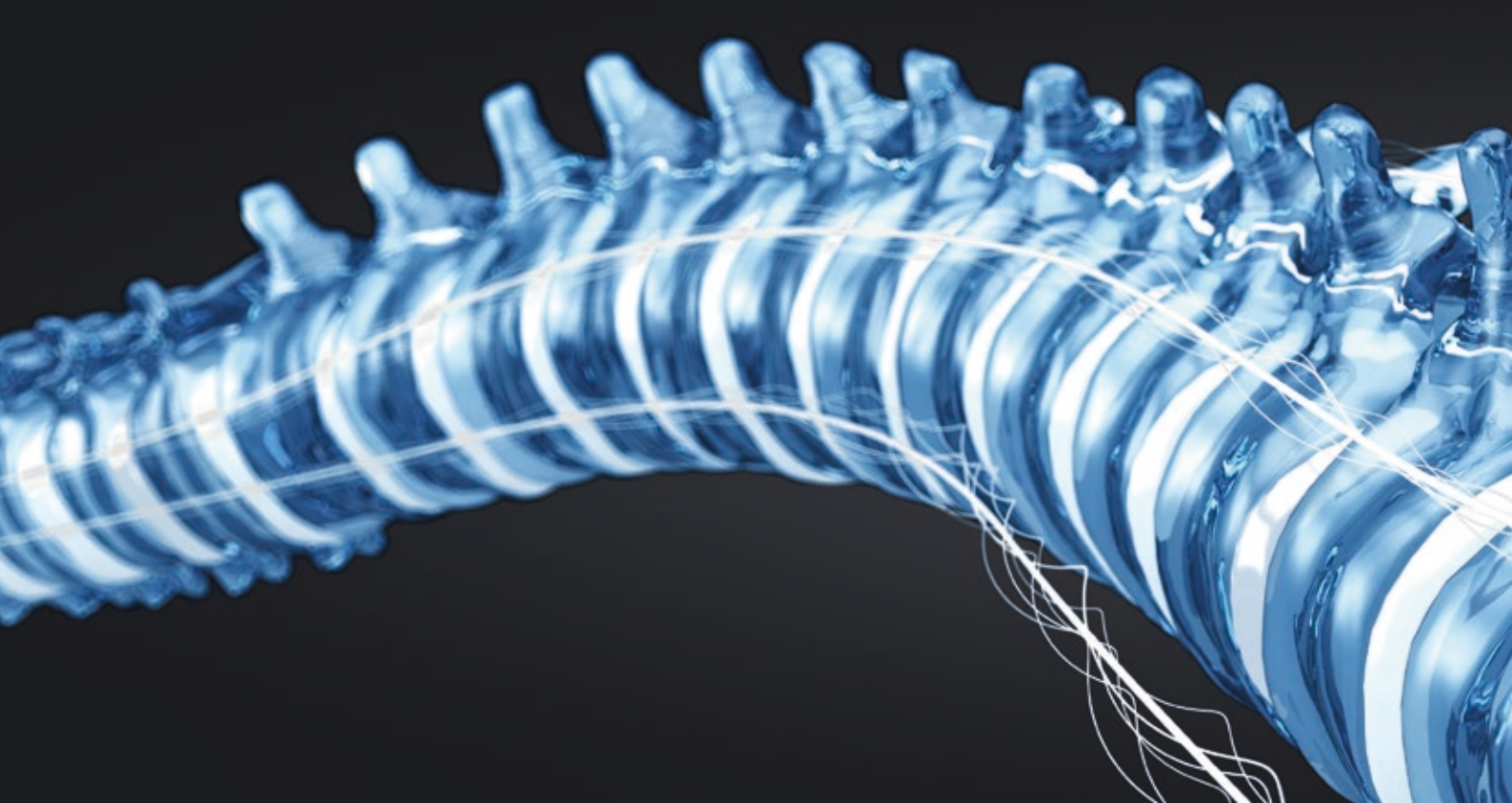


micro **Hydraulics**



ERGOSWISS

The Challenge



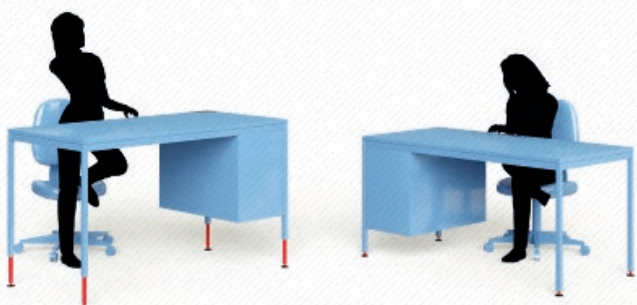
Ergonomics

Physical discomfort such as backache and leg pains have a major impact on a person's quality of life and a company's performance. These ailments can lead to a decline in productivity, work of lower quality and extended sick leave.

Even when you are performing simple and monotonous activities without any major physical effort, working only in a seated or standing position can be difficult and tiring.

The aim of ergonomics is to adapt the working environment to meet people's needs. In everyday working life, this means adapting the height at which people work to their different body heights and activities as well as optimising working conditions, work processes and equipment.

Such measures help to prevent employees suffering from premature fatigue and long-term damage and also aim to achieve an improvement in working performance.



Variety

Sometimes all you need to do is change position, stretch your legs, sit down or stand up. With our system, you can adopt either a seated or a standing posture without interrupting your work. Thanks to the system's programmable positions, the push of a button is all it takes to bring your work station into your desired position of comfort.

The range of applications for Ergoswiss lifting and positioning systems is virtually limitless. Tables (office and CAD desks, assembly and packaging tables and laboratory benches, workbenches and joiner's benches) and working surfaces (sales counters, pay stations, check-in desks) can be moved up or down or tilted and so adjusted to the individual needs of different employees.

A perfectly adjusted work station reduces employee fatigue, which leads to a decrease in injuries and accidents. It can also result in fewer health problems, especially back trouble.

Ergonomic work stations promote employee motivation, thereby increasing productivity. Taking these factors into consideration, you can see how the Ergoswiss system can pay for itself in just a few months.

The Solution



Product range

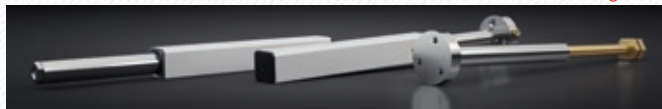
Micro Hydraulics

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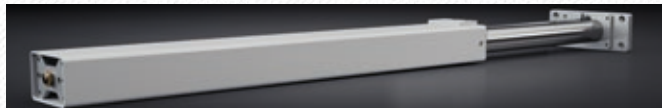
Linear units

Page 24



System TA

Page 28



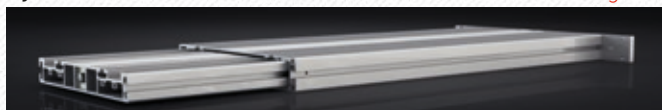
System TQ

Page 32



System TT

Page 36



System TU

Page 40



Service

Our flexible and easy-to-assemble systems are used all over the world in the manufacture of assembly and laboratory work stations and for furniture and office fittings.

In the field of mechanical engineering, our products are a cost-efficient and simple alternative to conventional drive systems.

We offer you:

- expert advice
- online configuration and support with requests
- rapid response to requests for quotations
- short lead times
- faultless after-sales service
- world-wide presence and delivery

We would be happy to help meet your individual needs. Visit our website or simply give us a call.

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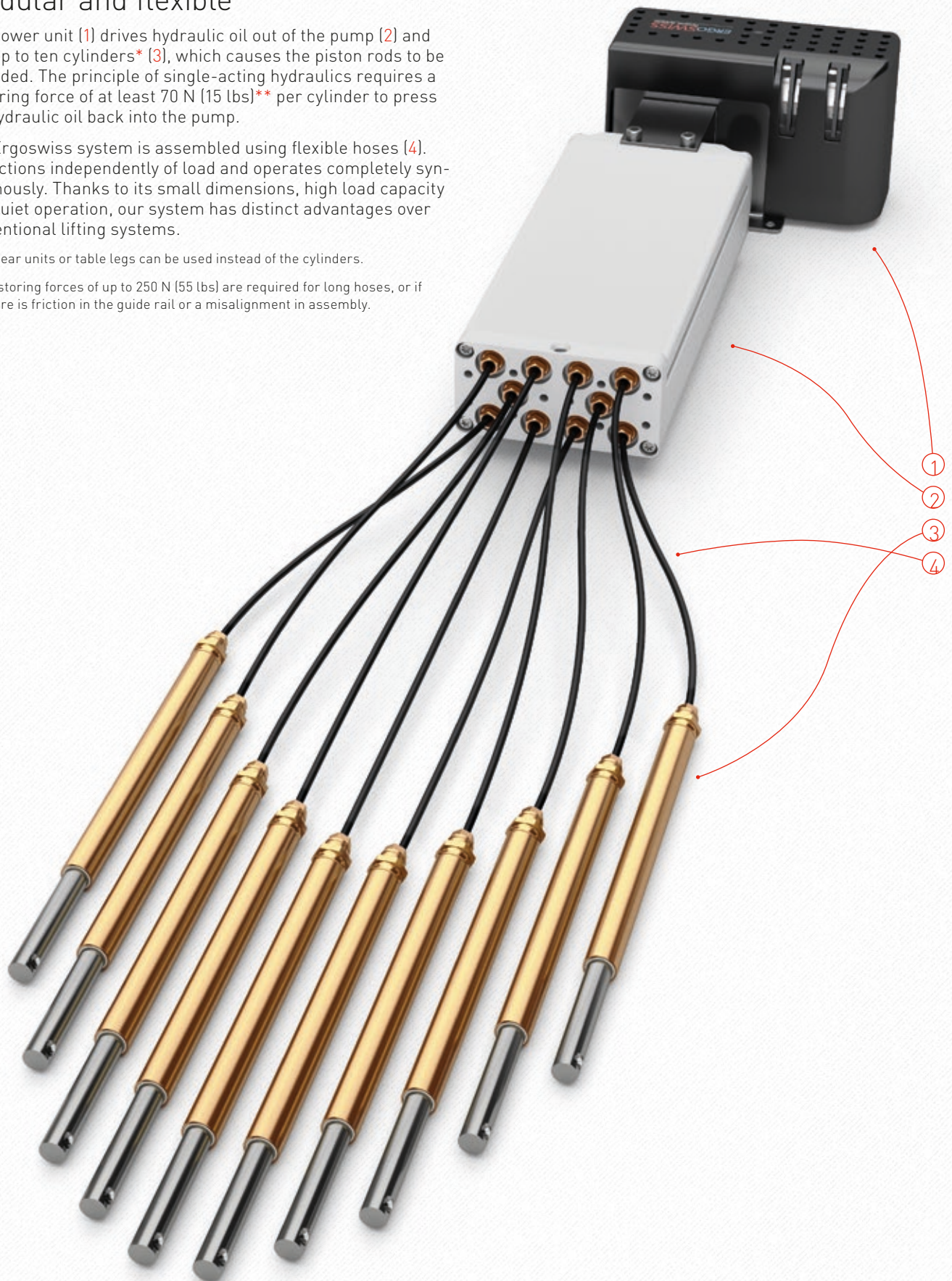
System Structure

Modular and flexible

The power unit (1) drives hydraulic oil out of the pump (2) and into up to ten cylinders* (3), which causes the piston rods to be extended. The principle of single-acting hydraulics requires a restoring force of at least 70 N (15 lbs)** per cylinder to press the hydraulic oil back into the pump.

The Ergoswiss system is assembled using flexible hoses (4). It functions independently of load and operates completely synchronously. Thanks to its small dimensions, high load capacity and quiet operation, our system has distinct advantages over conventional lifting systems.

- * Linear units or table legs can be used instead of the cylinders.
- ** Restoring forces of up to 250 N (55 lbs) are required for long hoses, or if there is friction in the guide rail or a misalignment in assembly.

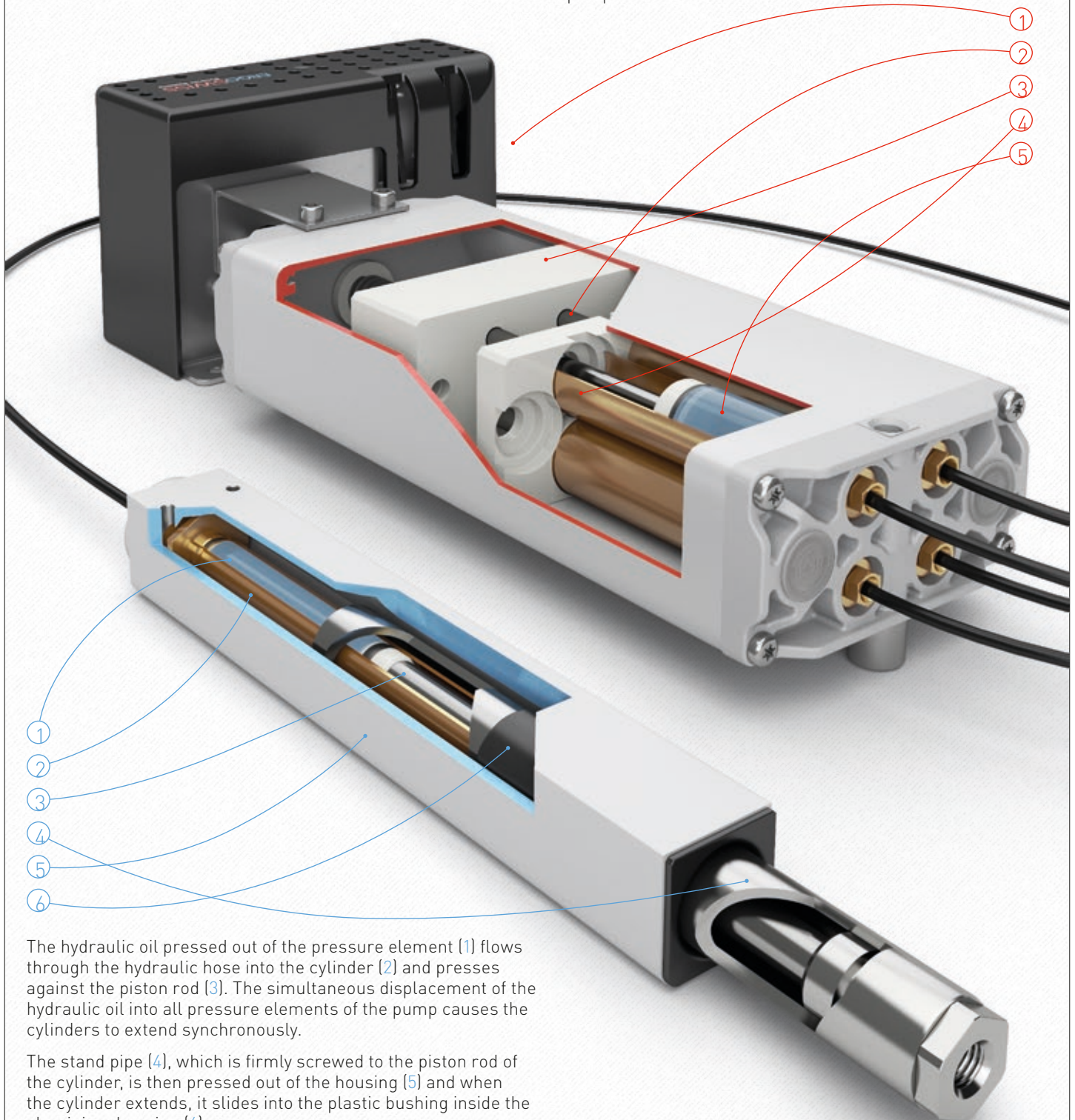


System Function

Simple and ingenious

Through the rotary motion of the power unit (1), the piston rods (2) are pushed by the pusher block (3) into the pressure elements (4). This then presses the hydraulic oil (5) out of the pressure elements and into the connected cylinders.

Each connected cylinder has its own pressure element in the pump.



The hydraulic oil pressed out of the pressure element (1) flows through the hydraulic hose into the cylinder (2) and presses against the piston rod (3). The simultaneous displacement of the hydraulic oil into all pressure elements of the pump causes the cylinders to extend synchronously.

The stand pipe (4), which is firmly screwed to the piston rod of the cylinder, is then pressed out of the housing (5) and when the cylinder extends, it slides into the plastic bushing inside the aluminium housing (6).

The entire design is firmly anchored in the housing and thus guarantees high lateral stability.



Productivity and health

A conscientious entrepreneur ensures long-term growth and competitiveness through innovation and productivity. All modern industrial concerns are therefore obliged to design their work stations so that employees can carry out their work in a healthy environment to guarantee the highest possible level of productivity. The height adjustment of workbenches or factory equipment therefore plays a key role in achieving a sustained level of high productivity and in maintaining the health of employees.

Ergoswiss systems deliver simple and cost-effective solutions for all work stations requiring height adjustment. From the 2-leg laboratory bench to the 4-leg workbench or the 10-leg conveyer facility, our flexible lifting systems can either be easily retrofitted or fully integrated into your own system.



We recommend:

- 1 For workbenches with high load capacity and stability: systems **TA** and **TU**
- 2 For pipe systems and storage racks: linear units **LA** and **LH**
- 3 For light assembly tables and for use with aluminium profiles: systems **TT** and **TQ**
- 4 For packing tables: linear units **LA** and **LH** and systems **TA**, **TQ**, **TT** and **TU**

Height adjustment applications:

- Workbenches
- Assembly benches
- Measuring tables
- Aluminium profile systems
- Steel pipe systems
- Packing tables
- Laboratory benches
- Watchmaker benches
- Joiner's benches
- Control desks
- Sewing tables
- Flow boxes
- Electrical assembly benches
- Sand blasting units
- Sanding and polishing tables
- Tool and gear trucks
- Conveyer systems
- etc.



Comfort and convenience

People are living longer and therefore need a comfortable environment to live in yet one that can also be adapted to any special health care needs. Adjusting the height of baths, wash basins, beds, kitchen wall units or worktops can lead to a considerable improvement in convenience for the elderly or disabled.

Height adjustment in care facilities not only benefits the nursing staff, it also makes life easier for the patients. With our Ergoswiss systems, you can adjust the height of massage couches, examination tables, laboratory furniture or equipment easily and aesthetically to meet the needs of nursing staff and patients, thus guaranteeing a high level of comfort.



We recommend:

- 1 For discussion and meeting tables:
systems **LH, FB** or **FC**
- 2 For examination tables and massage couches:
linear units **LA** and **LH** as well as systems **TA** and **TT**
- 3 For laboratory benches and equipment:
linear units **LA** and **LH** as well as systems **TH, FB** or **FC**
- 4 For sink units and preparation tables:
the stainless steel linear unit **LA**
- 5 For work stations with protective hoods and extractor fans:
linear units **LA** and **LH** as well as systems **TA** and **TT**
- 6 For baths: systems **TT** or **TA**

Height adjustment applications:

- Beds for the sick and elderly
- Baby changing tables
- Chemistry work stations
- Safety work stations
- Baths for the sick and elderly
- Furniture for the disabled
- Fitness equipment
- Examination tables
- Massage/beauty couches
- Infant beds/cots
- Incubators
- Examination chairs
- Pedicure chairs and platforms
- Manicure tables
- Veterinary examination tables
- etc.

ergo Catering



Fit for purpose and state of the art

A professional chef spends around 2,000 hours a year in the kitchen. Chefs and their kitchen crews would definitely appreciate the health benefits of being able to adjust the various work stations to the relevant heights of the team members. You can easily retrofit the stainless steel Ergoswiss height adjustment systems into existing furniture or add them to all kitchen units in any modern kitchen.

Adjustable work surface heights enable chefs to carry out their creative work in an ideal working position. This reduces fatigue, which undoubtedly boosts creativity, quality and productivity many times over.

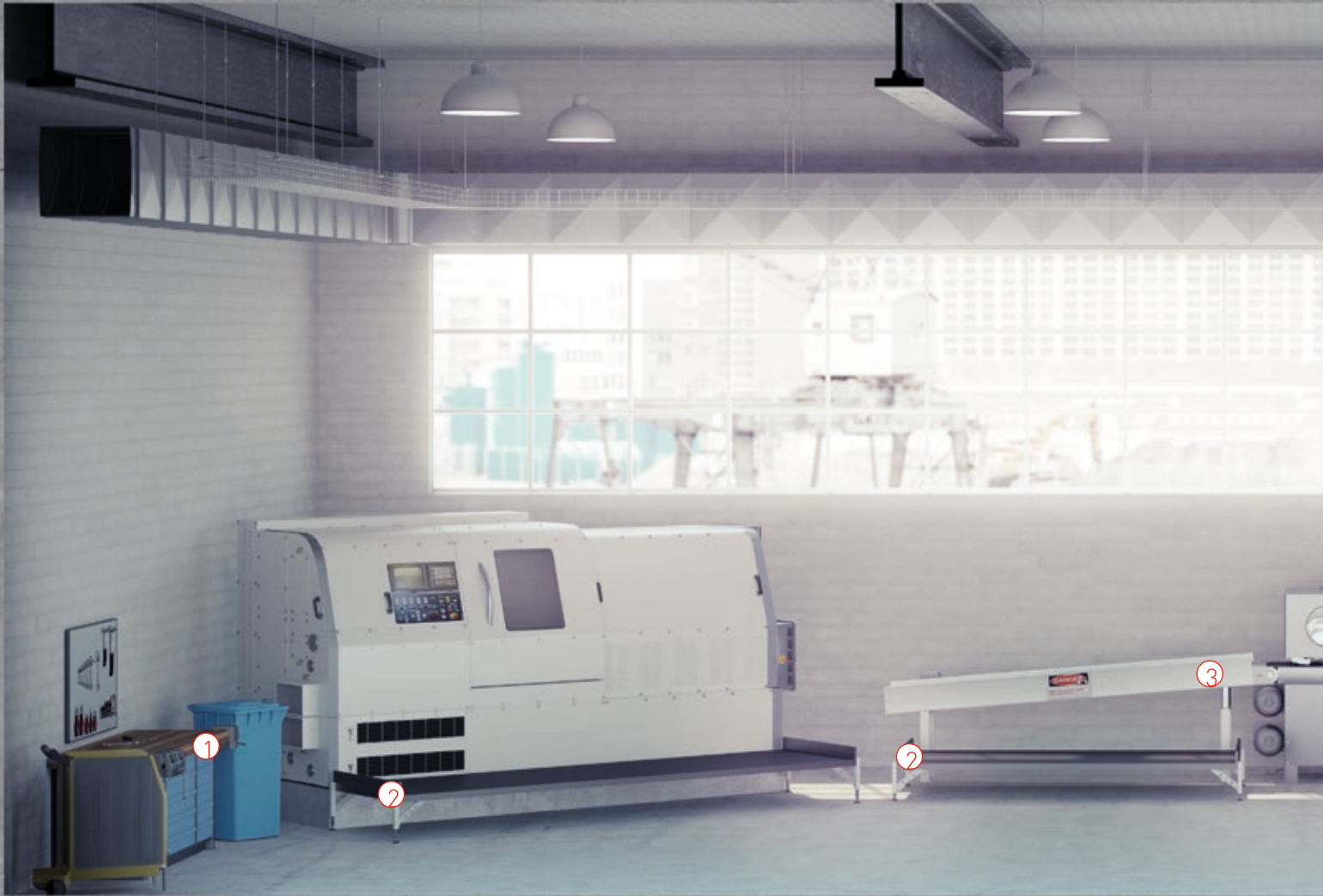


We recommend:

- 1 For installation in steel tube frames of preparation tables or stoves: our stainless steel linear units **LA, LD** or **LH**
- 2 To lower steam extractors: linear unit **LA**
- 3 For mobile kitchen elements and sales counters: linear units **LA** and **LH** or systems **TA, TU** and **TT**
- 4 For kitchen and canteen tables: linear units **LA** and **LH** as well as system **TH**

Height adjustment applications:

- Professional stoves
- Preparation tables
- Butchering tables
- Canteen and bistro tables
- Pay stations
- Sales and serving counters
- Glass covers for salad bars
- Steam extractors
- Food warmers
- etc.



Diversity and operating efficiency

The competitiveness of most industry sectors is mainly dependent on product costs and product quality. It is therefore important to use expensive production lines in a variety of ways while at the same time boosting the productivity of workers. The Ergoswiss systems not only adjust work surfaces to the ideal working height for each employee, they can also regulate the working height of entire production lines, machines, conveyor belts or platforms in a matter of seconds.

Having adjustable work surfaces and equipment on the basis of Ergoswiss products means you can use industrial equipment more efficiently. The ergonomic work stations also reduce worker fatigue and so boost productivity.

Existing work stations, machines, production lines or platforms can be retrofitted quite simply and cost effectively with the Ergoswiss height adjustment systems.



We recommend:

- 1 For workbenches and deburring tables:
the systems **TA, TQ, TT** and **TU**
- 2 For working platforms: the linear unit **LA**
- 3 To adjust the tilt of conveyor belts:
the linear unit **LA** or the systems **TA** and **TU**
- 4 To adjust the height of conveyors:
the systems **TA, TQ** and **TT**
- 5 For packing tables: the systems **TA, TQ, TT** and **TU**

Height adjustment applications:

- Machine covers
- Conveyor systems
- Runways
- Working platforms
- Welding benches
- Sand blasting units
- Cleaning tables
- Tool-setting tables
- Measuring tables
- etc.



Style and comfort

Selecting furniture for the home is based on emotional criteria and often, too much of the focus is placed on aesthetic aspects. When function and comfort are a consideration, however, our Ergoswiss system can make a distinct contribution to your well-being in the home. Our systems are invisible and easy to install and do not alter the look of the furniture. The slimline structural form and flexible drive systems of the height adjustment elements allow for considerable freedom in design.

Adjustable work, seating or living spaces incorporating our Ergoswiss products can considerably improve comfort and convenience in the home while retaining the chosen style of the basic furnishing elements.



We recommend:

- 1 For preparation, rinsing and storage surfaces: the systems **TA, TQ, TT** and **TU**
- 2 To lower steam extractors: the linear unit **LA**
- 3 For kitchen islands and stand-up bars: the linear unit **LA** and systems **TA, TQ** and **TU**
- 4 To install televisions: the screen lifts or the linear unit **LA**
- 5 For dining tables: the linear units **LA** and **LH** and system **TH**
- 6 For display cabinets: the linear unit **LA**
- 7 For beds and couches: the linear unit **LA**

Height adjustment applications:

- Extractor hoods
- Glass covers for display cabinets
- Dining tables
- Kitchen islands
- Mirrored cabinets and wall units
- Chests of drawers
- Beds and sofas
- Tables for the disabled
- Office desks
- Massage couches
- Tables for arts and crafts/hobbies
- Built-in equipment
- Coffee tables
- etc.



Functionality and design

Ergoswiss systems are often used to facilitate day-to-day office work. Our system has a very elegant look that enables individual and modern interior design.

With the height of the work surface adjustable, work can be carried out in an ideal position. This reduces worker fatigue, which not only increases productivity but also helps to maintain the overall health of the workforce.

The slimline design of the table legs and their flexible drive system offers considerable freedom in terms of work place design.

The system is ideal for 2-leg tables, corner combinations and large conference tables with several table legs.



We recommend:

- 1 For conference tables: the linear units **LA** and **LH** or the system **TH**, all of which ensure ample legroom
- 2 For simple office desks: the systems **TA**, **FB** or **FC**
- 3 For the adjustment of screens and monitors: the screen lifts **ST**
- 4 For tables with a large surface area, corner combinations or free-form surfaces: the system **TA** or the linear unit **LA**

Height adjustment applications:

- Student's desks
- Lecterns
- Conference tables
- PC and CAD stations
- Projector tables
- Chairs
- Monitors, whiteboards and interactive screens
- Trading desks
- etc.



Powerful and quiet

The pumps **PA** and **PB** represent the heart of our adjustment system.

The flexible connections, the minimal space requirements and the option of mounting the pumps in any location (even outside a system) mean that Ergoswiss systems can be integrated in very slim and complex objects.

Our pumps can activate up to 10 cylinders quietly, continuously and absolutely synchronously – even in the case of uneven loads – lifting weights up to 800 kg (1750 lbs).

The pumps are driven by an electric drive unit or by a hand crank.

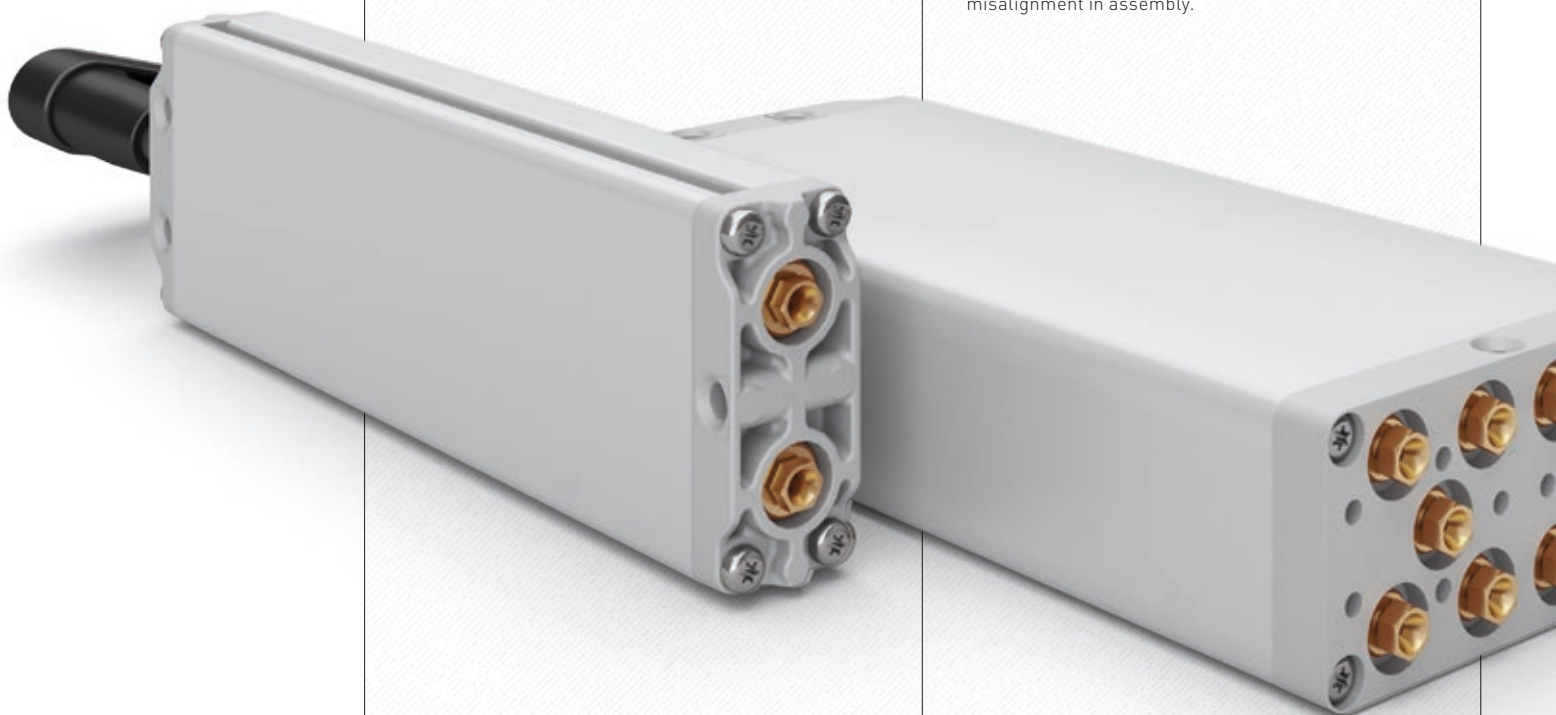
A restoring force of at least 70 N (15 lbs)* should be available per cylinder to push the oil back into the pump during retraction (single-acting hydraulics).

The pumps and cylinders are connected with a hydraulic hose (\varnothing 4 mm / $5/32$ ""). The maximum hose length is 8 m (260 ft), the minimum bending radius is 25 mm (1").

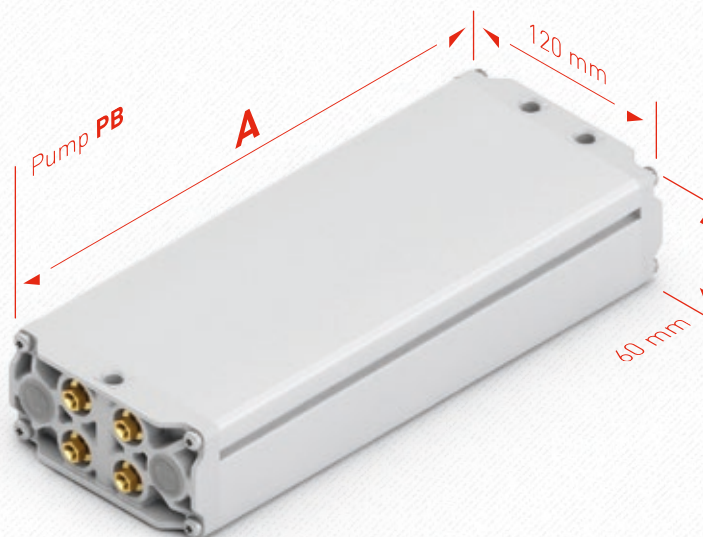
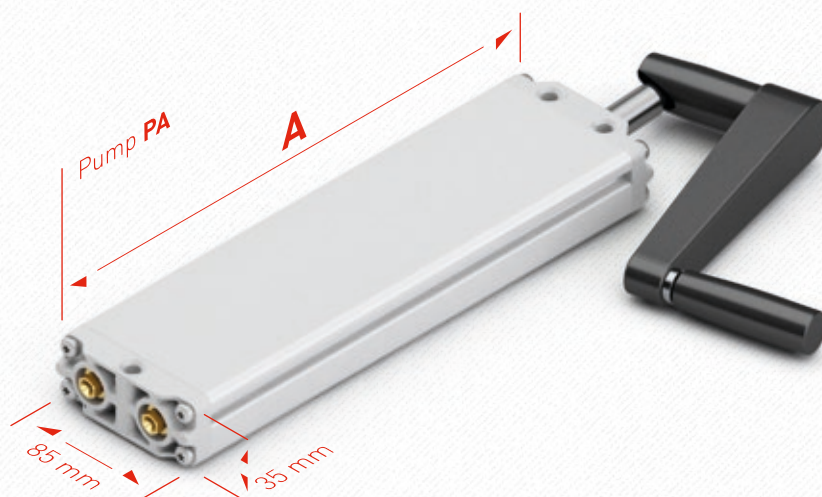
The pump housing is an extruded aluminium profile with a plain anodised finish.

Three fixing holes are available to mount the pumps.

* Restoring forces of up to 250 N (55 lbs) are required for long hoses, or if there is friction in the guide rail or a misalignment in assembly.



type PA|PB



Technical data

- Type **PA** to drive 1 or 2 cylinders and for a maximum system load of 5,000 N (1,100 lbs)
- Type **PB** to drive from 3 to 10 cylinders and for a maximum system load of 8,000 N (1,750 lbs)
- Maximum lift speed of 10 mm ($\frac{3}{8}$ ") per crank turn, or max. 30 mm/s with electric drive
- Food-grade hydraulic oil can be used
- Other models on request

Pump PA|PB

120 kg	A
x620 – x630	298.5 mm
x640 – x660	480.5 mm
x670	600.5 mm
350 + 600 kg	A
x815	298.5 mm
x820	358.5 mm
x830	480.5 mm
x840	600.5 mm
x850	722.5 mm
x860	842.5 mm
x866	923.5 mm
x870	969.5 mm
800 kg	A
x418	480.5 mm
x430	722.5 mm
x440	923.5 mm

Detailed CAD drawings in various formats can be found at www.ergoswiss.com



Simple and convenient

Our pumps can be operated with a hand crank or an electric drive unit. Your choice will depend on the desired level of convenience and on price considerations.

When folded in, the hand crank entirely disappears from view under the table.

The following options are available:

- detachable hand crank
- stainless steel hand crank
- torque limited clutch



The electric drive unit has an intelligent control system with space for 4 memory positions.

Height adjustment is achieved via cable remote control. This is mounted on the underside of the table and can be neatly pushed under the table top. The table height is displayed digitally on the remote control.

The power supply unit (230 VAC, or 110 VAC) is integrated in the control unit. An electric current monitoring function protects the electric drive unit from overload and also serves to protect the system on start-up.

Delivery includes the motor, control unit with 3-pole power cable and cable remote control (2 m cable length) with position memory.

The drive units are not suitable for continuous operation. After one minute of operation, the drive unit needs to rest for about 20 minutes (duty cycle 5%). The nominal travel decreases by about 15 mm with an electric drive unit.

The following accessories are available:

- various options for cable remote control (simple on/off switch, foot switch, infra-red remote control)
- control cable to use your own switches
- safety strips
- extension and split cables
- cable to synchronise max. 4 power units
- country-specific power cables (3-pole)
- 12 V battery solution

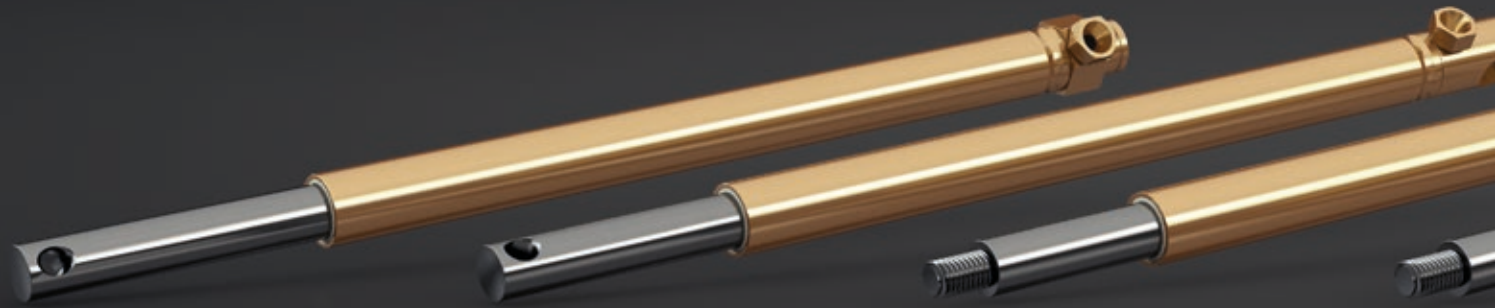
Type PD



Technical data

- 4 memory positions
- Digital height display
- Mains voltage 230/110 VAC
- Motor voltage 24 VDC
- Power rating approx. 340 VA
- Standby output < 0.6 W
- Idle running speed 180 rpm
- Protection class IP 30
- Overload protection
- Thermal protection
- Duty cycle monitoring

Detailed CAD drawings in various formats can be found at www.ergoswiss.com



Strong and slim

Our cylinders are ideal for quiet, quick and precise adjustments. Highly complex designs can be realised thanks to the simultaneous activation of up to ten cylinders.

The cylinders are designed to be integrated into existing guide rails and should only be exposed to minor lateral forces. They are used for height and tilt adjustments.

The cylinder is the basic element of all linear units and table legs and is therefore used in all our elements. It is made of brass and has a piston rod made of stainless steel.

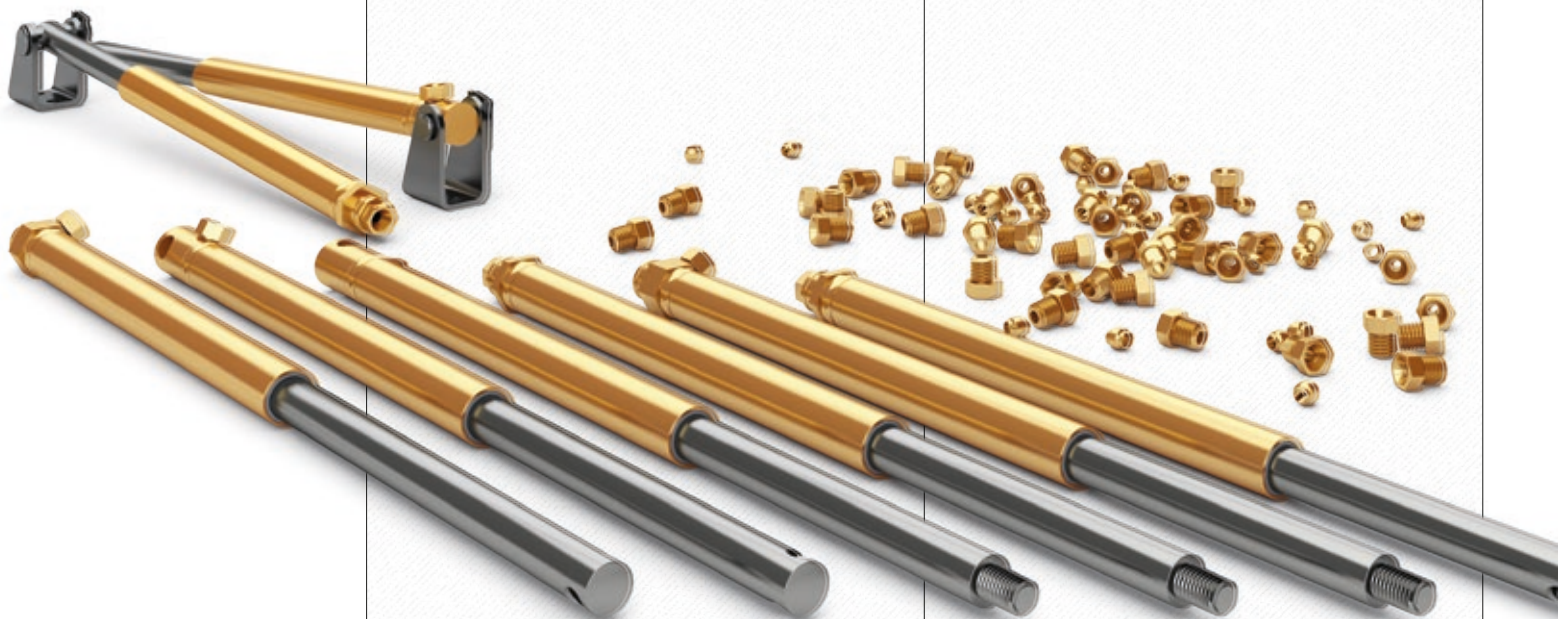
The clamping rings and screws (M8x1) are for connecting the hose to the pump and cylinders.

The flexible hydraulic hose has the following properties:

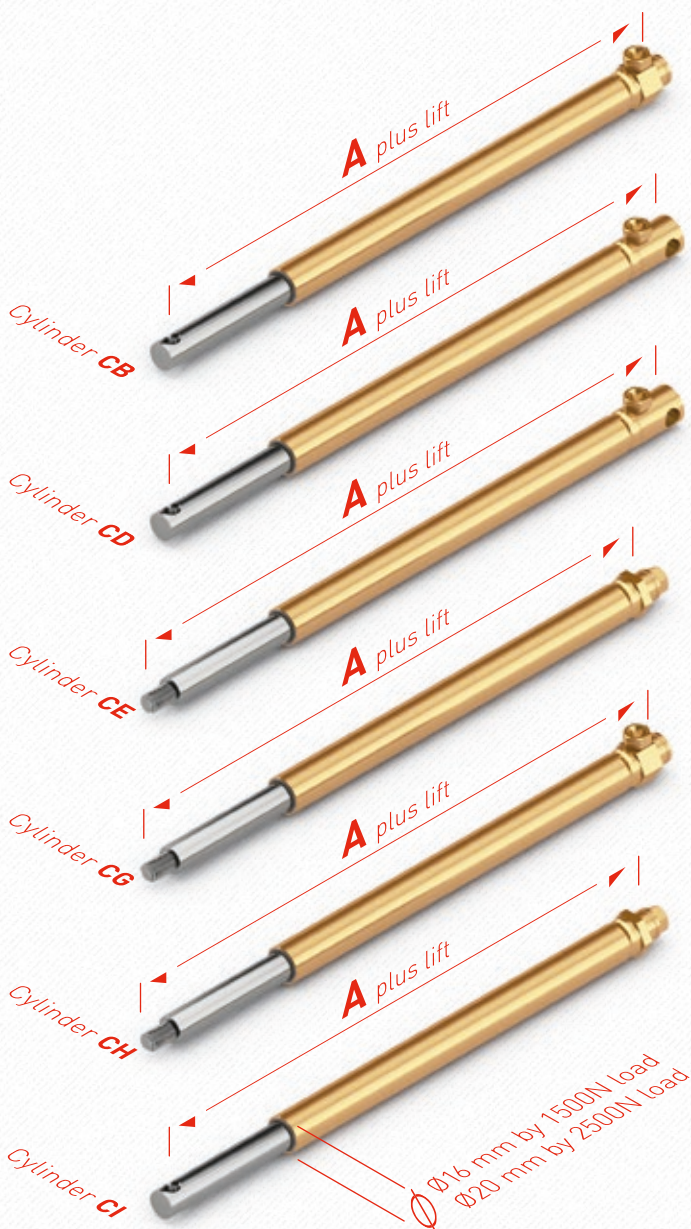
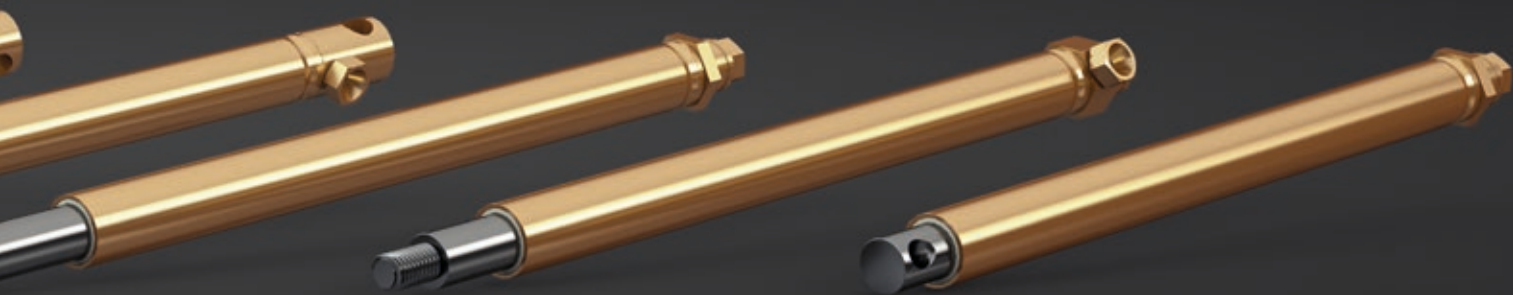
- exterior diameter: 4 mm ($\frac{5}{32}$ ")
- minimum bending radius: 25 mm (1")
- maximum operating pressure: 100 bar (1450 psi)

The following accessories are available:

- T, Y, L or straight-through fittings
- hose couplings
- hose blanking plugs
- brackets D6 and D8 to mount the cylinders
- hose break protection



type **CB|CD|CE|CH|CI**



Accessories



Technical data

- Please note the maximum load of the entire system as shown in the table
- Maximum load 1,500 N (330 lbs) per cylinder with piston diameter 14 mm
- Maximum load 2,500 N (550 lbs) per cylinder with piston diameter 18 mm
- Lifting distances up to 700 mm; longer lifting distances on request
- The cylinders should not be exposed to tensile forces
- The cylinders must be installed within an existing guide rail
- Food-grade hydraulic oil can also be used
- Other models on request

Cylinder **CX**

	A by Ø 16	A by Ø 20
CB	55 mm	62 mm
CD	61.5 mm	67.5 mm
CE	56.5 mm	62.5
CG	44 mm	49 mm
CH	50 mm	57 mm
CI	49 mm	54 mm

Detailed CAD drawings in various formats can be found at www.ergoswiss.com



Universal and compact

The linear unit consists of a cylinder and a linear guide rail and is a compact and robust lifting element. It can be installed directly onto or into existing objects. This means that a wide range of tables or other devices can easily be equipped or retrofitted with a lifting system.

Four M5 screw threads are provided to mount the linear units **LA** and **LD**.

The housing of the linear unit is a plain anodised aluminium profile. The stand pipe is made of stainless steel and positioned in a plastic bushing.

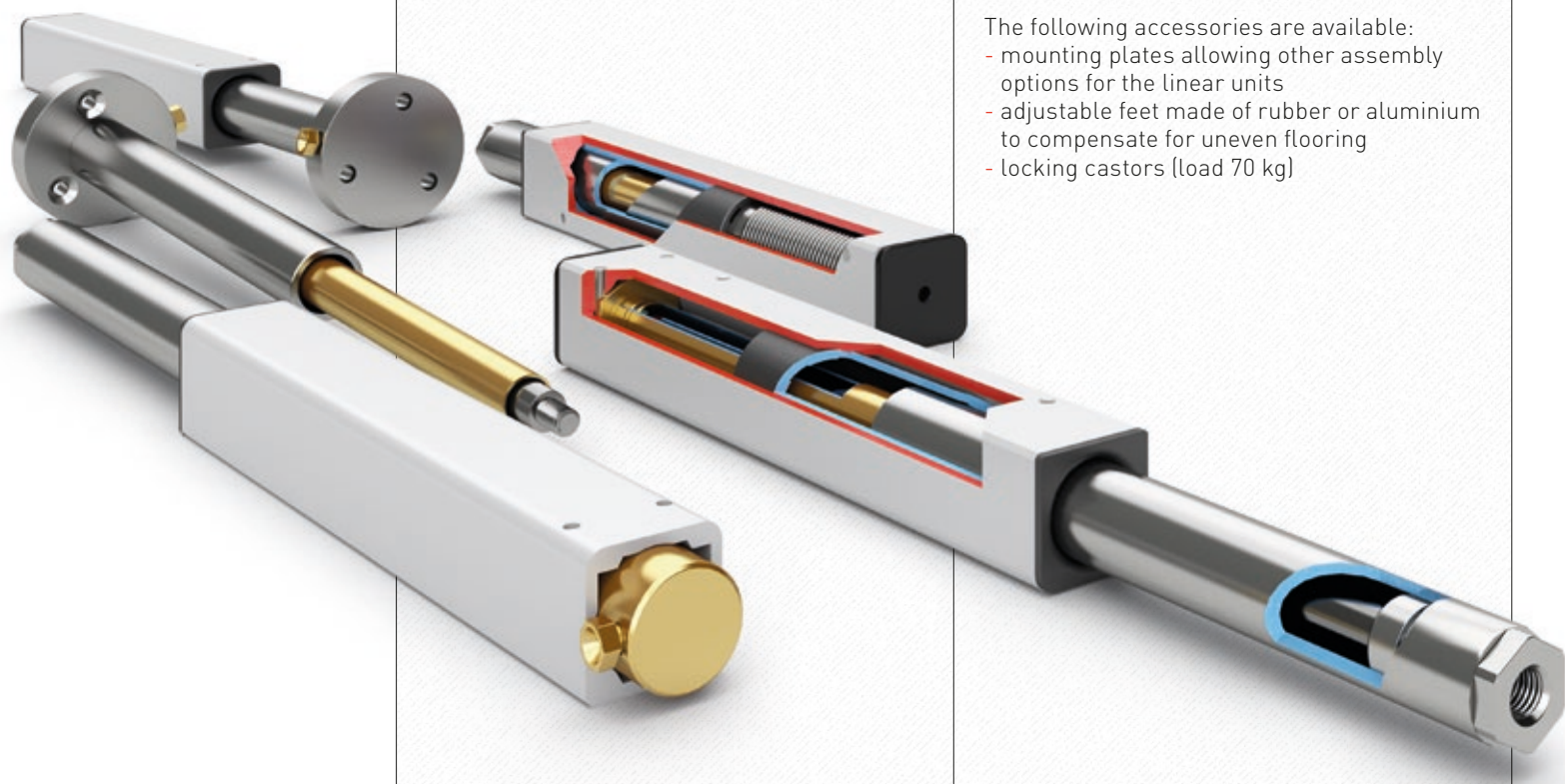
The linear unit is available in different versions:

- LA-R: radial tube outlet
- LA-F: with built-in restoring spring
- LA-RF: stainless steel version
- LA-ESD: ESD-compatible protective cover
- LA-V: with built-in hose rupture protection
- LB, LD-E for installation in existing profile systems
- Quick-ship systems

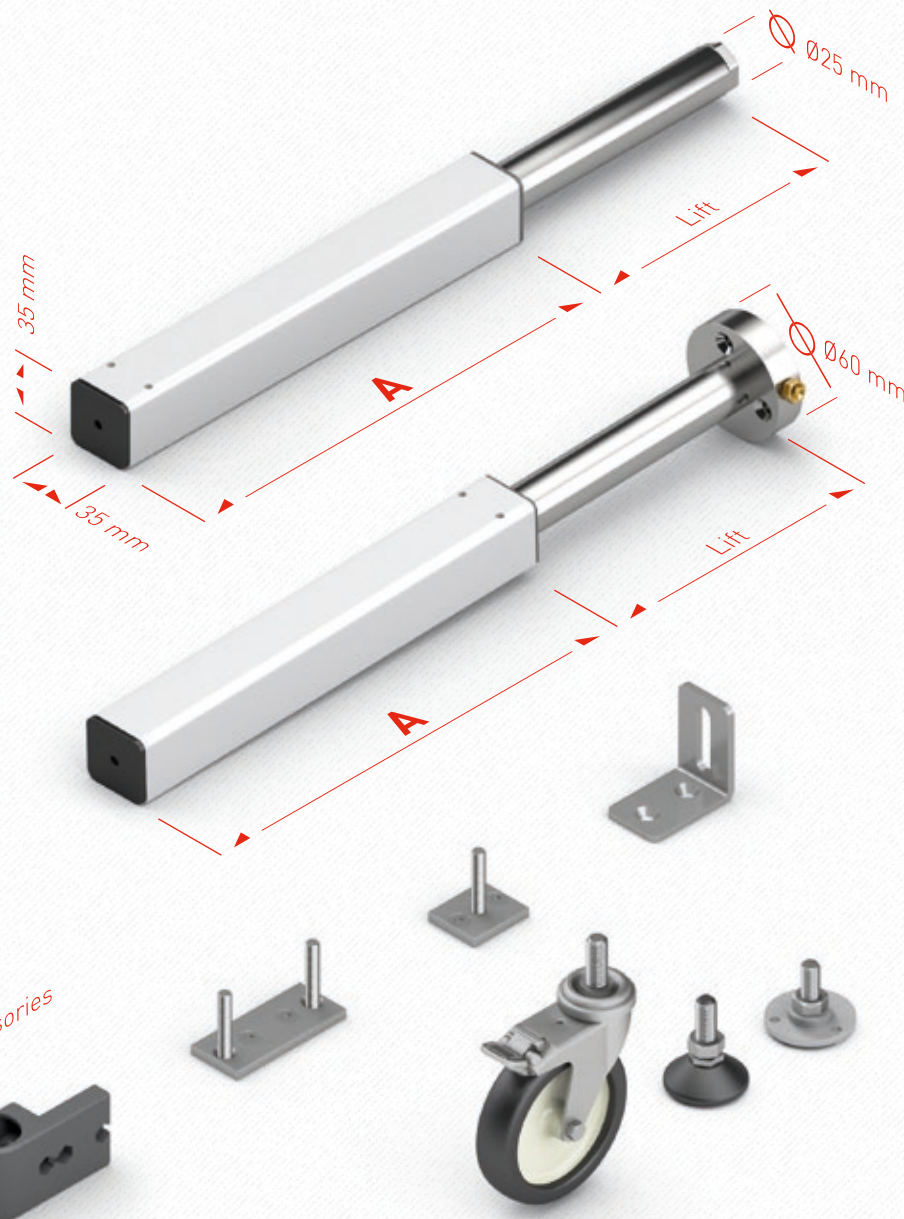
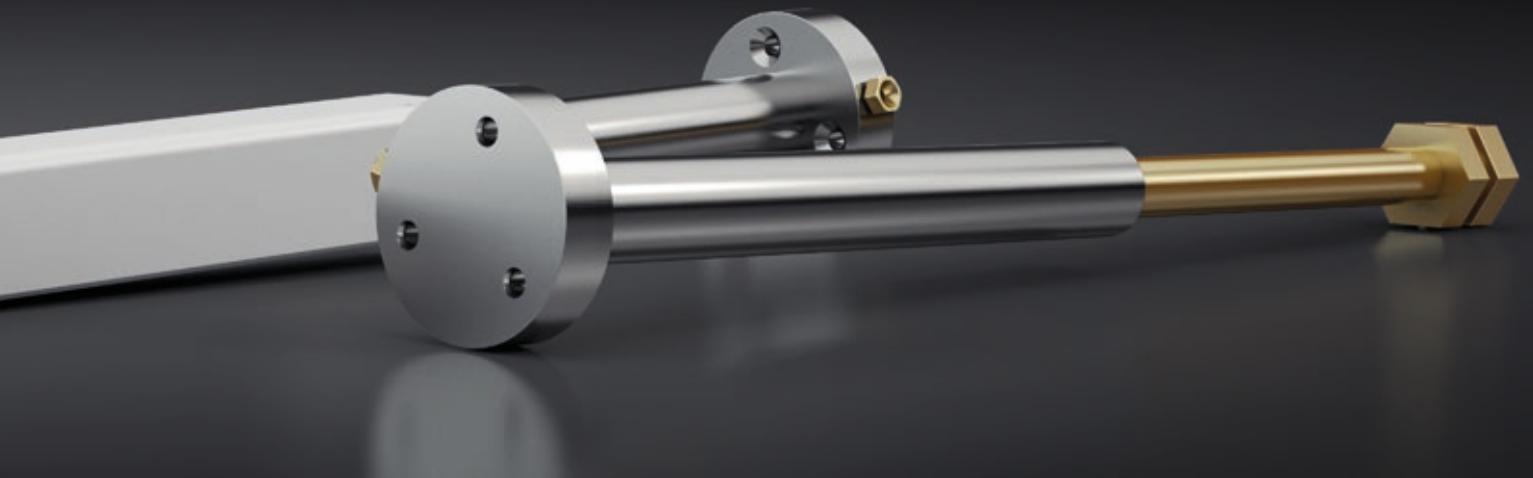
The height is adjusted by means of a hydraulic pump operated by a hand crank or electric drive unit.

The following accessories are available:

- mounting plates allowing other assembly options for the linear units
- adjustable feet made of rubber or aluminium to compensate for uneven flooring
- locking castors (load 70 kg)



Dimensions LA|LD



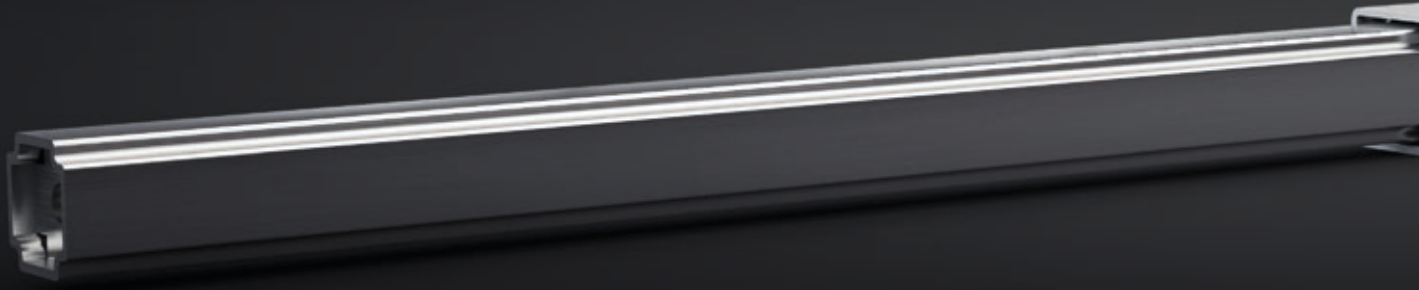
Technical data

- Versatile linear guide rail with slide bearings
- Max. lifting load for each element:
1,500 N (**LA/LD 14**)
2,500 N (**LA/LD 18**)
- Please also note the maximum load of the entire system
- Synchronous control of up to 10 table legs
- Lifting distance max. 700 mm
- Max. static bending moment $M_b = 150 \text{ Nm}$
- Max. dynamic bending moment $M_{bdyn} = 50 \text{ Nm}$
- Food-grade fluids can also be used
- No additional guide rail is required
- The linear units should not be exposed to tensile forces
- Plain anodised aluminium

Typ LA|LD

	Lift	A
LA LD 1415	150	252 mm
LA LD 1420	200	317 mm
LA LD 1430	300	442 mm
LA LD 1440	400	542 mm
LA LD 1450	500	667 mm
LA LD 1460	600	767 mm
LA LD 1470	700	867 mm

Detailed CAD drawings in various formats can be found at www.ergoswiss.com



Slim and robust

The linear unit **LH** provides the stability and smooth running of the table leg **TA**. Thanks to its slimline design, it is also suitable for installation in a square tube. It is mainly used in place of the linear unit **LA** when large lifting distances are required.

Four M5 screw threads are provided to mount the linear unit.

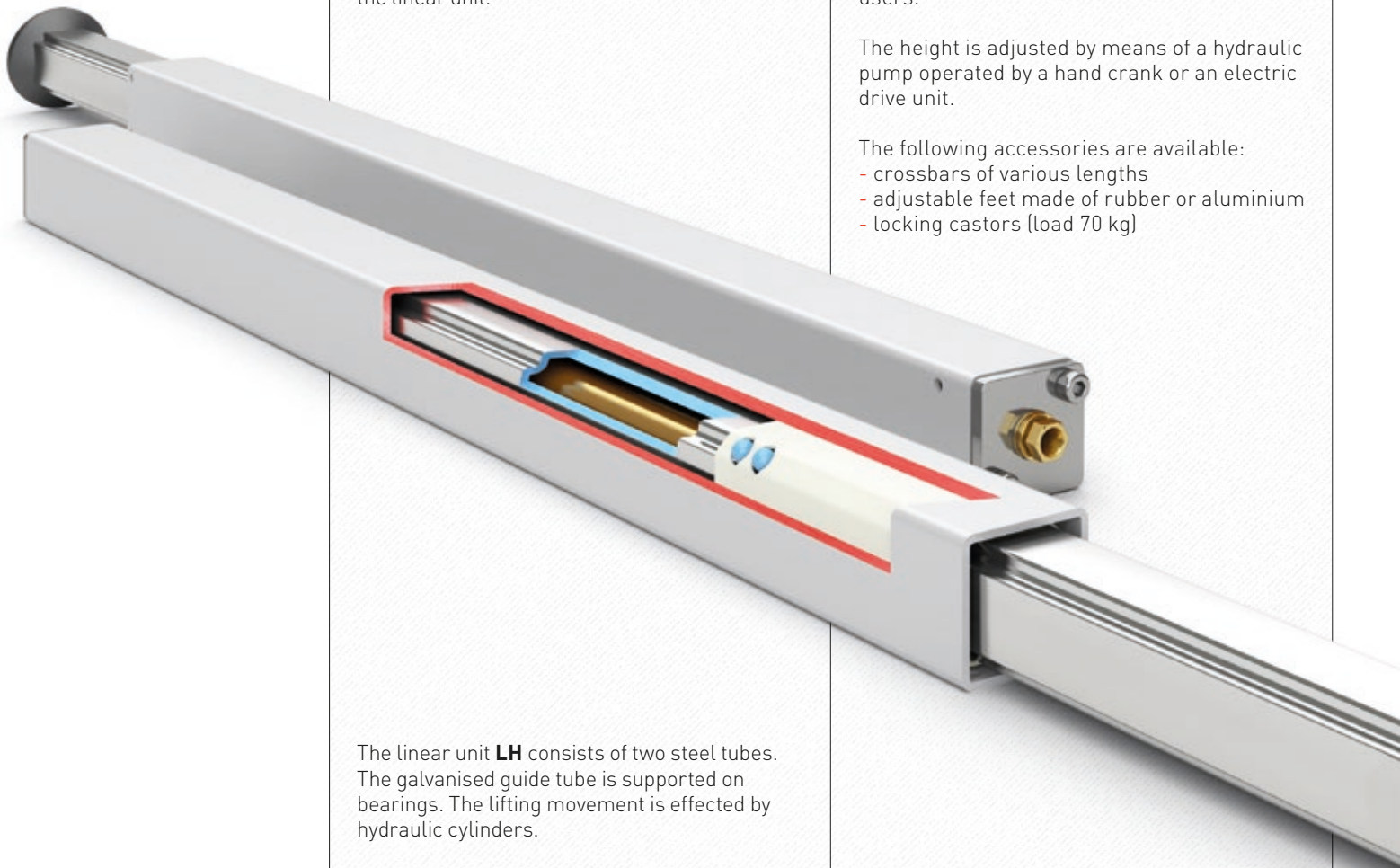
The linear units **LA** or **LH** are installed in square tubes (40 x 40 mm) in the frame **TH**. There is a wide range of different applications, including office desks, kitchen tables and work stations. Ample legroom is provided as the crossbar is mounted directly under the table top. It is therefore also suitable for use in the health care sector or for wheelchair users.

The height is adjusted by means of a hydraulic pump operated by a hand crank or an electric drive unit.

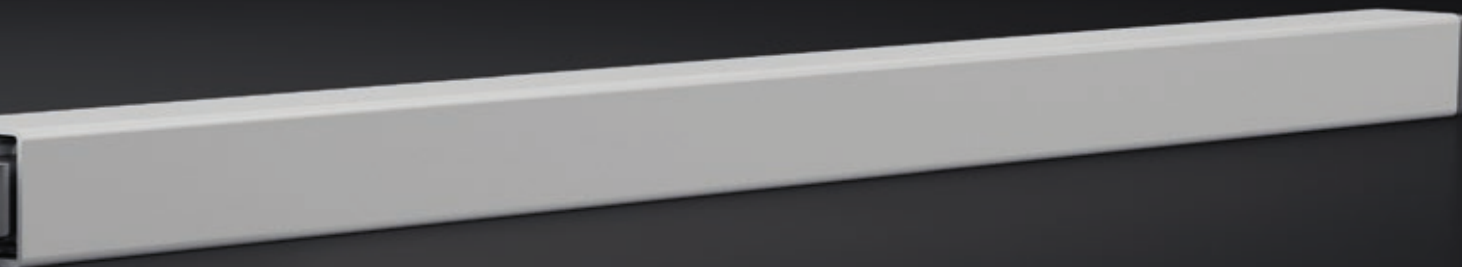
The following accessories are available:

- crossbars of various lengths
- adjustable feet made of rubber or aluminium
- locking castors (load 70 kg)

The linear unit **LH** consists of two steel tubes. The galvanised guide tube is supported on bearings. The lifting movement is effected by hydraulic cylinders.



Dimensions **LH**

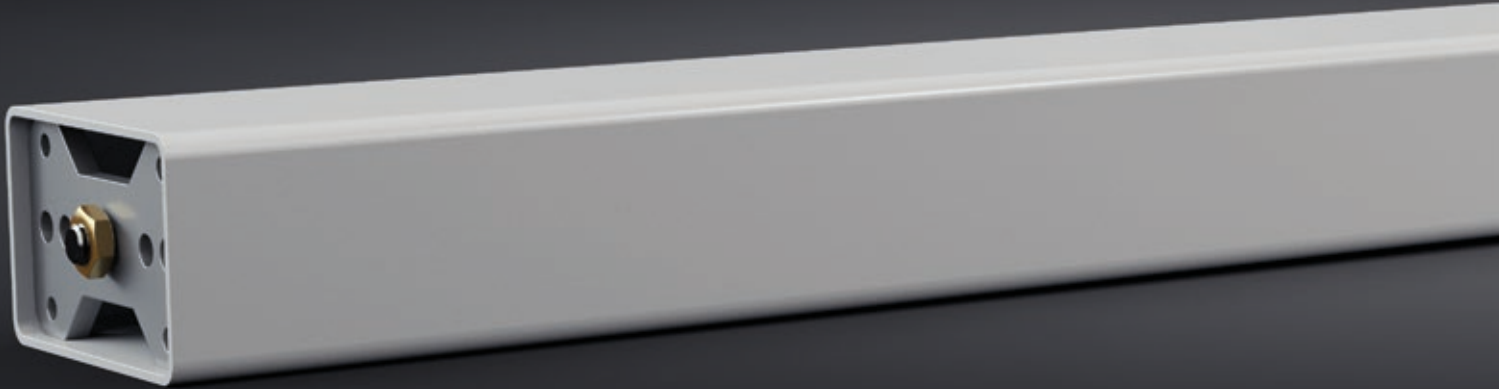


Technical data

- Versatile linear guide rail with ball bearing guide
- Max. lifting load for each element
1,500 N (**LH 14**)
2,500 N (**LH 18**)
- Please also note the maximum load of the entire system
- Synchronous control of up to 10 table legs
- Lifting distance 400 or 500 mm
- Max. static bending moment $M_b = 200 \text{ Nm}$
- Max. dynamic bending moment $M_{bdyn} = 70 \text{ Nm}$
- The lifting element is supplied with a 4 m hydraulic hose pre-fitted as standard
- Food-grade fluids can also be used
- No additional guide rail is required
- Colour: RAL 9006 white aluminium

Typ LH	Lift	A
LH 1440	400	538 mm
LH 1450	500	638 mm

Detailed CAD drawings in various formats can be found at www.ergoswiss.com



Robust and versatile

The system **TA** is ideal for assembly work stations, workbenches, office desks, built-in kitchens or in combination with aluminium profile systems with high load and stability requirements.

Crossbars or mounting brackets are fitted on the welded-on mounting plate. The table top supports, crossbars and mounting brackets are supplied with all the necessary screws.

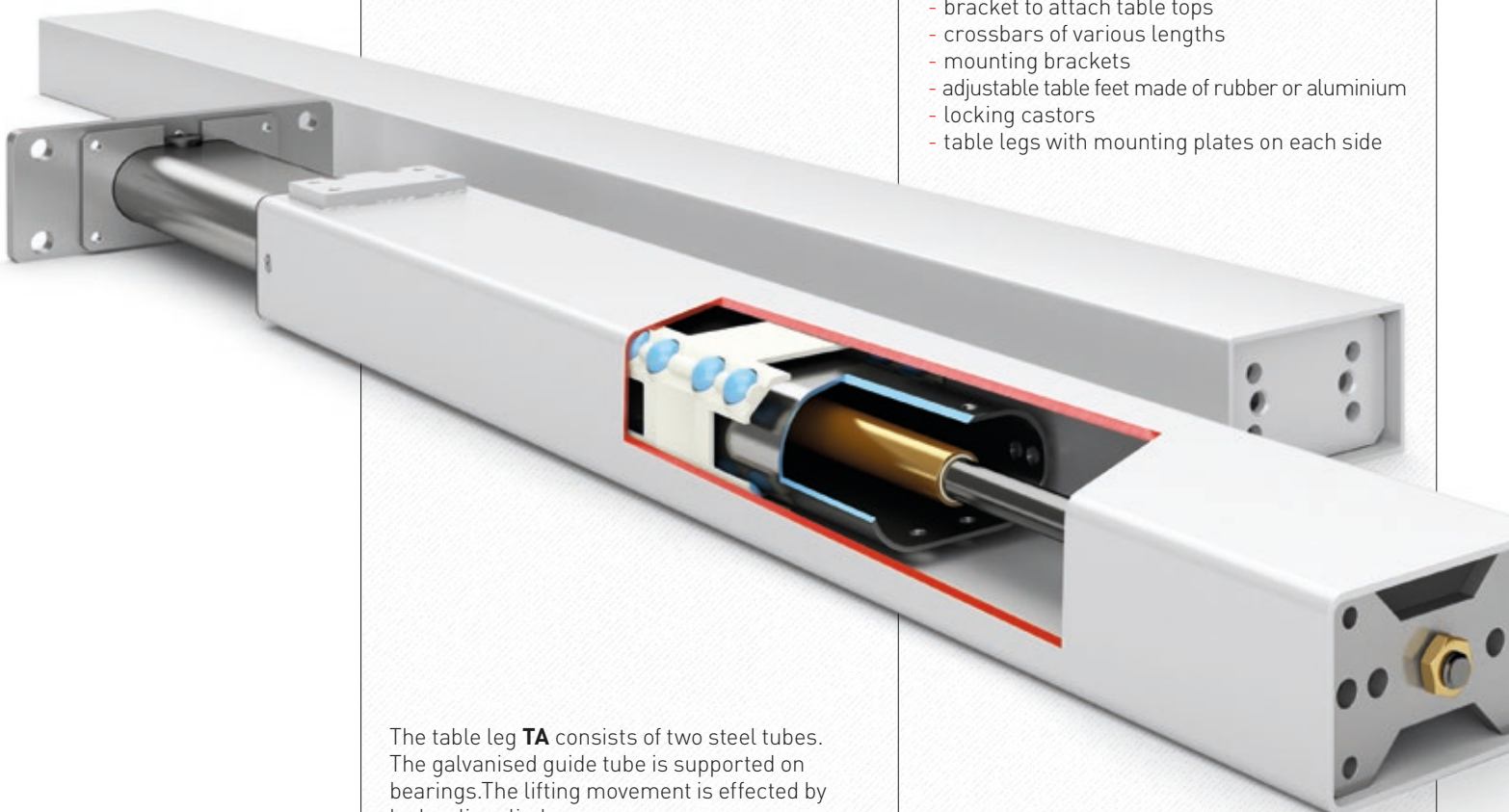
The system is available in single parts or as a complete base frame.

The height is adjusted by means of a hydraulic pump operated by a hand crank or an electric drive unit.

The 3-metre-long hydraulic hose is already mounted on the table leg and vented which ensures easy assembly.

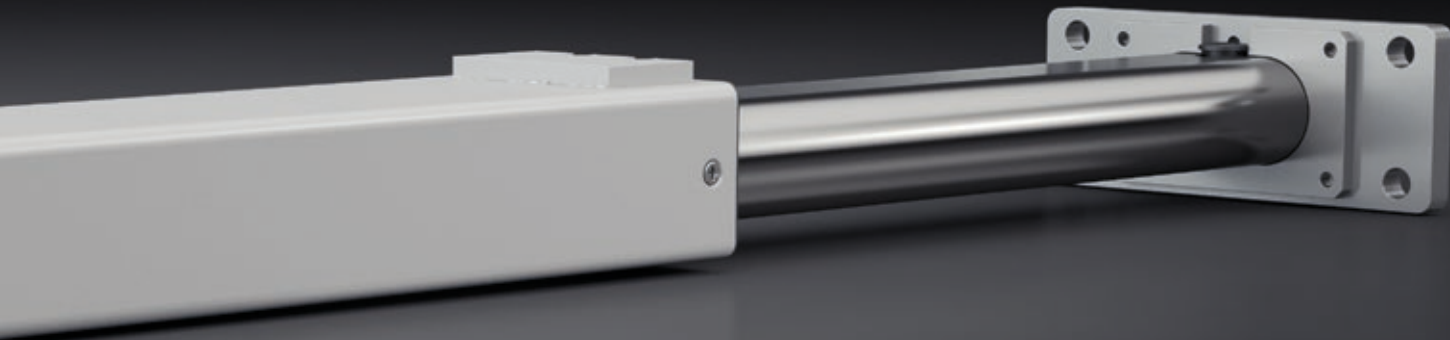
The following accessories are available:

- bracket to attach table tops
- crossbars of various lengths
- mounting brackets
- adjustable table feet made of rubber or aluminium
- locking castors
- table legs with mounting plates on each side



The table leg **TA** consists of two steel tubes. The galvanised guide tube is supported on bearings. The lifting movement is effected by hydraulic cylinders.

Dimensions **TA**

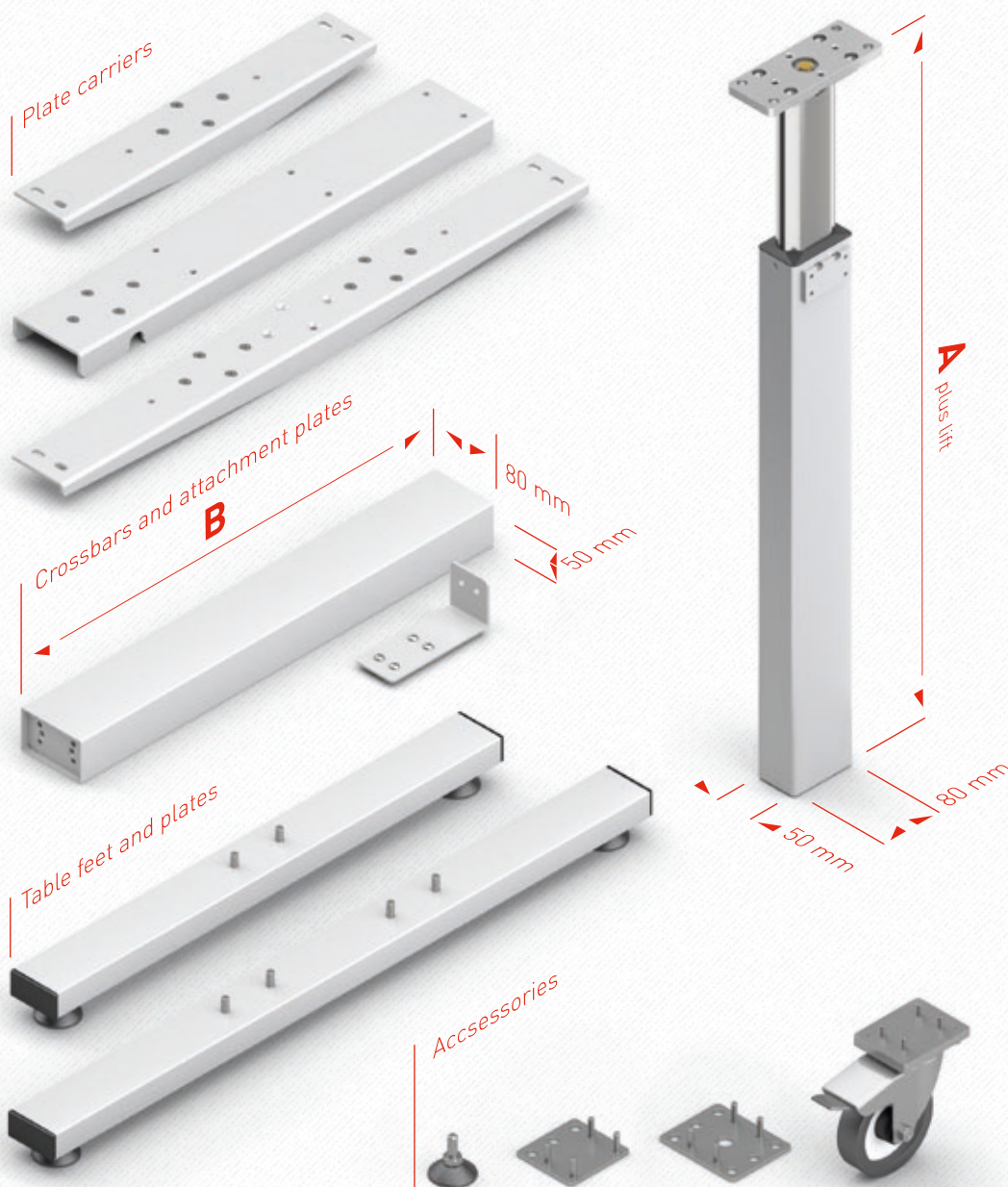


Technical data

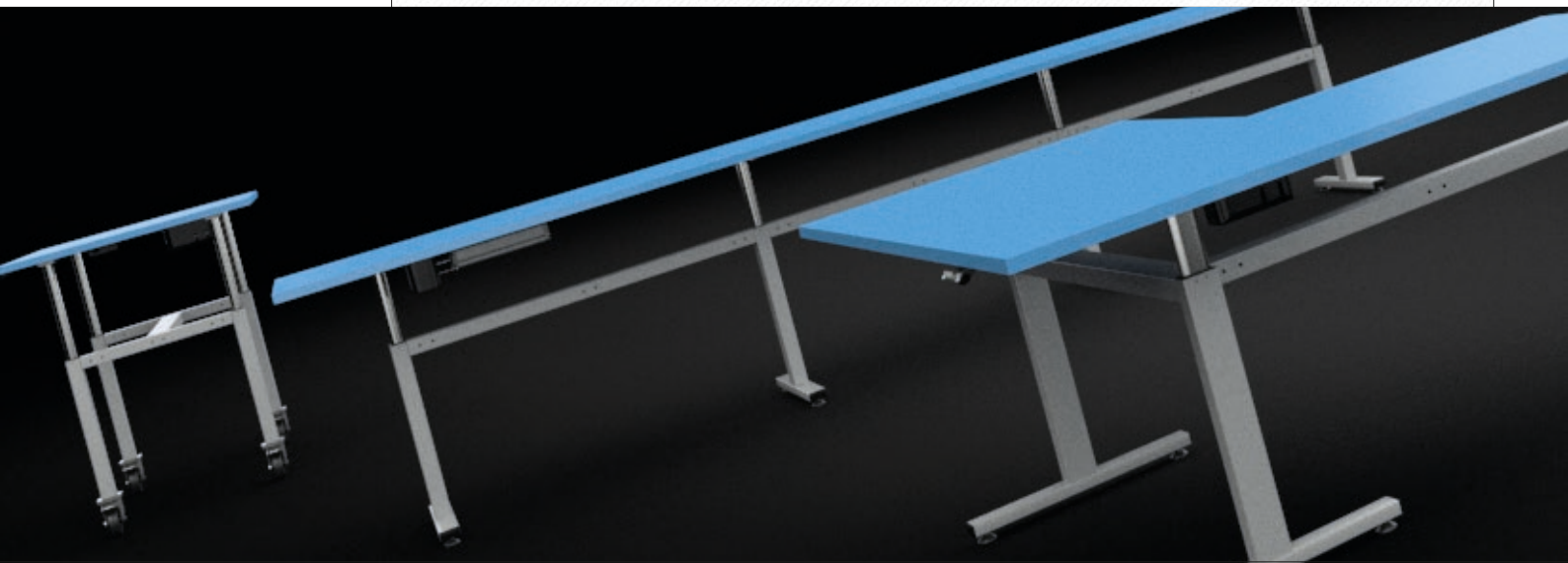
- Robust leg with ball bearing guide
- Max. lifting load for each element:
1,500 N (**TA 14**)
2,500 N (**TA 18**)
- Please also note the maximum load of the entire system
- Synchronous control of up to 10 table legs
- Lifting distance max. 500 mm
- Max. static bending moment $M_b = 400 \text{ N}$
- Max. dynamic bending moment $M_{b\text{dyn}} = 100 \text{ Nm}$
- The table leg is supplied with a 3-m hydraulic hose pre-fitted as standard
- Colour: RAL 9006 white aluminium

Leg TA	
	A
TA 1430	415 mm
TA 1440	515 mm
TA 1450	640 mm

Crossbar TA/TU	
	B
TA/TU 550	550 mm
TA/TU 750	750 mm
TA/TU 950	950 mm
TA/TU 1150	1150 mm
TA/TU 1550	1550 mm



Detailed CAD drawings in various formats can be found at www.ergoswiss.com



The **TA** is a modular system and is therefore very versatile and flexible in its application.

The maximum load is 3,500 N, 6,000 N or 8,000 N depending on the pump version. Thanks to the large lifting distance of maximum 500 mm, the tables can also be used in a standing position.

TA-2: The two-leg system for sitting and standing work stations in the office or at the assembly station. Consisting of two table legs, two table top carriers, two table feet as well as a crossbar to stabilise the system. Various table widths can be realised using the crossbars from the standard programme.

TA-3: The three-leg system for corner combinations in the office and in assembly areas. Here, the two-leg system is extended with an additional crossbar and a third leg.

TA-4: The four-leg system for maximum stability as required for workbenches, joiner's benches and assembly work stations. The longitudinal crossbars can be placed at three different depth positions.

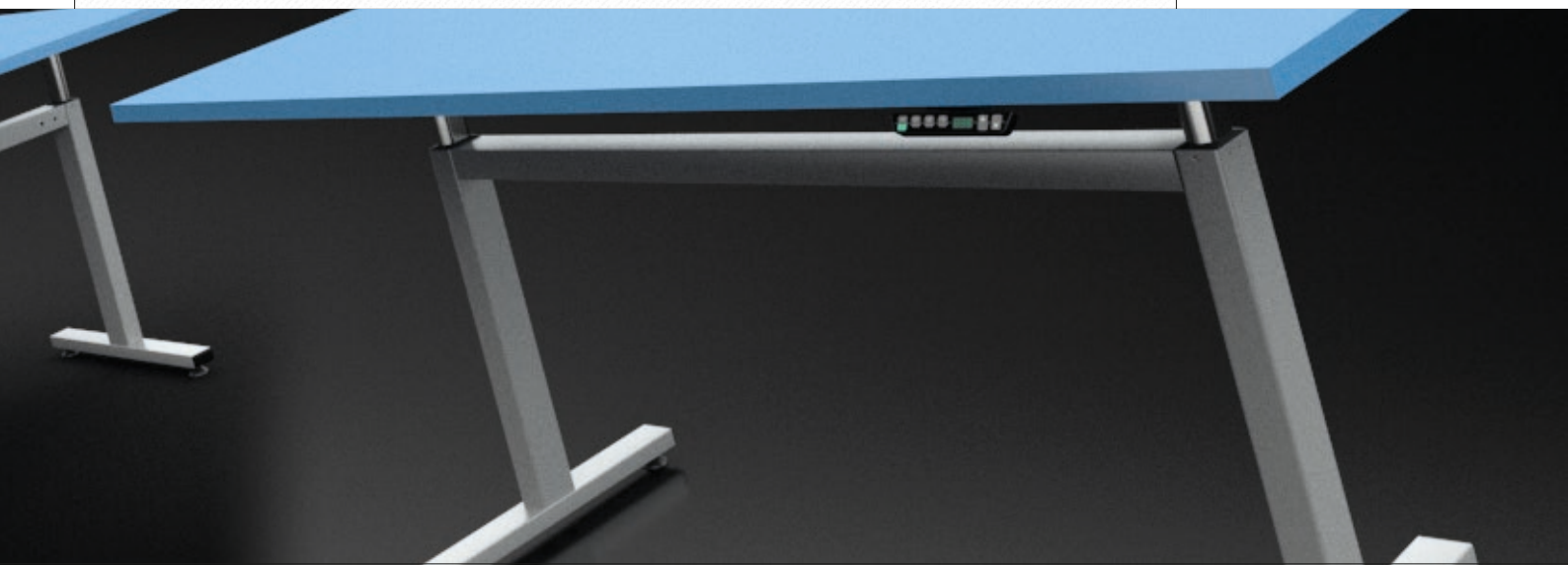
Screws to fasten the table top are included. The base frame is delivered unassembled.

Please note that a pump with hand crank or electric drive unit is also required.

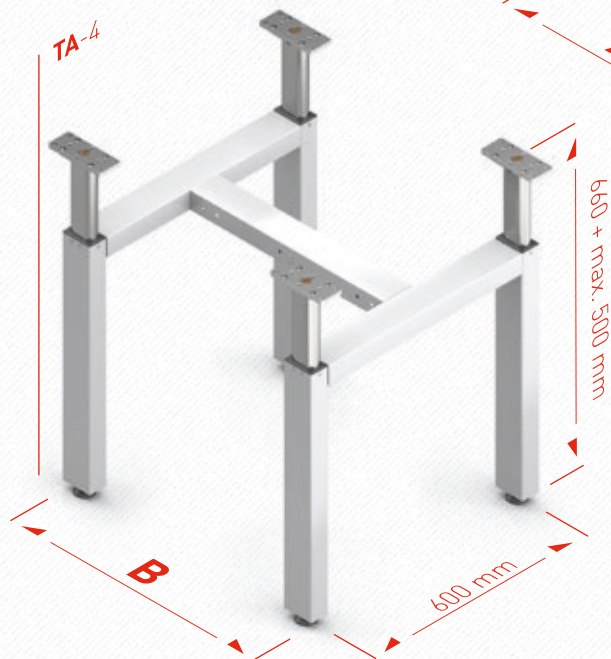
Assembly and operating instructions are supplied with your order. These are also available at www.ergoswiss.com.



Dimensions **TA**

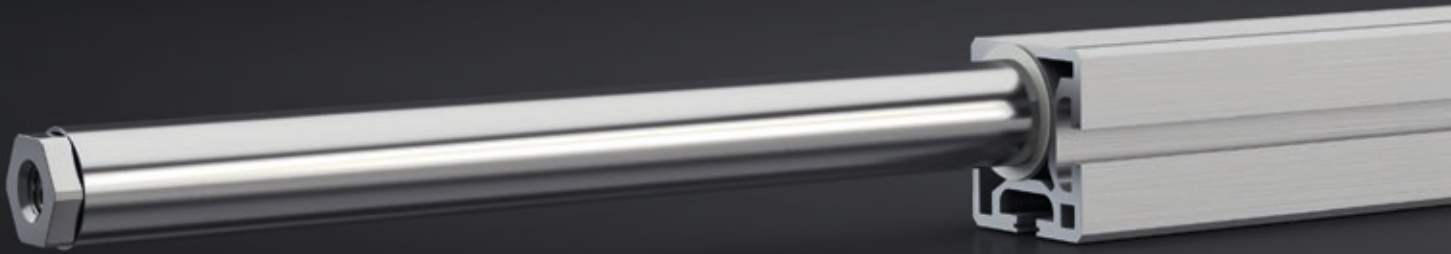


Frame TA-2	
	A
TA-2 600	600 mm
TA-2 1000	1000 mm
TA-2 1200	1200 mm
TA-2 1600	1600 mm



Frame TA-4	
	B
TA-4 1030	1030 mm
TA-4 1230	1230 mm
TA-4 1630	1630 mm

Detailed CAD drawings in various formats can be found at www.ergoswiss.com



Elegant and flexible

The **TQ** System is perfect for assembly workstations made of aluminium profiles and when fitted underneath in multi-line conveyor systems.

The T-Slots (8 mm wide) allows cross bars, interim shelves and fittings and attachments to be fitted across the whole length of the table leg.

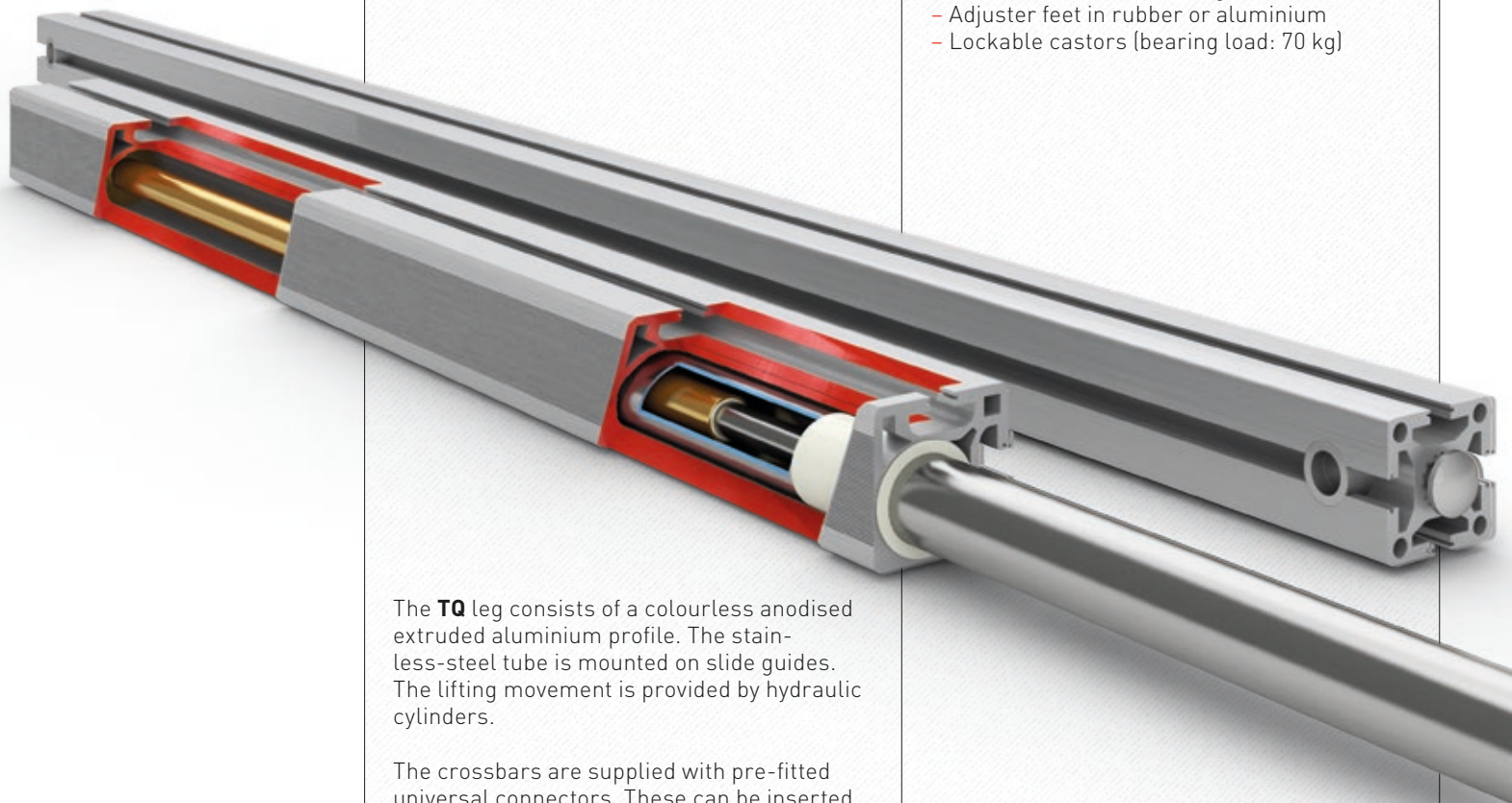
The system is available in single parts or as a complete sub-frame.

It is adjusted using a hydraulic pump with a hand crank or an electric drive.

The 4 m high-pressure hose is already fitted to the leg and bled to guarantee simple fitting.

The following accessories are available:

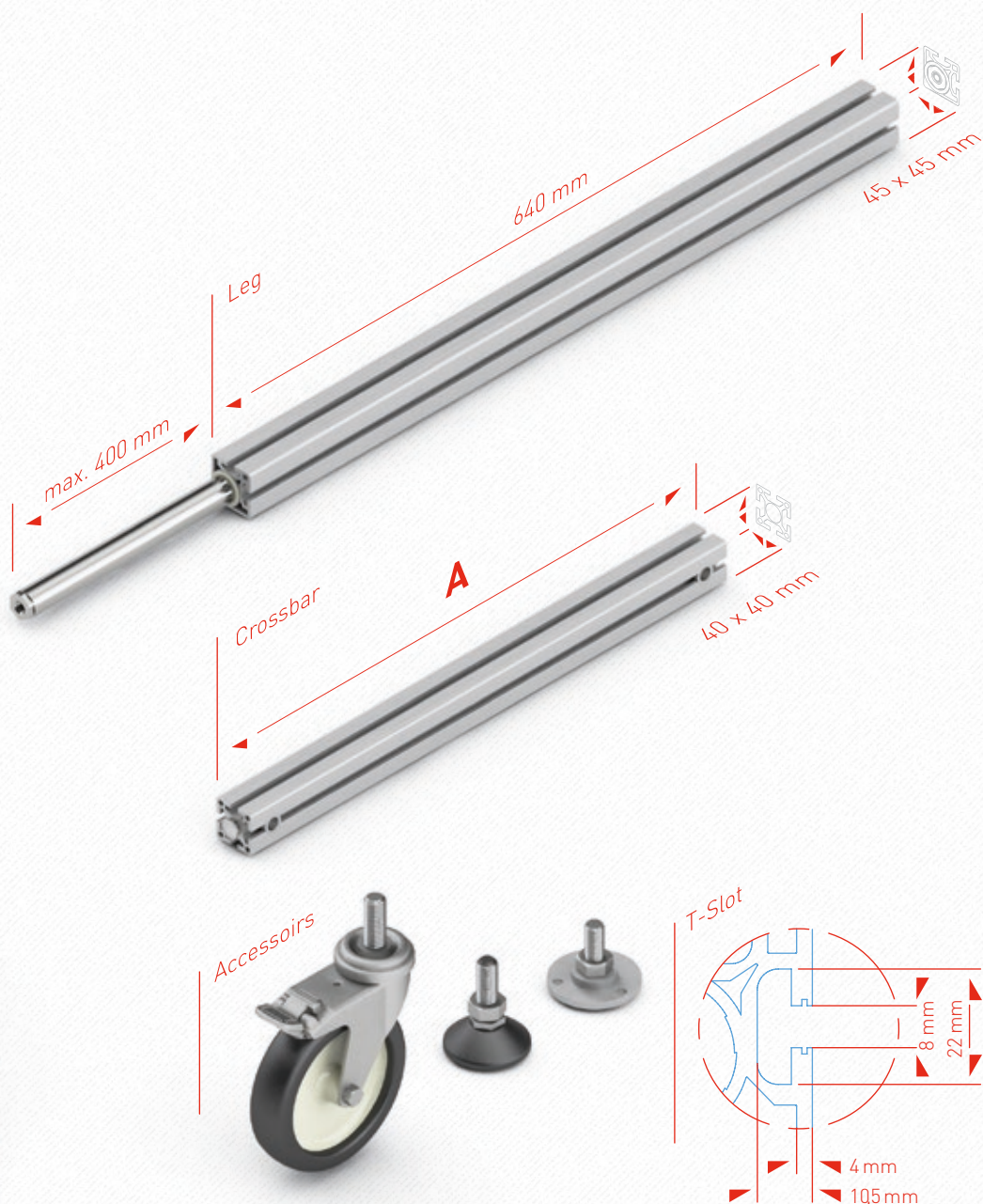
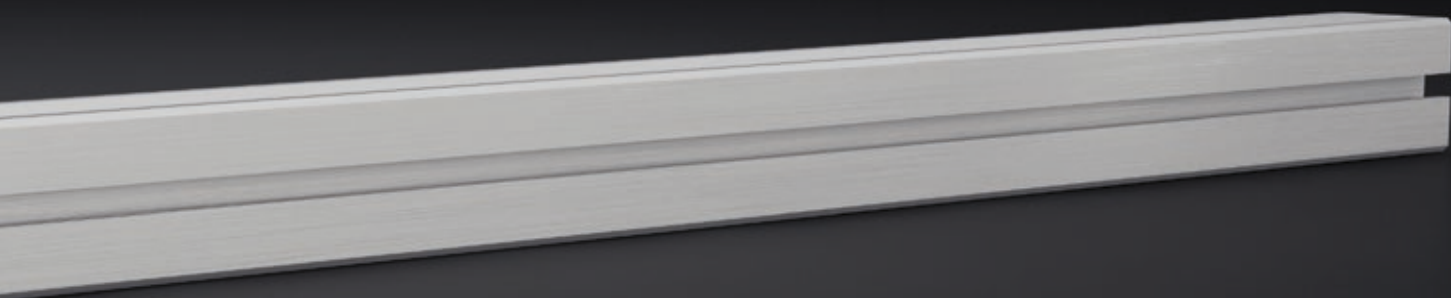
- Crossbars in different lengths
- Adjuster feet in rubber or aluminium
- Lockable castors (bearing load: 70 kg)



The **TQ** leg consists of a colourless anodised extruded aluminium profile. The stainless-steel tube is mounted on slide guides. The lifting movement is provided by hydraulic cylinders.

The crossbars are supplied with pre-fitted universal connectors. These can be inserted into the table legs T-slots and fixed by means of a tapered thread.

Dimensions **TQ**

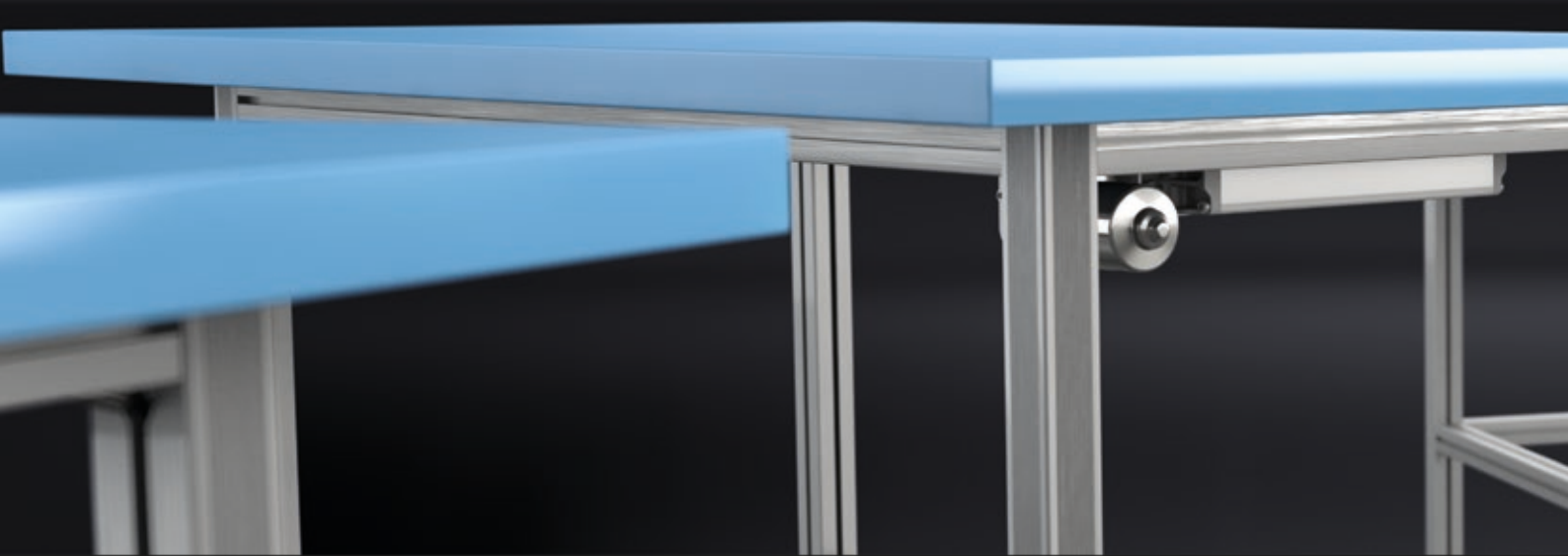


Technical specifications

- Leg for universal use with sliding guide
- max. lift load for each leg:
1500 N (**TQ 1440**)
2500 N (**TQ 1840**)
- Please observe the maximum load for the complete system
- Synchronous control of up to 10 legs
- Stroke length: maximum 400 mm
- **TQ 1830 V** leg with integrated hose-break protection
- Maximum static bending moment Mb: 200 Nm
- Maximum dynamic bending moment Mbdyn: 80 Nm
- Colour: colourless anodised aluminium

Crossbar **TQ**

	A
TQ 550	550 mm
TQ 750	750 mm
TQ 950	950 mm
TQ 1150	1150 mm
TQ 1550	1550 mm



The **TQ** System allows sub-frames to be assembled quickly and flexibly.

The maximum lifting load is 3500 N or 6000 N depending on the pump version.
The maximum adjustment range is 400 mm.

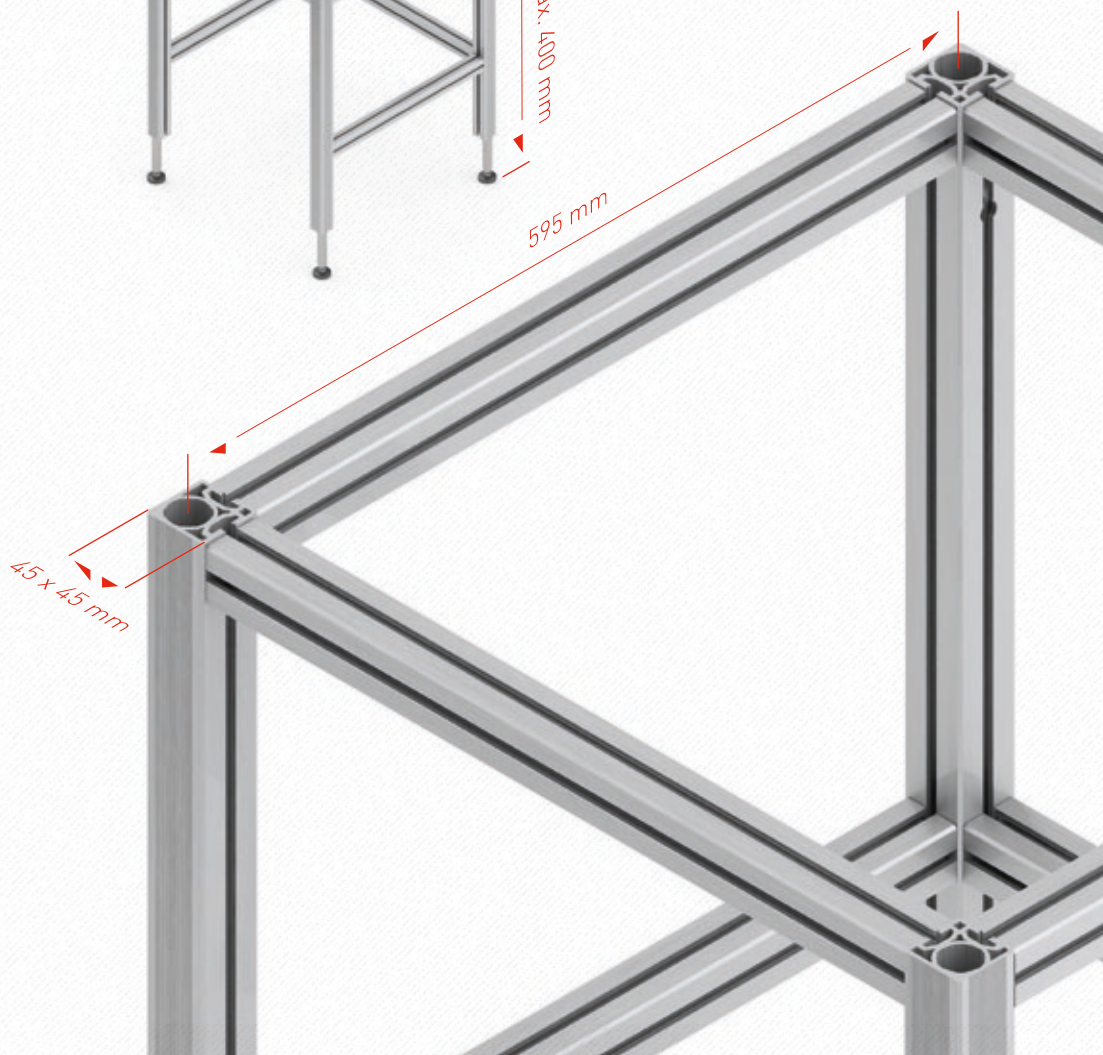
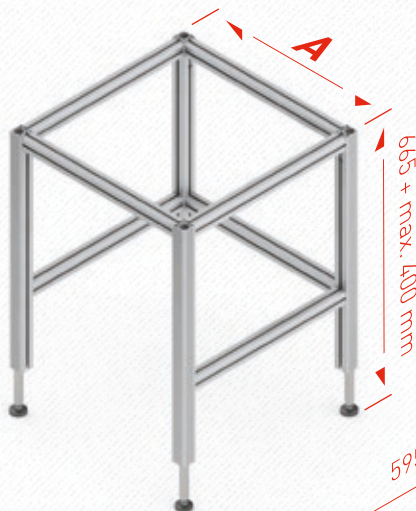
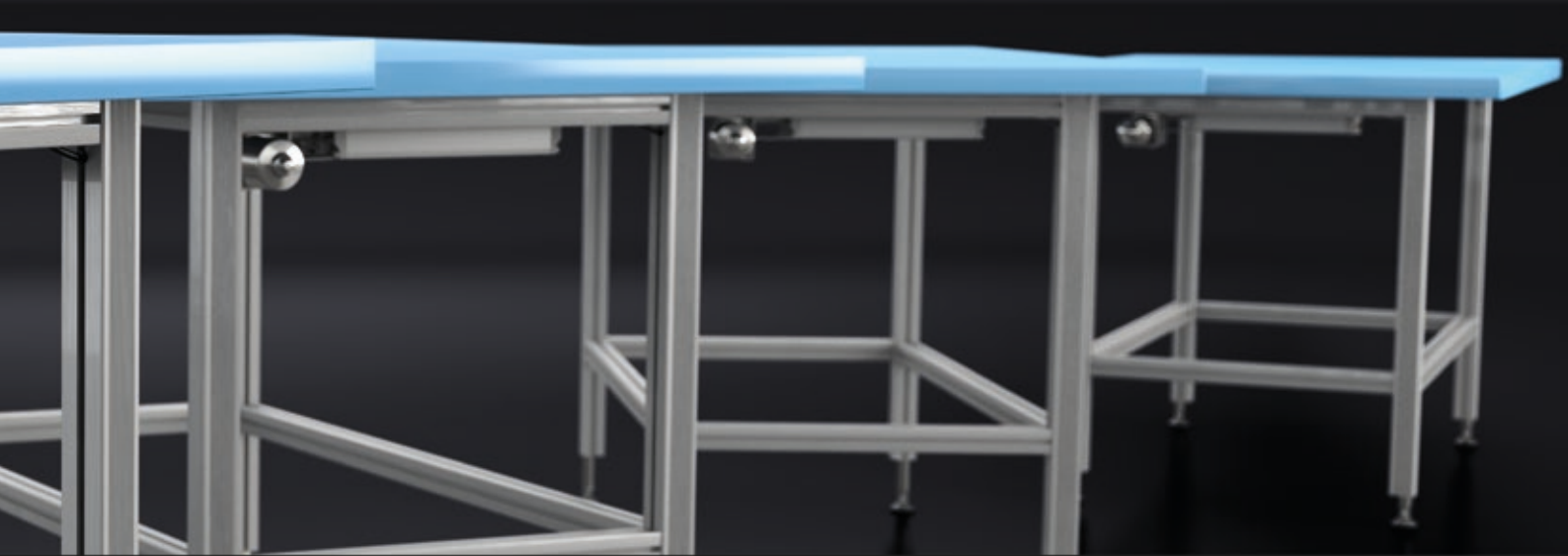
The **TQ-4** sub-frame consists of 4 legs and 7 crossbars. The crossbars can easily be slotted into the T-slots on the table legs and tightened using an Allen key. Various brackets and screws are supplied for fixing the table tops. The sub-frame is delivered unasssembled.

Please note that you will also require a pump with a hand crank or an electric drive.

All units are supplied with assembly and operating instructions. These are also available at www.ergoswiss.com.



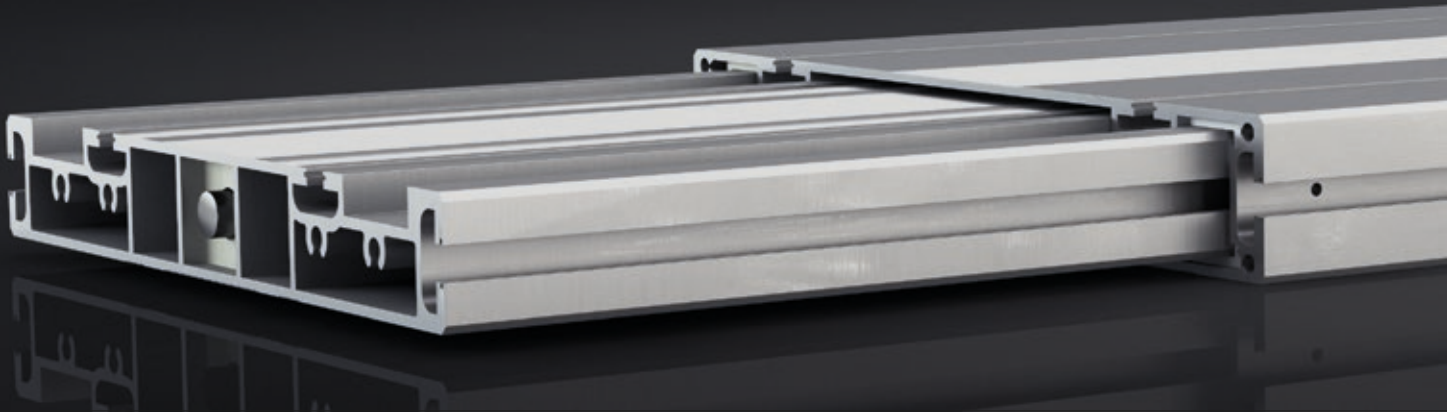
Dimensions **TQ**



Frame **TQ-4**

	A
TQ-4 595	595 mm
TQ-4 995	995 mm
TQ-4 1195	1195 mm
TQ-4 1595	1595 mm

Detailed drawings can be found at www.ergoswiss.com



Elegant and versatile

The **TT** system is used for assembly tables, assembly lines, office desks, adjustable beds, bathtubs and furniture in general, as well as mechanical engineering.

The mounting slots on three sides of the guide (wide: 8 mm) allow cross struts, interim shelves, fittings and attachments to be fitted across the whole length of the table leg. In combination with the **PB** pump, corner combinations and linked workplaces can be realised.

The **TT** leg consists of two colorless anodised aluminium extrusion sheaths running on plastic slides. The lifting movement is provided by hydraulic cylinders.

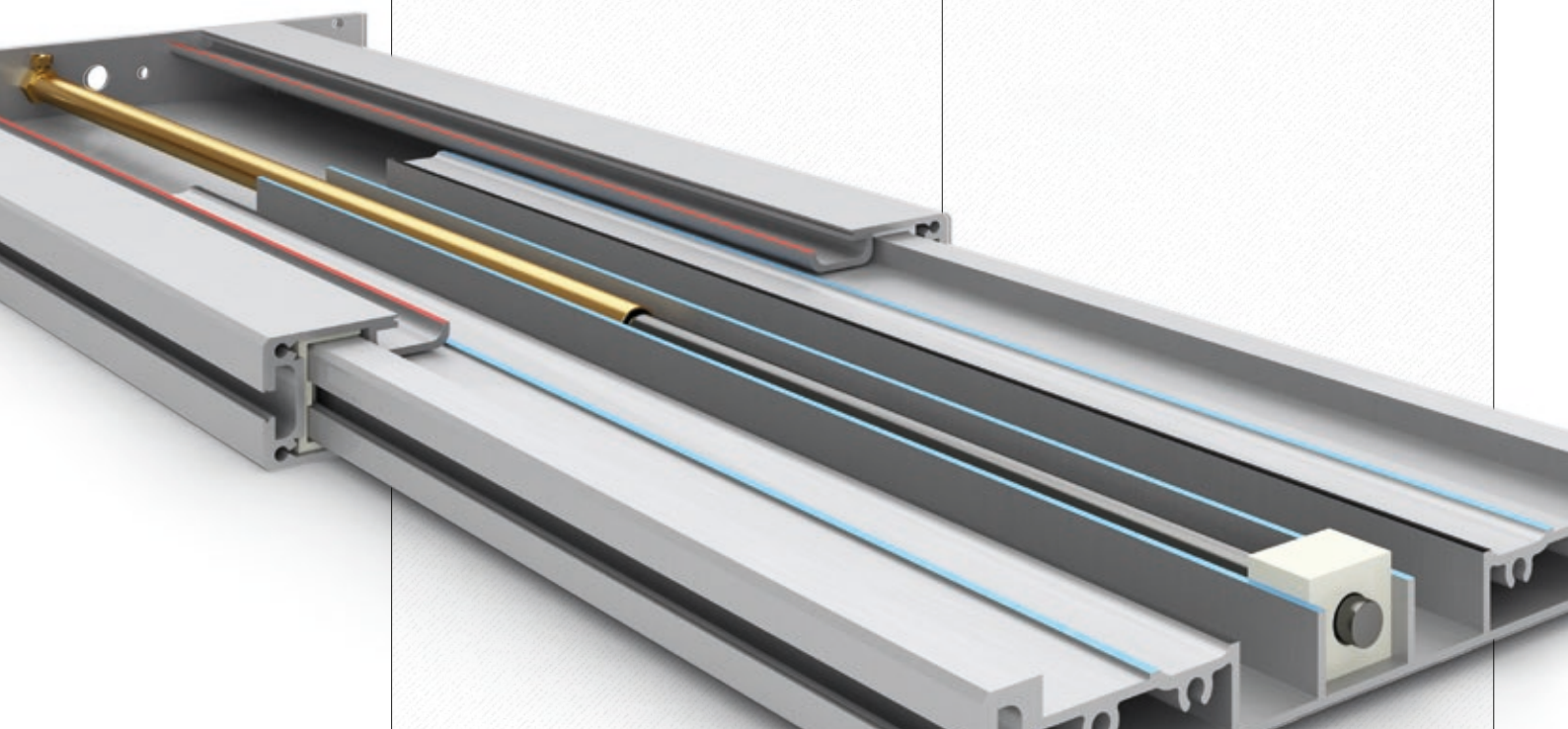
The system is available in single parts or as a complete sub-frame. It is adjusted using a hydraulic pump with a hand crank or an electric drive.

The 3 m high-pressure hose is already fitted to the leg and bled to guarantee simple fitting.

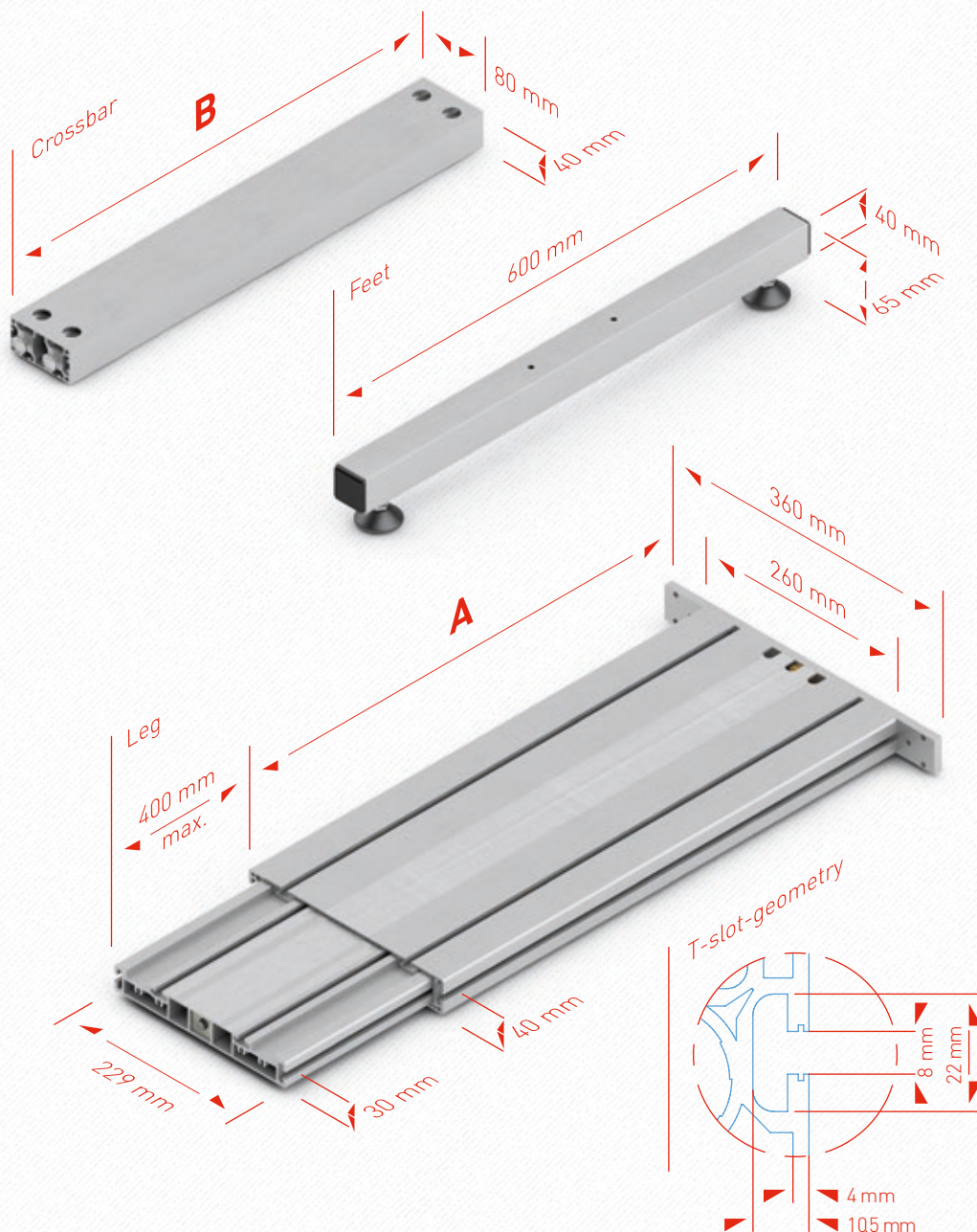
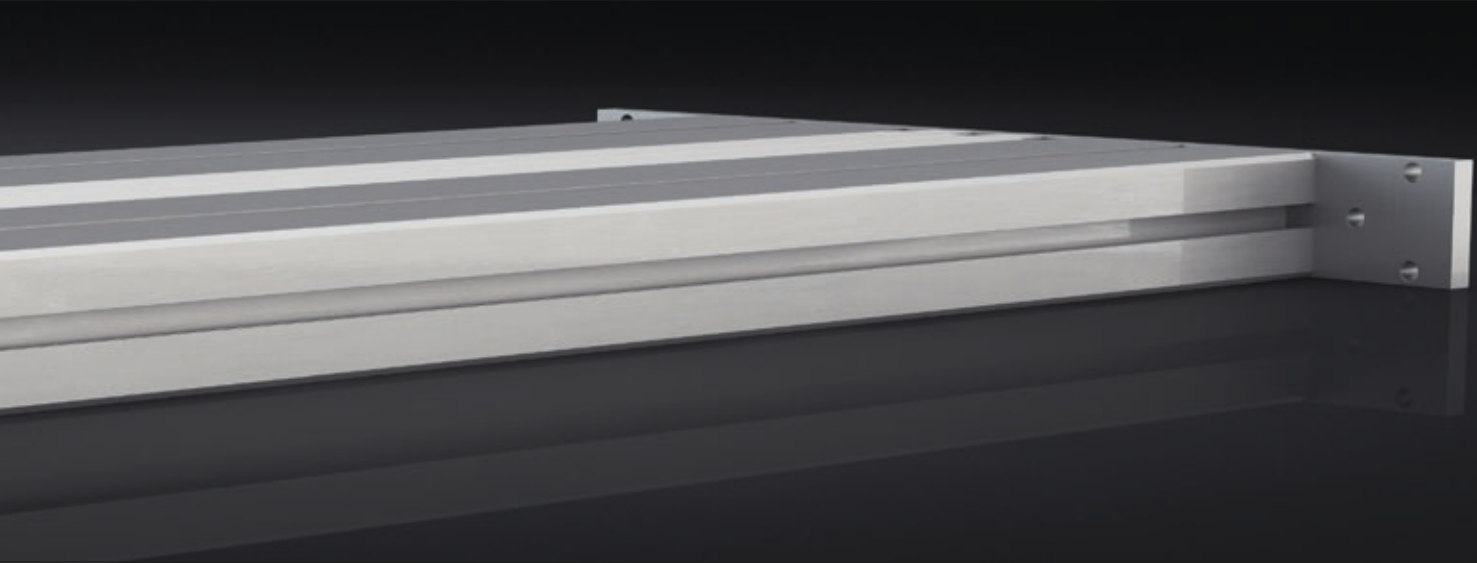
The following accessories are available:

- Crossbars in different lengths
- Table legs with adjusting screws
- Floor plates

The struts are supplied with pre-fitted universal connectors. These can be inserted into the table legs T-slots and fixed by means of a tapered thread.



Dimensions **TT**



Technical Specs

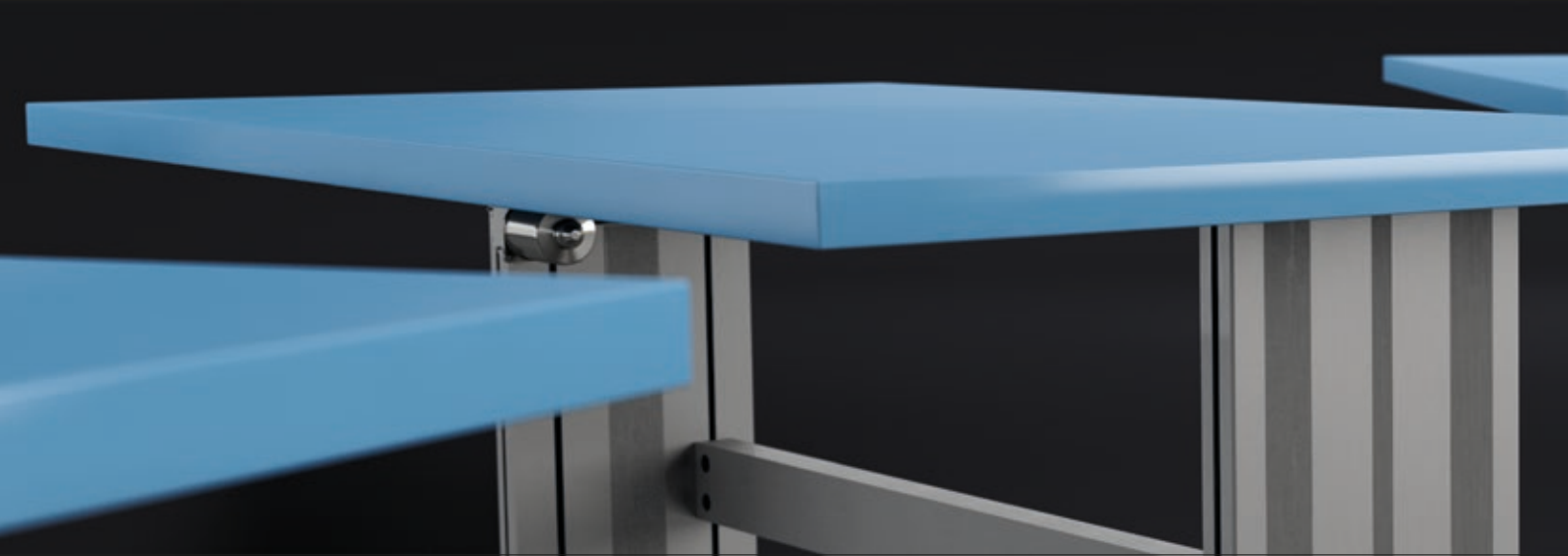
- Leg with slideway for universal use
- Max. lifting load for each leg: 1500 N (**TT 1440**, **TT 1430**) 2500 N (**TT 1840**, **TT 1830**)
- Please observe also maximum lifting load for the complete system.
- Synchronous control of up to 10 legs
- Stroke length: maximum 400 mm
- Max static bending moment $M_b = 1500 \text{ Nm}$
- Maximum dynamic bending moment $M_{b\text{dyn}} = 150 \text{ Nm}$
- Colorless anodised aluminium

Leg **TT**

	A
TT 1430	530 mm
TT 1440	630 mm
TT 1830	532 mm
TT 1840	632 mm

Crossbar **TT**

	B
TT 550	550 mm
TT 950	950 mm
TT 1150	1150 mm
TT 1550	1550 mm



The **TT** System allows sub-frames to be assembled quickly and flexibly.

The maximum lifting load is 3000 N or 5000 N depending on the pump design.
The maximum adjustment range is 400 mm.

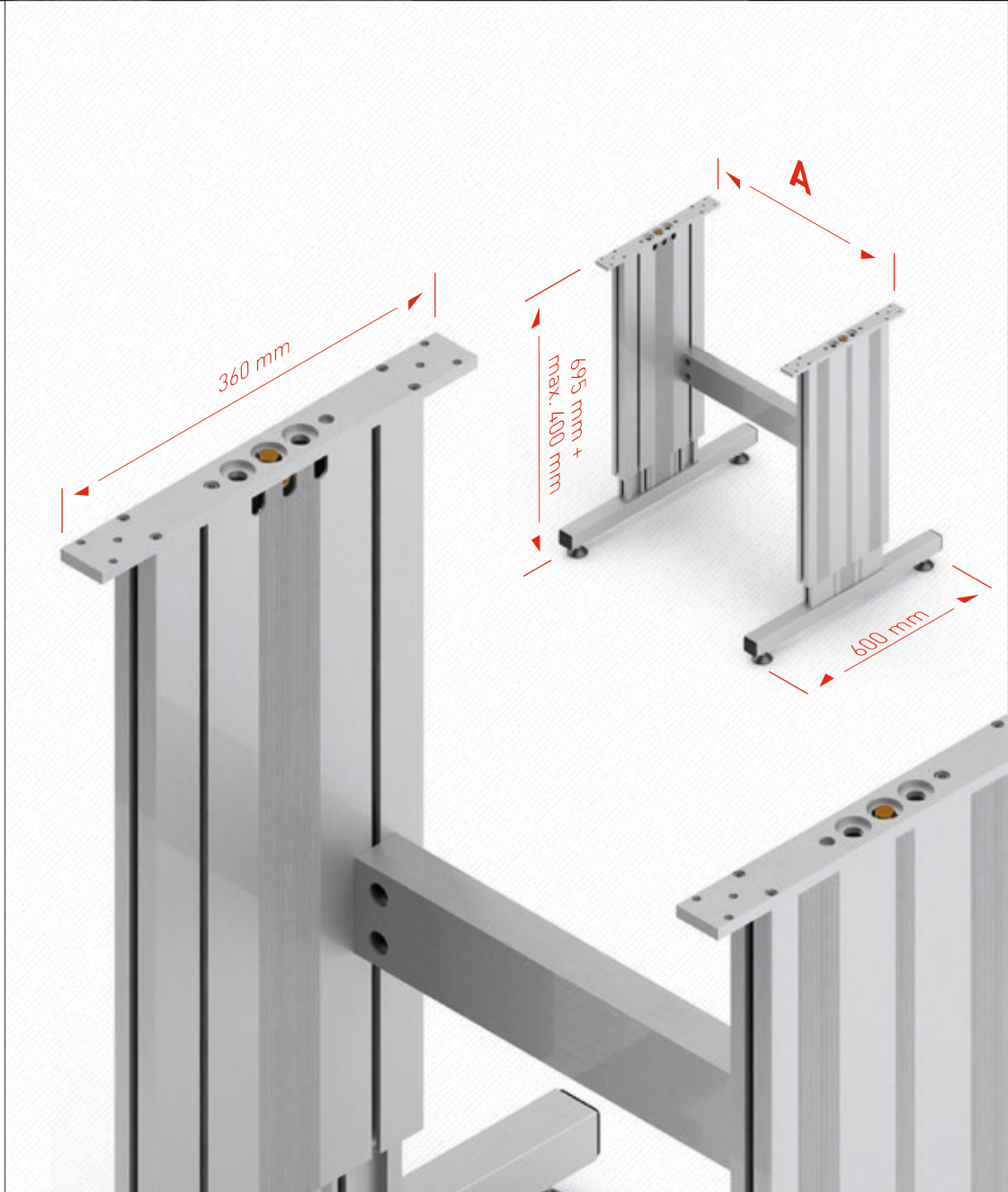
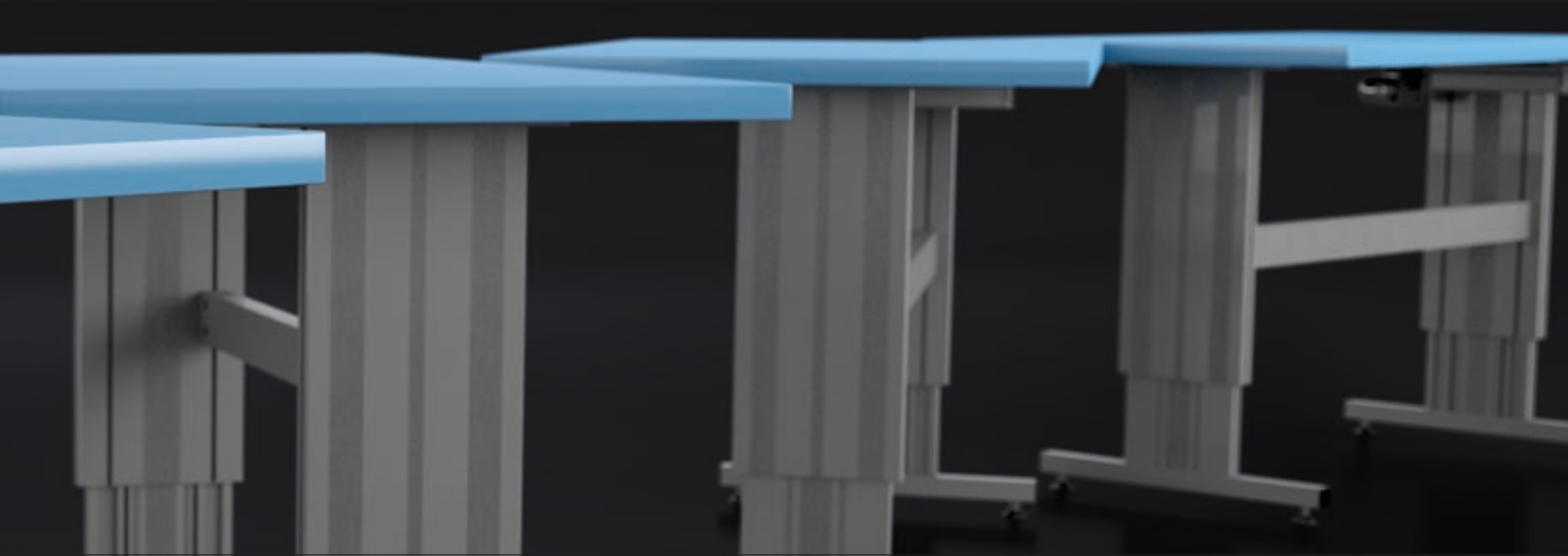
The **TT-2** sub-frame consists of two legs, one crossbar and two feet. The crossbar can easily be slotted into the T-slots on the table legs and tightened using an Allen key. Various screws are supplied for fixing the table tops. The sub-frame is delivered unassembled.

Please note that you will also require a pump with hand crank or an electric drive.

All units are supplied with assembly and operating instructions. These are also available at www.ergoswiss.com.



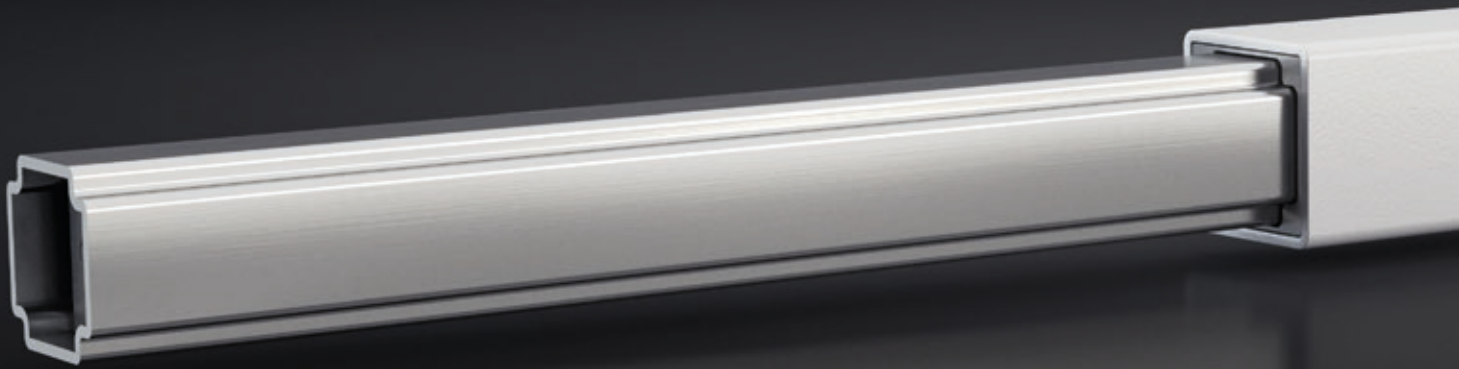
Dimensions **TT**



Subframe **TT-2**

	A
TT-2 590	590 mm
TT-2 990	990 mm
TT-2 1190	1190 mm
TT-2 1590	1590 mm

Detailed CAD drawings in various formats can be found at www.ergoswiss.com



Elegant and stable

The **TU** system is ideal for assembly work stations with demands of high load and stability.

The crossbars are fixed to the welded mounting plate.

The crossbars are supplied with all necessary mounting screws.

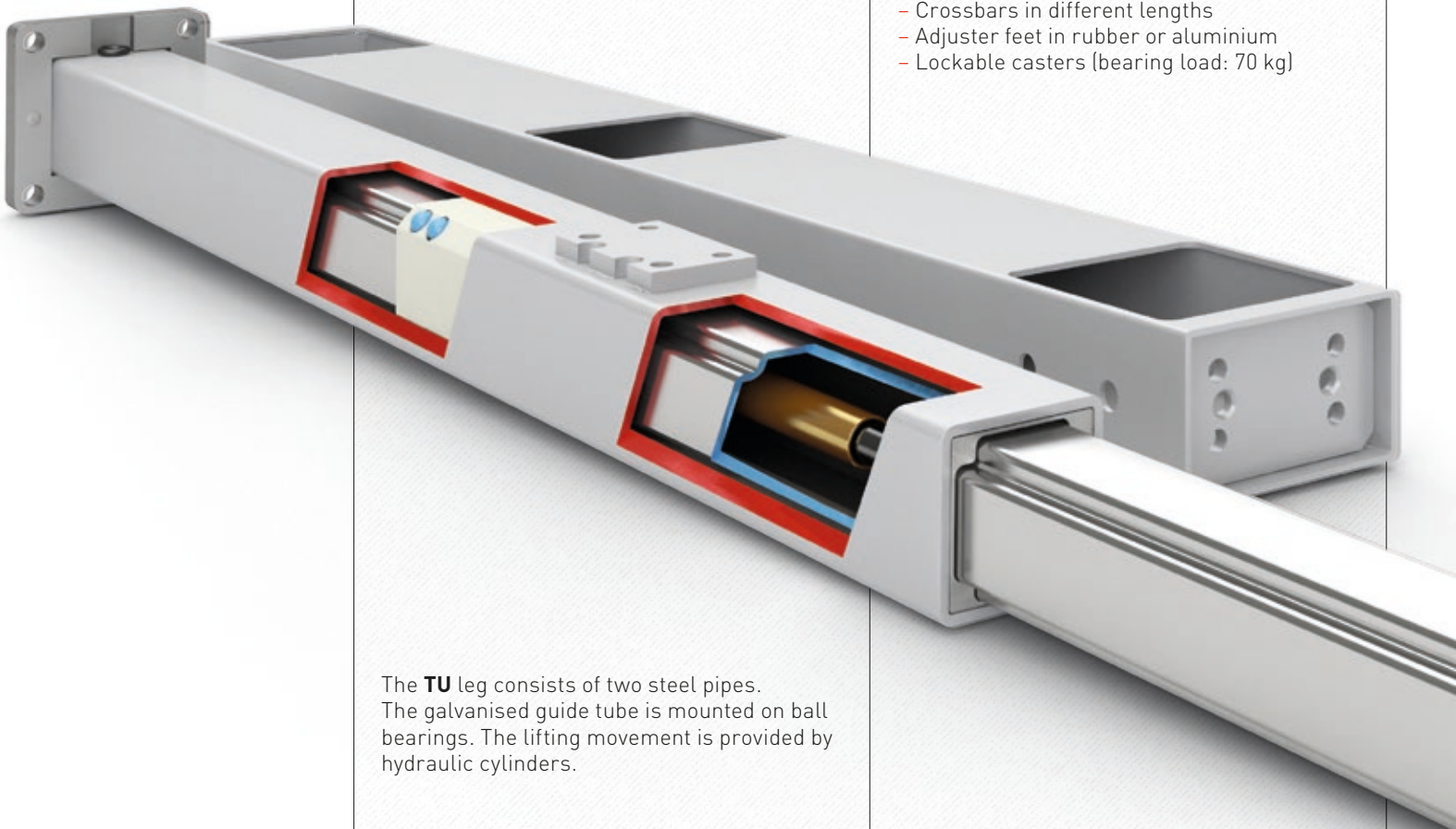
The system is available in single parts or as a complete sub-frame.

It is adjusted using a hydraulic pump with a hand crank or an electric drive.

The 3 m high-pressure hose is already fitted to the leg and bled to guarantee simple fitting.

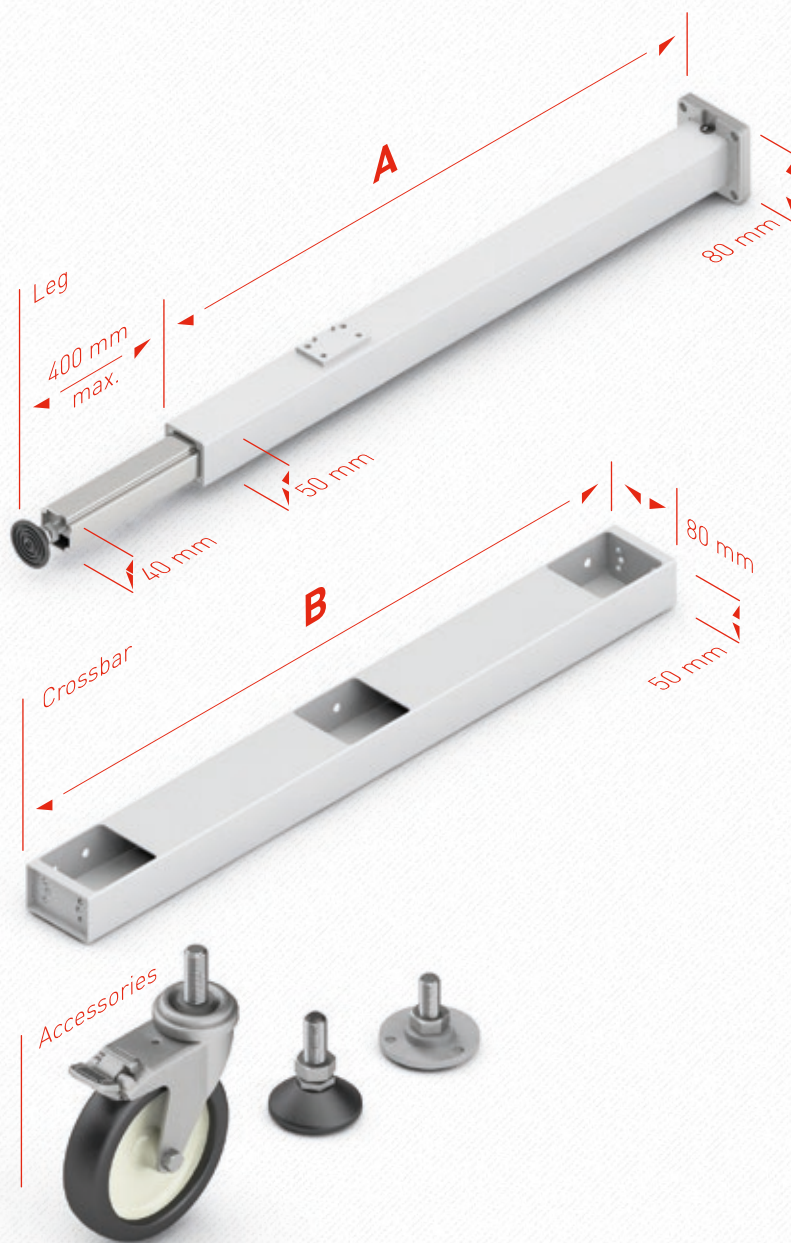
The following accessories are available:

- Crossbars in different lengths
- Adjuster feet in rubber or aluminium
- Lockable casters (bearing load: 70 kg)



The **TU** leg consists of two steel pipes. The galvanised guide tube is mounted on ball bearings. The lifting movement is provided by hydraulic cylinders.

Dimensions **TU**



Technical specifications

- robust leg with ball bearing guide
- max. lifting load for each leg: 1500 N (**TU 1450**) 2500 N (**TU 1840**)
- Please observe also maximum lifting load for the complete system.
- Synchronous control of up to 10 legs
- Stroke length: maximum 500 mm
- Max static bending moment $M_b = 1500 \text{ N}$
- Maximum dynamic bending moment $M_{bdyn} = 150 \text{ Nm}$
- Included with the leg are 3m of premounted high pressure hose and an adjuster foot in rubber
- Powder coated, Color Silver (RAL 9006)

Leg **TU**

	A
TU 1450	710 mm
TU 1840	717 mm

Crossbar **TA/TU**

	B
TA/TU 550	550 mm
TA/TU 750	750 mm
TA/TU 950	950 mm
TA/TU 1150	1150 mm
TA/TU 1550	1550 mm



The **TU** System is very solid and flexible assembly, thanks to its steel ball bearing system and modular design.

The maximum lifting load is 3500 N, 6000 N or 8000 N depending on the pump version. The maximum adjustment range is 500 mm.

The **TU-4** sub-frame consists of 4 legs and 3 crossbars. These are bolted to the plate that is welded onto the leg.

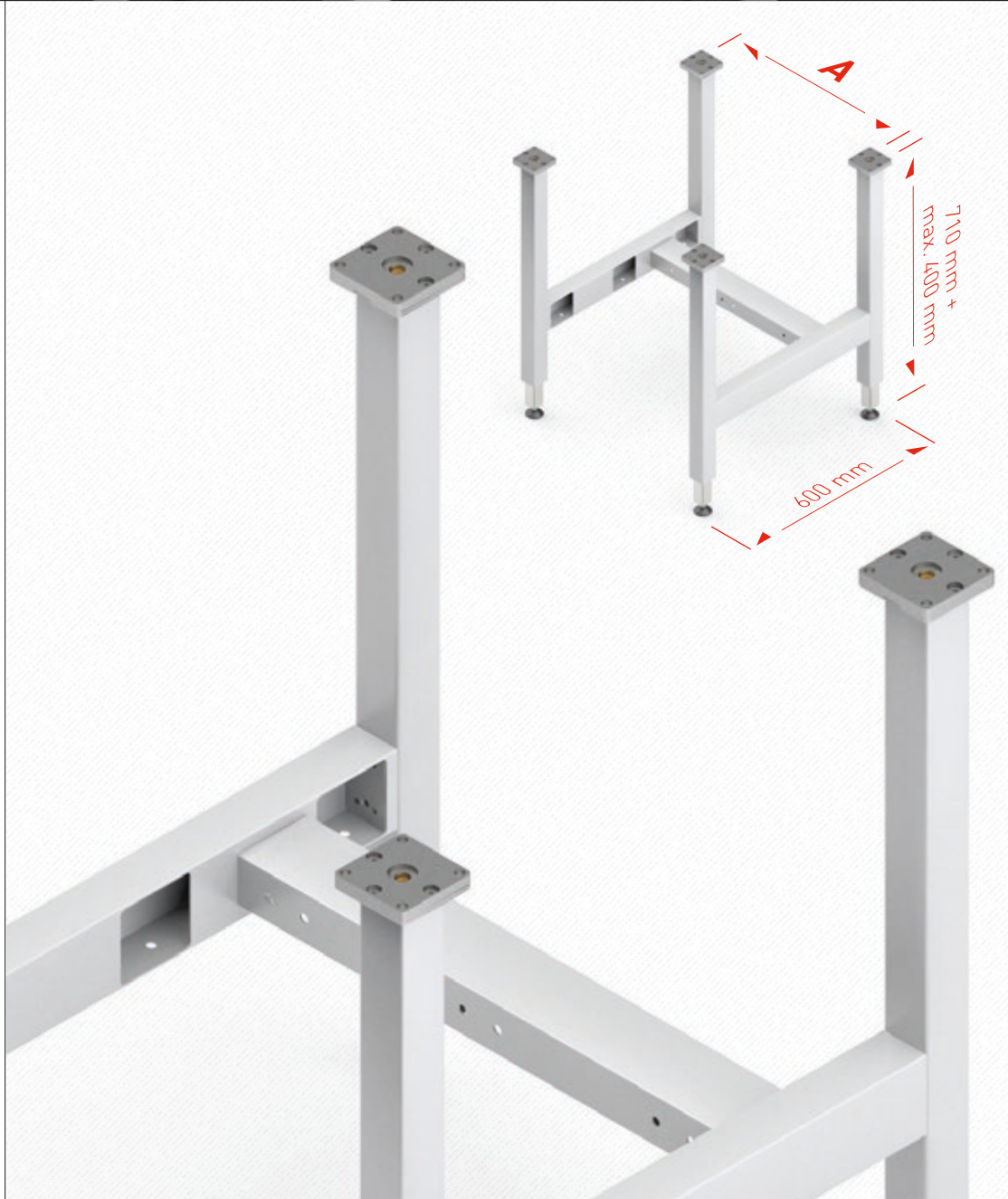
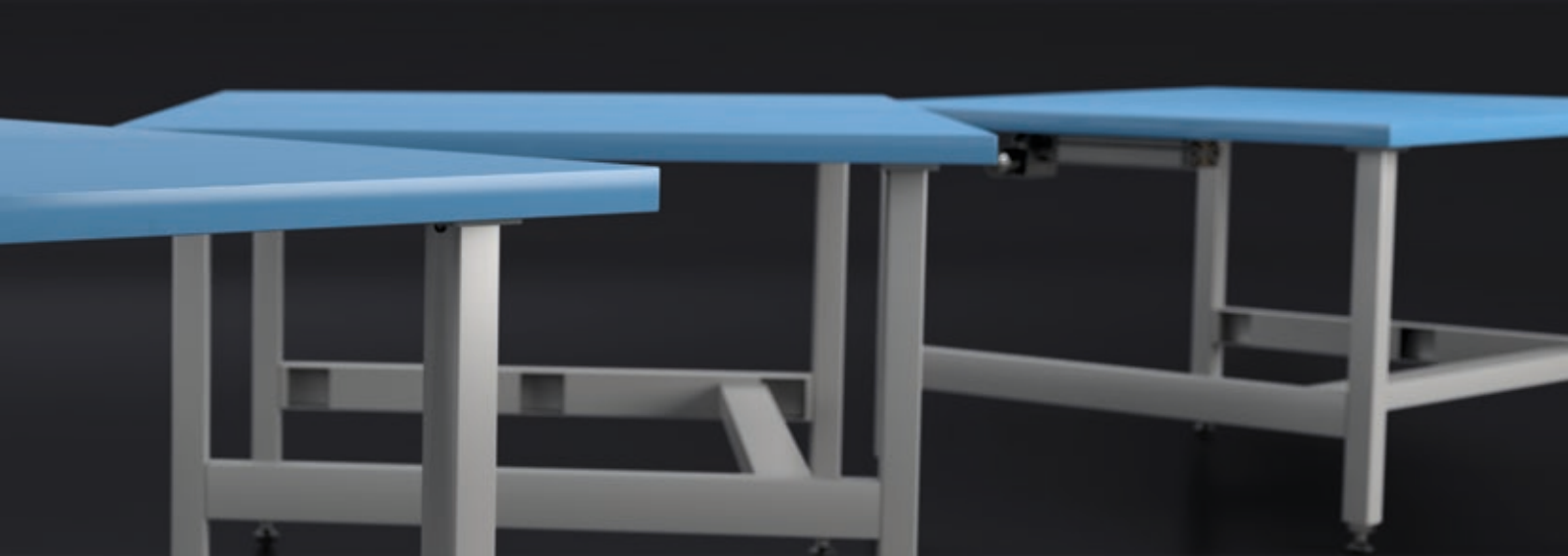
Various screws are supplied for fixing the table tops. The sub-frame is delivered unassembled.

Please note that you will also require a pump with a hand crank or an electric drive.

All units are supplied with assembly and operating instructions. These are also available at www.ergoswiss.com.



Dimensions **TU**



Frame **TU-4**

	A
TU-4 1000	1000 mm
TU-4 1200	1200 mm
TU-4 1600	1600 mm

Detailed drawings can be found at www.ergoswiss.com

System Selection Guide

These tables will help you to put together your own system on the basis of the required lifting power, the number of cylinders to be activated and the desired lifting distance.

1. **System load**

What is the maximum load you wish to move? (120 / 350 / 600 / 800 kg) / (250 / 750 / 1300 / 1750 lbs)

Please note that

- you must not exceed the maximum load per cylinder
- the weight of the table top and any superstructure must be deducted from the system load
- the given loads refer to static loads
- pressure surges can occur if weights are loaded onto the system.
In such cases, you should plan in a sufficient reserve. Please contact our technicians, who will be able to advise you if you specify the weights, sites of operation and lowering speed (info@ergoswiss.com)

2. **Lifting distance**

What lifting distance do you require? (150 to 700 mm) / (6" to 27")

3. **Number of cylinders**

How many cylinders does your application require? (1 – 10)

4. **Cylinder type**

What type of cylinder do you need? (Please study the data sheets on the cylinders, linear units and systems).

5. **Pump type**

Pump type A (**PA**) can drive 1 or 2 cylinders and pump type B (**PB**) can drive between 3 and 10 cylinders.

6. **Speed**

The selection table shows the lifting speed with a crank or electric drive unit.

7. **Drive type**

The pump is operated manually using a hand crank or automatically with an electric drive unit. Mains voltage 230 or 110 VAC.

System Selection Table

120 kg 250 lbs	Cylinder type ¹	Pump type for 1 cylinder*	Pump type for 2 cylinders	Pump type for 3 cylinders	Pump type for 4 cylinders	Pump type for 5 cylinders	Pump type for 6 cylinders	Pump type for 8 cylinders
150 mm (6") lift	1415	PA 1815	PA 2615	PB 3615	PB 4615	-	-	-
200 mm (8")	1420	PA 1820	PA 2620	PB 3620	PB 4620	-	-	-
300 mm (12")	1430	PA 1830	PA 2630	PB 3630	PB 4630	-	-	-
400 mm (15.5")	1440	PA 1840	PA 2640	PB 3640	PB 4640	-	-	-
500 mm (19.5")	1450	PA 1850	PA 2650	PB 3650	PB 4650	-	-	-
600 mm (23.5")	1460	PA 1860	PA 2660	PB 3660	PB 4660	-	-	-
700 mm (27.5")	1470	PA 1870	PA 2670	PB 3670	PB 4670	-	-	-
Lift per crank turn		5 mm/turn	10 mm/turn	10 mm/turn	10 mm/turn	-	-	-
Lift per second with motor		15 mm/s	30 mm/s	30 mm/s	30 mm/s	-	-	-

350 kg 750 lbs	Cylinder type ¹	Pump type for 1 cylinder	Pump type for 2 cylinders	Pump type for 3 cylinders	Pump type for 4 cylinders	Pump type for 5 cylinders	Pump type for 6 cylinders	Pump type for 8 cylinders
150 mm (6") lift	1415	-	PA 2815	PB 3815	PB 4815	PB 5815	PB 6815	PB 8815
200 mm (8")	1420	-	PA 2820	PB 3820	PB 4820	PB 5820	PB 6820	PB 8820
300 mm (12")	1430	-	PA 2830	PB 3830	PB 4830	PB 5830	PB 6830	PB 8830
400 mm (15.5")	1440	-	PA 2840	PB 3840	PB 4840	PB 5840	PB 6840	PB 8840
500 mm (19.5")	1450	-	PA 2850	PB 3850	PB 4850	PB 5850	PB 6850	PB 8850
600 mm (23.5")	1460	-	PA 2860	PB 3860	PB 4860	PB 5860	PB 6860	PB 8860
700 mm (27.5")	1470	-	PA 2870	PB 3870	PB 4870	PB 5870	PB 6870	PB 8870
Lift per crank turn		-	5 mm/turn	5 mm/turn	5 mm/turn	5 mm/turn	5 mm/turn	5 mm/turn
Lift per second with motor		-	15 mm/s	15 mm/s	15 mm/s	15 mm/s	15 mm/s	15 mm/s

600 kg 1300 lbs	Cylinder type ¹	Pump type for 1 cylinder	Pump type for 2 cylinders**	Pump type for 3 cylinders	Pump type for 4 cylinders	Pump type for 5 cylinders	Pump type for 6 cylinders	Pump type for 8 cylinders
110 mm (4") lift	1815	-	PA 2820	PB 3820	PB 4820	PB 5820	PB 6820	PB 8820
180 mm (7")	1820	-	PA 2830	PB 3830	PB 4830	PB 5830	PB 6830	PB 8830
240 mm (9")	1830	-	PA 2840	PB 3840	PB 4840	PB 5840	PB 6840	PB 8840
300 mm (12")	1830	-	PA 2850	PB 3850	PB 4850	PB 5850	PB 6850	PB 8850
400 mm (15.5")	1840	-	PA 2866	PB 3866	PB 4866	PB 5866	PB 6866	PB 8866
Lift per crank turn		-	3mm / turn	3mm / turn	3mm / turn	3mm / turn	3mm / turn	3mm / turn
Lift per second with motor		-	9 mm / s	9 mm / s	9 mm / s	9 mm / s	9 mm / s	9 mm / s

800 kg 1750 lbs	Cylinder type ¹	Pump type for 1 cylinder	Pump type for 2 cylinders	Pump type for 3 cylinders	Pump type for 4 cylinders	Pump type for 5 cylinders	Pump type for 6 cylinders	Pump type for 8 cylinders
110 mm (4") lift	1815	-	-	-	PB 4418	PB 5418	PB 6418	PB 8418
180 mm (7")	1820	-	-	-	PB 4430	PB 5430	PB 6430	PB 8430
240 mm (9")	1830	-	-	-	PB 4440	PB 5440	PB 6440	PB 8440
Lift per crank turn		-	-	-	1.8 mm/turn	1.8 mm/turn	1.8 mm/turn	1.8 mm/turn
Lift per second with motor		-	-	-	5 mm/s	5 mm/s	5 mm/s	5 mm/s

* The maximum load is 100 kg (220 lbs) by using 1 cylinder

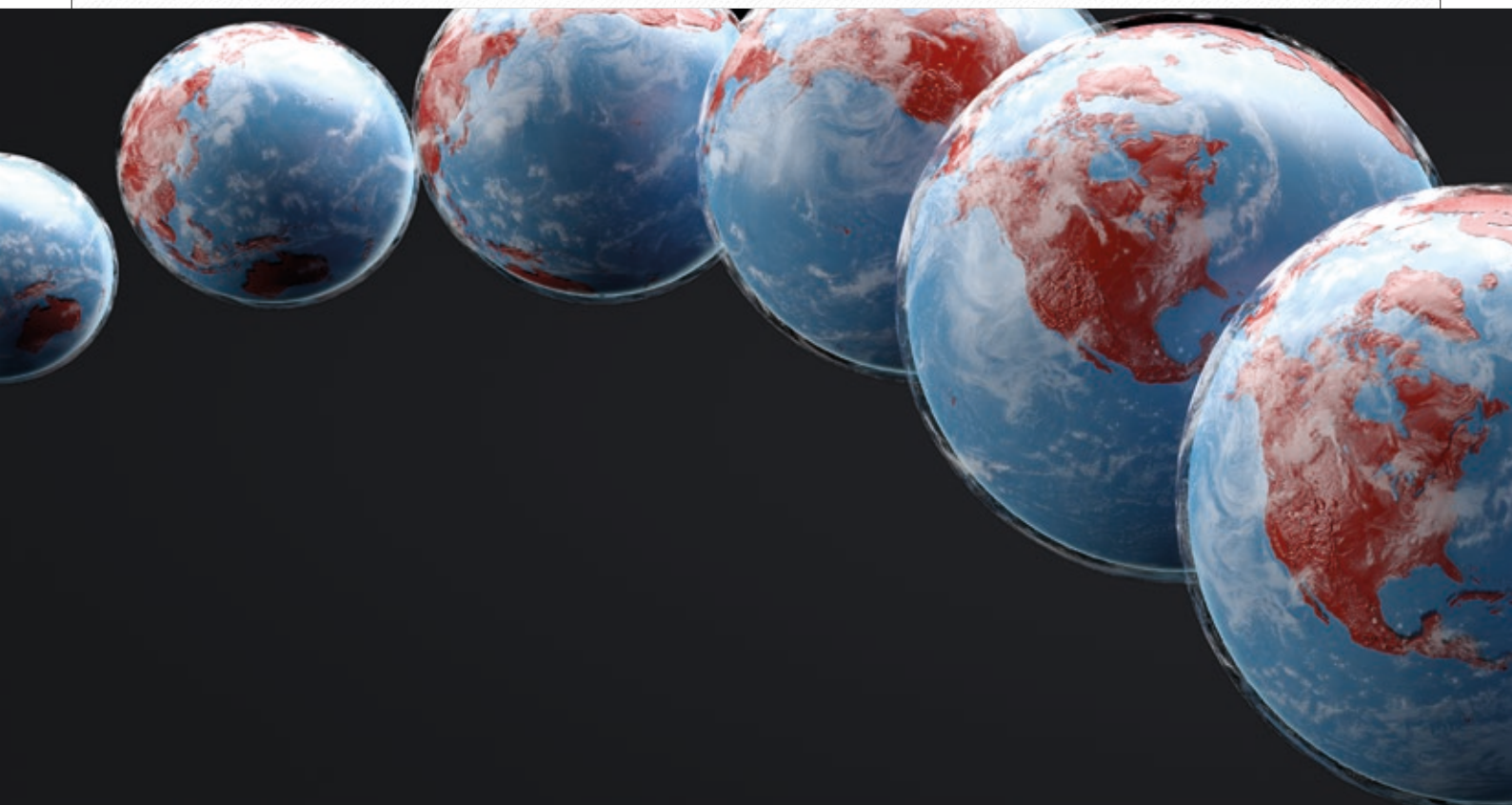
** The maximum load is 500 kg (1,100 lbs) by using 2 cylinders

¹ Cylinder **CB, CD, CE, CG, CH, CI**, Linear unit **LA, LB, LD, LH** or System **TA, TT, TQ, TU**

Please note the following maximum lifting distances of the various cylinder types: System **TA**: 500 mm (19") | System **LH/TH**: 500mm (19")

System **TI/TK**: 300 mm (12") | System **TQ**: 400 mm (15") | System **TT**: 400mm (15") | System **TU**: 500 mm 19")

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