR.) QUÉL. Poisonous.

Bo 168 · Witch's Hat

Hygrocybe conica (SCOP. ex FR.) KUMM. Edible.

Bo 169 · Rosy Earthstar

Geastrum rufescens (PERS.) FR. Inedible.

Bo 170 · Rayed Earthstar

Geastrum quadrifidum PERS. Inedible.

Bo 171 · Shaggy Parasol

Chlorophyllum rhacodes (VITT.) YELL. Edible.

Bo 180 · Dyer's Mazegill

Phaeolus schweinitzii (FR.) PAT. Inedible.

Bo 175 · Common Inkcap Mushroom

Coprinus atramentarius (BULL. ex FR.) FR. Young edible, poisonous in combination with alcohol

Bo 184 · Umbrella Polypore Fungus

Polyporus umbellatus (PERS. ex FR.), Edible when young.

Bo 185 · Umbrella Polypore Fungus

Polyporus umbellatus (PERS. ex FR.), Edible when young.

Bo 176 · Verdigris Agaric

Stropharia aeruginosa (CURT. ex FR.) QUÉL. Edible.

Bo 177 · Conifer Tuft Mushroom

Hypholoma capnoides (FR. ex FR.) KUMM. Edible.

Bo 186 · Spindleshank Mushroom

Collybia fusipes (BULL. ex FR.) QUÉL. Inedible.

Bo 190 · Warted Amanita Mushroom

Amanita strobiliformis (PAULET ex VITT.) BERT. Edible.

Bo 178 · Tricholoma batschii Gulden.

Slightly poisonous.

Bo 187 · Toothed Jelly Fungus

Pseudohydnum gelatinosum (SCOP. ex FR.) P. KARST. Edible.

Bo 191 · Trooping Funnel Mushroom

Clitocybe geotropa (BULL. ex FR.) QUÉL. Edible when young.

Bo 179 · Fairy Ring Mushroom

Marasmius oreades (BOLT. ex FR.) FR. Edible.

Bo 188 · Spotted Milkcap

Lactarius scrobiculatus (SCOP. ex FR.) FR. Poisonous.

Bo 192 · Sulphur Knight

Tricholoma sulphureum (BULL. ex FR.) KUMM. Slightly poisonous.

Bo 189 · Giant Club Fungus

Clavariadelphus pistillaris (L. ex FR.) DONK. Not palatable.

Bo 193 · Grey Coral

Clavulina cinerea (BULL.) SCHROET. Edible.

BoS 226 · Development of Hat Fungi

Natural size, in **SOMSO-PLAST®**. Submitted to Dr. rer. nat. A. Meixner, graduate chemist and fungi expert, Stuttgart. The mycelium, primordial and egg stages, young and mature fruiting bodies of the following species are shown. On a green base. **Can be separated into 6 parts.** Height: 37 cm, width: 47 cm, depth: 15 cm, weight: 2.8 kg

Fungi Models

Nature is our Model SOMSO® Modelle

Botany 5

Bo 194 · Summer Truffle

Tuber aestivum (VITT.), Edible.

Bo 195 · Soapy Knight Mushroom

Tricholoma saponaceum (FR.) KUMM. Inedible.

Bo 196 · Peppery Bolete

Chalciporus piperatus (BULL. ex FR.) BAT. Edible but in small quantities.

Bo 197 · Moor Club Fungus

Clavulinopsis argillacea PERS. ex FR. Edible.

Bo 198 · Butter Cap Mushroom

Rhodocollybia butyracea f. asema (BULL. ex FR.) LENNOX. Edible but not very tasty.

Bo 199 · Stump Puffball

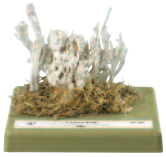
Lycoperdon pyriforme SCHFF. ex PERS. Edible when young.

Bo 200 · Charbonnier

Tricholoma portentosum (FR.) QUÉL. Edible.

Bo 201 · Winter Polypore Fungus

Polyporus brumalis PERS. ex FR. Inedible.



Bo 202 · Wrinkled Club Fungus

Clavaria rugosa BULL. ex FR. Edible.

Bo 203 · Lilac Bonnet Mushroom

Mycena pura (PERS. ex FR.) KUMM. Edible.

Bo 204 · Bay Cup Fungus

Peziza badia PERS. ex MÉRAT. Edible to a limited degree

Bo 205 · Matt Knight

Tricholoma imbricatum (FR. ex FR.) KUMM. Inedible.

Bo 206 · Herald of Winter

Hygrophorus hypothejus (FR. ex FR.) FR. Edible.

BoS 207 · Fool's Mushroom

Amanita verna (BULL. ex FR.) ROQUES. Deadly poisonous.

BoS 208 · Destroying Angel

Amanita virosa (FR.) BERTILL Deadly poisonous.

Bo 209 · Livid Entoloma

Rhodophyllus sinuatus (BULL. ex FR.) SING., Poisonous.

Bo 210 · Yellow Webcap

Cortinarius delibutus FR. Edible.

Bo 211 · Cortinarius subfulgens

ORTON. Edible.

Bo 212 · Weeping Bolete

Suillus granulatus (L. ex FR.) O. KTZE. Edible.

Bo 213 · Sticky Bolete

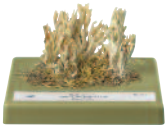
Suillus viscidus (L.) ROUSSEL. Edible.

Bo 214 · Birch Webcap

Cortinarius triumphans FR. according to Moser Edible.

Bo 215 · Wood Pinkgill

Entoloma rhodopolium (FR.) NOORDEL. Poisonous



Bo 216 · Upright Coral Fungus

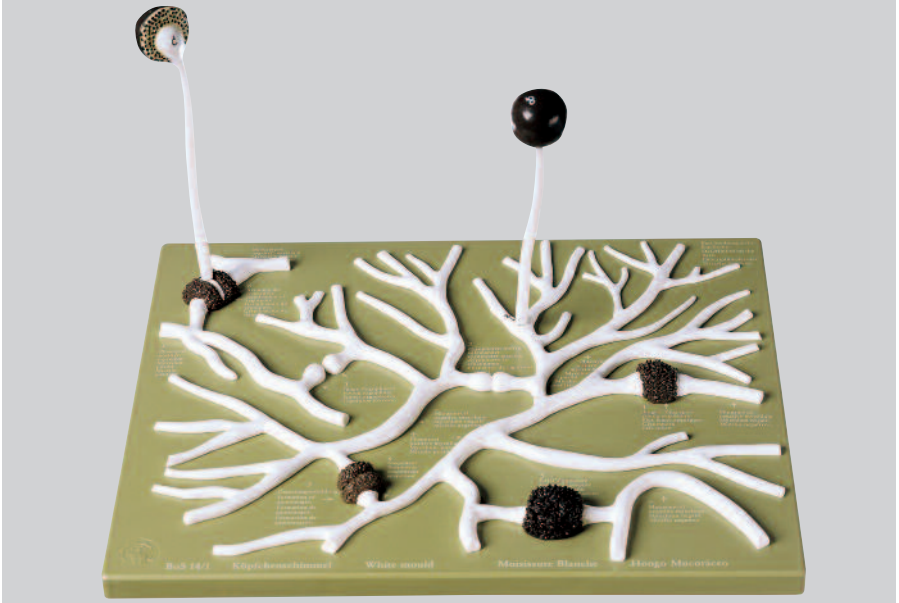
Ramaria stricta (PERS. ex FR.) QUÉL. Inedible.

Bo 217 · White Coral Fungus

Clavulina cristata (HOLMSK. ex FR.) SCHROET. Edible

BoS 14/1 · Common Pinmould

Mucor mucedo, **enlarged approximately 250 times,** in **SOMSO-PLAST®**. According to Prof. Dr. W. Weber. The model shows sexual and asexual reproduction. **Separable into 3 parts.** Mounted on a green board. Height: 18.5 cm,width: 32 cm, depth: 25.5 cm, weight: 600 g



Microscopic Fungi
Fungi Models

Botany 5

Bo 218 · Parasol Mushroom
Macrolepiota procera (SCOP. ex FR.) SING. Stunted form. Edible. Comparisons BoS 45 and BoS 46

Bo 219 · Grey Morel
Morchella vulgaris PERS. Edible.

Bo 220 · Slippery White Bolete
Suillus placidus (BON.) SING. Edible.

Bo 221 · Parasitic Bolete Mushroom
Xerocomus parasiticus (BULL. ex FR.) QUÉL. Edible.

Bo 222 · Caesar's Mushroom
Amanita caesarea (SCOP. ex FR.) PERS. Edible.

BoS 223 · The Flirt
Russula vesca FR. Edible.

BoS 224 · Field Mushroom
Agaricus campestris (L.) FR. Huge specimen, Edible.

BoS 225 see page 195

BoS 227

BoS 227
disassembled

BoS 227 · Structure of Hat Fungi

Large model, in **SOMSO-PLAST®.** Submitted to Dr. rer. nat. Axel Meixner, graduate chemist and fungi expert, Stuttgart. The morphological features of all the major varieties of types of hat fungi can be seen on this model which comes in 4 sections. The juxtaposition of the various features on one and the same model not only provides assistance in learning how to identify the different species of mushrooms but also enables direct comparisons to be made between edible mushrooms, for example, and similar-looking poisonous ones. On a green base. Height: 45 cm, width: 40 cm, depth: 32 cm, (cap diameter 35 cm), weight: 5.4 kg

BoS 226/1 · Scots Pine Mycorrhiza

Pinus sylvestris. Root section **enlarged approximately 40 times, cross-section enlarged approximately 430 times,** in **SOMSO-PLAST®**. According to Prof. Dr. Weber. **Can be disassembled into two parts** on a green base. Heigth: 13 cm, width: 32 cm, depth: 26 cm, weight: 1.1 kg

Microscopic Fungi
Fungi Models

Nature is our Model SOMSO® Modelle

Botany 5

BoS 225 · Penny Bun Bolete

Boletus edulis (BULL. ex FR.) Group with six different stages of development. Edible. Comparisons BoS 31

BoS 226 see page 193

BoS 227 see page 194

BoS 228 · Royal Fly Agaric

Amanita regalis (FR) MICHAEL. Poisonous.

Bo 229 · Giant Puffball

Langermannia gigantea (Calvatia maxima) (BATSCH ex PERS.) ROSTK. Edible when young.

BoS 230 · Kefir grains

mix of Lactococcus lactis, Kluyveromyces lactis, Candida utilis, Candida kefyr, et al. edible

Bo 231 · Aniseed Toadstool

Clitocybe odora (Bull. ex Fr.) KUMM. Edible.

Bo 232 · Mealy Tooth

Hydnellum ferrugineum (FR. ex FR.) KARST. Inedible, leathery.

Bo 235 · Splendid Webcap

Cortinarius rubellus (MOSER) Deadly poisonous.

Bo 236 · Deadly Webcap

Cortinarius rubellus COOKE Deadly poisonous.

Bo 237 · Bluing Bolete

Gyroporus cyanescens (BULL. ex FR.) QUÉL. Edible.

Bo 238 · Sunset Webcap

Cortinarius limonius FR. ex FR. Poisonous

Bo 239 · Saffron Webcap

Cortinarius croceus SCHFF. ex. FR. Poisonous

Bo 240 · Purple Stocking Webcap

Cortinarius stillatitius. FR. Edible.

Bo 241 · Tawny Funnel

Lepista flaccida (SOWERBY ex FR.) PAT. Edible.

BoS 242 see page 196

Bo 243 · Octopus Stinkhorn

Clathrus archeri (BERK.) DRING Inedible.

BoS 244 · Porcelain Fungus

Oudemansiella mucida, (SCHRAD. ex FR.) HOEHN. Edible after it has been washed thoroughly, but it is not a valuable edible mushroom (see catalogue page 185)

SOMSO® offers a comprehensive range of Fungi Models

Fungi Models

Nature is our Model SOMSO® Modelle

Botany 5

Bo 242 · Octopus Stinkhorn
Clathrus archeri, Group. (BERK.) DRING. Inedible.

A
Bo 158 A group of Black Morel
Bo 87 Agaricus macrosporus
Bo 64 Albatrellus confluens
Bo 90 Albatrellus pes-caprae
Bo 80 Amethyst Deceiver
Bo 123 Aniseed Cockleshell
Bo 231 Aniseed Toadstool
Bo 129 Apricot Jelly

B
BoS 43 Bay Bolete
Bo 204 Bay Cup Fungus
Bo 85 Beautiful Clavaria
Bo 147 Beefsteak Fungus
Bo 82 Birch Polypore
Bo 214 Birch Webcap
Bo 77 Bitter Beech Bolete
BoS 34 Bitter Bolete
Bo 127 Blackening Brittlegill
Bo 157 Blistered Cup Fungus
Bo 134 Bluing Bolete
Bo 237 Bluing Bolete
BoS 40 Blusher
Bo 110 Boletus Chrysenteron
Bo 70 Bovine Bolete
Bo 50 Brick Cap
BoS 39 Brown Roll-Rim
Bo 116 Brown Slimecap
Bo 89 Butter Bolete
Bo 198 Butter Cap Mushroom

C
Bo 222 Caesar's Mushroom
BoS 79 Cauliflower Fungus
BoS 28 Chanterelle
Bo 200 Charbonnier
Bo 74 Clouded Funnel Mushroom
Bo 173 Clustered Domecap
Bo 146 Clustered Psathyrella
Bo 122 Common Earthball
BoS 56 Common Earthball
Bo 175 Common Inkcap Mushroom
BoS 14/1 Common Pinmould
BoS 57 Common Puffball
BoS 61 Common Stinkhorn
Bo 151 Conic Morel
Bo 177 Conifer Tuft Mushroom
Bo 174 Contrary Webcap
Bo 132 Cortinarius cinnamomeoluteus
Bo 211 Cortinarius subfulgens
Bo 112 Crab Brittlegill
Bo 113 Crab-of-the-Woods

D
BoS 156 Deadly Fibrecap
BoS 159 Deadly Fibrecap
Bo 236 Deadly Webcap
BoS 23 Death Cap
BoS 25 Death Cap
BoS 208 Destroying Angel
BoS 226 Development of Hat Fungi
BoS 166 Devil's Bolete
BoS 53 Devil's Bolete
Bo 133 Domecap Mushroom
Bo 84 Dotted Stem Bolete
Bo 100 Dove-Coloured Tricholoma
Bo 101 Dryad's Saddle Fungus
Bo 180 Dyer's Mazegill

E
Bo 162 Eastern Flat-topped Agaricus
Bo 92 Entire Russula

F
Bo 179 Fairy Ring Mushroom
BoS 49 False Chanterelle
BoS 66 False Death Cap
Bo 126 Fenugreek Milkcap
BoS 60 Field Blewit
BoS 26 Field Mushroom
BoS 224 Field Mushroom
Bo 32 Fleecy Milkcap
BoS 41 Fly Agaric
BoS 78 Forest Lamb
BoS 207 Fool's Mushroom

G
Bo 42 Gassy Webcap
Bo 189 Giant Club Fungus
Bo 103 Giant Leucopax
Bo 229 Giant Puffball
Bo 165 Golden Coral
Bo 161 Grass-Green Russula
BoS 71 Greville's Bolete
Bo 193 Grey Coral
Bo 33 Grey Knight
Bo 219 Grey Morel
Bo 117 Grey Spotted Amanita Mushroom
Bo 120 Grey Milkcap
Bo 111 Grisette
BoS 55 Gypsy Mushroom

H
Bo 114 Hare´s Ear
Bo 183 Hazel Bolete
Bo 206 Herald of Winter
Bo 95 Hollow Bolete
BoS 62 Honey Fungus
BoS 24 Honey Fungus
BoS 59 Horn of Plenty
BoS 44 Horse Mushroom

K
BoS 230 Kefir grains

L
Bo 135 Lepista gilva
Bo 203 Lilac Bonnet Mushroom
Bo 88 Lingzhi Mushroom
Bo 209 Livid Entoloma
BoS 141 Lurid Bolete

M
Bo 205 Matt Knight
Bo 138 Meadow Waxcap
Bo 107 Mealy Funnel
Bo 232 Mealy Tooth
Bo 98 Miller Mushroom
Bo 197 Moor Club Fungus

O
Bo 102 Oak Mazegill
Bo 109 Ochre Brittlegill
Bo 242 Octopus Stinkhorn
Bo 243 Octopus Stinkhorn
Bo 105 Old Man of the Woods
BoS 20 Orange Bolete
Bo 119 Orange Webcap
Bo 139 Orange Peel Fungus
Bo 125 Oyster Mushroom

P
BoS 72 Panther Cap
Bo 144 Pap Milkcap
Bo 221 Parasitic Bolete Mushroom
Bo 218 Parasol Mushroom
BoS 45 Parasol Mushroom
BoS 46 Parasol Mushroom
Bo 108 Parrot Toadstool
BoS 181 Pavement Mushroom
Bo 164 Penny Bun Bolete
BoS 225 Penny Bun Bolete
BoS 31 Penny Bun
Bo 196 Peppery Bolete
Bo 86 Peppery Milkcap
Bo 131 Pestle Puffball
Bo 37 Pig's Ear
Bo 27 Plums and Custard
BoS 244 Porcelain Fungus
Bo 182 Portobello Mushroom
Bo 30 Primrose Brittlegill
Bo 240 Purple Stocking Webcap

R
Bo 76 Ramaria mairei
Bo 170 Rayed Earthstar
Bo 115 Red-Banded Cotinarius
Bo 169 Rosy Earthstar
BoS 228 Royal Fly Agaric
Bo 163 Rooting Shank Mushroom
Bo 142 Rooting Bolete
BoS 68 Rough-Stemmed Bolete
Bo 35 Rufous Milkcap
Bo 148 Russet Scaly Tricholoma
Bo 118 Russula olivacea

S
BoS 51 Saffron Milkcap
Bo 239 Saffron Webcap
Bo 136 Scaly Rustgill
Bo 67 Scaly Wood Mushroom
BoS 226/1 Scots Pine Mycorrhiza
Bo 149 Sessile Earthstar
BoS 130 Shaggy Ink Cap
Bo 171 Shaggy Parasol
Bo 81 Shaggy Scalycap
BoS 63 Sheathed Woodtuft
BoS 54 Shingled Hedgehog
BoS 96 Sickener Mushroom
Bo 69 Slimy Spike Cap
BoS 36 Slippery Jack
Bo 220 Slippery White Bolete
Bo 195 Soapy Knight Mushroom
Bo 143 Sooty Milkcap
Bo 186 Spindleshank Mushroom
Bo 235 Splendid Webcap
Bo 188 Spotted Milkcap
Bo 124 Spotted Toughshank
Bo 155 Spotted Toughshank
BoS 153 Spotted Toughshank
Bo 160 St George's Mushroom
Bo 213 Sticky Bolete
Bo 172 Stinking Dapperling
Bo 94 Stinking Russula
Bo 128 Strap Coral

S
BoS 227 Structure of Hat Fungi
Bo 199 Stump Puffball
Bo 106 Suede Bolete
Bo 192 Sulphur Knight
Bo 75 Sulphur Tuft
Bo 194 Summer Truffle
Bo 238 Sunset Webcap
Bo 65 Sweet Tooth

T
Bo 93 Tall Bog Russula
Bo 241 Tawny Funnel
Bo 140 Tawny Funnel Cap
BoS 223 The Flirt
Bo 187 Toothed Jelly Fungus
Bo 167 Torn Fibrecap
Bo 178 Tricholoma batschii
Bo 191 Trooping Funnel Mushroom
Bo 58 Trumpet Chanterelle Mushroom

U
Bo 83 Ugly Milkcap
Bo 184 Umbrella Polypore Fungus
Bo 185 Umbrella Polypore Fungus
Bo 216 Upright Coral Fungus

V
Bo 121 Veiled Oyster Mushroom
BoS 47 Velvet Bolete
Bo 38 Velvet Roll-Rim
Bo 150 Velvet Shank Mushroom
Bo 176 Verdigris Agaric

W
Bo 190 Warted Amanita Mushroom
Bo 212 Weeping Bolete
Bo 73 Weeping Milk Cap
Bo 217 White Coral Fungus
Bo 154 White Saddle
Bo 104 Whitelaced Shank
Bo 201 Winter Polypore Fungus
Bo 168 Witch's Hat
BoS 99 Wood Blewit
Bo 145 Wood Mushroom
Bo 215 Wood Pinkgill
BoS 52 Woolly Milkcap

Y
Bo 137 Yellow Coral Mushroom
Bo 97 Yellow Foot
BoS 48 Yellow Knight
BoS 152 Yellow Morel
Bo 91 Yellow Stagshorn
Bo 210 Yellow Webcap

On request, SOMSO®
is able to offer an extensive
programme of further fruit
models and artificial
reproductions of foods.

Fruit Models

Nature is our Model SOMSO® Modelle

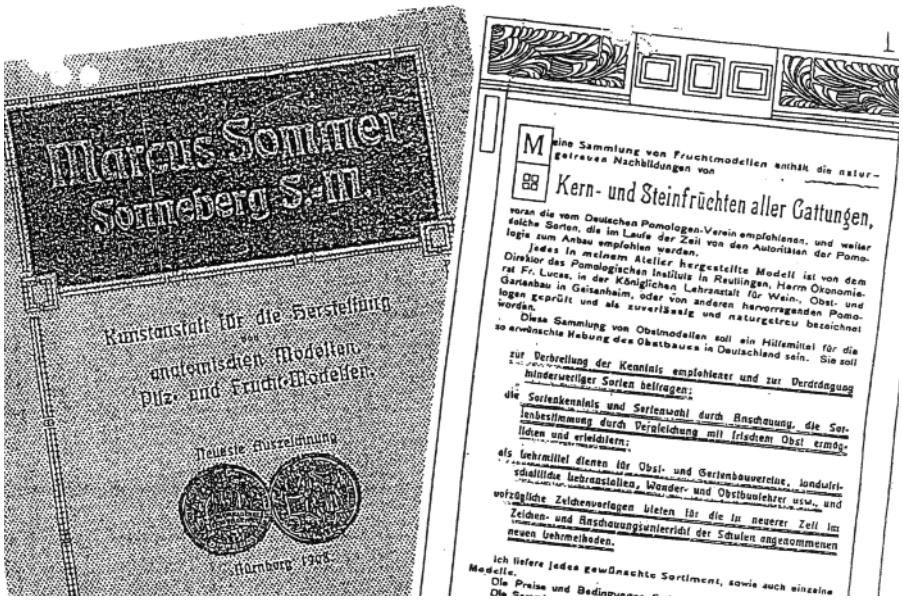
Botany 6

Extract of the catalogue by company Marcus Sommer Sonneberg S.-M. Art Institution for the Manufacture of Anatomical Models, Fungi and Fruit Models from 1909

Fruit Models

Nature is our Model SOMSO® Modelle

Botany 6



03/7 · Malus Sylvestris

03/12 · Freiherr von Berlepsch

03/16-1 · Siebenschlaefer with thick stem

03/21 · Boskoop Red

03/8 · Crab Apple

03/13 · Geheimrat Dr. Oldenburg

03/17 · Jakob Fischer

03/22 · Reinette Rouge Etoilee

03/9 · Siberian crabapple

03/14 · Blenheim Orange

03/18 · Jonathan

03/23 · Belle de Boskoop

03/10 · Cox's Orange Pippin with thick stem

03/15 · Gravenstein

03/19 · Kaiser Wilhelm

03/24 · Wiltshire Beauty

03/11 · Cox's Orange Pippin without thick stem

03/16 · Siebenschlaefer

03/20 · Rheinischer Winterrambur

03/25 · King of the Pippins

SOMSO® has now added traditional meadow orchard fruit types to their historical, pomological fruit collection.

"Nature is our model" - this is the guiding idea for the realistic representation of nature as the model.

SOMSO® looks back on a long-standingtradition of manufacturing models from papier maché. Ina and Anne Sommer, members of the 5th generation of the entrepreneurial family, arereviving the traditional manufacturing method by manufacturing the "SOMSO® Apple".

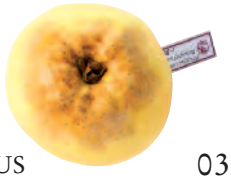
Fruit Models

Nature is our Model SOMSO® Modelle

Botany 6

03/27 · White Transparent

03/32 · Canadian Reinette



03/36-1 · Golden Delicious
with skin burning

03/38-3 · Granny Smith
with sunburn

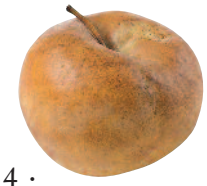
03/28 · Golden Noble

03/33 · Harberts Reinette

03/37 · Manga

03/38-4 · Granny Smith
with diffuse skin browning

03/29 · Ontario



03/34 · Zabergaeu Renette

03/38 · Granny Smith

03/40 · Danziger Kantapfel

03/30 · Baumann's Reinette

03/35 · Adersleber Calville

03/38-1 · Granny Smith
with usual scald

03/41 · Idared

03/48 · Gacksapfel

Fruit Models

Nature is our Model SOMSO® Modelle

Botany 6

The apple cultivar "Gacksapfel" as a fruit model
SOMSO® Modelle: Living tradition for more than 140 years.

For more than 140 years, pomological fruit models have been manufactured in the SOMSO® workshops in Coburg and Sonneberg. The company can look back on a great tradition of manufacturing models from papier maché. Each individual fruit variety is created based on our old, in-house recipes and by manually creating every individual piece, which includes steps such as pressing, retouching, painting, and decorating with wax.

True to the motto "Nature is our Model", the result is a maximum of true-to-life representation and an aesthetic highlight for every decorative display.

From 1880 onwards, Marcus Sommer senior manufactured an extensive range of fruit models – in consultation with the Deutscher Pomologenverein [German Pomological Society] of that time. In the meantime, the company has expanded its collection by adding meadow orchard fruit varieties. Today's pomological society, Pomologen-Verein e.V., has also adopted the SOMSO® range of products and has full-scale models made, for example local Hessian varieties such as the apple cultivars "Gacksapfel", "Heuchelheimer Schneeapfel", or "Siebenschläfer".

The "Gacksapfel" models of this exhibition were made in April/May 2015, taking into consideration the colour variance according to the presented sample fruits. These came from the former garden in Bachstraße 23 / Neuer Weg in Wendorf.

Article about the manner of preparation of the local Hesse cultivar of the year 2006, written by Mr Steffen Kahl of the Pomologen-Verein e.V. [Pomological Society].

03/42 · Ausbacher Roter

03/43 · Prinzenapfel

03/44 · Anhalter

03/45 · Vaterapfel without thick stem

03/45-1 Vaterapfel with thick stem

03/46 · Kloppenheimer Streifling

03/47 · Dorheimer Streifling

03/50 · Ananas Reinette

03/51 · Champagne Reinette

03/52 · Roter Stettiner

03/53 · Maigold

03/54 · Api

03/55 · Braeburn

03/56 · Elstar

03/57 · Fuji

03/58 · Gala-Tenroy-Royal Gala®

03/59 · Scifresh-Jazz®

03/60 · Nicoter-Kanzi®

03/61 · CIVG 198-Modi®

03/62 · Cripps Pink-Pink Lady®

Living tradition

Creating a model of an apple involves delicate hand work and single piece production. Biological Model Maker Hanno Klug painting an apple.

This interaction of all the work processes results in a true-to-life representation and an aesthetic highlight for every decorative display. The range of papier maché fruits is being expanded.

Fruit Models

Nature is our Model SOMSO® Modelle

Botany 6

03/63 · Pinova

03/64 · Civni Rubens®

03/65 · Topaz

03/66 · Pilot

03/67 · Red Delicious

03/67-1 · Red Delicious
with extensive bitter pit

03/68 · Edelroter

03/69 · Annurca

03/70 · Hoary Morning

03/71 · Gloster

03/72 · Jonagold

03/73 · Meran

03/74 · Minister v. Hammerstein

03/75 · Rosa del Caldaro

03/76 · Stone Pippin

03/77 · Tiroler Spitzlederer

03/78 · Delicious

03/79 · Rosmarina Bianca

03/80 · Stayman Winesap

03/81-1 · Geflammter Kardinal - wide shape

Fruit Models

Nature is our Model SOMSO® Modelle

Botany 6

03/85 · Heuchelheim Snow Apple

03/85-1 · Heuchelheim Snow Apple – stem half

03/85-2 · Heuchelheim Snow Apple – calyx half

03/81-2 · Geflammter Kardinal - elongated shape

03/82 · Professor Paulsen

03/83 · Moringer Rosenapfel

03/84 · Spitzrabau

03/90 · Alexander Apple

03/91 · Rheinischer Bohnapfel

03/92 · Zuccalmaglio's Reinette

03/93 · Delbarestivale

03/94 · Ditzels Rosenapfel

03/95 · Koerler Edelapfel

03/96 · Reinette de Metz

03/97 · Gestreifter Matapfel

03/98 · Weilburger

03/100 · Eifeler Rambur

03/101 · Luxemburger Renette

03/102 · Rheinische Schafsnase

03/103 · Tare de Ghinda

03/104 · Roter Bellefleur

03/105 · Roter Eiserapfel

03/106 · Reinette Grise

Günther Volk, Biological Model Maker, shown here creating an apple made from papier maché

Carola Behrens, Biological Model Maker, examining a new apple model based on original templates

Each individual apple is created based on our traditional, in-house recipes. Every individual piece is made by hand, which includes steps such as pressing, retouching, painting, and decorating with wax.

Fruit Models

Nature is our Model SOMSO® Modelle

Botany 6

03/107 · Graue Herbstrenette

03/108 · Purpurroter Cousinot

03/109 · Roter Trierer Weinapfel

03/110 · Creo variety

03/111 · Uhlhorns Augustkalville variety

03/113 · Api Etoile

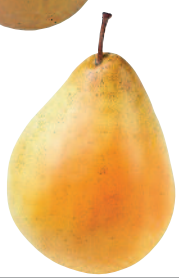
03/114 · Ruhm aus Kelsterbach

03/115 · Totenapfel von Hellikon

03/116 · Kuetiger Dachapfel

03/117 · Yellow Bellflower

08/10 · Beurre Hardy



08/11 · Fondante de Charneu

08/12 · Abbé Fétel

08/13 · Comtesse de Paris

08/14-1 · Dycker Schmalzbirne, yellow-brown

08/14-2 · Dycker Schmalzbirne, brown (without ill.)

08/15 · Ornamental Pear

08/16-1 · Pyrus pyraster, green

08/16-2 · Pyrus pyraster, yellow

Since the traditional manufacturing of SOMSO® Fruit Models was resumed, the pertinent assessment and advisory services have been provided by renowned pomologists Klaus Schuh and Steffen Kahl, who are held in high esteem by experts.

Fruit Models

Nature is our Model SOMSO® Modelle

Botany 6

Winter 2014 - Steffen Kahl in front of an apple tree

Klaus Schuh on the pomologists' meadow of the Ostheim municipality near Bad Nauheim

08/17-1 · Gewuerzbirne Muehlenbach
GREEN

08/17-1

08/17-2 · Gewuerzbirne Muehlenbach
RIPELY (WITHOUT ILL.)

08/18-1 · Honey pear
GREEN

08/18-1

08/18-2 · Honey pear
RIPELY (WITHOUT ILL.)

08/19-1 · Puspas-birne
GREEN

08/19-1

08/19-2 · Puspasbirne
RIPELY (WITHOUT ILL.)

08/20-1 · Huetjans-birne
GREEN

08/20-1

08/20-2 · Huetjansbirne
RIPELY (WITHOUT ILL.)

Overview of the SOMSO® Fruit Models in alphabetical order.

The new model series of micro organisms is being developed in co-operation with Professor Dr. Uwe Hoßfeld, Biology Education Group at the Biological Pharmaceutical Faculty of the Friedrich Schiller University of Jena.

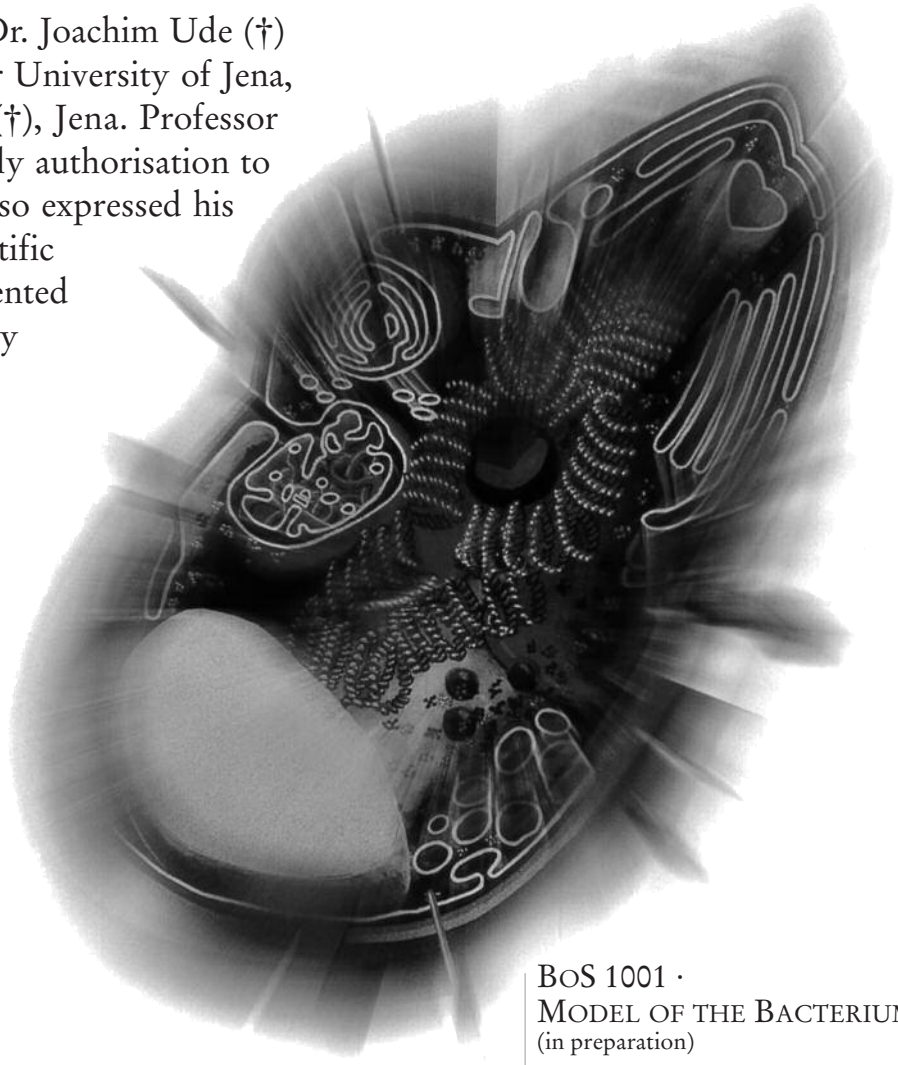
Biology Education Group at the Friedrich Schiller University of Jena

Microorganisms

Nature is our Model SOMSO® Modelle

Botany 7

The model of the bacterium is based on a drawing by Professor Dr. Joachim Ude (†) of the Friedrich Schiller University of Jena, and Dr. Michael Koch (†), Jena. Professor Ude has given thankfully authorisation to use said drawing. He also expressed his happiness that his scientific work is being supplemented in professional circles by the SOMSO® Modelle.



BoS 1001 ·
Model of the Bacterium
(in preparation)

Scale 1 : 10.000, in **SOMSO-PLAST®.**
After Prof. Dr. Joachim Ude, and Dr. Michael Koch, Jena, and in co-operation with Professor Dr. Uwe Hoßfeld, Biology Education Group at the Friedrich Schiller University of Jena. On a stand with green base. Height 38 cm, width 18 cm, depth 26 cm, weight 1.5 kg

Photo of the 300th export delivery with company boss Fritz Sommer, surrounded by his employees

The Somso® history at a glance

17th July 1876:
Foundation of the company in Sonneberg, Thuringia, by Marcus Sommer Snr
Born: 14th November 1845
Died: 21st January 1899

17.07.1876

In Sonneberg, Marcus Sommer begins the production of anatomical teaching models made of papier maché.

1876

Around 1880:
A comprehensive collection of fruit models produced, in agreement with the German Pomological Society

1880

Development of a collection of artifical fungi models - with more than 200 species today.

1890

1st January 1895:
Fritz Sommer, born 27th December 1879, inherits his father's business.
Died: 29th September 1934

1895

Production of an extensive range of heat-resistant moulages in co-operation with university institutes in Jena.

1900

Start of the scientific collaboration with and consultation by Paul Hagedorn, Principal Preparator at the Anatomical Institute in Leipzig.

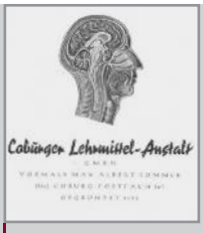
1911

Marcus Sommer Jnr acquires a new customer in England: Messrs Adam,Rouilly, with whom SOMSO® have had an excellent business relationship since 1927.

1927

15th April 1929:
Modeller, Max Doehler, born 13th June 1905 in Schalkau joins the company. During his 52 years with the company, the range of anatomical, zoological and botanical SOMSO® Modelle is extended and improved

1929



1st April 1930:
Acquisition of Coburger Lehrmittel-Anstalt from Max Albert Sommer, Neuses, Coburg

1930

After the death of her husband Fritz Sommer, Ida Sommer manages the company as a partner until the confiscation in 1952.
Born: 18th January 1882
Died: 10st August 1959

1934

12th October 1936:
Purchase and take-over of the Dr. h. c. Friedrich Ziegler Studio for Scientific Plastics, Freiburg in Breisgau

1936

Ancestral portraits, from left to right: Lotte Sommer, Marcus Sommer Jnr, Rosalie Sommer, Marcus Sommer Snr (founder), Ida Sommer, and Fritz Sommer in the executive office in Coburg-Neuses

From November 1936, production and distribution of the thoroughbred animal statuette collection by Max Landsberg and C.A. Brasch.

1936

1st January 1937: Marcus Sommer Jnr, born on 25th February 1907, becomes partner and managed the company until he died on 26th December 1986.

1937

Willy Schaerf joins the company as authorised signatory and is co-responsible for the progress of the company until 1971.

1947

21st June 1948: After the war, production of the original SOMSO® Modelle starts in Coburg.

1948

18th December 1952: Take-over of Messrs Marcus Sommer, Sonneberg, Thuringia. The property is expropiated and becomes a state-owned company.

1952

Modeller Edgar Froeber, born 6th October 1919, joins the company. During his 40 years with the company, he plays a significant role in Coburg. Creating a large number of botanical and zoological SOMSO® Modelle.

1952

SOMSO

Eingetragenes Warenzeichen

25th March 1954: Re-introduction of the old company name Marcus Sommer, SOMSO-Werkstaetten in Coburg

1954

Richard Schott joined the company; on 20th March 1990, he was granted power of procuration with sole signature rights.
Born: 20th March 1940
Died: 26th July 2002

1954

Start of the collaboration with the printing house Edmund Blümig, which has been managed by Gerhard Blümig, Master Printer, since 1st January 1978, within the framework of printing the specifications for the SOMSO® Modelle.

1955

1st August 1957 Karin Wagner joined the company; she is head of the accounting department until 31st December 2004
Born: 1st October 1943
Died: 25th October 2011

1957

Start of the scientific consultation by Christian Gross, Director of Studies from Dillingen, in the area of zoological models and the development of a new series of true-to-life animal sculptures.

1958

17th November 1960: The start of the first stage of construction of the premises in Coburg-Neuses

1960

Collage of the development of the registered figurative mark of the SOMSO® Sun.

THE SOMSO® HISTORY AT A GLANCE

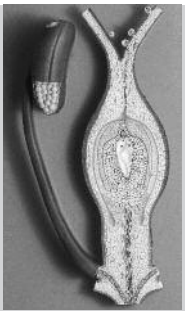
Nature is our Model SOMSO® Modelle

Dr. Lothar Härer, lawyer and auditor, starts advising us in business and legal matters

1962

1st September 1963 Hans Sommer, born on 18th December 1944, joins the company

1963



Start of the scientific consultation by Professor Dr. Walter Jung of the Institute of Palaeontology and Historical Geology of the University of Munich, within the framework of developing botanical models

1963

Collaboration with the Bavarian State Collection of Zoology, Munich

1966

Collaboration with Dr. Eberhard Schicha. Development of insect models

1966

Biological Model Maker Gerhard Weber, born on 10th November 1919, provides excellent services over 33 years as Head of the Painting Department and modeller.

1967

The entire Sommer family, Marcus and Lotte Sommer with their children Traute and Hans Sommer, work at the company.

1968

8th September 1971: Foundation of the company Coburger Lehrmittelanstalt. Manufacturing of the CLA Training Phantoms, which are responsibly designed by the biological model makers Dietrich Krauß (who joined the company on 1st August 1955) and Rudolf Galle (who joined the company on 1st August 1968) (see reference on page 209).

1971

Start of the collaboration with the graphic designer Georg Fickenscher, who died 2017, within the framework of designing the SOMSO® and CLA® advertising campaigns.

1973

Start of the scientific consultation by Professor Dr. med Dr. med h.c. Johannes W. Rohen, Anatomical Institute of the University of Erlangen for anatomical models and the development of a new series of dismantled models of the skull and the brain

1974

Collaboration with Professor Dr. Christian Vogel and afterwards with Professor Dr. Hartmut Rothe, Institute of Anthropology, University of Göttingen

1974

Start of the collaboration with Achim Bühler, industrial and advertising photographer, within the framework of the photographic design of SOMSO® Modelle and CLA® Phantoms

1975

Since 1971 the SOMSO® range of anatomical, zoological and botanical models has been supplemented with a range of medical phantoms manufactured by the sister company CLA® - Coburger Lehrmittelanstalt.

CLA®

The Philosophy
The aim of CLA® is to make teaching aids available for health education. These teaching aids contribute to the training of nursing personnel and doctors. CLA® offers an extensive range of high-quality products for this purpose.

The History
8th September 1971: Foundation of the company Coburger Lehrmittelanstalt, Trade Register No. 2220
1st January 1975
Takeover of commercial operation of the Federal Centre for Health Education in Cologne

Start of the collaboration with Professor Dr. med. John A. Nakhosteen within the framework of developing thorax models and medical training phantoms.

1977

Start of the collaboration with Professor Dr. Wilhelm Weber, Reutlingen, in the development of botanical models.

1980

Since 1988, SOMSO® Modelle have been advertised under the slogan "Nature is our Model" (photo: Rudi Schumann, an exceptional painter for over 36 years).

1988

Start of the scientific consultation by Professor Dr. Helmut Waibl, Director Emeritus of the Institute of Anatomy at the University of Veterinary Medicine Hanover, within the framework of developing SOMSO® Modelle for veterinary medicine

1988

2nd January 1990 - After 40 years, Dorothea, Hans, and Louis-Benedikt Sommer visit the expropriated parent company in Sonneberg/Th. for the first time - production is resumed - retransfer on 18th December 1992.

1990

Scientific co-operation commences with Professor Dr. med. Wolfgang Schmidt and Dr. med. Werner Scheller, Anatomical Institute, University of Leipzig.

1993

Start of the consultation by Mrs Petra Fischer, Head School Nurse of the Leipzig Medical School, in the areas of baby care and paediatric nursing care

1993

29th April to 15th October 1999: Special exhibition in the Deutsches Museum, Munich: "Medical-biological Models made in Plastic"

1999

The company is run by the fourth and fifth generation of the Sommer family. Anne, Louis-Benedikt, Ina, and Petra Sommer with Dorothea and Hans Sommer

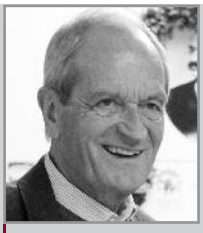
2001

17th July 2001: 125th Anniversary of SOMSO® Modelle

2001

17th July 2001 Opening of the SOMSO® MUSEUM at the parent company in Sonneberg, Thuringia

2001

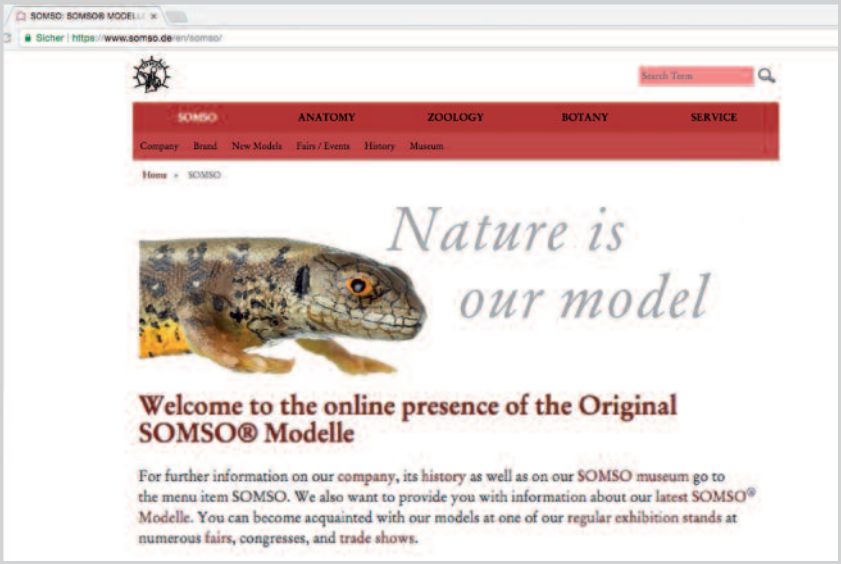


Karl Meixner starts providing us with commercial and general advice, following his 50-year career as an officer with statutory authority at the Deutsche Bank AG.

2001

The Somso® history at a glance

Nature is our Model SOMSO® Modelle

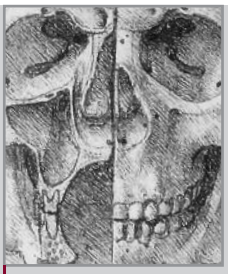


Marcus Sommer Somso Modelle GmbH

Conversion of the legal form of the company to GmbH (Limited Liability Company)
With this change, the fifth generation are now partners and the tradition of familiy business, established in 1876, can continue.

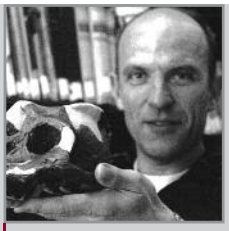
Petra, Ina, Anne, and Louis-Benedikt Sommer with Hans Sommer

1st January 2007



4th May to 7th October 2012: Exhibition "Leonardo da Vinci: Anatomist" – The Queen's Gallery, Buckingham Palace

2012



Start of the scientific consultation by Professor Dr. Uwe Hoßfeld of the Didactics of Biology research group at the Friedrich Schiller University of Jena, within the framework of developing biological models

2013

1st August 2015: 60-year anniversary of Dietrich Krauß, Biological Model Maker

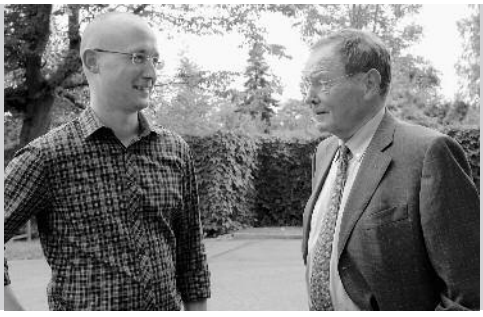
2015

1st August 2016: 60-year anniversary of Hanno Klug, Biological Model Maker

2016

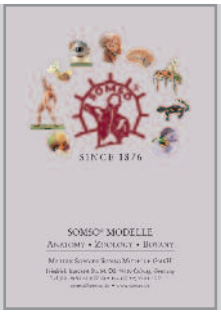
Jenny and Michael Whitebread, owners of company Adam,Rouilly - customers of SOMSO® Modelle since 1927 - celebrate their 100th Anniversary 19th October 2018

2017



As of 2017, the 5th generation, represented by Managing Director Dipl.-Betriebswirt (FH) Louis-Benedikt Sommer, has been more and more taking over responsibility for the day-to-day business from his father, Managing Director Hans Sommer.

2017



Publication of the main catalogue A 77 as well as of the special catalogues A77/1 Anatomy and A77/2+3 Zoology + Botany

2018

Legal notice:

Design:
OnLein GmbH, Hof and SOMSO® Advertising Department

Print and binding:
PRINTit GmbH, Hof

Photography:
Bühler Concept Visuell, Küps, and SOMSO® photo archive

Digital image processing:
Meyle + Müller, Pforzheim

Translations: Stephanie Braun, Lohr am Main, and SOMSO® text archive