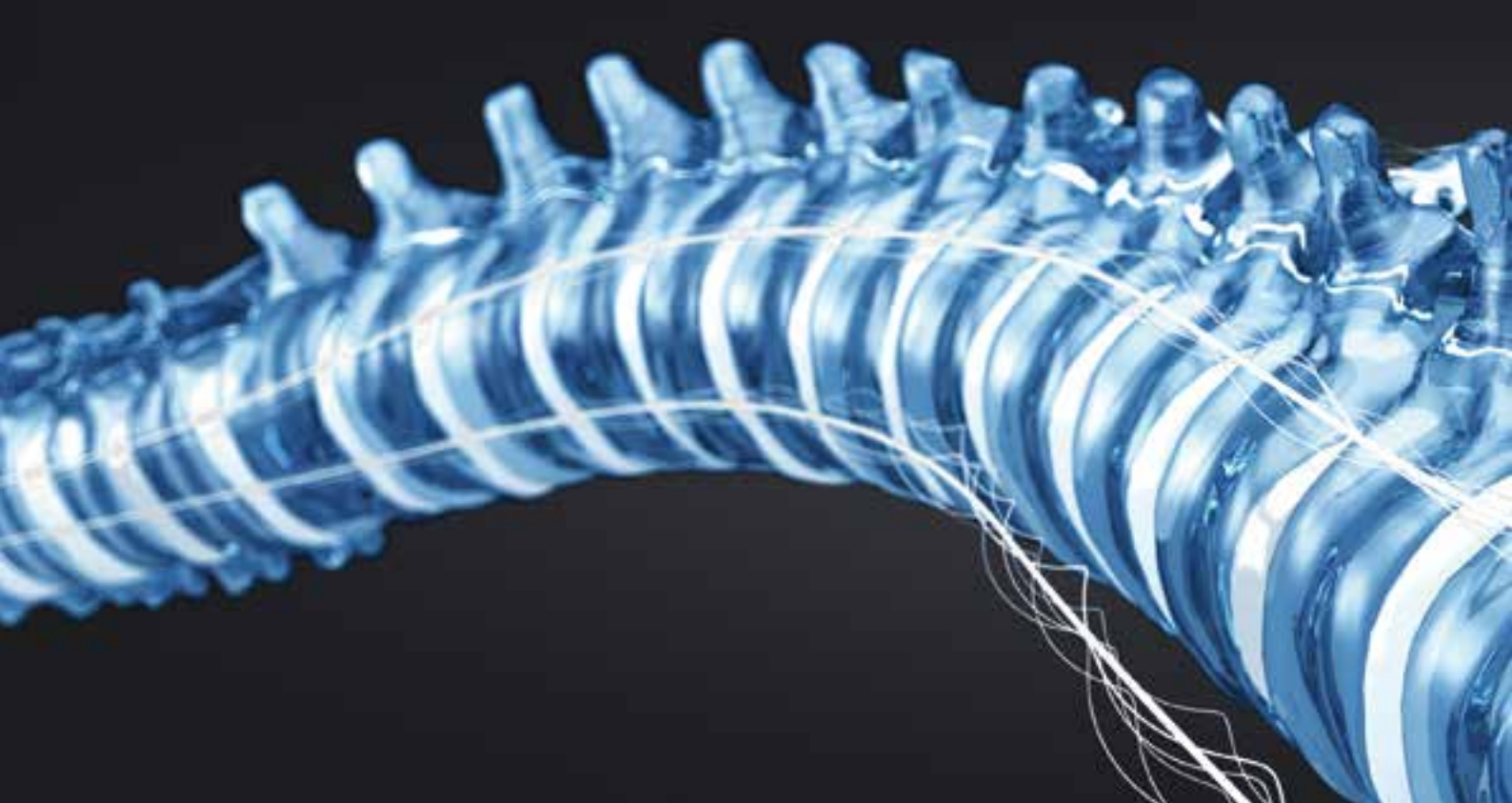


micro **Hydraulics**



The Challenge



Ergonomics

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

The aim of ergonomics is to adapt the working environment to meet people's needs. Specifically, 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.

Perfectly equipped work stations reduce the distance employees have to walk and improve work processes.



The **Solution**



System Structure

Modular und flexible

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

The Ergoswiss system is assembled using flexible hoses (4). It works with any load and is fully synchronous. Thanks to its small dimensions, high load capacity and quiet operation, our system offers distinct advantages over conventional lifting systems.

* Linear units or table legs can be used instead of the cylinders.

** Long tubing and high friction in the guiding require a retracting force of up to 250 N.

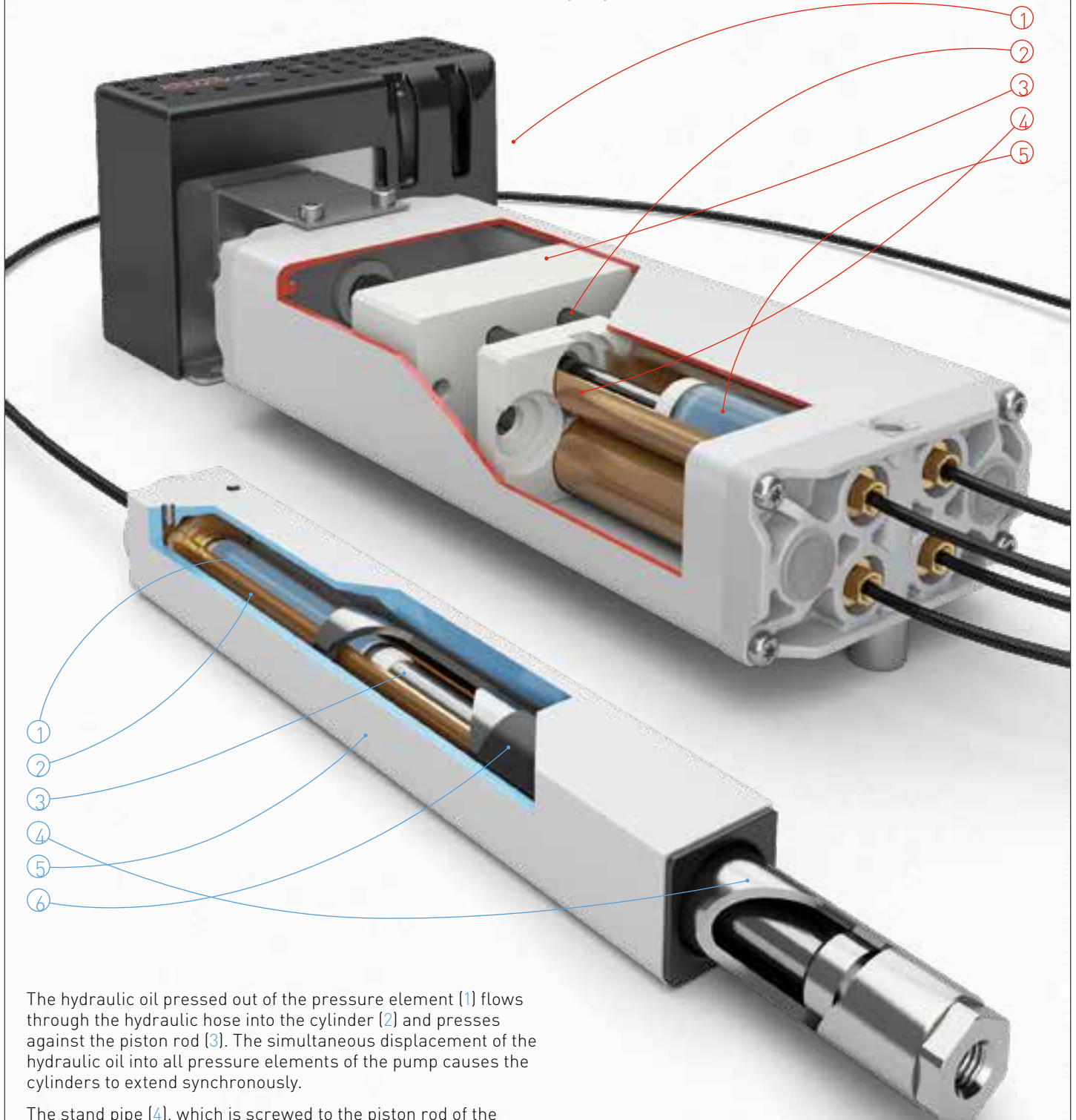


System **Function**

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.



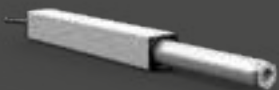

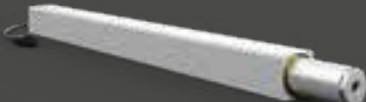
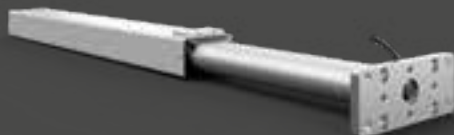
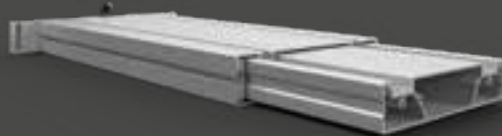
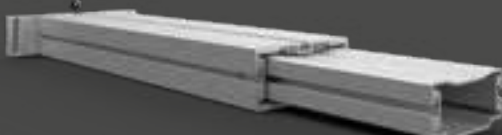
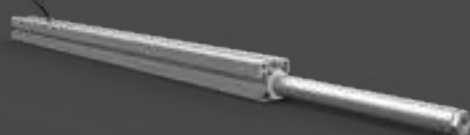
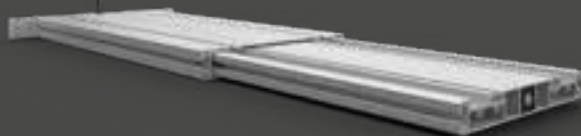
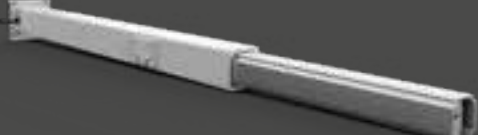
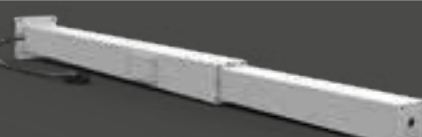
The hydraulic oil pressed out of the pressure element (1) flows through the hydraulic hose into the cylinder (2) and presses against the piston rod (3). The simultaneous displacement of the hydraulic oil into all pressure elements of the pump causes the cylinders to extend synchronously.

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

Product Overview

Some of the features of our hydraulic lifting systems:

- Simple and flexible activation of several lifting elements.
- One pump allows the synchronous control of 1 to 10 lifting elements.
- The pumps are driven by an electric drive unit or a hand crank.

Lifting element	Stability	Cross section	Installation
	●●○○○	35 x 35 mm	min: 252 mm max: 867 mm
	●●○○○	35 x 35 mm	min: 252 mm max: 867 mm
	●●●○○	45 x 45 mm	min: 463 mm max: 690 mm
	●●●●◐	80 x 50 mm	min: 414 mm max: 640 mm
	●●●●○	260 x 60 mm	530 mm 630 mm
	●●●◐○	150 x 70 mm	530 mm 630 mm
	●●●○○	45 x 45 mm	min: 500 mm max: 1000 mm
	●●●◐○	260 x 40 mm	530 mm 630 mm
	●●●●◐	50 x 50 mm	683 mm
	●●●●○	50 x 50 mm	640 mm

- As our control units are connected in parallel, they can drive up to 40 lifting elements synchronously.
- The lifting system is completely silent in crank drive.
- The restoring force needs to be taken into account as it is a single-acting system.

Stroke length	Spindle lifting system	Max. load power per lifting element*	Hydraulic lifting system	Max. load power per lifting element*
min: 150 mm max: 700 mm	LA	1500 N 2500 N	SLA	1250 N
min: 150 mm max: 700 mm	LD	1500 N 2500 N		
min: 300 mm max: 500 mm	LG	1500 N 2500 N	SLG	1250 N
min: 300 mm max: 500 mm	TA	1500 N 2500 N		
300 mm 400 mm	TL	1500 N 2500 N	SL	2000 N 3000 N
300 mm 400 mm	TM	1500 N 2500 N	SM	2000 N 3000 N
300 mm 400 mm	TQ	1500 N 2500 N	SQ	1250 N
300 mm 400 mm	TT	1500 N 2500 N		
400 mm 500 mm	TU	1500 N 2500 N		
300 mm			SE	1250 N

ergo Segments



Assembly

Assembly benches, piping systems, packaging tables, desks, aluminium profile systems, workbenches, measuring tables, watch-maker benches, etc.



Care

Couches, laboratory benches, flow cabinets, bathtubs, chemistry work stations, examination chairs, veterinary examination tables, etc.



Catering

Industrial kitchens, dining tables, pay stations, buffets, steam extractors, food warmers, etc.

ergo **Segments**



Furniture

Kitchens, cooking islands, dining tables, display cabinets, televisions, beds, tables for the disabled, tables for arts and crafts/hobbies, coffee tables, etc.



Industry

Working platforms, conveyor systems, machine hoods, welding benches, tool-setting tables, runways, etc.



Office

Student desks, lecterns, conference tables, PC and CAD stations, monitors, whiteboards and interactive screens, etc.

ergo Applications



ergo **Applications**





Powerful and quiet

The pumps **PA**, **PB** and **PF** represent the heart of our height 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.

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

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

The pumps and cylinders are connected with a hydraulic hose (Ø 4 mm). The maximum hose length is 8 m, the minimum bending radius is 25 mm.

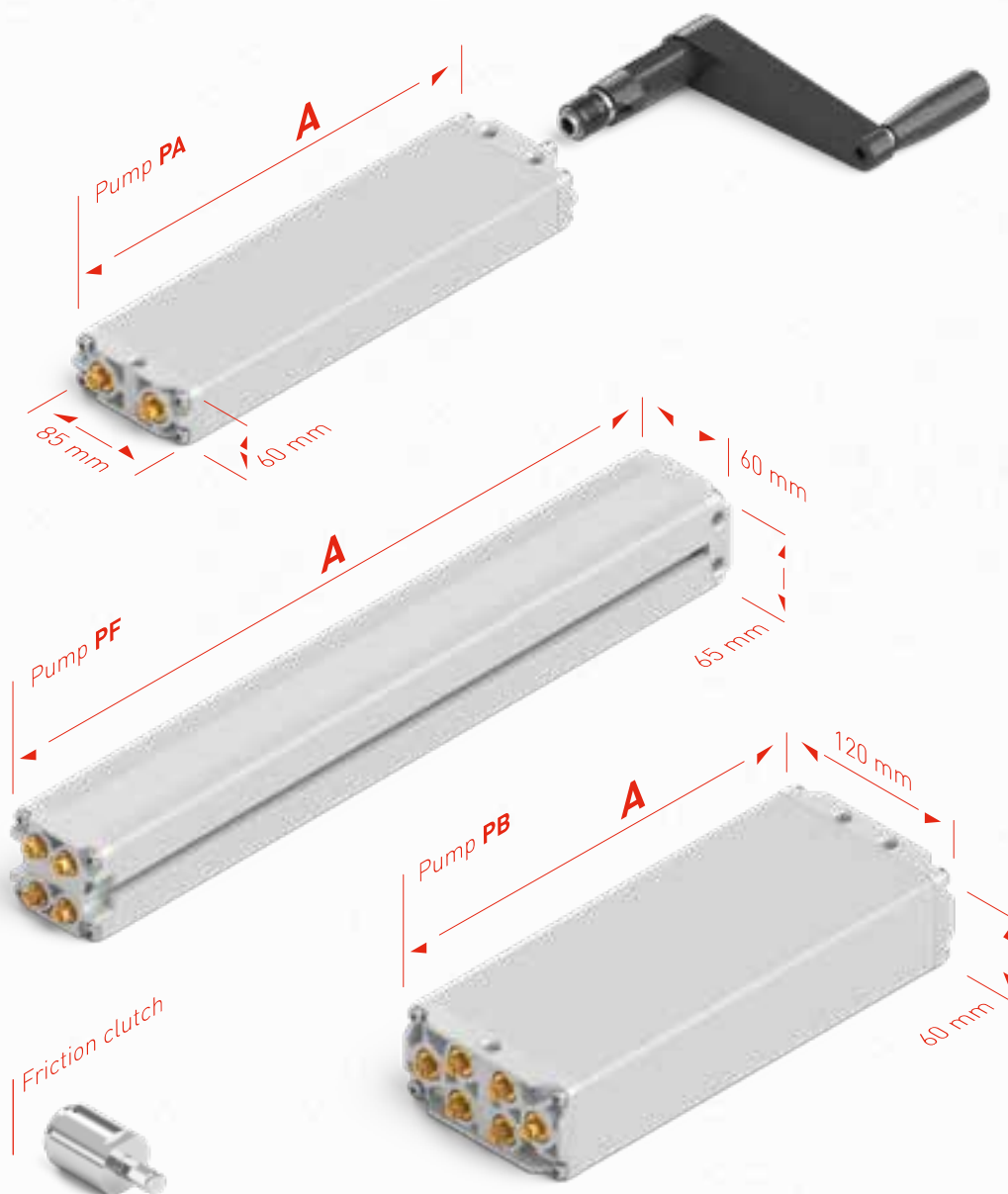
The pump housing is an extruded aluminium profile with a plain anodised finish.

Three fixing holes are available to mount the pumps. An additional mounting groove is provided on both sides for mounting the **PF** pump.

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



Type **PA|PB|PF**



Technical data

- Type **PA** to drive 1 or 2 cylinders and for a maximum system power of 5000 N
- Type **PB** to drive from 5 to 10 cylinders and for a maximum system power of 8000 N
- Type **PF** to drive from 3 to 4 cylinders and for a maximum system power of 8000 N
- Maximum lifting speed of 10 mm per crank turn, or max. 30 mm/s with electric drive
- Food grade hydraulic fluid
- Hand crank removable (click function without drilling and pinning)

Pump PA PB PF	
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



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:

- torque limiter



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.

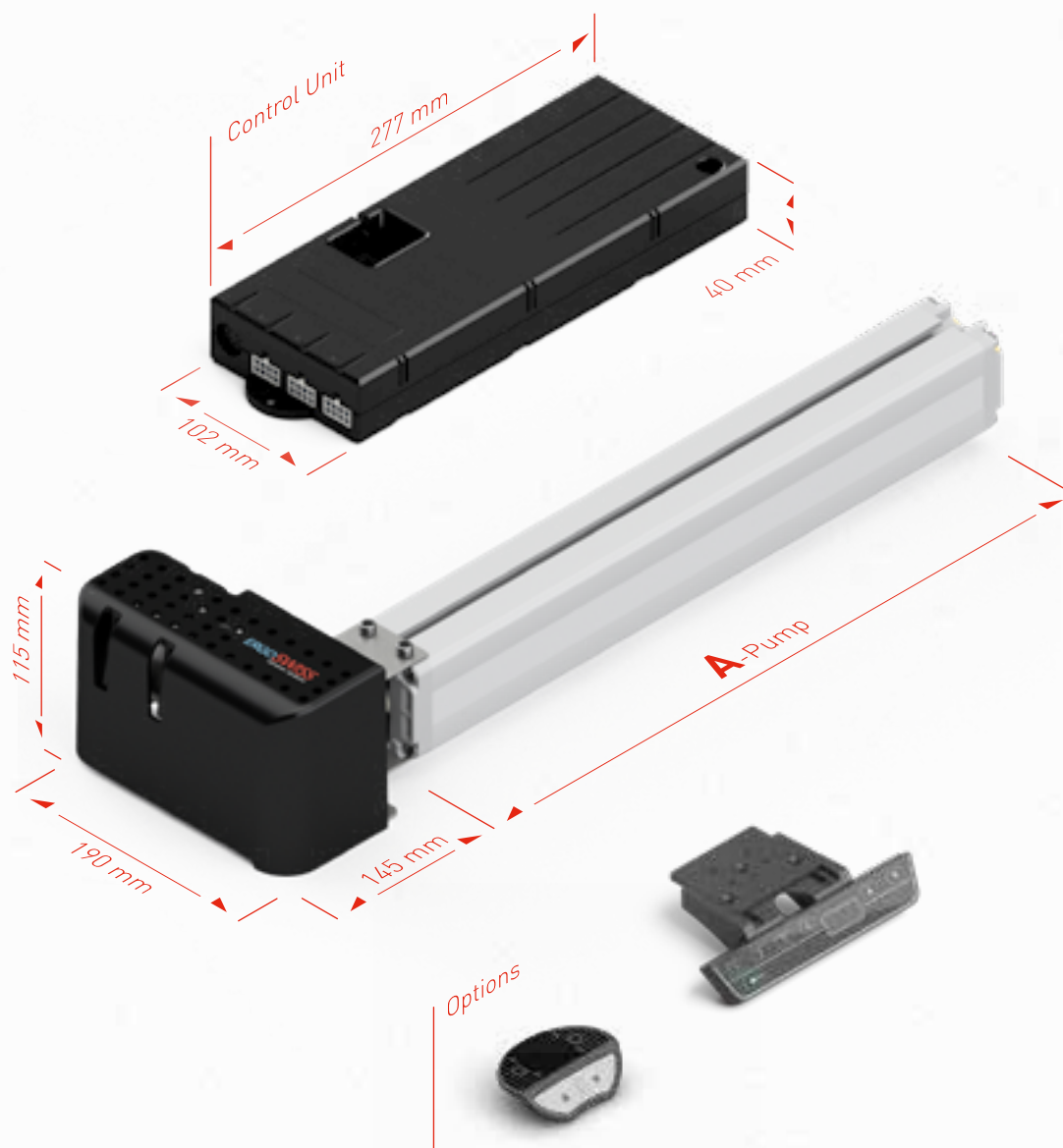
Delivery includes the motor, control unit with 3-pole power cable and cable remote control (2 m cable length) with position memory.

The drive units are not suitable for continuous operation. After one minute of operation, the drive unit needs to rest for about 10 minutes (duty cycle 10%). The nominal travel decreases by about 15 mm with an electric drive unit.

The following accessories are available:

- various versions of manual switches (simple on/off switch, foot switch)
- 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)

Type PXD



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 20
- Overload protection
- Thermal protection
- Duty cycle monitoring
- Other models on request



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 tubing and has a piston rod made of stainless steel.

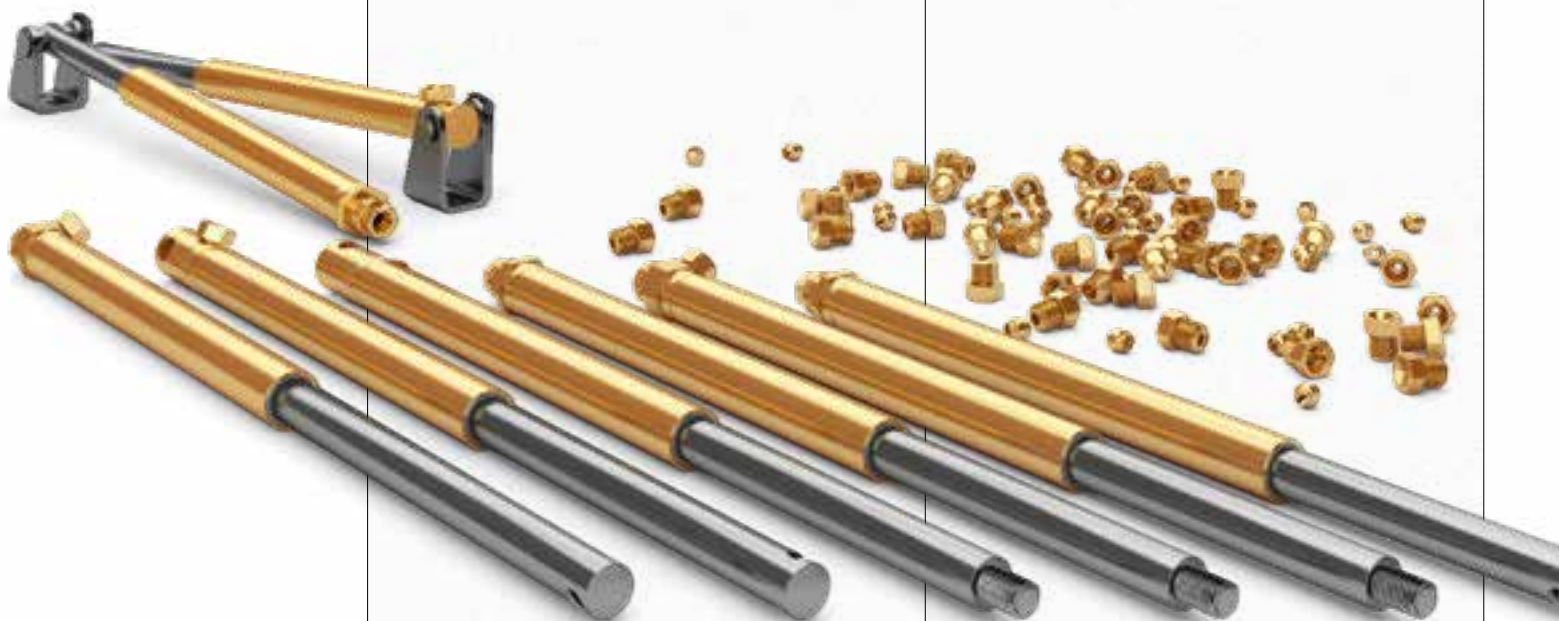
The clamping rings and screws (M8x1) are for connecting the hose to the pump and cylinders.

The flexible pressure hose has the following properties:

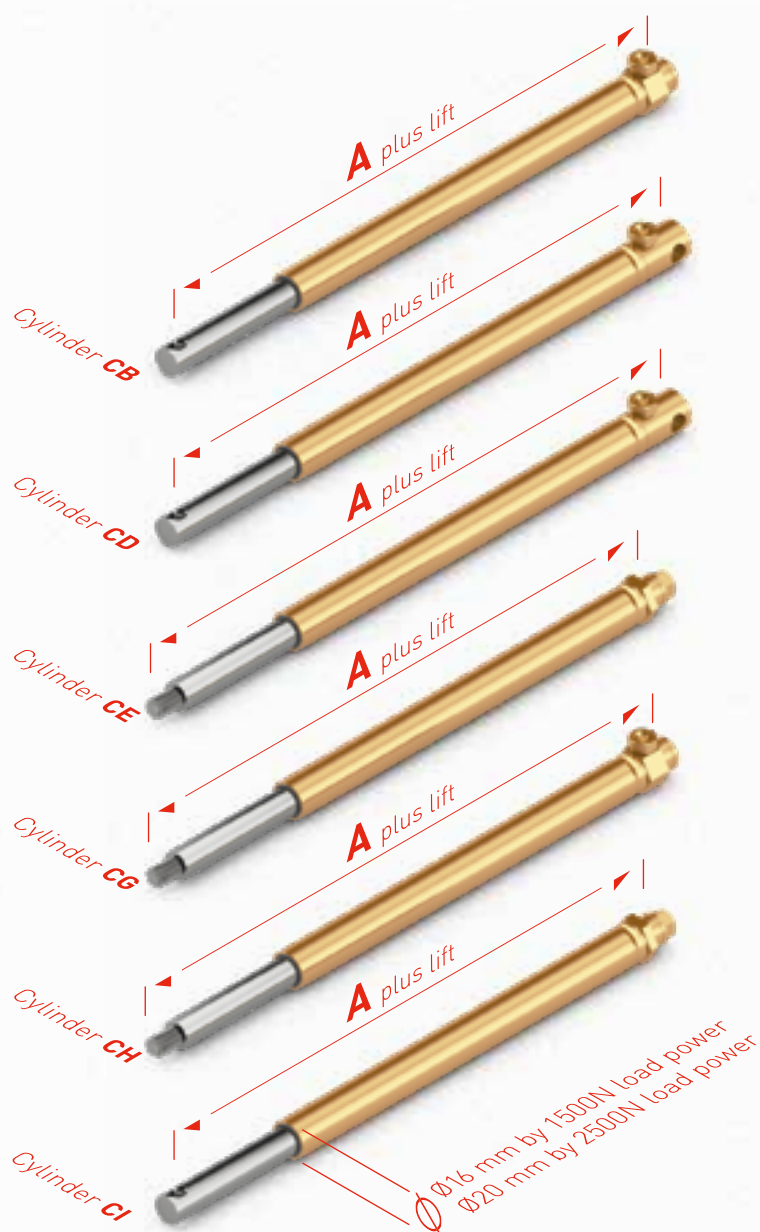
- exterior diameter: 4 mm
- minimum permissible bending radius is 25 mm
- maximum operating pressure: 100 bar

The following accessories are available:

- T, L or straight-through fittings
- hose blanking plugs
- brackets D6 and D8 to mount the cylinders
- hose rupture protection «V» (check valve)



Type **CB|CD|CE|CH|CI**



Options



Technical data

- Max. load power per cylinder:
1500 N (**CX 14**)
2500 N (**CX 18**)
- The system power depends on the pump
- Lifting distance up to max. 700 mm
- The cylinders should not be exposed to tensile forces
- Minimum restoring force of 70 N required
- The cylinders must be installed within an existing guide rail
- Food grade hydraulic fluid
- The cylinder is supplied with a 3-m hydraulic hose pre-fitted as standard

Cylinder **CX**

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

Standard lifting distance (mm):

Ø 16: 150, 200, 300, 400, 500, 600, 700

Ø 20: 150, 200, 300, 400



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 table 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**. M6 for **LG**.

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:

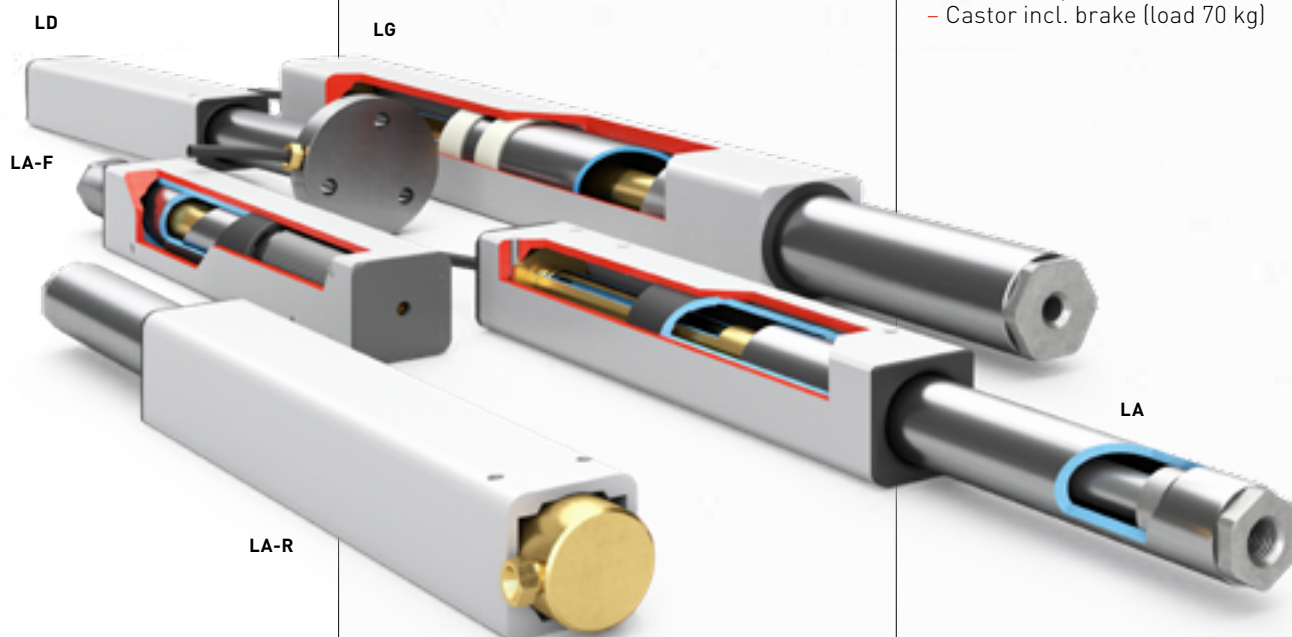
- LA-R: radial tube outlet
- LA-F: with built-in restoring spring
- LA-V: with built-in hose rupture protection

All linear units are stainless and ESD conductive.

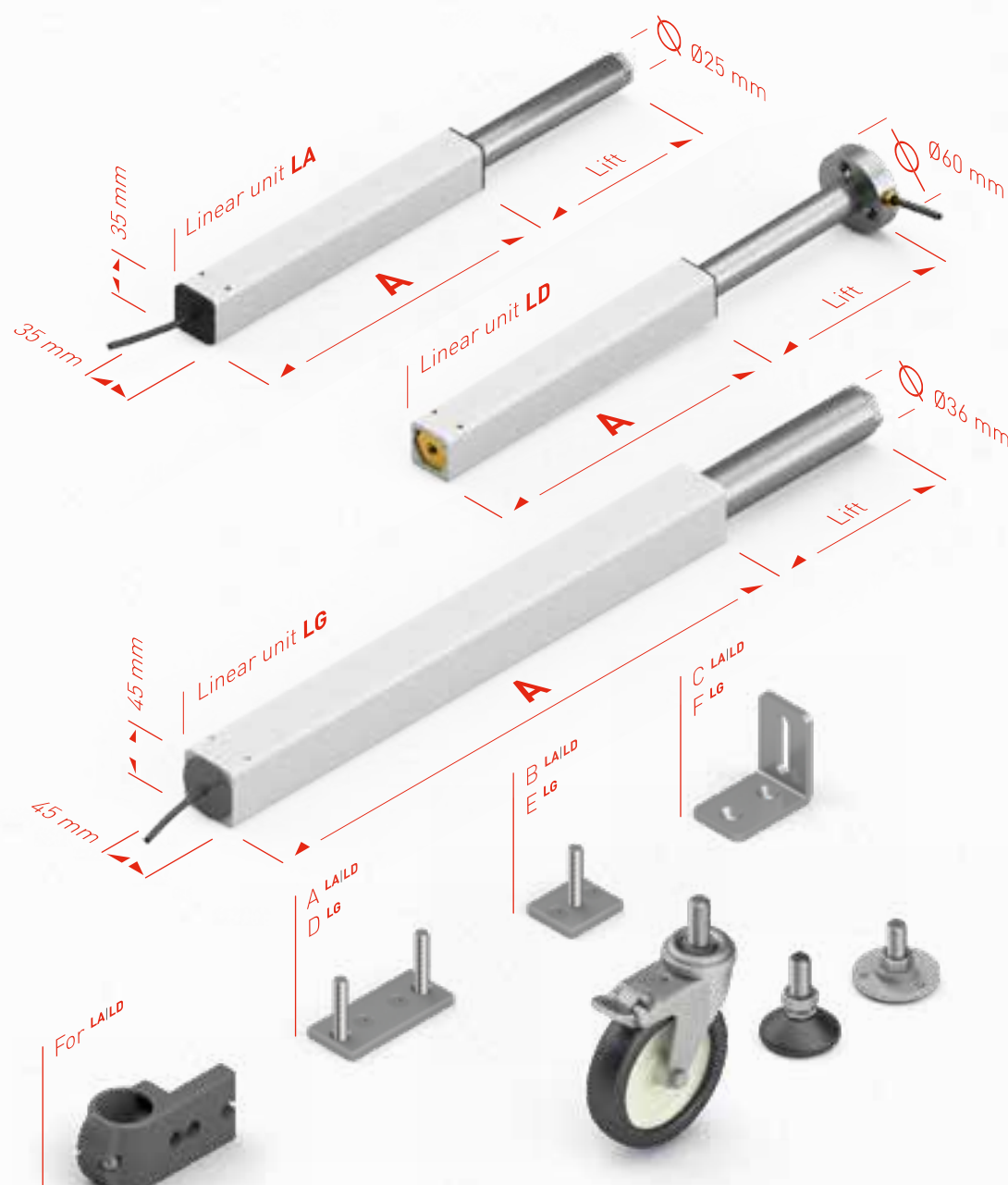
The height is adjusted by means of a hydraulic pump operated by a hand crank or an electric drive unit.

The following accessories are available:

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



Dimensions of **LA|LD|LG**



Technical data

- Versatile linear guide rail with slide bearings
- The system power depends on the pump
- Load power per lifting element 1500 N (**LA/LD/LG 14**) 2500 N (**LA/LD/LG 18**)
- Lifting distance max. 700 mm
- Max. static bending moment $M_b = 150 \text{ Nm}$
- Max. dynamic bending moment $M_{b\text{dyn}} = 50 \text{ Nm}$
- Food grade hydraulic fluid
- No additional guide rail is required
- The linear units should not be exposed to tensile forces
- The linear unit is supplied with a 3-m hydraulic hose pre-fitted as standard
- Plain anodised aluminium

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



Robust and versatile

The table leg **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.

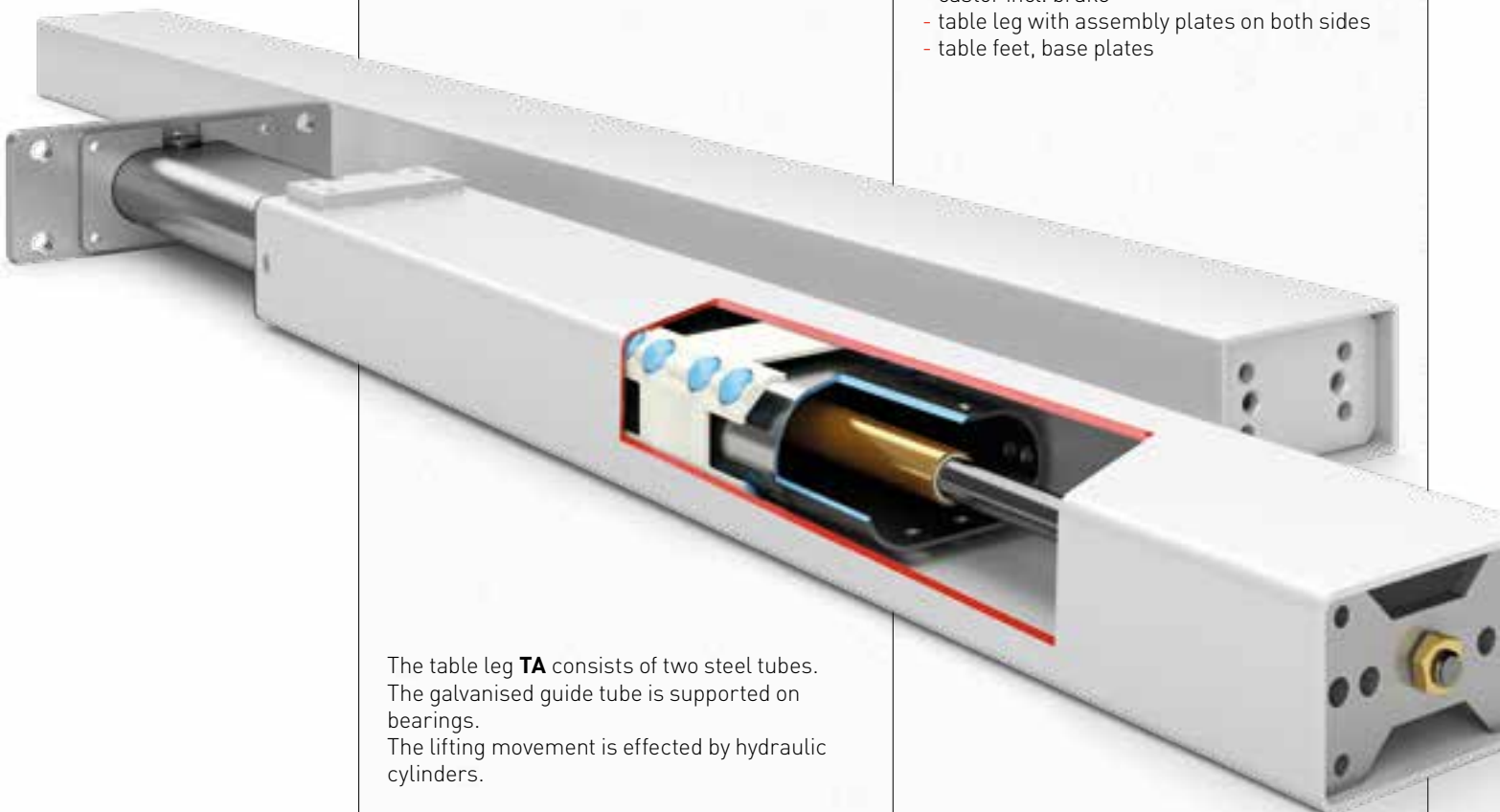
Crossbars or mounting brackets are fitted on the welded-on mounting plate. The table plate supports, crossbars and mounting brackets are supplied with all the necessary screws.

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

The 4-metre-long hydraulic hose is already mounted on the table leg and vented to ensure easy assembly.

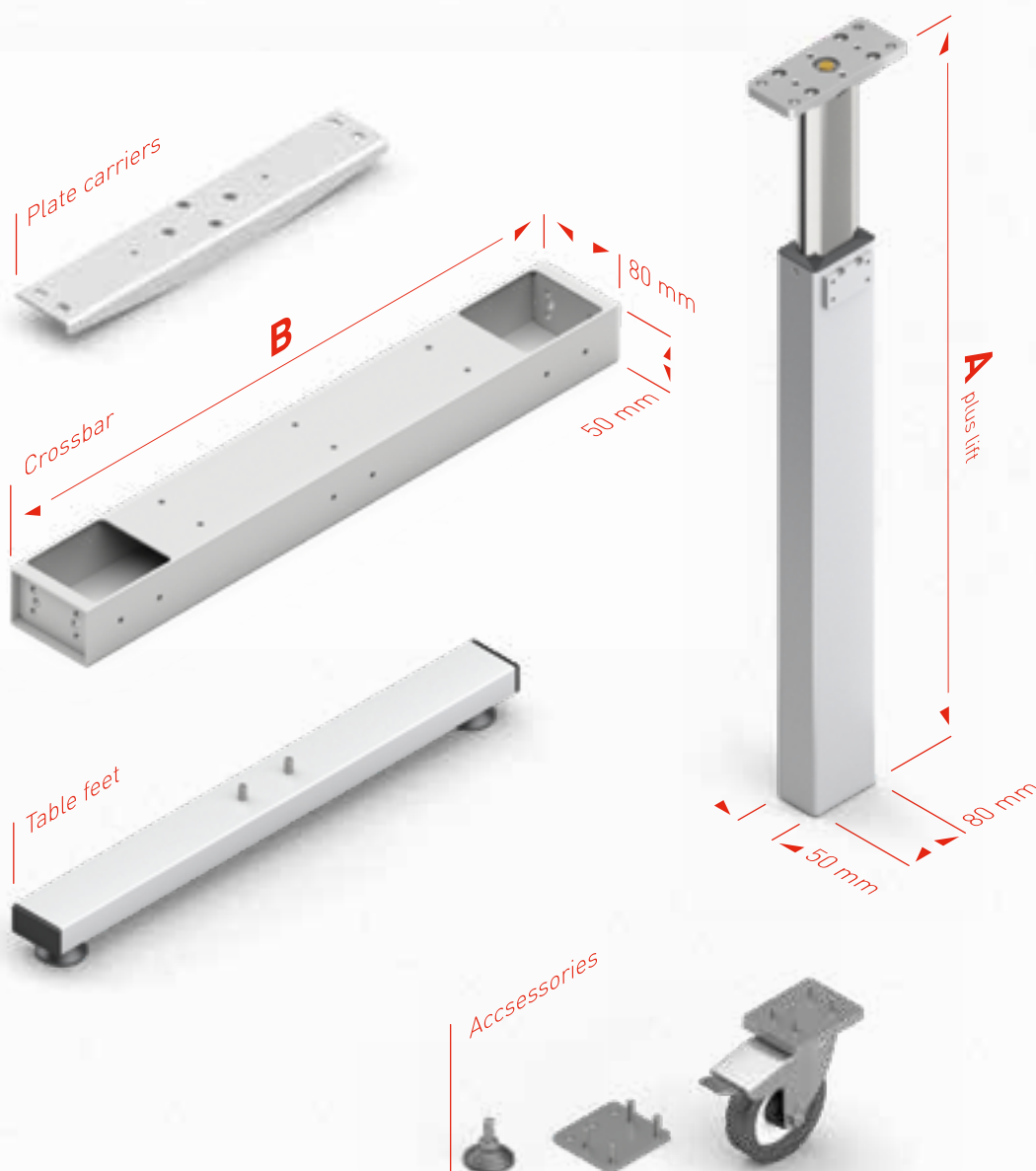
The following accessories are available:

- table plate supports for mounting the table top
- crossbars of various lengths
- adjustable feet made of rubber or aluminium
- castor incl. brake
- table leg with assembly plates on both sides
- table feet, base plates



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 of **TA**



Technical data

- Robust leg with ball track
- Please also note the maximum load of the entire system
- Max. load power per leg:
1500 N (TA 14)
2500 N (TA 18)
- Lifting distance max.
500 mm
- Max. static bending moment $M_b = 400 \text{ Nm}$
- Max. dynamic bending moment $M_{b\text{dyn}} = 100 \text{ Nm}$
- The leg is supplied with a 4-m hydraulic hose pre-fitted as standard
- Colour: RAL 9006 white aluminium
- Other models on request
- Food grade hydraulic fluid

Table leg **TA**

	A	Lift
TA 1430	415 mm	300 mm
TA 1440	515 mm	400 mm
TA 1450	640 mm	500 mm

Crossbar **TA**

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



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

The maximum load power is 350 kg, 600 kg, or 800 kg depending on the system combination. 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 base frame for sitting and standing work stations in the office or at the assembly station. Consisting of two table legs, two table plate supports, two table feet as well as a crossbar to stabilise the base frame. Various table lengths can be realised using the crossbars from the standard programme.

TA-3: The three-leg base frame 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.

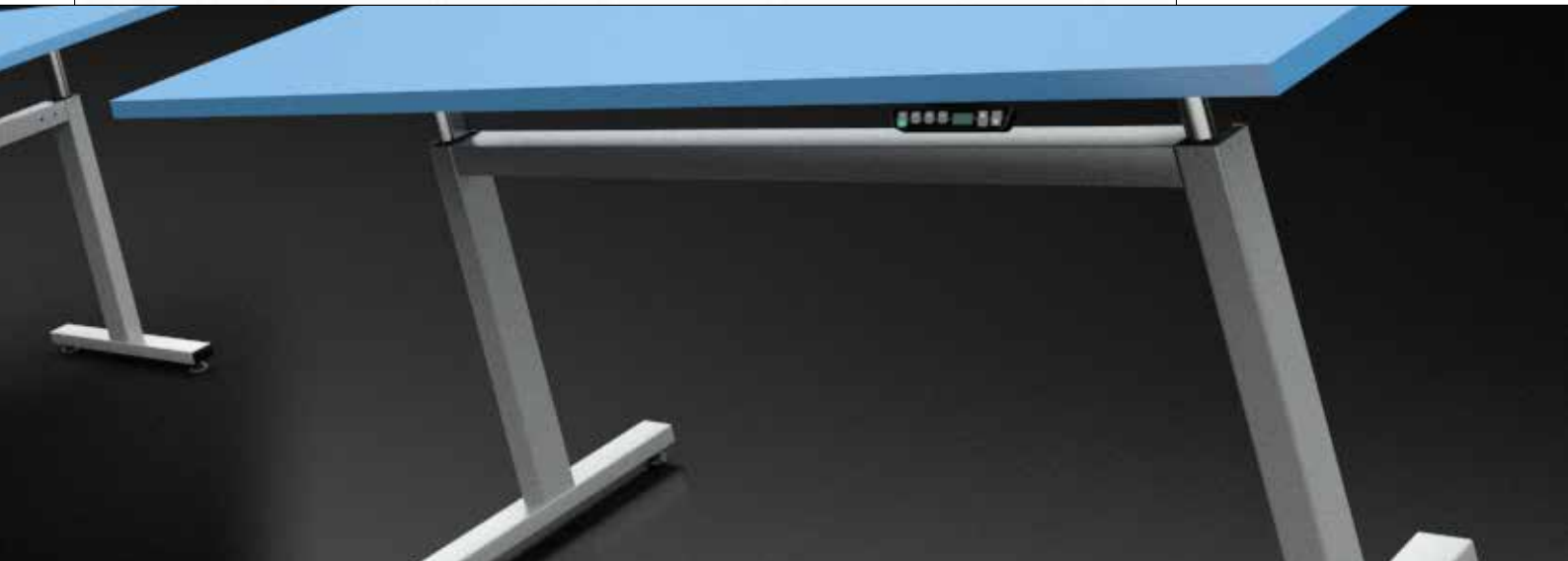
TA-4: The four-leg base frame for maximum stability as required for workbenches, joiner's benches and assembly work stations. The longitudinal crossbar can be placed at three different depth positions.

Various screws to mount the table top are included with your order. The base frame is delivered unassembled.

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

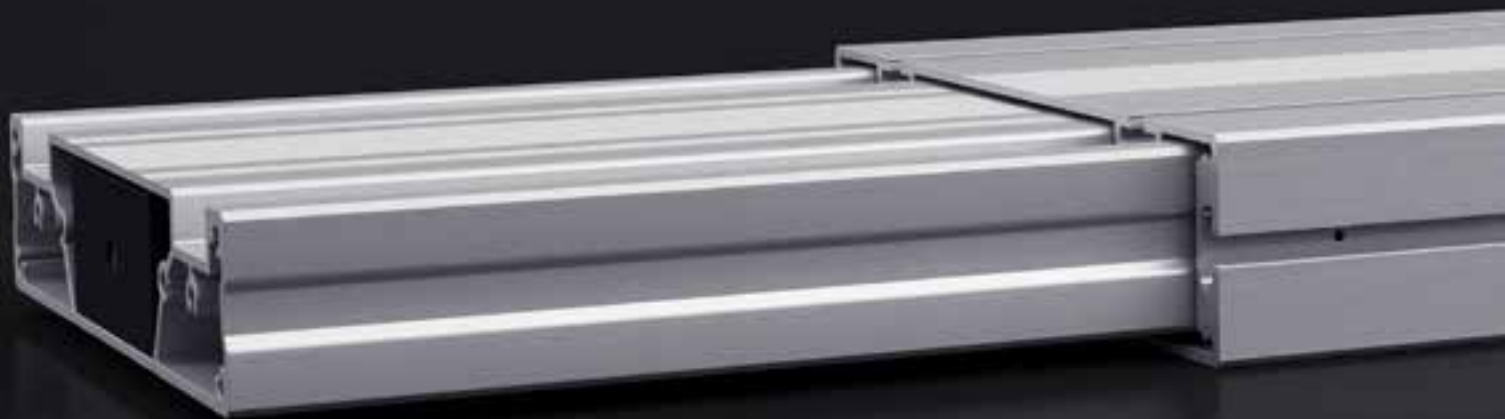


Dimensions of base frame **TA**



Base frame TA-2	
	A
TA-2 600	600 mm
TA-2 1000	1000 mm
TA-2 1200	1200 mm
TA-2 1600	1600 mm

Base frame TA-4	
	B
TA-4 1030	1030 mm
TA-4 1230	1230 mm
TA-4 1630	1630 mm



Elegant and powerful

The table leg **TL** belongs to the same design family as the table legs TM, SL and SM.

Its plain anodised aluminium housings come with a simple surface design to ensure an elegant and stylish finish in all product combinations.

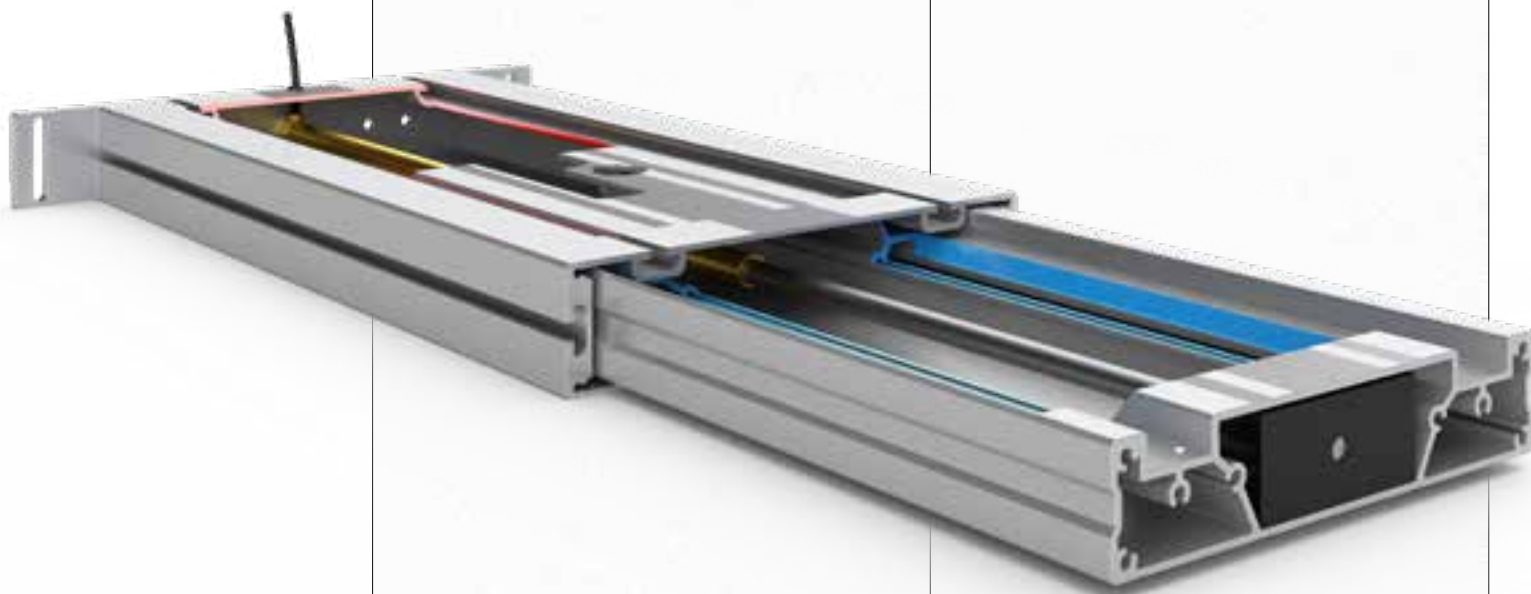
The T-slots on 3 sides (width 8 mm) allow the addition of crossbars, shelves and other attachments along the entire length of the leg. The table legs **TL** and TM are the same length and can therefore be easily combined with one another.

This design family also has a corresponding range of accessories to use in combination.

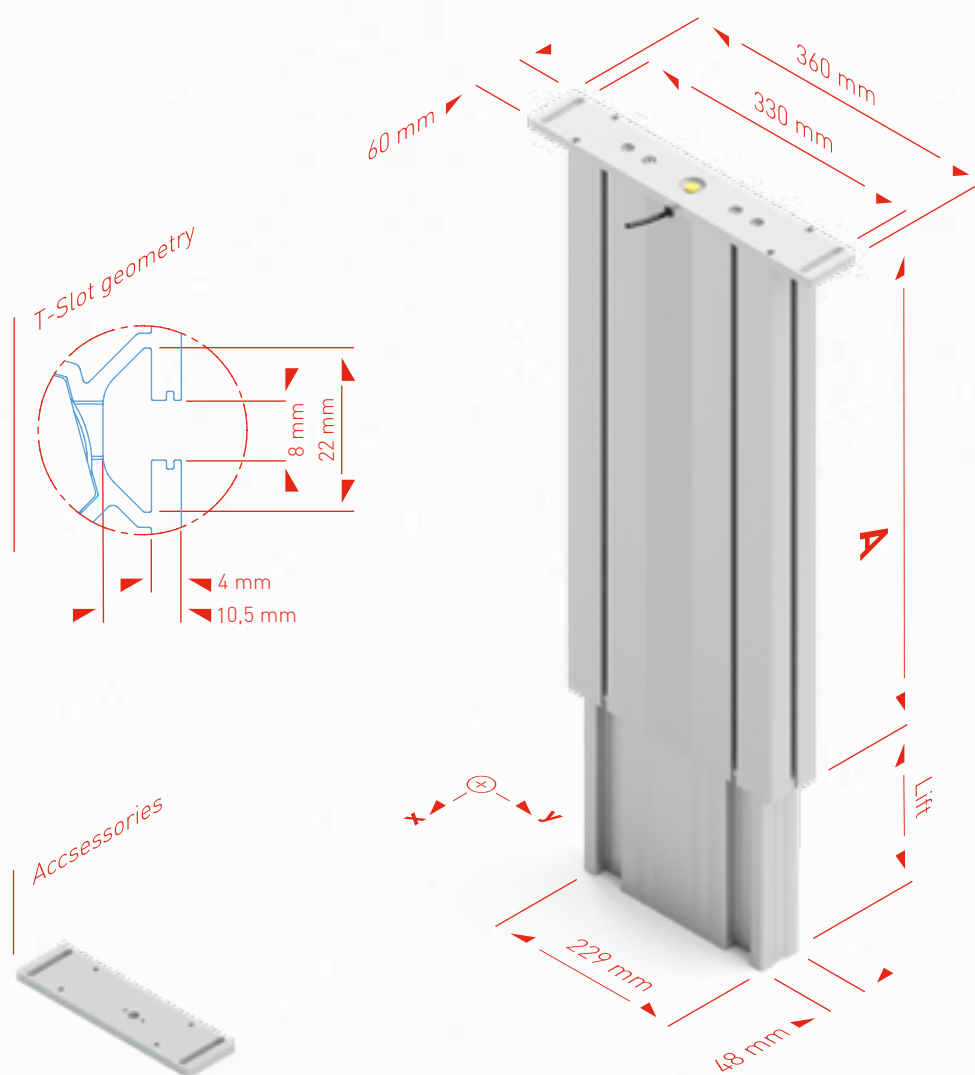
Application

The table leg **TL** is used for 2-leg base frames, while the table leg TM tends to be used when a crank drive or several table legs are required. Up to 10 table legs can be driven up and down at the same time. The hydraulic pump can be operated either by using a hand crank or electronically via cable remote control.

The lifting columns SL and SM are recommended for 2 and 4-leg base frames as an alternative to the table leg **TL/TM**. For further information on the lifting columns SL and SM, please see our Spindle Lifting Systems catalogue.



Dimensions of TL



Technical data

- Table leg for flexible use with sliding guide
- Max. load power per leg:
 - 1500 N (**TL 14**)
 - 2500 N (**TL 18**)
- Synchronous operation of up to 10 legs possible per pump
- The lifting speed depends on the pump used
- Lifting distance 300 or 400 mm
- Mb_x stat. = 1200 Nm*
Mb_y stat. = 450 Nm**
- Mb_x dyn. = 550 Nm*
Mb_y dyn. = 200 Nm**
- Colour: plain anodised aluminium
- Food grade hydraulic fluid

* Mb stat. = max. permissible bending moment at rest

** Mb dyn. = max. permissible bending moment during lifting movement

Table leg **TL**

	A	Lift
TL 1430	530 mm	300 mm
TL 1440	630 mm	400 mm
TL 1830	537 mm	300 mm
TL 1840	637 mm	400 mm

Base frame **TL**



Flexible assembly

Our base frame **TL** is designed for the fast and flexible assembly of tables.

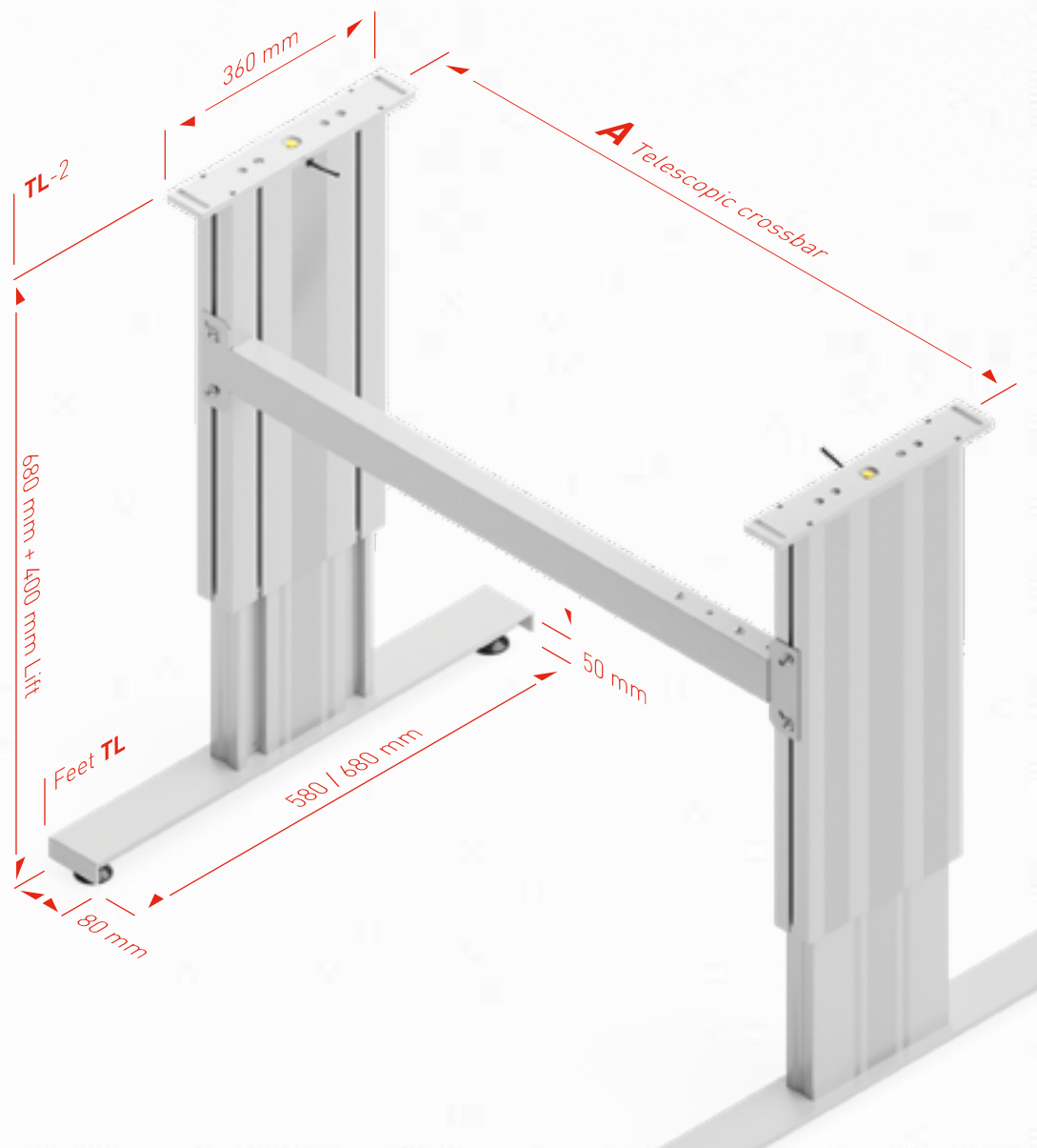
The maximum load power is 300 kg to 800 kg depending on the system combination. Thanks to the large lifting distance of maximum 400 mm, the tables can also be used in a standing position.

The **TL** base frame consists of 2 table legs, a crossbar and 2 table feet. The crossbars slide easily into the grooves of the lifting columns and are fastened in place with an Allen key.

The base frame is delivered unassembled.



Dimensions of base frame TL



Base frame TL-2

	A
TL-2	960 - 1610 mm

The telescopic crossbar is adjustable in 50 mm increments.
The telescopic crossbar can be fitted directly on the outer slot using the slot nuts supplied.
Smaller dimensions are available

Table leg **TM**



Slim and robust

The table leg **TM** belongs to the same design family as the table legs TL, SL and SM.

Its plain anodised aluminium housings come with a simple surface design to ensure an elegant and stylish finish in all product combinations.

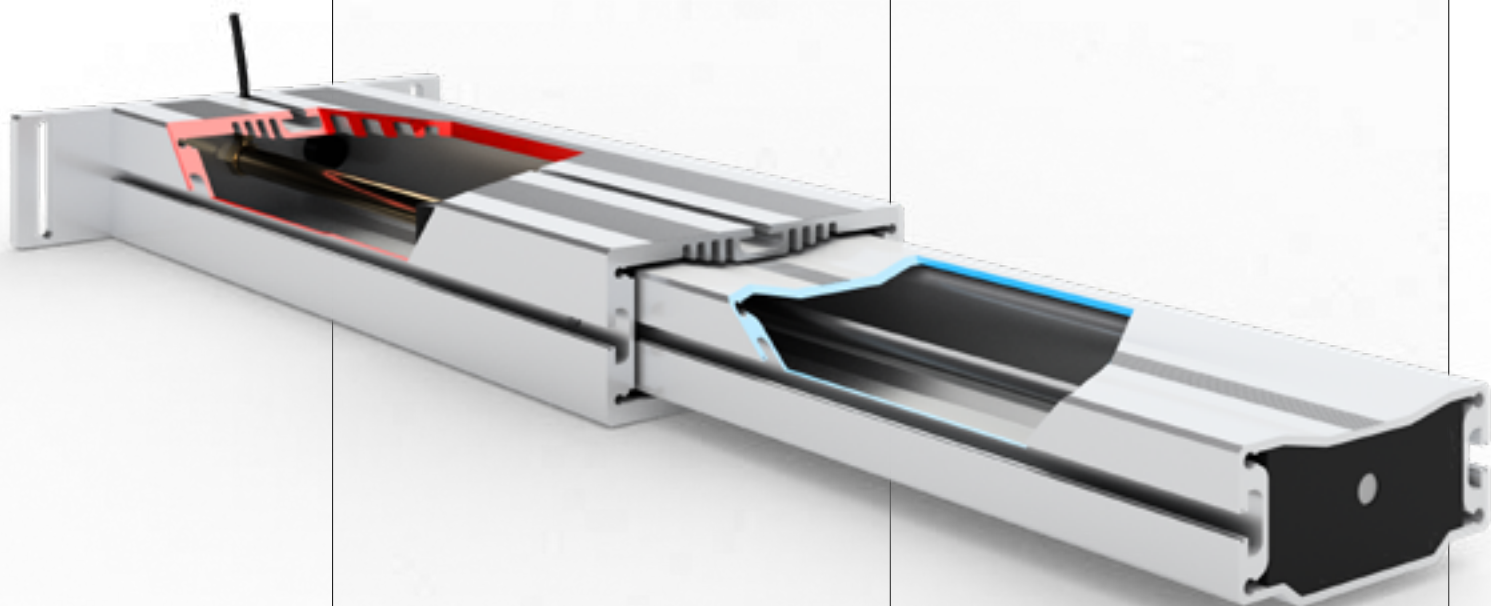
The T-slots on 3 sides (width 8 mm) allow the addition of crossbars, shelves and other attachments along the entire length of the leg. The table legs **TM** and TL are the same length and can therefore be easily combined with one another.

This design family also has a corresponding range of accessories to use in combination.

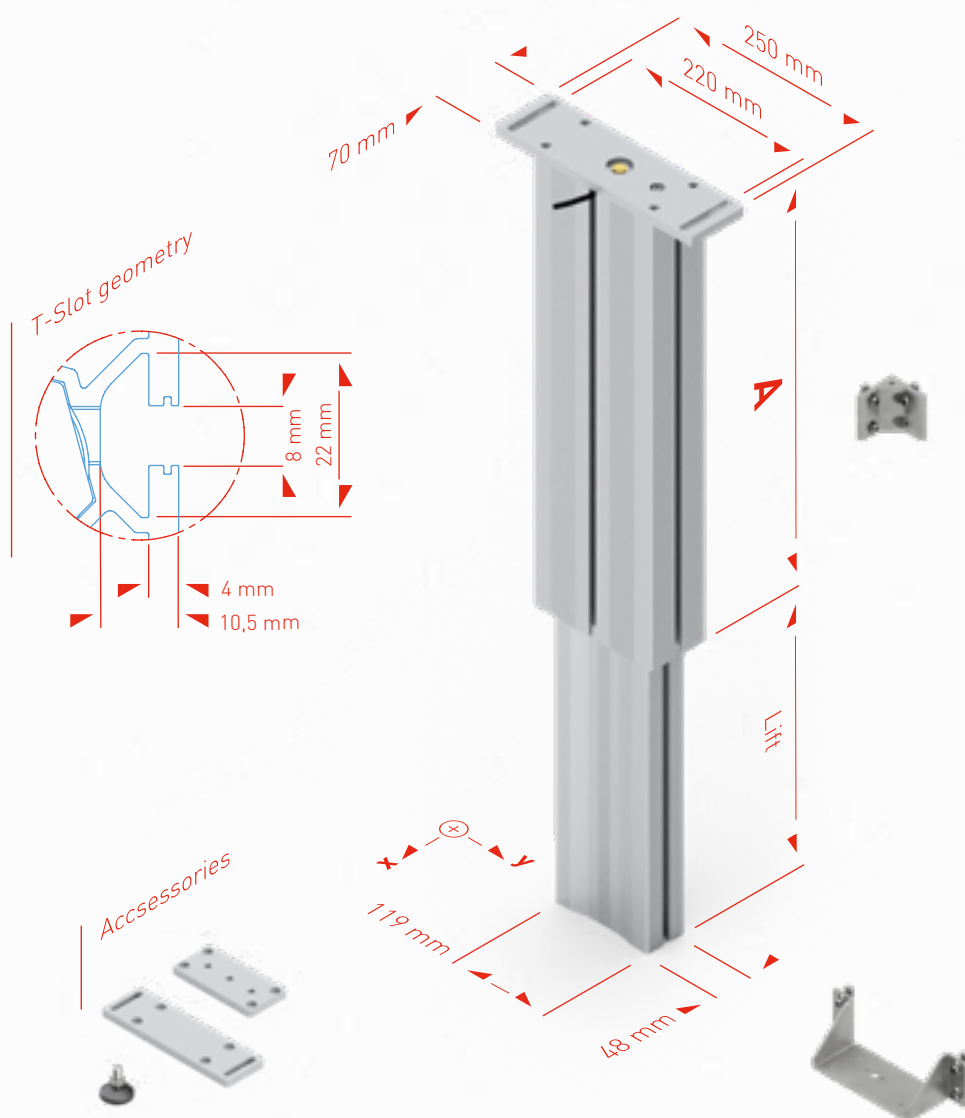
Application

The table leg **TM** tends to be used when a crank drive or several table legs are required. Up to 10 table legs can be activated at the same time. The hydraulic pump can be operated either by using a hand crank or electronically via cable remote control.

For base frames with 2 legs, we recommend table leg TL or SL. The lifting column SM is equipped for base frames with 4 legs. For further information on the lifting columns SM and SL, please see our Spindle Lifting Systems catalogue.



Dimensions of **TM**



Technical data

- Table leg for flexible use with sliding guide
- Max. load power per leg:
 - 1500 (TM 14)
 - 2500 (TM 18)
- Synchronous operation of up to 10 legs possible per pump
- Lifting distance 300 or 400 mm
- The lifting speed depends on the pump used
- Mb_x stat. = 900 Nm*
Mb_y stat. = 350 Nm**
- Mb_x dyn. = 450 Nm*
Mb_y dyn. = 150 Nm**
- Colour:
plain anodised aluminium
- Food grade hydraulic fluid

* Mb stat. = max. permissible bending moment at rest

** Mb dyn. = max. permissible bending moment during lifting movement

Table leg **TM**

	A	Lift
TM 1430	530 mm	300 mm
TM 1440	630 mm	400 mm
TM 1830	537 mm	300 mm
TM 1840	637 mm	400 mm

Base frame **TM**



Combinable in a variety of ways



The base frame **TM-2** consists of two table legs **TM**, each of which is mounted on a table foot with adjustable feet and connected by a crossbar. Each table leg **TM** is equipped with a table plate support which is used to attach the table top.

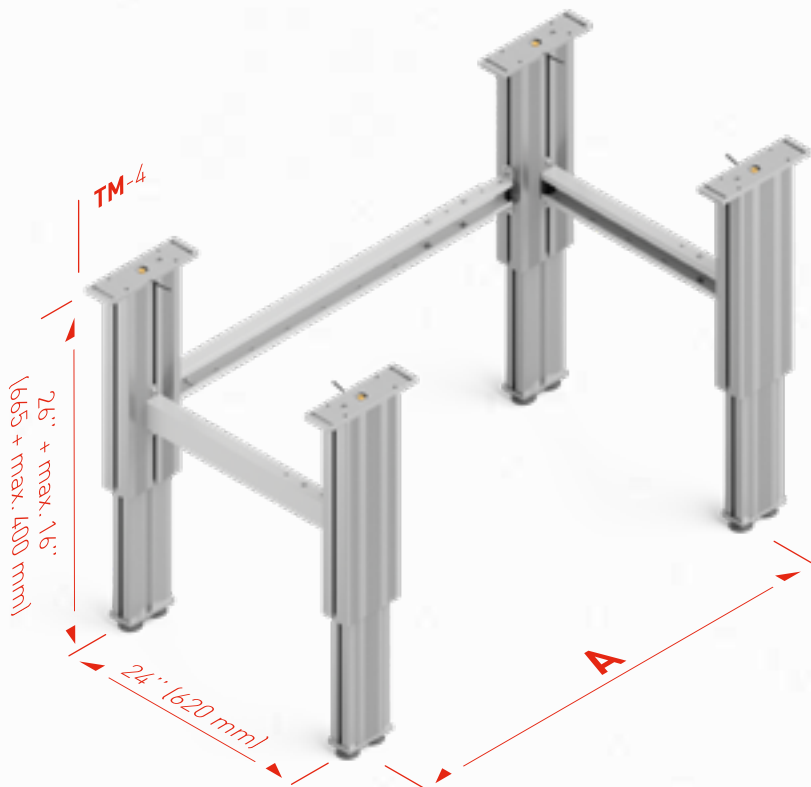
- Ideal for office desks or light assembly tables

The base frame **TM-4** consists of four table legs **TM**, arranged in a rectangle and connected by crossbars. The table legs are equipped with a foot plate including adjustable rubber feet. The table top is attached directly to the adapter plates of the table legs **TM**.

- Ideal for stable workbenches



Dimensions of base frame **TM**



Base frame **TM-4**

	A
TM-4	700 mm
TM-4	1100 mm
TM-4	1300 mm
TM-4	1700 mm

The telescopic crossbar is adjustable in 50 mm increments.

The telescopic crossbar can be fitted directly on the outer slot using the slot nuts supplied.

Smaller dimensions are available on request.

Table leg **TT**



Elegant and versatile

The table leg **TT** can be used for assembly tables, in assembly units, for office desks, height-adjustable beds and baths and for general use in furniture construction and mechanical engineering.

The T-slots on 3 sides (width 8 mm) allow the addition of crossbars, shelves and other attachments and mountings along the entire length of the leg. Corner combinations and interlinked work stations can also be realized in combination with the **PB** and **PF** pump.

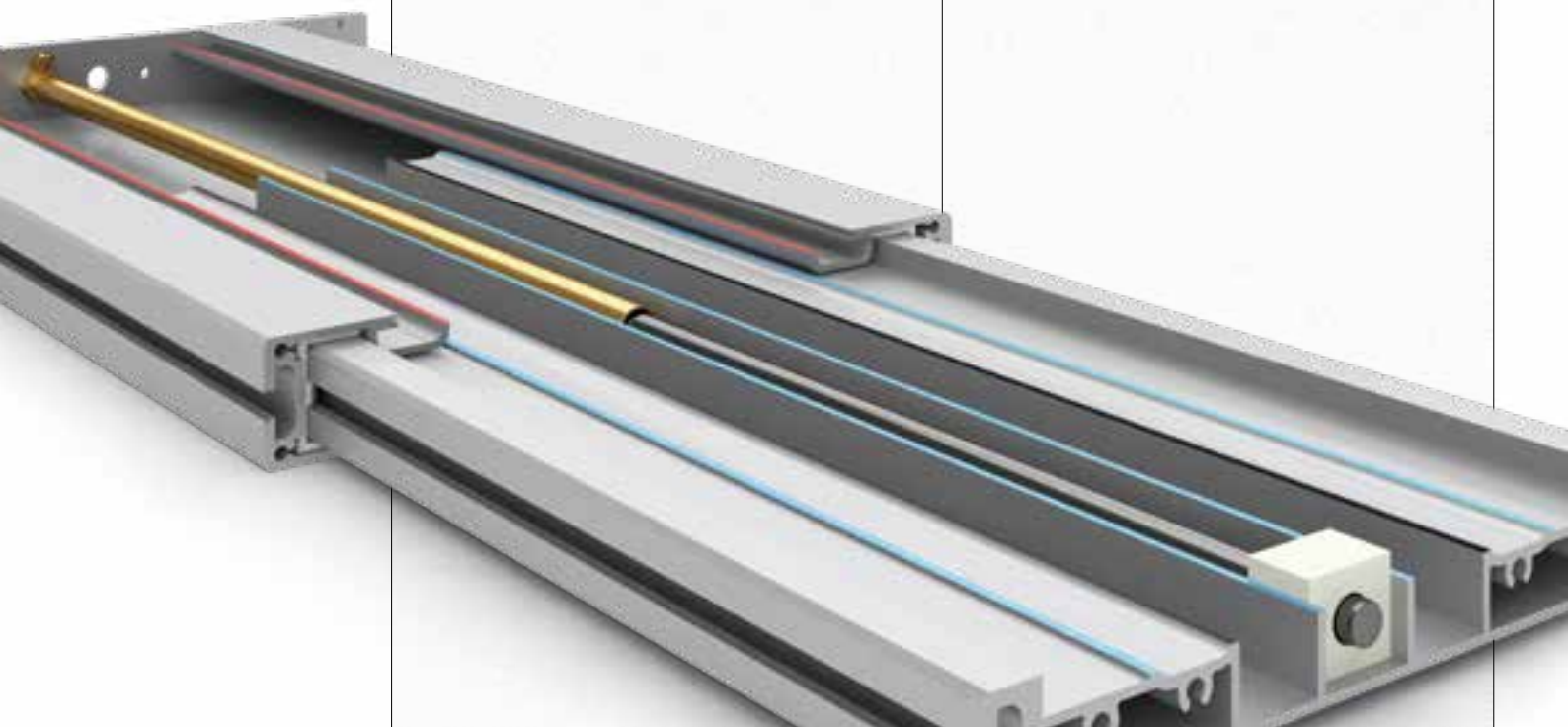
The table leg **TT** consists of two extruded aluminium profiles with a plain anodised finish, guided by plastic gliders. The lifting movement is effected by hydraulic cylinders.

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

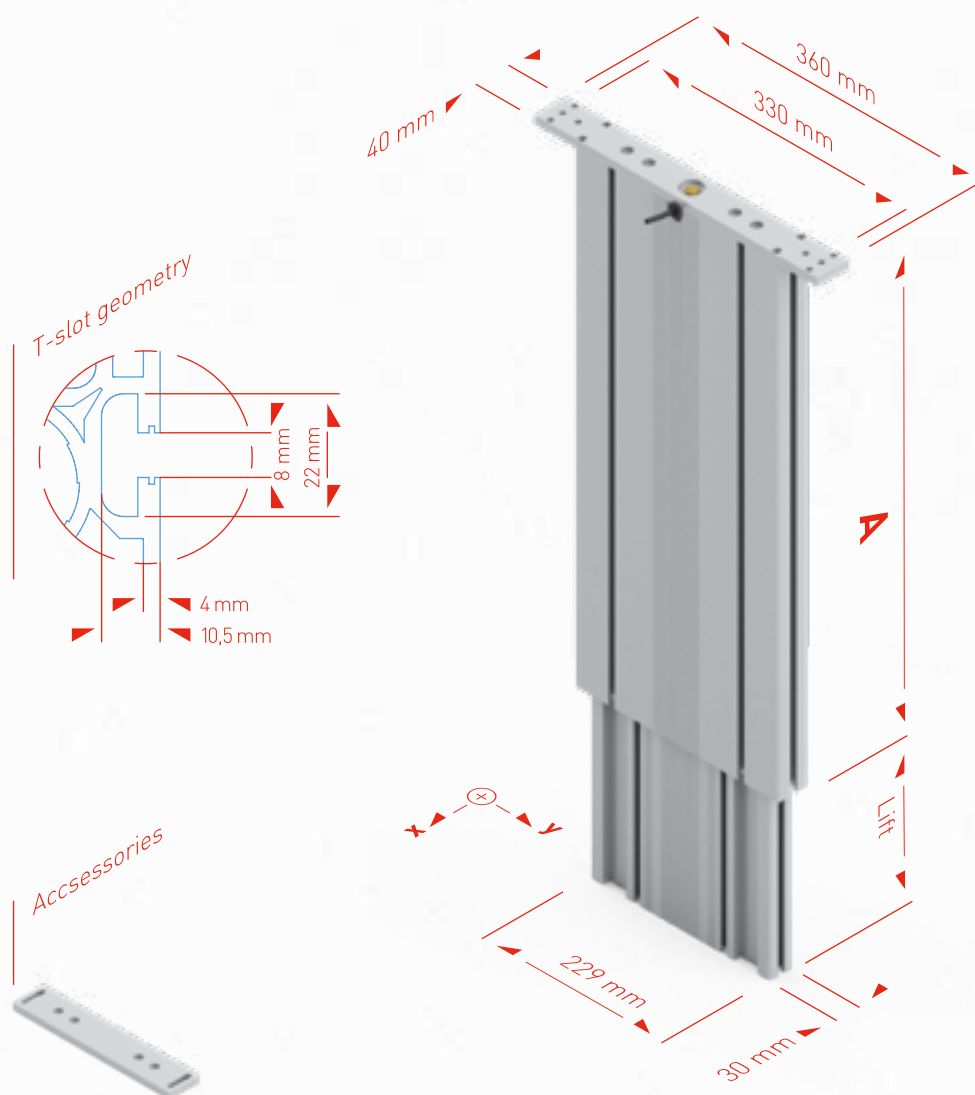
The 4-metre-long high-pressure hose is already mounted on the table leg and vented to ensure easy assembly.

The following accessories are available:

- telescopic crossbar



Dimensions of **TT**



Technical data

- Table leg for flexible use with sliding guide
- Max. load power per leg:
1500 N (**TT** 1440, **TT** 1430)
2500 N (**TT** 1840, **TT** 1830)
- Please also note the maximum load of the entire system
- Synchronous control of up to 10 table legs
- Lifting distance max. 400 mm
- Mb_x stat. = 1000 Nm*
Mb_y stat. = 300 Nm*
- Mb_x dyn. = 450 Nm**
Mb_y dyn. = 150 Nm**
- plain anodised aluminium
- Food grade hydraulic fluid

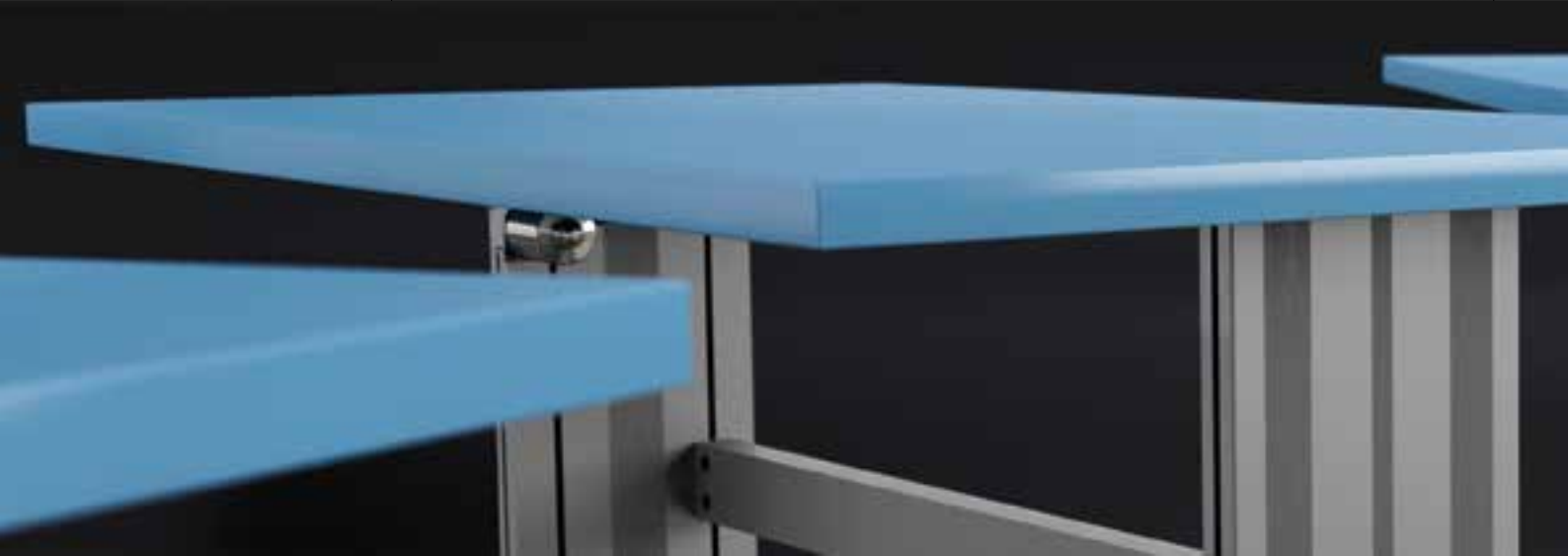
* Mb stat. = max. permissible bending moment at rest

** Mb dyn. = max. permissible bending moment during lifting movement

Table leg **TT**

	A
TT 1430	530 mm
TT 1440	630 mm
TT 1830	537 mm
TT 1840	637 mm

Base frame **TT**



Our base frame **TT** is designed for the fast and flexible assembly of tables.

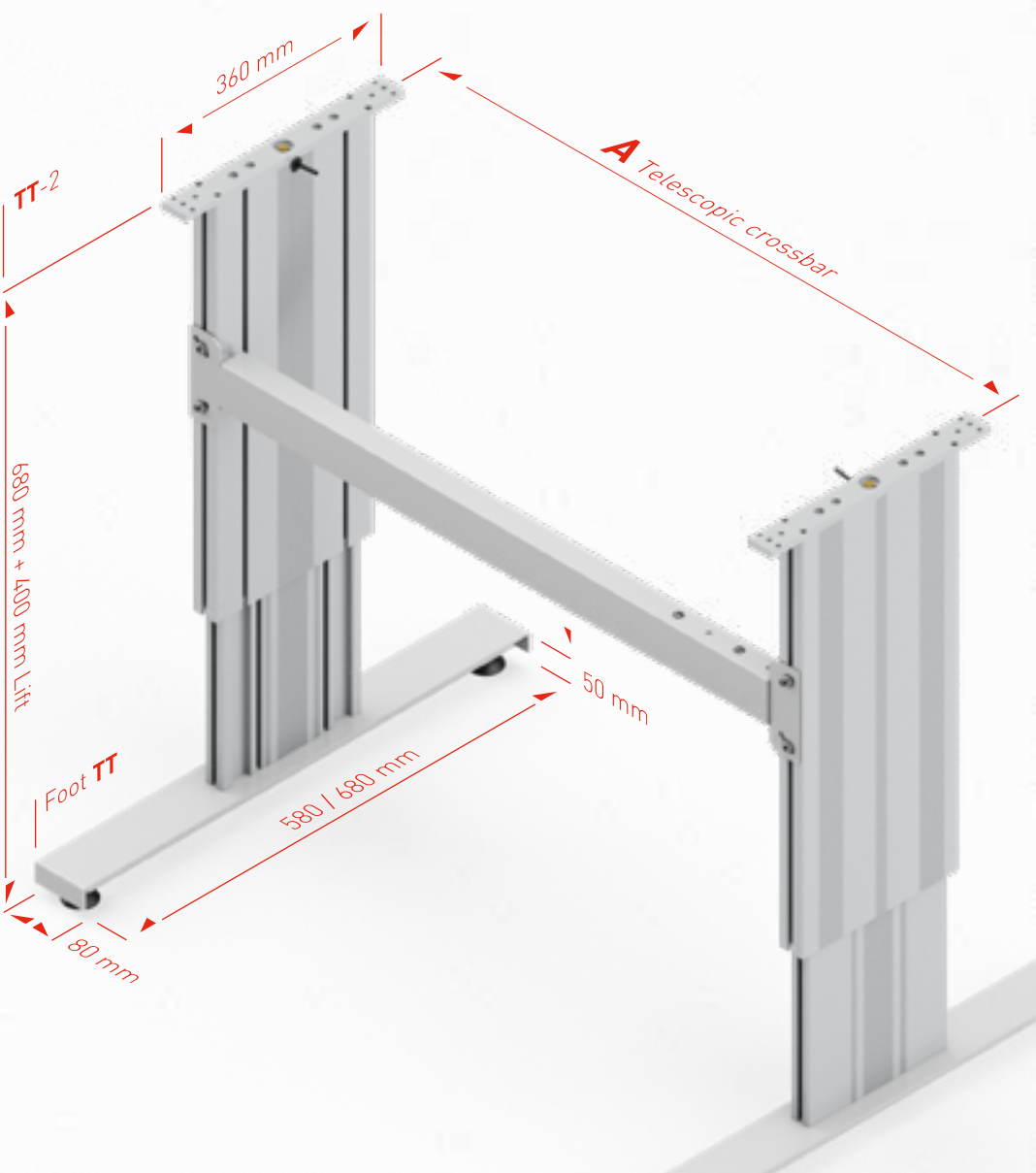
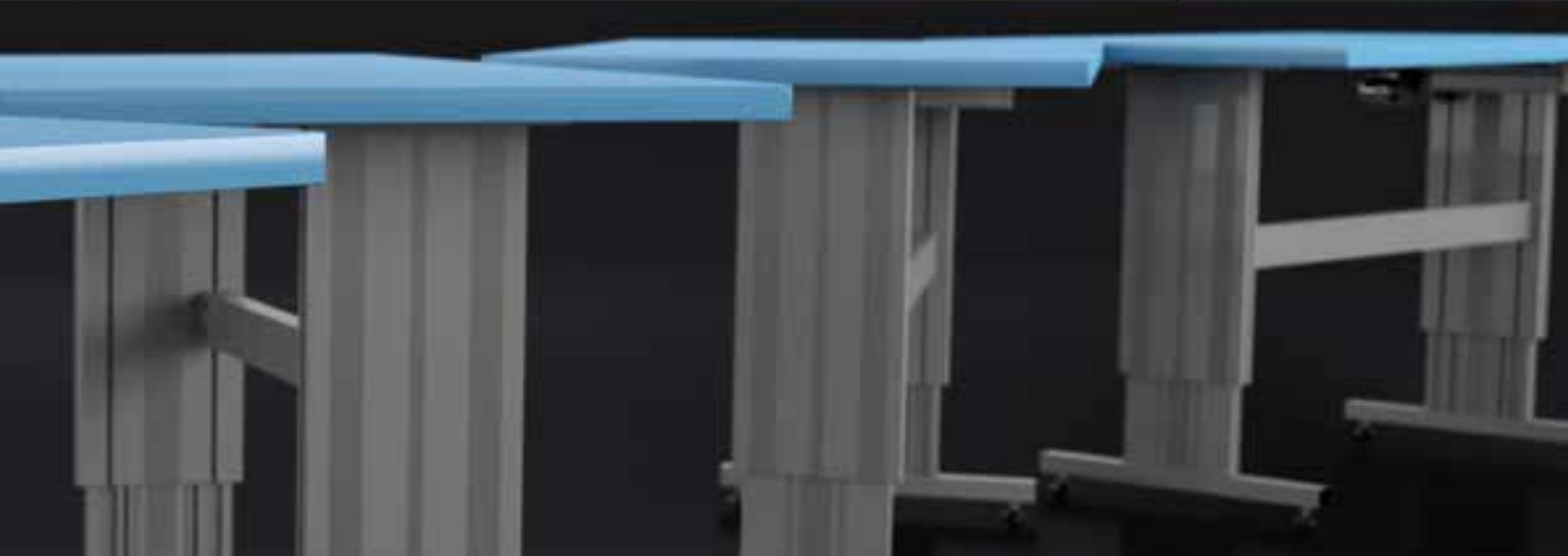
The maximum load power is 300 kg or 500 kg depending on the pump version. The max. height adjustment range is 400 mm.

The **TT-2** base frame consists of 2 table legs, a crossbar and 2 table feet. The crossbars slide easily into the grooves of the table legs and are fastened in place with an Allen key. Various screws to mount the table top are included with your order. The base frame is delivered unassembled.

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



Dimensions of base frame **TT**



Base frame TT-2	
	A
TT-2	940 - 1590 mm

The telescopic crossbar is adjustable in 50 mm increments.

The telescopic crossbar can be fitted directly on the outer slot using the slot nuts supplied.

Smaller dimensions are available on request.

Table leg **TQ**



Elegant and versatile

The table leg **TQ** is ideal for assembly work stations made from aluminium profiles and as a base for multi-leg conveyor lines.

The T-slots (width 8 mm) allow the addition of crossbars, shelves and other attachments and mountings along the entire length of the leg.

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

The 4-metre-long hydraulic hose is already mounted on the table leg and vented to ensure easy assembly.

The following accessories are available:

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



The table leg **TQ** consists of an extruded aluminium profile.

The guide tube is made of stainless steel and positioned in sliding bushings. The lifting movement is effected by hydraulic cylinders.

The crossbars are supplied with pre-fitted universal connectors. These can be pushed into the table legs and fastened in place with a conical screw connection.

Dimensions of **TQ**



Technical data

- Table leg for flexible use with sliding guide
- Max. load power per leg:
1500 N (**TQ 1440**)
2500 N (**TQ 1840**)
- The system power depends on the pump used
- Lifting distance max. 400 mm
- **TQ 1830 V** with built-in hose rupture protection
- Max. static bending moment $M_b = 200 \text{ Nm}$
- Max. dynamic bending moment $M_{b\text{dyn}} = 80 \text{ Nm}$
- Plain anodised aluminium
- Food grade hydraulic fluid

Crossbar **TQ**

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

Base frame **TQ**



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🌐 : www.awp.be



Our base frame **TQ** is designed for the fast and flexible assembly of tables.

The maximum load is 350 kg or 600 kg depending on the pump version. The max. height adjustment range is 400 mm.

The **TQ-4** base frame consists of 4 legs and 7 crossbars. The crossbars slide easily into the grooves of the table legs and are fastened in place with an Allen key.

Various brackets and screws to mount the table top are included with your order. The base frame is delivered unassembled.

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



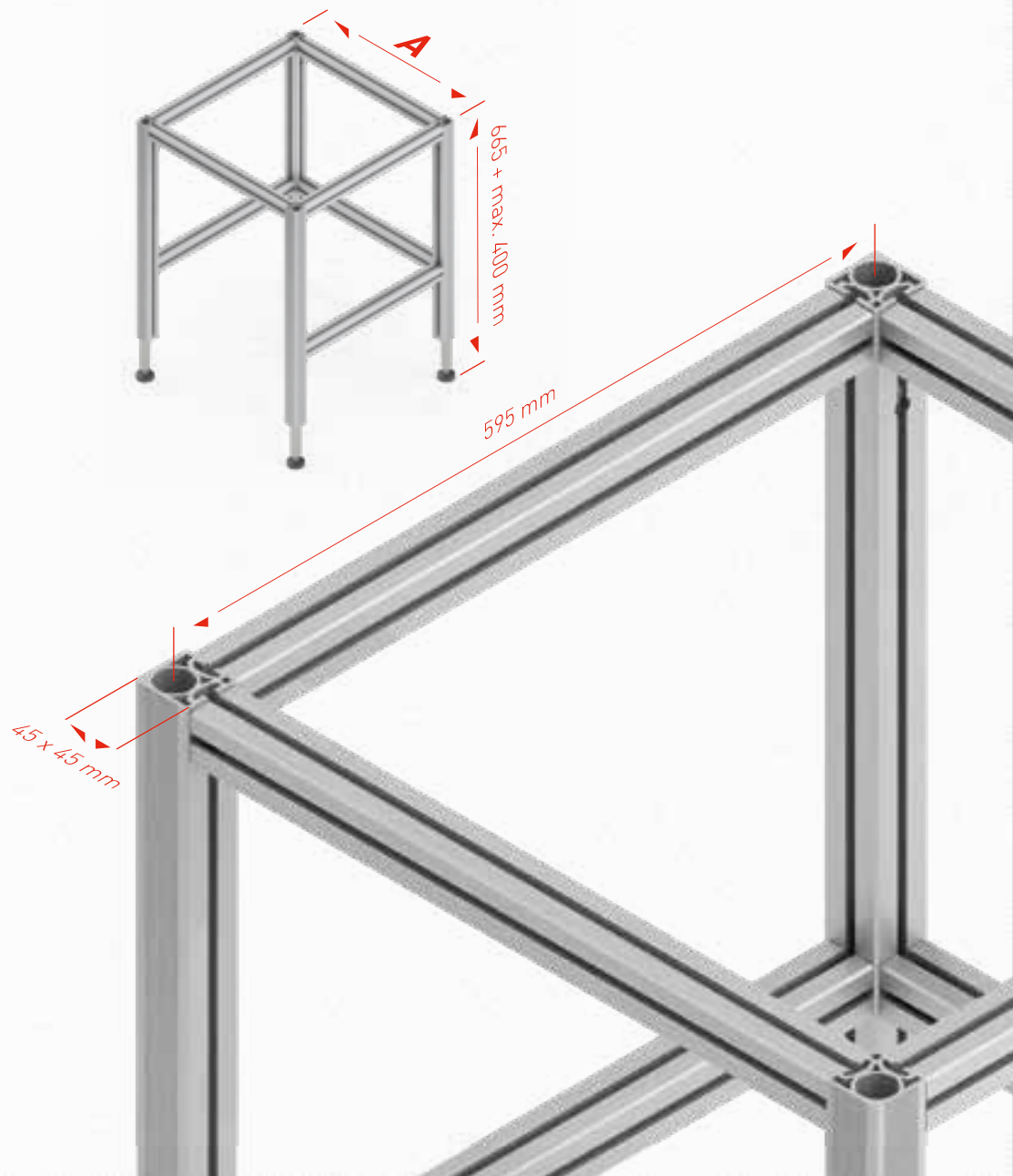
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Dimensions of base frame **TQ**



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

Table leg **TU**



Elegant and robust

The table leg **TU** is ideal for assembly work stations with high load and stability requirements.

Crossbars are fitted on the welded-on mounting plate.
The crossbars are supplied with all the necessary screws.

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

The table leg is also available with hose rupture protection.

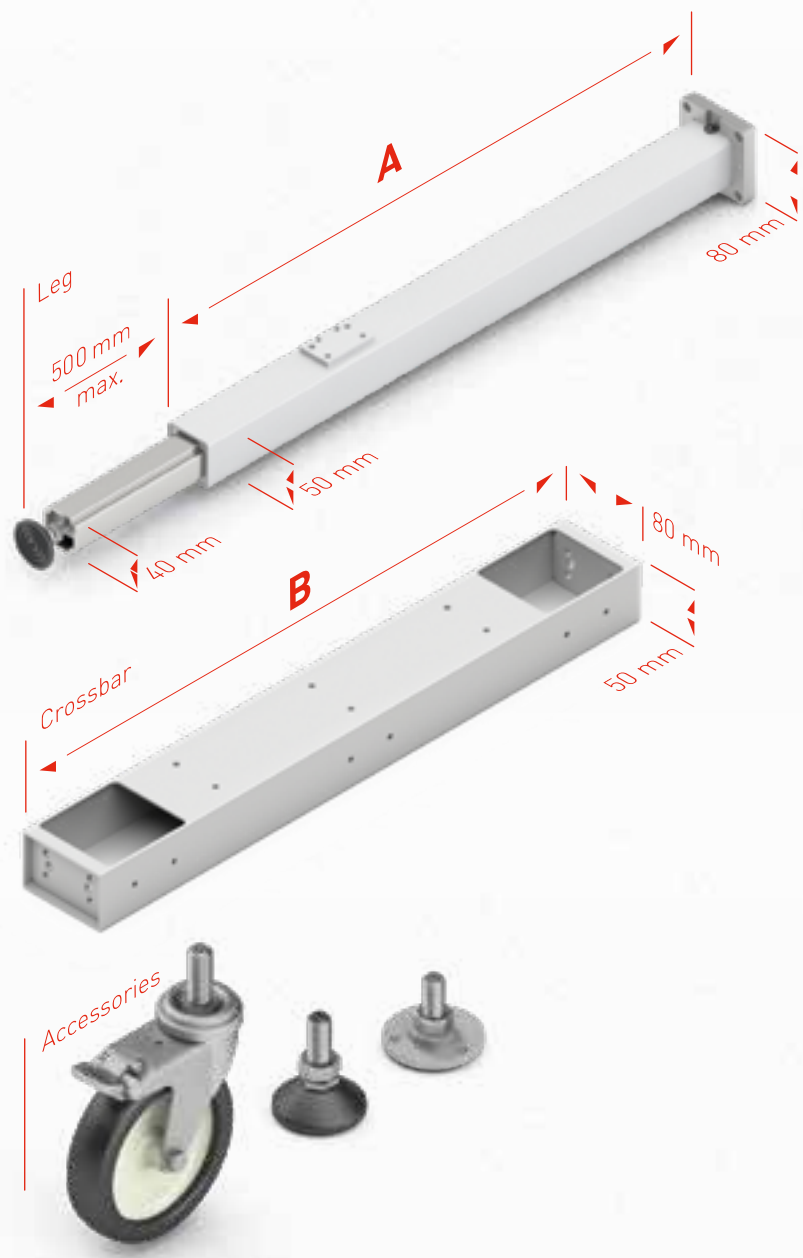
The 4-metre-long hydraulic hose is already mounted on the table leg and vented to ensure easy assembly.

The following accessories are available:

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

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

Dimensions of **TU**



Technical data

- Robust leg with ball track
- Max. load power per leg:
1500 N (**TU 1450**)
2500 N (**TU 1840**)
- The system power depends on the pump used
- Lifting distance max. 500 mm
- Max. static bending moment Mb = 350 Nm
- Max. dynamic bending moment Mbdyn = 150 Nm
- The leg is supplied with a 4-m hydraulic hose pre-fitted as standard
- Colour : RAL 9006 white aluminium
- Food grade hydraulic fluid

Table leg TU		
	A	Lift
TU 1450	710 mm	500
TU 1840	717 mm	400

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

Base frame **TU**



The base frame **TU** is very versatile and flexible thanks to its modular construction.

The maximum load power is 350 kg, 600 kg or 800 kg depending on the pump version. The max. height adjustment range is 500 mm.

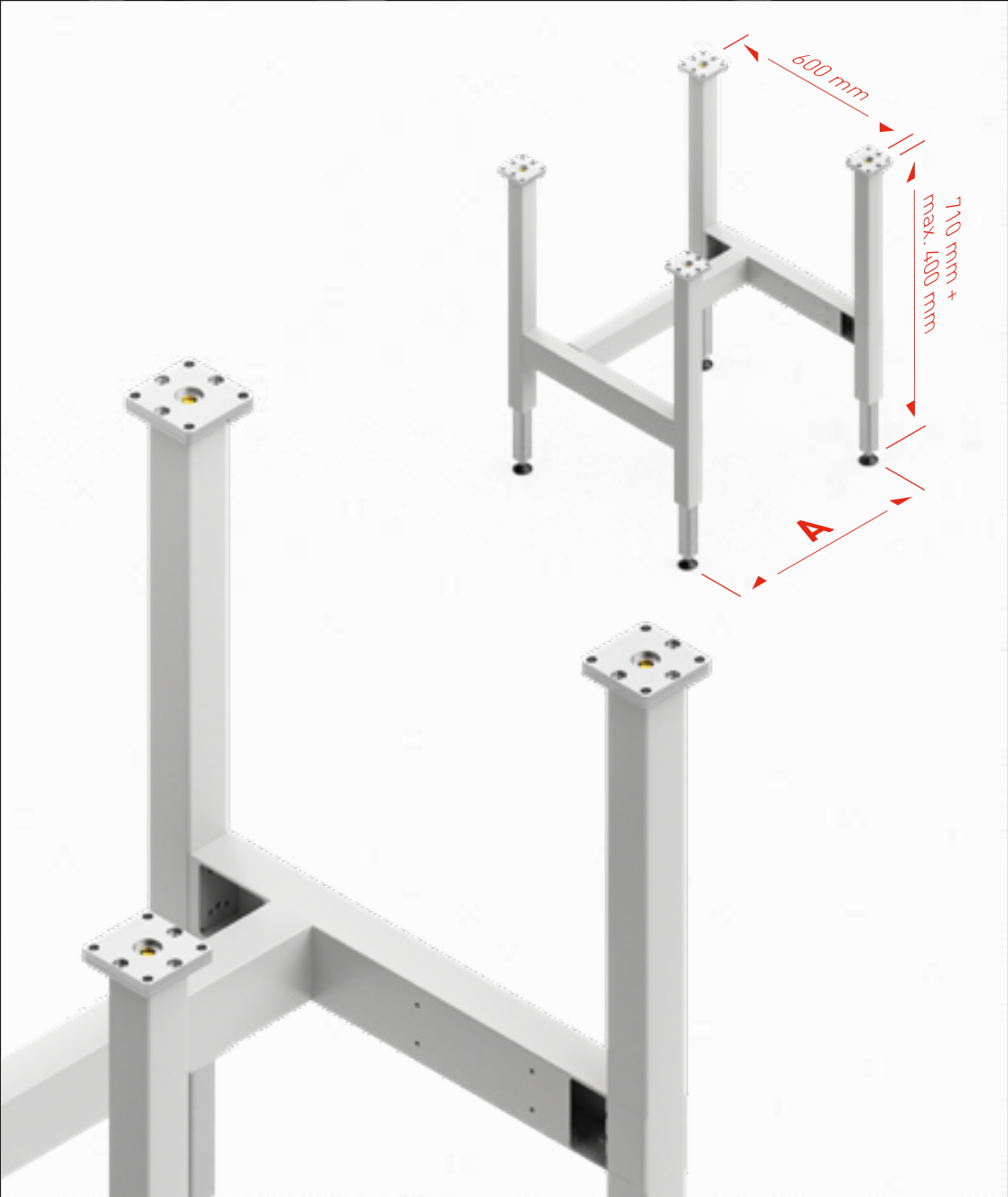
The **TU-4** base frame consists of 4 legs, a rear crossbar and 2 side crossbars. These are screwed on to the plate welded to the leg. Various screws to mount the table top are included with your order. The base frame is delivered unassembled.

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

Assembly and operating instructions are included with every delivery.



Dimensions of base frame **TU**



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

System selection Guidelines

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 power**

What is the maximum load you wish to move? (120 / 350 / 600 / 800 kg)

Please note:

- you must not exceed the maximum load per cylinder
- the weight of the table top and any superstructure must be deducted from the system power
- 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 technician, 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 bis 700 mm)

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, pump type F (**PF**) can drive between 3 and 4 cylinders and pump type B (**PB**) can drive between 5 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

350 kg	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 Lift	1415	–	PA 2815	PF 3815	PF 4815	PB 5815	PB 6815	PB 8815
200 mm Lift	1420	–	PA 2820	PF 3820	PF 4820	PB 5820	PB 6820	PB 8820
300 mm Lift	1430	–	PA 2830	PF 3830	PF 4830	PB 5830	PB 6830	PB 8830
400 mm Lift	1440	–	PA 2840	PF 3840	PF 4840	PB 5840	PB 6840	PB 8840
500 mm Lift	1450	–	PA 2850	PF 3850	PF 4850	PB 5850	PB 6850	PB 8850
600 mm Lift	1460	–	PA 2860	PF 3860	PF 4860	PB 5860	PB 6860	PB 8860
700 mm Lift	1470	–	PA 2870	PF 3870	PF 4870	PB 5870	PB 6870	PB 8870
Lift per crank turn		–	5 mm/U	5 mm/U	5 mm/U	5 mm/U	5 mm/U	5 mm/U
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	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 Lift	1815	–	PA 2820	PF 3820	PF 4820	PB 5820	PB 6820	PB 8820
180 mm Lift	1820	–	PA 2830	PF 3830	PF 4830	PB 5830	PB 6830	PB 8830
240 mm Lift	1830	–	PA 2840	PF 3840	PF 4840	PB 5840	PB 6840	PB 8840
300 mm Lift	1830	–	PA 2850	PF 3850	PF 4850	PB 5850	PB 6850	PB 8850
400 mm Lift	1840	–	PA 2866	PF 3866	PF 4866	PB 5866	PB 6866	PB 8866
Lift per crank turn		–	3mm / U	3mm / U	3mm / U	3mm / U	3mm / U	3mm / U
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	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 Lift	1815	–	–	–	PF 4418	PB 5418	PB 6418	PB 8418
180 mm Lift	1820	–	–	–	PF 4430	PB 5430	PB 6430	PB 8430
240 mm Lift	1830	–	–	–	PF 4440	PB 5440	PB 6440	PB 8440
Lift per crank turn		–	–	–	1.8 mm/U	1.8 mm/U	1.8 mm/U	1.8 mm/U
Lift per second with motor		–	–	–	5 mm/s	5 mm/s	5 mm/s	5 mm/s

* The maximum load is 300 kg when using two cylinders

** The maximum load is 500 kg when using two cylinders

¹ Cylinder **CB, CD, CE, CG, CH, CI**, linear unit **LA, LB, LD, LH, LG** or system **TA, TT, TQ, TU, TL, TM**

Please note the following maximum lifting distances of the various cylinder types:

System **LH**: 500mm | System **TT, TQ, TL, TM**: 400mm | System **TA, TU**: 500 mm