



# SOMSO ANATOMY MODELLS



# VER CONDIÇÕES DE VENDA NA PRIMEIRA PÁGINA



# **CONDIÇÕES DE VENDA**

Agradecemos que nos faça sempre que possível uma consulta de preços através do Email info@expt.pt e mencionando o equipamento pretendido (referência do equipamento e quantidade).

#### COMO ENCOMENDAR:

Nota: Apenas aceitamos encomendas por escrito.

Email ao cuidado de Rafael López info@expt.pt

Mencione na sua encomenda o seguinte:

- Número da nossa proposta ou descrimine o equipamento mencionado a referência do produto
- Dados para faturação com nome e endereço completo e NIF (obrigatório)
- Local de entrega.
- Nome e telefone de contacto do local de entrega

### PREÇOS E PRAZO DE ENTREGA:

- Os preços indicados neste ficheiro não incluem IVA de 23% e estão sujeitos a alterações sem aviso prévio.
- Normalmente não fazemos stock deste equipamento, agradecemos que nos contacte mencionado o equipamento que pretende para informações do prazo de entrega que pode variar.
- Mais informações através do Email info@expt.pt

### CONDIÇÕES DE VENDA PARA PARTICULARES:

- Local de entrega: vossas instalações com portes a debitar de 15,00€+ IVA.
- Encomendas inferiores a 100 euros impostos não incluídos, ficam a seu cargo despesas administrativas 30,00€ + IVA.
- Pagamento: antecipado no exato momento do pedido

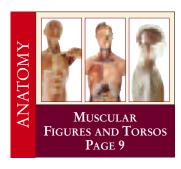
# CONDIÇÕES DE VENDA PARA INSTITUIÇÕES DE ENSINO (públicas ou privadas)

- Local de entrega:
  - Vossas instalações. Ficando os portes a cargo da EXPT para encomendas superiores a 300 euros impostos não incluídos.
  - Vossas instalações. No caso de encomendas inferiores a 300 euros impostos não incluídos, ficam a seu cargo os portes de 15,00€ + IVA
- Encomendas inferiores a 100 euros impostos não incluídos, ficam a seu cargo despesas administrativas 30,00€ + IVA.
- Pagamento: a 60 dias a contar da data da fatura

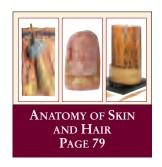


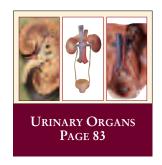
# Nature Misourlel

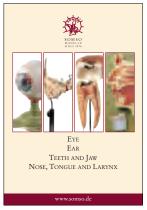
Muscular Figures and Torsos
Digestive Organs
Anatomy of Skin and Hair
Urinary Organs





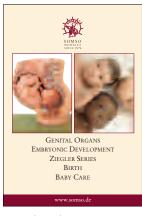




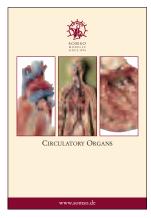


special catalogue no.

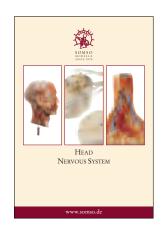
A 75/SV-III



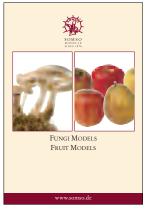
special catalogue no. Ā 75/SV-V



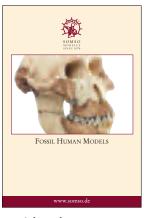
special catalogue no. 75/SV-IV



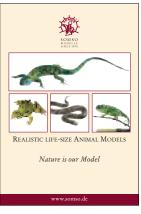
special catalogue no. 75/SV-II



special catalogue no. A 75/SV-VIII



special catalogue no. à 75/SV-VI



special catalogue no. à 75/SV-VII

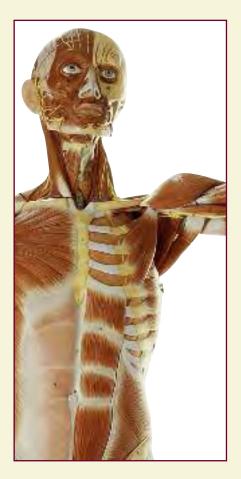
You can obtain our further single catalogues as well as our complete catalogue, the anatomy catalogue and the zoology and botany catalogue on inquiry.

# SOMSO - A FULL FIVE-YEAR GUARANTEE

SOMSO, recognised worldwide as a manufacturer in this field, offers a full five-year warranty - on nearly all SOMSO models - that covers both durability and workmanship, subject to correct use.











# SOMSO muscular figures and torsos provide a thorough grounding in anatomy

SOMSO muscular figures and torso models can be subdivided into the following types:

Muscular figures • Torsos with interchangeable male and female genitalia

Muscular torsos • Transparent torsos

Torsos of a young man • Small torsos of a young man

Male torsos • Torso-natural casts • Female torsos

Each version fulfils special anatomical criteria which should be taken into consideratin when selecting the most suitable model.

# ANATOMY 1 - MUSCULAR FIGURES

# A $2/07 \cdot$ Male Muscle Figure

Natural size. Separates into 41 parts: body, head, vault of cranium, brain (6), thoracic and abdominal wall, lung (3), heart (2), diaphragm, liver, stomach, small and large intestine, duodenum with pancreas, ilio-cecal valve, right half of kidney, right arm, left arm (5), muscles of the left leg (9). On a stand and green base with rollers. Height: 187 cm. (figure 176 cm.), width: 84 cm., depth: 51 cm., weight: 24.2 kg.

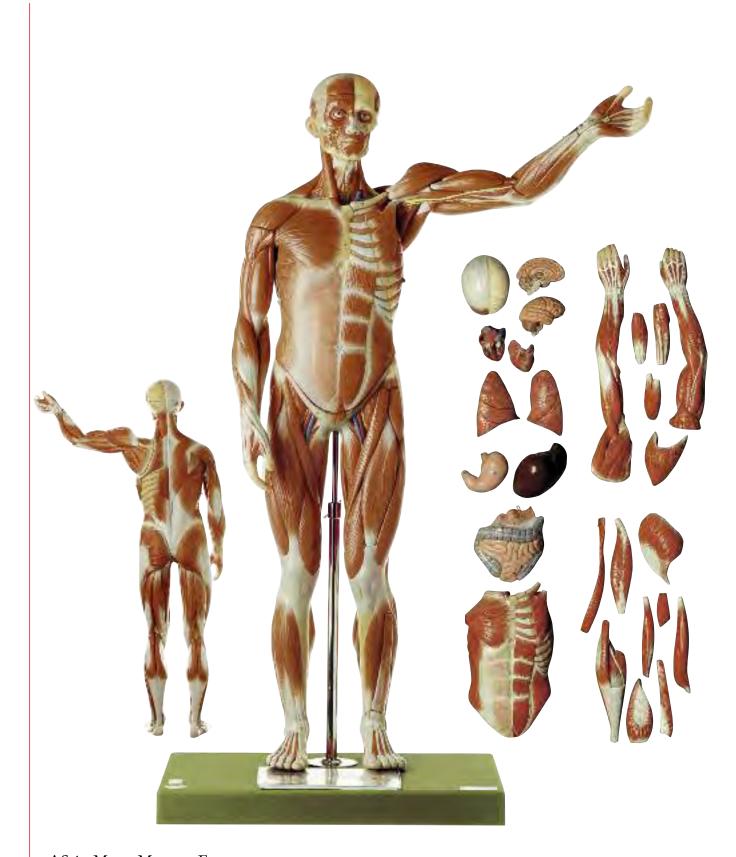




# AS $2/2 \cdot M$ ale Muscle Figure

About 3/4 natural size, in SOMSO-Plast®. Separates into 36 parts: body, head, vault of cranium, brain (3), thoracic and abdominal wall, right lung (2), left lung (2), heart (2), diaphragm, liver, stomach (2), small and large intestine, duodenum with pancreas, iliocecal valve, right half of kidney, right arm, left arm (6), muscles of the left leg (8). On a stand and green base with rollers. Height: 140 cm. (figure 129 cm.), width: 70 cm., depth: 48 cm., weight: 19 kg.

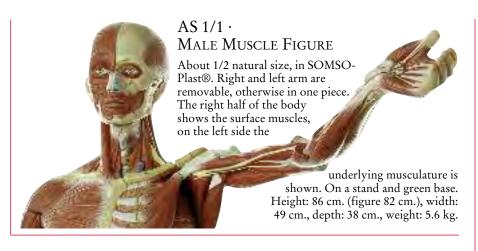




AS  $1 \cdot M$ ALE MUSCLE FIGURE

About 1/2 natural size, in SOMSO-Plast®. Separates into 27 parts: cranium, brain (2), thoracic and abdominal wall, halves of the lung (2), heart (2), liver, stomach, duodenum, small and large intestine, right arm, left arm with four removable muscles, muscles of the leg (9), body. On a stand and green base. Height: 86 cm. (figure 82 cm.), width: 49 cm., depth: 38 cm., weight: 7.2 kg.







### 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:  $1.5 \, \text{kg}$ .

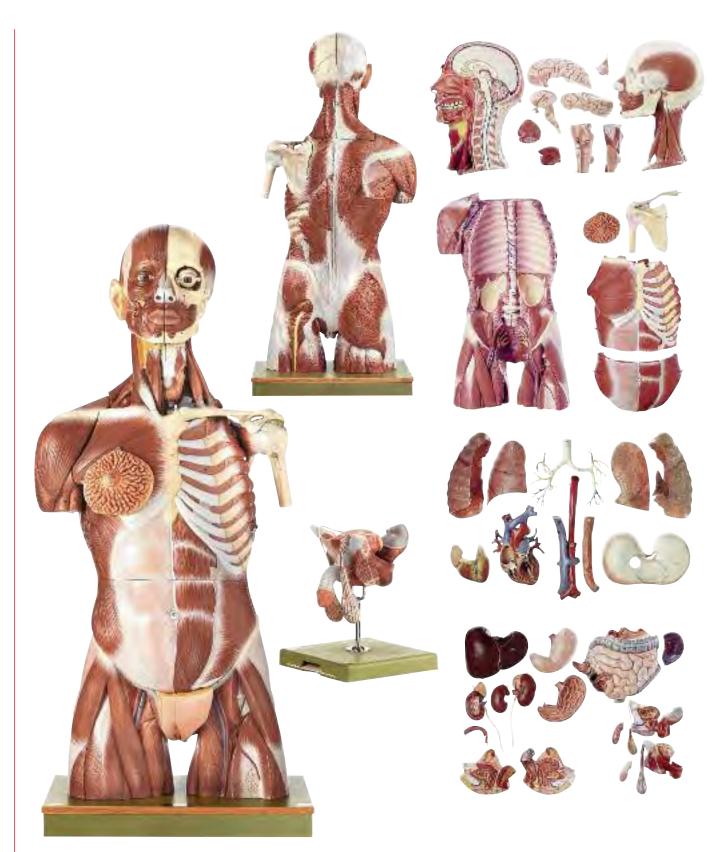


after Dr. Hans Schade. In SOMSO-Plast®, as AS 3 which shows superficial musculature but with the respective muscles and muscle groups colour coded for easy identification. One piece model. On a removable green base. Height: 53 cm. (figure 50 cm.) width: 33 cm., depth: 15 cm., weight: 1.5 kg.



AS 3/1 · Muscle Figure

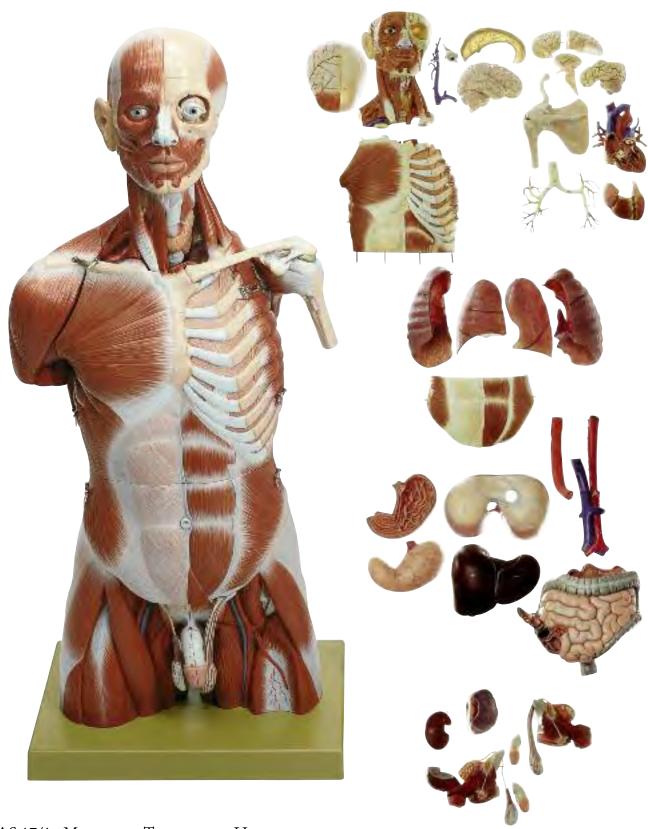
About 1/10 natural size, in SOMSO-Plast®. One piece study model showing the topography of muscles. On a green base. Height: 23 cm. (figure 21 cm.), width: 13 cm., depth: 7 cm., weight: 350 g.



AS  $6 \cdot$  Muscular Torso with 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), left shoulder joint, female mammary gland, right lung (2), left lung (2), heart (2), bronchial tree, diaphragm, oesophagus, liver, stomach (2), 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), female genitalia (3), male genital organs (4), torso. On a green base. Height: 90 cm. (torso 86 cm.), width: 40 cm., depth: 26 cm., weight: 15.5 kg.

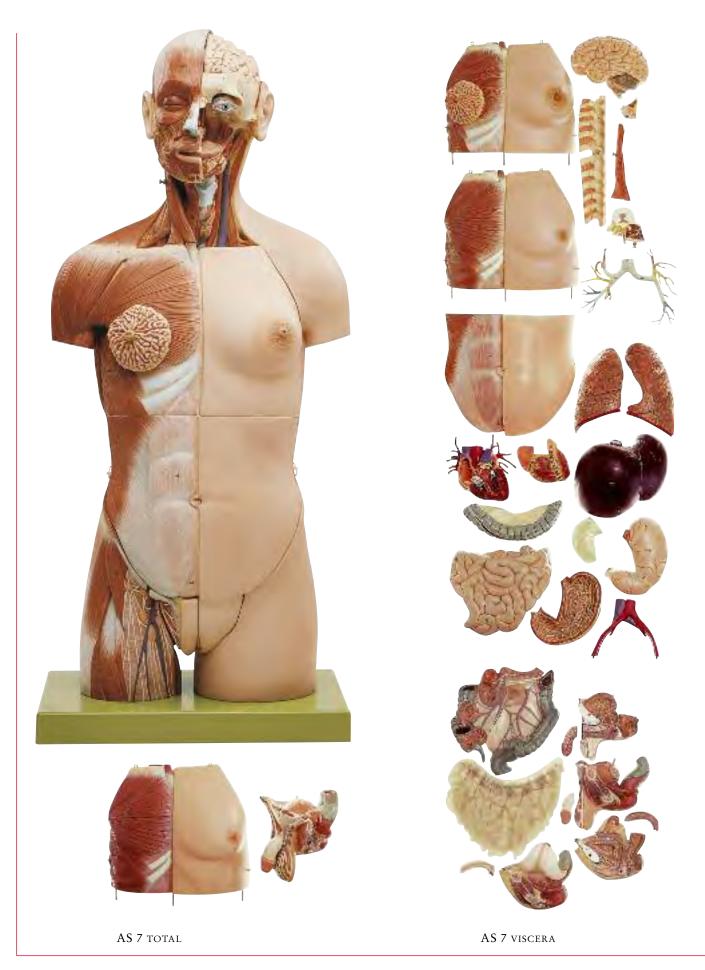




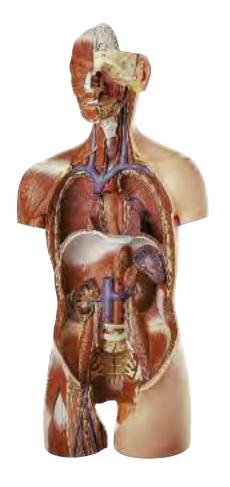
# AS 17/1 $\cdot$ Muscular Torso with Head

Natural size, in SOMSO-Plast®. Separates into 35 parts: head (10), shoulder joint, thoracic and abdominal cover (2), lungs (4), heart (2), bronchial tree, diaphragm, oesophagus, liver, stomach (2), small and large intestine with duodenum and pancreas, opening appendix, spleen, descending aorta with inferior vena cava, half kidney, male genital organs (4), torso. On a green base. Height: 91 cm. (torso 87 cm.), width: 42 cm., depth: 29 cm., weight: 15.6 kg.

# Anatomy 1 - Torso Models







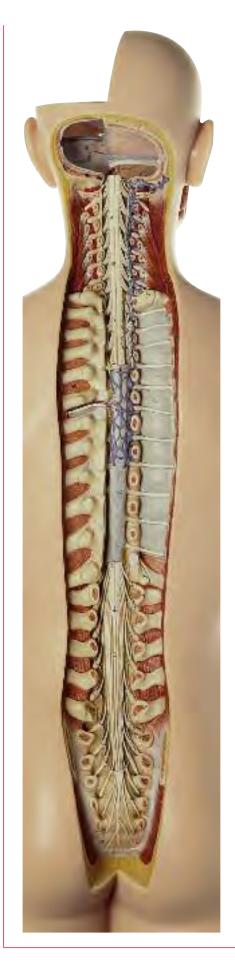




#### AS 7 · Muscular Torso with Head and Open Back

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), heart (2), bronchial tree, liver, stomach (2), transparent cover of the kidney, small and large intestine with duodenum, appendix and peritoneum, pelvic vessels, female genitalia (4), male genital organs (4), 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 kg.

# ANATOMY 1 - TORSO MODELS









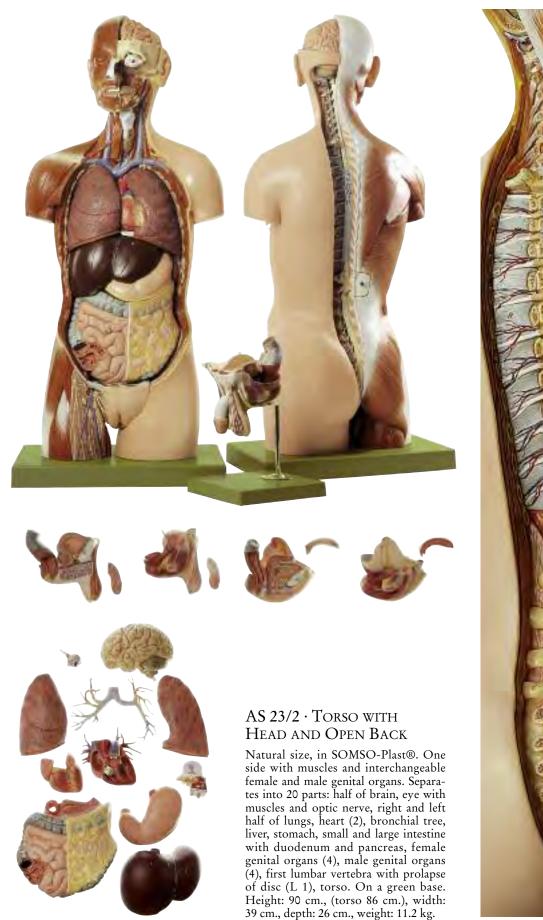
Natural size, in SOMSO-Plast®. Separates into 20 parts: brain with arteries (4), eye with muscles and optic nerve, halves of the lung (2), heart (2), liver, stomach (2), small and large intestine (3), opening appendix, omentum, half of right kidney, half of bladder, torso. On a green base. Height: 90 cm., (torso 86 cm.), width: 39 cm., depth: 26 cm., weight: 11.1 kg.













# ANATOMY 1 - TORSO MODELS





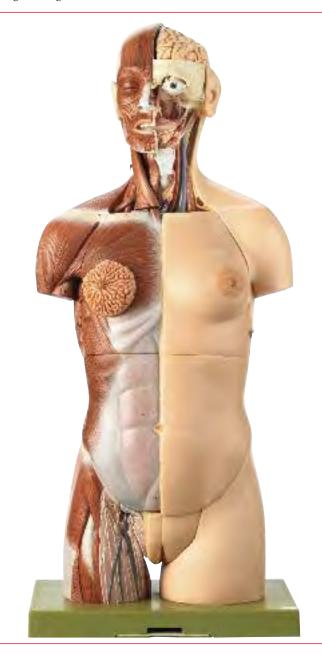
AS 50/1 · Female Torso with Head

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), right and left half of the lungs, heart (2), bronchial tree, liver, stomach (2), peritoneum, small and large intestine with duodenum (3), opening appendix, transparent cover of kidney, pelvic vessels, female genital organs (4), 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: 13.4 kg.

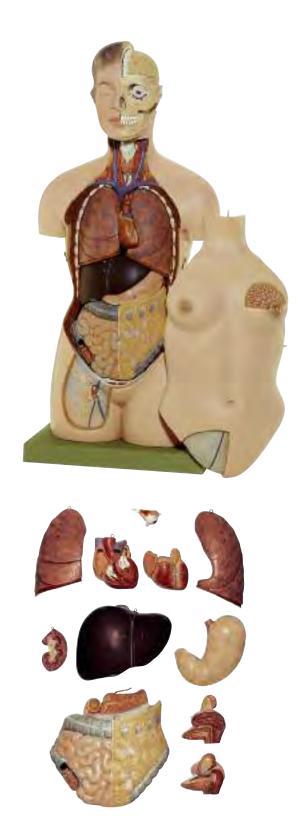


AS 52 · Interchangeable Female Genital Organs with a 10-week-old Fetus

suitable for AS 50/1, natural size, in SOMSO-Plast®. Separates into 2 parts. On a green base. Height: 28 cm., width: 18 cm., depth: 18 cm., weight: 900 g.

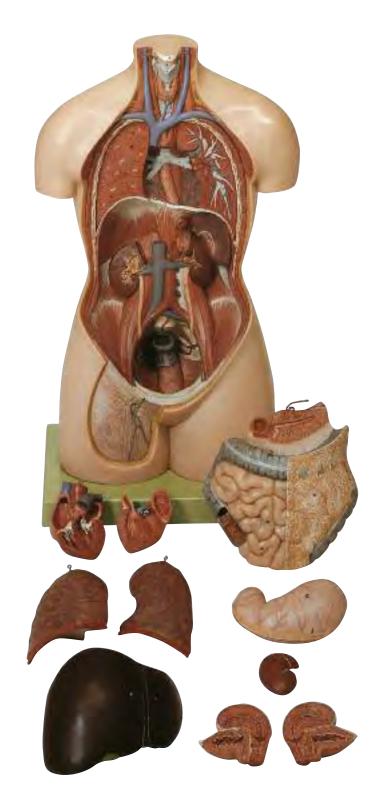






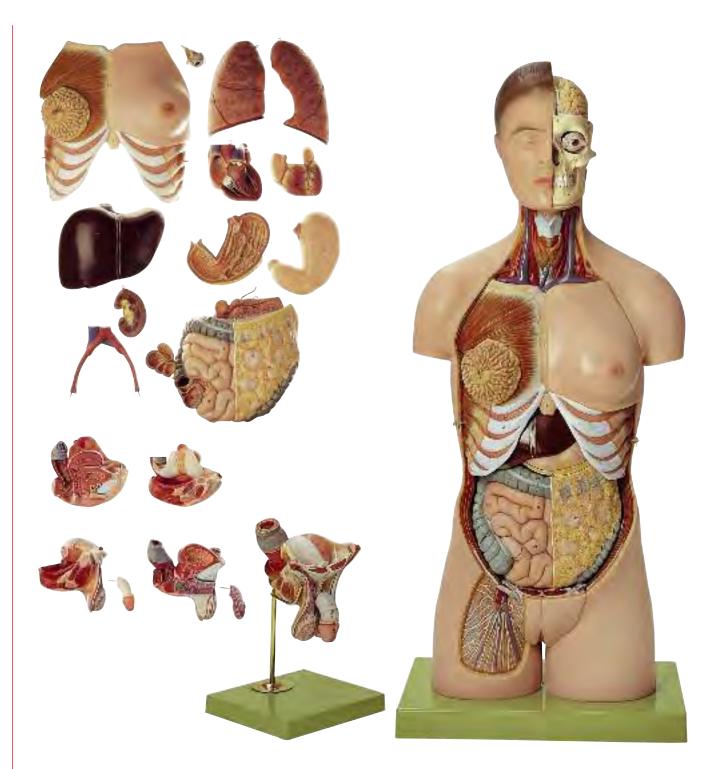


Natural size, in SOMSO-Plast®. The thoracic and abdominal wall can be removed. Separates into 13 parts: eye, halves of the lungs (2), heart (2), liver, stomach, duodenum with small and large intestine, half of the kidney, internal genital organs with urinary bladder (2), torso. On a green base. Height: 90 cm. (torso 86 cm.), width: 41 cm., depth: 26 cm., weight: 12 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: 8.4 kg.



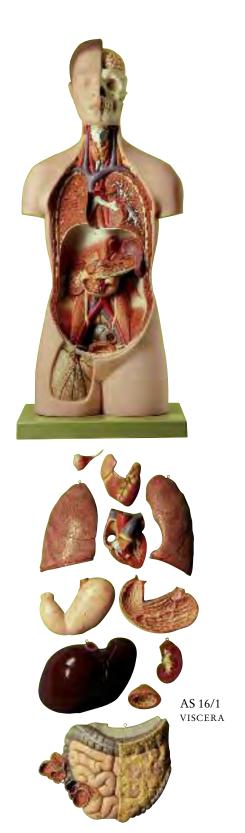
# AS 4 $\cdot$ Torso with Head and Interchangeable Male and Female Genitalia

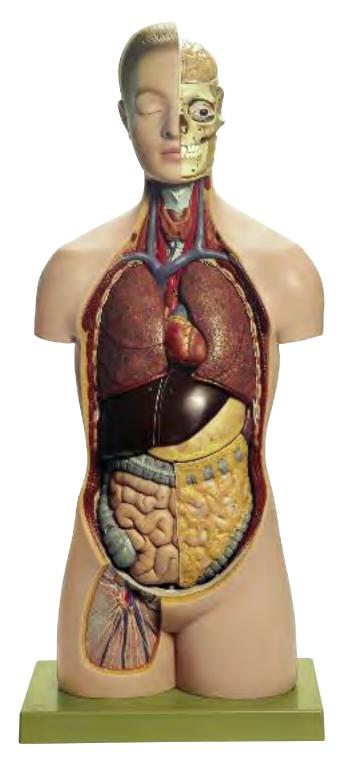
Natural size, in SOMSO-Plast®. Separates into 20 parts: eye with optic nerve and muscles, female thoracic wall, halves of the lung (2), heart (2), liver, stomach (2), small and large intestine with duodenum and pancreas, opening appendix, right kidney, pelvic vessels, female (2) and male (4) reproductive organs, torso. On a green base. Height: 92 cm. (torso 88 cm.), width: 40 cm., depth: 26 cm., weight: 12.2 kg.

#### AS 4/1 · Torso with Head and Interchangeable Male and Female Genitalia (not ill.)

Natural size, in SOMSO-Plast®. As AS 4 but separates into 16 parts: eye, female thoracic wall, halves of the lung (2), heart (2), liver, stomach, small and large intestine, female (2) and male (4) reproductive organs, torso. On a green base. Height: 92 cm. (torso 88 cm.), width: 40 cm., depth: 26 cm., weight: 12 kg.







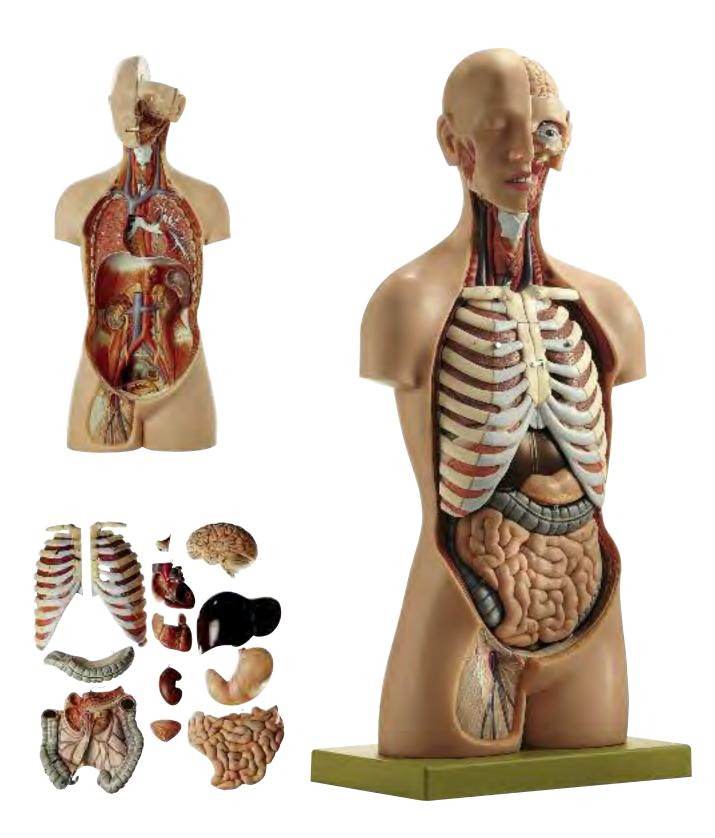
AS  $16/1 \cdot \text{Torso}$  of Young Man with Head

Natural size, in SOMSO-Plast®. Separates into 13 parts: eye with muscles and optic nerve, half of each lung (2), heart (2), liver, stomach (2), 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: 9.1 kg.

# AS $16 \cdot \text{Torso}$ of Young Man with Head (not ill.)

Natural size, in SOMSO-Plast®. As AS 16/1 but the stomach is in one piece. Separates into 12 parts. On a green base. Height: 91 cm. (torso 87 cm.), width: 39 cm., depth: 26 cm., weight: 9 kg.

# ANATOMY 1 - TORSO MODELS

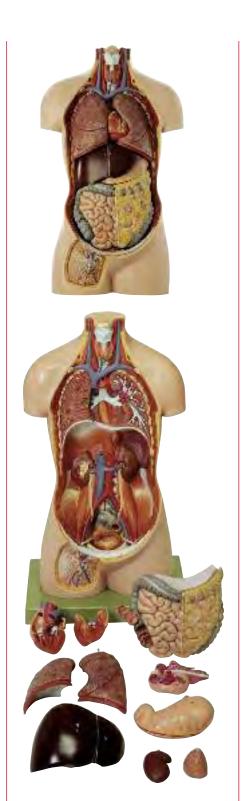


SOMSO torso model AS 21 - a valuable, tried and tested, aid to first-aid instruction.

# AS 21 · MALE TORSO WITH HEAD

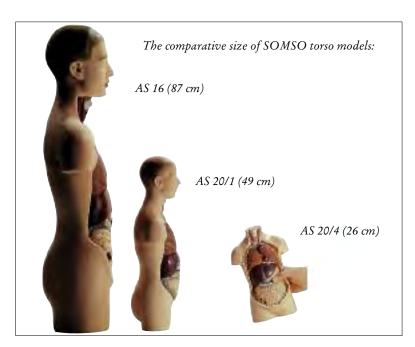
Natural size, in SOMSO-Plast®. Separates into 15 parts: left half of brain, eye with muscles and optic nerve, halves of the lung (2), heart (2), liver, stomach, small and large intestine (3), opening appendix, half of right kidney, half of bladder, torso. On a green base. Height: 89 cm. (torso 85 cm.), width: 39 cm., depth: 26 cm., weight: 10.7 kg.

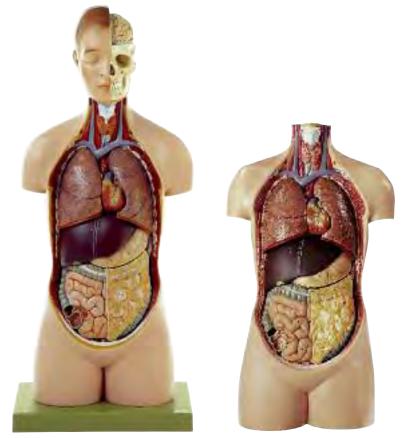




AS 12 · Torso of Young Man without Head

Natural size, in SOMSO-Plast®. Separates into 12 parts: half of each lung (2), heart (2), 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: 8.7 kg.





AS 15/E · Torso of Young Man with Head

Natural size, in SOMSO-Plast®. Separates into 8 parts: half of each lung (2), heart (2), liver, stomach, small and large intestine, torso. On a green base. Height: 91 cm. (torso 87 cm.), width: 39 cm., depth: 26 cm., weight: 8.8 kg.

### AS 11/E $\cdot$ Torso of Young Man without Head

Natural size, in SOMSO-Plast®. Separates into 8 parts: half of each lung (2), heart (2), liver, stomach, small and large intestine, torso. On a green base. Height: 73 cm. (torso 69 cm.), width: 39 cm., depth: 26., weight: 8.2 kg.

# ANATOMY 1 - TORSO MODELS





»Nature is our Model« Special Exhibition: Medical-Biological Models in plastic, Deutsches Museum, Munich. 20 April to 15 October 1999

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), heart (2), 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: 3.15 kg.

# AS 20 · Small Torso of Young Man without Head (not ill.)

As AS 20/1, but without head, separates into 8 parts. On a green base. Height: 42 cm. (torso 39 cm.), width: 21 cm., depth: 18 cm., weight: 2.2 kg.



# 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), right and left lung, heart, liver, stomach, small and large intestine, torso. Removable from green base. Height: 37 cm. (torso 35 cm.), width: 17.5 cm., depth: 14 cm., weight: 2 kg.

# AS 20/4 · SMALL TORSO OF YOUNG MAN WITHOUT HEAD (NOT ILL.)

As AS 20/5, but without head, separates into 7 parts. On a removable green base. Height: 28 cm. (torso 26 cm.), width: 17.5 cm., depth: 14 cm., weight: 1.7 kg.



AS 20/4 B  $\cdot$  Small Torso of Young Man without Head

As AS 20/4, but black in colour.

AS 20/5 B  $\cdot$  Small Torso of Young Man with Head

As AS 20/5, but black in colour.

# ANATOMY 1 - TRANSPARENT TORSO MODELS





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: 90 cm. (torso 83 cm.), width: 44 cm., depth: 38 cm., weight: 14.6 kg.



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 relief-type median section enables demonstration of the relative position of the intestines. In one piece. On a green base. Height: 104 cm. (torso 103 cm.), width: 36 cm., depth: 29.5 cm., weight: 11.1 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: 104 cm. (torso 103 cm.), width: 36 cm., depth: 29.5 cm., weight: 15.6 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: 104 cm. (torso 103 cm.), width: 36 cm., depth: 29.5 cm., weight: 10.9 kg.

# A resilient plastic material for the range -SOMSO-Plast®



Years of technological advancements have seen the change from papier-maché to resilient plastic SOMSO-Plast®. Models for classrooms must have high mechanical strength in addition to aesthetic appearance and, here too, SOMSO succeeds in fulfilling these criteria.

SOMSO knows what is required of classroom models. Plastics and paints, which can withstand repeated separation and reassembly, are formulated to meet these requirements. The fact that many models are still in use after many years proves this.

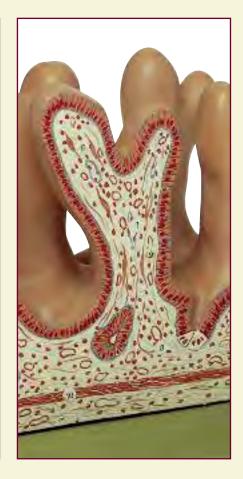




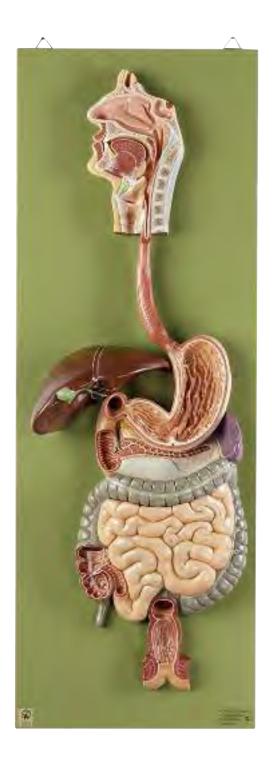








Thanks to SOMSO models, histology becomes visible



#### JS 2/1 · DIGESTIVE TRACT

Natural size, relief model, in SOMSO-Plast®. Showing the alimentary canal from the mouth to the rectum. Shown in median section are the buccal cavity and pharynx, the oesophagus with half the stomach, the opened duodenum, the small and large intestine, the opened appendix and the unfolded rectum. The transverse colon can be removed. Liver and pancreas are shown. Separates into 2 parts. Mounted on a green board. Height: 91 cm., width: 32 cm., depth: 12 cm., weight: 4.7 kg.

# JS $2/2 \cdot \text{Digestive Tract}$ (Not ill.)

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. Mounted on a green board. Height: 91 cm., width: 32 cm., depth: 12 cm., weight: 5 kg.



# IS 4 · STOMACH

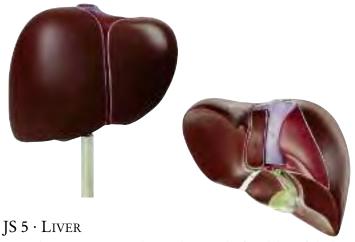
Natural size, in SOMSO-Plast®. Showing the longitudinal and circular muscle layers. Opens to show the cardia and pylorus, the relief of the mucous membrane and the gastric canal as well as the stomach wall in section. Network of arteries and nerves and the position of the peritoneum are shown. Separates into 2 parts. On a stand with green base. Height: 34 cm., width: 19 cm., depth: 18 cm., weight: 800 g.



**IS 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





Natural size, in SOMSO-Plast®. Showing the four lobes of the liver, the peritoneum, the gall bladder and vessels. In one piece. On a stand with green base. Height: 27 cm., width: 19 cm., depth: 18 cm., weight: 700 g.



JS 7 · Appendix and Caecum

Natural size. In SOMSO-Plast®. The wall of the caecum can be opened. Separates into 2 parts. On a stand with green base. Height: 20 cm., width: 12 cm., depth: 12 cm., weight: 400 g.



JS 8 · Liver and Gall Bladder

Enlarged approx. 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: 29 cm., width: 26 cm., depth: 19 cm., weight: 900 g.



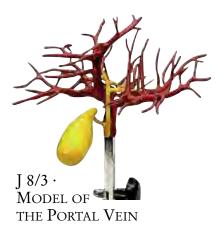
J 8/2 · MODEL
OF THE SURGICAL
DIVISION OF THE
LIVER INTO
SEGMENTS

After PD Dr. 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: 37 cm., width: 24 cm., depth: 18.5 cm., weight: 1.1 kg.

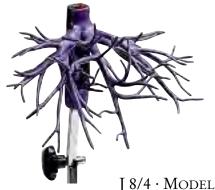


JS 8/1 · Vascular Architecture of the Liver

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.



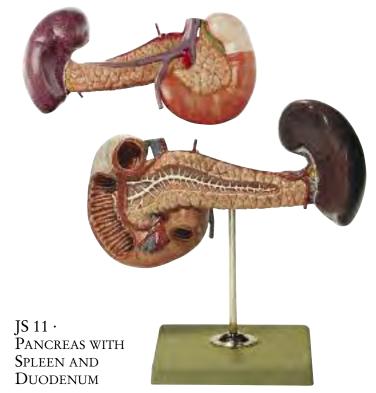
After PD Dr. F. Köckerling. Natural size. The model shows the normal vascular pattern of the portal vein. In one piece. On a stand with green base. Height: 35.5 cm., width: 21 cm., depth: 20 cm., weight: 700 g.



of the Hepatic Veins

After PD Dr. F. Köckerling. Natural size. The model shows the normal anatomy of the hepatic veins. In one piece. On a stand with green base. Height: 34 cm., width: 22 cm., depth: 25 cm., weight: 700 g.

# Anatomy 10 - Digestive organs



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: 22 cm., depth: 12 cm., weight: 300 g.



JS 14 · Internal Surface of the Jejunum

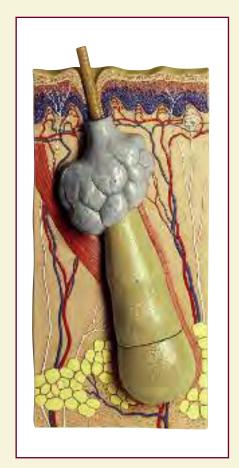
Enlarged approx. 400 times, in SOMSO-Plast®. After Prof. Dr. E. Wuestenfeld, model made by E. Rack. The finger-like protrusions represent villi, the cavities crypts. A surface section shows the histological formation of a villus (histological colouring). In one piece. On a stand with green base. Height: 17 cm., width: 18 cm., depth: 18 cm., weight: 600 g.

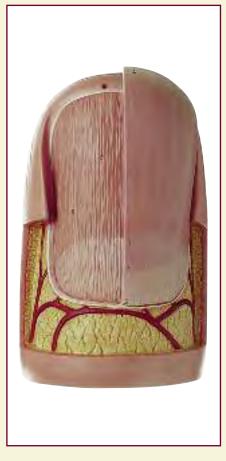


JS 15 · Model of a Liver Cell

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: 24 cm., width: 14 cm., depth: 12 cm., weight: 400 g.



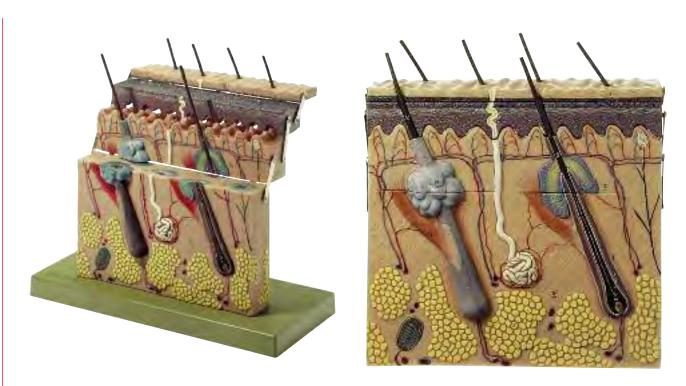






The skin - our largest organ easy to understand in both section and layers
thanks to SOMSO models

# Anatomy 11 - Anatomy of Skin and Hair



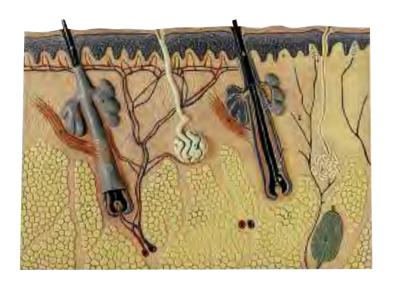
#### KS 1 · Section of Skin

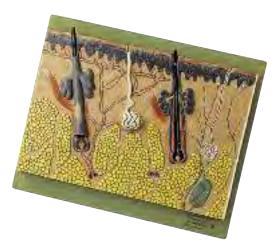
Enlarged approx. 70 times, in SOMSO-Plast®. The layers of skin can be removed showing the first rudiments of hair (exposed and in section), sweat gland and sense organs of the skin. Separates into 4 parts. On a green base. Height: 27 cm., width: 33 cm., depth: 15 cm., weight: 1.8 kg.



Enlarged approx. 70 times, in SOMSO-Plast®. Model shows: a) scalp with hair, b) axilla, c) the hairless skin of the sole of the foot. In one piece. On a green base. Height: 25 cm., width: 47 cm., depth: 15 cm., weight: 2.2 kg.







KS  $2 \cdot S$ ection of Skin

Enlarged approx. 70 times, in SOMSO-Plast®. Relief model with two hair follicles (fully exposed and in section). In one piece. Mounted on a green board. Height: 25 cm., width: 35 cm., depth: 5 cm., weight: 1.1 kg.



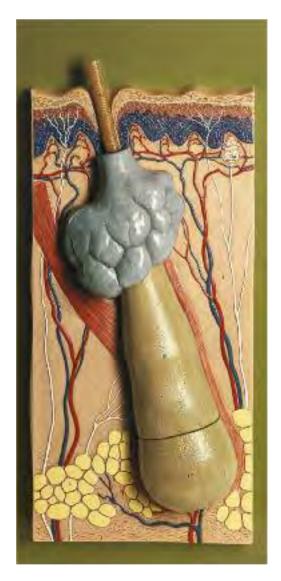




KS 4  $\cdot$  Block Model of the Skin

Enlarged approx. 70 times, in SOMSO-Plast®. Model shows the scalp, with hair in different planes of section. In one piece. On a green base. Height: 21 cm., width: 20 cm., depth: 11 cm., weight: 1.3 kg.

# Anatomy 11 - Anatomy of Skin and Hair





KS 7 · Model of a Hair

Enlarged many times, in SOMSO-Plast®. The microscopic formation 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), hair-bulb, skin relief. On a green base. Height: 65 cm., width: 30 cm., depth: 12 cm., weight: 4.5 kg.



KS 6 · Fingernail

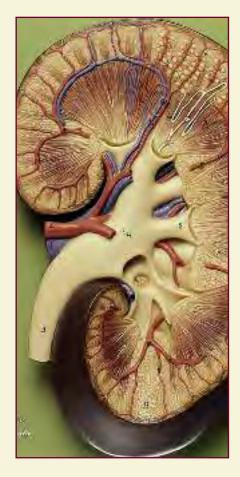
Enlarged approx. 10 times, in SOMSO-Plast®. Model of the last finger joint. The wall of the nail and half of the body of the nail are removable. Separates into 3 parts. On a green base. Height: 26 cm., width: 18 cm., depth: 18 cm., weight: 1.4 kg.

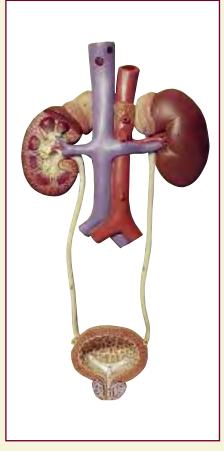


KS 13 · Model of a Human Hair

Enlarged 4000 times, in special transparent plastic. The anatomical delicate formation of the hair is shown in medial and horizontal section. After electron microscope pictures. One complete cortical cell and cuticle cell can be removed. Separates into 3 parts. On a green base. Height: 46 cm., width: 33 cm., depth: 26 cm., weight: 2.7 kg.









Microscopic structure of the urinary organs – visible through SOMSO models



#### LS 4 · RIGHT KIDNEY

Enlarged approx. 3 times, in SOMSO-Plast®. Frontal section seen from behind; pyramids of the kidney with their papillae entering the partly open pelvis. Schematic presentation of a nephron with its loop of Henle. In one piece. Mounted on a green board. Height: 32 cm., width: 26 cm., depth: 7 cm., weight: 1 kg.

# LS 6 · NEPHRON

Enlarged approx. 120 times, in SOMSO-Plast®. The model shows two nephrons with little knots of kidney, renal tubules and collecting tube system. In one piece. Mounted on a green board. Height: 32 cm., width: 26 cm., depth: 4 cm., weight: 700 g.

# LS 7 · GLOMERULUS

Enlarged approx. 700 times, in SOMSO-Plast®. The model shows the arteriola afferens and the arteriola efferens, the capillaries of the glomerulus, urinary pole and Bowman's capsule. In one piece. Mounted on a green board. Height: 32 cm., width: 18.5 cm., depth: 8 cm., weight: 800 g.

# LS 9 · Kidney, Nephron and Glomerulus

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 kg.



LS 1 · RIGHT KIDNEY AND ADRENAL GLAND

Natural size, in SOMSO-Plast®. The kidney separates into 2 halves longitudinally. On a stand with green base. Height: 26 cm., width: 12 cm., depth: 12 cm., weight: 400 g.



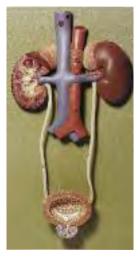
#### LS 5 · RIGHT KIDNEY

Enlarged approx. 3 times. In SOMSO-Plast®. Tissue of the kidney partly removed at the back; pelvis open; 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: 19 cm., depth: 18 cm., weight: 900 g.



LS 3 · Ūrinary Organs

Natural size, in SOM-SO-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: 41 cm., width: 28 cm., depth: 13 cm., weight: 2.6 kg.



LS 3/1 · Urinary Organs

Natural size, in SOM-SO-Plast®. In one piece. Mounted on a green board. Height: 40 cm., width: 28 cm., depth: 10 cm., weight: 1.1 kg.



# Nature Misour Jour I

HEAD NERVOUS SYSTEM

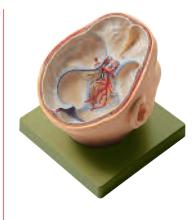
# Anatomy 2/3 - Head



# 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 taking off 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: 37 cm., width: 48 cm., depth: 30 cm., weight: 6.1 kg.





BS 1  $\cdot$  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: 800 g.



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: 900 g.



BS 5  $\cdot$  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: 22 cm., width: 18 cm., depth: 20 cm., weight: 1.5 kg.



BS  $2/1 \cdot DURA MATER$ 

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



BS  $5/1 \cdot B$  Ase of the Head

Natural size, in SOMSO-Plast®. As BS 5, but showing the proportions of the dura mater (sinus of the dura mater, falx of the cerebrum, and the tentorium of the cerebellum are shown). Comprises 10 parts in total. On a green base. Height: 24 cm., width: 18 cm., depth: 20 cm., weight: 2 kg.



BS  $5/2 \cdot B$ ase 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: 23.5 cm., width: 18 cm., depth: 20 cm., weight: 2 kg.

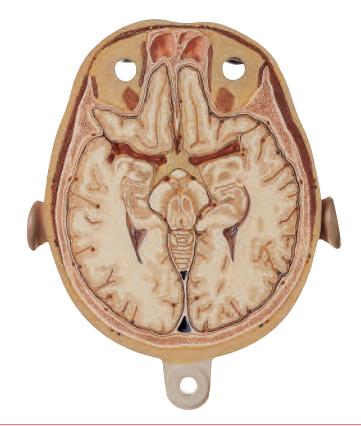
## BS $5/5 \cdot$ Anatomical Sectional Model of the Head (combined with corresponding MR-Figures)

According to Prof. Dr. J. W. Rohen. The model shows the anatomical structures of 10 consecutive horizontal sections through the human head oriented to the plane usual in CT and MR imaging (CA-CP plane) and which have the same section thickness (0.8 cm). The sections were modelled on original preparations and are illustrated from above. Each cross section pivots and can be removed from the stand. Natural size in special plastic. With explanatory booklet on the green base. Height: 34 cm., width: 46 cm., depth: 30 cm., weight: 6.2 kg.

#### BS 5/5-1 - BS 5/5-10

Individual models of cross section levels 1 - 10 from the anatomical cross section model BS 5/5.

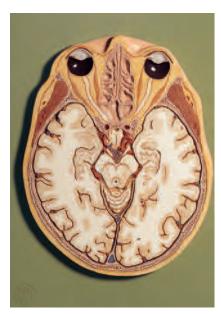






BS 5/6 · ANATOMICAL SECTION MODEL OF THE HEAD (COMBINED WITH CORRESPONDING MR-FIGURES)

According to Prof. Dr. J. W. Rohen. Design as BS 5/5 but with section relief in single colour. Height: 34 cm., width: 46 cm., depth: 30 cm., weight: 6.2 kg.



## BS $6/2 \cdot$ Horizontal Section of the Head

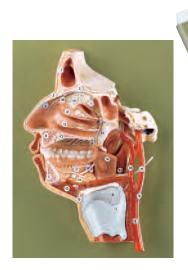
Natural size, at the plane of the orbit, in special plastic. In one piece. Mounted on a green board with explanation, under a removable transparent cover. Height: 26 cm., width: 32 cm., depth: 4 cm., weight: 900 g.





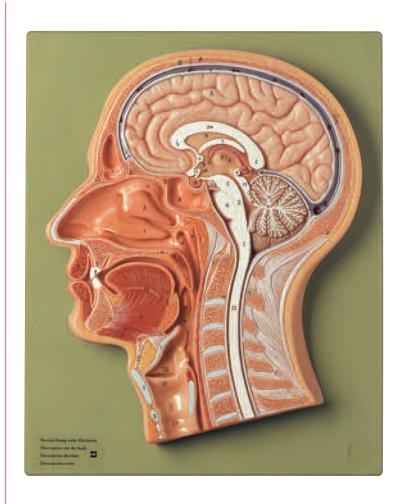
## BS 18 $\cdot$ Head with Muscles and Vessels

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 green base. Height: 28 cm., width: 18 cm., depth: 19 cm., weight: 1.9 kg.



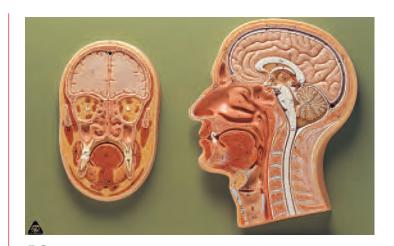
#### BS $8/1 \cdot MODEL$ of the Head

Natural size, in SOMSO-Plast®. Showing the interior parts of the cavity of mouth and pharynx with network of vessels. In one piece. Mounted on a green board under a removable transparent cover. Height: 25.5 cm., width: 32 cm., depth: 9 cm., weight: 1 kg.



#### BS $6/1 \cdot$ Median Section of the Head

Natural size, in SOMSO-Plast®. Not detachable. Mounted on a green board. Height: 32 cm., width: 23 cm., depth: 4 cm., weight: 1.3 kg.



Median and Frontal Section of the Head

Natural size, in SOMSO-Plast®. Mounted on a green board. Height: 30 cm., width: 48 cm., depth: 4 cm., weight: 2.7 kg.



BS 16  $\cdot$  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 green base, under a removable transparent cover. Height: 21 cm., width: 32 cm., depth: 19 cm., weight: 1.1 kg.



BS 8  $\cdot$  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: 25.5 cm., width: 32 cm., depth: 9 cm., weight: 900 g.

#### 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: 25.5 cm., width: 32 cm., depth: 9 cm., weight: 1 kg.









## BS 9 · HALF OF THE HEAD

Natural size, in SOMSO-Plast®. The model shows the mimic muscular 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 green base. Height: 41 cm., width: 18 cm., depth: 22 cm., weight: 1.3 kg.





BS 18/1 · HEAD WITH MUSCLES

Natural size, in SOMSO-Plast®. Median Section. Separates into 10 parts: right and left half of the head, left half of the brain (4), eye with muscles and optic nerve, right half of the tongue, larynx (2). Removable from green base. Height: 31 cm., width: 26 cm., depth: 32 cm., weight: 2.8 kg.



BS  $18/2 \cdot \text{HEAD}$  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), cervical vein. Removable from green base. Height: 31 cm., width: 26 cm., depth: 32 cm., weight: 2.9 kg.



#### BS 17 $\cdot$ 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: 39 cm., width: 18 cm., depth: 23 cm., weight: 1.2 kg.

## Anatomy 2/3 - Nervous system





BS 20 · Brain

Natural cast, in SOMSO-Plast®. Separates into 8 parts: frontal and parietal lobes (2), temporal and occipital lobes (2), medulla (2), cerebellum (2). On a base. Height: 15 cm., width: 16 cm., depth: 17 cm., weight: 1.1 kg.





BS 20/1  $\cdot$  Half of the Brain

Natural cast, in SOMSO-Plast®. Separates into 4 parts: frontal and parietal lobes, temporal and occipital lobes, medulla and cerebellum. On a base. Height: 15 cm., width: 17 cm., depth: 6 cm., weight: 650 g.



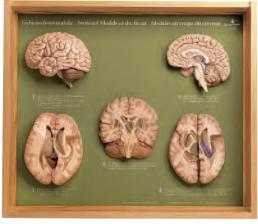
BS 21 · Brain

Natural cast, in SOMSO-Plast®. Median Section. Separates into 2 parts. On a base. Height: 15 cm., width: 16 cm., depth: 17 cm., weight: 800 g.



BS 22 · Brain

Natural cast, in SOMSO-Plast®. Median section. Right half separates into cerebellum, medulla and cerebral lobe. Left half in one piece. Separates into 4 parts. On a base. Height: 15 cm., width: 15 cm., depth: 17 cm., weight: 1.1 kg.



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: 49 cm., width: 57 cm., depth: 10 cm., weight: 5.1 kg.





BS 23 · Brain with Arteries

Natural cast, in SOMSO-Plast®. With representation of arterial network of vessels. Separates into 9 parts: frontal and parietal lobes (2), temporal and occipital lobes (2), medulla (2), cerebellum (2), and basilar artery. On a base. Height: 17 cm., width: 16 cm., depth: 17 cm., weight: 1.2 kg.



BS 23/3 · Model of 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 and 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: 1.2 kg.



BS 23/1 · Brain with Arteries

Natural cast, 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: 1.2 kg.



BS  $23/2 \cdot MEDULLA$ 

Natural cast, in SOMSO-Plast®. Median Section. An invaluable model for medical students. Separates into 2 parts. On a stand with green base. Height: 15 cm., width: 12 cm., depth: 12 cm., weight: 200 g.



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: 15 cm., width: 12 cm., depth: 12 cm., weight: 200 g.



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: 30 cm., width: 18 cm., depth: 19 cm., weight: 1.4 kg.

## Anatomy 2/3 - Nervous system









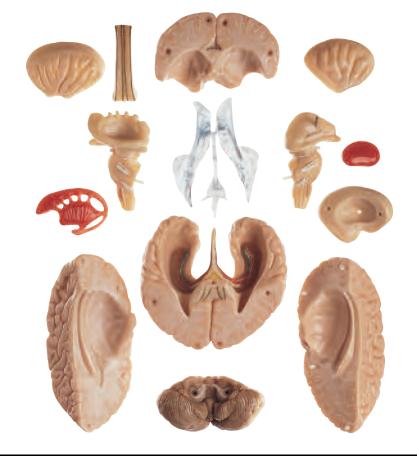




## BS 25 $\cdot$ Model of Brain in 15 Parts

Natural size, in SOMSO-Plast®, after Prof. Dr. J. W. Rohen, Anatomical Institute of the University Erlangen. Separates into 15 parts: cerebral hemisphere (2), temporal and occipital lobes with limbic system, cerebellum, frontal lobe, corpus callosum, brain stem (2), corpus striatum, insula (2), nucleus lentiformis (left), internal capsule (right), ventricles of the brain, base of the skull as base, on a green board. Height: 23 cm., width: 15 cm., depth: 18 cm., weight: 1.8 kg.











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

Natural size, in SOMSO-Plast®. After Prof. Dr. J. W. Rohen, Department of Anatomy of the University Erlangen. Separates into 15 parts: cerebral hemisphere (2), temporal and oocipital lobes with limbic system, cerebellum, frontal lobe, corpus callosum, brain stem (2), corpus striatum, insula (2), nucleus lentiformis (left), internal capsule (right), ventricles of the brain, base of the skull as base, on a green board. Height: 23 cm., width: 15 cm., depth: 18 cm., weight: 1.8 kg.

#### BS $25/2 \cdot MODEL$ of Brain Stem in 8 parts

Natural size, in SOMSO-Plast®. After Prof. Dr. J. W. Rohen, Department of Anatomy of the University Erlangen. Separates into 8 parts: brain stem (2), corpus striatum, insula (2), nucleus lentiformis (left), internal capsule (right) and ventricles of the brain. On a stand with green base. Height: 16 cm., width: 12 cm., depth: 12 cm., weight: 380 g.



## BS 25/2-T $\cdot$ Model of Brain Stem in 12 parts

Natural cast, in SOMSO-Plast®. Brain Stem from the transparent brain model BS 25/T. Separates into 12 parts. The ventricular cavities of the brain is extremely well modelled. A perfect teaching aid for medical students. On a stand with green base. Height: 16 cm., width: 12 cm., depth: 12 cm., weight: 380 g.

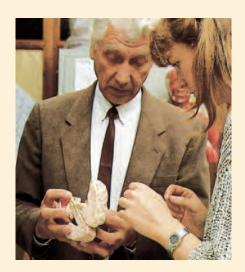




BS 25/T · Transparent Brain Model

Natural size, in SOMSO-Plast®. After Prof. Dr. J. W. Rohen, Department of Anatomy of the University 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 striate body, right capsular interna, corpus callosum, fornix, limbic system and ventricle system as a whole, right and left halves of the cerebellum. On a stand with green base. Height: 30 cm., width: 18 cm., depth: 20 cm., weight: 1.1 kg.

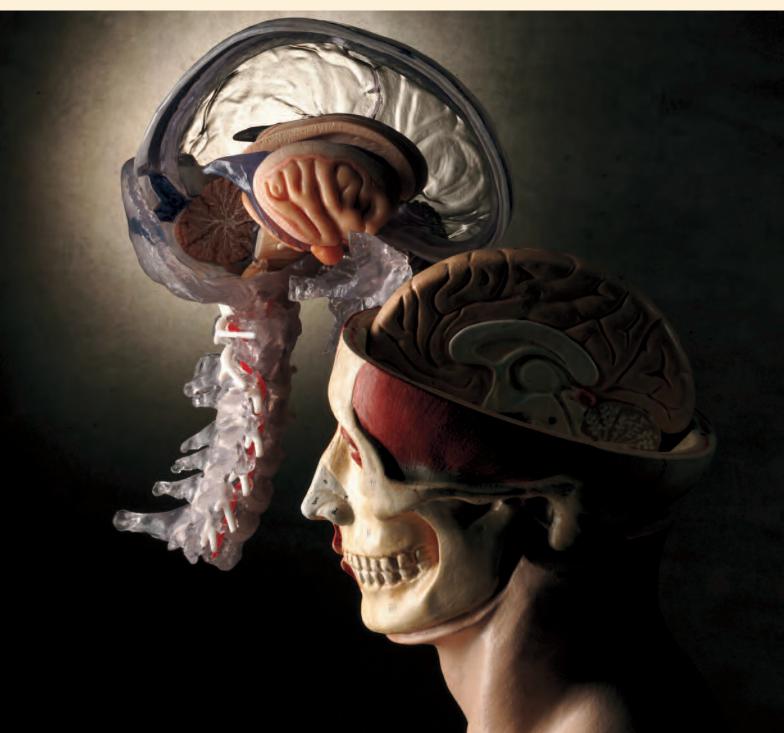


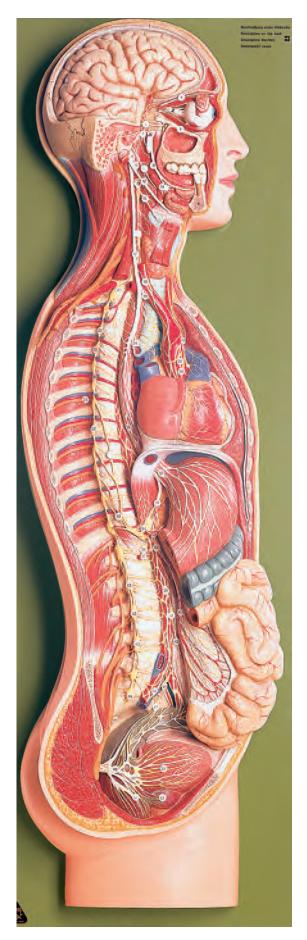


## Design by experts

The manufacture of SOMSO anatomical models is a complex process. Many stages are needed to achieve scientific accuracy.

Great knowledge is required, not only scientifically but also by the modeller. Close co-operation with scientific experts and our own modellers, results in SOMSO always achieving the highest standards. World-wide acceptance by experts gives approval to the continuing development of SOMSO models.





# 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 are shown. In one piece. On a green board. Height: 90 cm., width: 32 cm., depth: 19 cm., weight: 5.5 kg.



## BS 27 · Nervous System

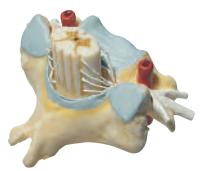
Relief model, about 1/2 natural size, in SOMSO-Plast®. Schematic presentation of the central and peripheral nervous system. In one piece. Mounted on a green board. Height: 91 cm., width: 32 cm., depth: 6 cm., weight: 5.5 kg.



# BS 26/1 · Sympathetic Nervous System

About 2/3 natural size, in SOMSO-Plast®. Relief presentation 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: 74 cm., width: 25.5 cm., depth: 10 cm., weight: 4.3 kg.





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: 12 cm., depth: 12 cm., weight: 100 g.



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 cross-section. In one piece. On a stand with green base. Height: 14 cm., width: 12 cm., depth: 12 cm., weight: 200 g.



## BS 32/37 $\cdot$ Spinal Cord with Nerve Branches

Enlarged approx. 5 times, in SOMSO-Plast®. The section through the spinal cord is enlarged approx. 10 times. In one piece. Mounted on a green board under a removable transparent cover. Height: 8.5 cm., width: 32.5 cm., depth: 19 cm., weight: 0.7 kg.

#### BS 33 · Spinal Cord with Nerve Branches

as BS 32/37, but each part is on a stand with green base. In SOMSO-Plast®. Separates into 2 parts. Height: 22 cm., width: 20 cm., respectively 12 cm., depth: 12 cm., weight: 400 g.

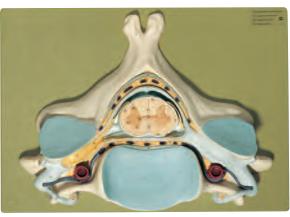


BS 33



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 cross-section) are shown. Separates into 2 parts. On a stand with green base. Height: 15 cm., width: 12 cm., depth: 13 cm., weight: 200 g.



BS 30 · FIFTH CERVICAL VERTEBRA

Enlarged approx. 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 green board. Height: 28 cm., width: 40 cm., depth: 10 cm., weight: 1.6 kg.



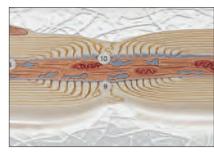
#### BS 35/1 · NEURON

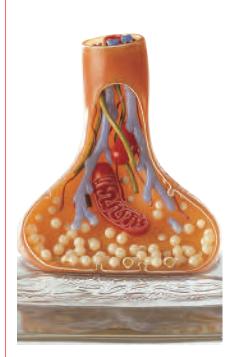
Enlarged approx. 2500 times, in SOMSO-Plast®, with regard to perceptible light and electron microscopy structures. With separate medullated nerve fibre. In one piece. Mounted on a green board. Height: 40 cm., width: 28 cm., depth: 14 cm., weight: 1.5 kg.



#### BS 35 · NEURON

Enlarged approx. 2500 times, in SOMSO-Plast®. Consisting of nerve cell body and medullated nerve fibre. In electron microscope enlargement. Separates into 3 parts. Removable from base. Height: 22 cm., width: 53 cm., depth: 17 cm., weight: 2.2 kg.





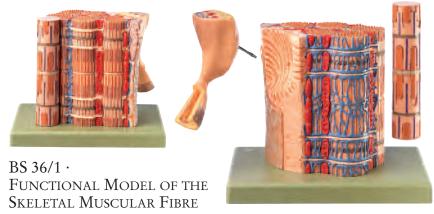
## BS 35/3 · Model of a Synapse

Many times enlarged, in SOMSO-Plast®. After Christian Gross, Head of Biology Department (retired). Neuro-tubules, neuro-filaments, synaptic vesicles and the postsynaptic apparatus with membrane structure. In one piece. On a base. Height: 21 cm., width: 22 cm., depth: 22 cm., weight: 900 g.



#### BS 36 · Transversely Striated Muscular Fibre with Motor End-Plate

Enlarged approx. 4000 times, in SOMSO-Plast®. Modelled from recent electron-microscopy. In one piece. On a green base. Height: 20 cm., width: 18 cm., depth: 18 cm., weight: 1 kg.



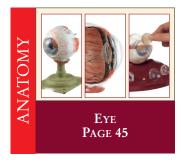
SKELETAL MUSCULAR FIBRE
Enlarged approx. 40000 times, in SOMSO-Plast®, after Prof. Dr. med. Elke Lütjen-Drecoll and Prof. Dr. J. W. Rohen, Anatomical Institute of the University Erlangen. Detachable in 3 pieces. On a green base. Height: 18 cm., width: 26 cm., depth: 18 cm.,

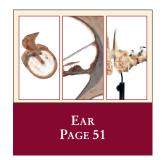
weight: 1.5 kg.

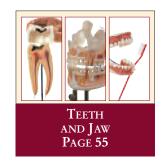


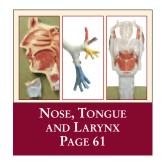
# Nature Misour Jour I

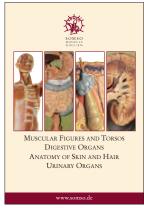
Eye
EAR
TEETH AND JAW
Nose, Tongue and Larynx





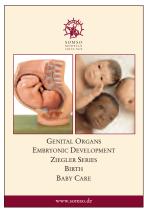




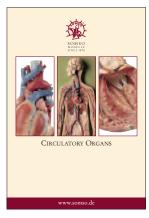


Ā 75/SV-I

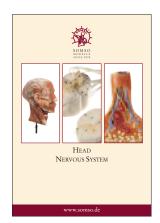




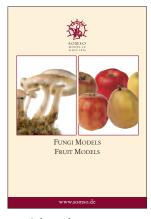
special catalogue no. Ā 75/SV-V



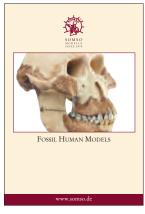
special catalogue no. 75/SV-IV



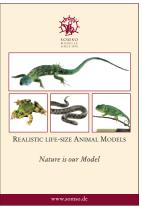
special catalogue no. 75/SV-II



special catalogue no. A 75/SV-VIII



special catalogue no. à 75/SV-VI



special catalogue no. à 75/SV-VII

You can obtain our further single catalogues as well as our complete catalogue, the anatomy catalogue and the zoology and botany catalogue on inquiry.

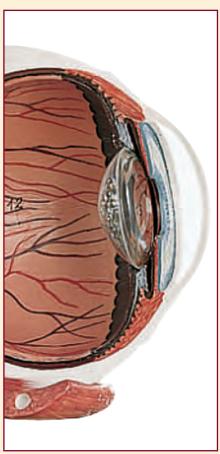
## SOMSO - A FULL FIVE-YEAR GUARANTEE

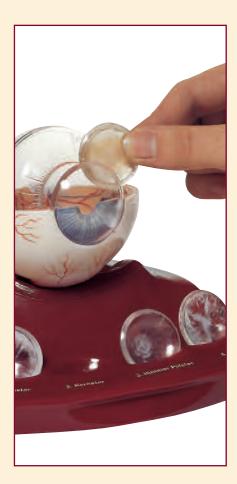
SOMSO, recognised worldwide as a manufacturer in this field, offers a full five-year warranty - on nearly all SOMSO models - that covers both durability and workmanship, subject to correct use.











SOMSO eye models – from the eye to the cataract model

SOMSO eye models: size = horizontal diameter of the eye



CS 1 - CS 4 - CS 7 - CS 10 - CS 11: enlarged approximately 5 times, diameter 12.5 cm.

# CS 5: enlarged approximately 4 times, diameter 9.5 cm.

# CS 2 - CS 2/2: enlarged approximately 3 times, diameter 8 cm.



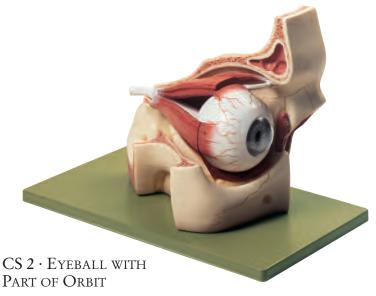
CS 1 · EYEBALL

Enlarged approx. 5 times, in SOMSO-Plast®. Resting in the lower bones of the orbit and sectioned horizontally. Separates into 7 parts: sclerotic membrane (2), choroid membrane (2), retina with vitreous humour, lens, bone of the orbit. On a green base. Height: 21 cm., width: 18 cm., depth: 18 cm., weight: 1.2 kg.



CS 16 · EYEBALL

Enlarged approx. 5 times, in SOMSO-Plast®. As CS 1, but with lacrimal organs and eyelids. Separates into 8 parts. On a green base. Height: 22 cm., width: 20 cm., depth: 18 cm., weight: 1.5 kg.



Enlarged approx. 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), vitreous humour, lens, orbit with green base. Height: 21 cm., width: 20 cm., depth: 32 cm., weight: 1.3 kg.



## $CS 2/2 \cdot E$ yeball with Part of Orbit

Enlarged approx. 3 times, in SOMSO-Plast®. As CS 2, but with lacrimal organs and eyelids. Separates into 9 parts. On a green base. Height: 21 cm., width: 20 cm., depth: 32 cm., weight: 1.4 kg.





tic membrane, choroid membrane (2),

Retina with vitreous humour, lens,

lower half of the sclerotic membrane.

On a green stand. Height: 20 cm., width:

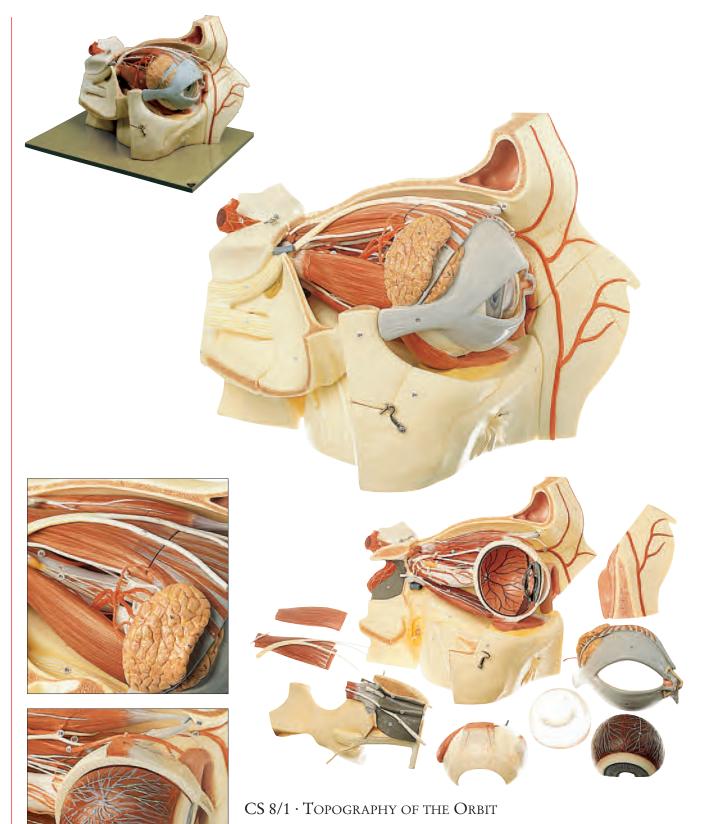
14 cm., depth: 14 cm., weight: 600 g.





CS  $5 \cdot EYEBALL$ 

Enlarged approx. 4 times, in SOMSO-Plast®. Separates into 6 parts: sclerotic membrane (2), choroid membrane (2), vitreous humour, lens. On a green base. Height: 18 cm., width: 12 cm., depth: 12 cm., weight: 400 g.



Enlarged approx. 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 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: 32 cm., width: 45 cm., depth: 37 cm., weight: 5.5 kg.





CS 11 · EYEBALL

Enlarged approx. 5 times, in SOMSO-Plast®. As CS 10, but the eyeball is mounted on the green base. Separates into 2 parts. Height: 21 cm., width: 13 cm., depth: 15 cm., weight: 600 g.



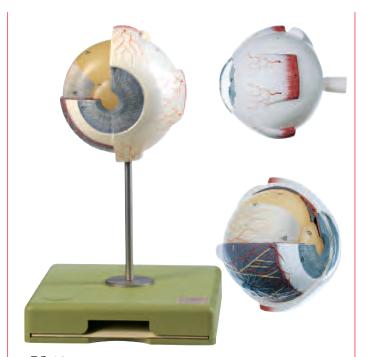
CS 10 · EYEBALL

Enlarged approx. 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, with explanation. Height: 20 cm., width: 32 cm., depth: 19 cm., weight: 1.3 kg.



#### CS 7 · EYEBALL

Enlarged approx. 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, with explanation. Height: 20 cm., width: 32 cm., depth: 19 cm., weight: 1.2 kg.



CS 13 · EYEBALL

Enlarged approx. 4 times, in SOMSO-Plast®. The anatomy of the eyeball in different sectional levels is clearly visible. The model is not removable. On a stand with green base. Height: 21 cm., width: 12 cm., depth: 12 cm., weight: 200 g.





CS 21/1 · Right Half of the Human Eye on a Base

Enlarged approx. 6 times. Eyeball diameter 15.8 cm., in SOMSO-Plast®. In one piece. Height: 18 cm., width: 21 cm., depth: 18.5 cm., weight: 900 g.



C 14 · MEDIAN SECTION OF THE ORBIT

Enlarged approx. 4 times. Sectional model. In one piece. Mounted on a green base under a transparent cover. Height: 25.5 cm., width: 32 cm., depth: 4.5 cm., weight: 900 g.

In preparation: Model in SOMSO-Plast®, CS 14

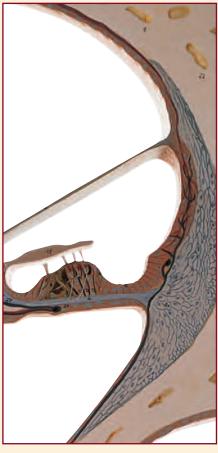


CS 22 · CATARACT EYE MODEL

Enlarged approx. 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: 15 cm., weight: 600 g.



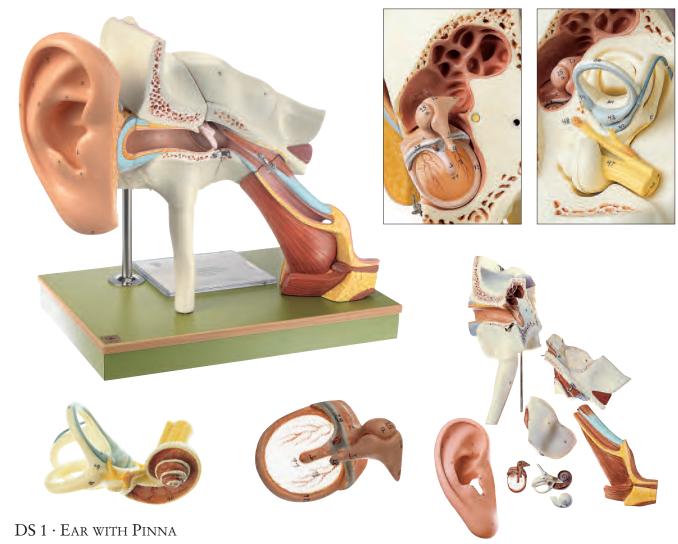






That marvel, the human organ of hearing and balance, can be understood thanks to a SOMSO model

From the natural size temporal bone and auditory ossicles through to an enlarged section through the central spiral of the cochlea.



Enlarged approx. 4 times, in SOMSO-Plast®. Separates into 8 parts: pinna, petros portion of temporal bone (3), tympanic membrane, labyrinth (2), Eustachian tube. On a stand with green base. Height: 41 cm., width: 44 cm., depth: 26 cm., weight: 3.7 kg.



QS 8/51 · Artificial Temporal Bone

Natural cast, in SOMSO-Plast®. In one piece. On a stand with green base. Height: 17 cm., width: 12 cm., depth: 12 cm., weight: 150 g.



Natural cast, 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: 17 cm., width: 12 cm., depth: 12 cm., weight: 150 g.



QS 8/54 · Artificial Temporal Bone

Natural cast, 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: 17 cm., width: 12 cm., depth: 12 cm., weight: 150 g.



#### DS 3 · EAR

Enlarged approx. 3 times, in SOMSO-Plast®. Separates into 3 parts: tympanic membrane with malleus, incus and labyrinth with stapes can be removed. Mounted on a green base, with explanation. Height: 21 cm., width: 32 cm., depth: 19 cm., weight: 1.2 kg.





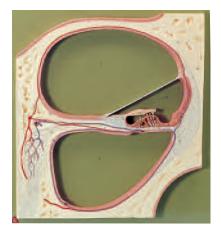
## DS $5 \cdot EAR$

Enlarged approx. 3 times, in SOMSO-Plast®. Separates into 6 parts: the petros portion of the temporal bone and section of the auditory canal can be removed, the labyrinth can be taken out and opened. The tympanic membrane with malleus and incus are also removable. On a green base, with explanation. Height: 21 cm., width: 32 cm., depth: 19 cm., weight: 1.5 kg.



#### DS 10 · Section through the Central Spiral of the Cochlea

Enlarged many times, in SOMSO-Plast®. The scala of the vestibule, the scala of the tympanum, the cochlea duct with tectorial membrane and organ of Corti are shown. In one piece. On a green base. Height: 51 cm., width: 48 cm., depth: 5 cm., weight: 3.8 kg.







Enlarged approx. 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: 33 cm., width: 24 cm., depth: 18 cm., weight: 800 g.



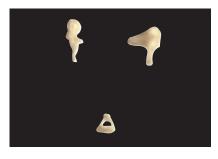
DS 17 · Labyrinth with Ossicles and Tympanic Membrane

Enlarged approx. 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: 18 cm., depth: 18 cm., weight: 300 g.



DS 18 · OSSICLES

After Prof. Dr. Neubert, enlarged approx. 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: 13 cm., depth: 16 cm., weight: 300 g.



QS 69 · THE THREE AUDITORY OSSICLES model text see page 122



QS 69/1 · THE THREE AUDITORY OSSICLES model text see page 122

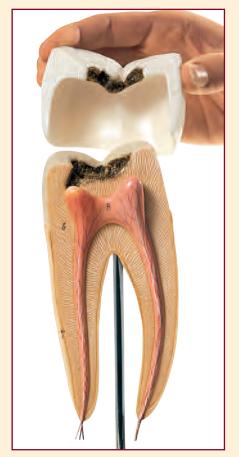


QS 70 · ARTIFICIAL BONY LABYRINTH model text see page 122



QS 70/1 · THE THREE AUDITORY OSSICLES WITH BONY LABYRINTH model text see page 122









Teeth and Jaw Models -Indispensable aids to dental care instruction

Only the original model ES 22, used to demonstrate the correct way to brush teeth, bears the quality seal »Developed in co-operation with the Bundeszentrale für Gesundheitliche Aufklärung« in Cologne



#### ES 1 · SET OF TEETH OF AN ADULT

Natural size, consisting of 32 teeth in SOMSO-Plast® in a transparent box which can be opened. Height: 4 cm., width: 13 cm., depth: 9 cm., weight: 100 g.





## ES 3 · Lower Jaw of a 12-Year-Old

Second dentition, (shown in the left half of the lower jaw) enlarged approx. 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.



## ES 4 $\cdot$ Lower Jaw of an 18-Year-Old

Enlarged approx. 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.



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 8 · Molar Tooth with Caries

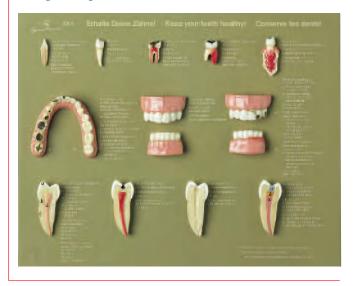
Enlarged approx. 8 times, in SOMSO-Plast®. Separates into 3 parts showing dental caries in initial and advanced stages. On a stand with green base. Height: 24 cm., width: 12 cm., depth: 12 cm., weight: 400 g.





## ES 6 $\cdot$ Case of Teeth "Keep your Teeth healthy"

Natural size and enlarged teeth, in SOMSO-Plast®. Both healthy and decayed teeth are shown in 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: 800 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 11/5 SEPARATED

ES 11/5 ES 11/4

ES 11/3

ES 11/2 ES 11/1

## ES 11 · FIVE MODELS OF TEETH

Enlarged approx. 8 times, each mounted on a stand with green base, in SOMSO-Plast®. As ES 11/1 to ES 11/5. Weight: 2.2 kg

## ES 11/1 · Lower Incisor

Enlarged approx. 8 times, in SOMSO-Plast®. Separates into 2 parts. Half of the crown is removable. On a stand with green base. Height: 22 cm., width: 12 cm., depth: 12 cm., weight: 300 g.

## ES 11/2 · Lower Canine

Enlarged approx. 8 times, in SOMSO-Plast®. Separates into 2 halves longitudinally. On a stand with green base. Height: 27 cm., width: 12 cm., depth: 13 cm., weight: 500 g.

## ES 11/3 · Lower Molar with One Root

Enlarged approx. 8 times, in SOMSO-Plast®. In one piece. On a stand with green base. Height: 22 cm., width: 12 cm., depth: 13 cm., weight: 300 g.

#### ES 11/4 · Lower Molar with Two Roots

Enlarged approx. 8 times, in SOMSO-Plast®. Separates into 3 parts showing dental caries in initial and advanced stages. On a stand with green base. Height: 24 cm., width: 12 cm., depth: 12 cm., weight: 400 g.

## ES $11/5 \cdot$ First Upper Molar with Three Roots

Enlarged approx. 8 times, in SOMSO-Plast®. Separates into 3 parts. On a stand with green base. Height: 23 cm., width: 12 cm., depth: 13 cm., weight: 700 g.





#### ES 22 · Model of a Set of Teeth

Enlarged approx. 3 times, with large toothbrush to demonstrate how to brush one's teeth, in SOMSO-Plast®. Freestanding. From an original at the Bundeszentrale fuer gesundheitliche Aufklaerung, Cologne. Height: 14 cm., width: 19 cm., depth: 25 cm., weight: 1.3 kg.



#### 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 board. Height: 19 cm., width: 32 cm., depth: 7 cm., weight: 600 g.



#### ES $13/1 \cdot \text{Upper}$ and Lower Jaw

Natural size, in SOMSO-Plast®. Separates into 2 parts showing the nerves and vessels and the main diseases. On a removable stand with green base. Height: 19 cm., width: 12 cm., depth: 12 cm., weight: 200 g.



#### ES 14 · DEVELOPMENT OF A SET OF TEETH

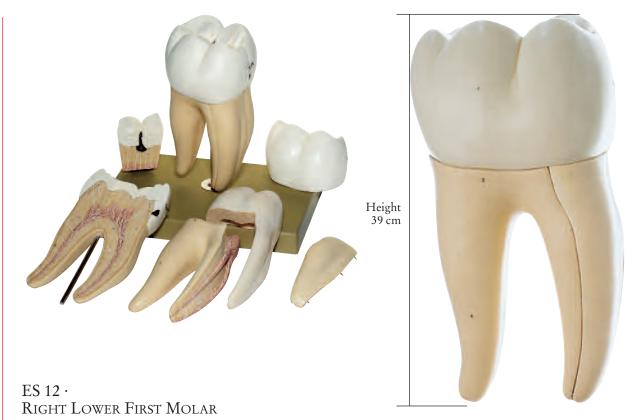
Natural size, in SOMSO-Plast®. Shows half of the upper and lower jaw of a new-born child, a 5-year-old child, a 9-year-old child and an adult. In one piece. On a stand with green base. Height: 24 cm., width: 33 cm., depth: 11 cm., weight: 700 g.



Fully exposed. Cast from natural specimen, in SOMSO-Plast®. Shows the upper and lower jaw in the following order: set of teeth of a new-born 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 kg.

The development of teeth ES 14/1 is also available individually mounted to order no. ES 14/1-1 - ES 14/1-4.

## Anatomy 6 - Teeth and Jaw



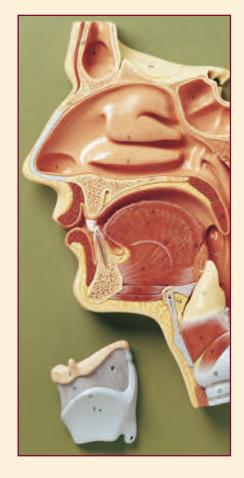
Dens molaris, enlarged approx. 16 times, in SOMSO-Plast®. Separates into 6 parts. On a stand with green base. Height: 39 cm., width: 39 cm., depth: 26 cm., weight: 3.3 kg.



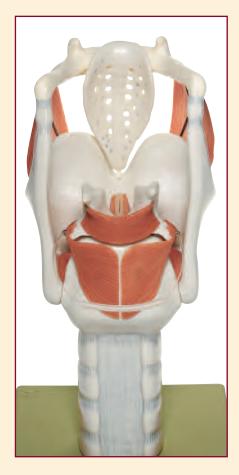
ES 21  $\cdot$  Right Lower Jaw with Muscles

Enlarged approx. 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: 45 cm., depth: 26 cm., weight: 3 kg.









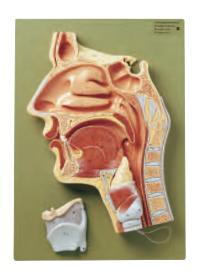
SOMSO offers models of the tongue, larynx and trachea suitable for teaching purposes





#### FS 3 · Nose and Nasal Cavities

Enlarged approx. 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: 39 cm., width: 26 cm., depth: 27 cm., weight: 3 kg.





 $\widehat{\mathbf{F}}$ 

FS 4  $\cdot$  Median Section of the Cavities of Nose, Mouth and Throat

Enlarged approx. 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: 40 cm., width: 28 cm., depth: 9 cm., weight: 1.6 kg.



FS 3/1 · Nose and Nasal Cavities

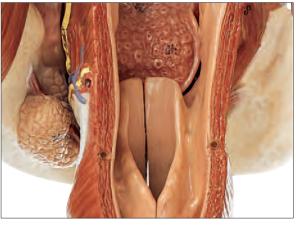
Enlarged approx. 2 times, in SOMSO-Plast®. Separates into 6 parts as FS 3, but the bones of the base of the skull are coloured. On a green base. Height: 39 cm., width: 26 cm., depth: 27 cm., weight: 3 kg.





## FS 5 $\cdot$ Cavities of Nose, Mouth and Throat with Larynx

Enlarged approx. 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: 48 cm., width: 27 cm., depth: 38.5 cm., weight: 5.9 kg.



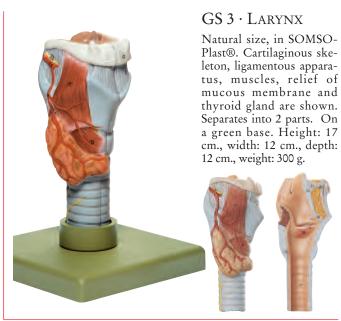


Enlarged approx. 3 times, in SOMSO-Plast®. An instructive double model which clearly shows the complicated structure of bones and the nasal cavity covered by mucous membrane. Individual cartilages and bone are coloured. The nasal concha can be removed (entry to the ethmoidal labyrinth is visible). The 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: 5.8 kg.



#### 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: 14 cm., width: 12 cm., depth: 12 cm., weight: 300 g.





Enlarged approx. 2 times, in SOMSO-Plast®. Median section (2 parts). Removable parts: the right thyroid cartilage, the cricothyroid muscle and the thyrohyoid muscle. Inner and outer muscles of the larynx, the relief of mucous membrane, network of arteries and nerves and the cartilaginous skeleton can be demonstrated. Separates into 5 parts. On a stand with green base. Height: 22 cm., width: 12 cm., depth: 12 cm., weight: 700 g.





#### 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 segment bronchi. Ligamentous apparatus, muscles and relief of mucous membrane of the larynx are shown. Thyroid gland represented. Separates into 2 parts. Height: 35 cm., width: 19 cm., depth: 8 cm., weight: 400 g.

## 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: 700 g.



#### GS 4/3 · Bronchial Tree

Natural size, in SOMSO-Plast®. The colours of the segment 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: 12 cm., weight: 350 g.



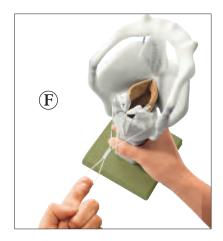
#### GS 4 · Larynx with Tongue

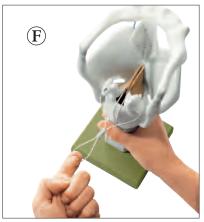
Natural size, in SOMSO-Plast®. Larynx: cartilages, ligaments, muscles, relief of mucous membrane and thyroid gland are shown. The front part of the lower jaw is removable. Tongue separates into 2 parts medially. Sublingual gland and submandibular gland are shown. Separates into 5 parts. On a green base. Height: 21 cm., width: 12 cm., depth: 15 cm., weight: 500 g.



# GS 5 · Larynx with Trachea

Enlarged approx. 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: 59 cm., width: 39 cm., depth: 27 cm., weight: 2 kg.







GS  $6 \cdot \text{Cartilages}$  of the Larynx

Functional model, enlarged approx. 2.5 times, in SOMSO-Plast®. Arytenoid cartilage, vocal folds and epiglottis can be moved. In one piece. On a green base. Height: 28 cm., width: 12 cm., depth: 14 cm., weight: 700 g.



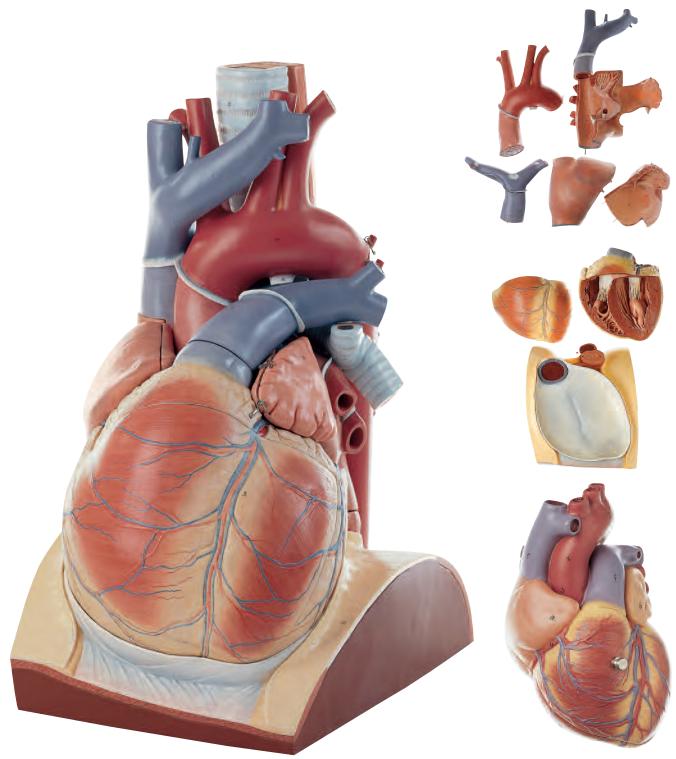
# GS 10 · Functional Model of the Larynx

Enlarged approx. 3 times, in SOMSO-Plast®. The opening and closing of the true glottis, the variation of tension of the vocal fold and the passage of air can be very instructively demonstrated. In one piece. On a green base. Height: 32 cm., width: 18 cm., depth: 18 cm., weight: 1.5 kg.



# Nature Misour Jaloutel

CIRCULATORY ORGANS



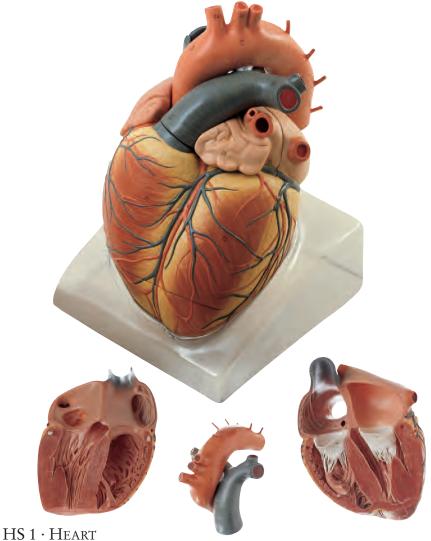
In comparison SOMSO heart model in natural size.

#### HS 1/1 · HEART

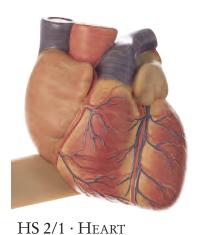
Lecture theatre model. Enlarged approx. 4 times, in SOMSO-Plast®. This model of the human heart can be separated and combined in many ways. It is mounted in a natural position on a diaphragm base and is of special interest for teaching in lecture theatres. The crown of the heart and the ventricular base 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 connection. 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), crown of the heart, right auricle, left auricle, pulmonary artery, aorta (2), and trachea and oesophagus. On a green base. Height: 72 cm., width: 45 cm., depth: 68 cm., weight: 20 kg.







Enlarged approx. twice, in SOMSO-Plast®. The heart, sectioned vertically, separates into 2 parts towards the level of the ventricular septum after the arch of aorta 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 transparent base with green board which represents the vault of the diaphragm with the outline of the pericardium. Height: 33 cm., width: 24 cm., depth: 26 cm., weight: 2.8 kg.



About 3/4 natural size, in SOMSO-Plast®. In one piece. Height: 10 cm., width: 14 cm., depth: 9.5 cm., weight: 350 g.

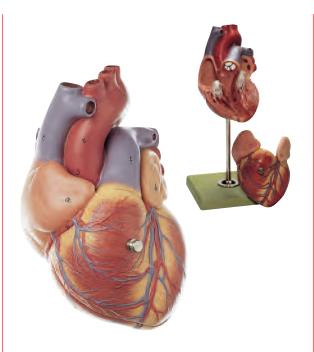


About 3/4 natural size, in SOMSO-Plast®. Sectioned, the anterior part of the ventricles and of the auricles is removable. The semilunar and sigmoid valves are shown. Separates into 2 parts. Height: 12 cm., width: 9 cm., depth: 7 cm., weight: 300 g.



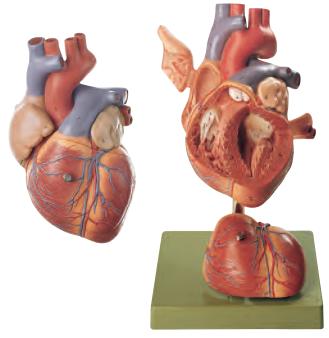
HS 3 · HEART About 3/4 natural size, in SOMSO-Plast®. As HS 2, but on a stand and green base. Separates into 2 parts. Height: 22 cm., width: 13 cm., depth: 12 cm., weight: 400 g.

# ANATOMY 9 - CIRCULATORY ORGANS



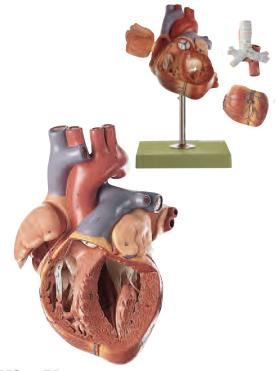
#### HS 4 · HEART

Natural size, in SOMSO-Plast®. Sectioned through the ventricles and auricles. The bicuspid and tricuspid, semilunar and sigmoid valves are shown. Separates into 2 parts. On a stand with green base. Height: 27 cm., width: 12 cm., depth: 14 cm., weight: 600 g.



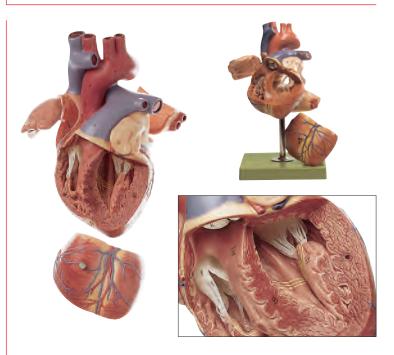
#### HS 5 · HEART

Approximately twice natural size, in SOMSO-Plast®. Sectioned so that both ventricles and atria open to expose the valves. Large blood vessels near the heart and musculature of the heart are shown. Separates into 4 parts. On a stand with green base. Height: 32 cm., width: 18 cm., depth: 19 cm., weight: 1 kg.



HS 6 · HEART

Approximately twice natural size, in SOMSO-Plast®. As HS 5, but with part of the trachea (until the bifurcation) and oesophagus. Separates into 5 parts. On a stand with green base. Height: 32 cm., width: 19 cm., depth: 19 cm., weight: 1.2 kg.



#### HS 6/1 · HEART WITH CONDUCTING SYSTEM

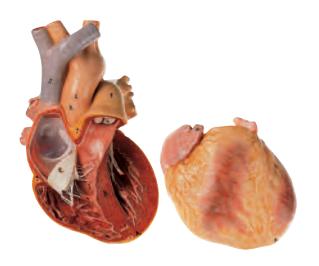
Approximately twice natural size, in SOMSO-Plast®. Sectioned so that both ventricles and atria open to expose the valves. Large blood vessels near the heart and the heart muscles are shown. The conducting system and the excitation system of nerve tracts with the addition of the sinoauricular and atrioventricular 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: 19 cm., weight: 1 kg.





HS 7  $\cdot$  Lungs with Heart, Diaphragm and Larynx

About 3/4 natural size, in SOMSO-Plast®. The model shows the viscera of the thorax. Separates into 7 parts: lungs, right and left, heart (2), larynx (2), base model. Bifurcation of the trachea and oesophageal hiatus with aortic hiatus in the diaphragm is demonstrated. Mounted on a green board. Height: 39 cm., width: 28 cm., depth: 12 cm., weight: 2.3 kg.



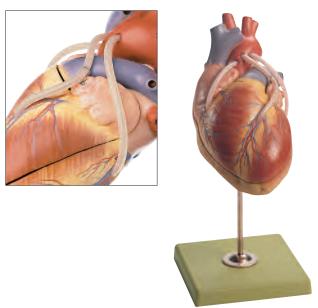
HS 26 · HEART

Cast from natural specimen, in SOMSO-Plast®. Cast from a natural young heart 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: 30 cm., width: 18 cm., depth: 18 cm., weight: 700 g.



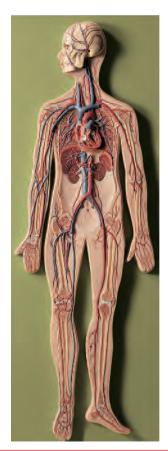
HS 8/2 · HEART-LUNG TABLE MODEL

After head physician J. A. Nakhosteen, MD., F. C. C. P. 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.



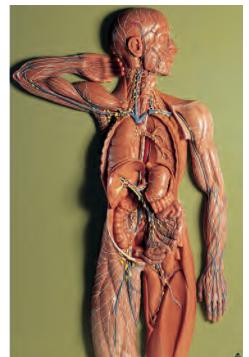
HS 15/1 · MODEL OF THE HEART WITH BYPASS VESSELS (AORTIC CORONARY VENOUS BYPASS)

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 interventricular ramus (anterior wall) and the circumflex ramus of the left coronary artery. Separates into 2 parts. On a stand and green base. Height: 28 cm., width: 12 cm., depth: 15 cm., weight: 630 g.



HS 10 · CIRCULATORY SYSTEM

Relief model, 2/3 natural size, in SOMSO-Plast®. General view of the network of vessels of the body. In one piece. Mounted on a green board. Height: 91 cm., width: 32 cm., depth: 7 cm., weight: 4.7 kg.





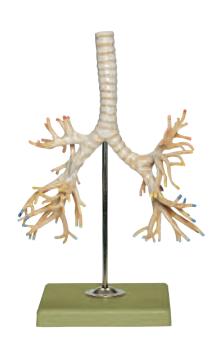
HS 19/1 · LYMPHATIC SYSTEM

Relief model, approx. 2/3 natural size, in SOMSO-Plast®. In one piece. Mounted on a green board. Height: 84 cm., width: 54 cm., depth: 12 cm., weight: 10 kg.



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 and the passage of the coronary vessels can be demonstrated in their connection. On a green base. Height: 29 cm., width: 18 cm., depth: 19 cm., weight: 1.3 kg.



HS 8/4 · Bronchial Tree

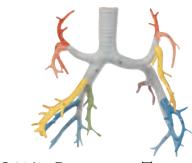
After head physician J. A. Nakhosteen, MD., F. C. C. P. About 2/3 natural size, in SOMSO-Plast®. In one piece. On a stand with green base. Height: 23 cm., width: 17 cm., depth: 12 cm., weight: 200 g.





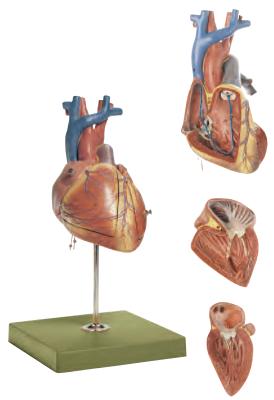
HS 20/1 · Red Blood-Corpuscle

Enlarged approx. 11.000 times, in SOMSO-Plast®. In one piece. Weight 80 g.



HS 21/1 · Bronchial Tree

Isolated from HS 21, natural size, in SOMSO-Plast®. In one piece. On a stand with green base. Height: 31 cm., width: 21 cm., depth: 18 cm., weight: 400 g.



HS 24 · FETAL HEART

Enlarged approx. 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: 34 cm., width: 18 cm., depth: 18 cm., weight: 1.1 kg.

The model of heart defects (catalogue page 110) forms a valuable supplement



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

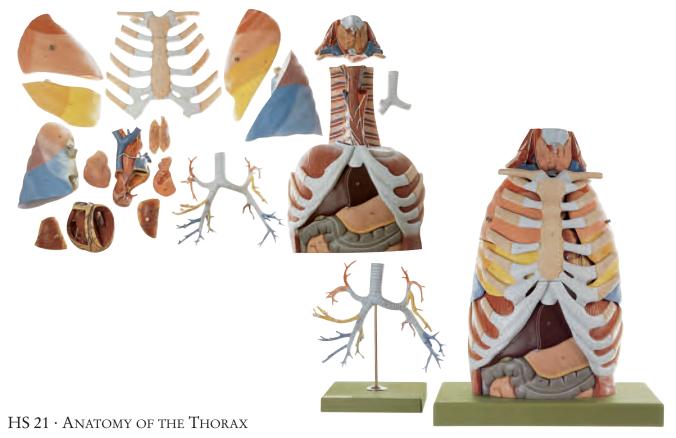
1. Lobule of the lung: enlarged approx. 150 times, in SOMSO-Plast®. Representation of lobule with arterial and venous circulation and bronchial branches. One acinus open to show the alveolar duct.

2. Model of an adjacent alveolus: enlarged approx. 1000 tmes, 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: 43 cm., width: 48 cm., depth: 16 cm., weight: 2.5 kg.



HS 23/1  $\cdot$  Lobule of the Lung

Enlarged approx. 150 times, in SOMSO-Plast®. In one piece. On a stand with green base. Height: 43 cm., width: 23 cm., depth: 18 cm., weight: 1.4 kg.



Natural size, in SOMSO-Plast®. Separates into 17 parts: sternum, organs of the neck, right lung (3), left lung (2), heart (7), bronchial tree, base model. On a green base. Height: 52 cm., width: 39 cm., depth: 26 cm., weight: 7.1 kg. (Bronchial tree of HS 21: Height: 31 cm., width: 21 cm., depth: 18 cm., weight: 400 g.)



HS 25/1 · Delicate Formation 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: 63 cm., width: 39 cm., depth: 31 cm., weight: 6 kg.



HS 25 · Delicate Formation of an Artery and Veins

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 the vein are shown closed and open. Separates into 3 parts. On a green base. Height: 63 cm., width: 39 cm., depth: 31 cm., weight: 6 kg.



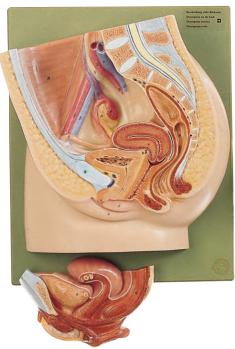
HS 25/2 · Artery and Vein

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 vein are shown closed and open. In one piece. On a green base. Height: 63 cm., width: 39 cm., depth: 26 cm., weight: 4.2 kg.



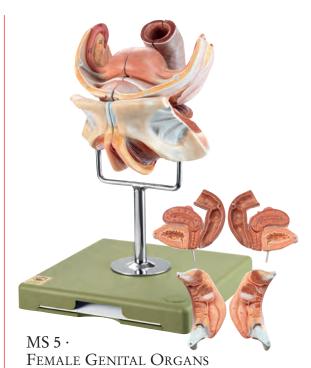
# Mature Misour Jours al

GENITAL ORGANS
EMBRYONIC DEVELOPMENT
ZIEGLER SERIES
BIRTH
BABY CARE

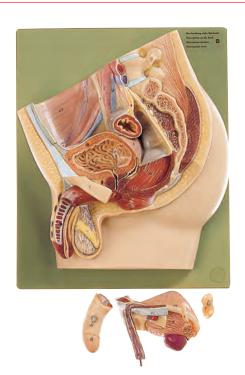


MS 1 · Median Section of the Female Pelvis

Natural size, in SOMSO-Plast®. Female genital organs with bladder and rectum fully exposed and removable. Separates into 2 parts. Mounted on a green board. Height: 33 cm., width: 27 cm., depth: 12 cm., weight: 1.5 kg.



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 cm., width: 18 cm., depth: 19 cm., weight: 900 g.



# MS $2 \cdot$ Median Section of the Male Pelvis

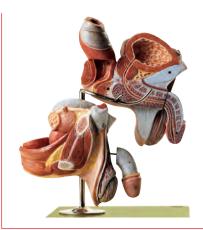
Natural size, in SOMSO-Plast®. Rectum, bladder with prostate and testicular duct and external genital organs, fully exposed, and removable. Separates into 4 parts. Mounted on a green board. Height: 33 cm., width: 27 cm., depth: 14 cm., weight: 1.3 kg.



#### MALE GENITAL ORGANS

Natural size, in SOMSO-Plast®. Median section showing penis, prostate, bladder, seminal vesicle, spermatic cord, inguinal canal and testicle. Separates into 5 parts. On a stand with green base. Height: 21 cm., width: 18 cm., depth: 20 cm., weight: 1.2 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: 18 cm., width: 18 cm., depth: 18 cm., weight: 800 g.

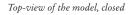


# MS 5/1 · Female Genital Organs

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: 16 cm., width: 18 cm., depth: 18 cm., weight: 900 g.





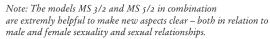




Model from below

## MS 5/2 · Model of the Female Sexual Organs

Natural size, in SOMSO-Plast®. Developed in cooperation with Studien-direktorin Angelika Beck. Model of the female sexual organs based on current research which makes new aspects clear - both in relation to female sexuality and sexual relationships. Height: 23 cm., width: 49 cm., depth: 26 cm., weight: 2.5 kg.





MS  $5/3 \cdot \text{CASE}$  suitable for MS 3/2 and MS 5/2





## MS 3/2 · Model of the Male Sexual Organs

Natural size, in SOMSO-Plast®. Developed in cooperation with Studien-direktorin Angelika Beck. Model of the male sexual organs based on current research which makes new aspects clear - both in relation to male sexuality and sexual relationships. Height: 27 cm., width: 36 cm., depth: 24 cm., weight: 2.8 kg.

# ANATOMY 13 - GENITAL ORGANS





MS 10 · Female Pelvic Floor

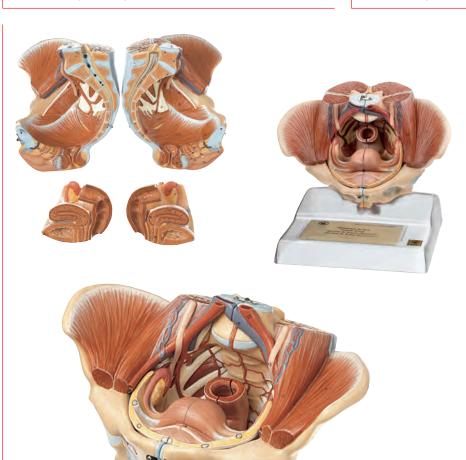
Natural size, in SOMSO-Plast®. In one piece. On a removable transparent base. Height: 25.5 cm., width: 23 cm., depth: 26 cm., weight: 1.6 kg.





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: 23 cm., depth: 26 cm., weight: 1.7 kg.





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). Height: 17 cm., width: 28 cm., depth: 23 cm., weight: 1.5 kg.



MS 8/2  $\cdot$  Female Pelvis

As MS 8/1, but only separates into 2 parts. Height: 17 cm., width: 28 cm., depth: 23 cm., weight: 1.3 kg.



MS 8/3  $\cdot$  Female Genital Organs

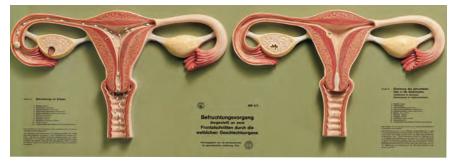
natural size, in SOMSO-Plast®. Internal femal organs of MS 8/1. Separates in 2 parts. Height: 10 cm., width: 12.5 cm., depth: 12 cm., weight: 33 g.





## MS 4 · Female Genital Organs

Natural size, SOMSO-Plast®, ventral and dorsal view of the internal genital organs, partly shown in section. In one piece. On a green base. Height: 22 cm., width: 25 cm., depth: 10 cm., weight: 700 g.



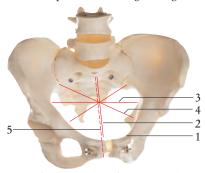
#### MS 4/1 · Fertilization Process

Represented by two frontal sections through the female genital organs. Enlarged approx. twice, in SOMSO-Plast®. After an original from the Bundeszentrale fuer gesundheitliche Aufklaerung, Cologne, Rhine. In one piece. Mounted on a green board with explanation. Height: 32 cm., width: 90 cm., depth: 4 cm., weight: 4.3 kg.



# MS 21 · OBSTETRIC PHANTOM

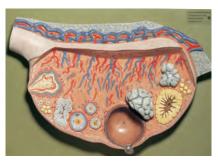
Natural size, in SOMSO-Plast®. Model of the female pelvic bones (mounted and movable) and a fetal skull (size of the head 29.8 cm) attached by a flexible metal rod. On a stand with green base. Height: 30 cm., width: 39 cm., depth: 34 cm., weight: 3 kg.



Scientifically exact in function and anatomical measurements. Measurements of the obstretric phantom MS 21 and the skeletons of female pelvis and QS 26 – QS 27/1

- 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 Size of the head of the fetal cranium 29.8 cm

Illustration by permission of Prof. Dr. J. W. Rohen



#### MS 51 · Relief Model of the Ovary

Enlarged approx. 10 times, in SOMSO-Plast®. Presentation of the follicle in different maturation phases, the corpus rubrum, luteum and albicans. In one piece. Mounted on a green board. Height: 28 cm., width: 40 cm., depth: 8 cm., weight: 1.8 kg.



# MS 47/16 $\cdot$ Model of the Placenta

Enlarged approx. 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: 26.5 cm., width: 15 cm., depth: 11.5 cm., weight: 500 g.

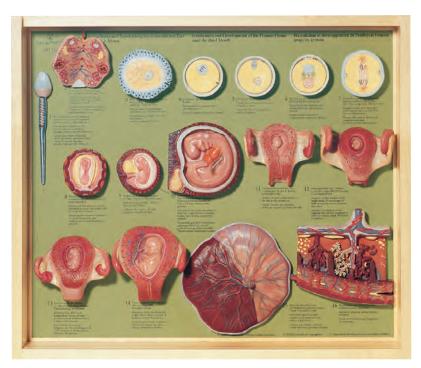




# MS 50 · Model of the Ovary

Enlarged approx. 10 times, in SOMSO-Plast®. The model shows a horizontal section parallel to the mesovarian margin with plastic presentation 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: 27 cm., width: 40 cm., depth: 28 cm., weight: 2.9 kg.

# ANATOMY 13 - EMBRYONIC DEVELOPMENT



MS 15  $\cdot$  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, on a green board. Height: 49 cm., width: 57 cm., depth: 11 cm., weight: 5.7 kg.





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 3.3 kg.



MS 15/1  $\cdot$  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, on a green board. Height: 49 cm., width: 57 cm., depth: 11 cm., weight: 5.5 kg.





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 1.8 kg.





# MS $11/3 \cdot$ Human Embryo in the Third Month

Enlarged approx. 3 times, in SOMSO-Plast®. After Prof. Dr. Hinrichsen. The model shows an embryo in the third month of pregnancy enlarged approx. 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 11 · Embryo

Enlarged approx. 25 times, in SOMSO-Plast®. The model shows an embryo, approximately 4 weeks old. In one piece. On a stand with green base. Height: 25 cm., width: 14 cm., depth: 12 cm., weight: 600 g.



#### 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), heart (2), thymus, diaphragm, liver (2), stomach and intestine, body. On a green board. Height: 20 cm., width: 37 cm., depth: 45 cm., weight: 3.3 kg.

## MS 16 · FETAL CIRCULATORY SYSTEM

Natural size, in SOMSO-Plast®. Model of a female fetus (before birth) with umbilical cord and placenta. The thoracic and abdominal cavities and heart exposed. Venous and arterial ducts are shown. Separates into 2 parts. Mounted on a green board. Height: 48 cm., width: 30 cm., depth: 14 cm., weight: 2.8 kg.



# THE FAMOUS ZIEGLER SERIES OF SOMSO

# 28 Days old Human Embryo from the Ziegler-Series No. 3

The model shows the most significant structures of an embryo of about 28 days old. The left half of the body is to some extent shown in median section so that the location of the organs, characteristic of this stage of embryonic development, can be clearly identified.

## The most impressive features are:

The early development of the heart, the heart loop in the pericardial cavity, the primary formation of the embryonic intestine tube with the pharyngeal pouches in the foregut region, the position of the liver (marked in colour), the umbilical loop, the hindgut with the allantois and the beginning of the umbilicus.

Also clearly recognisable is the early formation of the neural medullary tube with the eye position. The skin has been removed from one half of the body so that the form and location of organs is easy to identify. It is also possible to get a true picture of embryonic development in these early stages as landmarks can be clearly recognised e.g. the pharyngeal grooves (branchial grooves) with the corresponding pharyngeal pouches on the right side, the developing heart (bulbo ventricular loop) and the somites.

An extremely valuable teaching model for lessons and lectures in human embryology!



The illustration shows the wax model of the human embryo (6.8 mm long) after Prof. Dr. H Pieper from the studio of Friedrich Ziegler in Freiburg.









M 48 · Entwicklung des menschlichen Gesichts

nach Prof. Peter. Die Serie besteht aus 6 zerlegbaren Modellen, die die wichtigsten Stadien der Gesichtsentwicklung des Menschen festhalten. Insgesamt 12teilig. Jedes Modell einzeln auf Stativ mit Sockel. Gewicht der Serie 9,7 kg

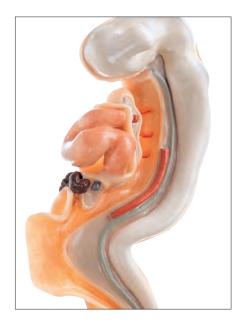


M 49 · Entwicklung des menschlichen Gehirns

nach Prof. His. Die Serie besteht aus 8 Modellen (unzerlegbar). Jedes Modell einzeln auf Stativ mit Sockel. Gewicht der Serie 10,4 kg

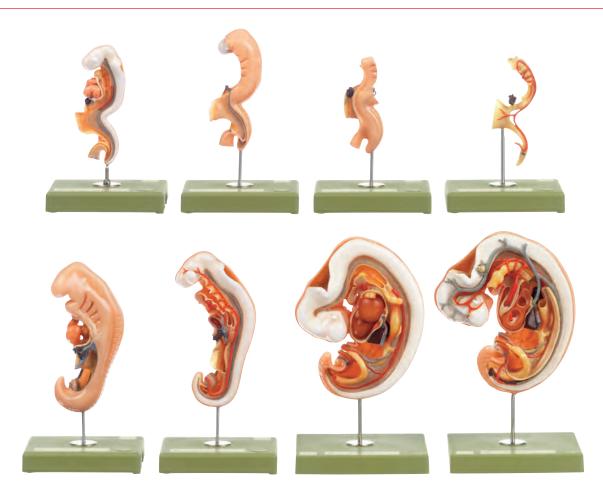






#### MS 48/3-I · Human embryo

Approx. 28 days old, from the Ziegler series of models No. 3, in SOMSO-Plast®. The model shows the most significant structures of an embryo about 28 days old. The left half of the body is to some extent shown in median cross section so that the different positions of the organs can be recognised in their topographical relationships - characteristic for this embryo stage. In one piece. On a green base. Height: 24 cm. (model 17 cm.), width: 18 cm., depth: 18 cm., weight: 450 g.



M 48/3  $\cdot$  Models of the Anatomy of the Human Embryo

After originals from Prof. Dr. W. His, Leipzig, published by Dr. A. Ziegler, Freiburg. The series consists of 8 fixed models. Each model individually mounted on a stand with green base. The models are also available individually mounted to order no. MS 48/3-I (in SOMSO-Plast®), M 48-3-II - M 48/3-VIII (made of special palster). Weight of the series: 2.6 kg.



# MS 12 · Series Showing Pregnancy

Natural size, in SOMSO-Plast®. Eight models showing the uterus with embryo and fetus from the first to the seventh month of pregnancy. Each model individually mounted on a stand and green base. Description and measurements as individual models MS 12/1 to MS 12/8. Comprises 14 parts. Weight of the series: 3.5 kg.

# MS $12/1 \cdot \text{U}$ TERUS WITH EMBRYO IN FIRST MONTH

Natural size, in SOMSO-Plast®. In one piece. On a stand and green base. Height: 19 cm., width: 12 cm., depth: 12 cm., weight: 200 g.

### MS 12/2 · Uterus with Embryo in Second Month

Natural size, in SOMSO-Plast®. In one piece. On a stand with green base. Height: 18 cm., width: 12 cm., depth: 12 cm., weight: 200 g.

### MS 12/3 · Uterus with Embryo in Third Month

Natural size, in SOMSO-Plast®. In one piece. On a stand with 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

Natural size, in SOMSO-Plast®. Fetus lying prone and removable from the uterus. Comprises 2 parts. On a stand and green base. Height: 19 cm., width: 16 cm., depth: 13 cm., weight: 400 g.

# MS 12/5 · Uterus with Fetus in Fifth Month

Natural size, in SOMSO-Plast®. Fetus in upright position and removable from the uterus. Comprises 2 parts. On a stand and green base. Height: 24 cm., width: 13 cm., depth: 12 cm., weight: 400 g.

# MS 12/6 · Uterus with Fetus in Fifth Month

Natural size, in SOMSO-Plast®. Fetus lying on its back and removable from the uterus. Comprises 2 parts. On a stand and green base. Height: 21 cm., width: 17 cm., depth: 13 cm., weight: 500 g.

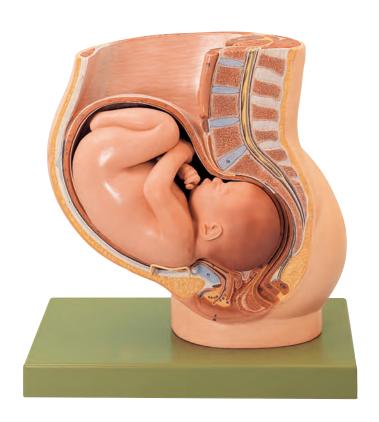
# MS 12/7 · Uterus with Fetus in Seventh Month

Natural size, in SOMSO-Plast®. Fetus in normal position and removable from the uterus. Comprises 2 parts. On a stand and green base. Height: 29 cm., width: 15 cm., depth: 15 cm., weight: 900 g.

#### MS 12/8 · Uterus with Twin Fetus in Fifth Month

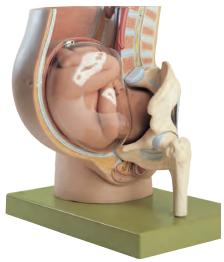
Natural size, in SOMSO-Plast®. Normal position, each fetus is removable from the uterus. Comprises 3 parts. On a stand and green base. Height: 25 cm., width: 16 cm., depth: 15 cm., weight: 600 g.





MS 13 · 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. Fetus removable. After Prof. Dr. Petry. Comprises 2 parts. On a green base. Height: 41 cm., width: 39 cm., depth: 29 cm., weight: 4.9 kg.



MS  $13/1 \cdot Pelvis$  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: 5.9 kg.



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: 20 cm., width: 12 cm., depth: 15 cm., weight: 300 g.



MS 7 · MAMMARY GLAND IN RESTING POSITION

Somewhat enlarged, in SOMSO-Plast®. After drawings by Prof. Dr. Petry. Separates into 2 halves. On a stand with green base. Height: 25 cm., width: 18 cm., depth: 18 cm., weight: 900 g.



MS 7/1  $\cdot$  Mammary Gland of a Nursing Woman

Somewhat enlarged, in SOMSO-Plast®. After diagrams by Prof. Dr. Petry. Separates into 2 halves. On a stand with green base. Height: 31 cm., width: 19 cm., depth: 19 cm., weight: 1 kg.



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: 21 cm., width: 12 cm., depth: 15 cm., weight: 400 g.

# Anatomy 13 - Birth

# MS 45/1 · Birth - First Stage

Natural size, in SOMSO-Plast®. The model shows the beginning of the birth process. Formation of the amniotic sac. Separates into 3 parts. On a green base. Height: 25 cm., width: 29 cm., depth: 32 cm., weight: 3.4 kg.



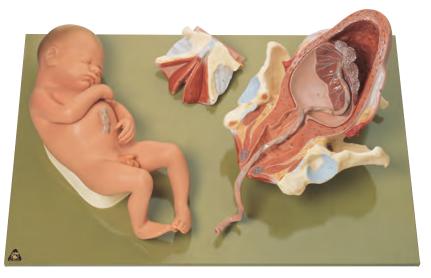


# MS 45/2 · Birth - Second Stage

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: 21 cm., width: 29 cm., depth: 38 cm., weight: 3.1 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: 4.4 kg.



MS 45/3





# TEACHING BABIES

# PREMATURE BABIES

# NEWBORN BABIES

# NURSING BABIES

- 1. Size and weight corresponding to age
  - 2. Natural body and head mobility
    - 3. Hand painted eyes and hair

- 4. Robust joints
- 5. Waterproof finish
- 6. 5-year warranty

# ANATOMY 13 - BABY CARE



1. For the SOMSO nursing babies MS 52 and MS 53 different colour eyes are available as a 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 queries about the model.



MS 33/E · DOLL FOR BABY CARE

In SOMSO-Plast®. Ball joints allowing natural movement of head, arms and legs. Open anus. A perfect combination doll for bathing, dressing practice and nursing exercises. With artificial brown eyes. Undressed. Size of the head: 36 cm., length: 49 cm., weight: 3 kg.

MS 33/E-B · DOLL FOR BABY CARE As MS 33/E, but black in colour



Corresponding to the size and weight of a 6-week-old baby, in SOMSO-Plast®. Suitable for bathing in warm water. With ball joints, allowing natural movement of arms and legs. Undressed. Size of the head 38.9 cm., length: 56 cm., weight: 3.3 kg.

MS 43/B ·
DOLL FOR
BABY CARE
As MS 43, but black in colour.





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®. Size of the head 38.9 cm., length: 56 cm., weight: 3.3 kg.

MS 43/3 B · DOLL FOR BABY CARE As MS 43/3, but black in colour.





Corresponding to the size and weight of an approx. 6 week old baby, in 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 is anus for insertion of thermometer. Undressed. Size of the head 35.8 cm., length: 54 cm., weight: 3.3 kg.

### 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. Size of the head 35.8 cm., length: 54 cm., weight: 3.3 kg.

### MS 52/B ·

NURSING BABY, FEMALE

As MS 52, but black in colour. Size of the head 35.8 cm., length: 54 cm., weight: 3.3 kg.

## MS 53 · Nursing Baby, Male

Corresponding approx. to the size and weight of a 6-week-old baby, in SOMSO-Plast®. With ball joints, head moves easily and tilts backwards. Painted eyes. A perfect combination doll for bathing, dressing practice and nursing exercices. Nose and ears are open as is anus for insertion of thermometer. Undressed. Size of the head 35.4 cm., length: 54 cm., weight: 3.5 kg.

MS 53/1 · NURSING BABY, MALE As MS 53, but with umbilical cord. (Not. ill.)

#### MS 53/A ·

NURSING BABY, MALE As MS 53, but an Asian Nursing Baby.

MS 53/B · NURSING BABY, MALE As MS 53, but black in 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. Size of the head 32.6 cm., length: 45 cm., weight: 1.9 kg.

# MS 57/B $\cdot$ Newborn Baby, Female

As MS 57, but black in colour.

#### MS 56 $\cdot$ Newborn Baby, Female

Natural size, in soft SOMSO-Plast®. Model is flexible. Size of the head 31.7 cm., length: 44 cm., weight: 1.8 kg.

#### MS 56/B · Newborn Baby, Female

As MS 56, but black in colour. Size of the head 31.7 cm., length: 44 cm., weight: 1.8 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. Size of the head: 34 cm., length: 46 cm., weight: 2.2 kg.

# MS 59/B · NEWBORN BABY, FEMALE (NOT ILL.) As MS 59, but black in colour.



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. Size of the head: 34 cm., length: 46 cm., weight: 2.2 kg.

## MS 58/B • Newborn Baby, Male

As MS 58, but black in colour.



# MS 60 · Premature Infant Baby, Male

Corresponds approx. to a baby in 27th week of pregnancy. In SOMSO-Plast®. With movable arms and legs. Undressed. Size of the head: approx. 25.5 cm., length: approx. 35.5 cm., weight: approx. 670 g.

#### MS 61 · Premature Infant Baby, Female

Corresponding approx. to a baby in 27th week of pregnancy. In SOMSO-Plast®. With movable arms and legs. Undressed. Size of the head: approx. 25.5 cm., length: approx. 35.5 cm., weight: approx. 690 g.



# Nature Misourlel

# FOSSIL HUMAN MODELS

Co-operation with the Faculty of Anthropology of the University of Goettingen.

All models in natural size and in SOMSO-Plast®.

## S 1 · RECONSTRUCTION OF THE SKULL OF PARANTHROPUS BOISEI

Natural size, in SOMSO-Plast®, site and date of finding: Olduvai Gorge (Tanzania, East Africa), 1959. Stratum of finding: bottom bed I Olduvai. Age: Lower Pleistocene, approx. 1.7 million years. Separates into 2 parts. Weight: 765 g.

### S 2 · RECONSTRUCTION OF THE SKULL OF HOMO ERECTUS

Natural size, in SOMSO-Plast®, site and date of finding: Sangiran (Central Java), 1936 and 1939. Stratum of finding: Djetis formation. Age: Lower Pleistocene, less than 1.9 million years. Separates into 2 parts. Weight: 820 g.

## S 2/3733 · RECONSTRUCTION OF THE SKULL OF HOMO ERGASTER (KNM-ER 3733)

Natural size, in SOMSO-Plast®, site and date of finding: Koobi Fora, East Turkana Region, Kenya, East-Africa, 1975. Age: Upper Pliocene, approx. 1.8 million years. Weight: 640 g.

## S $2/F \cdot RECONSTRUCTION$ OF FEMUR OF HOMO ERECTUS (TRINIL 3)

Natural size, in SOMSO-Plast®, site and date of finding: Trinil, Java, Indonesia, 1892. Age: Lower Middle-Pleistocene, approx. 800.000 years. Weight: 603 g.

# S 2/KNM · RECONSTRUCTION OF FEMUR OF HOMO ERGASTER

Natural size, in SOMSO-Plast®, site and date of finding: Koobi Fora, Kenya, East-Africa, 1971. Age: Middle Pleistocene, approx. 1.8 million years. Weight: 760 g.

## S 3 · RECONSTRUCTION OF THE SKULL OF HOMO NEANDERTHALENSIS

Natural size, in SOMSO-Plast®, site and date of finding: La Chapelle aux Saints (Dordogne France), 1908. Age: middle Upper Pleistocene (Wuerm glacial), approx. 40,000 - 70,000 years old. The upper dental arcade and the lower jaw have been reconstructed and adapted after the original find in Le Moustier (Dordonge, France) in the year 1908. The estimated age of this find is also 40,000 - 70,000 years. Separates into 2 parts. Weight: 870 g.

## S $3/1 \cdot$ RECONSTRUCTION OF THE SKULL OF HOMO HABILIS (O.H. 24)

Natural size, in SOMSO-Plast®, site and date of finding: Olduvai Gorge, region DK 1, east, 1968. Age: approx. 1.85 million years, Pliocene. Separates into 2 parts. Weight: 510 g.

## S 3/F · RECONSTRUCTION OF FEMUR OF HOMO NEANDERTHALENSIS

Natural size, in SOMSO-Plast®, site and date of finding: Feldhofer Cave, Neander Valley near Düsseldorf, 1856. Age: middle Upper Pleistocene (Würm Glacial), approx. 60 000 years old. Weight: 640 g.

## S 4 · RECONSTRUCTION OF THE SKULL OF HOMO SAPIENS

Natural size, in SOMSO-Plast®, as an example of the Cromagnon man we have taken a skull from the series of findings from Predmost (Czech Republic). Site/date of finding: Predmost (North Moravia), 1884 - 1928. Age: Top Upper Pleistocene, approx. 25.000 years. Separates into 2 parts. Weight: 830 g.

## S 5 · RECONSTRUCTION OF A SKULL OF AUSTRAL-OPITHECUS AFRICANUS

Natural size, in SOMSO-Plast®, site and date of finding: Sterkfontein (Transvaal, South-Africa), 1947. Stratum of finding: "member 4" (formerly: lower breccia). Age: Lower Pliocene, approx. 2.5 - 3.0 mill. years. Set of teeth and lower jaw have been reconstructed with the aid of other original finds of "member 4" of Sterkfontein. Separates into 2 parts. Weight: 570 g.

### S 5/1 · RECONSTRUCTION OF THE SKULL OF PROCONSUL AFRICANUS

Natural size, in SOMSO-Plast®, site and date of finding: Rusinga Island, Kenya, East-Africa, 1948. Age: approx. 20 million years (Early Miocene). Weight: 200 g.

# S 5/STs14 · RECONSTRUCTION OF THE PELVIS OF AUSTRAL-OPITHECUS AFRICANUS

Natural size, in SOMSO-Plast®, site and date of finding: Sterkfontein, Republic of South Africa, 1947. Age: Upper Pliocene, approx. 2.5 - 3 million years. Weight: 330 g.

## S 6 · Lower Jaw from Mauer near Heidelberg, Homo heidelbergensis

Natural size, in SOMSO-Plast®, site and date of find: Mauer (south-east of Heidelberg, Germany), 1907. Age: Middle Pleistocene, approx. 500,000 - 600,000 years. In one piece. Weight: 600 g.

## S 7 · RECONSTRUCTION OF AUSTRALOPITHECUS AFARENSIS

Natural size, in SOMSO-Plast®, 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. Detachable in 2 parts. Weight approx. 600 g.

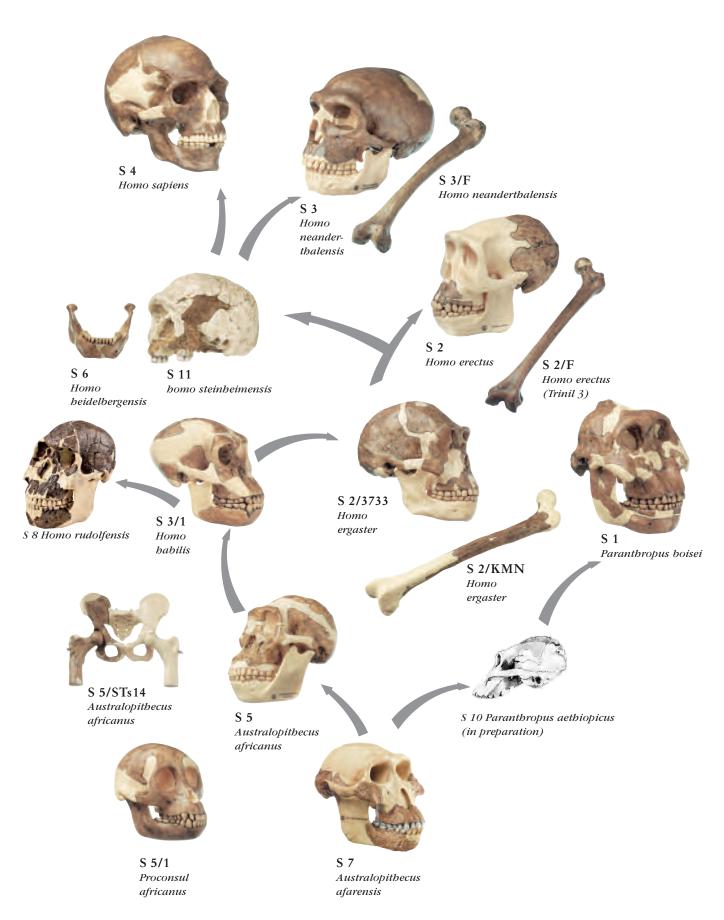
## S 8 · RECONSTRUCTION OF THE SKULL OF HOMO RUDOLFENSIS

Natural size, in SOMSO-Plast®, site and date of finding: Koobi Fora (Upper Burgi Member), Kenya; Uraha (Chiwondo Beds), Malawi Age: Koobi Fora findings: approx. 2.0-1.8 million years, Upper Pliocene, Lowee Pliocene. Uraha: 2.5-2.1 million years, Upper Pliocene. Detachable in 2 parts. Weight: approx. 640 g.

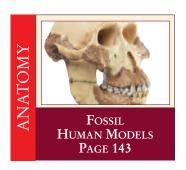
#### S 11 · The Steinheim Skull, Homo steinheimensis

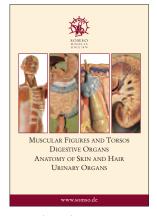
Natural size, in SOMSO-Plast®, site and date of finding: Steinheim an der Murr (north of Stuttgart, Germany), 1933. Age: Middle-Pleistocene, Mindel-Riss or Holstein Interglacial Period, approx. 250.000 years. Weight: 470 g.



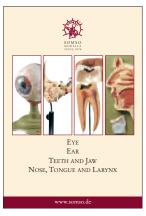


# CONTENT

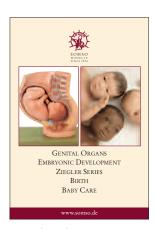




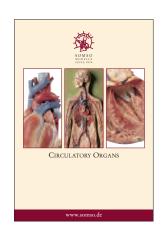
special catalogue no. A 75/SV-I



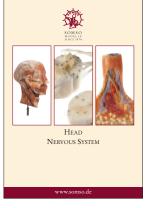
special catalogue no. A 75/SV-III



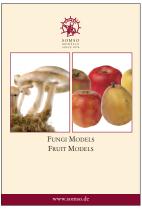
special catalogue no. A 75/SV-V



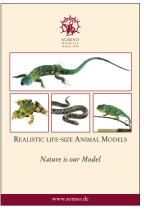
special catalogue no. A 75/SV-IV



special catalogue no. A 75/SV-II



special catalogue no. A 75/SV-VIII



special catalogue no. A 75/SV-VII

You can obtain our further single catalogues as well as our complete catalogue, the anatomy catalogue and the zoology and botany catalogue on inquiry.

# SOMSO - A FULL FIVE-YEAR GUARANTEE

SOMSO, recognised worldwide as a manufacturer in this field, offers a full five-year warranty - on nearly all SOMSO models - that covers both durability and workmanship, subject to correct use.





#### QS 7/E Artificial Human Skull

natural cast, in SOMSO-Plast. Removable. Separates into 3 parts. L.: 17.5 cm., w.: 14.1 cm., s.: 51.2 cm., w.: 800 g



#### AS 20/1 Small trunk of Young man with Head

about 1/2 natural size, in SOMSO-Plast. Separa tes into 11 parts. On a base. H.: 52 cm. (trunk 49 cm.), w.: 21 cm., d.: 18 cm., w.: 3.15 kg

#### AS 20/5 SMALL TRUNK OF YOUNG MAN WITH HEAD (WITHOUT ILLUSTRATION)

about 1/3 natural size, in SOMSO-Plast. Separates into 9 parts. On a base, removable. H.: 37 cm. (trunk 35 cm.), w.: 17.5 cm., d.: 14 cm., w.: 2 kg

#### AS 20/5 B Small trunk of Young man with HEAD

description as for AS 20/5, but black colour



AS 20/5 B

#### AS 20/4 Small torso of young man without head

about 1/3 natural size, in SOMSO-Plast. Separates into 7 parts. Removable from base. H.: 28 cm. (torso 26 cm.), w.: 17.5 cm., d.: 14 cm., w.: 17 kg

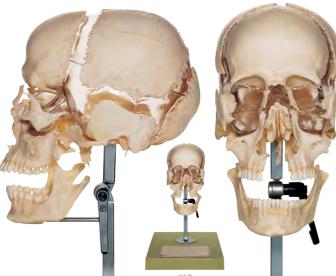
#### AS 20/4 B SMALL TORSO OF YOUNG MAN WITH-OUT HEAD (WITHOUT ILLUSTRATION)

description as for AS 20/4, but black in colour For over 130 years, SOMSO
has developed a range of models which
is unique in variety and high
quality standard. More than 1000
models of anatomy, zoology and
botany are available in their scientific
accuracy and high aesthetic.

A supplement of the whole programme of SOMSO models is shown in this prospect. We are showing a small selection of our programme of SOMSO-models in this leaflet A 76/7.









natural cast, in SOMSO-Plast. Separates altogetber into 16 parts. H.: 40 cm., w.: 26 cm., d.: 39 cm., w.: 1.9 kg

#### QS 68/3 Central and dorsolateral hernia

of intervertebral disc, natural size, in SOMSO-Plast. Separates into 5 parts. On a stand with base. H.: 13 cm., w:: 14 cm, d.: 15 cm., w:: 300 g

OS 68/3



QS 21/1

W.: 2.3 kg

WITH PELVIS

Vertebral column

natural cast, in SOMSO-

movable. Without stand.

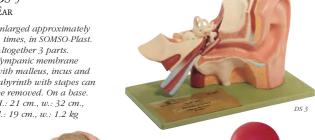
Plast, Mounted and

natural cast, in SOMSO-Plast. Joints mounted and movable, except feet and bands. Mounted upright on a stand. With a dustproof cover. H.: 180 cm., (Skeleton 170 cm.), w.: 55 cm., d.: 55 cm., w.: 10.4 kg



#### DS 3 Ear

enlarged approximately 3 times, in SOMSO-Plast. Altogether 3 parts. Tympanic membrane with malleus, incus and labyrinth with stapes can be removed. On a base. H.: 21 cm., w.: 32 cm., d.: 19 cm., w.: 1.2 kg





#### BS 21 Brain

natural cast, in SOMSO-Plast. Two parts, median section. On a base. Н.: 15 ст., w.: 16 ст., d.: 17 cm., w.: 800 g



# EYEBALL

enlarged approximately 4 times, in SOMSO-Plast. Separates into 6 parts: sclerotic membrane (2), choroid membrane (2), vitreous humour, lens. On a base. H.: 18 cm., w.: 12 cm., d.: 12 cm., w.: 400 g



#### H.: 22 cm., w.: 13 cm., d.: 12 cm., w.: 400 g HS 20/1

RED BLOOD-CORPUSCLE

about 3/4 natural

size, in SOMSO-Plast.

On a stand with base.

Separates into 2 parts.

HS 3

HEART

enlarged approx. 11.000 times, in SOMSO-Plast. In one piece. W.: 80 g

SOMSO models are modelled under strict scientific criteria through co-operation with experts.



KS<sub>2</sub> SECTION OF SKIN

enlarged approximately 70 times, in SOMSO-Plast. In one piece. Mounted on board. H.: 25 cm., w.: 35 cm., d.: 5 cm., w.: 1.1 kg

Important information: Functional models make biological processes easier to understand. All functional models in this prospect are marked (F)

SOMSO models are made of unbreakable SOMSO-Plast.

SOMSO is offering a programme of more than 1000 models of anatomy, zoology and botany.

SOMSO models are subject to a strict quality control.



ES 22 Model of a set OF TEETH

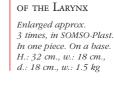
enlarged approximately 3 times, in SOMSO-Plast. With large toothbrush to demonstrate bow to brush one's teeth. From an original of the Bundeszentrale fuer gesundbeitliche Aufklaerung in Cologne. H.: 14 cm., w.: 19 cm., d.: 25 cm., w.: 1.3 kg

#### ES 8 Molar tooth WITH CARIES

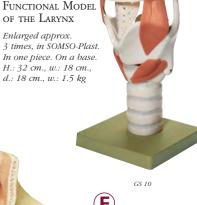
enlarged approximately 8 times, in SOMSO-Plast. Separates into 3 parts. Showing dental caries in initial and advanced stages. On stand with base. H.: 24 cm., w.: 12 cm., d.: 12 cm.,  $w.:400\,g$ 

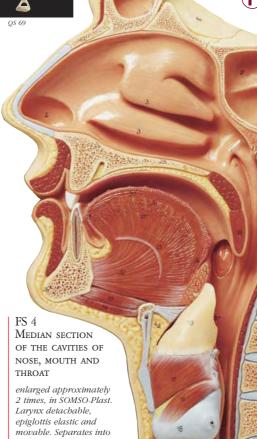
#### QS 69 THE THREE AUDITORY OSSICLES

cast from natural specimen, in SOMSO-Plast. Malleus, incus and stapes mounted under \*Plexiglas\* cover. On a base plate. H.: 3 cm., w.: 12 cm., d.: 12 cm., w.: 80 g



GS 10







2 parts, on a base plate.

H.: 40 cm., w.: 28 cm.,

d.: 9 cm., w.: 1.6 kg



is the registered trademark for The "SOMSO SUN" more than 1000 anatomy, zoology and botany models. The symbol of high quality, state of the art teaching aids.

#### The complete series consists of 8 models

#### MS 12/3 Uterus with EMBRYO IN THIRD MONTH

natural size, in SOMSO-Plast. In one piece, on a stand with base. H.: 20 cm., w.: 12 cm., d.: 12 cm., w.: 300 g

#### MS 12/7 Uterus with fetus IN SEVENTH MONTH

natural size, in SOMSO-Plast. Altogether in 2 parts. Fetus in normal position and removable from the uterus. . On a stand and base. H.: 29 cm., w.: 15 cm., d.: 15 cm., w.: 900 g

#### MS 12/8 Uterus with TWIN FETUS IN FIFTH MONTH

natural size, in SOMSO-Plast. Normal position, each fetus is removable from the uterus. Altogether in 3 parts. On a stand and base. H.: 25 cm., w.: 16 cm., d.: 15 cm., w.: 600 g



#### MS 5/2 Model of the Female Sexual ORGANS

Natural size, in SOMSO-Plast. Developed in co-operation with Oberstudienrätin Angelika Beck. H.: 23 cm., w.: 49 cm., d.: 26 cm., w.: 2.5 kg



flexible SOMSO-Plast.  $Measurements\ from$ head to foot: 49 cm., size of the head: 36 cm., w.: 3 kg



MS 12/8







Artificial skull

MS 5/2



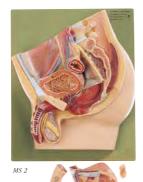


that covers both durability and workmanship.



MS 1 MEDIAN SECTION OF THE FEMALE PELVIS

natural size, in SOMSO-Plast. Separates into 2 parts. On a board. H.: 33 cm., w.: 27 cm., d.: 12 cm., w.: 1.5 kg



Median section of THE MALE PELVIS

natural size, in SOMSO-Plast. Altogether 4 parts. On a board. H.: 33 cm., w.: 27 cm., d.: 14 cm., w.: 1.3 kg



MS 58

corresponding approx. to the size and weight of a 6-week-old-baby. In soft SOMSO-Plast, but black in colour. Size of the head.: 35.4 cm., l.: 54 cm., w.: 3.5 kg

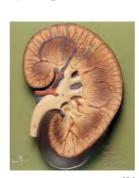
#### LS 4 RIGHT KIDNEY

enlarged approximately 3 times, in SOMSO-Plast. In one piece. On a board. H.: 32 cm., w.: 26 cm., d.: 7 cm., w.: 1 kg

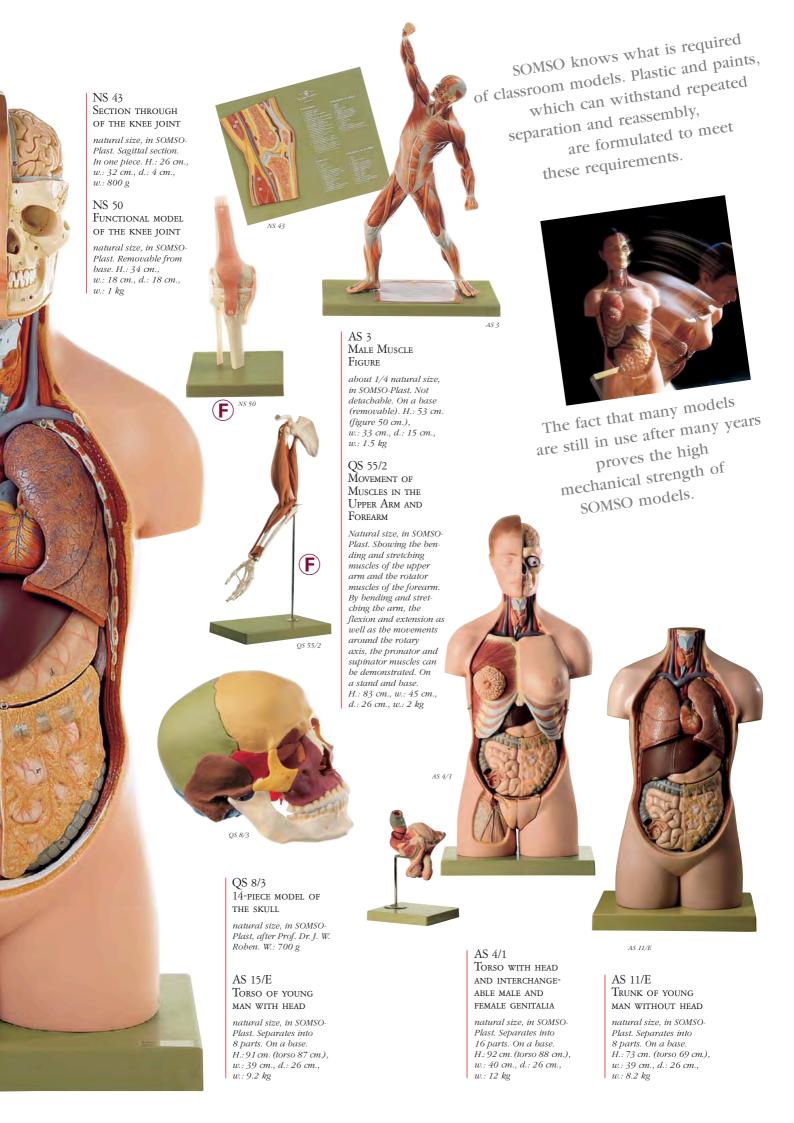
## MS 58 Newborn baby,

in soft SOMSO-Plast. Size of the head: 34 cm., l.: 46 cm., w.: 2.2 kg

AS 15/E







The series of Antbropological skulls produced using casting patterns from the collection of the Faculty for Anthropology of the University of Goettingen and the Staatliches Museum für Naturkunde in Stuttgart.

#### S 1 RECONSTRUCTION OF A SKULL OF AUSTRALOPITHECUS BOISEI

natural size. In SOMSO-Plast. Separates into 2 parts. W.: 765 g

The amphibians and reptiles of central europe can be accurately identified using SOMSO models. All animal sculptures are racially typical, in SOMSO-Plast and natural sized. The series was developed in co-operation with Studiendirektor Christian Groß.



Ventral view ZoS 1009

#### ZoS 1006/1 CRESTED NEWT, MALE

Triturus cristatus. H.: 14 cm., w.: 18 cm., d.: 18 cm., w.: 200 g\*

#### ZoS 1036 COMMON VIPER, YOUNG MALE

vipera berus. H.: 10 cm., w.: 18 cm., d.: 18 cm., w.: 300 g

#### ZoS 1023 Edible frog, male

rana esculenta. H.: 7.5 ст, w.: 12 ст., d.: 12 cm., w.: 200 g\*

#### ZoS 1002 Fire salamander, FEMALE

salamandra s. salamandra. H.: 7.5 cm, w.: 12 cm., d.: 12 cm., w.: 200 g\*



**SINCE 1876** 

#### S 3 RECONSTRUCTION OF A SKULL OF HOMO SAPIENS NEANDER THALENSIS

natural size. In SOMSO-Plast. Separates into 2 parts. W.: 870 g

#### S 3/1 RECONSTRUCTION OF THE SKULL OF HOMO HABILIS (O.H. 24)

natural size. In SOMSO-Plast. Separates into 2 parts. W.: 510 g

#### S 4 RECONSTRUCTION OF A SKULL OF A FOSSILE HOMO SAPIENS SAPIENS natural size. In SOMSO-Plast. Separates into 2 parts. W.: 830 g

#### S 5 Australopithecus AFRICANUS

natural size. In SOMSO-Plast. Separates into 2 parts. W.: 570 g

## RECONSTRUCTION OF Australopithecus AFARENSIS

natural size. In SOMSO-Plast. Separates into 2 parts. W.: 600 g

\*Each model is supplied in a transparent dustproof cover appropriate size.



# ZoS 1030

lacerta agilis. Н.: 10 ст., w.: 18 ст., d.: 18 cm., w.: 230 g

#### ZoS 1009 Yellow-bellied TOAD

bombina variegata. H.: 7.5 cm., w.: 12 cm., d.: 12 cm., w.: 100 g\*

#### ZoS 1013 COMMON TOAD, FEMALE

bufo bufo. H.: 7.5 cm., w.: 12 cm., d.: 12 cm., w.: 200 g\*

#### ZoS 1016/2 COMMON TREE FROG, FEMALE, NORMAL POSITION

Hyla arborea. H.: 7.5 cm., w.: 12 cm., d.: 12 cm., w.: 100 g\*

#### **ZoS** 50 SKULL OF GORILLA

Gorilla g. gorilla (Savage and Wyman 1847), male, natural cast. In SOMSO-Plast. Separates into 2 parts. W.: 1.07 kg

#### ZoS 50/1 Skull of young GORILLA

gorilla g. gorilla (Savage and Wyman 1847), male (1 1/2 years old), natural cast. In SOMSO-Plast. Separates into 2 parts. W.: 280 g

#### ZoS 52 SKULL OF ORANG-UTAN

Pongo p. pygmaeus (Hoppins 1763), male, natural cast. In SOMSO-Plast. Separates into 2 parts. W.: 560 g

ZoS 50/1

#### ZoS 53 SKULL OF CHIMPANZEE

Pan. tr. troglodytes (Blumenbach 1799), male, natural cast. In SOMSO-Plast. Separates into 2 parts. W.: 420 g



## AS 1 · MALE Muscle Figure

About 1/2 natural size, made from SOMSO®-Plast. Separates into 27 parts in total: cranium; brain (2); thoracic and abdominal wall; halves of the lung (2); heart (2); liver; stomach; duodenum, small and large intestines; right arm; left arm with four removable muscles; muscles of the leg (9); body. On a stand with green base. Height 86 cm, (figure 82 cm), width 49 cm, depth 38 cm, weight 7.2 kg







AS 12 · Torso of Young Man WITHOUT HEAD

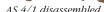
Natural size, made from SOMSO®-Plast. Separates into 12 parts. On a green base. Height 71 cm (torso 67 cm), width 39 cm, depth 26 cm, weight 8.7 kg



AS 4/1 · Torso with Head AND INTERCHANGE-ABLE MALE AND FEMALE GENITALIA

Natural size, made from SOMSO®-Plast. Separates into 16 parts. On a green base. Height 92 cm (torso 88 cm), width 40 cm, depth 26 cm, weight 12 kg







AS 1



About 1/4 natural size, made from SOMSO®-Plast. Cannot be disassembled. On a removable green base. Height 53 cm (figure 50 cm), width 33 cm, depth 15 cm, weight 1.5 kg





AS 4/1 disassembled



AS 16

AS 16 · Torso of Young Man with HEAD

Natural size, made from SOMSO®-Plast. Separates into 12 parts. On a green base. Height 91 cm (torso 87 cm), width 39 cm, depth 26 cm, weight 9 kg



## AS 23/2 · Torso WITH HEAD AND OPEN BACK

Natural size, made from SOMSO®-Plast, with muscles on one side and interchangeable male and female genitalia. Separates into 20 parts. On a green base. Height 90 cm (torso 86 cm), width 39 cm, depth 26 cm, weight 11.2 kg



AS 20/5 B

## AS 20/4 · SMALL TORSO OF YOUNG Man without Head

About 1/3 natural size, made from SOMSO®-Plast. Separates into 7 parts. On a removable base. Height 28 cm (torso 26 cm), width 17.5 cm, depth 14 cm, weight 1.7 kg

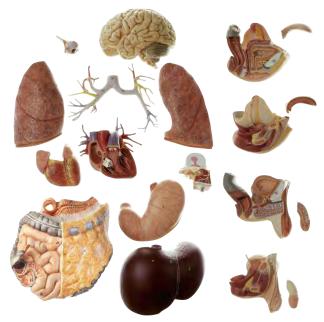
## AS 20/5 B · SMALL Torso of Young Man with Head

About 1/3 natural size, made from SOMSO®-Plast. Separates into 9 parts. On a removable base. Height 37 cm (torso 35 cm), width 17.5 cm, depth 14 cm, weight 2.0 kg

## AS 20/1 · SMALL Torso of Young Man with Head

About 1/2 natural size, made from SOMSO®-Plast. Separates into 11 parts. On a green base. Height 52 cm (torso 49 cm), width 21 cm, depth 18 cm, weight 3.15 kg





AS 23/2 separates

## HAND-CRAFTED MANUFACTURING EXCLUSIVELY IN GERMANY.

SOMSO® Models are manufactured solely by highly qualified, skilled employees in Sonneberg and Coburg. Despite the use of industrial components, the artisan finishing bas the unmistakable character of traditional manufacture. Individual painting by hand makes each and every SOMSO® Model a distinctively unique specimen.

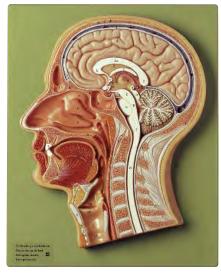






BS 5  $\cdot$  Base of the Head

With removable, 8-part brain with arteries, natural size, made from SOMSO®-Plast. 9 parts in total. On a green base. Height 22 cm, width 18 cm, depth 20 cm, weight 1.5 kg



BS  $6/1 \cdot Median Section of$ THE HEAD

Natural size, made from SOMSO®-Plast. In one piece, on a green base. Height 32 cm, width 23 cm, depth 4 cm, weight



BS 20 · Brain

Natural size, made from SOMSO®-Plast. Separates into 8 parts: frontal and parietal lobes (2), temporal and occipital lobes (2), brain stem (2), cerebellum (2). On a transparent base. Height 15 cm, width 16 cm, depth 17 cm, weight 1.1 kg



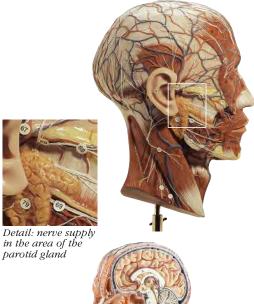
BS 21 · Brain

Natural size, made from SOMSO®-Plast. In median section, separates into 2 parts in total. On a transparent base. Height 15 cm, width 16 cm, depth 17 cm, weight



BS 22 · Brain

Natural size, made from SOMSO®-Plast. Separates into 4 parts. On a transparent base. Height 15 cm, width 15 cm, depth 17 cm, weight 1.1 kg





BS 18 · HEAD WITH Muscles and Vessels

About 3/4 natural size, made from SOMSO®-Plast. Separates into 5 parts: head, cranium, right and left half of the brain (2 parts). On a removable green base. Height 28 cm, width 18 cm, depth 19 cm, weight 1.9 kg



weight 1.3 kg

BS 9 · Half of THE HEAD









#### BS 25 · Model of THE BRAIN IN 15 PARTS

Natural size, made from SOMSO®-Plast, after Prof. Dr. med. Dr. med. h.c. J. W. Rohen, Anatomical Institute of the University of Erlangen. On a green base. Height 23 cm, width 15 cm, depth 18 cm, weight 1.8 kg



## BS 24 · VENTRICULAR CAVITIES OF THE BRAIN

Natural size, made from SOMSO®-Plast, after a specimen at the Anatomical Institute of Würzburg. On a stand with green base. Height 23 cm, width 15 cm, depth 18 cm, weight 200 g



BS 5/5 View from above



BS 25 disassembled

For individual parts, see illus-

disassembled

tration of BS 25





## BS 5/5 · ANATOMICAL SEC-TIONAL MODEL OF THE HEAD

Natural size, made from special plastic (combined with corresponding CT and MR imaging), after Prof. Dr. med. Dr. med. h.c. J. W. Rohen, Anatomical Institute of the University of Erlangen. The sections shown in the model are mounted on a vertical support so that they can be swivelled out individually and then compared with the respective CT or MR image. On a stand with green base. Height 34 cm, width 46 cm, depth 30 cm, weight 6.2 kg



BS 5/5 - Detail Section 4



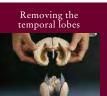
Natural size, made from SOMSO®-Plast. after Prof. Dr. med. Dr. med. h.c. J. W. Rohen, Anatomical Institute of the University of Erlangen. On a green base. Height 23 cm, width 15 cm, depth 18 cm, weight 1.8 kg



SOMSO® MODELS FOR SCHOOL AND SCIENCE SOMSO® Models 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® Models.



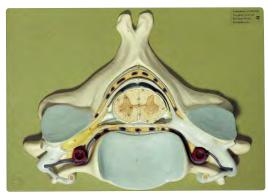












BS 30









#### BS 27 · NERVOUS SYSTEM

Relief model, about 1/2 natural size, made from SOMSO®-Plast. Schematic representation of the central and peripheral nervous system. In one piece, on a green base. Height 91 cm, width 32 cm, depth 6 cm, weight 5.5 kg

## BS 30 · FIFTH CERVICAL VERTEBRA

Enlarged approximately 7 times, made from SOMSO®-Plast. The model shows a cross section of the spinal cord with spinal nerves, spinal ganglion, vertebral artery and vein. In one piece, on a green base. Height 28 cm, width 40 cm, depth 10 cm, weight 1.6 kg

## BS 29 · CERVICAL VERTEBRA (C VI) WITH SPINAL CORD

Natural size, made from SOMSO®-Plast. Spinal nerves, spinal ganglion, and vertebral artery are shown. Spinal cord also shown in cross section. Cannot be disassembled. On a stand with green base. Height 14 cm, width 12 cm, depth 12 cm, weight 100 g

## BS 28/1 · THORACIC VERTEBRA (TH II) WITH SPINAL CORD

Natural size, made from SOMSO®-Plast. Spinal nerves, spinal ganglion, spinal cord in cross section. Cannot be disassembled, on a stand with green base. Height 14 cm, width 12 cm, depth 12 cm, weight 200 g



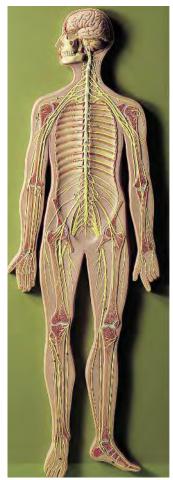
Natural size, made from SOMSO®-Plast. Nerve endings, filum terminale, and cauda equina of the spinal cord (also in cross section) are shown. Separates into 2 parts. On a stand with green base. Height 15 cm, width 12 cm, depth 13 cm, weight 200 g

## BS 31 · Spinal Cord with Vertebral Canal

Seen from the ventral side, natural size, made from 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. Cannot be disassembled. On a green base. Height 90 cm, width 32 cm, depth 19 cm, weight 5.5 kg

## BS 32/37 · Spinal Cord in Spinal Canal

Enlarged approximately 5 times. Section through the spinal cord enlarged approximately 10 times, made from SOMSO®-Plast. Cannot be disassembled. Mounted on green base, with removable dust cover. Height 18.5 cm, width 32 cm, depth 9 cm, weight 600 g



BS 27



BS 31



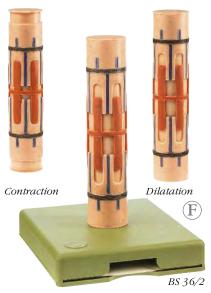


BS 35/3



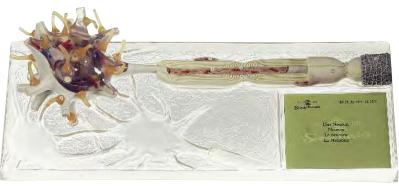
BS  $35/1 \cdot NEURON$ 

Enlarged approx. 2.500 times, made from SOMSO®-Plast. Structures visible under light and electron microscopes are taken into consideration, with separate, myelinated nerve fibre. In one piece, on a green base. Height 40 cm, width 28 cm, depth 14 cm, weight 1.5 kg



BS 36/2 · Functional Model of a Myofibril

Enlarged approx. 10.000 times, made from SOMSO®-Plast. After Prof. Dr. med. Elke Lütjen-Drecoll and Prof. Dr. med. Dr. med. h.c. J. W. Rohen. In one piece and on a removable green base. Height 21 cm, width 14 cm, depth 16 cm, weight 400 g

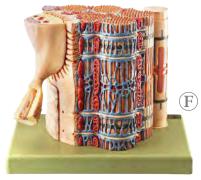


#### BS 35 · NEURON

Enlarged approx. 2.500 times, made from SOMSO®-Plast. Consisting of nerve cell body and myelinated nerve fibre. Based on electron-microscope findings. Separates into 3 parts in total. On a removable transparent base. Height 22 cm, width 53 cm, depth 17 cm, weight 2.2 kg

## BS 35/3 · Model of a Synapse

Enlarged many times over, made from SOMSO®-Plast. Representation of neurotubules, neurofilaments, and synaptic vesicles as well as post- and pre-synaptic membrane structures. In one piece and on a removable transparent base. Height 21 cm, width 22 cm, depth 22 cm, weight 900 g



BS 36/1 · Skeletal Muscle FIBRE WITH FUNCTIONAL MODEL

Enlarged approx. 15.000 times, made from 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 1.7 kg





## BS 36 · Transversely WITH MOTOR END-PLATE

Enlarged approx. 4.000 times, made from SOMSO®-Plast. In one piece, on a green base. Height 20 cm, width 18 cm, depth 18 cm, weight 1 kg



BS 36/1 disassembled

SOMSO® MODELS FOR STIMULATING BIOLOGY LESSONS Thanks to the company's high standard of quality and the sense of responsibility towards young students both at schools and universities, SOMSO® Models are a reliable companion on their exciting journey of discovery through the miracle of the human body.

## ITS DIVERSITY AND ACCURACY.



Representation of Cauda Eguina



BS 35 BS 35/1 Representation of the Node of



Skeletal Muscle 7 Fibre - view of the model from above



## CS 2/2 · **ORBITAL** CAVITY WITH EYEBALL

Enlarged approximately 3 times, made from SOMSO®-Plast. Separates into 9 parts. On a green base. Height 21 cm, width 20 cm, depth 32 cm, weight 1.4 kg

Eyeball

borizontal

diameter

8 cm

CS 13



## CS 21/1 · RIGHT HALF OF

Enlarged approximately 6 times, made

Enlarged approximately 4 times, made from SOMSO®-Plast. The anatomy of the eyeball in different sectional levels





CS1·

CS 5 ·

EYEBALL

Enlarged approx-

imately 4 times, made

from SOMSO®-Plast. Separates into 6 parts:

(2), sclera (2), vitreous

body, lens. On a green

base. Height 18 cm,

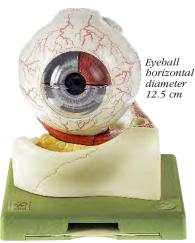
width 12 cm, depth

12 cm, weight 400 g

choroid membrane

EYEBALL Enlarged approximately 5 times, made from SOMSO®-Plast. Separates into 7 parts. On a green base. Height 21 cm, width 18 cm, depth

Enlarged approximately 5 times, made from 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 orbital cavity. The six muscles of the eye are modelled very clearly. All important nerves and blood vessels are represented. With lacrimal apparatus and the supporting apparatus of the eyelids. Separates into 9 parts in total. On a green base. Height 32 cm, width 45 cm, depth 37 cm, weight 5.5 kg



CS 1



resentation





CS 8/1 disassembled

sagittal diameter

12.5 cm

Representation of the ciliary

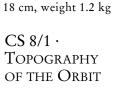


THE EYE ON A BASE

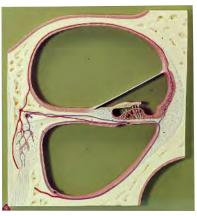
from SOMSO®-Plast. Cannot be disassembled. Height 18 cm, width 21 cm, depth 18.5 cm, weight 900 g

#### CS 13 · EYEBALL

is clearly demonstrated in this model (cannot be disassembled). On a stand with green base. Height 21 cm, width 12 cm, depth 12 cm, weight 200 g

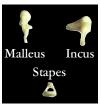


CS 8/1



DS 10 · Section Through the Central Spiral of the Cochlea

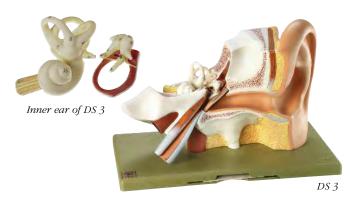
Enlarged approximately 350 times, made from SOMSO®-Plast. The scala vestibuli, the scala tympani, the cochlear duct with tectorial membrane, and the organ of Corti are shown. Cannot be disassembled. On a green base. Height 51 cm, width 48 cm, depth 5 cm, weight 3.8 kg





## QS 69 · The Three Auditory Ossicles

Natural size, made from SOMSO®-Plast. Malleus, incus, and stapes mounted under Plexiglas cover, removable from green base. Height 3 cm, width 12 cm, depth 12 cm, weight 80 g



## DS 3 · EAR

Enlarged approximately 3 times, made from SOMSO®-Plast. Tympanic membrane with malleus and incus as well as labyrinth with stapes can be removed. 3 parts in total. On a green base. Height 21 cm, width 32 cm, depth 19 cm, weight 1.2 kg



#### DS 13 · LABYRINTH

Enlarged approximately 18 times, made from 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 33 cm, width 24 cm, depth 18 cm, weight 800 g



SINCE 1876

Inner ear of DS 5 disassembled

## DS 1 ·

EAR WITH PINNA

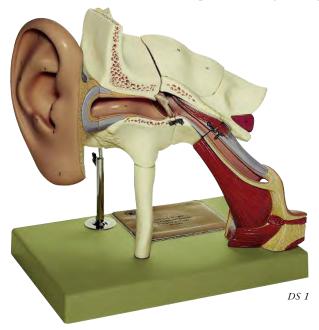
Enlarged approximately 4 times, made from SOMSO®-Plast. Separates into pinna, petrous bone (3), tympanic membrane, labyrinth (2), Eustachian tube. 8 parts in total. On a stand with green base. Height 41 cm, width 44 cm, depth 26 cm, weight 3.7 kg



#### DS 5 · EAR

Enlarged approximately 3 times, made from SOMSO®-Plast. Separates into 6 parts. On a green base. Height 21 cm, width 32 cm, depth 19 cm, weight 1.5 kg





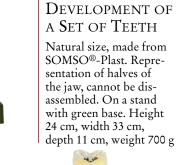
## ES 1 · SET OF TEETH OF AN ADULT

Natural size, made from SOMSO®-Plast. Consisting of 32 artificial teeth in a transparent box that can be opened. Height 4 cm, width 13 cm, depth 9 cm, weight 100 g









disassembled

Molar Tooth WITH CARIES

Enlarged approximately 8 times, made from

SOMSO®-Plast. Separa-

tes into 3 parts. Showing

dental caries in initial and

Height 24 cm, width 12 cm,

depth 12 cm, weight 400 g

advanced stages. On a

stand with green base.

ES 14 ·



Enlarged approximately 3 times, made from SOMSO®-Plast. 6 parts in total. On a stand with green base. Height 34 cm, width 34 cm, depth 18 cm, weight 1.6 kg



ES 14

## ES 11 ·

#### FIVE MODELS OF TEETH

Enlarged approximately 8 times; each model mounted on a stand with green base, made from SOMSO®-Plast. Weight 2.2 kg

AS INDIVIDUAL MODELS:

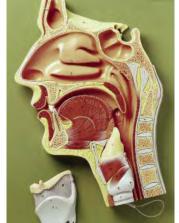
ES 11/1 - LOWER INCISOR

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





crossing of the windpipe and the oesophagus.

FS 8

 $(\mathbf{F})$ 

disassembled



Model of a Set оғ Теетн

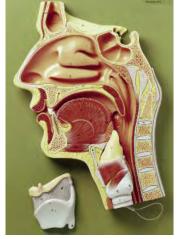
imately 3 times, Enlarged approxwith large toothbrush to demonstrate tooth brushing, made from SOMSO®-Plast. After an original at the Bundeszentrale für gesundheitliche Aufklärung (Federal Centre for Health Education) in Cologne. Height 14 cm, width 19 cm, depth 25 cm, weight 1.3 kg

## FS 4 · MEDIAN SECTION OF THE CAVITIES OF NOSE, Mouth and Throat

Enlarged approximately 2 times, made from SOMSO®-Plast. The larynx can be disassembled, the epiglottis is elastic and movable. The crossing of the windpipe and the oesophagus can be easily demonstrated. Separates into 2 parts, on a green base. Height 40 cm, width 28 cm, depth 9 cm, weight 1.6 kg

## FS 8 · Tongue

Natural size, made from SOMSO®-Plast. Median section with one part of the lower jaw removable. Separates into 3 parts. On a stand with green base. Height 14 cm, width 12 cm, depth 12 cm, weight 300 g







## GS 4 · LARYNX WITH TONGUE

Natural size, made from SOMSO®-Plast. Separates into 5 parts. On a green base. Height 21 cm, width 12 cm, depth 15 cm, weight 500 g

## GS 4/2 ·

## LARYNX WITH TRACHEA

Natural size, made from SOMSO®-Plast. Separates into 2 parts in total. On a stand with green base. Height 39 cm, width 20 cm, depth 18 cm, weight 700 g

## LARYNX

Enlarged approximately 2 times, made from 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 22 cm, width 12 cm, depth 12 cm, weight 700 g



## GS6· Cartilages of the Larynx

GS 4/2

Functional model, enlarged approximately 2.5 times, made from SOMSO®-Plast. Arytenoid cartilage, vocal folds and epiglottis are flexibly mounted. Cannot be disassembled. On a green base. Height 28 cm, width 12 cm, depth 14 cm, weight 700 g

## GS 10 · FUNCTIONAL MODEL OF THE LARYNX

Enlarged approximately 3 times, made from SOMSO®-Plast. The opening and closing of the glottis, the variation in tension of the vocal chord and the change of position can be demonstrated in an intuitively accessible way. This model can not be disassembled. On a green base. Height 33 cm, width 18 cm, depth 18 cm, weight 1.5 kg



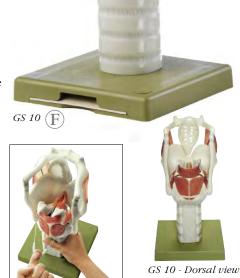
GS 6 - Opening of the Glottis



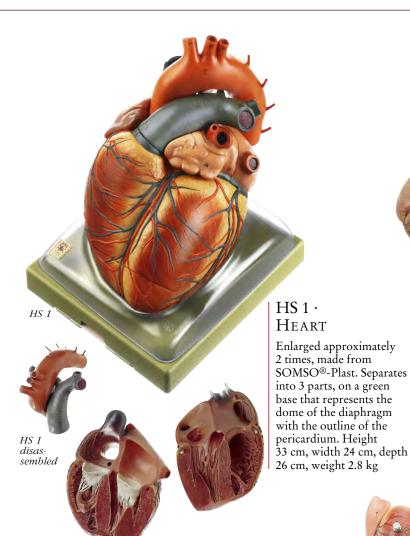
GS 6 - Closing of the Glottis



GS 10 - Tilting of the Thyroid Cartilage



GS 10 - Rotational Movement of the Arytenoid Cartilage









HS 3 · HEART

3/4 natural size, made from SOMSO®-Plast. Separates into 2 parts. On a stand with green base, height 22 cm, width 13 cm, depth 12 cm, weight 400 g



HS 4 · HEART

Natural size, made from SOMSO®-Plast. Separates into 2 parts. On a stand with green base. Height 27 cm, width 12 cm, depth 14 cm, weight 600 g







HS 7 disassembled



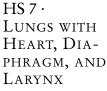
HS 4 disassembled

HS 5 disassembled



HS 5 · HEART

Enlarged approximately 1.5 times, made from SOMSO®-Plast. Separates into 4 parts. On a stand with green base. Height 32 cm, width 18 cm, depth 19 cm, weight 1 kg



3/4 natural size, made from SOMSO®-Plast. Separates into 7 parts in total. On a green base. Height 39 cm, width 28 cm, depth 12 cm, weight 2.3 kg





12



HS 23/1

## HS 23/1 · LOBULE OF THE

Enlarged approximately 150 times, made from SOMSO®-Plast. Cannot be disassembled. On a stand with green base. Height 43 cm, width 23 cm, depth 18 cm, weight 1.4 kg

## HS 10 · CIRCULATORY SYSTEM

Relief model, 1/2 natural size, made from SOMSO®-Plast. Overview of the vascular supply of the body. Can not be disassembled. On a green base. Height 91 cm, width 32 cm, depth 7 cm, weight 4.7 kg



Enlarged approximately 11,000 times, made from SOMSO®-Plast. Cannot be disassembled. weight 80 g



HS 10

# HS 25/2 · ARTERY AND VEIN

Enlarged many times over, made from 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 63 cm, width 39 cm, depth 26 cm, weight 4.2 kg



HS 25/2

## HS 19 · Lymph Node

Sectional view, enlarged approximately 25 times, made from SOMSO®-Plast. Semischematic representation of the internal structure of a lymph node with afferent and efferent vessels. Can not be disassembled. On a stand with green base. Height 30 cm, width 22 cm, depth 12 cm, weight 1.2 kg

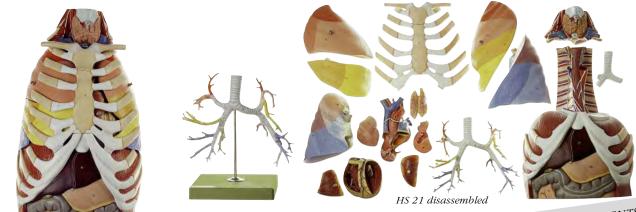


HS 19

## HS 21 · I disassembled. WANATOMY OF THE THORAX

HS 20/1

Natural size, made from SOMSO®-Plast. Separates into sternum, organs of the neck, right lung (3), left lung (2), heart (7), bronchial tree, base model. 17 parts in total. On a green base. Height 52 cm, width 39 cm, depth 26 cm, weight 7.1 kg (bronchial tree: for HS 21 height 31 cm, width 21 cm, depth 18 cm, weight 400 g)



HS 21

THE

SOMSO® MODELS FOR THE TRAINING OF MEDICAL STUDENTS Training future health professionals presents universities with challenges that can be solved in part with SOMSO® with challenges that can be solved in part with SOMSO® Models are manufactured for many disciplines, Models. SOMSO® Models are manufactured. The functional offering valuable assistance in teaching. The functional aspecial role, as they facilitate - in part models play a special role, as they facilitate - in part models play a special role, as they factors for the use of models care exercises and diagnoses. Key factors for the use of realistic exercises and diagnoses. Key factors for the use of some solution of the models. SOMSO® Models in medicine are the true-to-life representation, scientific accuracy, and realistic handling of the models.

HS 7 Vertical Lung Section







## **IS 5** · LIVER

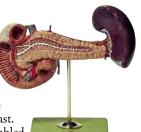
Natural size, made from SOMSO®-Plast. Showing the four lobes of the liver, the beginnings of the peritoneum, the gall bladder and vessels. Cannot be disassembled. On a stand with green base. Height 27 cm, width 19 cm, depth 18 cm, weight 700 g



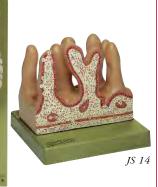


## IS 11 · **PANCREAS** WITH SPLEEN AND DUODENUM

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a stand with green JS 11 base. Height 23 cm, width 22 cm, depth 12 cm, weight 300 g



JS 2/1



JS 4 disassembled

**IS 4** · **S**TOMACH

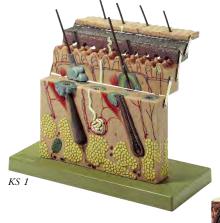
Natural size, made from SOMSO®-Plast. Separates into 2 parts, on a stand with green base. Height 34 cm, width 19 cm, depth 18 cm, weight 800 g

## IS 14 · Internal SURFACE OF THE JEJUNUM

Enlarged approximately 400 times, made from SOMSO®-Plast. After Prof. Dr. E. Wüstenfeld, model made by E. Rack, 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 600 g

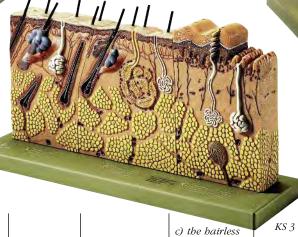
## IS $2/1 \cdot$ DIGESTIVE SYSTEM

Natural size, relief model, partly opened up, made from SOMSO®-Plast, showing the alimentary canal from the mouth to the rectum. Separates into 2 parts. On a green base. Height 91 cm, width 32 cm, depth 12 cm, weight 4.7 kg



## KS3· BLOCK MODEL OF SECTIONAL OF SKIN

Enlarged approximately 70 times, made from SOMSO®-Plast. The model shows: a) scalp with hair, b) skin of the axilla, c) the hairless skin of the sole of the foot. Cannot be disassembled. On a green base. Height 25 cm, width 47 cm, depth 15 cm, weight 2.2 kg



can be separated to form terraces, showing the follicle and root of the hair (threedimensional and in section),

SECTION OF SKIN

Enlarged approximately 70 times, made from SOMSO®-

Plast. The layers of the skin

the sweat gland and the sensory organs of the skin. Separates into 4 parts. On a green base. Height 27 cm, width 33 cm, depth 15 cm,

weight 1.8 kg

KS 1 ·

a)scalp with hair b) skin of

skin of the sole of the foot

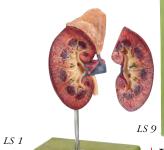
## KS 4 · BLOCK MODEL OF THE SKIN

KS 4

Enlarged approximately 70 times, made from SOMSO®-Plast. Showing the scalp with hair in different sectional planes. Cannot be disassembled. On a green base. Height 21 cm, width 20 cm, depth 11 cm, weight 1.3 kg

Anatomy





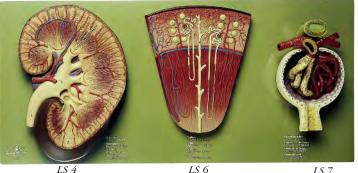
## LS 1 · RIGHT KIDNEY AND ADRENAL GLAND

Natural size, made from SOMSO®-Plast. Kidney separates into 2 halves longitudinally. On a stand with green base. Height 26 cm, width 12 cm, depth 12 cm, weight 400 g



## $MS1 \cdot$ MEDIAN SECTION OF THE FEMALE PELVIS

Natural size, made from SOMSO®-Plast. Separates into 2 parts. On a green base. Ĥeight 33 cm, width 27 cm, depth 12 cm, weight 1.5 kg



## LS 4 · RIGHT KIDNEY

Enlarged approximately 3 times, made from SOMSO®-Plast. Frontal section seen from behind. Cannot be disassembled. On a green base. Height 32 cm, width 26 cm, depth 7 cm, weight 1 kg

#### LS 6 · Nephron

Enlarged approximately 120 times, made from SOMSO®-Plast. Cannot be disassembled. On a green base. Height 32 cm, width 26 cm, depth 4 cm, weight 700 g

#### LS 7 · GLOMERULUS

Also called Malpighian corpuscle, enlarged approximately 700 times, made from SOMSO®-Plast. Cannot be disassembled. On a green base. Height 32 cm, width 18.5 cm, depth 8 cm, weight 800 g

#### LS 9 · Kidney, Nephron, and Glomerulus

Combination of models LS 4, LS 6 and LS 7, on a green base. Cannot be disassembled. Made from SOMSO®-Plast. Height 30 cm, width 65 cm, depth 9 cm, weight 3 kg





#### MS 5/1 · Female Genital Organs

Natural size, made from SOMSO®-Plast. 4 parts in total. On a stand with green base. Height 16 cm, width 18 cm, depth 18 cm, weight 900 g

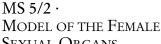
#### MS 3/1 · MALE GENITAL ORGANS

Natural size, made from SOMSO®-Plast. 4 parts in total. On a stand with green base. Height 18 cm, width 18 cm, depth 18 cm, weight 800 g

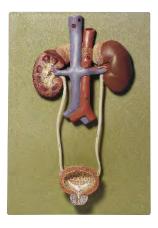
## MS 3/2 · Model of the Male Sexual Organs

Natural size, made from SOMSO®-Plast. Developed in co-operation with Angelika Beck, deputy head teacher. Height 27 cm, width 36 cm, depth 24 cm, weight 2.8 kg





Natural size, made from SOMSO®-Plast. Developed in co-operation with Angelika Beck, deputy head teacher. Height 23 cm, width 49 cm, depth 26 cm, and weight 2.5 kg



LS 3/1 · URINARY TRACT

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a green base. Height 40 cm, width 28 cm, depth 10 cm, weight 1.1 kg



MS 2 · MEDIAN SECTION OF THE MALE Pelvis

Natural size, made from SOMSO®-Plast. 4 parts in total. On a green base. Height 33cm, width 27 cm, depth 14 cm,









MS 1 -Female Pelvis, Sectional plane of the organs of the lesser pelvis



MS 2 -Male Pelvis, Sectional plane after taking off the bladder, seminal vesicle and penis half.



MS 3/2



## MS 15 · **FERTILISATION** AND DEVELOP-MENT OF THE Human Ovum UP TO THE 3RD Month

Represented on 16 individual models, made from SOMSO®-Plast. Collection in a display case with removable Plexiglas cover. Height 49 cm, width 57 cm, depth 11 cm, weight 5.7 kg



## MS 51 · Relief Model of THE OVARY

Enlarged approximately 10 times, made from SOMSO®-Plast. Plastic representation of the follicle 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 12 · SERIES SHOWING PREGNANCY

Natural size, made from 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 3.5 kg

The stages of series MS 12 are also available individually.

Enlarged approximately 25 times, made from SOMSO®-Plast. The model shows an approximately 4-weekold embryo. Cannot be disassembled. On a stand with green base. Height 25 cm, width 14 cm, depth 12 cm, weight 300 g

MS 11 · **EMBRYO** 



MS 11



MS 12



MS 16 · FETAL CIRCULA-TORY SYSTEM

Natural size, made from 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 2.8 kg

## MS 13 · PELVIS WITH Uterus in NINTH MONTH OF PREGNANCY

Natural size, made from SOMSO®-Plast. 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 39 cm, depth 29 cm, weight 4.9 kg







MS 12/2 · Fetus in 2nd month (8th week) MS 12/3 · Fetus in 3rd month (11 ½ weeks)

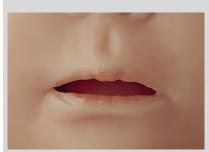
MS 12/4 · Embryo in 4th-5th month (17th week)

MS 12/5 · Embryo in 5th month (19th week) MS 12/6 · Embryo in 5th month (20th week)

MS 12/7 · Embryo in 6th month (28th week) MS 12/8 · Twin foetuses in 5th month



1. Different eye colours are available for the SOMSO® nursing babies MS 52 and MS 53 as a special version.



2. Models MS 52 and MS 53 are available with their mouth open or closed.



3. They come with a lifelike auditory canal for ear care.



4. Models MS 52, MS 53, MS 57, MS 58, MS 59, MS 60 and MS 61 bave soft and moveable arms and legs.



5. For all further enquiries, each baby has its own SOMSO®identification number.

## MS 33/E · DOLL FOR BABY CARE

Made from 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. Unclothed. Head circumference 36 cm, length 49 cm, weight 3 kg



 $MS 33/E-B \cdot$ DOLL FOR BABY CARE

Same specification as MS 33/E, however with dark skin.



## MS 52 · Nursing BABY, FEMALE

Corresponding to a 6-week-old baby, made from SOMSO®-Plast. Head circumference 35.8 cm, lengt 54 cm, weight 3.3 kg

## MS 53/B · Nursing BABY, MALE

Same specification as MS 52, but male and with dark skin, made from SOMSO®-Plast. Head circumference 35.4 cm, length 54 cm, weight 3.5 kg

## NEWBORN BABY, MALE

Made from 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. Unclothed. Head circumference 34 cm, length 46 cm, weight 2.2 kg



Teaching Baby, Newborn Baby, Nursing Baby, BABY MODELS. Baby Nursing Doll, Nursing Care Baby 1: Age-appropriate size and weight 2: Natural movement of joints and head 3: Eyes and hair painted by hand

4: Robust joints for frequent use

MS 58

- 5: Waterproof finish
- 6: 5-year warranty











# NS 55 · Functional Model of the Hand and Finger Joints

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a stand with green base (removable). Height 36 cm, width 18 cm, depth 19 cm, weight 400 g

# NS 15 · MUSCLES OF THE ARM WITH SHOULDER GIRDLE

Natural size, made from SOMSO®-Plast. Separates into 6 parts. On a stand with green base, can be rotated. Height 105 cm, width 39 cm, depth 26 cm, weight 4.6 kg

# NS 52 · FUNCTIONAL MODEL OF THE ELBOW JOINT

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a removable stand with green base. Height 41 cm, width 19 cm, depth 22 cm, weight 650 g

# NS 53 · FUNCTIONAL MODEL OF THE SHOULDER JOINT

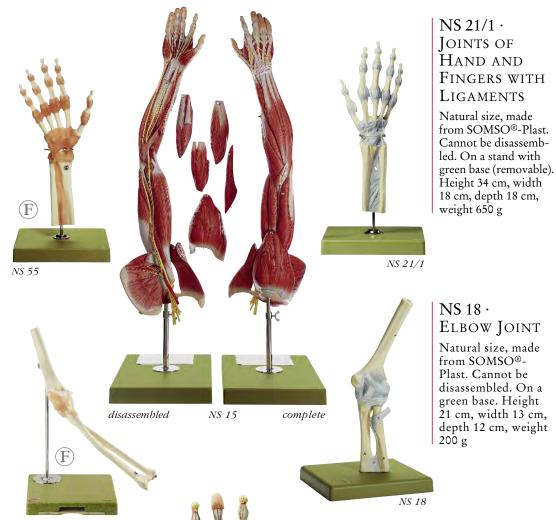
Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a removable stand with green base. Height 26 cm, width 19 cm, depth 22 cm, weight 650 g

## NS 13 ·

## Muscles of the Hand with Base of the Fore-Arm

NS 53

Natural size, made from 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 34 cm, width 14 cm, depth 12 cm, weight 500 g



# NS 17 · SHOULDER IOINT

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a stand with green base. Height 23 cm, width 19 cm, depth 19 cm, weight 500 g



- NS 43 · SECTION THROUGH THE KNEE JOINT (illustration see page 18)
- NS 44 · SECTION THROUGH THE HIP JOINT (illustration see page 19)
- NS 45 · SECTION THROUGH THE HAND (illustration see page 19)
- NS 46 · SECTION THROUGH THE ELBOW (illustration see page 19)

NS 17

- NS 47 · SECTION THROUGH A NORMAL FOOT (illustration see page 19)
- NS 48 · SECTION THROUGH
  THE SHOULDER JOINT
  (illustration see page 19)





Sectional views of joints from series NS 43 - NS 48, made from SOMSO®-Plast. Bone sections modelled true to nature with topography of muscles, ligaments, vessels and nerves. Each with explanation on a green base. Under removable transparent cover.

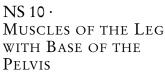


## NS 20 · HIP JOINT

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a green base. Height 28 cm, width 18 cm, depth 18 cm, weight 600 g

## NS 19 · KNEE JOINT

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a green base. Height 24 cm, width 12 cm, depth 14 cm, weight 300 g



Slightly smaller than natural size, made from SOMSO®-Plast. Separates into 10 parts. On a stand with green base, can be rotated. Height 108 cm, width 39 cm, depth 26 cm, weight 5 kg

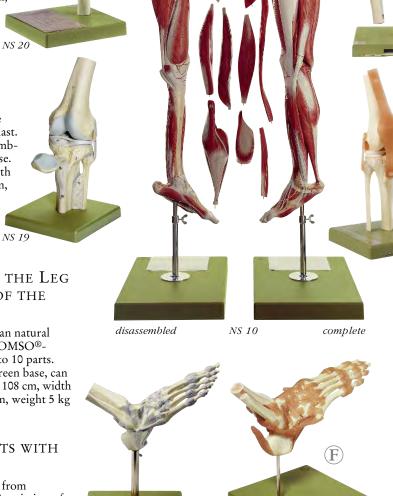
## NS 21 · Ankle Joints with LIGAMENTS

Natural size, made from 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 38 cm, width 18 cm, depth 18 cm, weight 400 g

## NS $1 \cdot$ NORMAL FOOT

Natural size, made from SOMSO®-Plast. Cannot be disassembled. Height 13 cm, width 26 cm, depth 10 cm, weight 450 g





# NS 54



## NS 51 · FUNCTIONAL Model of the HIP JOINT

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a stand with green base (removable). Height 35 cm, width 20 cm, depth 18 cm, weight 1.25 kg

## NS 50 · FUNCTIONAL Model of the KNEE JOINT

NS 51

 $(\mathbf{F})$ 

NS 50

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a green base (removable). Height 34 cm, width 18 cm, depth 18 cm, weight 1 kg

## NS 54 · Functional Model of the Joints OF THE FOOT

Natural size, made from SOMSO®-Plast. Cannot be disassembled. On a stand with green base (removable). Height 25 cm, width 28 cm, depth 18 cm, weight 900 g

## NS 9 · Muscles of the Foot

Natural size, made from 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 18 cm, width 3 cm, depth 18 cm, weight 1.1 kg

#### NS 2 · FLAT FOOT

Natural size, made from SOMSO®-Plast. Cannot be disassembled. Height 13 cm, width 26 cm, depth 9 cm, weight 450 g







NS 21









## QS 3/3 · ARTIFICIAL SKULL OF A FETUS

Natural cast, made from SOMSO®-Plast. Cannot be disassembled. Length 10.5 cm, width 8.5 cm, circumference 29.7 cm, weight 130 g

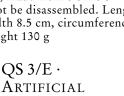


QS 3/2-E

QS 1

ARTIFICIAL SKULL OF A Newborn

Natural cast, made from SOMSO®-Plast, 2 parts. Weight *QS 3/E Fontanelle Detail* 170 g



Maximum cranium

♀ 50.8 cm ♂ 51.2 cm

circumference:

Cranium length (Glabella Ophistocranion line): ♀ 18.3 cm ♂ 17.5 cm Cranium width



(Euryon distance): ♀ 12.8 cm ♂ 14.1 cm



Hand skeleton length (Stylion-Dactylion III):



Foot skeleton length (Pternion-Acropodion): ♀ 22.2 cm ♂ 25 cm





Extremities and Joints

QS 3/2-E · Artificial SKULL OF CHILD (ABOUT 6-YEARS OLD)

Natural cast, made from SOMSO®-Plast. 2 parts in total. Weight 380 g

## QS 1 · Artificial Human Skull

Natural cast, made from SOMSO®-Plast. With closed cranium, movable lower jaw. Separates into 2 parts. Weight 700 g

## QS 7/E · ARTIFICIAL Human Skull

Natural cast, made from SOMSO®-Plast, cranium can be removed, movable lower jaw, separates into 3 parts. Weight 800 g

## QS 7 · Artificial Human Skull

Male, natural cast, made from SOMSO®-Plast, cranium can be removed, movable lower jaw, separates into 3 parts. Weight 800 g

## QS 7/1 · Artificial Human Skull (Detail-Illustration)

Natural cast, made from SOMSO®-Plast. Same specification as QS 7, but with numbering, separates into 3 parts. Weight 800 g

## QS $10/1 \cdot Artificial$ Human Skeleton

Natural cast of a male adult skeleton, made from SOMSO®-Plast. Mounted on stand with castors, with dust cover. Height 180 cm (skeleton 170 cm), width 55 cm, depth 55 cm, weight 10.4 kg



QS 7/E



Detail QS 7/1 – Numbering



Interesting facts about SOMSO® skeletons: -

QS 10/1

- Size and dimensions comply with the Central European average
- Robust stand on five castors
- Availability of spare parts guaranteed even after years



QS 9 · ARTIFICIAL BAUCHENE Skull of an Adult

Natural size, made from SOMSO®-Plast. Separates into 16 parts. On a stand with green base. Height 40 cm, width 26 cm, depth 39 cm, weight 1.9 kg



Detail: Facial nerve and stapes

## QS 8/53 · Artificial Temporal Bone

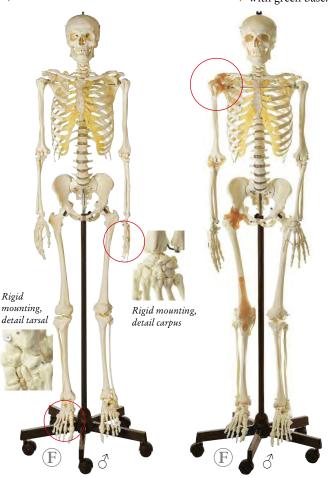
with malleus and incus

Natural cast, made from 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. Weight 800 g



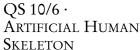
## QS 8/3 · 14-Part Coloured Model OF THE HUMAN SKULL

Natural size, made from SOMSO®-Plast. After Prof. Dr. med. Dr. med. h.c. J. W. Rohen, Anatomical Institute of the University of Erlangen. Weight 700 g



## QS 10/E · ARTIFICIAL HUMAN SKELETON

Natural cast of a male adult skeleton, made from SOMSO®-Plast. Simplified mounting. Mounted on stand with castors, with dust cover. Height 179 cm (skeleton 170 cm), width 55 cm, depth 55 cm, weight 10 kg



As QS 10/1 (on page 20) but showing the ligaments on the knee, the hip, the elbow, and on the shoulder. Weight 11.2 kg



## QS 10/8 · ARTIFICIAL HUMAN SKELETON

Natural cast of a female adult skeleton, made from SOMSO®-Plast. Mounted on stand with castors, with dust cover. Height 181 cm (skeleton 171 cm), width 55 cm, depth 55 cm, weight 10.7 kg



## ARTIFICIAL HUMAN SKELETON

As QS 10/1 (on page 20) but the points of origin and attachment of the most important muscles from head to toe are marked in colour on the right side of the body. The individual bones are numbered on the left half. Weight 10.4 kg





Detail QS 10/8 - Dimensions of the pelvis

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



Detail QS 10/9 -Muscle attachments and origins in the area of the iliac wing and the forearm





## Demonstration of flexible mounting

## QS 23 $\cdot$ Skeleton of the FOOT (FLEXIBLE MOUNTING)

Natural size, made from 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

## OS 31/7 · Hand Skeleton with FOREARM CONNECTION (FLEXIBLE MOUNTING)

Natural size, made from SOMSO®-Plast. Flexibly mounted, to show the change in position of the bones of the hand. With numbering. Weight 165 g



OS 68/3 · CENTRAL AND Dorsolateral HERNIA OF INTER-VERTEBRAL DISC

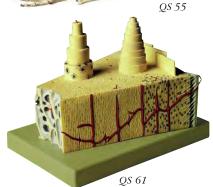
Natural size, made from SOMSO®-Plast. Separates into 5 parts, intervertebral discs can be replaced. On a transparent base. Height 13 cm, width 14 cm, depth 15 cm,





OF MUSCLES IN THE UPPER ARM Natural size, made from SOMSO®-Plast. Flexibly mounted. Schematic representation of the upper arm muscle. Made from flexible material. Without stand and base. Weight 740 g

MOVEMENTS

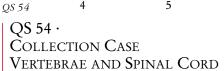


QS 61 · CONSTRUCTION OF BONE

Enlarged many times, made from SOMŠO®-Plast. Shown in a wedge segment from the compact part of a hollow bone. Cannot be disassembled. On a green base. Height 28 cm, width 39 cm, depth 26 cm, weight 2.82 kg

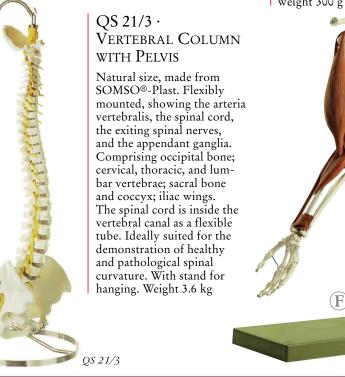
## QS 55/2 · MOVEMENT OF MUSCLES IN THE UPPER ARM AND FOREARM

Natural size, made from SOMSO®-Plast. Showing the flexor and extensor of the upper arm as well as the rotator muscles of the forearm. On a stand with green base. Height 83 cm, width 45 cm, depth 26 cm, weight 2 kg



Natural size, made from 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 7 cm, width 32 cm, depth 18.5 cm, weight 800 g





SOMSO® vertebral columns can be used to demonstrate strain caused by incorrect posture

- 1. Normal back
- 2. Flat back
- 3. Hollow round back
- 4. Round back



## S 1 $\cdot$ Reconstruction of a SKULL OF PARANTHROPUS BOISEI

Age: approx. 1.8 million years, lower Pleistocene. 2 parts. Weight 870 g

## S 2 · RECONSTRUCTION OF A SKULL OF HOMO ERECTUS

Age: approx. 1 million years, upper Pliocene. Separates into 2 parts. Weight 750 g

S 2/3733 · RECONSTRUC-TION OF A SKULL OF Homo ergaster (KNM-ER 3733)

Age: approx. 1.8 million years, upper Pliocene. 2 parts. Weight 590 g

S 4 Homo

 $S_2/F$ .

RECONSTRUCTION OF A THIGH OF HOMO ERECTUS (TRINIL 3)

Age: approx. 800.000 years, lower-mid Pliocene. Cannot be disassembled. Weight 570 g



Homo beidelbergensis

S 11 Homo steinheimensis

S 2/KNM ·

 $S3 \cdot$ 

OF HOMO ERECTUS

RECONSTRUCTION OF A THIGH

Age: approx. 300.000 years, mid Pliocene.

RECONSTRUCTION OF A SKULL

OF HOMO NEANDERTHALENSIS

middle-upper Pleistocene (Würm glacial

Age: approx. 40.000 to 70.000 years,

stage). 2 parts. Weight 850g

S 3 Ното

S 3/F Homo neander

thalensis

neanderthalensis

Cannot be disassembled. Weight 890 g

S 2/3733 Homo ergaster

Homo habilis

S 5/STs14 Australopithecus africanus

Australopithecus africanús

S  $5/1 \cdot RECONSTRUCTION OF A$ 

SKULL OF PROCONSUL **AFRICANUS** 

S 8 Homo

rudolfensis

Age: approx. 20 million years, early Miocene. 2 parts. Weight 210 g

Proconsul africanus

S 5/STs14 · RECONSTRUCTION OF A PELVIS OF Australopithecus africanus

Age: approx. 2.2 - 2.8 million years. Cannot be disassembled. Weight 560 g S 6 · LOWER **JAW FROM** 

MAUER NEAR HEIDELBERG, HOMO HEIDELBERGENSIS

Age: approx. 500.000 to 600.000 years, middle Pleistocene. Cannot be disassembled, with a green base. Weight 510 g

S 7 · RECONSTRUCTION OF A SKULL OF AUSTRALOPITHECUS

Age: 3.6 - 3.0 million years, upper Pliocene, 2 parts. Weight 620 g

S  $3/1 \cdot RECONSTRUCTION OF$ A SKULL OF HOMO HABILIS (O.H. 24)

Age: approx. 1.85 million years, Pliocene. 2 parts. Weight 420 g

S 3/F · RECONSTRUCTION OF A THIGH OF

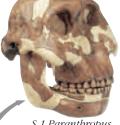
Homo neanderthalensis Age: approx. 40.000 - 50.000 years. Cannot be disassembled. Weight 700 g

S 4 · RECONSTRUCTION OF A SKULL OF HOMO SAPIENS Age: upper upper Pleistocene, approx. 25.000 years. 2 parts. Weight 830 g

S 5 · RECONSTRUCTION OF A SKULL OF AUSTRALOPITHECUS **AFRICANUS** 

> Age: approx. 2.3 to 2.8 million years, lower Pliocene. 2 parts. Weight 540 g

S 2/F Homo erectus (Trinil 3)



S 1 Paranthropus boisei

Paranthropus æthiopicus

## S 8 $\cdot$ Reconstruction of a SKULL OF HOMO RUDOLFENSIS

Age: approx. 2.5 - 1.9 million years, upper Pliocene. 2 parts. Weight 760 g

## S 10 · RECONSTRUCTION OF A SKULL OF PARANTHROPUS **AETHIOPICUS**

Age: approx. 2.6 to 2.3 million years. Cannot be disassembled, with a green base. Weight 1,2 kg

 $S 11 \cdot SKULL OF THE$ STEINHEIM PREHISTORIC MAN, Homo steinheimensis

Age: approx. 250.000 years. Cannot be disassembled. Weight 530 g

## Anatomy

DOCUMENTATION OF HUMAN PHYLOGENY

In co-operation with the Institute for Anthropology at the University of Göttingen and Professor Dr. Uwe Hoßfeld, Research Group Didactics of Biology of the Friedrich Schiller University of Jena. Made from SOMSO®-Plast.

Homo erectus

Australo-

pithecus

afarensis

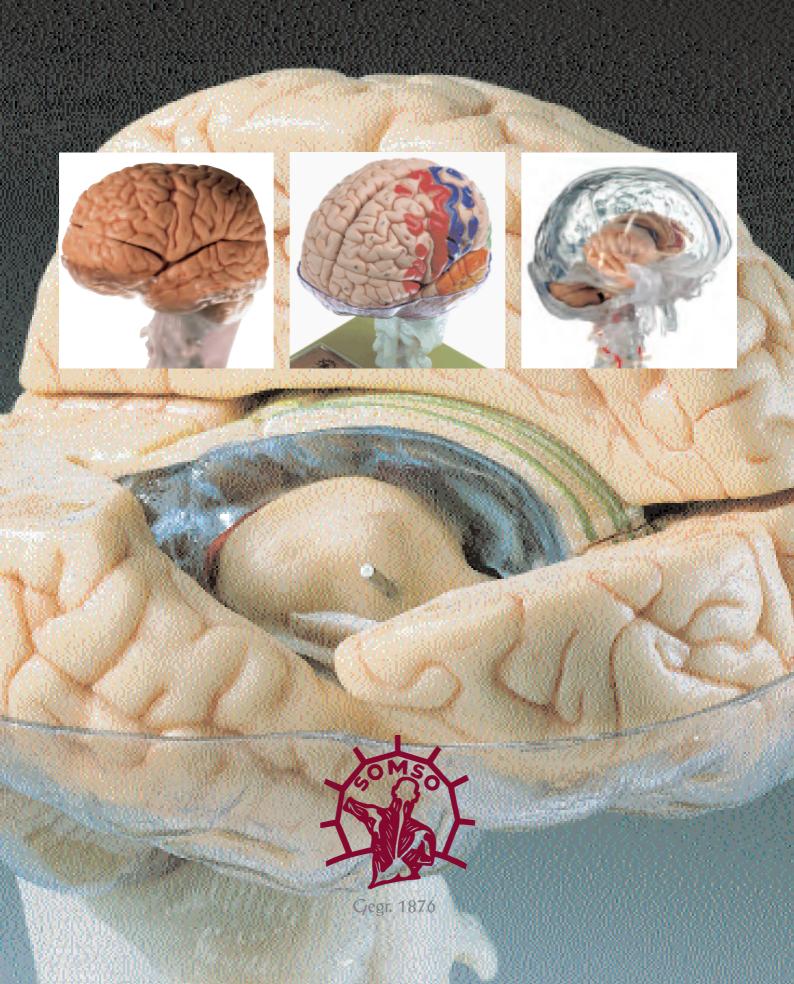
S 2/KMN

Homo erectus

23

# Three Models of the Brain after Prof. Dr. Dr. Med. J. W. Rohen

FIFTEEN-PART DISMANTABLE BRAIN MODEL AND TRANSPARENT VERSION





# THE ARCHITECTURE OF THE HUMAN BRAIN

## BS 25 Model of the Brain In 15 parts

Natural size, in SOMSO-Plast. After Prof. Dr. Dr. J. W. Rohen, Departement of Anatomy of the University of Erlangen.

This model is based on a life-size cast of the ventricles of the brain. The large subcorti-

cal nuclei of the brain stem (e.g. the nucleus caudatus, nucleus lentiformis, thalamus etc.), and the internal capsule are grouped around the ventricles of the brain in such a way that the complete brainstem can

be seen. The limbic system (forhippocampal

formation) and adjacent parts of the temporal and occipital lobes are then attached to the brain stem, and the model is completed by the addition of the corpus callosum and cerebral cortex. The whole structure is supported by a cast of the base of the skull which also allows the natural position of the brain within the head to be studied.

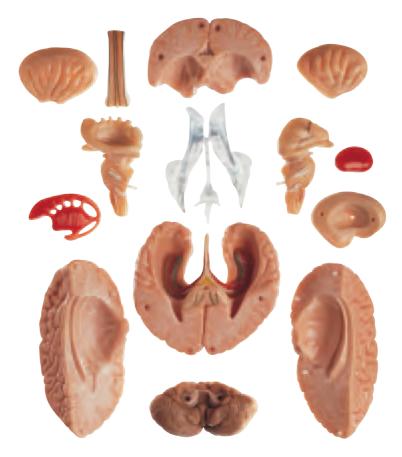
nix,

The model separates into 15 parts as follows: cerebral hemisphere (2), temporal and occipital lobes with limbic system, cerebellum, frontal lobe, corpus callosum, brainstem (2), corpus striatum, insula (2), nucleus lentiformis (left), internal capsule (right), ventricles of the brain, base of the skull as base.

Height 23 cm, width 15 cm, depth 18 cm, weight 1.8 kg.

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

Natural size, in SOMSO-Plast. After Prof. Dr. Dr. J. W. Rohen, Department of Anatomy of the University of Erlangen. Separates altogether into 8 parts as follows: brainstem (2), corpus striatum, insula (2), nucleus lentiformis (left), internal capsule (right) and ventricles of the brain. On a stand with base. Height: 16 cm., width: 12 cm., depth: 12 cm., weight: 380 g.



BS 25 disassembled in 15 parts



BS 25/2 Brain stem with ventricles of the brain taken apart stepwise



# THE EXACT LOCATION THROUGH SHAPE AND COLOUR

#### BS 25/1 Model of Brain with indicated cytoarchitectural Areas

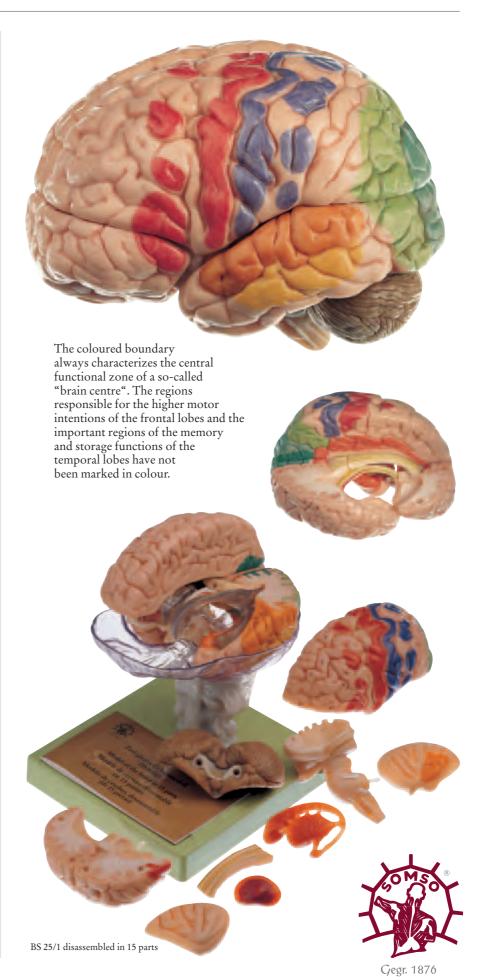
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lobes with limbic system, cerebellum, frontal lobe, corpus callosum, brain stem (2), corpus striatum, insula (2), nucleus lentiformis (left), internal capsule (right), ventricles of the brain, base of the skull as base.

This extended form of the new SOMSO brain model shows the position of the most important centers of the cerebral cortex, which have been marked in colour on the left hemisphere and provided with the official numbers of Brodmann's cytoarchitectural map of the human cerebral cortex. The primary and secondary motor (red) and sensory (blue) cortical fields, the different speech centers, auditory cortical fields and the visual cortical fields as well as the structures of the limbic system (fornix, cingulum, hippocampus etc.) are especially indicated. The threedimensional structure of the brain and the interrelationship of the different cerebral areas become evident when the model is gradually dismantled. However, one must bear in mind that the "centers" of the cerebral cortex are not centers in the true sense of the word but rather areas with a predominant function which can not be sharply demarcated from their surrounding structures. The higher centers of the frontal lobe responsible for the general motivation of movements and motor activity as the higher centers of the temporal lobe, responsible mainly for memory and sensory integration are not marked in colour.

Height 23 cm., width 15 cm., depth 18 cm., weight 1.8 kg.



# THE AUTHENTIC GEOMETRY OF THE BRAIN

## BS 25/T The transparent Brain

This new type of brain model, which can be easily disassembled into 15 parts, includes cortical hemispheres, made out of transparent plastic. This novel approach allows the internal brain structures (subcortical structures and nuclei) to be easily visualized in relation to the cortical surface. This is particularly instructive since the essential structures and the cerebral cortex, such as the central sulcus (sulcus centralis) and lateral sulcus (sulcus lateralis or Sylvius' fissure), are readily identifiable on the transparent cortex. As a result, points of reference are naturally provided between the features of the cortical surface and the un-

derlying brain structures such as the insular cortex, corpus callosum, fornix, and the limbic system.

The brain stem itself can be dismantled into 12 pieces. On the left side the striate body (corpus striatum) can be completely removed from under the insular cortex, while on the right side the lenticular nucleus can be taken out. In addition, the complete ventricular system can also be released from the brain stem, and it

can then be built together with the left half of the brain stem into the transparent brainmodel as a single part as to illustrate the topographic relationship between different portions of the ventricles and the cortical structures.

The brain stem and cerebellum are fastened to the posterior portion of the base of the skull (posterior cranial fossa of the occipital bone) and the sphenoid bone including the sella turcica where the pituitary body lies. The complete brain model is connected to the cervical vertebral column, which also shows the vertebral artery (A. vertebralis).

The middle portion of the dura mater with the opened superior sagittal sinus has been constructed so that it stabilizes the transparent hemispheres of the model. Thus, the right half of the transparent cortex can be removed to provide access to the interior of the brain. Another innovation incorporated in this model is the representation of the limbic system. It is shown in its entirety (fornix, indusium griseum and temporal hippocampus with gyrus dentatus, etc.) and can be removed from the rest of the model in one piece.

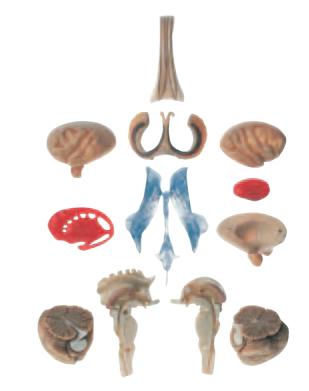
The plexus and the taenia of the choroidal plexus are marked in color.

The exit of the cranial nerves can be easily recognised on the base of the brain stem, so that relationship between the cranial nerves, the base of the skull, and the cervical vertebral column is easily demonstrated.

Height 30 cm., width 18 cm., depth 20 cm., weight 1.1 kg.



BS 25/T Brain stem disassambled in 12 pieces



# The complete Brain and its Parts in a whole Host of Combinations

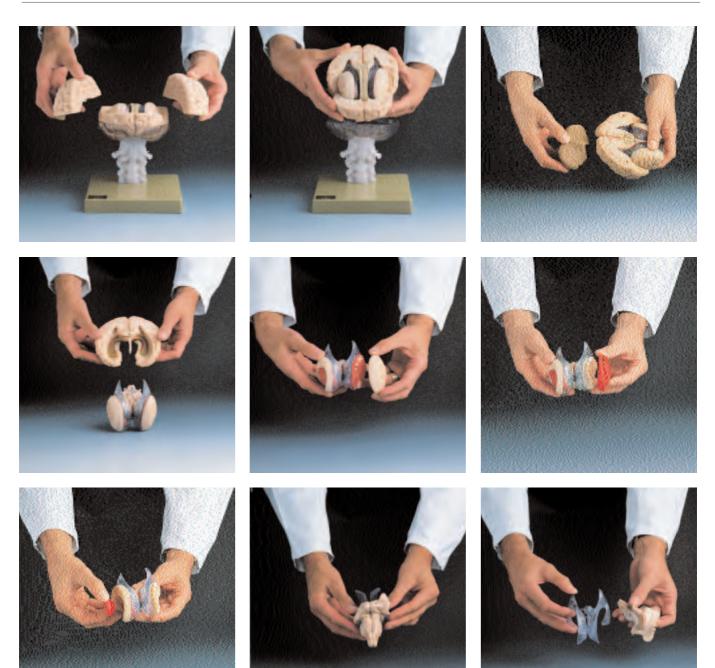


Figure 1 - 9: Demonstration of Model disassembly

The upper sections of the cerebral cortex can be removed so that the ventricles of the brain and the basal ganglia with the insula can be seen (figures 1 and 2). If the cerebellum is then taken out backwards (figure 3) the complete brain stem with the ventricles

of the brain can be removed from the remainder of the cerebrum (mainly the two temporal lobes) (figure 4). The insula and the subcortical nuclei (striatum, nucleus lentiformis) can, on each side individually, be taken apart from the brain stem (figures

5,6 and 7). The remaining brain stem can then be separated in the median plane, leaving the entire ventricular system (figures 8 and 9).

With the compliments of:



Somso Modelle

MARCUS SOMMER

Friedrich-Rückert-Straße 54, D-96450 Coburg Phone 0049 9561 85740, Fax 0049 9561 857411 e-mail: somso@somso.de, Internet: www.somso.de special brochure A 169/2, © 2001 by MARCUS SOMMER

# Somso and the Ziegler Models

In 1936 my father, Marcus Sommer Jr. took over the studio for scientific sculptures from Dr. h. c. Friedrich Ziegler. From that time onwards SOMSO produced the Ziegler models at its parent company in Sonneberg, Thuringia, Germany.

In 1952 it was taken over by the State but following the reunification in 1990, SOMSO purchased the parent company back from the State. Since 2001 the building has housed the SOMSO Museum and part of the present SOMSO production.



SOMSO parent company, Sonneberg

Professor Dr. Wilhelm His was Director of the Anatomical Institute of the University Leipzig, Germany (1872-1904) and together with Friedrich Ziegler created the world famous series of models of embryonic development.

On the occasion of the 100th Meeting of the Anatomical Society in Leipzig, Germany SOMSO introduced a special model after the original male embryo (approx. 28 days old) from the Ziegler model series No. 3. This model begins a new edition of the Ziegler human embryo models.

Hall Julia

Hans Sommer





A view of the scientific studio of Friedrich Ziegler as shown in his catalogue from the 1930's.



## Somso Special Model from the world famous Ziegler Series of Models No. 3



## Somso Special Model from the World Famous Ziegler Series of Models No. 3



Catalogue number MS 48/3-I Human embryo, approx. 28 days old, from the Ziegler series of models No. 3 The model shows the most significant structures of an embryo of about 28 days old. The left half of the body is to some extent shown in median section so that the location of the organs, characteristic of this stage of embryonic development, can be clearly identified.

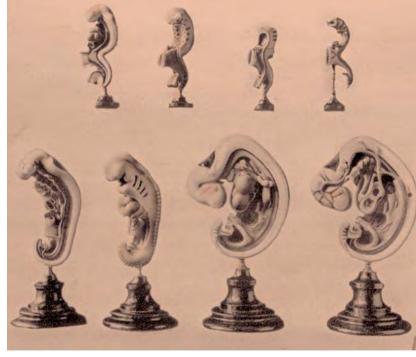
The most impressive features are:

The early development of the heart, the heart loop in the pericardial cavity, the primary formation of the embryonic intestine tube with the pharyngeal pouches in the foregut region, the position of the liver (marked in colour), the umbilical loop, the hindgut with the allantois and the beginning of the umbilicus.

Also clearly recognisable is the early formation of the neural medullary tube with the eye position. The skin has been removed from one half of the body so that the form and location of organs is easy to identify. It is also possible to get a true picture of embryonic development in these early stages as landmarks can be clearly recognised e.g. the pharyngeal

grooves (branchial grooves) with the corresponding pharyngeal pouches on the right side, the developing heart (bulbo ventricular loop) and the somites.

An extremely valuable teaching model for lessons and lectures in human embryology!



The illustration shows the complete series of Ziegler models No. 3 as they were shown in the 1930's catalogue.

The model is supplied with a protective cover.

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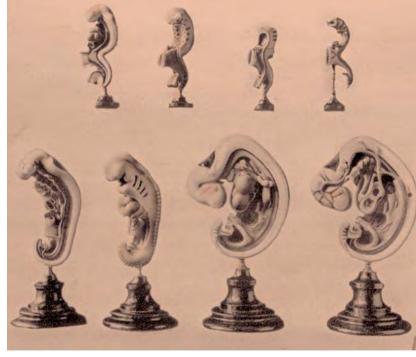
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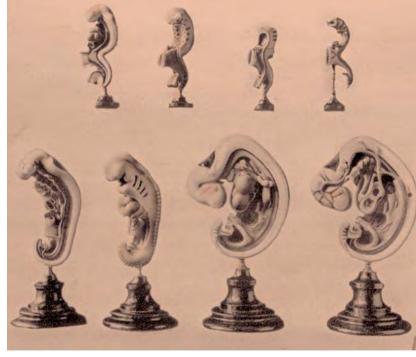
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## NS 13/1-E SURGICAL HAND MODEL IN A DIDACTIC COLOUR-SCHEME







## NS 13/1-E · SURGICAL HAND MODEL

Natural size, in SOMSO-Plast and developed with Dr. Niels Benatar. Using a didactic colour-scheme, where arteries appear red and nerves appear yellow. The model is made up of 6 parts, which can be disassembled. Natural colours are used whenever possible, 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 base. Height: 33 cm., width: 18 cm., depth: 18 cm., weight: 800 g.

## SOMSO - a full five-year guarantee

No other manufacturer in this field offers a full five-year warranty - on all models - that covers both durability and workmanship.



## SOMSO Sun, the symbol of quality

SOMSO was founded in Sonneberg, Thuringia more than 130 years ago. Since then, SOMSO Modelle have proven to be the benchmark to which others aspire, recognised by the most discerning experts as the ultimate teaching aids. These high standards have motivated the Sommer Familiy since 1876 and will continue to do so in the future.



## Hand assembly and finishing by German craftsmen

SOMSO Modelle are produced only in Sonneberg, Thuringia and Coburg, Bavaria by highly qualified and skilled craftsmen. Some components are now machine-made, but all models are assembled and painted entirely by hand so that each is a unique work of art.

## Each and every model

we make demonstrates SOMSO's commitment to the highest standards of scientific accuracy, workmanship and artistry. From concept through prototype to limited or series production, only renowned scientists, model makers and technicians are employed to produce the highest quality models, accurate down to the finest detail.

## SOMSO MODELLE - subject to stringent quality controls

SOMSO's primary concern is quality. Quality that passes the tests for scientific accuracy, paintwork, function, durability and materials. Genuine SOMSO Modelle reflect these criteria and are made of virtually unbreakable SOMSO-Plast.

#### MARCUS SOMMER • SOMSO MODELLE

Friedrich-Rückert-Straße 54, 96450 Coburg, Germany Tel. +49 (0) 95 61-8 57 40, Fax +49 (0) 95 61 - 85 74 11 email: somso@somso.de, Internet: www.somso.de



# SURGICAL HAND MODELS NS 13/1 AND NS 13/1-E

after Dr. Niels Benatar



Flyer A 190, ©Copyright by Marcus Sommer SOMSO Modelle, January 2007

## Nature is our Model



Dr. Niels Benatar appraising the model NS 13/1 with Rudolf Galle from the SOMSO Development Department.

The surgical hand models NS 13/1 and NS 13/1-E were developed by SOMSO in close co-operation with Dr. Niels Benatar, who has contributed his detailed anatomical knowledge resulting from his extensive practical experience as a recognised hand surgeon. This entirely new »Surgical Hand Model« is so anatomically true in detail that it is equally suited to meet the needs of medical students, anatomists and hand surgeons. Because the new model includes interchangeable parts highlighting common pathological findings, it is also ideal for demonstrating pathology and surgical procedures to patients.



The exposed loge de Guyon and palm with N. ulnaris and A. ulnaris, which then forms the superficial palmar arch





SOMSO MODELLE SINCE 1876

The exposed carpal tunnel with the visibly constricted N. medianus

# SURGICAL HAND MODEL IN NATURAL SIZE, IN SOMSO-PLAST



## NS 13/1 · Surgical Hand Model

Natural size, in SOMSO-Plast and developed with Dr. Niels Benatar. The model is made up of 6 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 base. Height: 33 cm., width: 18 cm., depth: 18 cm., weight: 800 g.



