



SEIT 1876



Somso Modelle

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# Artificial Bone Models Extremities and Joints

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## **HOLT ANATOMICAL, INC.**

P.O. Box 370749

Miami, Florida 33137-0749

TOLL FREE: 800 642-4658 (HOLT) WORLDWIDE: (305) 576-5640

BY FAX: (305) 576-5642

Web: <http://www.holtanatomical.com>

Email: [buy@holtanatomical.com](mailto:buy@holtanatomical.com)



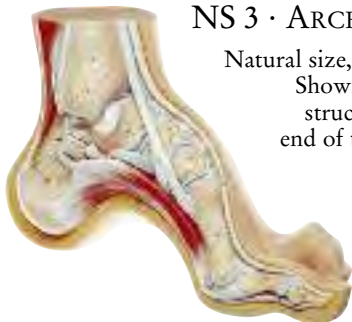
### NS 1 · NORMAL FOOT

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



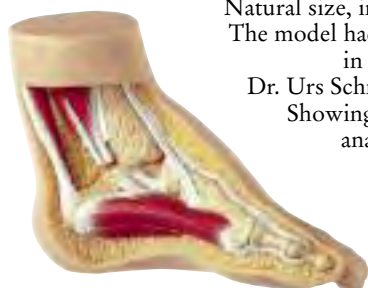
### NS 2 · FLAT FOOT

Natural size, in SOMSO-Plast. Showing the anatomical structure and the distal end of tibia. In one piece. Height: 13 cm., width: 26 cm., depth: 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 cooperation with Dr. Urs Schneider, Tübingen. Showing the pathological anatomy of the foot and distal tibia. Height: 13 cm., width: 20,5 cm., depth: 10,5 cm., weight: 410 g



### NS 9 · MUSCLES OF THE FOOT

Natural size, in SOMSO-Plast. Showing the network of nerves and vessels, the layers of the muscles of the sole of the foot are removable (M. flexor digitorum brevis, M. quadratus plantae, M. extensor digitorum longus, Tendo calcaneus (Achillis), M. abductor digiti minimi, M. flexor hallucis brevis, M. adductor hallucis (caput obliquum) and M. abductor hallucis), ligamentous apparatus is shown. Altogether in 9 parts. On a stand with base. Height: 18 cm., width: 33 cm., depth: 18 cm., weight: 1.1 kg



### NS 7 · NORMAL FOOT

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

### NS 8 · NORMAL FOOT

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



*This leaflet is an over-worked extract from our complete catalogue A 74. On page 98-104 you will find the extremities and joints and on page 110-139 the artificial bone preparations are shown. Our models are protected by copyright.*

*©2004 by Marcus Sommer, SOMSO Modelle.*

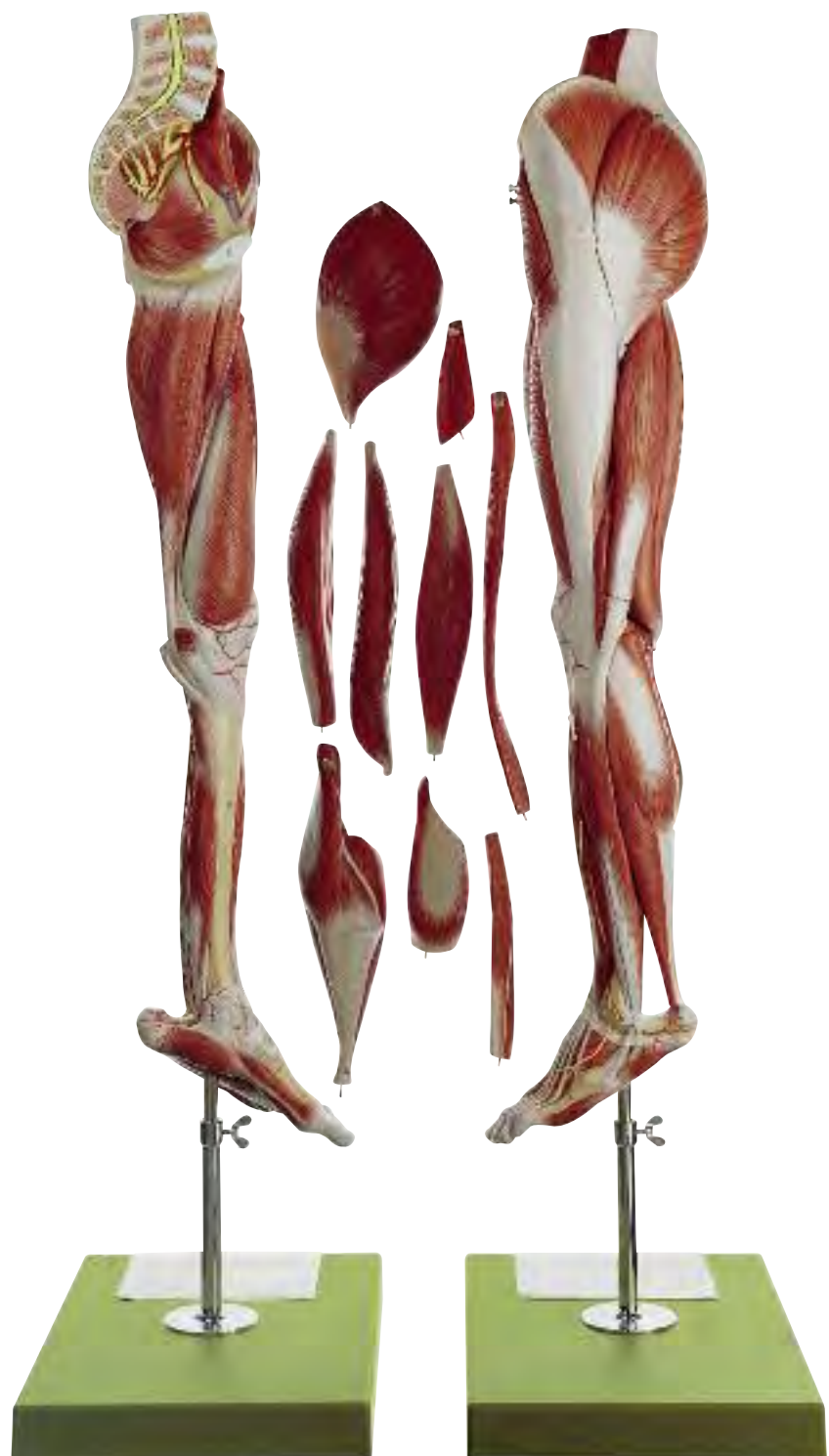
*Duplication and reprinting in any form by any method, whether digital or conventional processes, are prohibited.*



## NS 5 · HALLUX VALGUS MODEL

In cooperation with  
Dr. Urs Schneider, Tübingen

Natural size, in SOMSO-Plast. The purchased hallux valgus model is a frequent orthopaedic clinical picture as an accompanying aspect of splay feet or pes phanovagus. On the one hand the model shows the "first ray" pathology with abduction of the first metatarsal bone, adduction and pronation of the proximal phalanx as well as the facultative flexed distal phalanx. On the other hand the significance of the pathological muscle pull for the ethiology and therapy of the deformity is shown. The role of a pathological muscle pull direction in the progression of the hallux valgus can be studied as an example for many other deformities. Height: 13 cm., width: 25 cm., depth: 10 cm., weight: 430 g



## NS 10 · MUSCLES OF THE LEG WITH BASE OF PELVIS

A little under natural size, in SOMSO-Plast. Showing the most important blood vessels and nerves in the left leg. The following muscles are removable: the 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 altogether in 10 parts. Standing upright, revolving on a stand with base. Height: 108 cm., width: 39 cm., depth: 26 cm., weight: 5 kg



### NS 15 · MUSCLES OF THE ARM WITH SHOULDER GIRDLE

Natural size, in SOMSO-Plast. Showing the network of blood vessels and nerves in the right arm. 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. Altogether in 6 parts. Standing upright and revolving on a stand with base. Height: 105 cm., width: 39 cm., depth: 26 cm., weight: 4.6 kg



### NS 13 ·

### 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 (Mm. lumbricales, M. abductor pollicis brevis, M. abductor digiti minimi und M. flexor digiti minimi brevis). Showing the network of blood vessels and nerves as well as ligamentous apparatus. Altogether in 5 parts. On a stand with base. Height: 34 cm., width: 14 cm., depth: 12 cm., weight: 500 g

### ADVANCED NOTICE

### NS 13/1 ·

### SURGICAL HAND MODEL

This model has been developed in cooperation with Dr. Niels Benatar, Braunschweig. Natural size, in SOMSO plast, dismantlable and made up of 6 parts.

The colouring corresponds with the natural colours of the muscles, tendons, vessels and nerves during a empty blood operation carried out on the hand. Typical disease changes such as the carpal tunnel syndrome, snapping finger and the dupuytren's contracture can be shown and demonstrated on this model. On stand with plinth.

In preparation.



## NS 17 · SHOULDER JOINT

Natural size, in SOMSO-Plast. With ligaments and synovial capsule. In one piece. On a stand with base. Height: 23 cm., width: 19 cm., depth: 19 cm., weight: 500 g



## NS 18 · ELBOW JOINT

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



## NS 19 · KNEE JOINT

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

## *The advantages of SOMSO functional models*



1. *Authentic reproduction of the articular anatomy*
2. *Top quality, tough and durable flexible plastic for the ligaments*
3. *Use of screw connections wherever possible*
4. *Practical to handle by removal from the stand*
5. *Key on base*
6. *5-year warranty*



## NS 20 · HIP JOINT

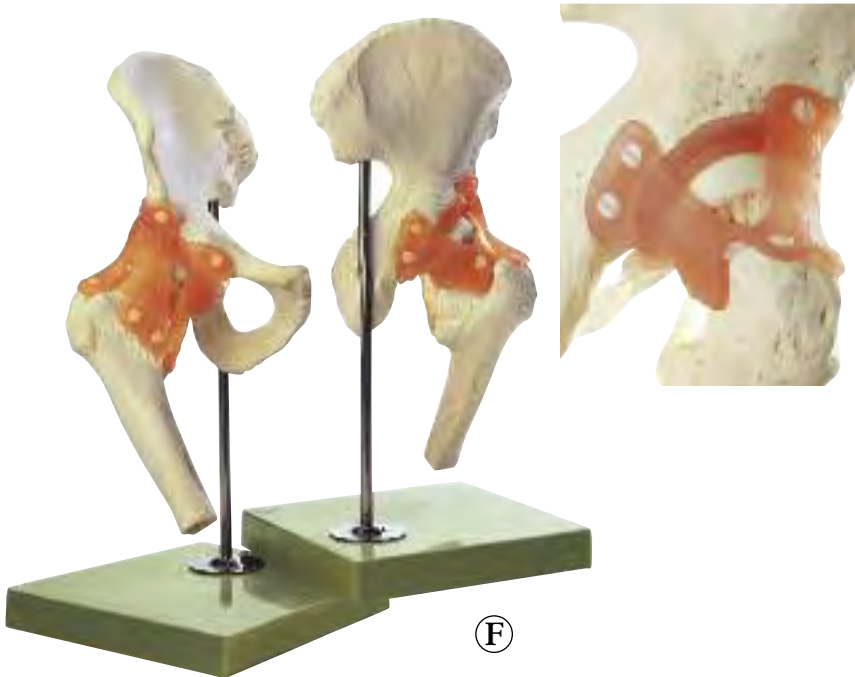
Natural size, in SOMSO-Plast. Showing the ligaments. In one piece. On a base. Height: 28 cm., width: 18 cm., depth: 18 cm., weight: 600 g



Ⓕ

## NS 50 · FUNCTIONAL MODEL OF THE KNEE JOINT

Natural size, in SOMSO-Plast. The following movements are possible: flexion, extension, inner and outer rotation. On a base. Height: 34 cm., width: 18 cm., depth: 18 cm., weight: 1 kg



**NS 51 · 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. Removable from stand with base. Height: 35 cm., width: 20 cm., depth: 18 cm., weight: 1.25 kg



**NS 53 · FUNCTIONAL MODEL OF THE SHOULDER JOINT**

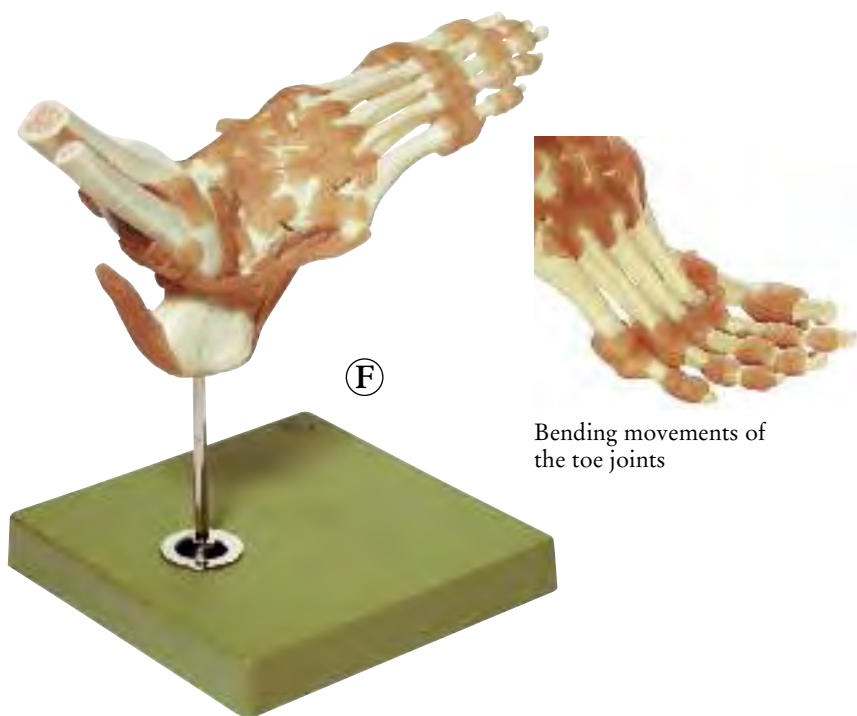
Natural size, in SOMSO-Plast. The following movements are possible: raising of the arm (abduction), swinging of the arm (anteversion), back swinging of the arm (retroversion), inner and outer rotation. Removable from stand with base. Height: 26 cm., width: 19 cm., depth: 22 cm., weight: 650 g

**NS 52 · 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 movement of the radius. Pronation and supination. Removable from stand with base.

Height: 41 cm.,  
width: 19 cm.,  
depth: 22 cm.,  
weight: 650 g



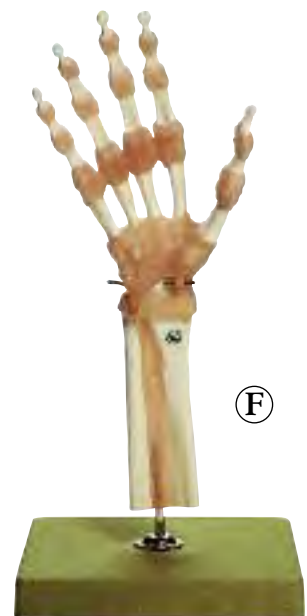


## NS 54 · FUNCTIONAL MODEL OF THE ANKLE JOINTS

Natural size, in SOMSO-Plast. The following movements are possible: up and down movement of the foot (flexion and extension) and rotations (inwards and outwards turning of the foot). Removable from stand with base. Length (Pternion-Akropodion): 25.2 cm. Height: 25 cm., width: 28 cm., depth: 18 cm., weight: 900 g

## NS 54/1 · FUNCTIONAL MODEL OF THE TARSUS

Natural size, in SOMSO-Plast. The model had been developed in cooperation with Dr. Urs Schneider, Tübingen. The shifting of the individual tarsal bones during the transition from a normal position to inversion and eversion in an unstrained foot can be semiquantitatively recognized. The purpose of this is to provide an insight into the movement patterns of the foot under physiological and pathological circumstances. On stand with base. Height: 28 cm., length: 28 cm., depth: 16.5 cm., weight: 1.2 kg



Showing the carpal canal

## 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. Removable from stand with base. Length (Stylien-Daktylion III): 19.8 cm. Height: 36 cm., width: 18 cm., depth: 19 cm., weight: 400 g



# ANATOMY 14

## Extremities and Joints

THE SECTIONS OF JOINT IN SOMSO-Plast, DOCUMENTED IN A SERIES OF MODELS NS 43 - NS 48. CASTS FROM NATURAL BONE SECTIONS WITH TOPOGRAPHY OF MUSCLES, LIGAMENTS, VESSELS AND NERVES. EACH WITH EXPLANATION ON THE BASE PLATE. 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



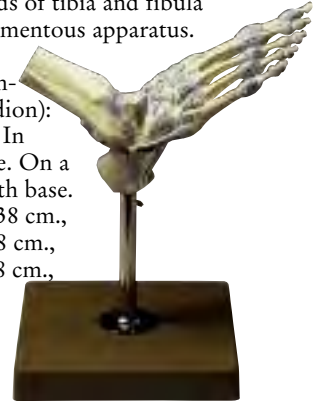
### NS 44 · SECTION THROUGH THE HIP JOINT

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

### NS 21 · ANKLE JOINTS WITH LIGAMENTS

Natural size, in SOMSO-Plast. Consisting of the bones of the foot and the distal ends of tibia and fibula with ligamentous apparatus.

Length (Pternion-Akropodion): 21.5 cm. In one piece. On a stand with base. Height: 38 cm., width: 18 cm., depth: 18 cm., weight: 400 g



### NS 45 · SECTION THROUGH THE HAND

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



### 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 21/1 · JOINTS OF HAND AND FINGERS WITH LIGAMENTS

Natural size, in SOMSO-Plast. Consisting of the distal ends 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 base. Length (Stylian-Daktylion III): 16.8 cm. Height: 34 cm., width: 18 cm., depth: 18 cm., weight: 650 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 37 · LIGAMENTS OF THE ANKLE WITH OPEN TALONAVICULAR JOINT



To show the deep-set ligaments. Modeled after nature. In SOMSO-Plast. Separates into 2 parts. Height: 14 cm., width: 14.5 cm., depth: 7.5 cm., weight: 400 g



*The -Somso Sun- is the registered trademark for more than 1000 anatomy, zoology and botany models. The Symbol of high quality, state of the art teaching aids.*

*Over 1,000  
anatomical, zoological  
and botanical models*

Applying to nearly every one of these models is the „SOMSO SUN“, the instantly recognisable and world famous registered trade mark.



To produce the teaching aids for studying anatomy, zoology and botany the company has a quite simple, but demanding philosophy: „Nature is Our Model“.

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five-year guarantee*



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

*A family-run firm  
founded in 1876*

The company has been owned and managed by five generations of the Sommer family since it was first established in 1876.

*SOMSO SUN, the  
symbol of quality*

SOMSO was founded in Sonneberg, Thuringia more than 125 years ago. Since then, SOMSO MODELLE have proved to be the benchmark to which others aspire, recognised by the most discerning experts as the ultimate for teaching aids and scientific demonstration. For the Sommer family this is the motivation that drives them to contribute now, and in the future, to training and teaching in the service of science.



1 8 7 6  
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MODELLE  
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*125 Jahre*

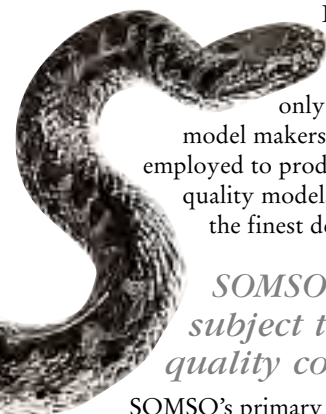
# *Nature is*

# *Our*



# *Model*

*Each and  
every model in the range  
demonstrates SOMSO's  
commitment 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 MODELLE -  
subject to stringent  
quality controls*

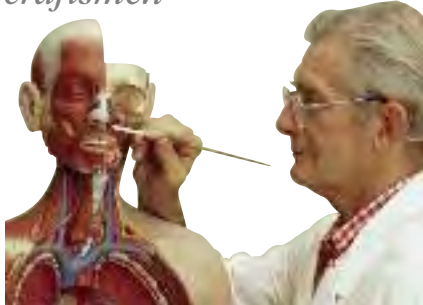
SOMSO's primary concern is for quality. Quality that passes the tests for scientific accuracy, paintwork, function, durability and materials. Genuine SOMSO MODELLE reflect these quality criteria, and their base material is virtually unbreakable SOMSO-PLAST.



*The Sommer family management in 2001.*

The family members are personally responsible for the production of every model, and the guaranteed quality of their products.

*Hand assembly and  
finishing by German  
craftsmen*



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

*World-wide appreciation  
from the science and  
teaching professions and  
from museums*

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



Appropriately proportioned SOMSO MODELLE 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 MODELLE have been permanently displayed in private collections and public museums, and are of unique interest to specialists and lay visitors alike.

### Subdivision for artificial bone preparations:

Bone structure	139
Cranium models and single skull bones	110-119
Skeletons	120-125
Skeleton parts and single bones	124-127
Foot skeleton	128-129
Hand skeleton	129
Spinal columns (whole or sections)	130-134, 136-137
Skeleton-muscle models	138-139
Skeleton-vessel models	134-136
Intervertebral disc models	136-137
Alphabetical list (for numerical list, see price list):	

Arm muscle model	138-139	Human skeleton	120-125
Arm skeleton	126	Hyoid bone	112
Atlas	127	Innominate	126
Axis	127	Intervertebral disc model	137
Auditory ossicles	115	Leg skeleton	126
Base of the skull	111	Lower arm	126
Bauchene		Lower leg	126
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Bone collection	124-127	Lumbar spinal column	133-136
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Foot skeleton	128-129	Vertebrae collection	127
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Human skull	110-119		



### QS 2 · ARTIFICIAL HUMAN SKULL

Natural cast, in SOMSO-Plast. Removable vault, the 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 · 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/T ·  
ARTIFICIAL TRANSPARENT  
HUMAN SKULL**

Natural cast, in SOMSO-Plast. Removable vault, lower jaw movable. Life-like reproduction of the bony structure. Separates into 3 parts. Weight: 800 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 SKULL**

Natural 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 · ARTIFICIAL HUMAN SKULL**

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



*Illustration of the skullbase from below.  
The structure of the bones is identical to the models  
QS 2, QS 2/1, QS 7 and QS 7/1*

**QS 7/2 · ARTIFICIAL BASE OF THE SKULL**

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



**QS 3 · ARTIFICIAL  
SKULL OF A NEWBORN**

Modeled according to nature, in SOMSO-Plast. Upper and lower jaw are open. Altogether in 2 parts. Length: 12.1 cm., width: 9.6 cm., size: 33.9 cm., weight: 180 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 3/2 ·  
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. Altogether 2 parts. Length: 16 cm., width: 11.5 cm., size: 44 cm., weight: 380 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 8 ·  
TRANSPARENT  
DUSTPROOF COVER**

Suitable for the artificial human skulls. Height: 21 cm., width: 32 cm., depth: 19 cm., weight: 600 g



**QS 7/5 ·  
ARTIFICIAL  
HUMAN SKULL**

Natural cast, in SOMSO-Plast. As QS 7/1, but showing the areas of origin and insertion of the most important muscles of the head. Separates into 3 parts. Length: 17.5 cm., width: 14.1 cm., size: 51.2 cm., 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. As QS 7/6, but with notation. Explanation in English and Latin. Separates into 3 parts. Weight: 700 g



**QS 1 ·  
ARTIFICIAL HUMAN SKULL**

Natural cast, in SOMSO-Plast. With closed vault, lower jaw removable. Separates into 2 parts. Weight: 700 g



## QS 8/10 · ARTIFICIAL SKULL OF AN ADULT

Natural cast, made of SOMSO-Plast. Designed to be separated into 10 parts. Design as QS 8/11, but without representation of the blood vessels and nerves. Weight: 1 kg

## 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.). Designed to be separated into 10 parts as follows:

1. Cranium with coloured vessels and blood supply of the hard meninx
2. Base of the skull, sectioned through median line into two halves
3. Nasal septum detachable. 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. Detachable 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

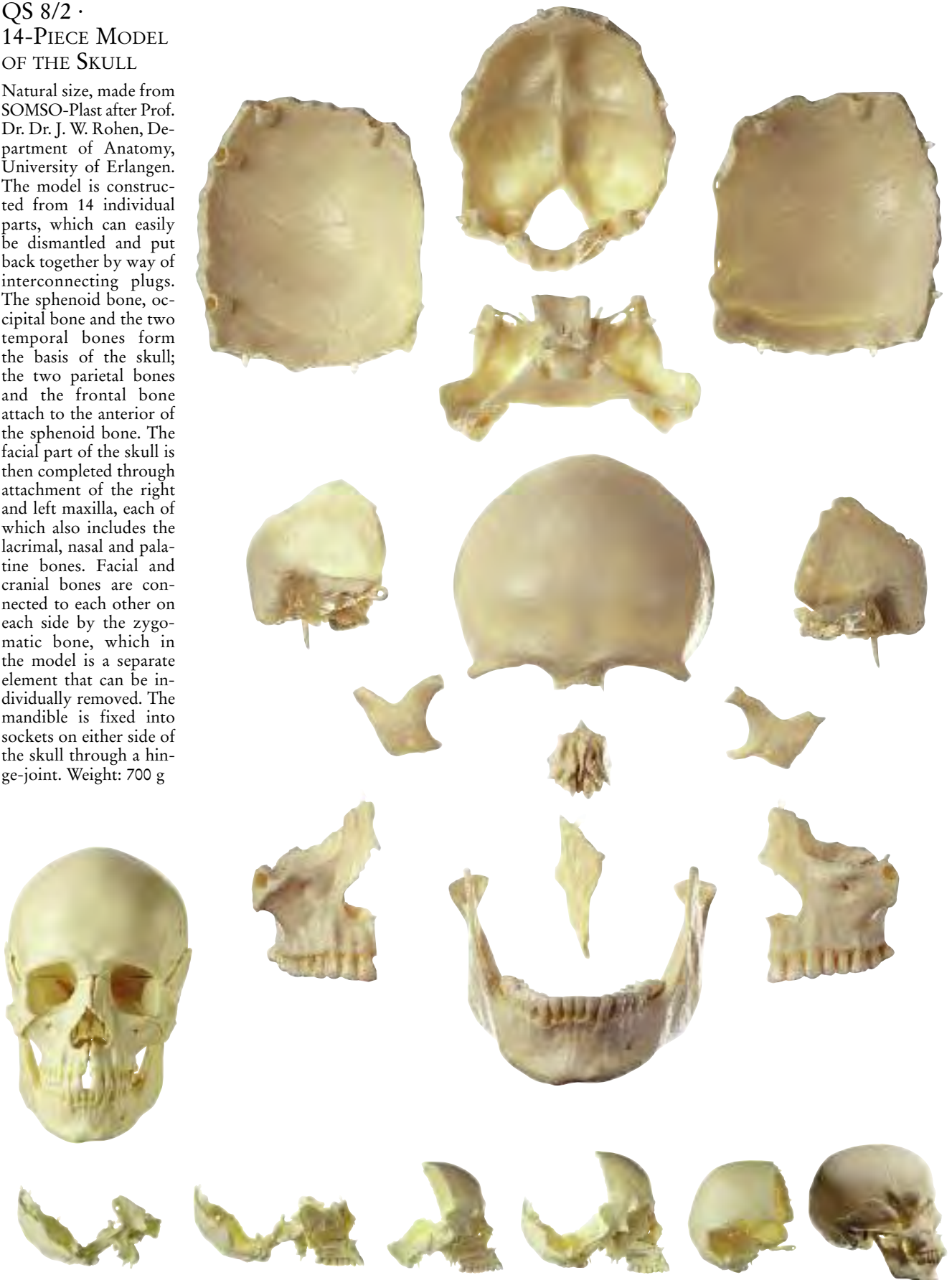


## Artificial Bone Models

QS 8/2 ·

14-PIECE MODEL  
OF THE SKULL

Natural size, made from SOMSO-Plast after Prof. Dr. Dr. J. W. Rohen, 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 bones. Facial and cranial bones are connected to each other on each side by the zygomatic bone, which in the model is a separate element that can be individually removed. The mandible is fixed into sockets on either side of the skull through a hinge-joint. Weight: 700 g





## QS 69 · THE THREE AUDITORY OSSICLES

Cast from natural specimen 1 : 1, in SOMSO-Plast. Malleus, incus and stapes mounted under "Plexiglas" cover, removable. On a base plate. Height: 3 cm., width: 12 cm., depth: 12 cm., weight: 80 g

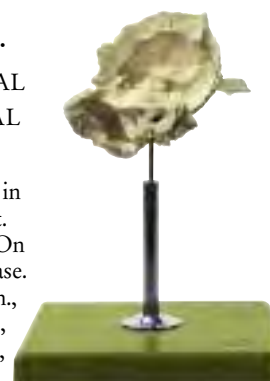


## QS 69/1 · THE THREE AUDITORY OSSICLES

Natural cast 1 : 1, in SOMSO-Plast. Malleus, Incus and Stapes mounted in natural position under "Plexiglas cover". Can be removed, on stand. Height: 3 cm., width: 12 cm., length: 12 cm., weight 80 g.

## QS 8/51 · ARTIFICIAL TEMPORAL BONE

Natural cast, in OMSSO-Plast. In one part. On stand with base. Height: 17 cm., width: 12 cm., depth: 12 cm., weight: 150 g



## QS 70 · ARTIFICIAL BONY LABYRINTH

Cast from natural specimen 1:1, in SOMSO-Plast. The labyrinth is mounted under "Plexiglas" cover, removable. On a base plate. Height: 3 cm., width: 12 cm., depth: 12 cm., weight: 80 g



## QS 70/1 · THE THREE AUDITORY OSSICLES WITH BONY LABYRINTH

Natural cast 1 : 1, in SOMSO-Plast. Under "Plexiglas cover". Can be removed, on stand. Height: 3 cm., width: 12 cm., length: 12 cm., weight 80 g



## QS 8/53 · ARTIFICIAL TEMPORAL BONE

Natural cast, in SOMSO-Plast. The opened tympanic cavity shows the tympanic membrane, the three auditory ossicles, the cochlea and the semicircular canals. Separates into 2 parts. On a stand with base. Height: 17 cm., width: 12 cm., depth: 12 cm., weight: 150 g



## QS 8/3 · 14-PIECE MODEL OF THE HUMAN SKULL

Natural size, made from SOMSO-Plast after Prof. Dr. Dr. J. W. Rohen, Department of Anatomy, University of Erlangen. The same model as QS 8/2, but in colour. Here, the individual bones are identified by different colours. This version of the model eases 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 8/4 · TRANSPARENT CASE

Hinged and made out of transparent synthetic material. Suitable for SOMSO skulls. Weight: 900 g

# ANATOMY 16

## Artificial Bone Models

### QS 8/218 · 18-PIECES MODEL OF THE SKULL

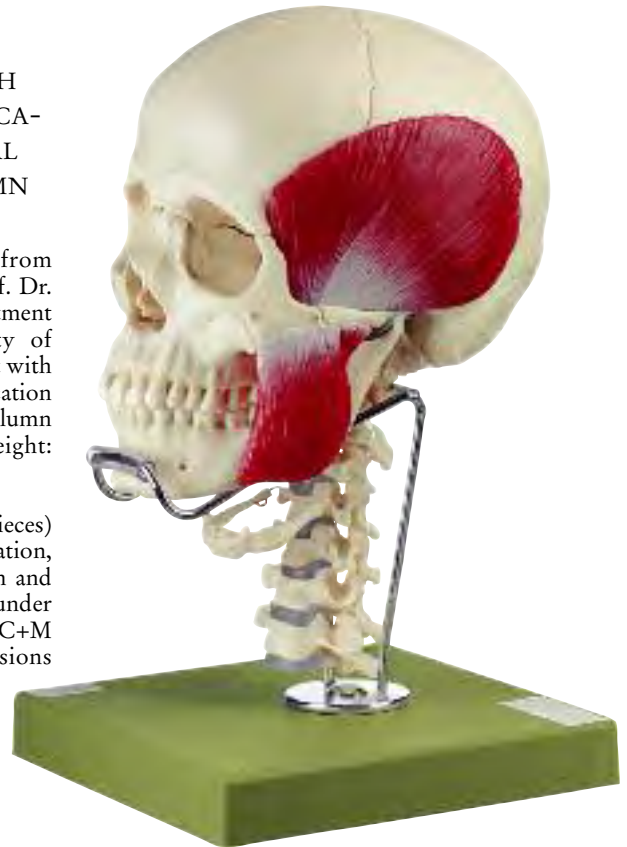
Natural size, made from SOMSO-Plast, after Prof. Dr. Dr. J. W. Rohen, Department of Anatomy, University of Erlangen. The model comprises 18 elements corresponding to the natural bones. Apart from the cranium (frontal, parietal, occipital and sphenoid bones), the bones of the viscerocranium (ethmoid bone, vomer, palatine bone, zygomatic bone, maxilla and mandible) and the inferior nasal concha can be removed and reassembled to form the complete skull. Weight: 640 g



### QS 8/2C+M · 14-PIECES MODEL OF THE SKULL WITH MUSCLES OF MASTICATION AND CERVICAL VERTEBRAL COLUMN AND HYOID BONE

Natural size, made from SOMSO-Plast, after Prof. Dr. Dr. J. W. Rohen, Department of Anatomy, University of Erlangen. As QS 8/2, but with the 4 muscles of mastication and cervical vertebral column and hyoid bone. Weight: 1.720 kg

Moreover the skull (18-pieces) with muscles of mastication, cervical vertebral column and hyoid bone is available under article number QS 8/218C+M and the coloured versions are available with article number QS 8/3C+M (14-pieces skull) as well as QS 8/318C+M (18-pieces skull).



### QS 8/318 · 18-PIECES MODEL OF THE SKULL

Natural size, made from SOMSO-Plast, after Prof. Dr. Dr. J. W. Rohen, Department of Anatomy, University of Erlangen. The model comprises 18 elements corresponding to the natural bones. Weight: 640 g



# AFTER PROFESSOR ROHEN NOW MUSCLES OF MASTICATION



## QS 8/3M · 14-PIECES MODEL OF THE SKULL WITH MUSCLES OF MASTICATION

Natural size, made from SOMSO-Plast, after Prof. Dr. Dr. J. W. Rohen, Department of Anatomy, University of Erlangen. Version as QS 8/3 but with the 4 masticatory muscles. Weight: 715 g

The 18-pieces model of the skull with muscles of mastication has the article number QS 8/318M.

Lower jaw with the 4 muscles of mastication



## QS 8/218M · 18-PIECES MODEL OF THE SKULL WITH MUSCLES OF MASTICATION

Natural size, made from SOMSO-Plast, after Prof. Dr. Dr. J. W. Rohen, Department of Anatomy, University of Erlangen. Version as QS 8/218 but with the 4 masticatory muscles. Weight: 715 g

The 14-pieces model of the skull with muscles of mastication has the article number QS 8/2M.



see back titles

## QS 8/6 · FALX CEREBRIS

Natural size, made from SOMSO-Plast, after Prof. Dr. Dr. J. W. Rohen. The 14 or 18 piece skull model can also be supplied with a transparent plastic falx cerebri with tentorium cerebelli. Weight: 66 g

## QS 8/3C · 14-PIECES MODEL OF THE SKULL WITH CERVICAL VERTEBRAL COLUMN AND HYOID BONE

Natural size, made from SOMSO-Plast, after Prof. Dr. Dr. J. W. Rohen, Department of Anatomy, University of Erlangen. Version as QS 8/3 but with cervical vertebral column and hyoid bone. Weight 1.220 kg



## QS 8/1 · METAL STAND WITH 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 see QS 8/3C



*Detail - Os occipitale*



*Detail - Joint stand*



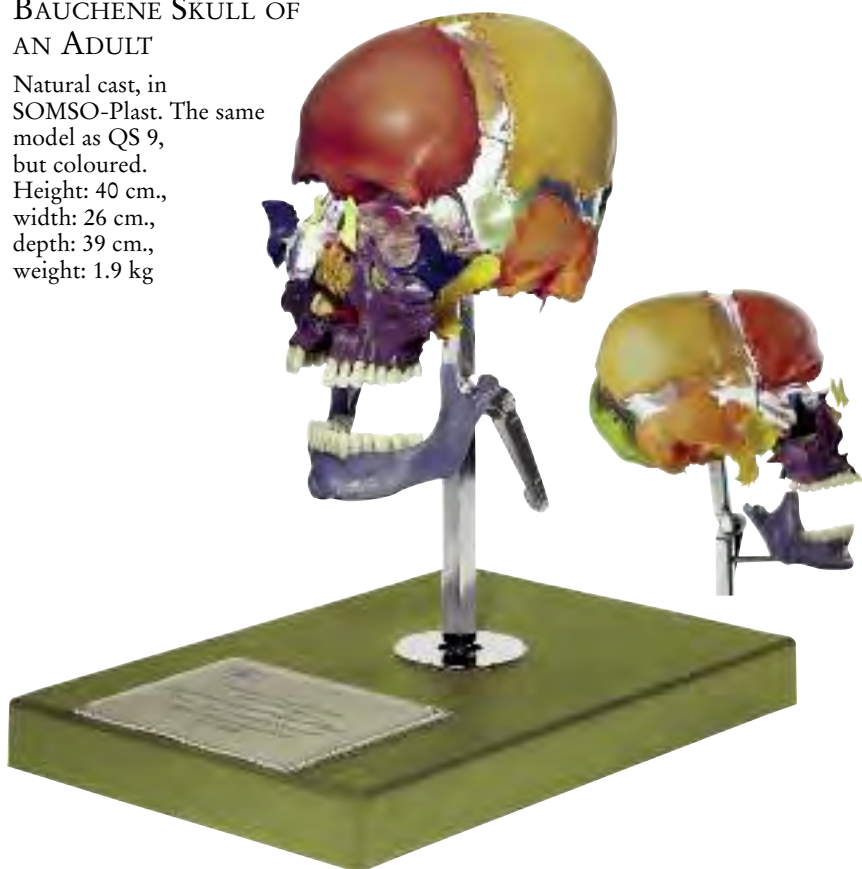
*Detail - Taking apart and putting back the individual bones*

### 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: frontal, parietal (2), temporal (2), zygomatic (2), nasal (2), occipital, Maxilla (2) with lacrimal (2), inferior nasal concha (2) and palatine (2), Vomer, ethmoid, sphenoid, Mandible. Particularly suitable for demonstrations as a result of a joint stand. Separates into 22 parts. Height: 40 cm., width: 26 cm., depth: 39 cm., weight: 1.9 kg

## QS 9/5 · ARTIFICIAL BAUCHENE SKULL OF AN ADULT

Natural cast, in SOMSO-Plast. The same model as QS 9, but coloured.  
Height: 40 cm.,  
width: 26 cm.,  
depth: 39 cm.,  
weight: 1.9 kg



## QS 9/2 · ARTIFICIAL BAUCHENE SKULL OF AN ADULT

Natural cast, in SOMSO-Plast. Unmounted, each bone individually packed in a suitable transparent box, altogether 22 parts. Weight: 2.2 kg. Illustration of the individual bones see QS 9/1



## QS 9/3 · ARTIFICIAL BAUCHENE SKULL OF AN ADULT

Natural cast, in SOMSO-Plast. All bones loose and unmounted in plastic sacks included in a carton, altogether 22 parts. Weight: 550 g. Illustration of the individual bones see QS 9/1



## QS 9/1 · ARTIFICIAL BAUCHENE SKULL OF AN ADULT

Natural cast, in SOMSO-Plast. Unmounted in a case, altogether 22 parts. Height: 12 cm., width: 42 cm., depth: 30 cm., weight: 3 kg



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

## QS 9/4 · TRANSPARENT STORAGE CASE

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



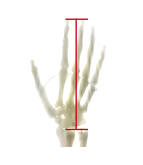
*The height and dimensions comply with the Central European average.*



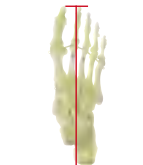
*Maximum cranium circumference:*  
Female = 50.8 cm.,  
male = 51.2 cm.



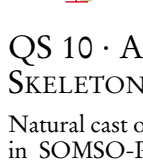
*Cranium length (Glabella-Ophistocranion line):*  
Female = 18.3 cm.,  
male = 17.5 cm.



*Cranium width (Eurym distance):*  
Female = 12.8 cm.,  
male = 14.1 cm.



*Hand skeleton length (Stylian-Dactylion III):*  
Female = 18 cm.,  
male = 19 cm.



*Foot skeleton length (Pternion-Acropodion):*  
Female = 22.2 cm.,  
male = 25 cm.

### QS 10 · ARTIFICIAL HUMAN SKELETON

Natural cast of the bones of a male adult, in SOMSO-Plast. 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 removable. The right and left foot can be detached from the leg. 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 SOMSO-Plast. As QS 10, but with rollers on the base of the stand. Height: 180 cm. (skeleton 170 cm.), width: 55 cm., depth: 55 cm., weight: 10.4 kg

### QS 10/E · ARTIFICIAL HUMAN SKELETON (without ill.)

Natural cast of the bones of a male adult, in SOMSO-Plast. 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 removable, except of the hands and feet. Mounted upright with rollers on the base of the stand. With a dustproof cover. Height: 180 cm. (skeleton 170 cm.), width: 55 cm., depth: 55 cm., weight: 10 kg



Ⓕ

Male Skeleton  
QS 10



Detail – Hyoid bone



Detail – Thorax bone from the top

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



Detail – Wrist bone



Detail – Tarsus bone

Ⓕ



Detail QS 10/2 – Muscular function

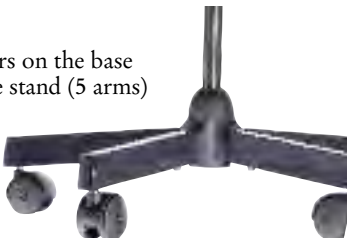


Detail QS 10/3, QS 10/10, QS 10/11 –  
Hook for hanging

Detail - Stand  
for hanging  
QS 10/4  
QS 10/12  
QS 10/13  
QS 10/13GA  
QS 10/14



Rollers on the base  
of the stand (5 arms)



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

## QS 10/2 · ARTIFICIAL HUMAN SKULL

Natural cast of the bones of a male adult, in SOMSO-Plast. As QS 10, but on one arm the flexible 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 HUMAN SKELETON

Natural cast of the bones of a male adult, in SOMSO-Plast. As QS 10, but with hook for hanging at the skull (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 with stand for hanging 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 limbs removable. Both right and left foot can be detached from the leg. Mounted upright on 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: 180 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 hook for hanging on the skull (without stand). Height: 171 cm., width: 39 cm., depth: 28 cm., weight: 8.5 kg



Ⓕ

Female  
Skeleton  
QS 10/7



### 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 presentation of the articular ligaments on the knee, the hip, the elbow and on the shoulder. Demonstration of the natural movements true to exact anatomy. Mounted upright on 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 moreover both right and left foot can be separated from the leg. The right side shows all the muscles from head to foot with their areas of origin and onset in colour (origin = red, onset = blue). On the left side the single bones are numbered (more than 500 numbers). Mounted upright on a stand. With rollers on the base of the stand. Height: 180 cm. (skeleton 170 cm.), width: 55 cm., depth: 55 cm., weight: 10.4 kg

### QS 10/6 + 9 · 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 articular ligaments shown on the knee, hip, elbow and shoulder. Demonstration of natural movements anatomically accurate. 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). Erect on stand with rollers. Height: 180 cm. (skeleton 170 cm.), width: 55 cm., depth: 55 cm., weight: 11.2 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 hook for hanging on the skull (without stand). Height: 170 cm., width: 38 cm., depth: 28 cm., weight: 8.8 kg

*\* The skeleton QS 10/6+9 is also available with wrist and ankle joint ligaments under the order no. QS 10/6+9 L. (For details see illustration of models NS 54 and NS 55 on page 103). The models QS 10/12 and QS 10/14 can be delivered with a new, improved stand which makes the complete model even more stable.*



Ⓕ  
QS 10/13 GA

### QS 10/13 GA · ARTIFICIAL HUMAN SKELETON, FEMALE

Version as QS 10/13 but with extended stand and holding facility for the ala of the illium, movable thoracic cage and telescopic chest support, weight: 11 kg



Ⓕ  
Detail  
QS 10/13 GA

### QS 10/12 · ARTIFICIAL HUMAN SKELETON (without ill.)

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

### QS 10/13 · ARTIFICIAL HUMAN SKELETON (without ill.)

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

### QS 10/14 · ARTIFICIAL HUMAN SKELETON (without ill.)

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

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

### QS 40/2 · DISARTICULATED HUMAN SKELETON

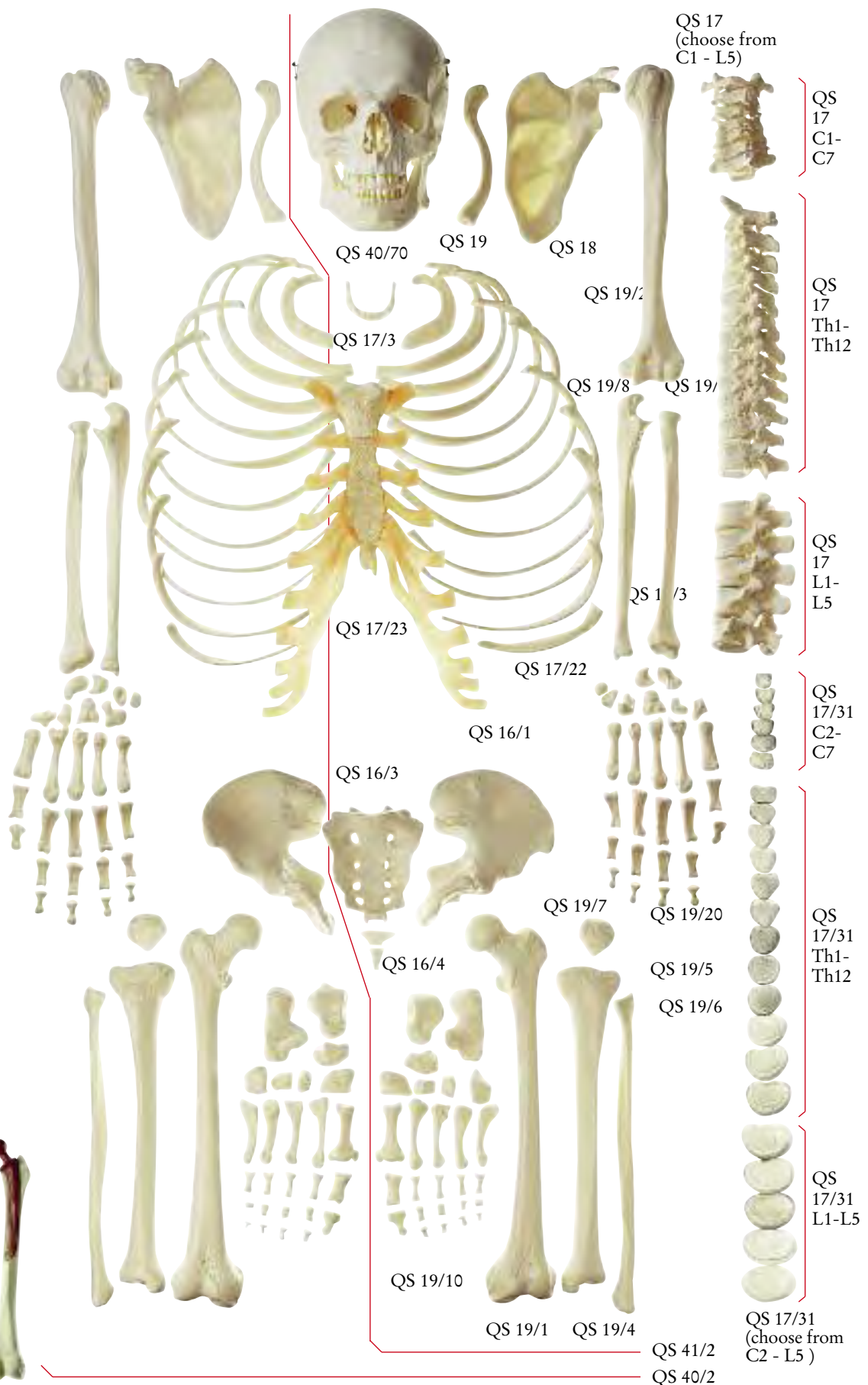
Cast from natural specimen, in SOMSO-Plast. With the exception of the skull (removable vault and mandible) all the bones are disarticulated. Stored in box in plastic bags. Height: 26 cm., width: 50 cm., depth: 31 cm., weight: 8.75 kg

### QS 41/2 · DISARTICULATED HUMAN HALF- SKELETON

Cast from natural specimen, in SOMSO-Plast. With the exception of the skull (with removable vault and mandible) all the bones are disarticulated. Stored in box in plastic bags. Height: 26 cm., width: 50 cm., depth: 31 cm., weight: 5.5 kg

### QS 71 · THIGH WITH S/P - PROSTHESIS

About half natural size, in SOMSO-Plast. Two models for demonstration showing the S/P - Prosthesis in the ML- and AP-area opened. Separates altogether into 4 parts. Height: 6 cm., width: 31 cm., depth: 18.5 cm., weight: 170 g



## QS 16/1 · INNOMINATE

Weight: 390 g

## QS 16/3 · SACRUM

Weight: 270 g

## QS 16/4 · COCCYX

Weight: 6 g

## QS 17 · 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 (COSTA)

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

## QS 17/23 · STERNUM

Weight: 220 g

## QS 17/31 · DISC

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

## QS 18 · SCAPULA

Weight: 110 g

## QS 19 · CLAVICLE

Weight: 40 g

## QS 19/1 · FEMUR

Weight: 670 g

## QS 19/2 · HUMERUS

Weight: 270 g

## QS 19/3 · ULNA AND RADIUS

Weight: 160 g

## QS 19/4 · TIBIA AND FIBULA

Weight: 460 g

## QS 19/5 · TIBIA

Weight: 390 g

## QS 19/6 · FIBULA

Weight: 70 g

## QS 19/7 · PATELLA

Weight: 30 g

## QS 19/8 · ULNA

Weight: 80 g

## QS 19/9 · RADIUS

Weight: 80 g

## QS 19/10 · BONES OF FOOT

Weight: 320 g

## QS 19/20 · BONES OF HAND

Weight: 110 g

## QS 40/70 · SKULL

WITH REMOVABLE VAULT AND MANDIBLE

(Without suspension hole)

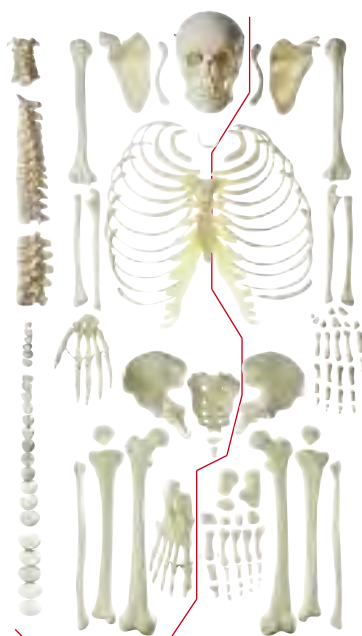
3 parts, weight: 800 g



## QS 40/3 ·

## BOX WITH COMPARTMENTS

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



QS 41/1

QS 40/1

## 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 disarticulated. Stored in box in plastic bags. Height: 26 cm., width: 50 cm., depth: 31 cm., weight: 8.75 kg

## QS 41/1 · UNMOUNTED HUMAN HALF-SKELETON

Cast from natural specimen, in SOMSO-Plast. With the exception of the skull (with removable vault and mandible) the hand and foot all the bones are disarticulated. Stored in box in plastic bags. Height: 26 cm., width: 50 cm., depth: 31 cm., weight: 5.5 kg



Ⓕ

## QS 10/12 T · ARTIFICIAL HUMAN SKELETON, TRANSPARENT

Natural cast of the bones of a male adult, in SOMSO-Plast. 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 removable. The right and left foot can be detached from the leg. Mounted upright on a stand. With movable vertebral column and stand for hanging 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 13 ·**  
SKELETON OF THE LOWER EXTREMITY WITH INNOMINATE  
Cast from natural specimen, in SOMSO-Plast. Mounted and movable. Length: 100 cm., weight: 1.85 kg



**QS 14 · SKELETON OF THE ARM WITH SHOULDER GIRDLE**  
Cast from natural specimen, in SOMSO-Plast. Mounted and movable. Length: 88 cm., weight: 660 g



**QS 42 ·**  
COLLECTION OF TYPICAL HUMAN BONES

Cast from natural specimen, in SOMSO-Plast. Consisting of skull (mounted), scapula, clavicle, humerus, forearm-bone, carpal bone, bones of the index, each three right and left ribs, one cervical, one thoracic, and one lumbar vertebra, one pelvic bone - coccyx, each one thigh and one leg bone, tarsal bone and bone of big toe. Stored in box in plastic bags. Height: 26 cm., width: 50 cm., depth: 31 cm., weight: 3.2 kg



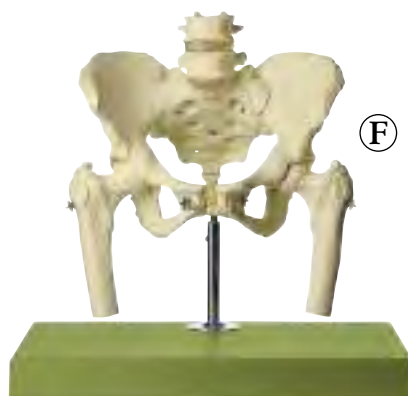
**QS 16 · SKELETON OF MALE PELVIS**

Cast from natural specimen, in SOMSO-Plast. Consisting of the two innominates, sacrum, coccyx, fourth and fifth lumbar vertebrae with discs and symphysis. Mounted. Weight: 1.2 kg



**QS 26 · SKELETON OF FEMALE PELVIS**

Cast from natural specimen, in SOMSO-Plast. Consisting of the two innominates, sacrum, coccyx, 4th and 5th lumbar vertebrae with discs and symphysis. Mounted. Weight: 1.1 kg



**QS 27 · SKELETON OF FEMALE PELVIS**

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

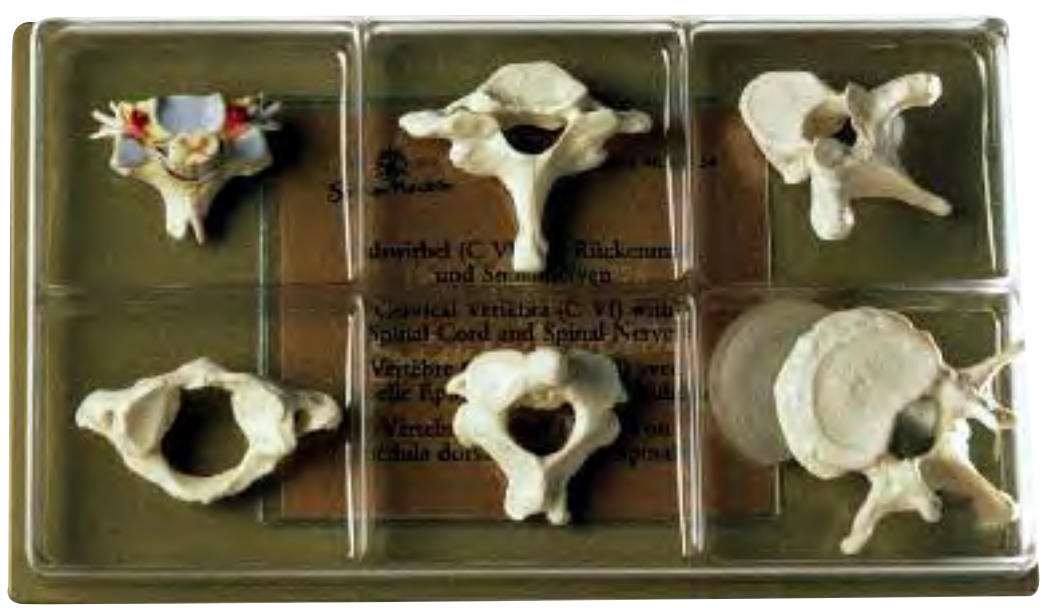
**QS 27/1 · SKELETON OF FEMALE PELVIS**

Cast from natural specimen, in SOMSO-Plast. As QS 27 but without stand and base. Weight: 1.6 kg (without illustration)



**QS 17/2 · COLLECTION OF VERTEBRAE**  
Cast from natural specimen, in SOMSO-Plast. Atlas, axis, cervical, thoracic and lumbar vertebrae hanging loosely on a nylon thread. Weight: 140 g

**QS 54 · CASE WITH COLLECTION "VERTEBRAE AND SPINAL CORD"**  
Cast from natural specimen, in SOMSO-Plast, 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**  
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., width: 12 cm., depth: 12 cm., weight: 130 g



**QS 57 · ATLAS, AXIS AND SQUAMOUS PART OF THE OCCIPITAL BONE**  
Cast from natural specimen, in SOMSO-Plast. The pivot of the head in connection with the skull-bone can be demonstrated. On a stand with 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, medial and 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 and in one piece. Weight: 400 g



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

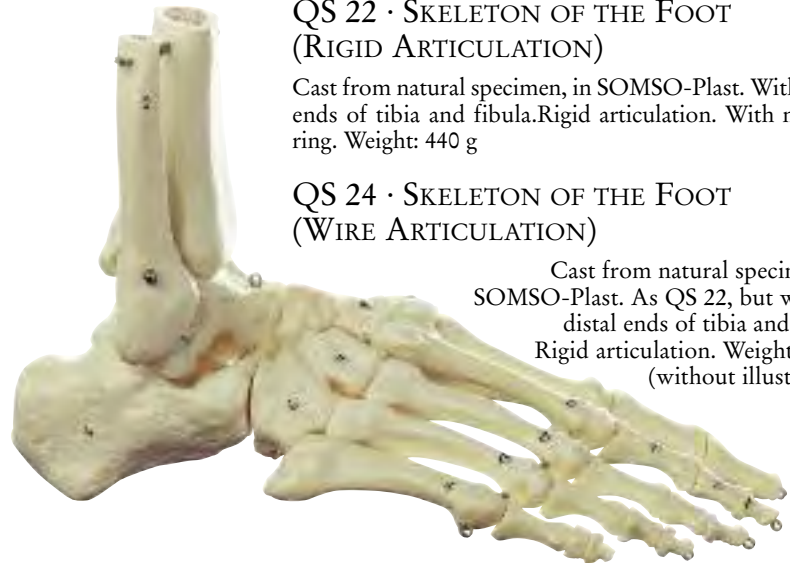
### QS 22 · SKELETON OF THE FOOT (RIGID ARTICULATION)

Cast from natural specimen, in SOMSO-Plast. With distal ends of tibia and fibula. Rigid articulation. With numbering. Weight: 440 g

### QS 24 · SKELETON OF THE FOOT (WIRE ARTICULATION)

Cast from natural specimen, in SOMSO-Plast. As QS 22, but without distal ends of tibia and fibula. Rigid articulation. Weight: 320 g (without illustration)

(F)



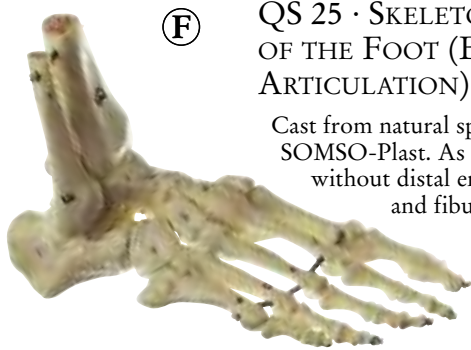
### QS 23 · SKELETON OF THE FOOT (ELASTIC ARTICULATION)

Cast from natural specimen, in SOMSO-Plast. With distal ends of tibia and fibula. Flexibly articulated to show the change in position of the bones with a spread or flat foot. With numbering. Weight: 440

(F)

### QS 25 · SKELETON OF THE FOOT (ELASTIC ARTICULATION)

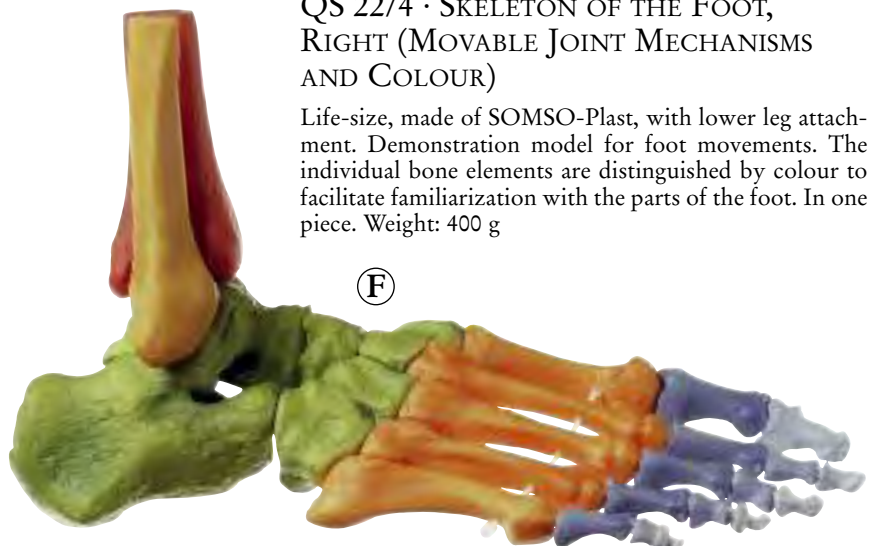
Cast from natural specimen, in SOMSO-Plast. As QS 23, but without distal ends of tibia and fibula. Weight: 320 g. (Without ill.).



### QS 22/4 · SKELETON OF THE FOOT, RIGHT (MOVABLE JOINT MECHANISMS AND COLOUR)

Life-size, made of SOMSO-Plast, with lower leg attachment. Demonstration model for foot movements. The individual bone elements are distinguished by colour to facilitate familiarization with the parts of the foot. In one piece. Weight: 400 g

(F)

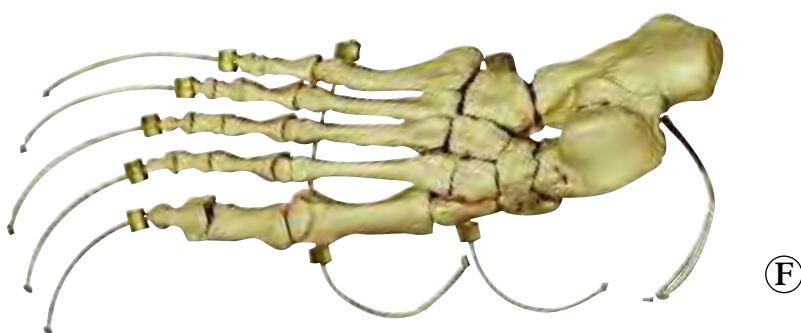




## QS 22/5 · SKELETON OF THE FOOT, RIGHT (MOVABLE JOINTS)

Natural size, in SOMSO-Plast. Model demonstrating the moving function of the foot. Showing the ankle joints, the tarsal bones, the metatarso-phalangeal joints and the toe joints. In one piece. Weight: 400 g

*With due consideration to the technical possibilities the artificial foot or hand skeletons are available to order assembled and articulated on nylon such as, for example, QS 22-N foot skeleton or QS 31-N hand skeleton both articulated on nylon.*



## QS 24-N · SKELETON OF THE FOOT (ARTICULATION ON NYLON)

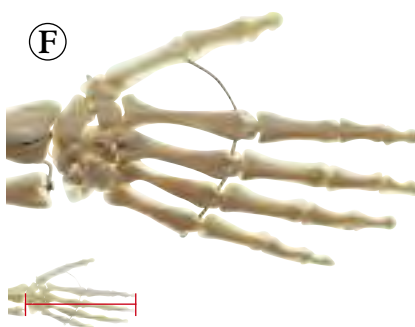
Cast from natural specimen, in SOMSO-Plast. Without base of tibia. Weight: 320 g.

## QS 31/1 · SKELETON OF HAND WITH BASE OF FOREARM (WIRE ARTICULATION)

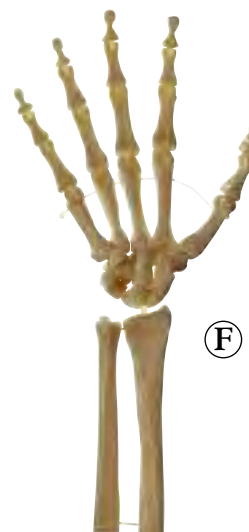
Cast from natural specimen, in SOMSO-Plast. Mounted. With numbering. Weight: 165 g

## QS 31/7 · HAND SKELETON WITH FOREARM CONNECTION (FLEXIBLE ARTICULATION)

Natural casting. In SOMSO-Plast. Flexibly articulated. With numbering. Weight: 165 g (without illustration).

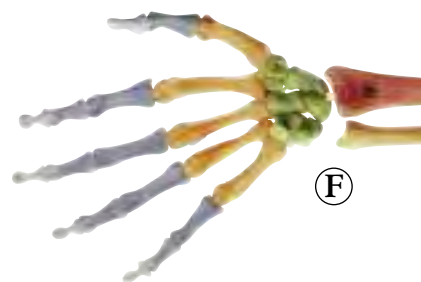


*Hand skeleton length QS 31/1 - QS 31/7 (Stylian-Dactylion III): 19 cm.*



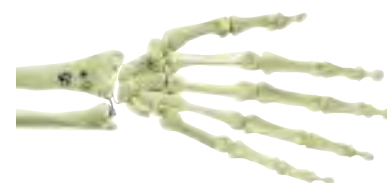
## QS 31/5 · SKELETON OF THE HAND (MOVABLE JOINTS)

Natural size, in SOMSO-Plast, model demonstrating the hand's capability of movement. In one piece. Weight: 200 g



## QS 31/4 · HAND SKELETON, RIGHT (MOVABLE JOINT MECHANISMS AND COLOUR)

Life-size, made of SOMSO-Plast, distal ends of radius and ulna. Demonstration model for hand movements. The individual bone elements are distinguished by colour to facilitate familiarisation with the parts of the hand. In one piece. Weight: 200 g



## QS 31/2 · SKELETON OF HAND WITH BASE OF FOREARM (RIGID)

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

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



### QS 15 · VERTEBRAL COLUMN

Cast from natural specimen, in SOMSO-Plast. Consisting of occipital bone, cervical, thoracic and lumbar vertebrae with sacrum and coccyx. Rigid articulation. Weight: 1.6 kg



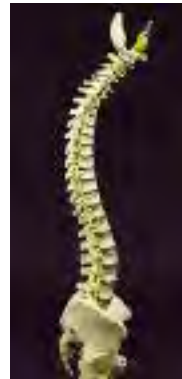
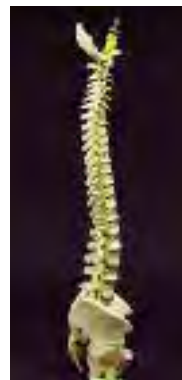
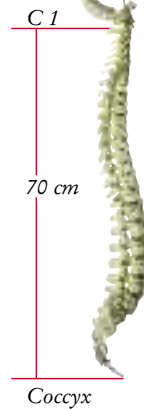
### QS 20 · VERTEBRAL COLUMN WITH PELVIS

Cast from natural specimen, in SOMSO-Plast. Consisting of occipital bone, cervical, thoracic and lumbar vertebrae, sacrum and coccyx and innominates. Rigid articulation. Weight: 2.6 kg

### QS 21 · VERTEBRAL COLUMN WITH PELVIS ⑥

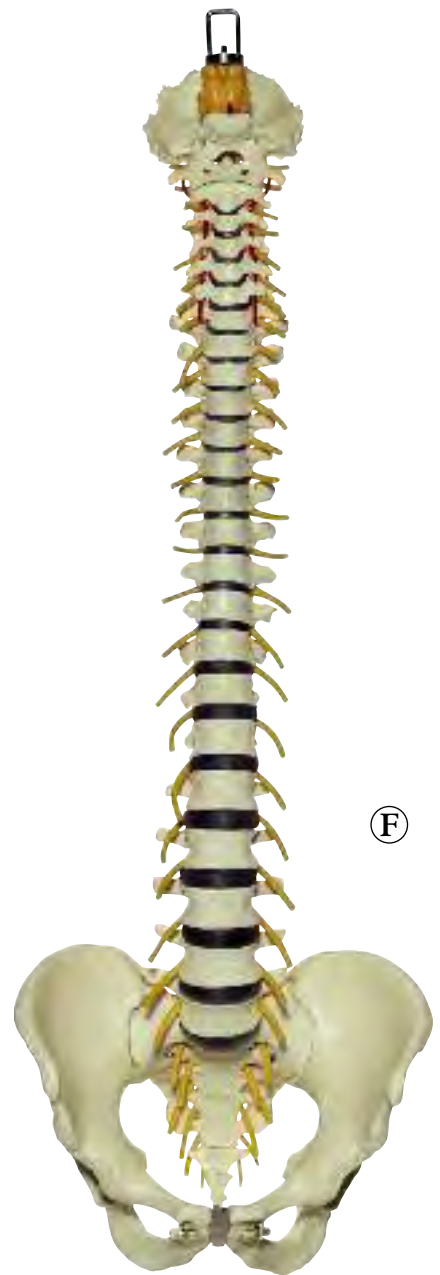
Cast from natural specimen, in SOMSO-Plast. As QS 20 but mounted and flexible. Designed for chiropractic demonstrations. Weight: 2.2 kg

Vertebral column dimensions



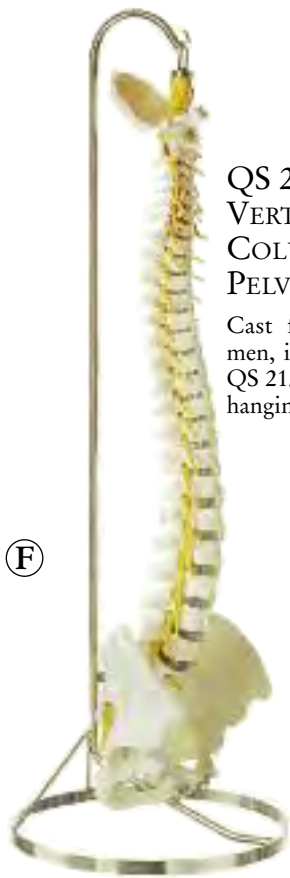
*Demonstration of wrong position with SOMSO-vertebral column*

1. Flat back
2. Hollow back
3. Round back



### QS 21/1 · VERTEBRAL COLUMN WITH PELVIS

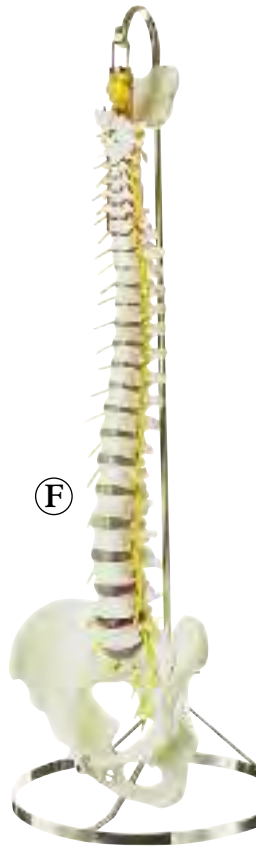
Cast from natural specimen, in SOMSO-Plast. Articulated and flexible, showing the arteria vertebralis, the spinal cord, the spinal nerves leaving it and the connected ganglion cells. Consisting of occipital bone, cervical, thoracic and lumbar vertebrae, sacrum and coccyx and innominates. Especially suitable 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 SOMSO-Plast. As QS 21/1 but with stand for hanging. Weight: 3.6 kg

Ⓕ



**QS 21/5 ·  
VERTEBRAL  
COLUMN WITH  
PELVIS**

Cast from natural specimen, in SOMSO-Plast. As QS 21/4 but with stand for hanging. Weight: 3.6 kg

Ⓕ

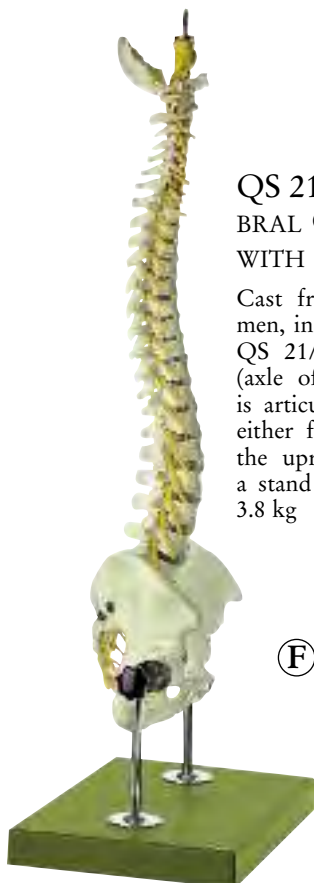
*With due consideration to the technical possibilities the artificial vertebral columns are available to order assembled and threaded on nylon such as, for example, QS 15-N vertebral column articulated on nylon.*



**QS 15-N ·  
VERTEBRAL COLUMN  
(ARTICULATION ON NYLON)**

Cast from natural specimen, in SOMSO-Plast. As QS 15, but articulated on nylon. Weight: 1.2 kg

Ⓕ



**QS 21/2 · VERTE-  
BRAL COLUMN  
WITH PELVIS**

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

Ⓕ



**QS 21/4 · VERTEBRAL  
COLUMN WITH PELVIS**

Cast from natural specimen, in SOMSO-Plast. Articulated and flexible, showing the arteria vertebralis, the spinal cord, the spinal nerves leaving it and the connected ganglion cells. With prolapse of the intervertebral disc and laminectomy. Weight: 2.3 kg

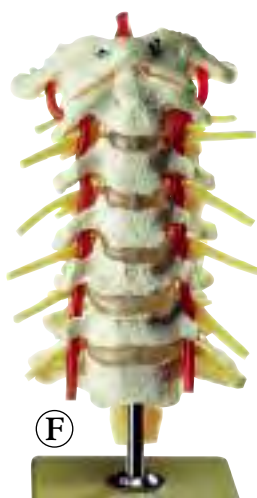
Ⓕ





**QS 21/6 · VERTEBRAL COLUMN WITH PELVIS**

Cast from natural specimen, in SOMSO-Plast. Articulated and flexible, showing the arteria vertebralis, the spinal cord, 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



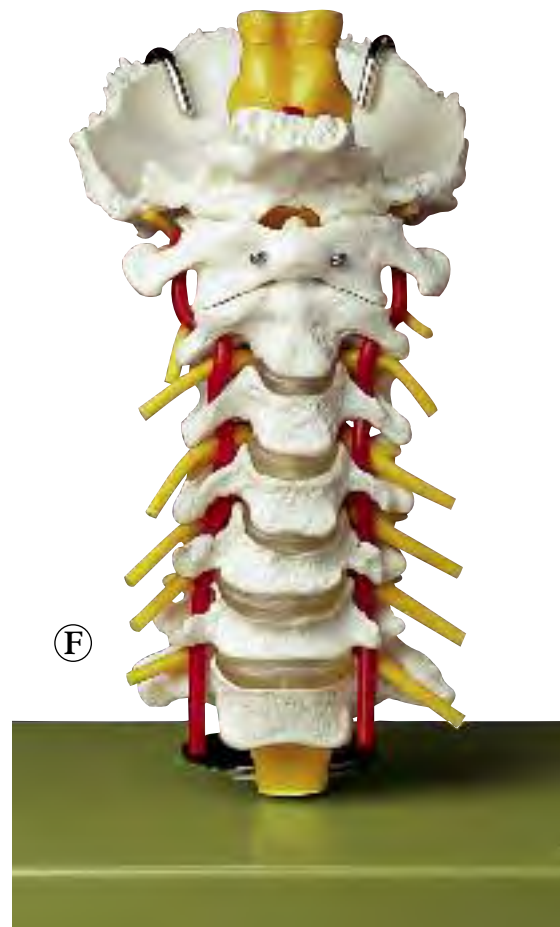
**QS 62 · CERVICAL VERTEBRAL COLUMN**

Cast from natural specimen, in SOMSO-Plast. Articulated and flexible with spinal cord and nerve endings. On a stand with base. Height: 16 cm., width: 12 cm., depth: 12 cm., weight: 290 g



**QS 63 · THORACIC VERTEBRAL COLUMN**

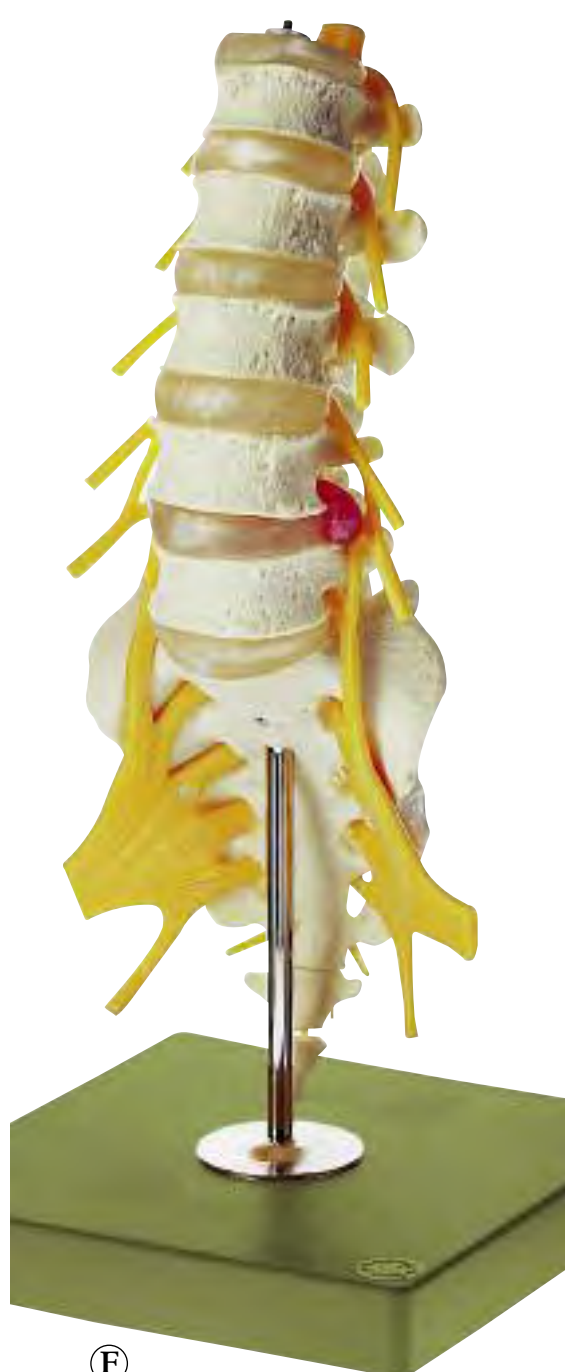
Cast from natural specimen, in SOMSO-Plast. Articulated and flexible with spinal cord and nerve endings. On a stand and base. Height: 37 cm., width: 18 cm., depth: 18 cm., weight: 750 g



**QS 65 · CERVICAL VERTEBRAL COLUMN**

Cast from natural specimen, in SOMSO-Plast. Articulated and 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 base. Height: 22 cm., width: 18 cm., depth: 21 cm., weight: 500 g





ⓕ  
**QS 66 · 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 and base. Height: 37 cm., width: 18 cm., depth: 18 cm., weight: 750 g



**QS 58 · THREE DORSAL VERTEBRAE WITH DISCS**  
Cast from natural specimen, in SOMSO-Plast. Articulated and separable, on a stand with base. Height: 13 cm., width: 12 cm., depth: 12 cm., weight: 180 g



ⓕ  
**QS 64 · LUMBAR VERTEBRAL COLUMN**  
Cast from natural specimen, in SOMSO-Plast. Articulated and flexible, with spinal cord and nerve endings. On a stand and base. Height: 32 cm., width: 18 cm., depth: 18 cm., weight: 1 kg



ⓕ  
**QS 66/1 · LUMBAR VERTEBRAL COLUMN**  
Cast from natural specimen, in SOMSO-Plast. As QS 66, but showing the spondylolysthesis. On a stand with base. Height: 36 cm., width: 18 cm., depth: 18 cm., weight: 1.2 kg



**QS 59 · THREE LUMBAR VERTEBRAE WITH DISCS**  
Cast from natural specimen, in SOMSO-Plast. Articulated and separable, on a stand with base. Height: 14 cm., width: 12 cm., depth: 14 cm., weight: 330 g

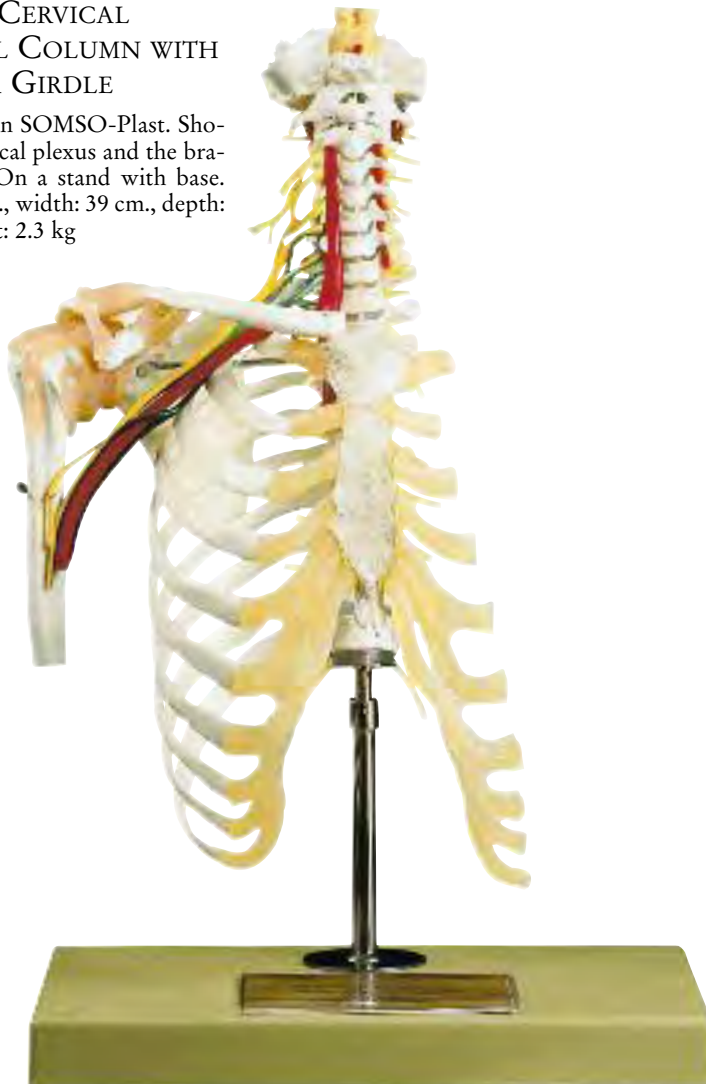
### QS 65/6 · ARTIFICIAL BASE OF SKULL WITH ARTERIES

Natural casting in SOMSO-Plast, consisting of base of skull, mandible and cervical vertebrae with nerves. Representation of cervical arteries with internal passage through the base of skull with emphasis on basilar artery with complete circle of Willis. In one piece. Movable on stand with base. Height: 26 cm., width: 18 cm., depth: 21 cm., weight: 1.2 kg



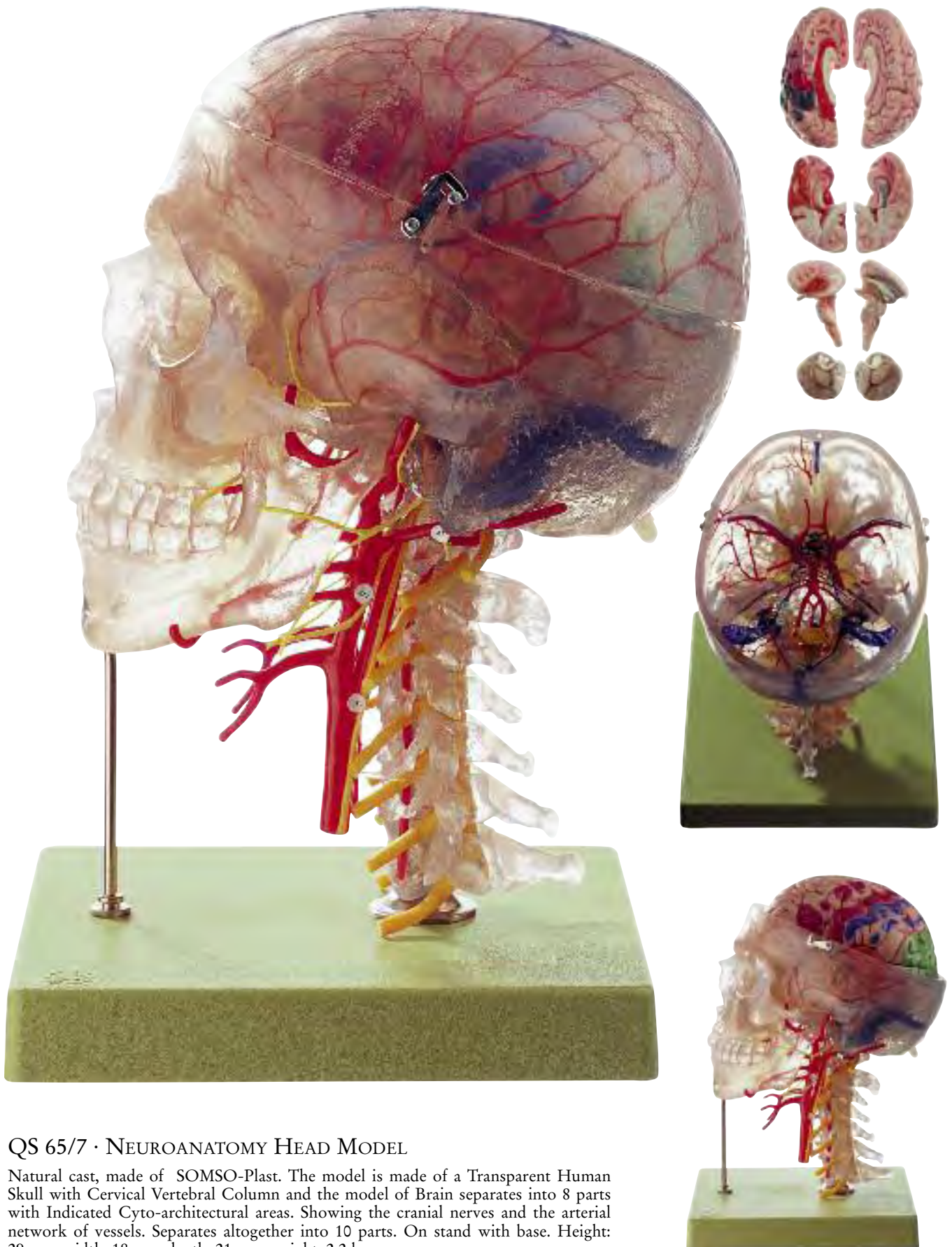
### QS 65/5 · CERVICAL VERTEBRAL COLUMN WITH SHOULDER GIRDLE

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



### QS 66/3 · MODEL OF THE LUMBAR SPINAL COLUMN - WITHOUT INNERVATION

Natural cast, in SOMSO-Plast after Prof. Dr. med. H. R. Henche of Rheinfelden. Presentation of the degenerative mutation on the pelvic bones and the lumbar spinal column compared to the most important disorders thereof. Can be dismantled in two sections. Supplied on a stand with base. Height: 39 cm., width: 22 cm., depth: 19 cm., weight: 1.35 kg



## QS 65/7 · NEUROANATOMY HEAD MODEL

Natural cast, made of SOMSO-Plast. The model is made of a Transparent Human Skull with Cervical Vertebral Column and the model of Brain separates into 8 parts with Indicated Cyto-architectural areas. Showing the cranial nerves and the arterial network of vessels. Separates altogether into 10 parts. On stand with base. Height: 29 cm., width: 18 cm., depth: 21 cm., weight: 2.2 kg



### QS 66/2 · LUMBAR SPINAL COLUMN - WITH INNERVATION

Natural cast in SOMSO-Plast after Prof. Dr. med. H. R. Henche of Rheinfelden. Presentation of the degenerative mutation on the pelvic bones and the lumbar spinal column compared to the most important disorders thereof. Representation of the innervation. Can be dismantled in two sections. Supplied on a stand with base. Height: 37 cm, width: 22 cm, depth: 19 cm, weight: 1.46 kg



### *The anatomy of the lumbar spinal column*

*The new SOMSO models of the lumbar spinal column QS 66/2 and QS 66/3 are life-like, scientifically exact and practice-orientated.*

*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 on a lifelike replica.*

*Comparison of the most important disorders:*

*Vertebral compression fracture*

*Tumorous mutations*

*Vertebral metastases*

*Spondylosis and spondylarthrosis*

*Morbus Bastrup*

*Slipped disc*

*Spondylarthritic osteophytes*



### QS 66/4 · OSTEOPOROSIS MODEL

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





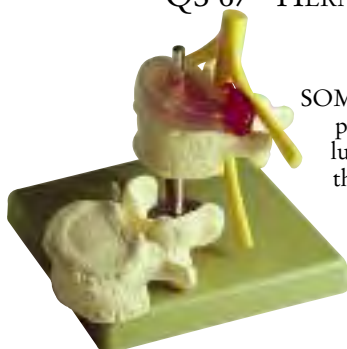
## QS 68/1 · FIRST LUMBAR VERTEBRA WITH INTERVERTEBRAL DISCS AND DORSAL MUSCLES

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 base. Height: 16 cm., width: 12 cm., depth: 12 cm., weight: 230 g



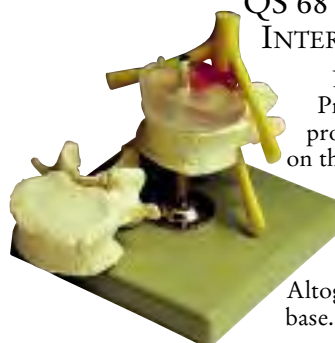
## QS 68/3 · CENTRAL AND DORSOLATERAL HERNIA OF INTERVERTEBRAL DISC

Natural size, in SOMSO-Plast. 4th and 5th lumbar vertebrae with lumbar region of spinal cord and with the following changeable discs 1st normal, 2nd medial protrusion and 3rd lateral prolapse. Separates altogether into 5 parts. On a base. Height: 13 cm., width: 14 cm., depth: 15 cm., weight: 300 g



## QS 67 · HERNIA OF DORSOLATERAL INTERVERTEBRAL DISC

Cast from natural specimen, in SOMSO-Plast. Prolapse of the pulposus nucleus on the 4th and 5th lumbar vertebra, compression of the nerve roots towards the wall of the intervertebral foramen, 4th lumbar vertebra and disc removable. Altogether 4 parts. On a stand with base. Height: 12 cm., width: 12 cm., depth: 12 cm., weight: 270 g



## QS 68 · HERNIA OF CENTRAL INTERVERTEBRAL DISC

Natural size, in SOMSO-Plast. Prolapse of the pulposus nucleus, prolapse of the intervertebral disc on the 4th and 5th lumbar vertebra, compression of the dural sack with cauda equina caused by the hernia. 4th lumbar vertebra and disc removable. Altogether 4 parts. On a stand with base. Height: 12 cm., width: 12 cm., depth: 12 cm., weight: 270 g



## QS 68/8 · MODEL OF HERNIA OF INTERVERTEBRAL DISC

According to Dr. Lie. Natural size, in SOMOS-Plast. Presentation of normal anatomy in conjunction with pathological changes:

- I. Normal anatomy
- II. Anulus fibrosus according to Rumpert
- III. Medio-lateral nuclear prolapse
- IV. Medial prolapse,
- V. Spinal stenosis
- VI. L-4 vertebral spondylolysis

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





### QS 55/3 · DEMONSTRATION MODEL OF THE ARM MUSCLES

Natural size, in SOMSO-Plast. Can be separated into 10 parts. The most important arm muscles can be assigned to their insertion and origin either individually or collectively. The muscle groups responsible for the bending and stretching movements and pronation and supination can be demonstrated. On a stand with a base. Height: 81 cm., width: 38 cm., depth: 38 cm., weight: 4.4 kg

QS 55/3 is detachable as follows:

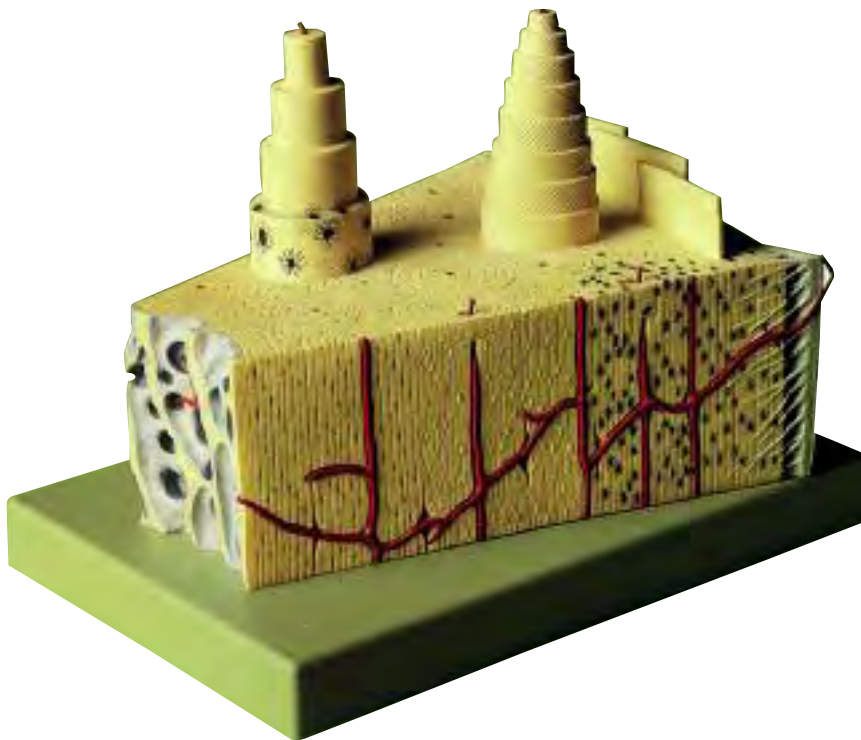
- M. biceps brachii
- M. triceps brachii
- M. brachialis
- M. brachioradialis
- M. supinator
- M. pronator teres
- M. pronator quadratus



# OF THE ARM - FLEXING, EXTENDING THANKS TO SOMSO MODELS

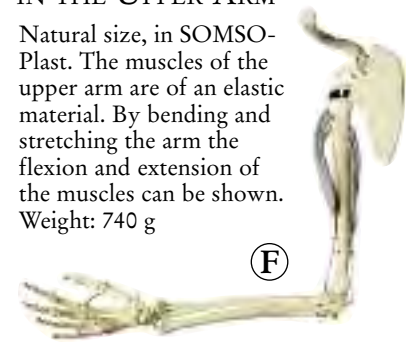
## QS 61 · CONSTRUCTION OF BONE

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



## QS 55 · MOVEMENTS OF MUSCLES IN THE UPPER ARM

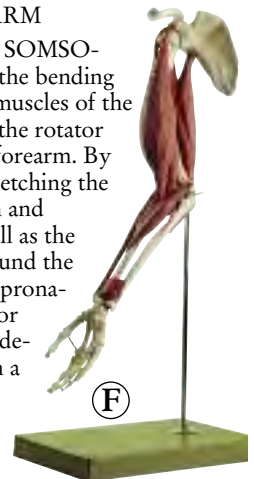
Natural size, in SOMSO-Plast. The muscles of the upper arm are of an elastic material. By bending and stretching the arm the flexion and extension of the muscles can be shown. Weight: 740 g



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

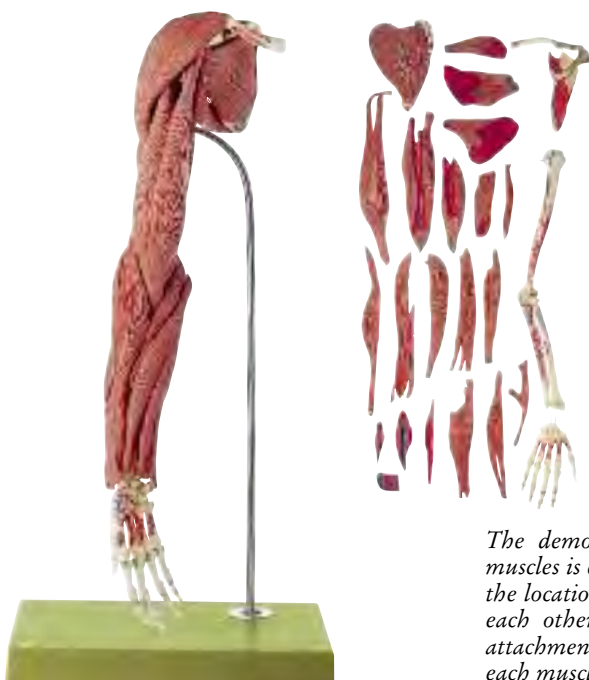
Natural size, in SOMSO-Plast. Showing the bending and stretching muscles of the upper arm and the rotator muscles of the forearm. By bending and stretching the arm, the flexion and extension as well as the movements around the rotary axis, the pronator and supinator muscles can be demonstrated. On a stand and base.

Height: 83 cm.,  
width: 45 cm.,  
depth: 26 cm.,  
weight: 2 kg



## QS 55/5 · MODEL OF THE ARM MUSCLES

Natural size, in SOMSO-Plast. Can be separated 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 stand with base. Height: 81 cm., width: 38 cm., depth: 38 cm., weight: 5.1 kg



*The demonstration model of the arm muscles is especially suitable for showing the location of the muscles in relation to each other, their points of origin and attachment to the bones and the shape of each muscle.*



# THE NEW MODELS: QS 7/7, QS 7/8-E, QS 7/9-E, QS 8/6



*illustration of the Falx cerebri with a skull modell*

## QS 8/6 · FALX CEREBRI

The 14 or 18 piece skull model can also be supplied with a transparent plastic falx cerebri with tentorium cerebelli. Marked on the falx cerebri is the position of the sinuses of the dura mater (Sinus durae matris) as well as of the Pacchioni granulations on the sinus sagittalis superior. The pathways of the venous blood and the cerebrospinal fluid can be clearly regognized.

Frontally the falx cerebri is fastened to the crista galli and superior at the parietal bone; the tentorium can be supported laterally by the pyramidal crest and anterior in the region of the sella turcica. However, it can be completely removed easily so that not only the structure of the dura duplications but also the position of the sinus (blue) of the dura mater can be clearly seen. Weight: 66 g



## QS 7/7 ·

### ARTIFICIAL HUMAN SKULL

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

## QS 7/8-E ·

### ARTIFICIAL HUMAN SKULL

Modeled according to nature, in SOM-SO-Plast. After removing the cranium, the base of the skull, sectioned through median line into two halves where the nasal septum (can be opened), the paranasal sinuses and turbinate bones are (partly) 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

Modeled according to nature, in SOM-SO-Plast. After removing the cranium, the base of the skull, sectioned through median line into two halves where the nasal septum (can be opened), the paranasal sinuses and turbinate bones are (partly) shown. The lower jaw is movable. The upper with the middle and the lower paranasal sinuses can be taken off. Separates into 9 parts. Length: 17.5 cm., width: 14.1 cm., size: 51.2 cm., weight: 800 g



*QS 7/8-E total dissected  
QS 7/9-E partial dissected*



*With the Compliments of:*