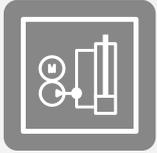


Lifting column type LICOS

Product documentation



Stroke H_{\max} :	600 mm
Nominal load trend (max):	2000 Nm
Swivel angle trend (max):	$-45^{\circ}/+30^{\circ}$
Swivel angle tilt (max):	$\pm 28^{\circ}$



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1 Overview Lifting column type LICOS

Lifting columns are fully pre-assembled systems comprising a hydraulic power pack, controller, actuators and guide system for all required movements and supplementary functions of medical equipment. Standardised hydraulic components enable lifting columns to perform a greater range of functions and improve functional reliability.

The type LICOS lifting columns are characterised by a tailored balance of torsion resistance, required package space and flexibility. All versions are fully operational ex works and undergo comprehensive testing before delivery. You can use them straight off the bat. The basic version includes mechanics and hydraulics for the three basic movements: stroke, trend, tilt.

The hydraulic system can be expanded with up to five additional movements (e.g. leg and back section, longitudinal adjustment, table fixing, kidney bridge and fifth wheel).

Features and advantages

- Leak-free and lowest maintenance
- High torsion resistance
- Manual emergency operation
- Compact design
- Low installation height

Intended applications

- Operating tables
- Dentist's chairs



Lifting column type LICOS 600



Lifting column type LICOS 600 max

2 Available versions

Ordering example



2.1 Basic type and size

Type	Stroke (mm)	Installation height (mm)	Nominal load trend (Nm)	Centric compression force (N)
LICOS 360	360	550	-1400 / +1400	4500
LICOS 500	500	470	-1600 / +1500	4500
LICOS 600	600	438	-2000 / +1500	5000
LICOS 600 max	600	438	-2000 / +1500	5000

NOTICE

- Type LICOS 360, 500 and 600:**
 From a trend angle of $< -38^\circ$, the inclination (tilt) has to be limited by the electronic system.
- Type LICOS 600 max:**
 No limitation with regard to trend and tilt angles in combination due to special design.

2.2 Trend angle

Coding	Trend angle
1	$-45^\circ / +30^\circ$
2	$\pm 35^\circ$

2.3 Tilt angle

Coding	Trend angle
1	$\pm 28^\circ$
2	$\pm 20^\circ$

3 Parameters

3.1 General data

Model	Lifting column
Material	Guide profiles made of aluminium
Attachment	By means of screws on the base plate and in the external frame, see installation instructions
Installation position	Vertical
Speed	Up to 20 mm/s for lifting movement
Duty cycle	20% duty cycle S3
Nominal voltage	24 V DC (variants on request)
Design	According to DIN EN 60601-2-46
Hydraulic fluid	Mineral oil, already filled
Temperatures	Operation: +10 to +40°C Storage: -25 to +60°C

3.2 Weight

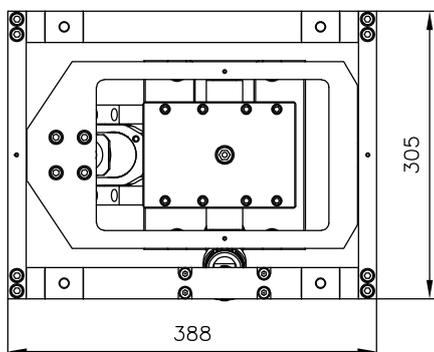
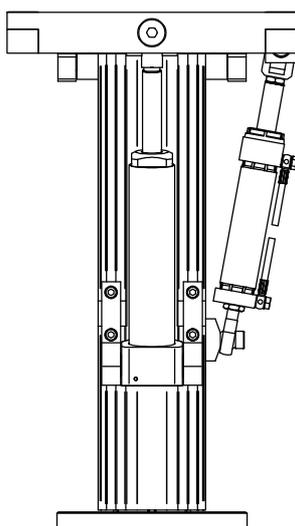
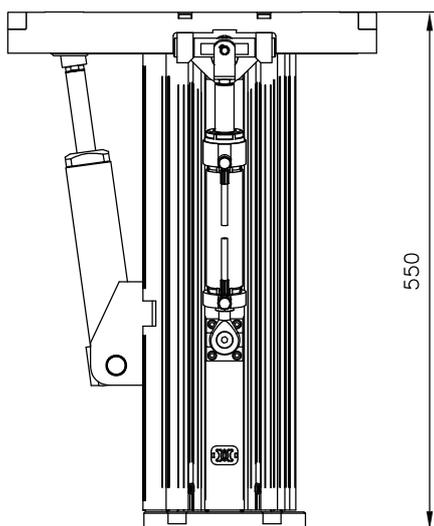
Basic version with 3 functions, incl. hydraulic system	Type	
	LICOS 360	= 50 kg
	LICOS 500	= 65 kg
	LICOS 600	= 70 kg
	LICOS 600 max	= 70 kg

4 Dimensions

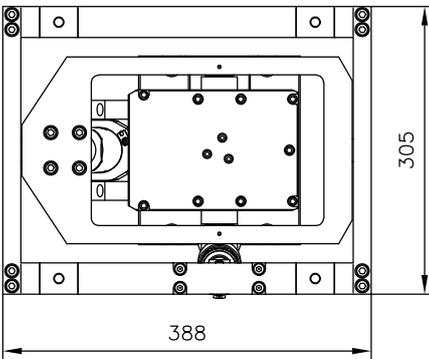
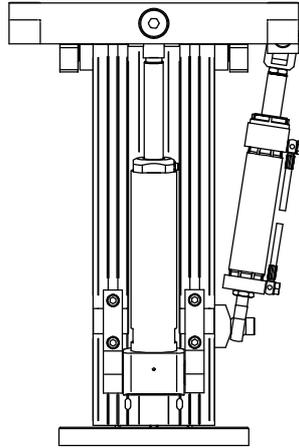
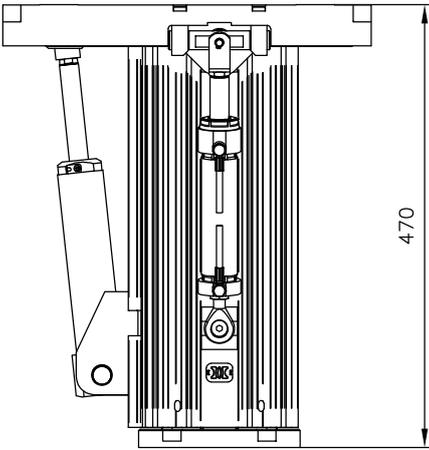
All dimensions in mm, subject to change.

Tolerances: ± 2 mm

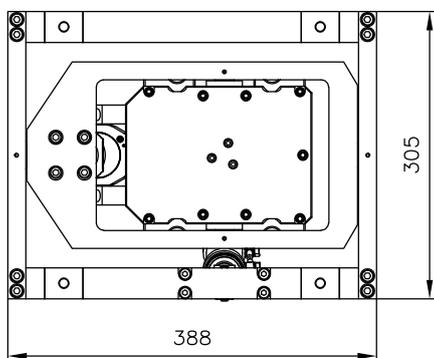
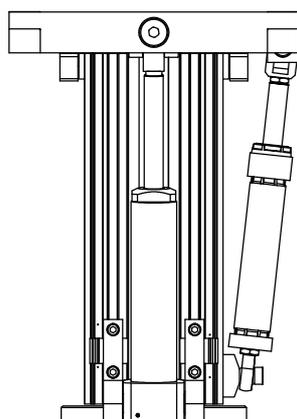
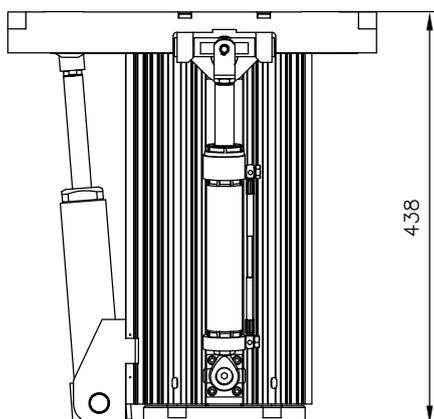
4.1 LICOS 360



4.2 LICOS 500



4.3 LICOS 600



Observe the document B 5488 "General operating instructions for assembly, commissioning, and maintenance."

5.1 Intended use

This product is intended exclusively for hydraulic applications (fluid technology).

The user must observe the safety measures and warnings in this document.

Essential requirements for the product to function correctly and safely:

- ▶ All information in this documentation must be observed. This applies in particular to all safety measures and warnings.
- ▶ The product must only be assembled and put into operation by specialist personnel.
- ▶ The product must only be operated within the specified technical parameters described in detail in this document.
- ▶ All components must be suitable for the operating conditions when using an assembly.
- ▶ The operating instructions for the components, assemblies and the specific complete system must also always be observed.

If the product can no longer be operated safely:

1. Remove the product from operation and mark it accordingly.
 - ✓ It is then not permitted to continue using or operating the product.

5.2 Assembly information

The product must only be installed in the complete system with standard and compliant connection components (screw fittings, hoses, pipes, fixtures etc.).

The product must be shut down correctly prior to disassembly (in particular in combination with hydraulic accumulators).

DANGER

Sudden movement of the hydraulic drives when disassembled incorrectly

Risk of serious injury or death

- ▶ Depressurise the hydraulic system.
- ▶ Perform safety measures in preparation for maintenance.

5.3 Operating instructions

Observe product configuration and pressure/flow rate.

The statements and technical parameters in this document must be strictly observed.

The instructions for the complete technical system must also always be followed.

NOTICE

- ▶ Read the documentation carefully before usage.
- ▶ The documentation must be accessible to the operating and maintenance staff at all times.
- ▶ Keep documentation up to date after every addition or update.

CAUTION

Overloading components due to incorrect pressure settings.

Risk of minor injury. Parts may burst or fly off, and uncontrolled leakage of hydraulic fluid.

- Pay attention to the maximum operating pressure of the pump, valves and fittings.
- Always monitor the pressure gauge when setting and changing the pressure.

Purity and filtering of the hydraulic fluid

Fine contamination can significantly impair the function of the product. Contamination can cause irreparable damage.

Examples of fine contamination include:

- Swarf
- Rubber particles from hoses and seals
- Dirt due to assembly and maintenance
- Mechanical debris
- Chemical ageing of the hydraulic fluid

! NOTICE

New hydraulic fluid from the manufacturer may not have the required purity.

Damage to the product is possible.

- ▶ Filter new hydraulic fluid to a high quality when filling.
- ▶ Do not mix hydraulic fluids. Always use hydraulic fluid that is from the same manufacturer, of the same type, and with the same viscosity properties.

For smooth operation, pay attention to the cleanliness level of the hydraulic fluid (cleanliness level [see Chapter 3, "Parameters"](#)).

Additionally applicable document: [D 5488/1](#) oil recommendations

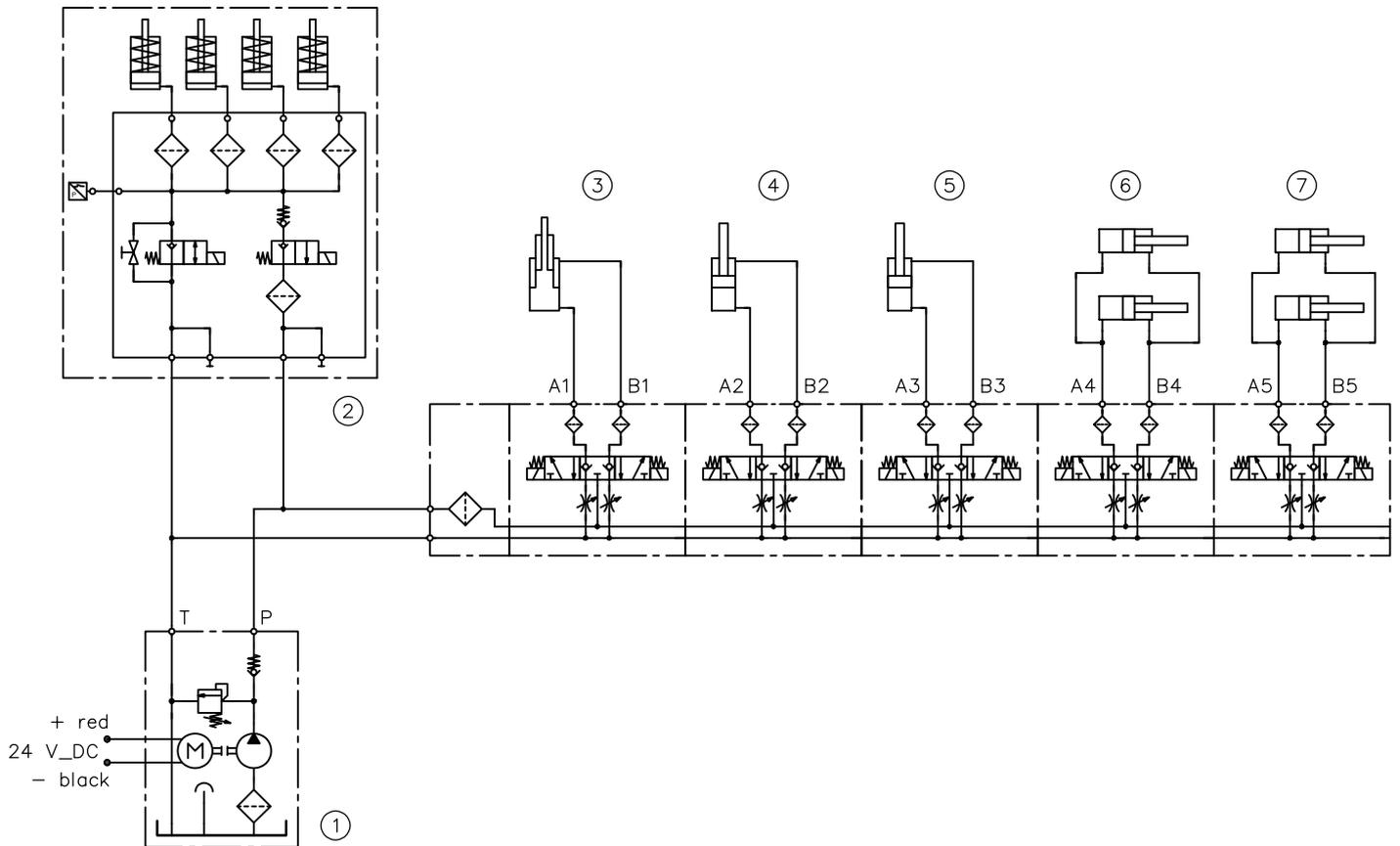
5.4 Maintenance information

Check regularly (at least once a year) by visual inspection whether the hydraulic connections are damaged. If external leakages are found, shut down and repair the system.

Clean the surface of the device regularly (at least once a year) (dust deposits and dirt).

6 Other information

6.1 Example configuration



- 1 Hydraulic power pack
- 2 Table fixing
- 3 Height
- 4 Trend
- 5 Tilt
- 6 Back section
- 7 Leg section

6.2 Additional equipment

Expansion of the hydraulic system with up to five additional functions for movements, for example:

- Back section
- Leg section
- Kidney bridge
- Longitudinal adjustment
- Table fixing
- Fifth wheel

Standard components from the HAWE range are available for this

- Differential cylinder LVM
- Root cylinder LF16
- Valve banks SL1, SLC1 and TLC3
- Hose lines H3

References

Additional versions

- The lifting column type LICOS replaces the models CTL, CCL and CHL in the long term.

Expansions

- Differential cylinder type LVM: D 6053
- Valve bank (directional seated valve) type SLC: D 6033-1
- Valve bank (directional seated valve) type TLC 3: D 6020 TLC 3
- High Pressure Hose type H3/H4: D 6027

