

HUS Hydraulic double-piston rotary units

DKSE Technical descriptions

Product group 400

Use

More and more valves are operated by remote control as a result of technical developments in process engineering. The DKSE series hydraulic double-piston rotary units were developed for this area of application. We automate ball and plug valves, shut-off and throttle valves, but also other elements with a 90° rotary movement. Standardised connection dimensions, precisely manufactured intermediate components and meticulous assembly guarantee a sophisticated combination of actuator and valve and ensure perfect operation.

Design and function **Technical data sheet 7.400.040.01**

Two toothed pistons (403) arranged in opposite directions in a housing made of type 1.4301 (401) stainless steel convert linear motion into a limited rotary motion by means of the centrally located operating shaft (404).

The piston stroke results in a switching angle of 90°, or 120° as a special version.

Standard PDA cylinder seals with a C2 (022) profile are used as sealing elements for a maximum operating pressure of 160 bar and a temperature range from -30° to +80°C. We use special sealing elements for other temperature ranges. High-quality piston guide elements absorb the transverse forces resulting from the gear teeth. The operating shaft is mounted in plastic slide bearings.

If pressure medium is applied to cover port D3 (402), both piston chambers are pressurised via a pipe connection to cover D4 and the actuation shaft rotates to the closed position. If pressure medium is applied to cover connection D1 (402), connected by a pipe connection with cover D2, the actuation shaft rotates to the open position.

The end position covers absorb the forces according to the max. torque. The static and dynamic forces must under no circumstances be greater than the forces resulting from the max. operating pressure. The switching time is proportional to the applied flow rate. The switching times for the 90° rotary angle must not fall below those specified.

Performance data

Type	Size	M(Nm/bar)	M max. (Nm)	Q (ccm)	t (sec.)
DKSE	25.090	1	125	18.5	0.5
DKSE	40.090	4	250	72.0	0.7
DKSE	032-A2	4	250	62.0	1.5
DKSE	040-A2	6	500	120.0	1.5
DKSE	050-A2	10	1000	210.0	1.5
DKSE	060-A2	20	2000	380.0	2.0
DKSE	080-A2	40	4000	810.0	2.5
DKSE	100-A2	80	8000	1600.0	3.0

M = torque in Nm

t = shortest permissible switching time in seconds

Q= theoretical displacement / switching in cc