

Intelligent linear actuator ILD

Description

"ILD" stands for "Intelligent Linear Drive". ILD actuators are especially suitable for industrial applications with heavy loads. The core of the unit consists of a brushless EC motor triggered by an electronic power component. Three hall-generator sensors monitor the position of the rotor. This information is processed on the one hand to regulate the motor; on the other hand, this information also forms the basis for many function parameters such as speed, acceleration, direction of movement, position and stroke counting. A spur wheel gear transfers the rotative energy to a threaded drive. The nut is firmly connected to the aluminium thrust tube and secured to prevent it twisting. The actuator is available in various force/speed variations. The mechanical components are rated with a safety factor $S=4^*$ at 50 % or $S=2$ at 100 % force. The maximum self-locking device corresponds to the static load. Particularly for areas where people are at risk there is an optional safety trap element. The actuators can be equipped with standard stroke lengths of 200 to 700 mm in graduations of 100 mm. Longer strokes on request. In the standard version, the drive is equipped with integrated end position sensors. These can be combined with additional forced opening safety end switches and/or 2 user sensors. These can be easily adjusted at the head end at the

thrust tube outlet. The actuator is operated with mains voltage 230 VAC/50 Hz. In the case of mains failure, the actuator can be adjusted by hand by means of a shaft and special key. The following electronic parameters can be pre-adjusted by push button, mode switch and potentiometer, or by diagnosis software: rapid speed, creeping speed, braking and acceleration ramp. In addition, electronic movement range limits and 4 intermediate positions can be programmed. When the load direction remains the same, absolute repetition accuracy of 0,1 mm is possible. Internal sensors monitor temperature and motor current, and compare the actual and target stroke. The most important functions and signals can be selected or retrieved via the digital inputs and outputs.

Electrical connection

The electrical connection may only be completed by trained qualified electricians. Mains connection, signals and/or bus cables are routed through the 2 screw cable gland.

Installation

The actuator is fastened at the front at the ball screw eyelet, and at the back either on the fastening eyelet on the gear or at the pivot bushes integrated in the cast material. The attachment eyelets rotate fully. The load being move must act



centrally on the thrust tube. Lateral loads are not allowed. Electrical cables are to be routed in such a way that there is no possibility of any damage from crushing, bending or tensile strain. On commissioning the actuators, the instructions are to be observed (see operating manual). The factory is to be consulted in the case of critical applications. It is the user's responsibility to safeguard applications involving a risk to people.

Maintenance

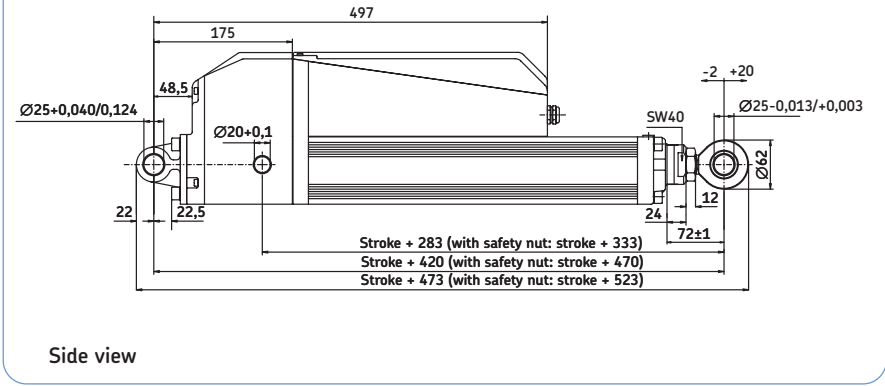
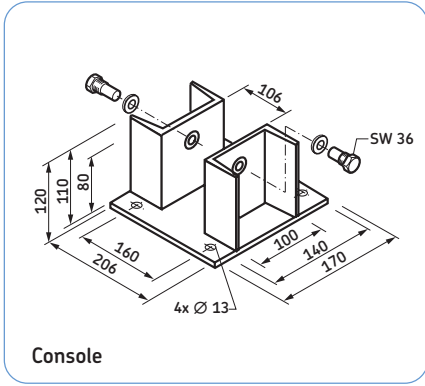
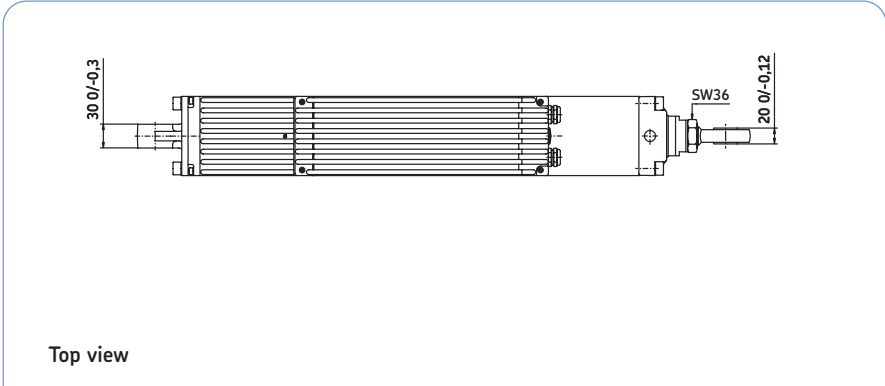
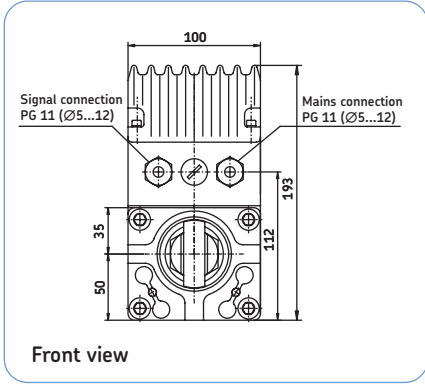
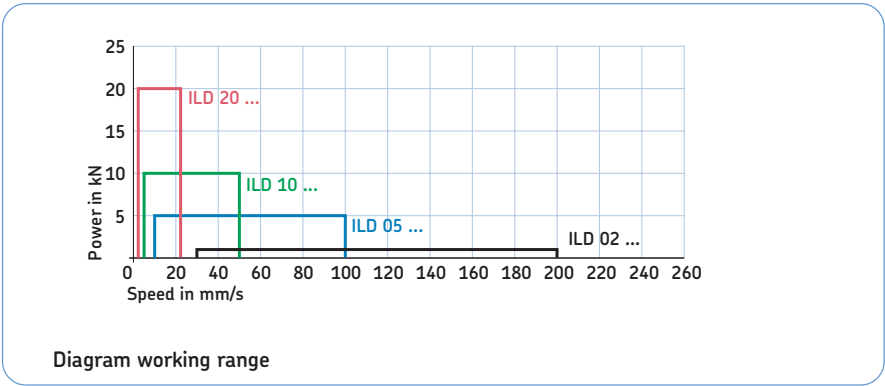
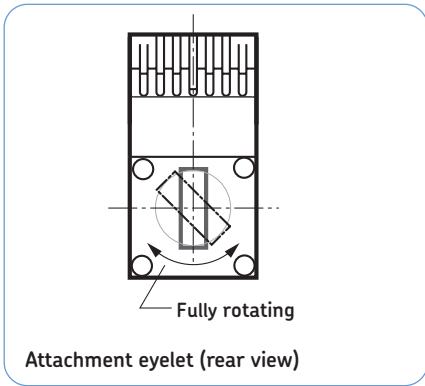
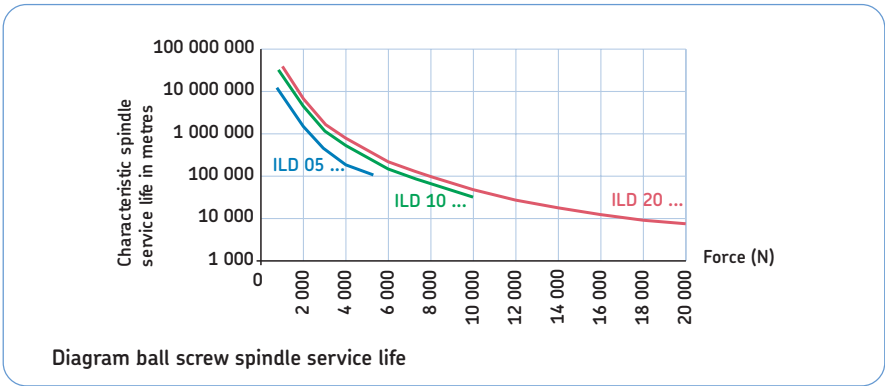
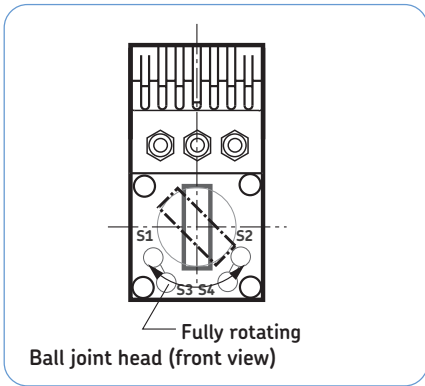
The actuator is maintenance-free. The service life of the actuator depends on the particular use (e.g. temperatures, forces, distances moved, cycles and environmental conditions) and must be ascertained by the user as the case may be. Defect actuators may only be opened and serviced here in our factory.

* $S=4$ in medical applications

Technical data:	Unit	ILD 02	ILD 05	ILD 10	ILD 20
Tensile/pressure force	kN	2	5	10	20
Static load	kN	2,5	6	12	25
Thrust speed fully adjustable	mm/s	25 to 200	10 to 100	5 to 50	2,5 to 25
Stroke length	mm	up to 700	up to 700	up to 700	up to 700
Voltage single phase	V/50 Hz	230	230	230	230
Power consumption	W	1 100	1 100	1 100	1 100
Current consumption	A	ca.6	ca.6	ca.6	ca.6
Switch-on duration under rated load (SD 10 min)	%	20	20	20	20
Ambient temperature	°C	-10 to +40	-10 to +40	-10 to +40	-10 to +40
Insulation class	-	I	I	I	I
Protection class	IP	54	54	54	54
Weight (for 200 mm stroke)	kg	approx. 20	approx. 20	approx. 20	approx. 20



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Publication L5321,1901EN.0/07.02

