

Linear actuators

MAGFORCE SKS/SKA

Description

Thanks to their compact and robust design, Magforce linear actuators type SKS/SKA are especially suitable for industrial applications. The SKS has no limit switches, while the SKA has limit switches and/or potentiometer unit built-in. The actuator can be mounted in any position. It is equipped with a ball screw and an integrated magnetic brake which ensures precise shut-off and self-locking. Magforce actuators incorporate a friction clutch to protect the actuator and the application from overload. The internal mechanical end stops must not be used as stroke limit. If it cannot be avoided that the actuator runs against the end stops, the use of end switches (accessories or external) is imperative. Suitable circuitry must prevent the motor from operating against the end stops for long periods of time. The duty cycle stated below relates to an ambient temperature of +40 °C and an interval operating time of 10 minutes. It is partially load-dependent. The technical data mentioned refer to operation under nominal load. A thermal switch protects the motor winding from overheating and cuts off the power supply when the winding temperature reaches 120 °C and switches on again after cooling. Longer strokes of up to 700 mm are available on request, whereby the body dimensions increase proportionally. The safety factor decreases with higher push loads.

Electrical Connection

Electrical connection are extremely simple because there are no built-in limit switch (for SKS). Reverse is achieved by changing poles via push button or relay. However, a direct change of direction must be avoided because of the resulting inertia forces and to protect the switch elements. The push button or switch must return automatically to the neutral position when it is released so that the motor does not run against the end stops for longer periods. Alternatively external limit switches must be used to switch off the motor in the end positions. The electrical connection should follow the wiring diagram on the back. Motors must not be connected in parallel but according to a special diagram.

Installation

The actuator is attached via the rear and front clevis. Turning of the push tube is generally possible. When using the limit switch with SKA actuators, the push tube must not be turned again after limit switch adjustment. No lateral forces must act on the push tube, whatever the orientation and the actuator must not be installed off-centre. The electric cables must not be damaged by squeezing, bending or stretching. The cable entry point must be a tight fit in order to guarantee protection class IP54.



Maintenance

The linear actuator has sufficient lubrication reserve and is almost maintenance-free. Only the push tube should be cleaned and lightly greased from time to time. The service life depends very much on the corresponding application (e.g. temperatures, conditions regarding run, force and cycles as well as environmental influences) and must be determined according to need. After reaching the end of the given life time, we recommend relubrication at our factory. For safety reasons, defective motors may only be repaired at our factory.

Remark

If our actuators are used for applications where persons could be directly or indirectly endangered, please contact us in order to discuss safety precautions.

| Technical data: | Unit | SKS/SKA 15404 | SKS/SKA 20406 | SKS/SKA 25412 | SKS/SKA 30423 |
|-----------------------------|-----------|---------------|---------------|---------------|---------------|
| Push force | kN | 15 | 20 | 25 | 30 |
| Static load | kN | 40 | 40 | 40 | 40 |
| Speed | mm/s | 45 | 33 | 17 | 9 |
| Stroke length | mm | 100 to 700 | 100 to 700 | 100 to 700 | 100 to 700 |
| Voltage | VAC/50 Hz | 3x400 | 3x400 | 3x400 | 3x400 |
| Power consumption | W | 1 700 | 1 650 | 1 300 | 1 200 |
| Current consumption | A | 3,3 | 3,5 | 2,8 | 3,0 |
| Duty cycle (SD 10 min.) | % | 10 | 10 | 10 | 10 |
| Ambient temperature | °C | -10 to +40 | -10 to +40 | -10 to +40 | -10 to +40 |
| Protection/insulation class | - | I/E | I/E | I/E | I/E |
| Protection class | IP | 54 | 54 | 54 | 54 |
| Weight (with 200 mm stroke) | kg | 30,0 | 30,0 | 30,0 | 30,0 |



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Accessories

- back-up nut
- extended shaft

