

# SOMS O <br> M O DELLE SINCE 1876 

## HOLT ANATOMICAL, INC.

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Anatomy Catalogue A 76/1

Nature is our Model

## Nature is our Model

»Only equals can recognize each other." $A$ memorable statement by Eckehard, the great German philosopher. Briefly it illustrates a perception and therefore reduces the main part of each learning process to a common denominator. Biology lessons are concerned, above all, with the recognition and relationship of structures.

Whether human, animal or plant - the closer the model or illustration is to real life, the easier the student can understand or recognise it.

Understanding means touching and seeing - the physical dimension joining the abstract. SOMSO Modelle offer both.
"Nature is our model« - with regard to production means that we are meticulous down to the smallest detail - in both form and scientific accuracy.

The aesthetic appeal enhances the scientific accuracy of these superb SOMSO Modelle.

Our task has been to create replicas for teaching which are true to nature - for living biology lessons.

## Detail in Production

The production of SOMSO Modelle requires great attention to detail in both specialised manufacturing techniques and basic handwork. Each model is individually band finished by skilled craftsmen.

The combination of handwork and technology results in models which are far superior to those which are mass produced.

SOMSO Modelle owe their impressive »naturalness« to these complex production techniques which result in the models' acceptance both scientifically and aesthetically.

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.

Hand assembly
AND FINISHING by German CRAFTSMEN

SOMSO Models are produced only in Sonneberg or Coburg - nowhere else - by bighly 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 IN THE <br> RANGE DEMONSTRATES SOMSO's COMMIT-

 MENT TO THE HIGHEST STANDARDS OF SCIENTIFIC ACCURACY AND ARTISTRY.From concept through prototype to limited or series production, only specialist scientists, model makers and technicians are employed to produce the highest quality models, accurate down to the finest detail.


## SOMSO

Models - SUbject
TO STRINGENT QUALITY CONTROLS

SOMSO's primary concern is for quality. Quality that passes the tests for scientific accuracy, painting, function, durability and materials. Genuine SOMSO Models reflect these quality criteria, and their base material is virtually unbreakable SOMSO-Plast $\circledR$.


## Range of Presentations of Somso Models:

## Green bases, green boards and stands with measurements and description key

Almost all models are shown with stands or green bases on the following pages of the catalogue. How the model is supplied is described precisely in the corresponding text.

The differences in presentation:


Model with removable transparent cover


Model on green base and removable from stand


Model on green base


Model on green base, removable

> Model on green board


Model on green base, supported on stand


Model on stand

## The descriptive keys

supplied with the models are in different forms and languages.

The keys are written by competent scientists according to strict criteria. The keys are either supplied loose, integrated in the model or on its green base depending on the actual model.


## MEASUREMENTS AND WeIGHTS

are given in the catalogue text for each SOMSO model.

The measurements are volumetric dimensions - height, width and depth of the complete model including the described stand or base.

The weights given include respective base, stand or green board.

## SOMSO MODELS SHOwING SCIENTIFIC

 PREPARATION TECHNIQUES - INDIVIDUALLY MADE

SOMSO<br>MODELIN PLASTER

The anatomical models in plaster shown on this page give you an idea of our range of plaster models. For further information please ask for our special catalogue "SOMSO plaster models".


A $19 / 1 \cdot$ Muscular Torso with Head

Natural size. Particularly valuable for the study of anatomy. In one piece. On a base. Height: 104 cm . (torso 100 cm .), width: 52 cm ., depth: 27 cm ., weight: 15 kg .

14 interesting torso models (not detachable). From originals from the collection in the Anatomical Institute of Tuebingen. Made in plaster. Special catalogue available on request.


B 22/1 • Lecture Hall Model of the Brain
Lecture hall model, approx. 8 times enlarged. Separates into 8 parts. On a base. Height: 76 cm ., width: 62.5 cm ., depth: 78 cm ., weight: 40 kg .


E 19 .
Right Lower Jaw
Lecture theatre model. Enlarged approx. 8 times. The lower jaw and teeth and the network of vessels are shown. The teeth are in one piece but can be taken out individually. Separates into 9 parts. On a base. Height: 35 cm ., width: 56 cm ., depth: 27 cm ., weight: 7.5 kg .


M 37 .
Muscular System of the Perineum in the Male
Cast from natural specimen. Without penis. In one piece. On a base. Height: 13 cm ., width: 20 cm ., depth: 18 cm ., weight: 1 kg .

Obliged to
TRADITION Historical SOMSO MODELS


## SOMSO

 models produced in papiermaché from I899 are still in existence.These models, along with plaster models, can be restored.

## The SOMSO-Museum in Sonneberg/Thuringia



On the occasion of the 125 th anniversary of SOMSO Modelle the Family Sommer opened the SOMSO Museum at the parent company in Sonneberg, Thuringia.

Here you are able to see, in 10 different stages, the variety of SOMSO Modelle and their 125 -years bistory.

For further information please have a look on the Internet site
www.somso-museum.de



## World-wide

APPRECIATION FROM
THE SCIENCE AND
TEACHING PROFESSIONS

## AND FROM MUSEUMS

SOMSO Models are indispensable for practical teaching of general biology in schools. The »Nature is Our Model« range is superbly instructive, particularly in its accuracy, quality and colour, enabling students to experience nature in an incomparable, hands-on manner.

Appropriately proportioned SOMSO Models are in use in science laboratories and lecture halls of universities and colleges throughout the world, making an important contribution to the efficient instruction of trainee doctors and nurses.

For many decades, SOMSO Models have been permanently displayed in private collections and public museums, and are of unique interest to specialists and lay visitors alike.


Contents
In addition to the ANATOMY Catalogue A 76/1, SOMSO offers a comprehensive range of Zoological and Botanical models. If you would like details of these models please ask for the ZOOLOGY + BOTANY Catalogue A 76/2+3.


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## 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.

## A 2/07•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: $84 \mathrm{~cm} .$, depth: 51 cm ., weight: 24.2 kg .


## AS 2/2 • Male Muscle Figure

About 3/4 natural size, in SOMSO-Plast®. Separates into 36 parts: body, head, vault of cranium, brain (3), 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 $1 \cdot$ Male 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 ${ }^{\circledR}$. 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 kg .


Colour Coding
FOR THE IDENTIFICATION OF Motor Innervation
after Dr. Hans Schade. In SOMSOPlast $®$, 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 SOMSOPlast ${ }^{\circledR}$. 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 • 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 .



## AS $7 \cdot$ 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 .


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

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 .




AS 50/1 • Female Torso with Head
Natural size, in SOMSO-Plast ${ }^{\circledR}$. 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 .



## AS $40 \cdot$ Female Torso with Head

Natural size, in SOMSO-Plast®. The thoracic and abdominal wall can be removed. Separates into 13 parts: eye, halves of the lungs (2), 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 $44 \cdot$ 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 • 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 $16 / 1 \cdot$ 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 $16 \cdot$ 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 .


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

## AS $21 \cdot$ 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 $12 \cdot$ 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 • 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 .

»Nature is our Model« Special Exbibition:
Medical-Biological Models in plastic,
Deutsches Museum, Munich.
20 April to Is 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 $20 \cdot$ 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 20/4 B • Small Torso of Young Man without Head
As AS 20/4, but black in colour.
AS 20/5 B • Small Torso of Young Man with Head

As AS 20/5, but black in colour.


## 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 ${ }^{\circledR}$. 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.



SOMSO
MODELLE
SINCE 1876


The anatomy of the Nervous System several models produced using electron microscopy techniques.
 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 <br> Base of the Skull

Natural size, in SOMSOPlast ${ }^{\circledR}$. 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: $18 \mathrm{~cm} .$, depth: $21 \mathrm{~cm} .$, weight: 800 g .


## BS 2 .

## PROPORTIONS OF

 the Dura MaterNatural size, in SOMSOPlast ${ }^{\circledR}$. 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 • Dura Mater

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


BS $5 / 1 \cdot$ Base 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 $5 / 2 \cdot$ Base of the Head
Natural size, in SOMSO-Plast $\circledR$. 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 • 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 $(0.8 \mathrm{~cm})$. 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 • 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 • Median Section of the Head

Natural size, in SOMSO-Plast ${ }^{\circledR}$. Not detachable. Mounted on a green board. Height: 32 cm ., width: 23 cm ., depth: 4 cm ., weight: 1.3 kg .


BS 43 .

## 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 SOMSOPlast $®$. 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. Heigth: 31 cm ., width: 26 cm ., depth: 32 cm ., weight: 2.8 kg .


## BS 18/2 • Head with Muscles

Natural size, in SOMSO-Plast®. Separates into 10 parts: base of the head, cranium, eye, falx cerebri, right half of the brain, left half of the brain (4), 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 .


## BS $20 \cdot$ 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 green base. Height: 15 cm ., width: 16 cm ., depth: 17 cm ., weight: 1.1 kg .


## BS 20/1 • Half of the Brain

Natural cast, in SOMSO-Plast ${ }^{\circledR}$. 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 $21 \cdot$ BRAIN
Natural cast, in SOMSO-Plast®. Median Section. Separates into 2 parts. On a base. Height: $15 \mathrm{~cm} .$, width: 16 cm ., depth: 17 cm. , weight: 800 g .


## BS $22 \cdot$ 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: $15 \mathrm{~cm} .$, width: 15 cm ., depth: 17 cm ., weight: 1.1 kg .


BS $45 \cdot 5$ 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: $49 \mathrm{~cm} .$, width: $57 \mathrm{~cm} .$, depth: 10 cm ., weight: 5.1 kg .


## BS $23 \cdot$ 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: $17 \mathrm{~cm} .$, 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 ${ }^{\circledR}$. 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 • 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 .


BS 23/4 .

## Model of Brain

Natural size, in SOMSO-Plast ${ }^{\circledR}$. 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 .


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, green base of the skull as base. Height: 23 cm ., width: $15 \mathrm{~cm} .$, 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 green 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. 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 • Model of Brain Stem

 IN 12 PARTSNatural cast, in SOMSO-Plast ${ }^{\circledR}$. 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 . <br> Spinal Cord in THE Spinal Canal

Seen from the ventral side, natural size, in SOMSOPlast $®$. 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: $32 \mathrm{~cm} .$, depth: 19 cm ., weight: 5.5 kg .

## BS 27 .

## Nervous System

Relief model, about 1/2 natural size, in SOMSOPlast ${ }^{\circledR}$. 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: $74 \mathrm{~cm} .$, 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 .


## 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 .


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 crosssection) 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 32/37

## BS 32/37 • 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 ba-


BS 33 se. In SOMSO-Plast $®$. Separates into 2 parts. Height: $22 \mathrm{~cm} .$, width: 20 cm ., respectively 12 cm. , depth: 12 cm ., weight: 400 g .


## BS $30 \cdot$ Fifth Cervical Vertebra

Enlarged approx. 7 times, in SOMSO-Plast ${ }^{\circledR}$. 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 35/3. <br> Model of a Synapse

Many times enlarged, in SOMSOPlast ${ }^{(R)}$. After Christian Gross, Head of Biology Department (retired). Neurotubules, 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 $35 \cdot$ 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 $36 \cdot$ 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 .


Enlarged approx. 40000 times, in SOMSO-Plast $®$, after Prof. Dr. med. Elke LütjenDrecoll 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 .


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 $16 \cdot$ Eyeball

Enlarged approx. 5 times, in SOMSOPlast®. 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 • EyEBALL with Part of Orbit

Enlarged approx. 3 times, in SOMSOPlast®. 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 .,


## CS $4 \cdot$ EyEbALL

Enlarged approx. 5 times, in SOMSOPlast ${ }^{\circledR}$. Sectioned horizontally. Separates into 6 parts: upper half of the sclerotic 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 SOMSOPlast $\circledR$. 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 .


## CS 8/1 • Topography of THE Orbit

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 $11 \cdot$ Eyeball

Enlarged approx. 5 times, in SOMSO-Plast ${ }^{\circledR}$. 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 $10 \cdot$ Eyeball

Enlarged approx. 5 times, in SOMSOPlast ${ }^{(R)}$. 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 ${ }^{\circledR}$. 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 .


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 ${ }^{\circledR}$. 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 .


SOMSO
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That marvel, the buman 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: $41 \mathrm{~cm} .$, width: $44 \mathrm{~cm} .$, depth: $26 \mathrm{~cm} .$, weight: 3.7 kg .


## QS 8/51•ARTIFICIAL <br> 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 .


## QS 8/54•ARTIFICIAL

 Temporal BoneNatural 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 SOMSOPlast ${ }^{\circledR}$. 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 SOMSOPlast®. 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: $21 \mathrm{~cm} .$, width: 32 cm ., depth: 19 cm ., weight: 1.5 kg .


## DS $10 \cdot$ SECTION THROUGH <br> the Central Spiral of the Cochlea

Enlarged many times, in SOMSOPlast ${ }^{\circledR}$. 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 $17 \cdot$ 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 $69 \cdot$ The Three Auditory Ossicles
model text see page 122


QS 69/1•The Three Auditory Ossicles
model text see page 122


QS $70 \cdot$ Artificial Bony
LABYRINTH
model text see page 122


QS 70/1 • The Three

## Auditory Ossicles with

Bony LabyRinth
model text see page 122


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M O D ELLE
SINCE 1876


## Teeth and Jaw Models - <br> 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 Gesundbeitliche Aufklärung« in Cologne


ES $1 \cdot$ 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 4 - 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 .


## 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 4/1 • LOWER Jaw OF AN 18-Year-Old

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

ES 8 .

## Molar Tooth with Caries

Enlarged approx. 8 times, in SOMSOPlast ${ }^{\circledR}$. 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 ${ }^{\circledR}$. 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 .

## Five Models of Teeth

Enlarged approx. 8 times, each mounted on a stand with green base, in SOMSOPlast ${ }^{\circledR}$. As ES $11 / 1$ to ES $11 / 5$. Weight: 2.2 kg

## ES 11/1. <br> Lower Incisor

Enlarged approx. 8 times, in SOMSOPlast ${ }^{\circledR}$. 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 SOMSOPlast $®$. Separates into 2 halves longitudinally. On a stand with green base. Height: 27 cm. , width: $12 \mathrm{~cm} .$, depth: 13 cm ., weight: 500 g .

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

Enlarged approx. 8 times, in SOMSOPlast®. 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 SOMSOPlast ${ }^{\circledR}$. Separates into 3 parts showing dental caries in initial and advanced stages. On a stand with green base. Height: $24 \mathrm{~cm} .$, width: $12 \mathrm{~cm} .$, depth: 12 cm ., weight: 400 g .

## ES 11/5 • First Upper Molar with Three Roots

Enlarged approx. 8 times, in SOMSOPlast ${ }^{\circledR}$. Separates into 3 parts. On a stand with green base. Height: 23 cm ., width: 12 cm ., depth: 13 cm ., weight: 700 g .


Enlarged approx. 3 times, with large toothbrush to demonstrate how to brush one's teeth, in SOMSO-Plast ${ }^{\circledR}$. 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. Height: 19 cm ., width: 32 cm ., depth: 7 cm ., weight: 600 g .


## ES $14 \cdot$ Development of a Set of Teeth

Natural size, in SOMSO-Plast $\circledR$. 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.


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 - Right Lower Jaw with Muscles
Enlarged approx. 3 times, in SOMSO-Plast $\circledR$. 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 .


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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 $\circledR$. 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 .

(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 ${ }^{\circledR}$. 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 $6 \cdot$ Nose

Enlarged approx. 3 times, in SOMSO-Plast ${ }^{\circledR}$. 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 $8 \cdot$ Tongue

Natural size, in SOMSOPlast ${ }^{\circledR}$. 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 $3 \cdot$ LARYNX

Natural size, in SOMSOPlast®. Cartilaginous skeleton, ligamentous apparatus, muscles, relief of mucous membrane and thyroid gland are shown. Separates into 2 parts. On a green base. Height: 17 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 $4 \cdot$ 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 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 $5 \cdot$ LARYNX WITH

## Trachea

Enlarged approx. twice, in SOMSOPlast®. 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 $6 \cdot$ 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 .

(F)


## GS $10 \cdot$ Functional Model of the Larynx

Enlarged approx. 3 times, in SOMSO-Plast ${ }^{\circledR}$. 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 .


The heart - the engine of life.
Now as a SOMSO model - accurate in every detail and dimension

The series of models of heart defects are a valuable addition
to the range, catalogue pages 109-110

## Anatomy 9 - Circulatory Organs



In comparison SOMSO heart model in natural size.

## HS $1 / 1 \cdot$ 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 .


HS $1 \cdot$ Heart
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 .


HS 2/1 • Heart
About 3/4 natural size, in SOMSOPlast®. In one piece. Height: 10 cm ., width: 14 cm ., depth: 9.5 cm ., weight: 350 g .


## HS $2 \cdot$ Heart

About $3 / 4$ natural size, in SOMSOPlast®. 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 $3 \cdot$ Heart
About 3/4 natural size, in SOMSOPlast®. 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 .


HS $4 \cdot$ 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 $6 \cdot$ Heart

Approximately twice natural size, in SOMSO-Plast $\circledR$. 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 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 6/1 • 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 • 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 $26 \cdot$ 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 .


Relief model, 2/3 natural size, in SOMSO-Plast ${ }^{\circledR}$. General view of the network of vessels of the body. In one piece. Mounted on a green board. Height: 91 cm ., width: $32 \mathrm{~cm} .$, 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: $17 \mathrm{~cm} .$, 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 • Lobule of the Lung

Enlarged approx. 150 times, in SOMSO-Plast $\circledR$. 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 SOMSOPlast®. Description as for HS 25, but the painting is after Volkmann-StraußElastica. Separates into 3 parts. On a green base. Height: 63 cm ., width: 39 cm ., depth: 31 cm ., weight: 6 kg .


HS $25 \cdot$ DELICATE
Formation of an Artery AND VEINS
Enlarged many times, in SOMSOPlast®. 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 SOMSOPlast $®$. 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 .


Thanks to SOMSO models, histology becomes visible


## JS 2/1 • Digestive Tract

Natural size, relief model, in SOMSO-Plast ${ }^{\circledR}$. 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•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 .


## JS $4 \cdot$ 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 .


## JS $6 \cdot$ Stomach Wall

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


## JS 5 - Liver

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 .


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 .
der

## JS $8 \cdot$ Liver and Gall Bladder

Enlarged approx. $11 / 2$ 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 .



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 .


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 $15 \cdot$ 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


## 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 ${ }^{\circledR}$. 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-Section 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 • 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 .


## 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 $6 \cdot$ 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 $13 \cdot$ 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 SOMSOPlast ${ }^{\circledR}$. 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 $6 \cdot$ 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 SOMSOPlast $®$. The kidney separates into 2 halves longitudinally. On a stand with base. Height: 26 cm ., width: $12 \mathrm{~cm} .$, depth: 12 cm ., weight: 400 g .


## LS $5 \cdot$ Right Kidney

Enlarged approx. 3 times. In SOMSOPlast $®$. 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 - URINARY Organs
Natural size, in SOM-SO-Plast ${ }^{\circledR}$. 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 .


SOMSO
MODELLE
SINCE 1876


Human development portrayed in a chronological series of models: Genital Organs • Embryonic Development Birth • Baby Care


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 .


MS 2.
Median Section of the Male Pelvis
Natural size, in SOMSO-Plast®. Rectum, bladder with prostate and testicular duct and external genital organs, fully exposed, and removable. Separates into 4 parts. Mounted on a green board. Height: 33 cm ., width: 27 cm ., depth: 14 cm ., weight: 1.3 kg .


## Female Genital Organs

Natural size, in SOMSO-Plast®. The model shows the internal and external female genital organs. Median section. The internal organs can be removed from the pelvic floor. Separates into 4 parts. On a stand with green base. Height: 26 cm ., width: 18 cm ., depth: 19 cm. , weight: 900 g .


## 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 base. Height: 21 cm ., width: 18 cm ., depth: 20 cm ., weight: 1.2 kg .


MS 3/1.
Male Genital Organs

Natural size, in SOMSOPlast $\circledR$. 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 SOMSOPlast $®$. 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: $18 \mathrm{~cm} .$, depth: 18 cm ., weight: 900 g .

MS 5/2.


Model of The
Female Sexual
Organs
Natural size, in SOMSOPlast®. Developed in cooperation with Studiendirektorin 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 3/2.

## Model of the

 Male Sexual OrgansNatural size, in SOMSOPlast®. Developed in cooperation with Studiendirektorin 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 .
,

MS 5/3 • CASE
suitable for MS $3 / 2$ and MS $5 / 2$

Note: The models MS $3 / 2$ and $M S_{5} / 2$ in combination are extremly helpful to make new aspects clear - both in relation to male and female sexuality and sexual relationships.




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 ${ }^{\circledR}$. In one piece. On a removable transparent base. Height: 25.5 cm ., width: $23 \mathrm{~cm} .$, depth: 26 cm ., weight: 1.7 kg .


## MS 8/1 • Female Pelvis

Natural size, in SOMSO-Plast ${ }^{\circledR}$. 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.
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 • 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 21 .

## Obstetric Phantom

Natural size, in SOMSO-Plast ${ }^{\circledR}$. 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 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 $51 \cdot$ Relief Model of the Ovary

Enlarged approx. 10 times, in SOMSOPlast ${ }^{\circledR}$. 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

## Model of the Placenta

Enlarged approx. 4 times, in SOMSOPlast $\mathbb{\circledR}$. 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 SOMSOPlast®. 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 .


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. Height: 49 cm ., width: 57 cm ., depth: 11 cm ., weight: 5.7 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. Height: 49 cm ., width: 57 cm ., depth: 11 cm ., weight: 5.5 kg .


MS 47 • Fertilization and Development of the Human Ovum up to THE 3RD MONTH

Shown by 16 models, in SOMSOPlast ${ }^{\circledR}$. Each model is mounted individually on a stand with green base. Total weight of the series 3.3 kg .


Human Development up to the Embryo at the End of the 1st Month
Shown by 13 models, in SOMSOPlast ${ }^{\circledR}$. Each model is individually mounted on a stand with green base. Total weight of the series 1.8 kg .


MS 11/3 • Human Embryo in the Third Month
Enlarged approx. 3 times, in SOMSOPlast®. 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 SOMSOPlast®. 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 base. Height: 20 cm ., width: 37 cm ., depth: 45 cm ., weight: 3.3 kg .

## MS $16 \cdot$ Fetal <br> Circulatory <br> System

Natural size, in SOMSOPlast®. 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: $48 \mathrm{~cm} .$, width: $30 \mathrm{~cm} .$, depth: 14 cm ., weight: 2.8 kg .



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

## 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 bindgut 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 buman embryology!


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


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.


## 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 $48 \cdot$ Development of the Human Face

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


## M $49 \cdot$ Development of the Human Brain

After Prof. His. The series consists of 8 fixed models. Each model individually mounted on a stand with base. Weight of the series: 10.4 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 • UTERUS 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 MonthNatural 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 ${ }^{\circledR}$. 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 $\circledR$. 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 • 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 SOMSOPlast®. Uterus shown with bladder and ovaries. Median section. Separates into 2 parts. On a stand and green base. Height: 20 cm ., width: $12 \mathrm{~cm} .$, depth: 15 cm ., weight: 300 g .


MS $7 \cdot$ Mammary Gland in Resting Position

Somewhat enlarged, in SOMSOPlast®. 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 • Mammary Gland

 of a Nursing WomanSomewhat enlarged, in SOMSOPlast®. After diagrams by Prof. Dr. Petry. Separates into 2 halves. On a stand with green base. Height: 31 cm ., width: $19 \mathrm{~cm} .$, depth: 19 cm ., weight: 1 kg .


MS $42 \cdot$ 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 ${ }^{\circledR}$. 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


SOMSO
MODELLE
SINCE 1876


Teaching babies

## Premature babies

Newborn babies
Nursing babies

\author{

1. Size and weight corresponding to age <br> 2. Natural body and head mobility <br> 3. Hand painted eyes and hair
}
2. Robust joints
3. Waterproof finish
4. 5-year warranty

5. For the SOMSO nursing babies MS 52 and MS 53 different colour eyes are available as a special order.

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

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

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

9. 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

## MS 43 .

## DOLL FOR

Baby Care
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.
 approx. 6 week old baby, in SOMSO-Plast ${ }^{\circledR}$. 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

## 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 • 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 58 •
Newborn Baby, Male
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 $60 \cdot$ 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 .


Extremities and Joints


## NS $1 \cdot$ Normal Foot

Natural size, in SOMSO-Plast ${ }^{\circledR}$. Showing the anatomical structure and the distal end of tibia. In one piece. Length (Pternion-Akropodion): 24 cm . Height: 13 cm ., width: 26 cm ., depth: 10 cm ., weight: 450 g .


## NS $2 \cdot$ Flat Foot

Natural size, in SOMSO-Plast®. Showing the anatomical structure and the distal end of tibia. In one piece. Height: 13 cm ., width: 26 cm ., depth: 9 cm ., weight: 450 g .


## NS 3 - Arched Foot

Natural size, in SOMSO-Plast®. Showing the anatomical structure and the distal end of tibia. In one piece. Height: 16 cm ., width: 24 cm ., depth: 10 cm ., weight: 450 g .


## NS 4 - Club-foot

Natural size, in SOMSO-Plast®. The model had been developed in co-operation with Dr. Urs Schneider. In one piece. Height: 13 cm ., width: 20.5 cm ., depth: 10.5 cm ., weight: 410 g .


## NS $5 \cdot$ Hallux valgus model

Natural size, in SOMSO-Plast $®$. The model had been developed in co-operation with Dr. Urs Schneider. In orthopaedics, the hallux valgus model is a frequently accompanying aspect of flat feet or pes plano valgus. In one piece. Height: 13 cm ., width: 25 cm ., depth: 10 cm ., weight: 430 g .


Natural size, in SOMSO-Plast®. Showing the surface muscles. In one piece. On a stand with green base. Height: 29 cm ., width: 32 cm ., depth: 17.5 cm ., weight: 600 g .


Natural size, in SOMSO-Plast ${ }^{\circledR}$. Sagittal section through the inside of the foot. Showing the surface muscles at the right half of the foot. In one piece. On a stand with green base. Height: 28 cm ., width: 29 cm. , depth: 17.5 cm ., weight: 600 g .


## NS 9 .

## Muscles of the Foot

Natural size, in SOMSO-Plast ${ }^{\circledR}$. Showing the network of nerves and vessels. The layers of the muscles of the sole of the foot are removable. Ligamentous apparatus is shown. Separates into 9 parts. On a stand with green base. Height: 18 cm ., width: 33 cm ., depth: 18 cm ., weight: 1.1 kg .


NS $15 \cdot$ MUSCLES OF the Arm with Shoulder Girdle
Natural size, in SOMSOPlast®. Showing the network of blood vessels and nerves in the right arm. Separates into 6 parts. The following muscles are removable: deltoid muscle, lateral head of the triceps muscle of the arm, short and long extensor muscle of the radial wrist with brachioradial muscle, round pronator muscle flexor muscle of the radial wrist - long palmar muscle, superficial flexor muscle of the fingers. Mounted upright on a stand with green base. Height: 105 cm., width: 39 cm ., depth: 26 cm ., weight: 4.6 kg .

NS 10•Muscles
of the Leg with Base of Pelvis
A little smaller than natural size, in SOMSO-Plast®. Showing the most important blood vessels and nerves in the left leg. The following muscles are removable: greater gluteal muscle, tensor muscle of the broad fascia, sartorius muscle, straight muscle of the femur, semimembranous muscle, semitendinous muscle, biceps muscle of the femur, digitorum longus muscle, triceps muscle of the calf. Separates into 10 parts. Mounted upright on a stand with green base. Height: 108 cm., width: 39 cm ., depth: 26 cm ., weight: 5 kg .


## NS $13 \cdot$ Muscles of the Hand with Base of Fore-Arm

Natural size, in SOMSO-Plast®. Aponeurosis of the inner hand with the superficial muscles removable in layers. Showing the network of blood vessels and nerves as well as ligamentous apparatus. Separates into 5 parts. On a stand with green base. Height: 34 cm ., width: 14 cm ., depth: 12 cm ., weight: 500 g .


NS 13/1-E

## Surgical Hand

Model in a didactic Colour-Scheme

Natural size, in SOMSO-Plast ${ }^{\circledR}$ 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 green base. Height: 33 cm ., width: 18 cm., depth: 18 cm ., weight: 800 g .


NS $17 \cdot$ Shoulder Joint
Natural size, in SOMSO-Plast®. With ligaments and synovial capsule. In one piece. On a stand with green base. Height: 23 cm ., width: 19 cm ., depth: 19 cm ., weight: 500 g .


## NS $20 \cdot$ Hip Joint

Natural size, in SOMSO-Plast®. Showing the ligaments. In one piece. On a green base. Height: 28 cm ., width: 18 cm ., depth: 18 cm ., weight: 600 g .

## NS 18 .



## Elbow Joint

Natural size, in SOMSO-Plast®. Showing the ligaments. In one piece. On a green base. Height: 21 cm ., width: 13 cm ., depth: 12 cm ., weight: 200 g .


## NS $19 \cdot$ Knee Joint

Natural size, in SOMSO-Plast®. Showing the ligaments and menisci. In one piece. On a green base. Height: 24 cm ., width: 12 cm. , depth: 14 cm ., weight: 300 g .

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

Natural size, in SOMSO-Plast®. Consisting of the lower parts of ulna and radius, the carpal bones, metacarpal bones and the finger bones in connection with the ligamentous apparatus. In one piece, on a stand with green base. Length (StylionDaktylion III): 16.8 cm . Height: 34 cm ., width: 18 cm ., depth: 18 cm ., weight: 650 g .


## NS $21 \cdot$ Ankle Joints with LigAments

Natural size, in SOMSO-Plast®. Consisting of the bones of the foot and the lower part of the lower leg with ligamentous apparatus. Length (Pternion-Akropodion): 21.5 cm . In one piece. On a stand with green base. Height: 38 cm ., width: 18 cm ., depth: 18 cm ., weight: 400 g .


NS $37 \cdot$ LigAMENTS
of the Ankle with Open TALONAVICULAR JOINT
To show the deep-set ligaments. Cast from natural specimen, in SOMSOPlast $\circledR$. Separates into 2 parts. Height: 14 cm ., width: 14.5 cm ., depth: 7.5 cm ., weight: 400 g .

The advantages of SOMSO functional models:


1. Authentic reproduction of articulation
2. High quality, strong, durable flexible plastic for the ligaments
3. Use of screw connections wherever possible
4. Easy to handle when removed from the stand
5. Description key under the base
6. 5-year warranty


NS $50 \cdot$ FUNCTIONAL Model of the Knee Joint
Natural size, in SOMSO-Plast®. The following movements are possible: flexion, extension, inner and outer rotation. Removable from green base. Height: 34 cm ., width: 18 cm ., depth: 18 cm ., weight: 1 kg .


NS $51 \cdot$ FUNCTIONAL Model of the Hip Joint
Natural size, in SOMSO-Plast®. The following movements are possible: raising of the thigh (anteversion), retracting of the thigh (retroversion), lifting up of the thigh to the side (abduction), inner and outer rotation. On a removable stand with green base. Height: 35 cm ., width: 20 cm ., depth: 18 cm ., weight: 1.25 kg .


## NS 54 • Functional Model of the Ankle Joints

Natural size, in SOMSO-Plast®. The following movements are possible: flexion and extension (up and down movement of the foot) and rotation (inward and outward turning of the foot). On a removable stand with green base. Length (Pternion-Akropodion): 25.2 cm . Height: 25 cm ., width: 28 cm ., depth: 18 cm ., weight: 900 g .


NS $52 \cdot$ Functional Model of the Elbow Joint
Natural size, in SOMSO-Plast®. The following movements are possible: extension and flexion of the upper arm and forearm, rotation of the radius. Pronation and supination. On a removable stand with green base. Height: 41 cm ., width: 19 cm ., depth: 22 cm ., weight: 650 g .


## NS $53 \cdot$ FUNCTIONAL Model of The Shoulder Joint

Natural size, in SOMSO-Plast®. The following movements are possible: raising of the arm (abduction), swinging of the arm (anteversion), back swinging of the arm (retroversion), inner and outer rotation. On a removable stand with green base. Height: 26 cm ., width: 19 cm ., depth: 22 cm ., weight: 650 g .

(F)

## NS 55 • FUNCTIONAL Model of The Hand and Finger Joints

Natural size, in SOMSO-Plast $®$. The following movements are possible: flexion and extension, abduction and adduction, opposition and reposition of the thumb, dorsal and palmar flexion, radial abduction and ulnar abduction of the hand. On a removable stand with green base. Length (Stylion-Daktylion III): 19.8 cm . Height: 36 cm ., width: 18 cm ., depth: 19 cm ., weight: 400 g .


## NS 54/1 • Functional Model of the Tarsus

Natural size, in SOMO-Plast®. The model had been developed in co-operation with Dr. Urs Schneider. On a stand with green base. Height: 28 cm ., length: 28 cm ., depth: 16.5 cm ., weight: 1.2 kg .

Sections of joints in SOMSO-Plast ${ }^{\circledR}$, in a series of models NS 43 - NS 48. Cast from natural bone sections with topography of muscles, ligaments, vessels and nerves. Each with explanation on the green board. Under removable transparent cover.

NS 43 .
Section through the Knee Joint
Natural size, in SOMSO-Plast®. Sagittal section. In one piece. Height: 26 cm ., width: 32 cm ., depth: 4 cm ., weight: 800 g .

## NS 44 .

Section through the Hip Joint
Natural size, in SOMSO-Plast®. Frontal section. In one piece. Height: 26 cm ., width: 32 cm ., depth: 4 cm ., weight: 900 g .

## NS $45 \cdot$ SECTION <br> through the Hand

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

## NS 46 .

## Section through the Elbow

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

## NS 47 .

## Section through a Normal Foot

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

## NS 48 .

Section through the Shoulder Joint
Natural size, in SOMSO-Plast®. Frontal section. In one piece. Height: 26 cm ., width: 32 cm ., depth: 4 cm ., weight: 900 g .


NS 46


NS 43


NS 44


NS 45


NS 47


NS 48


NS 45 detail


SOMSO
MODELLE
SINCE 1876


Models designed from the heart surgeon's viewpoint


## SOMSO models in Medical Schools

The education of new medical students sets Universities tasks which can be solved in part by SOMSO models. SOMSO models are manufactured for many disciplines offering valuable support in lessons.

The functional models cover special areas and allow, in part, realistic movement. The medical teaching profession chooses SOMSO models for their lifelike representation, their handling and their scientific accuracy.


OS 7-SERIES OF Models Representing Congenital Organic Heart Defects
in SOMSO-Plast®. Comprises 4 individual models. Description as for OS $7 / 1$ to OS 7/4. Weight: 1.75 kg .


## Models designed from the viewpoint of cardiac surgery

An exceptional medium for understanding congenital organic heart defects:

- For the education and further training of doctors, nurses and students.
- For training specialists in cardiology and cardiac surgery.
- Four models for basic medical training, clinical training, nurse training schools and the enlightenment of patients.

OS 7/3


OS 7/3 • Various Defects of the Ventricular Septum
(Defect of the ventricular septum). Enlarged approx. 3 times, in SOMSO-Plast $®$. The most common defect of the ventricular septum is in the so-called membranous septum, i.e. in the upper part of the ventricular septum under the tricuspid valve. In one piece. Removable from green base. Height: 18 cm ., width: 12 cm ., depth: 14 cm ., weight: 450 g .

## OS 7/4•TOTAL <br> Atrioventricular Canal

Enlarged approx. 3 times, in SOMSOPlast $®$. In the case of this rare congenital anomaly of the atrial and ventricular septum there is a defect in every septum and the atrioventricular valve is not formed normally. In one piece. Removable from green base. Height: 18 cm ., width: 12 cm ., depth: 14 cm ., weight: 400 g .


SOMSO
MODELLE
SINCE 1876


Natural bone structure is the essential yardstick for SOMSO artificial bone models


## QS 1-Artificial Human SKULL

Natural cast, in SOMSO-Plast®. Lower jaw removable. Separates into 2 parts. Weight: 700 g .


## QS 7/T • Artificial

 Transparent Human SkULLNatural cast, in SOMSO-Plast ${ }^{\circledR}$. Removable vault. Lower jaw movable. Life-like reproduction of the bony structure. Separates into 3 parts. Weight: 800 g .


## QS 7/7•Artificial Human Skull

As QS 7, but without teeth (skull of an old man). Separates into 3 parts. Weight: 800 g .


## QS $2 \cdot$ Artificial Human Skull

Natural cast, in SOMSO-Plast®. Removable vault. Lower jaw is movable and modelled to show the roots of the teeth and their network of vessels. Base of the skull and roof with markings in colour of the venous sinus of the dura mater of the brain and the arteries. Separates into 3 parts. Length: 17.5 cm ., width: 14.1 cm ., size: 51.2 cm ., weight: 800 g .

## QS $2 / 1 \cdot$ Artificial Human Skull

Natural cast, in SOMSO-Plast®. As QS 2, but with notation and explanation in English and Latin. Separates into 3 parts. Weight: 800 g .


## QS 7/6 • Artificial Human Skull, Female

Natural cast, in SOMSO-Plast®. Removable vault. Lower jaw movable. Life-like reproduction of the bony structure. Separates into 3 parts. Length: 18.3 cm ., width: 12.8 cm ., size: 50.8 cm ., weight: 700 g .

## QS 7/6-1 • ArTificial Human Skull, Female

Natural cast, in SOMSO-Plast ${ }^{\circledR}$. As QS 7/6, but with notation. Explanation in English and Latin. Separates into 3 parts. Weight: 700 g .


## QS 7•Artificial Human Skull

Natural cast, in SOMSO-Plast®. Removable vault. Lower jaw movable. Lifelike reproduction of the bony skull. Separates into 3 parts. Length: 17.5 cm ., width: 14.1 cm ., size: 51.2 cm ., weight: 800 g .

QS 7/2.

## Artificial Base of the

 SkullNatural cast, in SOMSO-Plast®. Designed for medical students. In one piece. Length: 17.5 cm ., width: 14.1 cm ., size: 51.2 cm ., weight: 530 g .


QS 7/E.

## Artificial Human Skull

Natural cast, in SOMSO-Plast®. Removable vault. Lower jaw movable. Separates into 3 parts. Length: 17.5 cm ., width: 14.1 cm ., size: 51.2 cm ., weight: 800 g .


## QS 7/1 • Artificial Human

 SkullNatural cast, in SOMSO-Plast®. As QS 7, but with notation and explanation in English and Latin. Separates into 3 parts. Weight: 800 g .


QS 7/5.

## Artificial Human Skull

Natural cast, in SOMSO-Plast®. As QS 7/1, but showing the areas of origin and onset of the most important muscles of the head. Separates into 3 parts. Length: 17.5 cm ., width: 14.1 cm. , size: 51.2 cm ., weight: 800 g .


## QS 3/3•Artificial Skull of a Fetus

Natural cast, in SOMSO-Plast®. In one piece. Length: 10.5 cm ., width: 8.5 cm ., size: 29.7 cm ., weight: 130 g .

## QS 3.

## Artificial Skull of A Newborn

Natural cast, in SOMSO-Plast®. Upper and lower jaw are open. Separates into 2 parts. Length: 12.1 cm. , width: 9.6 cm ., size: 33.9 cm ., weight: 180 g


QS 3/2. Artificial Skull of Child (About 6 Years Old)
Natural cast, in SOMSO-Plast®. Lower jaw movable. Upper and lower jaw are open to show the emergent second dentition. Separates into 2 parts. Length: 16 cm ., width: 11.5 cm ., size: 44 cm ., weight: 380 g .

## QS 3/2-E • Artificial

## Skull of Child

(About 6 Years Old)
Natural cast, in SOMSO-Plast®. Lower jaw movable. Separates into 2 parts. Length: 16 cm ., width: 11.5 cm ., size: 44 cm ., weight: 380 g .



## QS 7/8-E • Artificial Human Skull

developed in co-operation with Prof. Dr. med. Wolfgang Schmidt and Dr. med. Werner Scheller, Institute for Anatomy, University of Leipzig. Modelled according to nature, in SOMSO-Plast ${ }^{\circledR}$. After removing the cranium and the lower jaw, the base of the skull - sectioned medially - separates into two halves where the nasal septum, the paranasal sinuses and turbinate bones are shown. The lower jaw is movable. Separates into 5 parts. Length: 17.5 cm ., width: 14.1 cm ., size: 51.2 cm ., weight: 800 g .


## QS 7/9-E • Artificial Human Skull

developed in co-operation with Prof. Dr. med. Wolfgang Schmidt and Dr. med. Werner Scheller, Institute for Anatomy, University of Leipzig. Modelled according to nature, in SOMSO-Plast®. After removing the cranium and the lower jaw, the base of the skull - sectioned medially - separates into two halves where the nasal septum, the paranasal sinuses and turbinate bones (2) are shown. The nasal conchae can be removed. The lower jaw is movable. Separates into 9 parts. Length: 17.5 cm ., width: 14.1 cm ., size: 51.2 cm ., weight: 800 g .




## QS 8/11 • Artificial Demonstration Skull of an Adult

Natural cast, made of SOMSO-Plast®. With representation of the blood vessels and nerves ( N . trigeminus and N . opticus etc.). Separates into 10 parts:

1. Cranium with coloured vessels and blood supply of the hard meninx,
2. Base of the skull, sectioned medially,
3. Nasal septum removable. The paranasal sinuses and turbinate bones are shown,
4. The frontal sinus can be opened,
5. The maxillary sinus can be opened,
6. The right temporal bone can be taken out and opened. Representation of the bony labyrinths, the semicircular canals, the eardrum and the chain of auditory ossicles. A radial mastoidectomy is shown on the left temporal bone.
7. Removable lower jaw and roots of the teeth are exposed (flap).
Complete set of teeth. Length: 18 cm ., width: 13.1 cm ., size: 50.4 cm ., weight: 1 kg .

## QS 8/11-S • Artificial Demonstration Skull of an Adult

Natural cast, in SOMSO-Plast®. As QS 8/11, but with notation. Key in English and Latin. Weight: 1 kg .


## QS 8/2•14-Part Model of the Skull

Natural size, made from SOMSO-Plast®, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. The model is constructed from 14 individual parts, which can easily be dismantled and put back together by way of interconnecting plugs. The sphenoid bone, occipital bone and the two temporal bones form the basis of the skull; the two parietal bones and the frontal bone attach to the anterior of the sphenoid bone. The facial part of the skull is then completed through attachment of the right and left maxilla, each of which also includes the lacrimal, nasal and palatine bone. Facial and cranial bones (viscerocranium and neurocranium) are connected to each other on each side by the zygomatic bone. Zygomatic bone can be individually removed. Mandible is fixed into sockets on either side of the skull through a hinge-joint. Weight: 700 g .


## QS 8/218•18-Part Model of the Skull

Natural size, made from SOMSO-Plast ${ }^{\circledR}$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. The model is constructed from 18 individual parts corresponding to the natural bones. Apart from the cranium (frontal, parietal, occipital and sphenoid bones), the bones of the viscero cranium (ethmoid bone, vomer, palatine bone, zygomatic bone, maxilla and mandible) and the inferior nasal concha can be removed and re-assembled to form the complete skull. Assembling the different bones gives an impressive picture of the spacial architecture of the skull. This also enables a better understanding of the positions of the various bones cavities (orbit, nasal cavity, etc.). Weight: 640 g .


QS 8/218M • 18-PART Model of the Skull with Muscles of MASTICATION
Natural size, made from SOMSO-Plast®, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. Version as QS $8 / 218$ but with the addition of 4 muscles of mastication. Weight: 0.72 kg .

## QS 8/2M $\cdot 14$-Part Model of the Skull with Muscles of Mastication

Natural size, made from SOMSO-Plast®, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. As QS $8 / 2$ but with the addition of 4 muscles of mastication. This model allows the skull to be dismantled into 14 parts corresponding with the natural skull bones. Each of the 4 large masticatory muscles (temporalis and masseter muscles, lateral and medial pterygoid muscles), can be individually removed and fitted into their natural positions. This not only provides an impressive picture of the complicated mosaic of the skull bones but also shows the anatomy of the different masticatory muscles and their relationship to the temperomandibular joint and lower jaw. All muscles of mastication are shown exactly in their natural size and form. Weight: 0.7 kg .


QS 8/3•14-Part Coloured Model of the Human Skull
Natural size, made from SOMSO-Plast ${ }^{\circledR}$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. As QS $8 / 2$, but coloured. The individual bones are coloured to assist identification. This version of the model aids learning of the shape and size of the individual bones and thereby assists in the understanding of the mosaic-like structure of the human skull. Weight: 700 g .


QS 8/318.

## 18-Part Coloured Model of the Skull

Natural size, made from SOMSO-Plast ${ }^{\circledR}$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. The model is constructed from 18 individual parts corresponding to the natural bones. Weight: 0.64 kg .


QS 8/3M $\cdot 14$-Part Coloured Model of the Skull with Muscles of Mastication
Natural size, made from SOMSO-Plast®, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. Version as QS $8 / 3$, but with the the addition of 4 muscles of mastication. Weight: 0.715 kg .

## QS 8/318M • 18-Part Coloured Model of

 the Skull with Muscles of MasticationVersion as QS $8 / 318$ but with the addition of 4 muscles of mastication. Weight: 0.72 kg .


## QS 8/2C+M • 14-Part Model of the Skull with Cervical Vertebral Column, Hyoid Bone and Muscles of Mastication

Natural size, made from SOMSO-Plast®, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. As QS 8/2, but with the addition of 4 muscles of mastication and cervical vertebral column and hyoid bone. Weight: 1.72 kg .

QS 8/218C+M • 18-PART
Model of the Skull with
Cervical Vertebral
Column, Hyoid Bone and
Muscles of Mastication
Natural size, made from SOMSO-Plast ${ }^{\circledR}$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. As QS $8 / 2$ but with the addition of 4 muscles of mastication and cervical vertebral column and hyoid bone. Weight: 1.72 kg .


Natural size, made from SOMSO-Plast ${ }^{\circledR}$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. As QS $8 / 3$ but with the addition of 4 muscles of mastication and cervical vertebral column and hyoid bone. Weight: 1.72 kg .

QS 8/318C+M $\cdot$ 18-Part Coloured Model of the Skull with Cervical Vertebral Column, Hyoid Bone and Muscles of Mastication

Natural size, made from SOMSO-Plast®, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. As QS $8 / 318$ but with the addition of 4 muscles of mastication and cervical vertebral column and hyoid bone. Weight: 1.72 kg .


## QS 8/6•Falx Cerebri

Natural size, made from SOMSOPlast $®$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. The 14 or 18 part skulls series QS $8 / 2$ and QS $8 / 3$ can also be supplied with a transparent plastic falx cerebri with tentorium cerebelli. Weight: 66 g .


QS 8/2C•14-Part Model of the Skull with Cervical Vertebral Column and Hyoid Bone

Natural size, made from SOMSO-Plast ${ }^{\circledR}$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. As QS $8 / 2$ but with cervical vertebral column and hyoid bone. Weight: 1.22 kg .

QS 8/218C•18-Part Model of the Skull with Cervical Vertebral Column and Hyoid Bone
Natural size, made from SOMSO-Plast ${ }^{\circledR}$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. As QS 8/218 but with cervical vertebral column and hyoid bone. Weight: 1.22 kg .


QS 8/3C•14-Part Coloured Model of the Skull with Cervical Vertebral Column and Hyoid Bone
Natural size, made from SOMSO-Plast ${ }^{\circledR}$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. Version as QS $8 / 3$ but with cervical vertebral column and hyoid bone. Weight: 1.22 kg .

QS 8/318C • 18-PART
Coloured Model of the Skull with Cervical Vertebral Column and Hyoid Bone

Natural size, made from SOMSO-Plast ${ }^{\circledR}$, after Prof. J. W. Rohen, M. D., Department of Anatomy, University of Erlangen. Version as QS $8 / 318$ but with cervical vertebral column and hyoid bone. Weight: 1.22 kg .

## Anatomy 16 - Artificial Bone Models




Detail- Os occipitale


Detail - Joints stand


Detail - Taking part and putting back the individual bones

## QS 9•Artificial Bauchene Skull of an Adult

Natural cast, in SOMSO-Plast®. Natural representation of bone structure in all anatomical details. All the bones are mounted on a plastic base corresponding to the shape of the skull, and can be removed from this base. Separates into 16 parts: Os frontale, Os parietale (2), Os temporale (2), Os zygomaticum (2), Os nasale (2), Os occipitale, Maxilla (2) with Os lacrimale, Concha nasalis inferior and Os palatinum, Vomer, Os ethmoidale, Os sphenoidale, Mandibula. Articulated stand to facilitate demonstrations. Height: 40 cm ., width: 26 cm ., depth: 39 cm ., weight: 1.9 kg .


QS 9/3 • Artificial Bauchene Skull of an Adult

Natural cast, in SOMSO-Plast®. Comprises 22 of parts. All bones supplied loose and unmounted in plastic bags in a cardboard box. Weight: 550 g . Illustration of the individual bones see QS 9/1


QS 9/2•ARTIFICIAL
Bauchene Skull of an Adult
Natural cast, in SOMSO-Plast ${ }^{\circledR}$. Comprises 22 parts. Unmounted, each bone individually packed in a transparent box. Weight: 2.2 kg . Illustration of the individual bones see QS 9/1


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

## QS 9/1•ARTIFICIAL <br> BaUchene Skull of an Adult

Natural cast, in SOMSO-Plast ${ }^{\circledR}$. Comprises 22 parts. Unmounted in a case. Height: 12 cm ., width: 42 cm ., depth: 30 cm ., weight: 3 kg .


QS 8/51 • Artificial Temporal Bone
Natural cast, in SOMSO-Plast®. In one piece. On a stand with base. Height: 17 cm ., width: 12 cm ., depth: 12 cm ., weight: 150 g .


## QS 7/3 • Artificial Hyoid Bone

Natural cast, in SOMSO-Plast®. In one piece. On a stand with base. Height: 13 cm ., width: 12 cm ., depth: 12 cm ., weight: 130 g .


## QS $69 \cdot$ The Three Auditory Ossicles

Cast from natural specimen, in SOMSO-Plast $\circledR$. Malleus, incus and stapes mounted on a base under a transparent cover Height: 3 cm ., width: 12 cm ., depth: 12 cm ., weight: 80 g .


QS 70 .

## Artificial Bony Labyrinth

Cast from natural specimen, in SOMSO-Plast®. The labyrinth is mounted under a transparent cover. On a base. Height: 3 cm ., width: 12 cm ., depth: 12 cm ., weight: 80 g .


## QS 8/53 • Artificial Temporal Bone

Natural cast, in SOMSO-Plast ${ }^{\circledR}$. 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 base. Height: 17 cm ., width: 12 cm ., depth: 12 cm ., weight: 150 g .

## QS 8/54. <br> Artificial <br> Temporal Bone

Natural cast, in SOMSOPlast®. 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 base. Height: 17 cm ., width: 12 cm. depth: 12 cm ., weight: 150 g .


## QS 69/1 • The Three Auditory Ossicles

Cast from natural specimen, in SOMSO-Plast®. Malleus, incus and stapes mounted in natural position under a transparent cover. Removable. Height: 3 cm ., width: 12 cm ., length: 12 cm ., weight: 80 g .


## QS 70/1•The Three Auditory Ossicles with Bony Labyrinth

Cast from natural specimen, in SOMSO-Plast®. Mounted under a transparent cover. Removable. On a stand. Height: 3 cm ., width: 12 cm ., length: 12 cm ., weight: 80 g .

## SOMSO-Storage-EQuipment <br> CASES, BOXES AND STANDS FOR SOMSO ARTIFICIAL bONE MODELS



QS 8.
Transparent Dustproof Cover
Suitable for the artificial human skulls. Height: 21 cm ., width: 32 cm. , depth: 19 cm ., weight: 600 g .

QS 8/E•Transparent Dustrroof Cover

Suitable for the artificial human skulls. Height: 18.2 cm ., width: 26.3 cm ., depth: 19.7 cm ., weight: 621 g .


Illustration QS 40/3 with QS 40/1


## QS 8/4.

Transparent Case
Hinged and made out of transparent plastic. Suitable for SOMSO skulls. Weight: 900 g .


QS 40/3.
BOX
Box with compartments for QS 40/1 or QS 40/2. Height: 19 cm ., width: 63 cm ., depth: 41 cm ., weight: 3.4 kg .


QS 9/4.
Transparent Storage CASE

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


Metal Stand with green BASE

Suitable for the SOMSO skull models. Height: 19 cm ., width: 18 cm ., depth: 18 cm ., weight: 300 g . Illustration of the stand with the skull model e.g. QS $8 / 3 \mathrm{C}$, see page 119

## QS 10 .

## Artificial Human

## SkEleton

Natural cast of the bones of a male adult, in SOMSOPlast®. Showing life-size all the anatomical details of the bone structure. Skull with removable vault and mandible. Joints mounted and movable, upper and lower extremities can be removed. Left and right feet can be removed. Mounted upright on a stand. With a dustproof cover. Height: 179 cm . (skeleton 170 cm .), width: 55 cm ., depth: 55 cm ., weight: 10 kg .

## QS 10/1.

## Artificial Human

## Skeleton

Natural cast of the bones of a male adult, in SOMSOPlast®. As QS 10, but with rollers on the base of the stand. Height: 180 cm . (skeleton 170 cm .), width: 55 cm ., depth: $55 \mathrm{~cm} .$, weight: 10.4 kg .

## QS 10/E.

## Artificial Human

## Skeleton

Natural cast of the bones of a male adult, in SOMSOPlast ${ }^{\circledR}$. Showing life-size all the anatomical details of the bone structure. Skull with removable vault and mandible. Joints mounted and movable, upper and lower extremities can be removed. Hands and feet cannot be removed. Mounted upright on a stand. With a dustproof cover. Height: 179 cm . (skeleton 170 cm .), width: 55 cm ., depth: 55 cm., weight: 10 kg .


Important information:
The height and dimensions are based on the Central European average.

Maximum cranium circumference:
Female 50.8 cm .
Male 51.2 cm .
Cranium length
(Glabella-Ophistocranion
line):
Female 18.3 cm .
Male 17.5 cm .
Cranium width
(Euryon distance):
Female 12.8 cm .
Male 14.1 cm .
Hand skeleton length
(Stylion-Dactylion III):
Female 18 cm., Male 19 cm .

Foot skeleton length
(Pternion-Acropodion):
Female 22.2 cm ., Male 25 cm .


Detail - Hyoid bone

Detail - Thorax bone from the top

The assembly of SOMSO skeletons is anatomically correct, functional and practice-orientated.


Detail - Wrist


Detail - Ankle



Detail QS 10/2-Muscular function


Detail Hook for hanging QS 10/3 QS 10/10 QS 10/11
hanging QS 10/4
QS 10/12
QS 10/13
QS 10/13GA
QS 10/14


The artificial skeletons are articulated standing or suspended, rigid or articulated - with muscular attachments, numbering, ligaments or muscle function, according to the customer's requirements.

## QS 10/2 • Artificial Human Skeleton

Natural cast of the bones of a male adult, in SOMSO-Plast $®$. As QS 10, but on one arm the muscles of the upper arm are reproduced. By bending or stretching the arm the flexion or extension of the muscles can be shown. Schematic working model. Height: 179 cm . (skeleton 170 cm. ), width: 55 cm ., depth: 55 cm ., weight: 10.1 kg .

## QS 10/3 • Artificial <br> Human Skeleton

Natural cast of the bones of a male adult, in SOMSO-Plast®. As QS 10, but with a hook in the skull for hanging (without stand). Height: 170 cm ., width: 38 cm ., depth: 28 cm ., weight: 8.8 kg .

## QS 10/4 • Artificial Human Skeleton

Natural cast of the bones of a male adult, in SOMSO-Plast®. As QS 10/3, but mounted on a hanging stand and base. Height: 180 cm . (skeleton 170 cm.), width: 55 cm. , depth: 55 cm ., weight: 11.5 kg .

## QS 10/7•ARTIFICIAL Human Skeleton

Natural cast of the bones of a female adult, in SOMSO-Plast®. Life-like representation of bone structure with full anatomical detail. Skull with removable vault and mandible. Joints movable, upper and lower extremities can be removed. Left and right feet can be removed. Mounted on a stand. Height: 180 cm . (skeleton 171 cm .), width: 55 cm ., depth: 55 cm ., weight: 10.4 kg .

## QS 10/8 • Artificial Human Skeleton

Natural cast of the bones of a female adult, in SOMSO-Plast $®$. As QS 10/7, but with rollers on the base of the stand. Height: 181 cm . (skeleton 171 cm. ), width: 55 cm ., depth: 55 cm ., weight: 10.7 kg .

## QS 10/10•Artificial Human Skeleton

Natural cast of the bones of a female adult, in SOMSO-Plast®. As QS 10/7 but with a hook in the skull for hanging (without stand). Height: 171 cm ., width: 39 cm ., depth: 28 cm ., weight: 8.5 kg .


## QS 10-STR

## BASE WITH Rollers

Lower part of the stand for the skeletons consists of: stand and base with 5 rollers, suitable for all SOMSO skeletons.

## QS 10-STG.

## Base with Feet

Lower part of the stand for the skeletons consists of: stand and base with 5 feet, suitable for all SOMSO skeletons.


## QS 10/6•ARTIFICIAL Human Skeleton

Natural cast of the bones of a male adult, in SOMSO-Plast $®$. As QS 10 , but on the right side of the body the ligaments of the shoulder,elbow, hip and knee are shown for anatomically accurate demonstration of joint movement. Mounted on a stand with rollers. Height: 180 cm . (skeleton 170 cm .), width: 55 cm ., depth: 55 cm ., weight: 11.2 kg .

## QS 10/9 • Artificial Human Skeleton

Natural cast of the bones of a male adult, in SOMSO-Plast®. Upper limbs including the shoulder girdle can be removed. The lower limbs can also be removed and both the right and left foot can be detached from the leg. The right side shows all the muscles from head to foot with their areas of origin and attachment in colour (origin, red, attachment, blue). On the left side all the bones are identified and numbered (more than 500 numbers). Mounted on a stand with rollers. Height: 180 cm . (skeleton 170 cm. ), width: 55 cm ., depth: 55 cm ., weight: 10.4 kg .

## QS 10/11•ARTIFICIAL Human Skeleton

Natural cast of the bones of a male adult, in SOMSO-Plast®. As QS 10/9, but with a hook in the skull for hanging (without stand). Height: $170 \mathrm{~cm} .$, width: 38 cm ., depth: 28 cm ., weight: 8.8 kg .

## QS 10/6 + $9 \cdot$ Artificial Human Section*

Natural cast of a male adult skeleton made of SOMSO-Plast®. On the right side of the body the bones are numbered and the ligaments of the shoulder, elbow, hip and knee are shown for anatomically accurate demonstration of joint movement. The points of origin and attachment of the most important muscles from head to foot are marked in colour on the left side of the body (origin red, attachment blue). Mounted on a stand with rollers. Height: 180 cm . (skeleton 170 cm .), width: 55 cm ., depth: 55 cm ., weight: 11.2 kg .

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## QS 10/13 GA • Artificial Human Skeleton

Version as QS 10/13 but with extended stand and support for the ala of the ilium, flexible thoracic cage and telescopic chest support.

## QS 10/12 • Artificial Human Skeleton

Natural cast of the bones of a male adult. As QS 10 , but with flexible vertebral column. Mounted on a stand with rollers. Height: 180 cm . (skeleton 170 cm .), width: 55 cm ., depth: 55 cm ., weight: 11 kg .

## QS 10/13•Artificial Human Skeleton

Natural cast of the bones of a female adult. As QS 10/7, but with flexible vertebral column. Mounted on a stand. with rollers. Height: 180 cm . (skeleton 171 cm .), width: 55 cm ., depth: 55 cm ., weight: 11 kg .

## QS 10/14•Artificial Human Skeleton

Natural cast of the bones of a male adult, in SOMSO-Plast $®$. As QS 10, but with flexible vertebral column and spinal cord with nerve endings Mounted on a stand. with rollers. Height: 180 cm . (skeleton 171 cm .), width: 55 cm ., depth: 55 cm ., weight: 11.5 kg .



## QS 10/12 T • Artificial Human Skeleton, TRANSPARENT

Natural cast of the bonesof a male adult, in SOMSO-Plast®. Showing lifesize all the anatomical details of the bone structure. Skull with removable vault and mandible. Joints mounted and movable, upper and lower extremities can be removed. Left and right feet can be removed from the leg. With flexible vertebral column. Mounted on a stand. with rollers. Height: 180 cm . (skeleton 171 cm. ), width: 55 cm ., depth: 55 cm ., weight: 11 kg .

All the artificial extremities are available to choice in transparent version and can be ordered with the suffix $T$.


QS 40/1 • UnMOUNTED

## Human Skeleton

Cast from natural specimen, in SOMSO-Plast®. With the exception of the skull (with removable vault and mandible), and one hand and one foot all the bones are unmounted. Supplied in plastic bags in a cardboard carton. Height: 26 cm ., width: 50 cm ., depth: 31 cm ., weight: 8.75 kg .

## QS 40/4•UnMOUNTED

## Female Human Skeleton

as QS 40/1, but female

## QS 41/1•UnMOUNTED <br> Human Half-Skeleton

Cast from natural specimen, in SOMSO-Plast®. With the exception of the skull (with removable vault and mandible), and one hand and one foot all the bones are unmounted. Supplied in plastic bags in a cardboard carton. Height: 26 cm ., width: 50 cm ., depth: 31 cm ., weight: 8.75 kg .
QS 41/4 • UnMounted
Female Human Half-

## Skeleton

as QS 41/1, but female
QS 41/1-N • UnMounted Human Half-Skeleton
As QS 41/1, but the hand and the foot are mounted on nylon.

## QS 40/2 • UnMOUNTED Human Skeleton

Cast from natural specimen, in SOMSOPlast®. With the exception of the skull (removable vault and mandible) all the bones are unmounted. Supplied in plastic bags in a cardboard carton. Height: 26 cm ., width: 50 cm ., depth: 31 cm ., weight: 8.75 kg .

## QS 41/2 • UnMOUNTED Human Half-Skeleton

Cast from natural specimen, in SOMSOPlast®. With the exception of the skull (with removable vault and mandible) all the bones are unmounted. Supplied in plastic bags in a cardboard carton. Height: 26 cm ., width: 50 cm ., depth: 31 cm ., weight: 5.5 kg .

Individual bones are also AVAILABLE AS LEFT OR RIGHT BONES AND CAN BE ORDERED with the suffix R or L, E.G. QS 18-R sCapula, RIGHT.

## QS 16/1•InNOMINATE

Weight: 390 g .
QS 16/3•SACRUM
Weight: 270 g .
QS 16/4 • COCcyx
Weight: 6 g .
QS 16/5•SACRUM WITH
COCCYX
Weight: 280 g .
QS $17 \cdot$ Vertebra
Choose from cervical, thoracic or lumbar vertebra. Weight: cervical vertebra 20 g , thoracic vertebra 25 g , lumbar vertebra 60 g .

QS 17/3 • Hyoid Bone
Weight: 4 g .
QS 17/22 • RIB
Alternatively 1. - 12. rib.
Weight: $10-30 \mathrm{~g}$.
QS 17/23•STERNUM
Weight: 220 g .
QS 17/24•Sternum
WITHOUT COSTAL CARTILAGE
Weight: 57 g .
QS $17 / 31 \cdot$ DISC
Choose from cervical, thoracic or lumbar disc. Weight: 2-17 g.

QS $18 \cdot$ SCAPULA
Weight: 110 g .
QS 19 .
Clavicle
Weight: 40 g .
QS 19/1 • Femur
Weight: 670 g .
QS 19/2 • Humerus
Weight: 270 g .
QS 19/3• Ulna and Radius
Weight: 160 g ..
QS 19/4•Tibia and Fibula
Weight: 460 g .
QS 19/5•Tibia
Weight: 390 g .
QS 19/6•Fibula
Weight: 70 g .
QS 19/7• Patella
Weight: 30 g .
QS 19/8 • UlNA
Weight: 80 g .
QS 19/9 • Radius
Weight: 80 g .
QS 19/10 • Foot Bone
Weight: 320 g .
QS 19/11 • Foot Bone, MOUNTED
Weight: 440 g .
QS 19/20 • Hand Bone
Weight: 110 g .

## QS 19/21 • HAND BONE, MOUNTED <br> Weight: 110 g .

QS 19/71 • CALVARIUM
Weight: 230 g .
QS 19/72 • Base of Skull
Weight: 520 g .
QS 19/73 • MANDIbLE
Weight: 88 g .
QS 40/70 • Skull
(Without suspension hole)
3 parts, weight: 800 g .


(F)

QS 13 .
Skeleton of the Lower Extremity with Pelvis
Cast from natural specimen, in SOMSOPlast®. Mounted and movable.
Length: 100 cm ., weight: 1.85 kg .


QS 42 .
Collection of Typical Human Bones
Cast from natural speciment, in SOMSO-Plast®. Consisting of skull (mounted), scapula, clavicle, humerus, radius, ulna, carpal bones, bones of the index finger, 3 each right and left ribs, one each cervical, thoracic and lumbar vertebra, innominate, sacrum, coccyx, femur, patella, tibia, fibula, tarsal bones and bones of the big toe. Supplied in plastic bags in a cardboard carton. Height: 26 cm ., width: 50 cm ., depth: 31 cm ., weight: 3.2 kg .


QS $16 \cdot$ Skeleton of Male Pelvis
Cast from natural specimen, in SOMSO-Plast®. Consisting of two innominates, sacrum and coccyx and fourth and fifth lumbar vertebrae with discs and symphysis. Mounted. Weight: 1.2 kg .


## QS 26•Skeleton of

 Female PelvisCast from natural specimen, in SOMSO-Plast®. Consisting of the two upper parts of ilium, sacrum and coccyx and 4th and 5th lumbar vertebrae, as well as the discs and symphysis. Mounted. Weight: 1.1 kg .

## QS $27 \cdot$ Skeleton of Female Pelvis

Cast from natural specimen, in SOMSO-Plast®. With base of femur. Mounted on a stand with green base. Height: 36 cm ., width: 39 cm ., depth: 26 cm ., weight: 2.5 kg.

QS 27/1 • Skeleton of Female Pelvis
Cast from natural specimen, in SOMSO-Plast ${ }^{\circledR}$. As QS 27 but without a stand and green base. Weight: 1.6 kg .
Measurements of the skeletons of the female pelvis page 89


## QS 17/2 • Collection of Vertebrae

Cast from natural specimen, in SOMSO-Plast®. Atlas, axis, cervical, thoracic and lumbar vertebrae mounted loosely on nylon. Weight: 140 g .

## QS $54 \cdot$ Case with Collection „Vertebrae and Spinal Cord"

Cast from natural specimen, in SOMSO-Plast ${ }^{\circledR}$, consisting of: 1. lumbar vertebra, 2. thoracic vertebra, 3. cervical vertebra, 4. atlas, 5. axis, 6. cervical vertebra with spinal cord and nerve endings, with explanation, 7. intervertebral disc. The models are in a transparent box with compartments. Height: 7 cm ., width: 32 cm ., depth: 18.5 cm ., weight: 800 g .


QS 17 •

## Vertebra

Cast from natural speciment, in SOMSOPlast ${ }^{\circledR}$. Choose from cervical, thoracic or lumbar vertebra. Weight: cervical vertebra 20 g , thoracic vertebra 25 g , lumbar vertebra 60 g .


QS 17/1 • First and Second Cervical Vertebrae
(Atlas and axis). Cast from natural specimen, in SOMSO-Plast $®$. Mounted and removable. Weight: 40 g .

QS 56 •
Atlas and Axis
Cast from natural
specimen, in SOMSO-Plast $®$. Mounted on a stand so that the pivot of the head can be demonstrated. Height: 12 cm .,




QS 57 •Atlas, Axis and
SQuamous
Part of the
Occipital
Bone
Cast from natural specimen, in SOM-SO-Plast $®$. Mounted on a stand so that the pivot of the head in connection with the skull-bone can be demonstrated. On a stand with green base. Height: 15 cm ., width: 12 cm. , depth: 17 cm ., weight: 210 g .


QS 22/2•Skeleton of the Foot, Right (Rigid)
Natural size, in SOMSO-Plast®, with distal ends of tibia and fibula. Modelled true to nature. In one piece. Lateral ray of the foot and the articular surfaces are shown in colour. Separates into 2 parts. Weight: 400 g .

QS 22/1•Skeleton of The Foot (Rigid)
Natural size, in SOMSO-Plast®, with distal ends of tibia and fibula. Modelled true to nature. In one piece. Weight: 400 g .


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


QS $23 \cdot$ Skeleton of the Foot (Flexible Mounting)
Cast from natural specimen, in SOMSO-Plast®. with distal ends of tibia and fibula. Flexibly mounted to show the change in position of the bones with a spread or flat foot. With numbering. Weight: 440 g .
 and fibula. Weight: 320 g. (Not illustrated).

QS 22/4 • Skeleton of the Foot, Right (Movable Joints and Coloured)
Life-size, made of SOMSO-Plast®, with distal ends of the tibia and fibula. Model for demonstrating foot movement. The individual bones are coloured to assist familiarization with the parts of the foot. In one piece. Weight: 400 g .
(F)



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

Natural size, in SOMSO-Plast®. Model for demonstrating foot movement. Shows: the ankle joints, the tarsal bones, the metatarso-phalangeal joints and the toe joints. In one piece. Weight: 400 g .

Where technically possible, artificial foot or hand skeletons are available to order assembled and articulated on nylon e.g. QS 22-N foot skeleton or QS 31-N hand skeleton both articulated on nylon.

QS $24-\mathrm{N}$.
Skeleton of THE FOOT ON Nylon
Cast from natural specimen, in SOMSOPlast®. Without base of tibia. Weight: 320 g .


QS 31/1 • Skeleton of Hand with Base of Forearm (Mounted on wire)
Cast from natural specimen, in SOMSO-Plast®. Mounted. Weight: 165 g .


QS 31/7 • Hand Skeleton with Forearm Connection (Flexible Mounting)
Natural casting. In SOMSO-Plast®. Flexibly mounted. For demonstrating the changes in position of the hand bones. With numbering. Weight: 165 g .


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


QS 31/5•Skeleton of the Hand (Movable Joints)
Natural size, in SOMSO-Plast ${ }^{\circledR}$. Model for demonstrating hand movement. In one piece. Weight: 200 g .


QS 31/4•Hand Skeleton, Right (Movable Joint Mechanism and Coloured)
Life-size, made of SOMSO-Plast ${ }^{\circledR}$, with distal ends of radius and ulna. Model for demonstrating hand movement The individual bones are coloured to assist familiarization with the parts of the hand. In one piece. Weight: 200 g .


QS 31/2•Skeleton of Hand with Base of Forearm

Natural size, in SOMSO-Plast $\circledR$, modelled true to nature. In one piece. Weight: 200 g .

All spinal columns, with the exception of QS 21/2, can be supplied to order with skull, thoracic cage and femur stumps and can also be supplied with the origins of muscles.


QS 15 .

## Vertebral

## Column

Cast from natural specimen, in SOMSOPlast®. Consisting of occipital bone, cervical, thoracic and lumbar vertebrae with sacrum and coccyx. Not flexible.
Weight: 1.6 kg .
QS $15-\mathrm{N}$.
Vertebral
Column
(Articulation ON NYLON)
Cast from natural specimen, in SOMSO-Plast ${ }^{\circledR}$. As QS 15, but articulated on nylon. Weight: 1.2 kg . not ill.

Where technically possible, artificial vertebral columns are available to order assembled and threaded on nylon e.g. QS 15-N vertebral column articulated on nylon.


QS 20•Vertebral Column with Pelvis

Cast from natural specimen, in SOMSO-Plast®. Consisting of occipital bone, cervical, thoracic and lumbar vertebrae, sacrum and coccyx and innominates. Not flexible. Weight: 2.6 kg .

QS $21 \cdot$ Vertebral (F) Column with Pelvis
Cast from natural specimen, in SOMSO-Plast®. As QS 20 but mounted and flexible. Designed for chiropractic demonstrations. Weight: 2.2 kg .


Coccyx


Demonstration of incorrect posture with SOMSO vertebral column

1. Straight back
2. Hollow back
3. Round back


QS 21/1 • Vertebral Column with Pelvis
Cast from natural specimen, in SOMSOPlast ${ }^{\circledR}$. Mounted and flexible, showing the arteria vertebralis, the spinal cord and the spinal nerves leaving it and the connected ganglion cells. Consisting of occipital bone, cervical, thoracic and lumbar vertebrae, sacrum and coccyx and innominates. Especially suitable for the demonstration of the curvature of healthy and pathological vertebral columns. Weight: 2.3 kg .

QS 21/3.
Vertebral
Column with Pelvis
Cast from natural specimen, in SOMSOPlast ${ }^{\text {R }}$. As QS 21/1 but with a stand for hanging. Weight: 3.6 kg .


QS 21/6

## Vertebral

## Column with Pelvis

Cast from natural specimen, in SOMSO-Plast®. Mounted and flexible, showing the arteria vertebralis, the spinal cord and the spinal nerves leaving it and the connected ganglion cells. Cervical, thoracic and lumbar vertebrae are shown in colour. With stand for hanging. Weight: 3.6 kg .


QS 21/2.
Vertebral
Column with Pelvis

Cast from natural specimen, in SOMSO-Plast ${ }^{\circledR}$. As QS 21/1, but the pelvis (axle of the femur joint) is mounted so that it is either flexible or fixed in the upright position. On a stand and green base. Weight: 3.8 kg .

## QS 21/4 •VERTEbRAL COLUMN with Pelvis

Cast from natural specimen, in SOMSOPlast $\circledR$. Mounted and flexible, showing the arteria vertebralis, the spinal cord and the spinal nerves leaving it and the connected ganglion cells. With prolapse of the intervertebral disc and laminectomy. Weight: 2.3 kg .

QS 21/5 • Vertebral Column with Pelvis

Cast from natural specimen, in SOMSOPlast $®$. As QS $21 / 4$ but with stand for hanging. Weight: 3.6 kg .


Cast from natural specimen, in SOMSO-Plast®. Flexible, with spinal cord and nerve endings. Mounted on a stand with green base. Height: 16 cm., width: 12 cm. , depth: 12 cm ., weight: 290 g .

(F)

QS 63 .
Thoracic Vertebral Column
Cast from natural specimen, in SOMSO-Plast®. Flexible, with spinal cord and nerve endings. Mounted on a stand and green base. Height: 37 cm., width: 18 cm. , depth: 18 cm ., weight: 750 g .


QS $58 \cdot$ Three Thoracic Vertebrae with Discs
Cast from natural specimen, in SOMSOPlast®. Mounted and detachable. On a stand with green base. Height: 13 cm ., width: 12 cm ., depth: 12 cm ., weight: 180 g .


QS 59•Three Lumbar Vertebrae with Discs
Cast from natural specimen, in SOMSOPlast®. Mounted and detachable. On a stand with green base. Height: 14 cm ., width: 12 cm ., depth: 14 cm ., weight: 330 g .

QS 64 .


## Vertebral Column

Cast from natural specimen, in SOMSOPlast®. Flexible, with lumbar region of spinal cord and nerve endings. Mounted on a stand and green base. Height: 32 cm ., width: 18 cm ., depth: 18 cm ., weight: 1 kg .


QS $65 \cdot$ Cervical Vertebral Column
Cast from natural specimen, in SOMSO-Plast®. Flexible, with occipital bone, spinal cord with spinal bulb and nerve endings. Presentation of the vertebral artery with laminectomy on C 4 . Removable on a stand with green base. Height: 22 cm ., width: 18 cm ., depth: 21 cm ., weight: 500 g .



QS $66 \cdot$ Lumbar
Vertebral
Column
Cast from natural specimen, in SOMSO-Plast®. With spinal cord and nerve endings. Shows hernia of dorsolateral intervertebral disc (prolapse of the pulpous nucleus). On a stand with green base. Height: 36 cm. , width: 18 cm ., depth: 18 cm ., weight: 1 kg .



## QS $61 \cdot$ Construction of Bone

Enlarged many times in SOMSO-Plast®. Wedge segment of compact part. Shows Haversian lamellae, outer bone and interstitial lamellae. In one piece. On a green base. Height: 28 cm ., width: 39 cm ., depth: 26 cm ., weight: 2.82 kg .


QS 66/1 • Lumbar Vertebral Column
Cast from natural specimen, in SOMSO-Plast $®$. As QS 66, but showing the spondylolisthesis. On a stand with green base. Height: 36 cm ., width: 18 cm ., depth: 18 cm ., weight: 1.2 kg .

QS 65/6
Artificial Base of Skull with ARTERIES

Cast from natural specimen, in SOMSO-Plast ${ }^{\circledR}$. Comprises: base of skull, mandible and cervical vertebrae with nerves. Representation of cervical arteries with internal passage through the base of skull with emphasis on basilar artery with complete circle of Willisi. In one piece. Movable. On a stand with green base. Height: 26 cm ., width: $18 \mathrm{~cm} .$, depth: 21 cm ., weight: 1.2 kg .


QS 65/5 Cervical Vertebral Column with Shoulder Girdle

Natural size, in SOMSO-Plast®. Showing the cervical plexus and the brachial plexus. Mounted on a stand with green base. Height: 57 cm ., width: 39 cm ., depth: 30 cm ., weight: 2.3 kg .


QS 65/7 • Neuroanatomy Head Model
Natural cast, made of SOMSO-Plast $\circledR$ ®. Comprises a Transparent Human Skull with Cervical Vertebral Column and 8 part model of the Brain with Indicated Cytoarchitectural areas. Shows the cranial nerves and the arterial network of vessels. Separates into 10 parts. On a stand with green base. Height: 29 cm ., width: 18 cm ., depth: 21 cm ., weight: 2.2 kg .


QS 66/3.
Model of the Lumbar
Spinal Column - without InNERVATION

Natural SOMSO-Plast ${ }^{\circledR}$ cast after PD Dr. med. H. R. Henche. Shows the many pathological conditions of the lumbar spine and the pelvis. Can be dismantled in two sections. Mounted on a stand with green base. Height: 39 cm ., width: 22 cm ., depth: 19 cm ., weight: 1.35 kg .

> Anatomy of the lumbar spinal column The new SOMSO models of the lumbar spinal column QS 66/2 and QS 66/3 are lifelike, scientifically accurate and practiceorientated.

The lumbar part of the cord, epidural cavity, all of the nerve roots, the plexus lumbalis, plexus sacralis, plexus coccygeus and the sympathetic trunk ganglia are shown in natural size. Comparison of the most important disorders:
Vertebral compression fracture
Tumorous mutations
Vertebral metastases
Spondylosis and
spondylarthrosis
Morbus Baastrup
Slipped disc
Spondylarthritic osteophytes



## QS 68/1 • First Lumbar Vertebra with Intervertebral Discs and Dorsal Muscles

Natural size, in SOMSO-Plast®. The spinal cord with spinal nerves as well as the central and dorsolateral hernia of intervertebral disc (prolapse of the intervertebral disc) are shown. In one piece. Removable. On a stand with green base. Height: 16 cm ., width: 12 cm. , depth: 12 cm ., weight: 230 g .


QS $67 \cdot$ Hernia of Dorsolateral Intervertebral Disc
Cast from natural specimen, in SOMSO-Plast®. Prolapse of the pulpous nucleus on the 4th and 5 th lumbar vertebra, compression of the nerve roots towards the wall of the intervertebral foramen, 4th lumbar vertebra and disc removable. Comprises 4 parts. On a stand with green base. Height: 12 cm ., width: 12 cm ., depth: 12 cm ., weight: 270 g .


## QS 66/4 • Osteoporosis Model

Natural cast made of SOMSO-Plast® according to Prof. Dr. med. H. R. Henche. Comparison of an osteoporotic and a healthy lumbar vertebra. The vertebral bodies sectioned and can be opened by a hinged joint. Comprises 4 parts. On green base. Height: 8 cm ., width: 21 cm ., depth: 15 cm ., weight: 0.26 kg .


## QS 68/3 • Central and Dorsolateral Hernia of Intervertebral Disc

Natural size, in SOMSO-Plast®. 4th and 5th lumbar vertebrae with lumbar region of spinal cord and with the following changeable discs 1 st normal, 2nd medial prolapse and 3rd lateral prolapse. Comprises 5 parts. On a green base. Height: 13 cm ., width: 14 cm ., depth: 15 cm ., weight: 300 g .
 Intervertebral Disc
Natural size, in SOMSO-Plast®, after Dr. Lie. Presentation of normal anatomy in conjunction with pathological changes:
I. Normal anatomy,
II. Anulus fibrosus according to Rumpert,
III. Dorso-lateral nuclear prolapse,
IV. Medial prolapse,
V. Spinal stenosis,
VI. L-4 Vertebral spondylolysis.

Separates into 10 parts. Height: 13 cm ., width: 14 cm ., depth: 15 cm ., weight: 500 g .


Demonstration Model of the Arm Muscles
Natural size, in SOMSO-Plast ${ }^{\circledR}$. Separates into 10 parts. The most important arm muscles can be traced to their points of attachment and origin both singly and in relation to each other. The muscle groups responsible for bending and stretching movements and pronation and supination can be demonstrated. On a stand with a green base. Height: 81 cm ., width: 38 cm ., depth: 38 cm ., weight: 4.4 kg .


QS 55/6 • Demonstration MODEL OF THE SHOULDER Muscles
Natural size, in SOMSO-Plast ${ }^{\circledR}$. Separates into 10 parts. All muscles can be traces to their point of attachment (blue) and their origin (red) both singly and in relation to each other. On a stand with green base. Height: 23.5 cm ., width: 20 cm ., depth: 26 cm ., weight: 1.45 kg .


QS 55/5 • MODEL OF THE Arm Muscles
Natural size, in SOMSO-Plast®. Separates into 24 parts. All muscles can be traced to their point of attachment (blue) and their origin (red) both singly and in relation to each other. On a stand with green base. Height: 81 cm ., width: 38 cm ., depth: 38 cm ., weight: 5.1 kg .

QS $55 \cdot$ MOVEMENTS OF Muscles in the Upper

## Arm

Natural size, in SOMSOPlast®. The muscles of the upper arm are of a flexible material. By bending and stretching the arm the flexion and extension of the muscles can be shown. Weight: 740 g .

QS 55/2 • Movement of Muscles in the Upper Arm and Forearm
Natural size, in SOMSO-Plast®. Showing the bending and stretching muscles of the upper arm and the rotator muscles of the forearm. By bending and stretching the arm, the flexion and extension as well as the movements around the rotary axis, the pronator and supinator muscles can be demonstrated. On a stand and green base. Height: 83 cm ., width: 45 cm ., depth: 26 cm ., weight: 2 kg .



SOMSO
MODELLE SINCE 1876


## SOMSO - <br> Human Fossil Models

Co-operation with the Faculty of Anthropology of the University of Goettingen.
All models in natural size and in SOMSO-Plast $®$.

## S $1 \cdot$ 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 <br> 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 <br> Homo ergaster <br> (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 ofHomo erectus (Trinil 3)
Natural size, in SOMSO-Plast®, site and date of finding: Trinil, Java, Indonesia, 1892. Age: Lower MiddlePleistocene, 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 <br> 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•RECONSTRUCTION

of the Skull of Homo
habilis (O.H. 24)
Natural size, in SOMSO-Plast ${ }^{\circledR}$, 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 $\cdot$ Reconstruction of Femur of Homo <br> NEANDERTHALENSIS

Natural size, in SOMSO-Plast $\circledR$, site and date of finding: Feldhofer Cave, Neander Valley near Düsseldorf, 1856. Age: middle Upper Pleistocene (Würm Glacial), approx. 60000 years old. Weight: 640 g .

## S $4 \cdot$ Reconstruction <br> of the Skull of <br> 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 $5 \cdot$ RECONSTRUCTION of a Skull of AustralOPITHECUS 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 $\cdot$ RECONSTRUCTION OF the Skull of Proconsul AFRICANUS <br> Natural size, in SOMSO-Plast ${ }^{\circledR}$, 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 AustralOPITHECUS AFRICANUSNatural 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 $\AA$, 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 $7 \cdot$ Reconstruction of Australopithecus AFARENSIS

Natural size, in SOMSO-Plast®, fossil sites of Australopithecus afarensis: Belohdelie, Fejej, Hadar (Denen DoraSidi 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 $8 \cdot$ 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 kg .

## S 11 . <br> 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, MindelRiss or Holstein Interglacial Period, approx. 250.000 years. Weight: 470 g .


## What you should know about Coburger Lehrmittelanstalt (CLA)

 and its products
## Philosophy

The aim of CLA is to make media available for health education. Accordingly this media contributes to the training of nursing personnel and doctors. CLA offers an extensive range of high quality products for this purpose.

This range of products covers the following 3 sectors:

1. Media section for health education e.g. slides, charts and overhead projection
2. The complete range of anatomical models from the famous manufacturers of SOMSO MODELS.
3. The nursing doll and medical phantom section with high quality products developed and produced solely by the company.

## The history of CLA

The "Coburger Lehrmittelanstalt" was founded on 8th July 1971 in Coburg, Germany. On the 1st January 1975 CLA took over the commercial distribution of products for the "Federal German Central Office for Health Education" in Cologne, Germany.

## The range of

## PRODUCTS

With the CLA 1 Nursing Doll, the CLA launched its range of life size practice dolls for training in nursing schools and the instruction of first aid personnel.

The world wide success and the high demand encouraged CLA to develop a number of nursing dolls to meet the most diverse medical and teaching requirements.

Now the comprehensive range of dolls, which covers premature birth, baby, infant and adult models, clearly shows that CLA offers a solution to meet almost all requirements.

To this must be added a wide and varied range of medical practice phantoms for training doctors and qualified medical personnel. CLA offers products for high standard, practical training in endoscopy, bronchoscopy, urology, intubation, arthroscopy and pelvioscopy.

## Product DEVELOPMENT

All CLA products are developed exclusively by the company. All phantoms go through complicated stages in development to strict scientific and practice-oriented standards set by experienced and internationally established practitioners.

Many years of intensive work and rigorous tests are carried out in the development of CLA medical practice phantoms before they reach series production. Close co-operation with practising scientists ensures a high standard of expertise and, as a result, creates realistic conditions for training.

It goes without saying that all models are subject to a continuous improvement process which integrates medical, therapeutic and technical innovations. Thus CLA customers get a product which combines high functionality with a long life. The various parts can be replaced and incorporate all the latest developments.

## Production

CLA products are only produced at the company's own factory in Coburg, Germany.

This ensures that only highly skilled specialists in their trade make these nursing dolls and phantoms in one-off, hand crafted production. The progress of the model through to final assembly ensures both the characteristic factory finish and highest quality in function and form. A large number of individual parts, materials and mechanical elements are integrated at each stage to create a model which meets the high standards set by the medical training profession.

## Function and WARRANTY

CLA nursing dolls and phantoms are based on normal diagnostic procedures and treatment. The sequence for diagnosis or nursing is as realistic as possible to create exacting practical conditions.

Because CLA uses very high quality materials and special production methods it can offer a full 2-year guarantee for its products.

## The service

Our employees are available on the telephone or on-site by appointment to advise on CLA models. CLA ensures that spare parts are available for dolls and phantoms that have been in use for many years and offers a factory repair service for damaged models.

Please would you contact the following department should you have further questions and suggestions:

CLA offers a complete range of SOMSO anatomy models. We shall be only too pleased to provide you with various catalogues which also cover zoology and botany models.


True to life training with the CLA-Nursing Doll,
CLA-Hospital Training Baby and the
CLA-Intubation phantoms

Anatomy 18 - CLA-Nursing Dolls


## TS 1 • CLA-Hospital Training Doll

Standard nursing doll in natural size for nursing care comprising of the following parts: Removable head, removable eyes, dentures and tracheostomy, thorax with chest wall and moving arms with infusion and injection pads, lower body with abdominal wall and anus praeter abdominal wall, injection pads in the buttocks, movable mounted legs with injection pads in the thigh, lung alveolus, stomach, intestines, detachable female and male genitalia with rectum and bladder. Length 178 cm ., weight approx. 23 kg .

## Table of Contents for Training Applications:

General Nursing:
a) Personal hygiene
b) Bed, and clothing changes
c) Bed sores (Decubitus)
d) Handling of injured limbs
e) Anus-praeter care
f) suprapubic puncture of the bladder
g) PEG catheter care
h) Tracheostomy care
i) care of the eye, and introduction of medications
j) care of the outer ear, introduction of medications

Training Applications
I. Enemas
a) Purgative enema/Clysma
b) Glycerine enema
II. Catheterisation
a) Male
b) Female
III. Physical Treatment
a) Respiration
b) Inhalation, oxygen treatment, resucitation
IV. Injections - Infusions - Transfusions
a) Injections
b) Infusions/Transfusions
c) Intravenous access
V. Rinsing
a) Stomach lavage
b) Bladder irrigation
c) Colonic irrigation, anus praeter

## VI. Bandaging




## TS $2 \cdot$ CLA-Hospital Training Doll

Hospital Doll used for medical training, natural size. As TS 1, but lungs with closure. With additional male genitalia (urinary bladder with a capacity of 2 litres). Length: 178 cm ., weight: approx. 23.5 kg .


## TS 3 • CLA-Nursing Doll

Nursing doll in natural size. Comprising of the following parts: Removable head, removable eyes, dentures and tracheostomy, thorax with chest wall and moving arms without infusion pads, injection pads in the buttocks and thighs, lower extremities (lower legs and feet can be removed by a screw attachment), lower body with abdominal wall and external female genitalia. Length: 178 cm ., weight: approx. 20 kg .



## TS $20 \cdot$ CLA-Hospital Training Baby

Natural size, approximately 4 weeks old. Made of plastic throughout comprising body with movable head, arms and legs. Length: 54 cm ., weight: 2.7 kg .

TS 20/B • CLA-Hospital Training Baby
as TS 20, but black in colour
TS 20/1 • CLA-Hospital Training Baby
as TS 20, but with aluminium case


## TS 8 .

## CLA-Intubation Dummy

Natural size. This functional model, which has been developed in cooperation with the Federal Centre for Health Education in Cologne, makes it possible to learn how to intubate under life-like conditions. In its design and construction special importance has been placed on natural size and anatomical features to develop a functional model. If during intubation too much pressure is applied through the laryngoscope to the upper incisors, an acoustic signal is heard. The correct location of the tube, inserted after intubation, may be confirmed by audible respiratory sounds through a stethoscope lateral to the left and right wall of the thorax. Height: 25 cm ., width: 71 cm ., depth: 42 cm ., weight: 15.2 kg .

To special order, the CLA-Nursing Doll can be combined with the CLA intubation phantom

(F)



TS 23 • CLA-Child Nursing Doll
Natural size. The doll with a length of 90 cm . and weighing 6 kg corresponds to a small child approximately 3 years old. This realistic training doll offers the facility for numerous nursing procedures for training paediatric nurses.



17th July 1876: Foundation of the company in Sonneberg, Thuringia by Marcus Sommer Sr. born 14th November 1845.

I 7.07.I 876


Continuation of the fungi model collection of H. Arnoldi, Gotha, from 1871, and the development of a collection of plastic fungi models - with more than 240 models today


I 9 I I


I 930


From November 1936, production and distribution of the thoroughbred animal statuette collection by Max Landsberg and C.A. Brasch.

I 936


I 948


I 876


1895


## I 927



I 934


I937

In Sonneberg,
Marcus Sommer begins the production of anatomical teaching models made of papier maché.

1st January 1895: Fritz Sommer, born 27th December 1879, inherits his father's business.

Good business relations have been in existence with Messrs. Adam,Rouilly, since 1927. Marcus Sommer Jr. was able to win over this customer in England.

After the death of her husband Fritz Sommer, Ida Sommer managed the company as partner until the confiscation in 1952.


12th October 1936:
Purchase and take-over of the Dr. h. c. Friedrich Ziegler Studio for
Scientific Plastics,
Freiburg in Breisgau

1936


I 947


Modeller Edgar Froeber, born 6th October 1919, enters the company. During his 40 years with the company he carried out the reorganisation in Coburg creating a large number of botanical and zoological models.


I 954


1963

25th March 1954 Re-introduction of the old company name Marcus Sommer SOMSOWerkstaetten, Coburg

1st September 1963: Hans Sommer, born 18th December 1944, enters the company.


I954

I 968


I 974


1992


I 7.07.200I

Scientific
co-operation begins with the Anthropological Institute, University of
Goettingen

18th December 1992
Re-assignment of the parent company in Sonneberg.


I 97 I


I 980


I 958

Scientific co-operation begins with Studiendirektor Christian Gross, Dillingen, with zoological models and the development of a new series of true to life animal sculptures.


17th November 1960: The start of the first stage of construction of the premises in Coburg,
Neuses

Co-operation begins with Dr. Eberhard Schicha in the development of insect models.

I 966

8th September 1971: Foundation of the sister company, CLA - Coburger Lehrmittelanstalt. Dietrich Krauß entered on 1st August 1955 the company and built succesfully the range of medicals phantoms. Together with Rudolf Galle, who entered on 1st August 1968.


I 974
The scientific consultancy begins with Professor Dr. Dr. Johannes W. Rohen, Anatomical Institute of the University of Erlangen for anatomical models and the development of a new series of dismantled models of the skull and the brain


I 988

Since 1988 SOMSO MODELLE have been advertised under the slogan "Nature is our Model" (photo: Rudi Schuhmann, an exceptional painter for over 36 years).


April to
November 1999: Special exhibition in the Deutsches Museum, Munich.

## I 999



The company has been changed into a German Limited Liability Registered Company. With this change, the fifth generation are now partners and the tradition of familiy
business, established in 1876, is able to continue.

OI.OI. 2007
Marcus Sommer SOMSO Modelle GmbH

Index of the complete SOMSO ANATOMY range.
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[^0]:    * The skeleton QS 10/6+9 is also available with wrist and ankle joint ligaments (Code QS 10/6+9 L.). For details see illustration of models NS 54 and NS 55 on page 106 and 107. Models QS 10/12 and QS 10/14 can be delivered with a new, improved stand which makes the complete model even more stable.

