

Product Data Sheet

SD 1400-4E02

July 2009

Damcos® KF/KFR

Hydraulic Linear Single-Acting Spring-Closing Actuator



DAMCOS®



EMERSON™
Process Management

Damcos® KF/KFR

Description

The KF/KFR is designed as hydraulic fail close actuators. When the actuator is operated by hydraulic pressure, the output spindle is lifted (and the valve is thus opened) and the spring package is compressed. When the pressure is released, the spring package will press down the spindle and close the valve. The KF/KFR has no external moving parts during operation. The KF/KFR is designed with built-in crossover valve and is equipped with a direct visual position indicator. The KF/KFR can be operated in any kind of environment and is easily

adapted to all well-known globe valves, and all models are prepared for direct built-on modular control functions. The KFR is also equipped with a unique emergency system; when the hydraulic pressure is not available, the valve can be opened and closed by means of a built-in manual hand pump. When the pressure is reestablished, the manual hand pump function is automatically disengaged at the first hydraulic opening of the actuator.

Technical data

| | |
|-----------------------------|------------------------|
| Working pressure | 135 bar |
| Test pressure | 1,5 x working pressure |
| Burst test | min. 675 bar |
| End Closing thrust (spring) | 1500 - 16500 N |
| Viscosity of hydraulic oil | 15 to 200 cSt |

Technical specifications

| | |
|---------------------|---|
| Temperature range | -20°C to +80°C (Other temperature ranges on request) |
| Piston | GGG40 |
| Housing | GGG40 |
| Output spindle | Brass, other material on request |
| Indicator housing | Brass MS 58 |
| Intermediate flange | St 52-3, other material on request |
| Hand pump | Brass MS 58 |
| Coating | Primer: min. 40 µm, type Hempel EE 13140 Top coat: Min. 25 µm alkyd, red no. 51320 |

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Standard optionals

The KF/KFR actuator for fail close operation of globe valves:

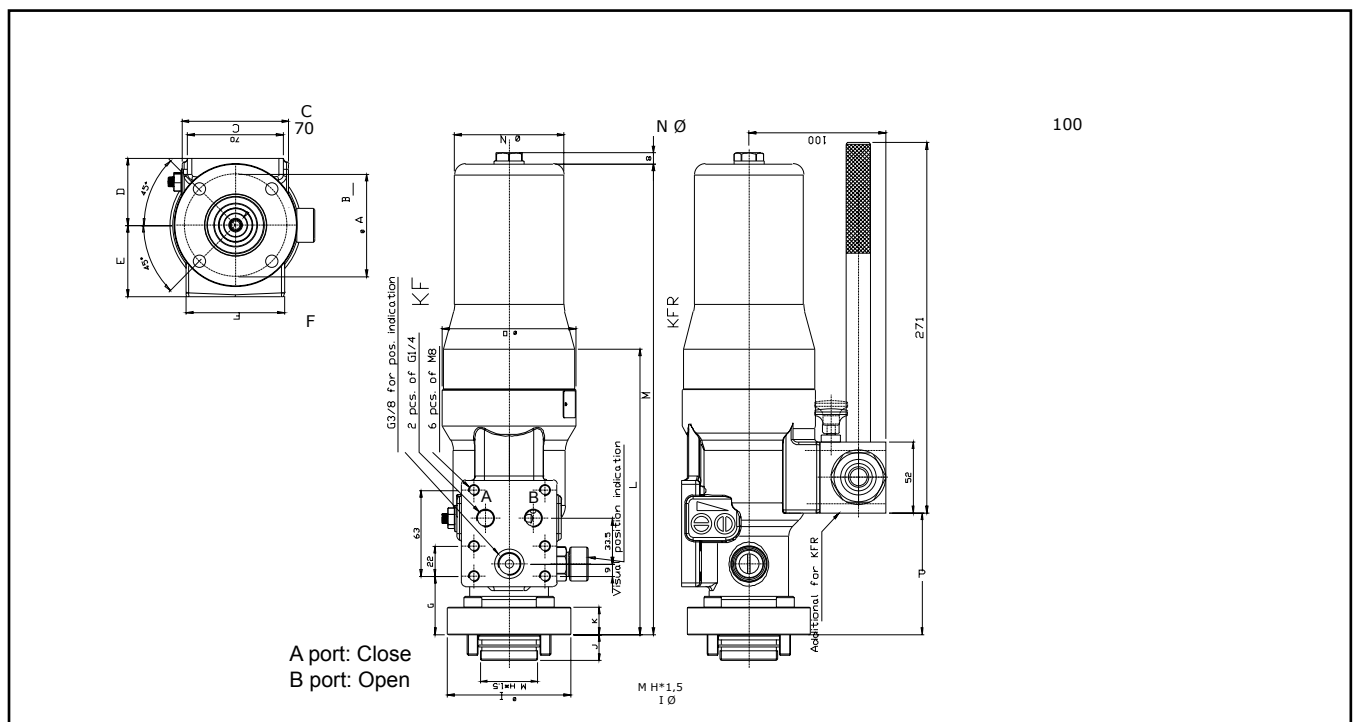
- Unique and simple design with built-in crossover valve
- Easy installation on intermediate flange at globe valve
- Same unit for several valve sizes
- Will operate in sea air as well as sea water
- No external moving parts during operation
- Prepared for direct built-on modular control functions or LPU
- Built-in hydraulic emergency operation for KFR
- Direct visual position indication
- Electrical on/off or continuous position indication IP 68
- Connection block with e.g. filter
- Throttle valve
- Quick connection for emergency operation with portable hand pump
- LPU mounting
- Epoxy coating
- On request spec. features as:
 - Flushing valve built into the connection block
 - Making it possible to flush the system without

Manufacture

The KF/KFR actuators are manufactured in accordance with the guidelines for quality system stated in the American standard ANSI/ASQC Z-1.15.

After assembly each actuator is flushed to NAS 1638/10 standard and plugged. Flushing to NAS 1648/7 standard can be performed on request.

Main dimensions



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Technical specifications

| Type | End thrust kN | Max Stroke* mm | Total dry weight kg | Oil displac- ment at full stroke, litres | Dimensions bottom view, mm. | | | | | | Dimensions front view, mm. | | | | | | | | | |
|-------------|------------------|----------------------|---------------------------|---|-----------------------------|----|----|----|----|----|----------------------------|----|-----|----|----|-----|-----|-----|-----|-----|
| | | | | | ØA | ØB | C | D | E | F | G | H | ØI | J | K | L | M | ØN | ØO | P |
| KF 65 | 1.5 | 16.25 | 6 | 0.021 | 62 | 9 | 80 | 48 | - | - | 35 | 36 | 76 | 17 | 15 | 154 | 231 | 58 | 80 | - |
| KF 125 | 4.8 | 31.25 | 11 | 0.082 | 75 | 9 | 76 | 50 | 52 | 72 | 42.5 | 42 | 90 | 17 | 20 | 213 | 366 | 80 | 98 | - |
| KF 250 | 16.5 | 62.50 | 51 | 0.428 | 118 | 14 | 70 | 78 | 77 | 72 | 71.5 | 72 | 140 | 23 | 35 | - | 630 | 150 | 150 | - |
| KFR 125 | 4.8 | 31.25 | 12 | 0.082 | 75 | 9 | 76 | 50 | 52 | 72 | 42.5 | 42 | 90 | 17 | 20 | 213 | 366 | 80 | 98 | 88 |
| KFR 250 | 16.5 | 62.50 | 52 | 0.428 | 118 | 14 | 70 | 78 | 77 | 72 | 71.5 | 72 | 140 | 23 | 35 | - | 630 | 150 | 150 | 151 |
| KF 250/150 | 8.0 | 37.5 | 43 | 0.257 | 118 | 14 | 70 | 78 | 77 | 72 | 71.5 | 72 | 140 | 23 | 35 | - | 469 | 150 | 150 | - |
| KFR 250/150 | 8.0 | 37.5 | 44 | 0.257 | 118 | 14 | 70 | 78 | 77 | 72 | 71.5 | 72 | 140 | 23 | 35 | - | 469 | 150 | 150 | 151 |

*Valves demanding shorter stroke needs pre-stress more than 3 mm.

Classification

Meets the requirements from the major classification and approval authorities like:

- Det Norske Veritas
- Lloyd's Register of Shipping
- American Bureau of Shipping
- Rina
- Russian register of Shipping
- Bureau Veritas
- Germanischer Lloyd
- U.S. Coast Guard

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