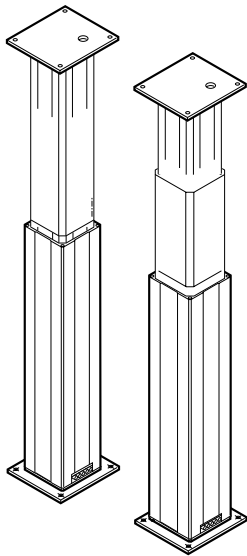


# Telemag TGC/THC/TLC

Telescopic pillars



*Read this manual before installing, operating or maintaining this actuator. Failure to follow safety precautions and instructions could cause actuator failure and result in serious injury, death or property damage.*



## Technical Instructions

# Telemag TGC/THC/TLC Telescopic column AC

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### Reference standards:

EN 60601-1  
EN 60601-1-2  
UL 2601

Magnetic Elektromotoren AG  
Oristalstrasse 97  
CH-4410 Liestal  
Phone +41/ 61/ 925 41 11  
Fax +41/ 61/ 921 37 04  
e-mail sales@magnetic.ch

# 1 General

## 1.1 Using the Technical Instructions

The Technical Instructions are intended for designers or technicians who use the Telemag telescopic actuator (referred to below as Telemag) in their products and for fitters working with the Telemag. The Technical Instructions contain all relevant information on this Magnetic product.

We reserve the right to make changes which are in the interest of technical progress.

Please read the Technical Instructions carefully and, above all, pay careful attention to the Safety Instructions.

The Technical Instructions should be used for drawing up the User Manual for the end product.



*This symbol is used to indicate operations and states which could endanger life and limb.*



*This symbol provides the user with useful information.*



*Where eccentric loads are involved, the permissible maximum load decreases. Please observe the permissible load on the load diagram contained in the datasheet. If an eccentric overload occurs, the actuator can be damaged. The load can tip sideways.*



*The Telemag telescopic actuator must not be operated in an explosive atmosphere.*



*For transport purposes, the Telemag can be loaded with a pull force of up to 50 kg for a short period.*



*The maximum centric load specified on the data label and the permissible eccentric load specified in the transverse load diagram must not be exceeded. A push actuator must never be used to pull. The actuator may be destroyed if these instructions are not observed.*



*If the duty cycle is too long, a temporary malfunction may occur.*

## 1.2 Explanation of symbols

The symbols opposite are used in the Technical Instructions to highlight possible dangers and important notes.

## 1.3 Correct use

The Telemag has been designed specifically for adjusting equipment carriers, lifting tables, chairs and office furniture which comply with standards EN 60601-1, EN 60601-1-2 and UL 2601.

The Telemag should only be subjected to compressive loads. It is only suitable for indoor use and must not be subjected to the elements.

For pull applications, specially equipped pull version actuators are available. Specify the direction of load when ordering. The unit must not be converted or modified.

## 1.4 Ambient conditions

### Operation

- Temperature 10 °C to 40 °C
- Humidity max. 85%

### Storage / transport

- Temperature -20 °C to 40 °C
- Humidity max. 95%

### Operating mode

See Technical Datasheet.

The actuator has been designed for intermittent operation. If a higher duty cycle is required, contact Magnetic AG, Liestal.

## 2 Function

### 2.1 General function

The Telemag is an electrical linear actuator which uses virtually play-free guide tubes. It has been designed for holding and moving centric and eccentric loads.

An AC motor drives a threaded nut that is fastened in the rotor shaft. This nut then runs up and down the torsionally rigid threaded spindle, which thereby generates the feed motion. The telescopic tubes are retracted and run out depending on the direction of the motor.

The AC motor is operated as a capacitor motor on a single-phase AC voltage network.

### 2.2 Construction

The Telemag is fitted with a thermal fuse. The thermoswitch integrated into the motor winding switches the actuator off if the temperature becomes excessive. After cooling down, the thermoswitch is reactivated automatically.

#### Control unit

The Telemag telescopic actuator is controlled by external pneumatic control devices, an electrical cable via which the motor's direction of rotation is controlled externally, or via a low-voltage interface using an electrical handswitch or footswitch.

Feeding and control of the actuator is possible at either the top or the bottom as standard. This cable feedthrough is permitted for 230 V, 6 A.

The Telemag has extensive protection against faults. First failure safety cannot be ensured, however, since unpredictable faults – e.g. to a control device – can result in slow, uncontrolled movements.

#### Terminal-position shutdown

The stroke of the Telemag is limited by the integrated limit switches. These switch off the actuator.

## 3 Installation and startup

### 3.1 Scope of delivery

The Telemag consists of:

- the complete lifting column (guide tube with colourless anodised finish)
- Plug housing with socket element for connection at bottom
- Socket element for connection at top
- Closure piece

#### Options

- Low-voltage control unit
- Pull version

#### Accessories

- Handswitch, deskswitch, footswitch (Comfodesk)



*The first failure safety of the overall system must be checked in the end product in order to rule out risks to life/limb and property.*

- Mounting plates (colourless anodised finish)
- Fastening screws

### 32 Connections

**i** Protection class I applies for the Telemag. The external and internal aluminium tubes have a protective conductor connection.

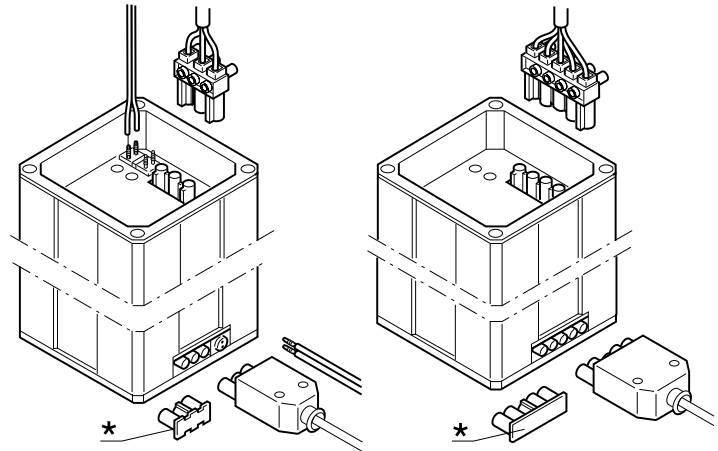
**i** L1 = "Up" phase  
 L2 = "Down" phase  
 L = Phase conductor connection  
 N = Neutral conductor connection  
 ⊕ = Protective conduction connection

**!** The strain relief **MUST** be fastened in the plug housing.

**!** Ensure that only one power cable is connected (either top or bottom) at any one time. Otherwise the actuator may be damaged.  
 Risk of electric shock!

**!** The L1 and L2 switch contacts must both be locked in position.

**!** The mains connection must be fused by the customer.



① Connection for pneumatic control    ② connection for electrical control unit

Fig. 1 – Connections

For top connection: Always lock the plug at the bottom using the closure piece\* ! The plug socket or closure piece must click audibly into position.

The Telemag has marked connections for mains + operation either at the top or at the bottom.

#### Connecting the power cable / control device

Connect the power cable to the connection provided as shown in Fig. 1.

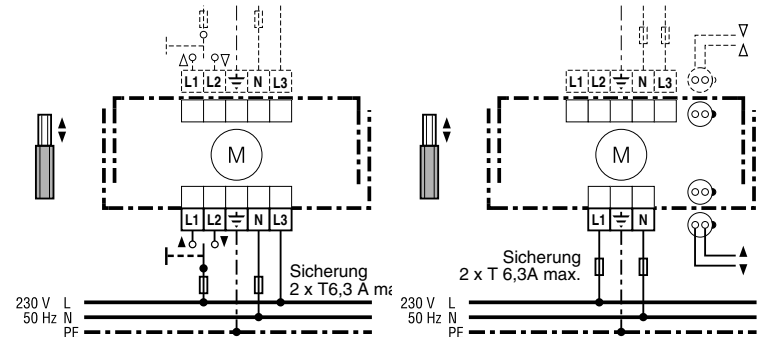






Fig. 2 – Connection diagram  
 (pay particular attention to how the wires are assigned!)

#### Strain relief

 *Electric cables should not be exposed to the risk of pinching, or to bending or tensile loads.*

 *Only use the screws recommended (Quality 10.9, TGC 12.9). Observe the minimum screw-in depth and the torque specified on the datasheet.*

 *When using your own fastening plates, you must ensure that the auxiliary plates are supported over their entire surface - this will distribute the force over the entire area. Otherwise, there is a risk of the auxiliary plates fracturing.*

 *During installation, ensure that no objects or parts of the body are trapped between the fastening plate of the internal tube and the outer tube during retraction. Danger of crushing!*







You must ensure that the configuration provides sufficient strain relief for all connected cables.

### 3.3 Installation

The Telemag can be secured to either Magnetic mounting plates (see 3.1 Accessories) or the customer's own plates.

- ▶ Remove the transportation screws (4 pcs.)
- ▶ Fasten the mounting plates onto the aluminium tubes using the four bores (auxiliary plates are fitted to the end faces of the outer tube).

	THC External tube inst.	THC Internal tube inst	TLC	TGC External tube inst.	TGC Internal tube inst
Screw	4 x M6x25	4 x M6x20	4 x M10x30	4 x M6x22	4 x M5x15
Screw-in depth	min. 17 mm	min. 17 mm	min 25 mm	min.12	min. 10 mm
Strength class	10.9	10.9	10.9	10.9	10.9
Tightening torque	9 Nm	9 Nm	40 Nm	9 Nm	5 Nm

-  *When the actuator is being moved, ensure that physical objects (e.g. furniture) or parts of the body cannot become trapped.*  
*Risk of personal injury!*
-  *If the actuator is to be controlled directly, an encoder must always be used to prevent accidental movement of the actuator.*  
*Risk of personal injury!*
-  *No more than one Telemag may be used for parallel operation.*  
*Never connect multiple actuators to a single two-way contact.*  
*The operating speed is a function of the load. Where loads are uneven, the actuators can buckle and be destroyed. When uneven speeds are used, the limit switches can also be bypassed, leading to some actuators overshooting the terminal position.*
-  *Telemag units may only be opened and worked on by the Magnetic Customer Service!*
-  *Check the base plates and power cable at periodic intervals (twice yearly) for mechanical damage (cracks).*
-  *Ensure that no liquids are allowed to penetrate the connections! The actuator could be damaged by liquid entering it.*  
*The actuator is not suitable for automatic washing systems.*

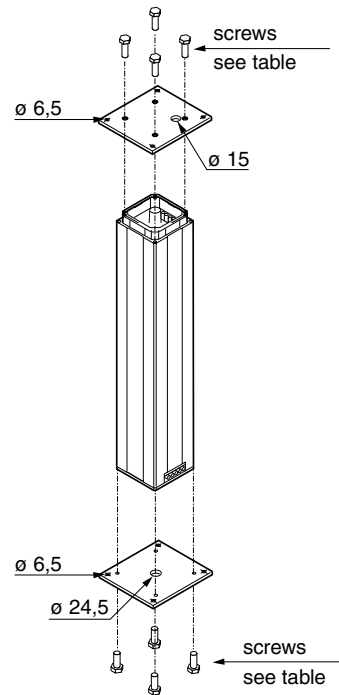


Fig. 3 – Installation

Any subsequent fastening bores in the aluminium tubes may only be made by Magnetic.

The sides of the tubes must not be scratched, otherwise the tube guide will be damaged. This can result in malfunctions.

### 3.4 Startup

The lifting column is ready for operation once the correct electrical and mechanical connections have been made.

## 4 Operation

The actuators can be operated with various control devices, depending on the requirements (see 3.1 Accessories).

### 4.1 Controlling an actuator

The actuator is controlled in accordance with the connection diagram (see point 3.2).

The actuator moves until you release the button or have reached a terminal position.

## 5 Maintenance and care

### 5.1 Maintenance

The Telemag has been designed for a service life of 30,000 double strokes of length 300 mm (this applies for a maximum centric load as per the data label).

The Telemag requires no maintenance during this period.

In-house tests must be performed if other requirements relating to service life are specified.

### 5.2 Care

#### Protection from water, cleaning, disinfecting

Degree of protection IP30 is only achieved if the device is installed correctly in the end product.

If an actuator becomes dirty, it should be cleaned immediately in order to prevent the accretion of residues!

Use a damp cloth and water with a little isopropyl alcohol for manual cleaning.

Washing water with chemical additives must be pH-neutral. Excessively acidic or alkaline washing water can permanently damage the metal and plastic components of the actuator.

High-pressure steam cleansing equipment must not be used.

### 5.3 Warranty

Assuming that the operating conditions are complied with and units have no mechanical damage resulting from incorrect handling, a warranty of 12 months from the date of delivery will apply for all mechanical and electrical components.

### 5.4 Disposal

Actuators may be returned to Magnetic AG, Liestal, for disposal.

### 5.5 Liability

In every case, the owner or operator of the unit shall be liable for its correct functioning if it has been incorrectly installed, maintained or repaired by persons who are not employed by the Magnetic Service Department or if the unit has not been used in accordance with the specified application.

Magnetic Aktiengesellschaft shall not be liable for any damage resulting from failure to observe these instructions. These instructions shall not be regarded as an extension of the warranty and liability terms set out in the Conditions of Sale and Supply of Magnetic Aktiengesellschaft.

### 5.6 Technical data

Technical data see type plate.

The manufacturer reserves the right to modify technical data, without any special notification, in order to keep pace with advances in technology. Magnetic AG, Liestal, will be pleased to provide information about current specifications, possible changes or extensions.



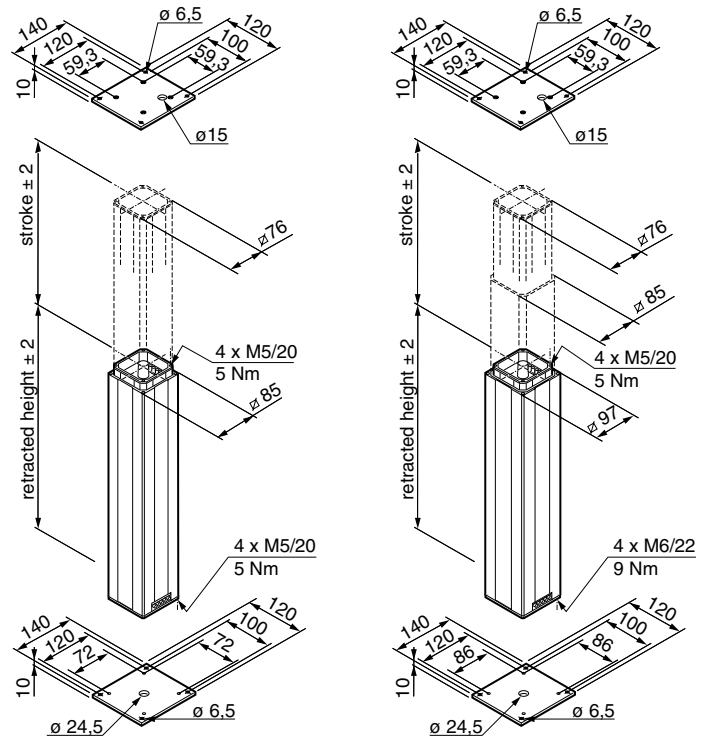


Fig. 4 - Dimensions TGC

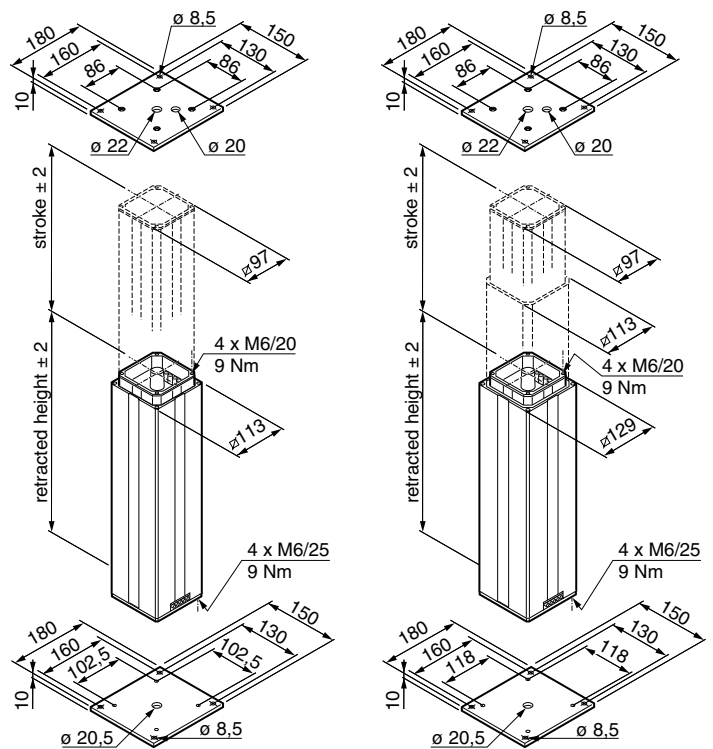


Fig. 5 - Dimensions THC



**Important!**

Any work on the units and connections may only be undertaken when the mains plug has been disconnected.

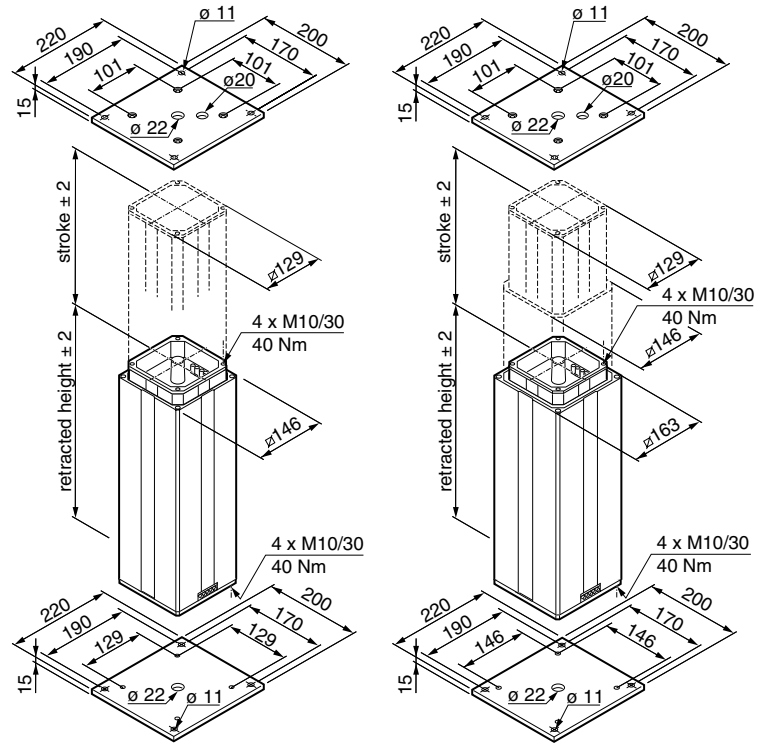


Fig. 6 - Dimensions TLC