




Copar quarter turn actuators DRD/DRE



Copar quarter turn actuators DRD/DRE

Key features and product range overview

Brief description

-  Size
1 ... 880
-  Torque
7,5 ... 8 800 Nm
-  Swivel angle
0 ... 90°

The Copar quarter turn actuators are ideally suited for automating swivel valves in the process industry. Sturdy, but nevertheless accurate for high precision positioning, especially with ball valves and plug valves, as well as shut-off and butterfly valves.

- Direction of rotation can be optionally changed from clockwise to anticlockwise
- End-position sensor and limit switch module can be mounted directly to the drive
- Fast or slow valve actuation
- Suitable for manual on-site use, as well as automatic operation
- Resistant to overload and continuous loads
- Can be used as a variable-speed actuator in combination with an electro-pneumatic positioning controller
- Opening and closing are controlled with a flange-mounted solenoid valve with port pattern to Namur
- Highly corrosion resistant
- Optionally adjustable end positions for sizes 8 ... 100, facilitating adjustment ranges of -4° ... +4° and 86° ... 94°
- Selected types according to ATEX directive for explosive atmospheres
→ www.festo.com/en/ex
- Port pattern to Namur VDI/VDE 3845 for attaching solenoid valves

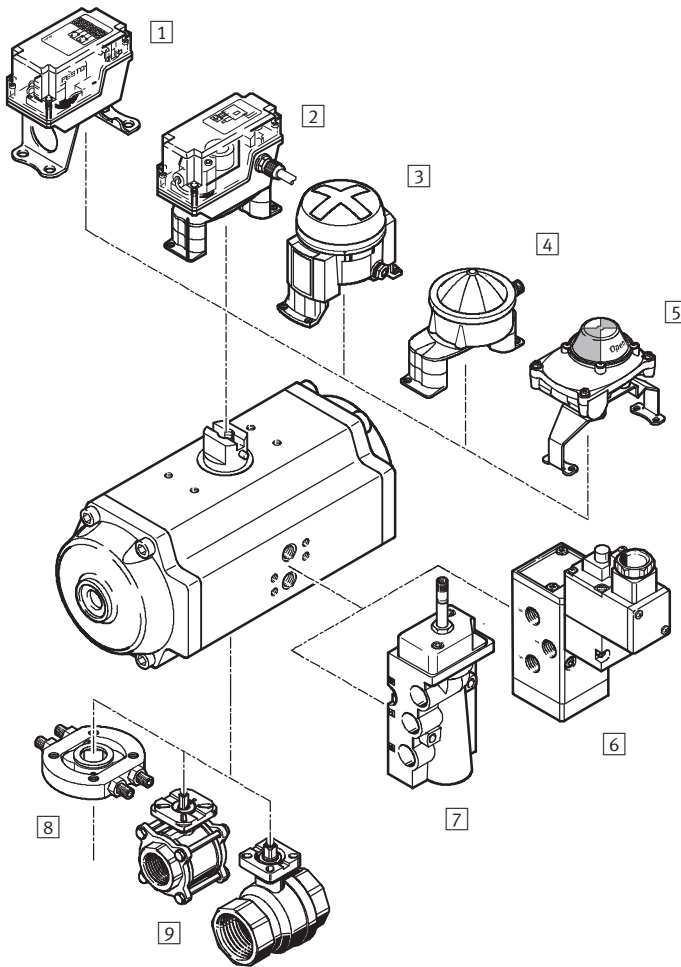


Flange hole pattern – Connection dimensions to DIN ISO 5211 and Namur VDI/VDE 3845

| Connection | F03 | F04 | | F05 | F07 | | F10 | F12 | F14 | F16 | F25 | F30 | Shaft height |
|------------------------------------|-----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|--------------|
| Square | V09 | V11 | | V14 | V17 | | V22 | V27 | V36 | V46 | V55 | V75 | |
| DR...-1-F03 | ■ | - | - | - | - | - | - | - | - | - | - | - | 20 |
| DR...-2-F03 | ■ | - | - | - | - | - | - | - | - | - | - | - | 20 |
| DR...-2-F04 | - | ■ | - | - | - | - | - | - | - | - | - | - | 20 |
| DR...-4-F04 | - | - | ■ | - | - | - | - | - | - | - | - | - | 20 |
| DR...-4-F05 | - | - | - | ■ | - | - | - | - | - | - | - | - | 20 |
| DR...-8-F05 | - | - | - | ■ | - | - | - | - | - | - | - | - | 20 |
| DR...-14-F05 | - | - | - | ■ | - | - | - | - | - | - | - | - | 20 |
| DR...-26-F07 | - | - | - | - | ■ | - | - | - | - | - | - | - | 20 |
| DR...-50-F07 | - | - | - | - | - | ■ | - | - | - | - | - | - | 20 |
| DR...-50-F10 | - | - | - | - | - | - | ■ | - | - | - | - | - | 30 |
| DR...-77-F10 | - | - | - | - | - | - | ■ | - | - | - | - | - | 30 |
| DR...-77-F12 | - | - | - | - | - | - | - | ■ | - | - | - | - | 30 |
| DR...-100-F12 | - | - | - | - | - | - | - | ■ | - | - | - | - | 30 |
| DR...-150-F14 | - | - | - | - | - | - | - | - | ■ | - | - | - | 30 |
| DR...-225-F14 | - | - | - | - | - | - | - | - | ■ | - | - | - | 30 |
| DR...-375-F16 | - | - | - | - | - | - | - | - | - | ■ | - | - | 30 |
| DR...-575-F16 | - | - | - | - | - | - | - | - | - | ■ | - | - | 30 |
| DR...-575-F25 | - | - | - | - | - | - | - | - | - | - | ■ | - | 30 |
| DR...-880-F25 | - | - | - | - | - | - | - | - | - | - | ■ | - | 30 |
| DR...-880-F30 | - | - | - | - | - | - | - | - | - | - | - | ■ | 30 |
| Hole pattern for Namur accessories | 25 | 25 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | |
| | 50 | 50 | 80 | 80 | 80 | 80 | 130 | 130 | 130 | 130 | 150 | 175 | |

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Peripherals overview

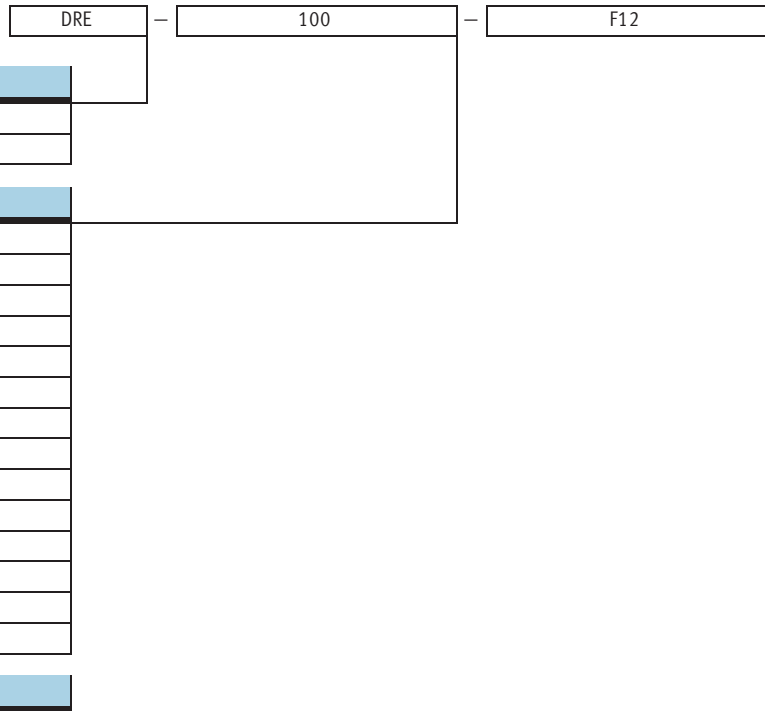


| Mounting attachments and accessories | | | |
|--------------------------------------|---|---|---------|
| | Brief description | → Page/Internet | |
| 1 | Limit switch attachment QH-DR-E | Square design, pneumatic, electrical or inductive sensing fits sizes 4 ... 50 | qh-dr-e |
| 2 | Limit switch attachment DAPZ | Square design, electrical, electrically explosion-proof or inductive sensing fits sizes 4 ... 225, size 1 and 2 or 375 ... 880 | dapz |
| 3 | Limit switch attachment DAPZ | Round design, variant AR, electrical, inductive or inductively explosion-proof sensing fits sizes 4 ... 225 | dapz |
| 4 | Limit switch attachment DAPZ | Round design, variant RO, electrical, inductive or inductive Namur sensing fits sizes 4 ... 225, size 1 and 2 or 375 ... 880 | dapz |
| 5 | End-position sensing attachment SRBF | Square design Sensing via two mechanical switches | srbf |
| 6 | Solenoid valve MFH | Basic valve with pilot control valve for F solenoid coil | mfh |
| | Solenoid valve MN1H | Basic valve with pilot control valve for N1 solenoid coil | mn1h |
| | Solenoid valve MGTBH | Basic valve with pilot control valve, solenoid coil and socket | mgtbh |
| 7 | Solenoid valve NVF3 | For F solenoid coil and explosion-proof F solenoid coil | nvf3 |
| 8 | Stop DADP | For end-position adjustment, based on standard VDI/VDE 3845 (Namur) fits sizes 150 ... 880; for size 1 ... 100 the adjustable end-position cushioning is in the end caps | 33 |
| 9 | Ball valve VAPB | Brass or stainless steel, corrosion-resistant | vapb |

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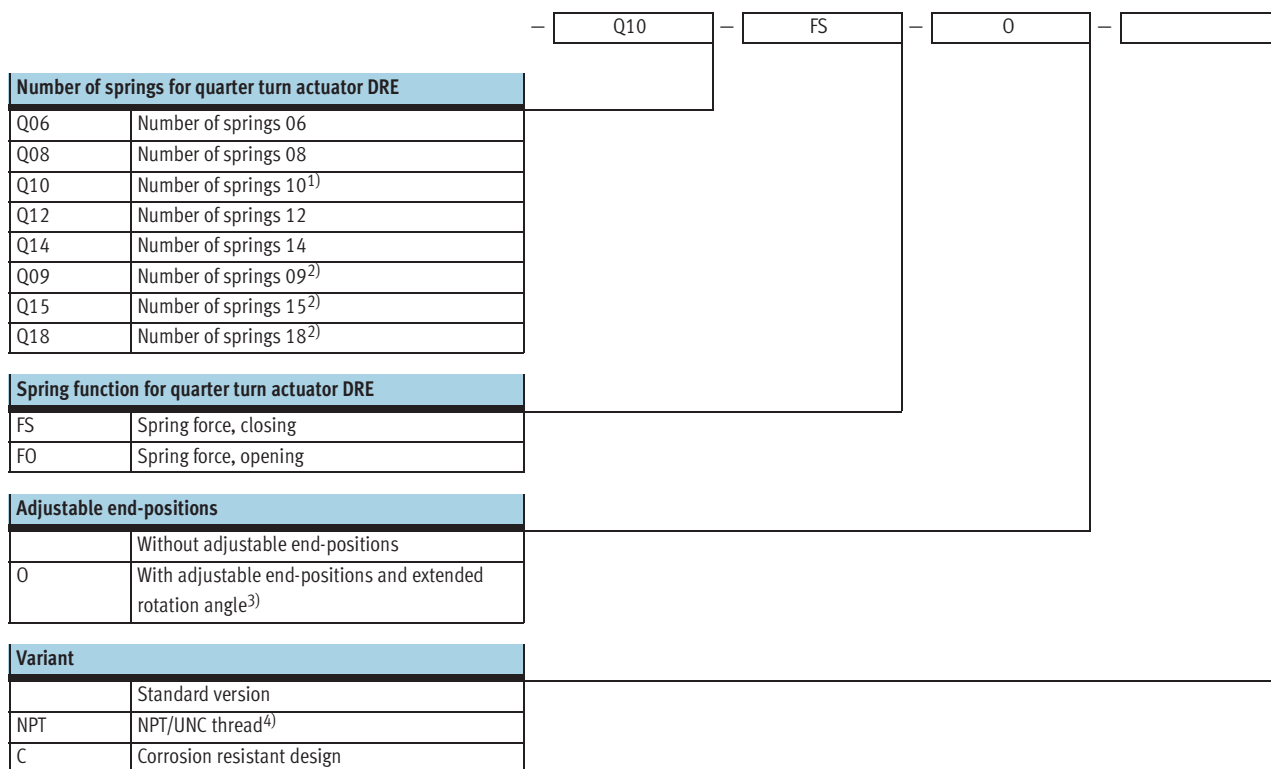
Type codes

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Copar quarter turn actuators DRD/DRE

Type codes



- 1) Standard spring quantity designed for 6 bar operating pressure
- 2) Only with size 575
- 3) Swivel range to 98°, only with size 8 ... 100
- 4) On request

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Sizing information

Sizing and adapting quarter turn actuators for process valves

We will use the example of a rack-and-pinion actuator to explain how to size double-acting and single-acting

quarter turn actuators. The procedure is the same for scotch yoke actuators, with the exception that the non-linear

characteristic of the actuator's torque curve does not have to be taken into account.

Sizing example for a double-acting quarter turn actuator

Breakaway torque of the process valve

The torque required to facilitate reliable opening of the valve's shut-off device (disc in a butterfly valve, ball in a ball valve ...) under the specified operating conditions (medium, temperature, inline pressure, etc.).

Compressed air supply

The minimum compressed air pressure available at all times at the valve to be sized forms the basis for sizing (worst-case analysis).

Process valve type

What type of valve (butterfly valve, ball valve, etc.) is being used?

The main operating conditions must be known before the breakaway torque can be specified by the valve manufacturer or correctly derived from existing tables:

- Medium
 - Temperature, concentration, viscosity of the medium
 - Gas or liquid, lubricating or non-lubricating
 - Presence of particles that form deposits or caking
 - Differential pressure at the process valve
 - Required safety factor
- If no safety factor is specified, a factor of at least approx. 1.2 (20% safety) should be taken into account when sizing the quarter turn actuator.

Example

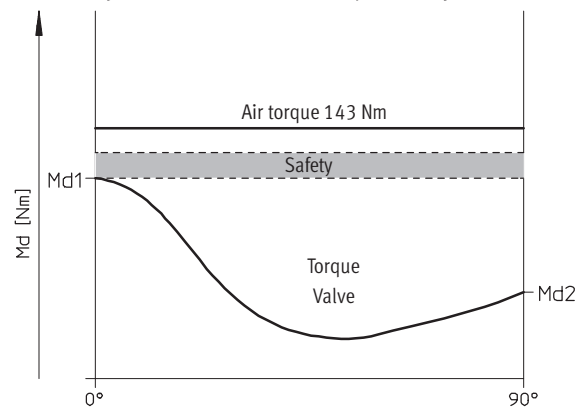
A breakaway torque of 100 Nm is determined for the valve. A safety factor of 1.2 is selected.

This gives a minimum torque of 120 Nm for the quarter turn actuator. The torque tables for double-acting quarter turn actuators propose the actuator with the designation

DRD-14-F05 from the Copar series. This actuator has a torque of 143 Nm at compressed air pressure of 6 bar.

This torque is constant across the entire swivel range (0° ... 90°) thanks to the rack-and-pinion design and is therefore sufficient for the valve.

Relationship of the actuator to the butterfly valve torque curve:



0° =Valve closed
90° =Valve open

Md1 = Breakaway torque
Md2 = Closing torque

Copar quarter turn actuators DRD/DRE

Sizing information

Sizing example for a single-acting quarter turn actuator

The most important criteria for the sizing of single-acting quarter turn actuators are, with the exception of the valve's closing torque, the same as for double-acting actuators:

- Breakaway torque of the process valve
- Closing torque of the process valve
What torque is required to move the shut-off device (disc, ball ...)
securely back into the seal?
- Compressed air supply
- Process valve type

As with double-acting actuators, the main operating conditions must be known before the breakaway torque can be specified by the valve manufacturer or correctly derived from existing tables → 6.

These conditions also apply for the closing torque. As the lubricating properties of the medium remain almost incalculable here, this is more difficult to determine. For that reason, most process valve manufacturers do not specify a closing torque.

The solution

The breakaway torque is used instead of the closing torque as it is always greater than the closing torque of a process valve.

It can generally be assumed that the breakaway torque specified by the process valve manufacturer can be used without a safety factor.

If no safety factor is specified for the breakaway torque, a factor of at least 1.2 to 1.3 (20% to 30% safety) should be included when sizing the single-acting quarter turn actuator.

Single-acting quarter turn actuators can close or open with spring force as a safety function.

The most frequent application: Closing with spring force

When the valve is closed, the springs in the actuators are pretensioned. This means: A single-acting actuator will always have a lower maximum air torque than the identically sized double-acting actuator (same piston diameter, same design).

When the process valve opens, the actuator works against the spring force. If the springs are compressed, the force in the springs increases and the opening force of the air decreases proportionally.

This means that the actuator must overcome the torque generated by the spring force as well as the normal breakaway torque. The air torque decreases in accordance with the increasing spring force.

Example

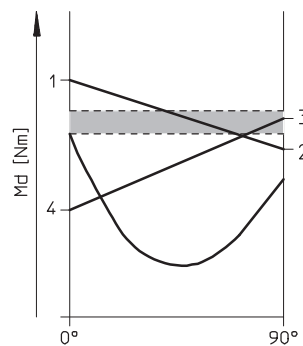
A breakaway torque of 20 Nm is established for a ball valve. A safety factor of 1.2 is selected. This gives a minimum torque of 24 Nm for opening the ball valve.

The necessary torque in the ball valve's open position is estimated at 50% of the breakaway torque (12 Nm). This gives a torque requirement of approx. 14 Nm taking into consideration a safety factor of 20%.

The closing torque of the process valve is not known, therefore the breakaway torque is selected without an additional safety factor: 20 Nm.

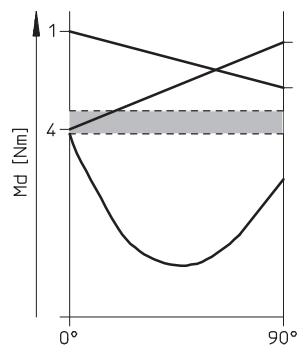
The 3 diagrams below show the calculated breakaway torques and closing torques using the typical torque characteristics of a ball valve and the torque lines of quarter turn actuators of the Copar series. These were selected using the torque tables.

Figure 1:
DRE-4-F05-Q10-FS



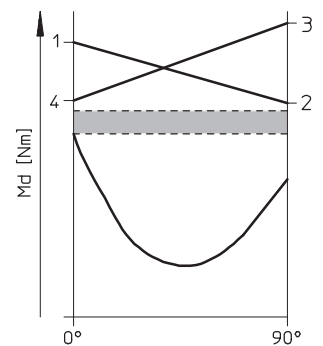
■ Necessary safety factor 20%

Figure 2:
DRE-8-F05-Q10-FS



0° = Valve closed
90° = Valve open

Figure 3:
DRE-8-F05-Q12-FS



1 → 2 = Air torque
3 → 4 = Spring torque

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Sizing information

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| Torques [Nm] | | Figure 1 DRE-4-F05-Q10-FS | Figure 2 DRE-8-F05-Q10-FS | Figure 3 DRE-8-F05-Q12-FS |
|---------------|--------|------------------------------|------------------------------|------------------------------|
| Air torque | max. 1 | 26.9 | 53.5 | 49.5 |
| | min. 2 | 16.6 | 32.5 | 24.2 |
| Spring torque | max. 3 | 20.6 | 41.5 | 49.8 |
| | min. 4 | 10.3 | 20.5 | 24.6 |

Re. Figure 1:

The quarter turn actuator in Figure 1 is not suitable for this application as the low closing torque of the springs is not enough to close the ball valve (3 → 4).

Re. Figure 2:

The use of the actuator shown in Figure 2 is critical as the closing torque of the springs (4) is only slightly above the breakaway torque of the ball valve. Even small pressure increases in the piping or pressure

drops in the compressed air system will stop the ball valve closing completely.

Re. Figure 3:

The ideal quarter turn actuator in this case is shown in Figure 3. The break-

away and closing torques of the actuator are above the torque values incl. safety factor (20%) calculated for this ball valve when both opening and closing. This guarantees a reliable actuator function.

An example for the influence of the compressed air pressure:

The available air torque falls from 49.5 Nm to 24.2 Nm at a pressure of 5 bar for the actuator in Figure 3 and is therefore not sufficient for this application example. For this reason, particular attention must be paid to

the constant available minimum air pressure when sizing a quarter turn actuator.

Note that all single-acting actuators are more often than not 1 ... 2 sizes larger than the double-acting

actuators for the same process valve because of the reduced available torques on the air side.

In the case of actuators that open using spring force (rotation of the

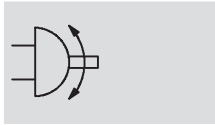
piston by 180° to reverse the direction of rotation), the springs must apply the breakaway torque and the air torque must be large enough to be able to close the valve once more.


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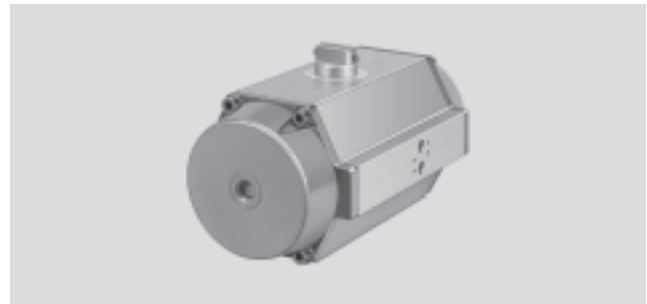
Technical data


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Function



 Swivel angle
0 ... 90°



 Size
1 ... 880

 Torque
2.5 ... 11 750 Nm

| General technical data | | | |
|----------------------------------|--------------------------------|-----------------|-------------|
| Size | 1 ... 4 | 8 ... 100 | 150 ... 880 |
| Pneumatic connection | G $\frac{1}{8}$ | G $\frac{1}{4}$ | |
| Design | Rack and pinion, double-acting | | |
| Assembly position | Any | | |
| Swivel angle [°] | 90 | | |
| End-position adjusting range [°] | - | -4 ... +4 | - |
| Closing direction | Closes to right | | |

| Operating and environmental conditions | | | |
|--|--|---|-------------|
| Size | 1 ... 4 | 8 ... 100 | 150 ... 880 |
| Operating pressure ¹⁾ [bar] | 2.5 ... 10 | 2 ... 10 | |
| Operating medium | Dried compressed air, lubricated or unlubricated | | |
| Ambient temperature ²⁾³⁾ [°C] | -20 ... +80 | | |
| Corrosion resistance class CRC ⁴⁾ | 3 | | |
| Corrosion resistance class CRC ⁵⁾ for corrosion-resistant design | 4 | | |
| CE marking (see declaration of conformity) → www.festo.com | - | Explosion protection directive 94/9/EC - ATEX | |
| ATEX specification | - | II 2 GD c X | |
| ATEX ambient temperature ³⁾ | - | -20°C ≤ Ta ≤ +60°C | |

1) Minimum operating pressures vary for single-acting quarter-turn actuators depending upon spring quantity

2) Further temperature ranges upon request

3) Note operating range of proximity sensors

4) Corrosion resistance class 3 according to Festo standard 940 070

Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

5) Corrosion resistance class 4 according to Festo standard 940 070

Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required

| Air consumption [l/cycle] at 6 bar | | | |
|------------------------------------|------|---------|------|
| Size | | Size | |
| DRD-1 | 1.44 | DRD-77 | 36 |
| DRD-2 | 2.04 | DRD-100 | 48 |
| DRD-4 | 3 | DRD-150 | 74.4 |
| DRD-8 | 4.2 | DRD-225 | 99.6 |
| DRD-14 | 12 | DRD-375 | 204 |
| DRD-26 | 19.2 | DRD-575 | 276 |
| DRD-50 | 24 | DRD-880 | 384 |


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Technical data

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| Weight [g] | | | |
|------------|--------|---------|---------|
| Size | | Size | |
| DRD-1 | 600 | DRD-77 | 18,500 |
| DRD-2 | 800 | DRD-100 | 23,000 |
| DRD-4 | 1,100 | DRD-150 | 31,000 |
| DRD-8 | 2,400 | DRD-225 | 37,000 |
| DRD-14 | 3,600 | DRD-375 | 80,000 |
| DRD-26 | 6,400 | DRD-575 | 123,000 |
| DRD-50 | 11,200 | DRD-880 | 156,000 |

| Theoretical torque [Nm] at swivel angle 0° and 90° as a function of operating pressure [bar] | | | | | | | |
|--|--------------------------|-------|-------|-------|-------|--------|--------|
| Size | Operating pressure [bar] | | | | | | |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| DRD-1 | 2.48 | 3.72 | 4.96 | 6.2 | 7.44 | 8.68 | 9.92 |
| DRD-2 | 5.4 | 8.1 | 10.8 | 13.5 | 16.2 | 18.9 | 21.6 |
| DRD-4 | 12.4 | 18.6 | 24.8 | 31 | 37.2 | 43.4 | 49.6 |
| DRD-8 | 24.7 | 37 | 49.3 | 61.6 | 74 | 86.3 | 98.6 |
| DRD-14 | 47 | 72 | 95 | 119 | 143 | 167 | 191 |
| DRD-26 | 89 | 133 | 177 | 222 | 266 | 310 | 354 |
| DRD-50 | 169 | 253 | 337 | 421 | 505 | 589 | 673 |
| DRD-77 | 256 | 385 | 513 | 642 | 770 | 898 | 1,026 |
| DRD-100 | 338 | 506 | 675 | 843 | 1,012 | 1,181 | 1,350 |
| DRD-150 | 506 | 758 | 1,011 | 1,264 | 1,517 | 1,770 | 2,023 |
| DRD-225 | 758 | 1,138 | 1,517 | 1,896 | 2,275 | 2,654 | 3,033 |
| DRD-375 | 1,264 | 1,896 | 2,528 | 3,159 | 3,791 | 4,423 | 5,055 |
| DRD-575 | 1,919 | 2,879 | 3,839 | 4,799 | 5,758 | 6,718 | 7,677 |
| DRD-880 | 2,938 | 4,407 | 5,876 | 7,345 | 8,814 | 10,283 | 11,752 |

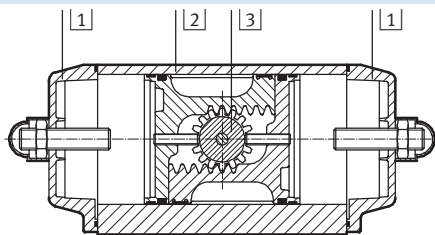
-  - Note

The following minimum degrees of efficiency apply for all quarter turn actuators:

| | |
|------------------|-------|
| DR...-1 ... 4: | ≥ 80% |
| DR...-8 ... 880: | ≥ 90% |

Materials

Sectional view



| Quarter turn actuator | | | | |
|-----------------------|-----------------|------|-------------|---|
| 1 | Cover | Size | 1 ... 4 | Plastic, glass fibre reinforced |
| | | | 8 ... 880 | Painted aluminium |
| 2 | Housing | Size | 1 ... 225 | Anodised aluminium |
| | | | 375 ... 880 | Painted aluminium |
| 3 | Shaft | Size | 1 ... 100 | Aluminium |
| | | | 150 ... 880 | Steel |
| - | External screws | | | Stainless steel |
| - | Seals | | | Nitrile rubber, polyurethane, polyacetate |

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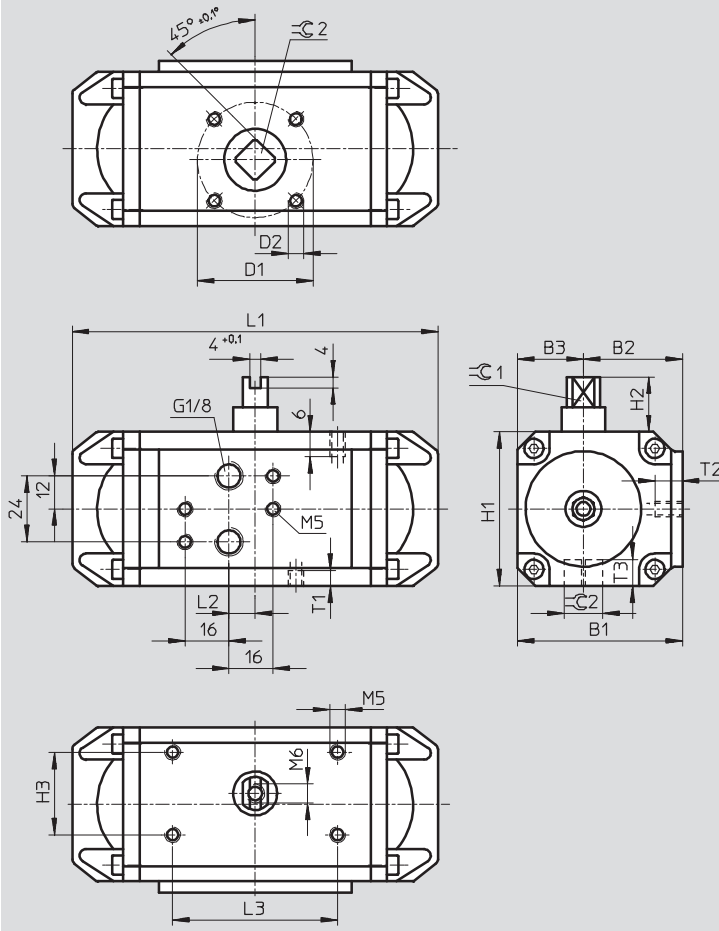
Technical data

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Dimensions

Download CAD data → www.festo.com

Size 1 ... 4



| Size | B1 | B2 | B3 | D1 | D2 | H1 | H2 | H3 |
|-----------|----|----|----|----|----|----|----|----|
| DRD-1-F03 | 45 | 25 | 20 | 36 | M5 | 45 | 20 | 25 |
| DRD-2-F04 | 60 | 34 | 26 | 42 | M5 | 56 | 20 | 25 |
| DRD-2-F03 | | | | 36 | | | | |
| DRD-4-F05 | 71 | 38 | 33 | 50 | M6 | 66 | 20 | 30 |
| DRD-4-F04 | | | | 42 | M5 | | | |

| Size | L1 | L2 | L3 | T1 | T2 | T3 | ≡C1 | ≡C2 |
|-----------|-----|----|----|----|----|----|-----|-----|
| DRD-1-F03 | 89 | 11 | 50 | 5 | 5 | 10 | 8 | 9 |
| DRD-2-F04 | 133 | 10 | 50 | 6 | 7 | 12 | 9 | 11 |
| DRD-2-F03 | | | | | | 10 | | 9 |
| DRD-4-F05 | 175 | 24 | 80 | 7 | 7 | 16 | 15 | 14 |
| DRD-4-F04 | | | | | | 12 | | 11 |

Copar quarter turn actuators DRD

Technical data

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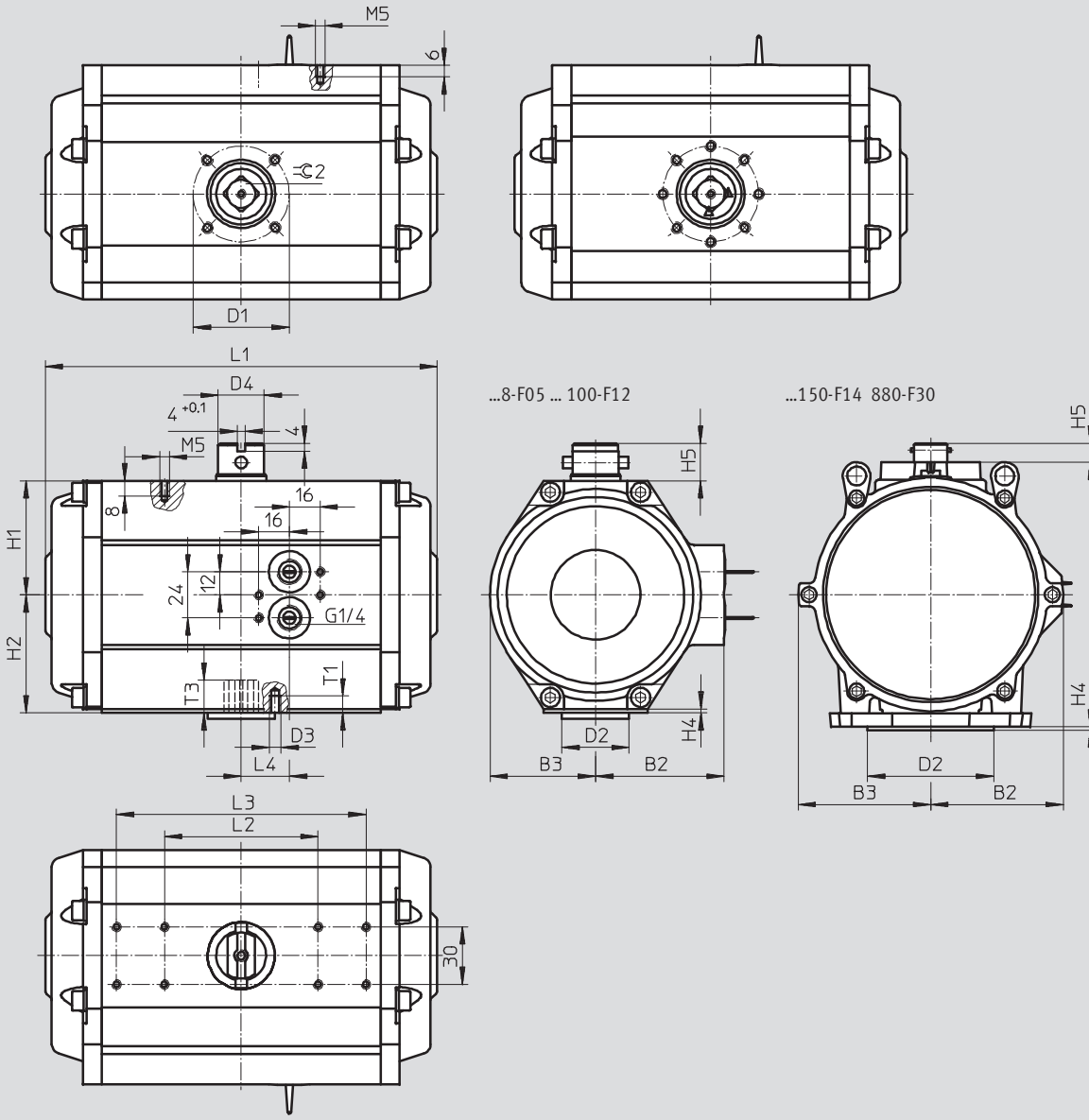
Dimensions

Size 8 ... 880

Download CAD data → www.festo.com

Flange hole pattern F05 ... F16

Flange hole pattern F25 ... F30



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| Size | B2 | B3 | D1 ∅ | D2 ∅ | D3 ∅ | D4 ∅ | H1 | H2 | H3 |
|-------------|-----------------|-----------------|---------|---------|---------|---------|----------------|-----------------|----|
| DRD-8-F05 | 52.5 \pm 1 | 41 \pm 1 | 50 | 35 | M6 | 24 | 44.5 \pm 1.5 | 46.5 \pm 1 | 12 |
| DRD-14-F05 | 67 \pm 1.5 | 55 \pm 1.5 | 50 | 35 | M6 | 24 | 59.5 \pm 1.5 | 61.5 \pm 1 | 12 |
| DRD-26-F07 | 79 \pm 2 | 67 \pm 2 | 70 | 55 | M8 | 24 | 71.5 \pm 1.5 | 74.5 \pm 1.5 | 12 |
| DRD-50-F07 | 94 \pm 2 | 78 \pm 2 | 70 | 55 | M8 | 24 | 81.5 \pm 2.5 | 84.5 \pm 1.5 | 12 |
| DRD-50-F10 | | | 102 | 70 | M10 | 24 | | | |
| DRD-77-F10 | 100 \pm 2 | 90 \pm 2 | 102 | 70 | M10 | 24 | 94 \pm 3 | 98 \pm 2 | 12 |
| DRD-77-F12 | | | 125 | 85 | M12 | 24 | | | |
| DRD-100-F12 | 114 \pm 2.5 | 102 \pm 2 | 125 | 85 | M12 | 24 | 106.5 \pm 3 | 111.5 \pm 1.5 | 12 |
| DRD-150-F14 | 140 \pm 3 | 136 \pm 2.5 | 140 | 100 | M16 | 53 | 137 \pm 3 | 137 \pm 3 | 12 |
| DRD-225-F14 | | | 140 | 100 | M16 | 53 | 137 | 147 \pm 3 | 12 |
| DRD-375-F16 | 177 \pm 3.5 | 175 \pm 3.5 | 165 | 130 | M20 | 53 | 172 \pm 3.5 | 172 \pm 3.5 | 18 |
| DRD-575-F16 | 210 \pm 4 | 210 \pm 4 | 165 | 130 | M20 | 53 | 210 \pm 4 | 210 \pm 4 | 18 |
| DRD-575-F25 | | | 254 | 200 | M16 | 53 | | | |
| DRD-880-F25 | 223.5 \pm 4.5 | 223.5 \pm 4.5 | 254 | 200 | M16 | 53 | 225 \pm 4.5 | 225 \pm 4.5 | 18 |
| DRD-880-F30 | | | 298 | 230 | M20 | 53 | | | |

| Size | H4 max. | H5 \pm 1 | L1 max. | L2 | L3 | L4 \pm 1 | T1 | T3 +1 | 2 H11 |
|-------------|------------|---------------|------------|-----|-----|---------------|------|----------|----------|
| DRD-8-F05 | 3 | 20 | 215 | 80 | - | 25.5 | 8.8 | 17 | 14 |
| DRD-14-F05 | | | 220 | 80 | | 25.15 | | | |
| DRD-26-F07 | 3 | 20 | 280 | 80 | 130 | 32.25 | 12.5 | 21 | 17 |
| DRD-50-F07 | | | 4 | 30 | 365 | 80 | 130 | | |
| DRD-50-F10 | 130 | 16 | | | | 25 | | 22 | |
| DRD-77-F10 | 4 | 30 | 430 | 130 | - | | 54.5 | | 16 |
| DRD-77-F12 | | | | | | 18 | | | |
| DRD-100-F12 | 4 | 30 | 440 | 130 | - | 67.1 | 18 | 40 | 36 |
| DRD-150-F14 | | | | | | | 370 | | |
| DRD-225-F14 | 4 | 30 | 480 | 130 | - | 96.5 | 26 | 50 | 46 |
| DRD-375-F16 | 5 | 30 | 520 | 130 | | 99 | 22 | | |
| DRD-575-F16 | 5 | 30 | 540 | 150 | - | 96.41 | 25 | 59 | 55 |
| DRD-575-F25 | | | | | | | 25 | | |
| DRD-880-F25 | 5 | 30 | 700 | 175 | - | 136 | 25 | 79 | 75 |
| DRD-880-F30 | | | | | | | 25 | | |

Copar quarter turn actuators DRD

Technical data

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| Ordering data – Without adjustable end position | | Ordering data – Without adjustable end position | |
|---|------------|---|-------------|
| Part No. | Type | Part No. | Type |
| Size 1 | | Size 77 | |
| 189 781 | DRD-1-F03 | 189 768 | DRD-77-F10 |
| | | 189 769 | DRD-77-F12 |
| Size 2 | | Size 100 | |
| 189 782 | DRD-2-F03 | 189 770 | DRD-100-F12 |
| 189 783 | DRD-2-F04 | | |
| Size 4 | | Size 150 | |
| 189 784 | DRD-4-F04 | 189 772 | DRD-150-F14 |
| 189 785 | DRD-4-F05 | | |
| Size 8 | | Size 225 | |
| 189 763 | DRD-8-F05 | 189 774 | DRD-225-F14 |
| Size 14 | | Size 375 | |
| 189 764 | DRD-14-F05 | 189 776 | DRD-375-F16 |
| Size 26 | | Size 575 | |
| 189 765 | DRD-26-F07 | 189 777 | DRD-575-F16 |
| | | 189 778 | DRD-575-F25 |
| Size 50 | | Size 880 | |
| 189 766 | DRD-50-F07 | 189 779 | DRD-880-F25 |
| 189 767 | DRD-50-F10 | 189 780 | DRD-880-F30 |



Note

Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary date see

→ 4

| Ordering data – With adjustable end position | | Ordering data – With adjustable end position | |
|--|--------------|--|---------------|
| Part No. | Type | Part No. | Type |
| Size 8 | | Size 50 | |
| 560 518 | DRD-8-F05-O | 560 524 | DRD-50-F07-O |
| | | 560 526 | DRD-50-F10-O |
| Size 14 | | Size 77 | |
| 560 520 | DRD-14-F05-O | 560 528 | DRD-77-F10-O |
| | | 560 530 | DRD-77-F12-O |
| Size 26 | | Size 100 | |
| 560 522 | DRD-26-F07-O | 560 532 | DRD-100-F12-O |



Note

Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary date see

→ 4

Copar quarter turn actuators DRD

Technical data

FESTO

| Ordering data – Corrosion resistant | | Ordering data – Corrosion resistant | |
|-------------------------------------|--------------|-------------------------------------|---------------|
| Part No. | Type | Part No. | Type |
| Size 1 | | Size 77 | |
| 189 835 | DRD-1-F03-C | 189 822 | DRD-77-F10-C |
| | | 189 823 | DRD-77-F12-C |
| Size 2 | | Size 100 | |
| 189 836 | DRD-2-F03-C | 189 824 | DRD-100-F12-C |
| 189 837 | DRD-2-F04-C | | |
| Size 4 | | Size 150 | |
| 189 838 | DRD-4-F04-C | 189 826 | DRD-150-F14-C |
| 189 839 | DRD-4-F05-C | | |
| Size 8 | | Size 225 | |
| 189 817 | DRD-8-F05-C | 189 828 | DRD-225-F14-C |
| Size 14 | | Size 375 | |
| 189 818 | DRD-14-F05-C | 189 830 | DRD-375-F16-C |
| Size 26 | | Size 575 | |
| 189 819 | DRD-26-F07-C | 189 831 | DRD-575-F16-C |
| | | 189 832 | DRD-575-F25-C |
| Size 50 | | Size 880 | |
| 189 820 | DRD-50-F07-C | 189 833 | DRD-880-F25-C |
| 189 821 | DRD-50-F10-C | 189 834 | DRD-880-F30-C |



Note

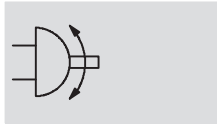
Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary date see

→ 4

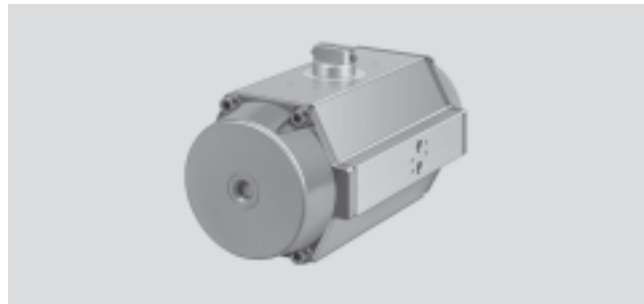
Copar quarter turn actuators DRE

Technical data

Function



Swivel angle
0 ... 90°



Size
2 ... 880

Torque
2.5 ... 9 305 Nm

| General technical data | | | |
|----------------------------------|--------------------------------|-----------------|-------------|
| Size | 2 ... 4 | 8 ... 100 | 150 ... 880 |
| Pneumatic connection | G $\frac{1}{8}$ | G $\frac{1}{4}$ | |
| Design | Rack and pinion, single-acting | | |
| Assembly position | Any | | |
| Swivel angle [°] | 90 | | |
| End-position adjusting range [°] | – | –4 ... +4 | – |
| Closing direction | Spring force, closing | | |

| Operating and environmental conditions | | | |
|---|--|---|-------------|
| Size | 2 ... 4 | 8 ... 100 | 150 ... 880 |
| Operating pressure ¹⁾ [bar] | 2.5 ... 10 | | 2 ... 10 |
| Operating medium | Dried compressed air, lubricated or unlubricated | | |
| Ambient temperature ²⁾³⁾ [°C] | –20 ... +80 | | |
| Corrosion resistance class CRC ⁴⁾ | 3 | | |
| Corrosion resistance class CRC ⁵⁾ for corrosion-resistant design | 4 | | |
| CE marking (see declaration of conformity) → www.festo.com | – | Explosion protection directive 94/9/EC - ATEX | |
| ATEX specification | – | II 2 GD c X | |
| ATEX ambient temperature ³⁾ | – | –20°C ≤ Ta ≤ +60°C | |

1) Minimum operating pressures vary for single-acting quarter-turn actuators depending upon spring quantity

2) Further temperature ranges upon request

3) Note operating range of proximity sensors

4) Corrosion resistance class 3 according to Festo standard 940 070

Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

5) Corrosion resistance class 4 according to Festo standard 940 070

Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required


| Air consumption [l/cycle] at 6 bar | | | |
|------------------------------------|------|---------|------|
| Type | | Type | |
| DRE-2 | 1.02 | DRE-100 | 24 |
| DRE-4 | 1.5 | DRE-150 | 37.2 |
| DRE-8 | 2.1 | DRE-225 | 49.8 |
| DRE-14 | 6 | DRE-375 | 102 |
| DRE-26 | 9.6 | DRE-575 | 138 |
| DRE-50 | 12 | DRE-880 | 192 |
| DRE-77 | 18 | | |

Copar quarter turn actuators DRE

Technical data

| Theoretical torque [Nm] at swivel angle 0° and 90° as a function of operating pressure [bar] | | | | | | | | |
|--|--------------------|--------------|--------------------|------|------|------|------|------|
| Number of springs ¹⁾ | Spring torque [Nm] | Md available | Operating pressure | | | | | |
| | | | 3 | 4 | 5 | 6 | 7 | 8 |
| Quarter turn actuators DRE-2 | | | | | | | | |
| 6 | 2.7 | min. | 2.7 | 5.4 | 8.1 | 10.8 | 13.5 | 16.2 |
| | 5.4 | max. | 5.4 | 8.1 | 10.8 | 13.5 | 16.2 | 18.9 |
| 8 | 3.6 | min. | 0.9 | 3.6 | 6.3 | 9 | 11.7 | 14.4 |
| | 7.2 | max. | 4.5 | 7.2 | 9.9 | 12.6 | 15.3 | 18 |
| 10 | 4.5 | min. | - | 2.8 | 5.5 | 8.2 | 10.9 | 13.6 |
| | 8 | max. | - | 6.3 | 9 | 11.7 | 14.4 | 17.1 |
| 12 | 5.4 | min. | - | - | 2.7 | 5.4 | 8.1 | 10.8 |
| | 10.8 | max. | - | - | 8.1 | 10.8 | 13.5 | 16.2 |
| 14 | 8.3 | min. | - | - | 0.9 | 3.6 | 6.3 | 9 |
| | 12.6 | max. | - | - | 5.2 | 7.9 | 10.6 | 13.3 |
| Quarter turn actuators DRE-4 | | | | | | | | |
| 6 | 6.1 | min. | 6.4 | 12.6 | 18.8 | 25 | 31.2 | 37.4 |
| | 12.2 | max. | 12.5 | 18.7 | 24.9 | 31.1 | 37.3 | 43.5 |
| 8 | 8.2 | min. | 2.2 | 8.4 | 14.6 | 20.8 | 27 | 33.2 |
| | 16.4 | max. | 10.4 | 16.6 | 22.8 | 29 | 35.2 | 41.4 |
| 10 | 10.3 | min. | - | 4.2 | 10.4 | 16.6 | 22.8 | 29 |
| | 20.6 | max. | - | 14.5 | 20.7 | 26.9 | 33.1 | 39.3 |
| 12 | 12.3 | min. | - | - | 6.4 | 12.6 | 18.8 | 25 |
| | 24.6 | max. | - | - | 18.7 | 24.9 | 31.1 | 37.3 |
| 14 | 14.4 | min. | - | - | 2.2 | 8.4 | 14.6 | 20.8 |
| | 28.8 | max. | - | - | 16.6 | 22.8 | 29 | 35.2 |
| Quarter turn actuators DRE-8 | | | | | | | | |
| 6 | 12.3 | min. | 12.1 | 24.4 | 36.7 | 49.1 | 61.4 | 73.7 |
| | 24.9 | max. | 24.7 | 37 | 49.3 | 61.7 | 74 | 86.3 |
| 8 | 16.4 | min. | 3.8 | 16.1 | 28.4 | 40.8 | 53.1 | 65.4 |
| | 33.2 | max. | 20.6 | 32.9 | 45.2 | 57.6 | 69.9 | 82.2 |
| 10 | 20.5 | min. | - | 7.8 | 20.1 | 32.5 | 44.8 | 57.1 |
| | 41.5 | max. | - | 28.8 | 41.1 | 53.5 | 65.8 | 78.1 |
| 12 | 24.6 | min. | - | - | 11.8 | 24.2 | 36.5 | 48.8 |
| | 49.8 | max. | - | - | 37 | 49.4 | 61.7 | 74 |
| 14 | 28.7 | min. | - | - | 4.5 | 16.9 | 29.2 | 41.5 |
| | 57.1 | max. | - | - | 32.9 | 45.3 | 57.6 | 69.9 |

1) Smaller number of springs on request.

 - Note

The following minimum degrees of efficiency apply for all quarter turn actuators:

| | |
|------------------|-------|
| DR...-1 ... 4: | ≥ 80% |
| DR...-8 ... 880: | ≥ 90% |


Copar quarter turn actuators DRE

Technical data

FESTO

| Theoretical torque [Nm] at swivel angle 0° and 90° as a function of operating pressure [bar] | | | | | | | | |
|--|--------------------|--------------|--------------------|-----|-----|-----|-----|-----|
| Number of springs ¹⁾ | Spring torque [Nm] | Md available | Operating pressure | | | | | |
| | | | 3 | 4 | 5 | 6 | 7 | 8 |
| Quarter turn actuators DRE-14 | | | | | | | | |
| 6 | 24 | min. | 24 | 47 | 71 | 95 | 119 | 143 |
| | 48 | max. | 48 | 71 | 95 | 119 | 143 | 167 |
| 8 | 32 | min. | 8 | 31 | 55 | 79 | 103 | 127 |
| | 64 | max. | 40 | 63 | 87 | 111 | 135 | 159 |
| 10 | 40 | min. | - | 15 | 39 | 63 | 87 | 111 |
| | 80 | max. | - | 55 | 79 | 103 | 127 | 151 |
| 12 | 48 | min. | - | - | 23 | 47 | 71 | 95 |
| | 96 | max. | - | - | 71 | 95 | 119 | 143 |
| 14 | 56 | min. | - | - | 7 | 31 | 55 | 79 |
| | 112 | max. | - | - | 63 | 87 | 111 | 135 |
| Quarter turn actuators DRE-26 | | | | | | | | |
| 6 | 44 | min. | 44 | 88 | 133 | 177 | 221 | 275 |
| | 89 | max. | 89 | 133 | 178 | 222 | 266 | 320 |
| 8 | 58 | min. | 15 | 59 | 104 | 148 | 192 | 246 |
| | 118 | max. | 75 | 119 | 164 | 208 | 252 | 306 |
| 10 | 73 | min. | - | 29 | 74 | 118 | 162 | 216 |
| | 148 | max. | - | 104 | 149 | 193 | 237 | 291 |
| 12 | 88 | min. | - | - | 44 | 88 | 132 | 186 |
| | 178 | max. | - | - | 134 | 178 | 222 | 276 |
| 14 | 102 | min. | - | - | 15 | 59 | 103 | 157 |
| | 207 | max. | - | - | 120 | 164 | 208 | 262 |
| Quarter turn actuators DRE-50 | | | | | | | | |
| 6 | 80 | min. | 85 | 169 | 253 | 337 | 421 | 505 |
| | 168 | max. | 173 | 257 | 341 | 425 | 509 | 593 |
| 8 | 107 | min. | 29 | 113 | 197 | 281 | 365 | 449 |
| | 224 | max. | 146 | 230 | 314 | 398 | 482 | 556 |
| 10 | 134 | min. | - | 57 | 141 | 225 | 309 | 393 |
| | 280 | max. | - | 203 | 287 | 371 | 455 | 539 |
| 12 | 160 | min. | - | - | 85 | 169 | 253 | 337 |
| | 336 | max. | - | - | 261 | 345 | 429 | 513 |
| 14 | 187 | min. | - | - | 29 | 113 | 197 | 281 |
| | 392 | max. | - | - | 234 | 318 | 402 | 486 |

1) Smaller number of springs on request.

 Note

The following minimum degrees of efficiency apply for all quarter turn actuators:

| | |
|------------------|-------|
| DR...-1 ... 4: | ≥ 80% |
| DR...-8 ... 880: | ≥ 90% |


Copar quarter turn actuators DRE

Technical data

FESTO

| Theoretical torque [Nm] at swivel angle 0° and 90° as a function of operating pressure [bar] | | | | | | | | |
|--|--------------------|--------------|--------------------|-----|-------|-------|-------|-------|
| Number of springs ¹⁾ | Spring torque [Nm] | Md available | Operating pressure | | | | | |
| | | | 3 | 4 | 5 | 6 | 7 | 8 |
| Quarter turn actuators DRE-77 | | | | | | | | |
| 6 | 122 | min. | 132 | 260 | 389 | 517 | 645 | 773 |
| | 253 | max. | 263 | 391 | 520 | 648 | 776 | 904 |
| 8 | 162 | min. | 48 | 176 | 305 | 433 | 561 | 689 |
| | 337 | max. | 223 | 351 | 480 | 608 | 736 | 864 |
| 10 | 203 | min. | - | 91 | 220 | 348 | 476 | 604 |
| | 422 | max. | - | 310 | 439 | 567 | 695 | 823 |
| 12 | 244 | min. | - | - | 136 | 264 | 392 | 520 |
| | 506 | max. | - | - | 398 | 526 | 654 | 772 |
| 14 | 284 | min. | - | - | 52 | 180 | 308 | 436 |
| | 590 | max. | - | - | 358 | 486 | 614 | 742 |
| Quarter turn actuators DRE-100 | | | | | | | | |
| 6 | 160 | min. | 174 | 343 | 511 | 680 | 849 | 1,018 |
| | 332 | max. | 346 | 515 | 683 | 852 | 1,021 | 1,190 |
| 8 | 213 | min. | 63 | 232 | 400 | 569 | 738 | 907 |
| | 443 | max. | 293 | 462 | 630 | 799 | 968 | 1,137 |
| 10 | 267 | min. | - | 121 | 289 | 458 | 627 | 796 |
| | 554 | max. | - | 408 | 576 | 745 | 914 | 1,083 |
| 12 | 320 | min. | - | - | 178 | 347 | 516 | 685 |
| | 665 | max. | - | - | 523 | 692 | 861 | 1,030 |
| 14 | 373 | min. | - | - | 67 | 236 | 405 | 574 |
| | 767 | max. | - | - | 470 | 639 | 808 | 977 |
| Quarter turn actuators DRE-150 | | | | | | | | |
| 6 | 253 | min. | 252 | 505 | 758 | 1,011 | 1,264 | 1,517 |
| | 506 | max. | 505 | 758 | 1,011 | 1,264 | 1,517 | 1,770 |
| 8 | 337 | min. | 84 | 337 | 590 | 843 | 1,096 | 1,349 |
| | 674 | max. | 421 | 674 | 927 | 1,180 | 1,433 | 1,686 |
| 10 | 421 | min. | - | 168 | 421 | 674 | 927 | 1,180 |
| | 843 | max. | - | 590 | 843 | 1,096 | 1,349 | 1,602 |
| 12 | 506 | min. | - | - | 253 | 506 | 759 | 1,012 |
| | 1,011 | max. | - | - | 758 | 1,011 | 1,264 | 1,517 |
| 14 | 590 | min. | - | - | 84 | 337 | 590 | 843 |
| | 1,180 | max. | - | - | 674 | 927 | 1,180 | 1,433 |

1) Smaller number of springs on request.

 - Note

The following minimum degrees of efficiency apply for all quarter turn actuators:


| | |
|------------------|-------|
| DR...-1 ... 4: | ≥ 80% |
| DR...-8 ... 880: | ≥ 90% |

Copar quarter turn actuators DRE

Technical data

| Theoretical torque [Nm] at swivel angle 0° and 90° as a function of operating pressure [bar] | | | | | | | | |
|--|--------------------|--------------|--------------------|-------|-------|-------|-------|-------|
| Number of springs ¹⁾ | Spring torque [Nm] | Md available | Operating pressure | | | | | |
| | | | 3 | 4 | 5 | 6 | 7 | 8 |
| Quarter turn actuators DRE-225 | | | | | | | | |
| 6 | 379 | min. | 382 | 761 | 1,140 | 1,519 | 1,898 | 2,277 |
| | 756 | max. | 759 | 1,138 | 1,517 | 1,896 | 2,275 | 2,654 |
| 8 | 506 | min. | 127 | 506 | 885 | 1,264 | 1,643 | 2,022 |
| | 1,011 | max. | 632 | 1,011 | 1,390 | 1,769 | 2,148 | 2,527 |
| 10 | 632 | min. | - | 253 | 632 | 1,011 | 1,390 | 1,769 |
| | 1,264 | max. | - | 885 | 1,264 | 1,643 | 2,022 | 2,401 |
| 12 | 758 | min. | - | - | 379 | 758 | 1,137 | 1,516 |
| | 1,517 | max. | - | - | 1,138 | 1,517 | 1,896 | 2,275 |
| 14 | 885 | min. | - | - | 127 | 506 | 885 | 1,264 |
| | 1,769 | max. | - | - | 1,011 | 1,390 | 1,769 | 2,148 |
| Quarter turn actuators DRE-375 | | | | | | | | |
| 6 | 632 | min. | 632 | 1,264 | 1,895 | 2,527 | 3,159 | 3,791 |
| | 1,264 | max. | 1,264 | 1,896 | 2,527 | 3,159 | 3,791 | 4,423 |
| 8 | 843 | min. | 211 | 843 | 1,474 | 2,106 | 2,738 | 3,370 |
| | 1,685 | max. | 1,053 | 1,685 | 2,316 | 2,948 | 3,580 | 4,212 |
| 10 | 1,053 | min. | - | 421 | 1,052 | 1,684 | 2,360 | 2,948 |
| | 2,107 | max. | - | 1,475 | 2,106 | 2,738 | 3,370 | 4,002 |
| 12 | 1,264 | min. | - | - | 631 | 1,263 | 1,895 | 2,527 |
| | 2,528 | max. | - | - | 1,895 | 2,527 | 3,159 | 3,791 |
| 14 | 1,475 | min. | - | - | 210 | 842 | 1,474 | 2,106 |
| | 2,949 | max. | - | - | 1,684 | 2,316 | 2,948 | 3,580 |
| Quarter turn actuators DRE-575 | | | | | | | | |
| 6 | 632 | min. | 1,615 | 2,575 | 3,535 | 4,494 | 5,454 | 6,413 |
| | 1,264 | max. | 2,247 | 3,207 | 4,167 | 5,126 | 6,086 | 7,045 |
| 9 | 948 | min. | 938 | 1,943 | 2,903 | 3,862 | 4,822 | 5,781 |
| | 1,896 | max. | 1,931 | 2,891 | 3,851 | 4,810 | 5,770 | 6,729 |
| 12 | 1,264 | min. | 351 | 1,311 | 2,271 | 3,230 | 4,190 | 5,149 |
| | 2,528 | max. | 1,615 | 2,575 | 3,535 | 4,494 | 5,454 | 6,413 |
| 15 | 1,580 | min. | - | 679 | 1,639 | 2,598 | 3,558 | 4,517 |
| | 3,160 | max. | - | 2,259 | 3,219 | 4,178 | 5,138 | 6,097 |
| 18 | 1,896 | min. | - | - | 1,007 | 1,966 | 2,926 | 3,885 |
| | 3,792 | max. | - | - | 2,903 | 3,862 | 4,822 | 5,781 |

1) Smaller number of springs on request.

 Note

The following minimum degrees of efficiency apply for all quarter turn actuators:


| | |
|------------------|-------|
| DR...-1 ... 4: | ≥ 80% |
| DR...-8 ... 880: | ≥ 90% |

Copar quarter turn actuators DRE

Technical data

| Theoretical torque [Nm] at swivel angle 0° and 90° as a function of operating pressure [bar] | | | | | | | | |
|--|--------------------|--------------|--------------------|-------|-------|-------|-------|--------|
| Number of springs ¹⁾ | Spring torque [Nm] | Md available | Operating pressure | | | | | |
| | | | 3 | 4 | 5 | 6 | 7 | 8 |
| Quarter turn actuators DRE-880 | | | | | | | | |
| 6 | 1,468 | min. | 1,470 | 2,939 | 4,408 | 5,877 | 7,346 | 8,815 |
| | 2,937 | max. | 2,939 | 4,408 | 5,877 | 7,346 | 8,815 | 10,284 |
| 8 | 1,958 | min. | 791 | 2,260 | 3,729 | 5,198 | 6,667 | 8,136 |
| | 3,616 | max. | 2,449 | 3,918 | 5,387 | 6,856 | 8,325 | 9,794 |
| 10 | 2,447 | min. | – | 982 | 2,451 | 3,920 | 5,389 | 6,858 |
| | 4,894 | max. | – | 3,429 | 4,898 | 6,367 | 7,836 | 9,305 |
| 12 | 2,937 | min. | – | – | 1,472 | 2,941 | 4,410 | 5,879 |
| | 5,873 | max. | – | – | 4,408 | 5,877 | 7,346 | 8,815 |
| 14 | 3,792 | min. | – | – | 493 | 1,962 | 3,431 | 4,900 |
| | 6,852 | max. | – | – | 3,553 | 5,022 | 6,491 | 7,960 |

1) Smaller number of springs on request.

 - Note

The following minimum degrees of efficiency apply for all quarter turn actuators:

| | |
|------------------|-------|
| DR...-1 ... 4: | ≥ 80% |
| DR...-8 ... 880: | ≥ 90% |

Copar quarter turn actuators DRE

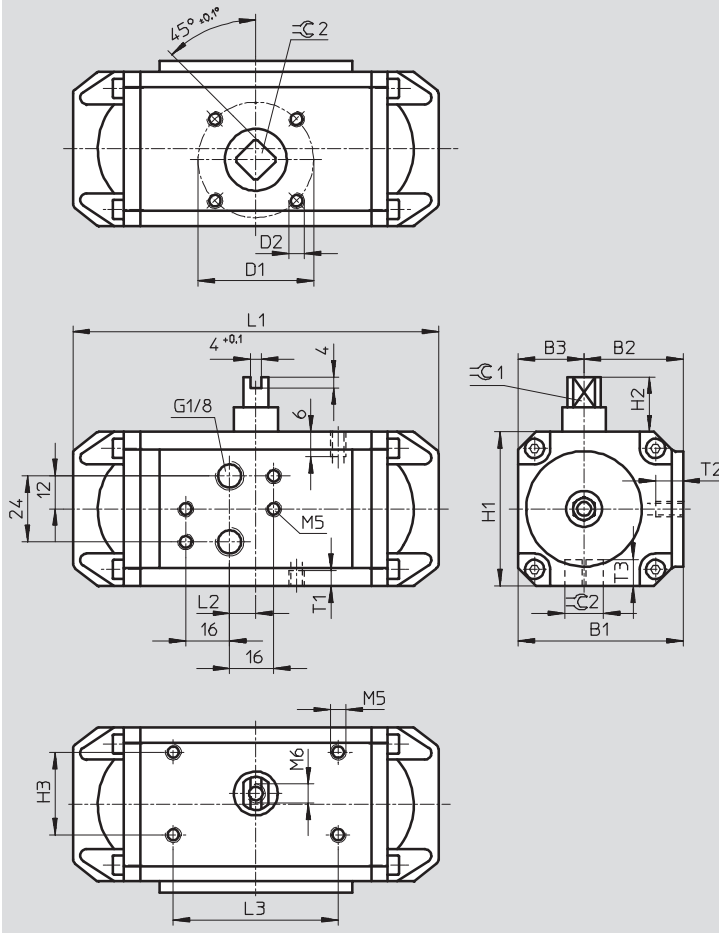
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

Size 2 ... 4



Copar quarter turn actuators DRE

Technical data

FESTO

| Size | B1 | B2 | B3 | D1 | D2 | H1 | H2 | H3 |
|-----------|----|----|----|----|----|----|----|----|
| DRE-2-F04 | 60 | 34 | 26 | 42 | M5 | 56 | 20 | 25 |
| DRE-2-F03 | | | | 36 | | | | |
| DRE-4-F05 | 71 | 38 | 33 | 50 | M6 | 66 | 20 | 30 |
| DRE-4-F04 | | | | 42 | M5 | | | |

| Size | L1 | L2 | L3 | T1 | T2 | T3 | ⊖C1 | ⊖C2 |
|-----------|-----|----|----|------|----|----|------|-----|
| | | | | min. | | +2 | ±0.1 | H11 |
| DRE-2-F04 | 133 | 10 | 50 | 6 | 7 | 12 | 9 | 11 |
| DRE-2-F03 | | | | | | 10 | | 9 |
| DRE-4-F05 | 175 | 24 | 80 | 7 | 7 | 16 | 15 | 14 |
| DRE-4-F04 | | | | | | 12 | | 11 |

Copar quarter turn actuators DRE

Technical data

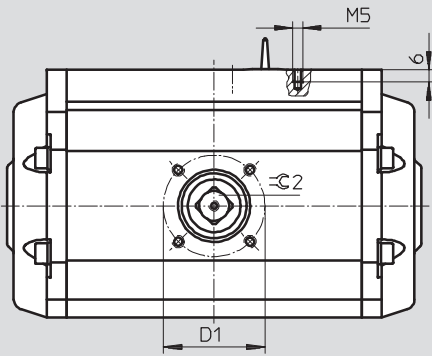
FESTO

Dimensions

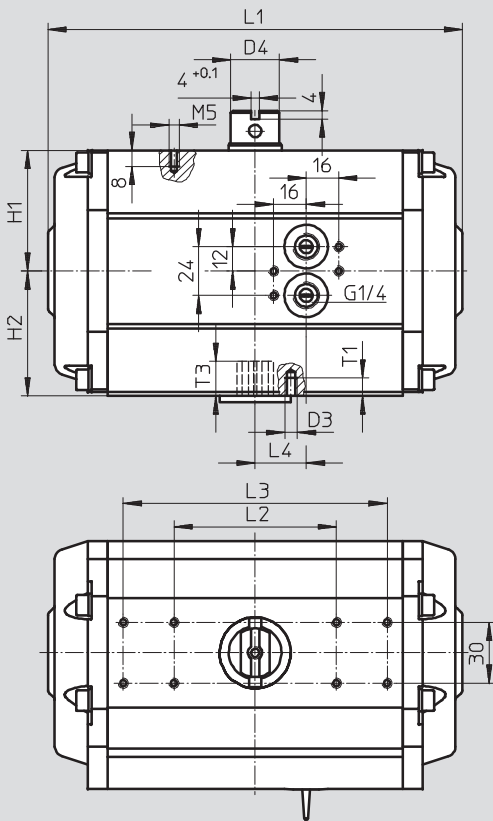
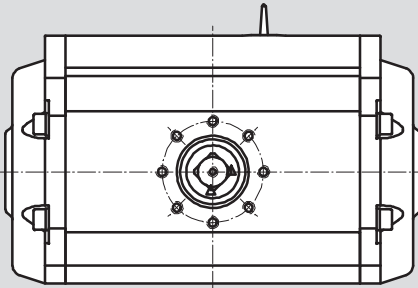
Size 8 ... 880

Download CAD data → www.festo.com

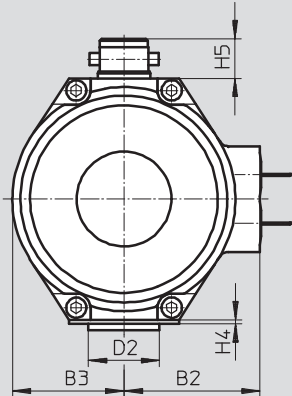
Flange hole pattern F05 ... F16



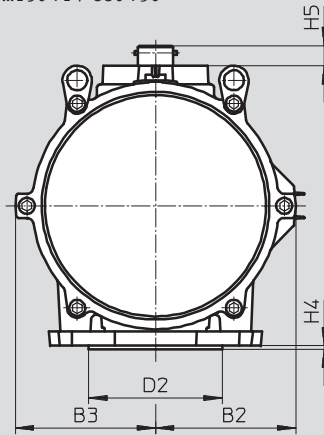
Flange hole pattern F25 ... F30



...8-F05 ... 100-F12



...150-F14 880-F30



Copar quarter turn actuators DRE

Technical data

FESTO

| Size | B2 | B3 | D1 ∅ | D2 ∅ | D3 ∅ | D4 ∅ | H1 | H2 | H3 |
|-------------|-----------------|-----------------|---------|---------|---------|---------|----------------|-----------------|----|
| DRD-8-F05 | 52.5 \pm 1 | 41 \pm 1 | 50 | 35 | M6 | 24 | 44.5 \pm 1.5 | 46.5 \pm 1 | 12 |
| DRD-14-F05 | 67 \pm 1.5 | 55 \pm 1.5 | 50 | 35 | M6 | 24 | 59.5 \pm 1.5 | 61.5 \pm 1 | 12 |
| DRD-26-F07 | 79 \pm 2 | 67 \pm 2 | 70 | 55 | M8 | 24 | 71.5 \pm 1.5 | 74.5 \pm 1.5 | 12 |
| DRD-50-F07 | 94 \pm 2 | 78 \pm 2 | 70 | 55 | M8 | 24 | 81.5 \pm 2.5 | 84.5 \pm 1.5 | 12 |
| DRD-50-F10 | | | 102 | 70 | M10 | 24 | | | |
| DRD-77-F10 | 100 \pm 2 | 90 \pm 2 | 102 | 70 | M10 | 24 | 94 \pm 3 | 98 \pm 2 | 12 |
| DRD-77-F12 | | | 125 | 85 | M12 | 24 | | | |
| DRD-100-F12 | 114 \pm 2.5 | 102 \pm 2 | 125 | 85 | M12 | 24 | 106.5 \pm 3 | 111.5 \pm 1.5 | 12 |
| DRD-150-F14 | 140 \pm 3 | 136 \pm 2.5 | 140 | 100 | M16 | 53 | 137 \pm 3 | 137 \pm 3 | 12 |
| DRD-225-F14 | | | 140 | 100 | M16 | 53 | 137 | 147 \pm 3 | 12 |
| DRD-375-F16 | 177 \pm 3.5 | 175 \pm 3.5 | 165 | 130 | M20 | 53 | 172 \pm 3.5 | 172 \pm 3.5 | 18 |
| DRD-575-F16 | 210 \pm 4 | 210 \pm 4 | 165 | 130 | M20 | 53 | 210 \pm 4 | 210 \pm 4 | 18 |
| DRD-575-F25 | | | 254 | 200 | M16 | 53 | | | |
| DRD-880-F25 | 223.5 \pm 4.5 | 223.5 \pm 4.5 | 254 | 200 | M16 | 53 | 225 \pm 4.5 | 225 \pm 4.5 | 18 |
| DRD-880-F30 | | | 298 | 230 | M20 | 53 | | | |

| Size | H4 max. | H5 \pm 1 | L1 max. | L2 | L3 | L4 \pm 1 | T1 | T3 +1 | 2 H11 |
|-------------|------------|---------------|------------|-----|-----|---------------|------|----------|----------|
| DRD-8-F05 | 3 | 20 | 215 | 80 | - | 25.5 | 8.8 | 17 | 14 |
| DRD-14-F05 | | | 220 | 80 | | 25.15 | | | |
| DRD-26-F07 | 3 | 20 | 280 | 80 | 130 | 32.25 | 12.5 | 21 | 17 |
| DRD-50-F07 | | | 365 | 80 | 130 | 46.85 | 13 | | |
| DRD-50-F10 | 4 | 30 | 430 | 130 | - | 54.5 | 16 | 25 | 22 |
| DRD-77-F10 | 4 | 30 | | 16 | | | | | |
| DRD-77-F12 | 4 | 30 | 440 | 130 | - | 67.1 | 18 | 30 | 27 |
| DRD-100-F12 | | | | | | | 18 | | |
| DRD-150-F14 | 4 | 30 | 500 | 130 | - | 96.5 | 26 | 40 | 36 |
| DRD-225-F14 | | | 610 | 130 | | 99 | 22 | | |
| DRD-375-F16 | 5 | 30 | 755 | 130 | - | 96.41 | 25 | 50 | 46 |
| DRD-575-F16 | 5 | 30 | 760 | 150 | | | 25 | | |
| DRD-575-F25 | | | | | 25 | 59 | 55 | | |
| DRD-880-F25 | 5 | 30 | 920 | 175 | - | | | 136 | 25 |
| DRD-880-F30 | | | | | | 25 | | | |

Copar quarter turn actuators DRE

Technical data

FESTO

| Ordering data – Without adjustable end position | | | |
|---|-------------------|----------------------|-------------------|
| Spring-force closing | | Spring-force opening | |
| Part No. | Type | Part No. | Type |
| Size 2 | | | |
| 189 840 | DRE-2-F03-Q06-FS | 189 906 | DRE-2-F03-Q06-FO |
| 189 841 | DRE-2-F04-Q06-FS | 189 907 | DRE-2-F04-Q06-FO |
| 189 842 | DRE-2-F03-Q08-FS | 189 908 | DRE-2-F03-Q08-FO |
| 189 843 | DRE-2-F04-Q08-FS | 189 909 | DRE-2-F04-Q08-FO |
| 189 900 | DRE-2-F03-Q10-FS | 189 910 | DRE-2-F03-Q10-FO |
| 189 901 | DRE-2-F04-Q10-FS | 189 911 | DRE-2-F04-Q10-FO |
| 189 902 | DRE-2-F03-Q12-FS | 189 912 | DRE-2-F03-Q12-FO |
| 189 903 | DRE-2-F04-Q12-FS | 189 913 | DRE-2-F04-Q12-FO |
| 189 904 | DRE-2-F03-Q14-FS | 189 914 | DRE-2-F03-Q14-FO |
| 189 905 | DRE-2-F04-Q14-FS | 189 915 | DRE-2-F04-Q14-FO |
| Size 4 | | | |
| 189 956 | DRE-4-F04-Q06-FS | 189 966 | DRE-4-F04-Q06-FO |
| 189 957 | DRE-4-F05-Q06-FS | 189 967 | DRE-4-F05-Q06-FO |
| 189 958 | DRE-4-F04-Q08-FS | 189 968 | DRE-4-F04-Q08-FO |
| 189 959 | DRE-4-F05-Q08-FS | 189 969 | DRE-4-F05-Q08-FO |
| 189 960 | DRE-4-F04-Q10-FS | 189 970 | DRE-4-F04-Q10-FO |
| 189 961 | DRE-4-F05-Q10-FS | 189 971 | DRE-4-F05-Q10-FO |
| 189 962 | DRE-4-F04-Q12-FS | 189 972 | DRE-4-F04-Q12-FO |
| 189 963 | DRE-4-F05-Q12-FS | 189 973 | DRE-4-F05-Q12-FO |
| 189 964 | DRE-4-F04-Q14-FS | 189 974 | DRE-4-F04-Q14-FO |
| 189 965 | DRE-4-F05-Q14-FS | 189 975 | DRE-4-F05-Q14-FO |
| Size 8 | | | |
| 190 017 | DRE-8-F05-Q06-FS | 190 022 | DRE-8-F05-Q06-FO |
| 190 018 | DRE-8-F05-Q08-FS | 190 023 | DRE-8-F05-Q08-FO |
| 190 019 | DRE-8-F05-Q10-FS | 190 024 | DRE-8-F05-Q10-FO |
| 190 020 | DRE-8-F05-Q12-FS | 190 025 | DRE-8-F05-Q12-FO |
| 190 021 | DRE-8-F05-Q14-FS | 190 026 | DRE-8-F05-Q14-FO |
| Size 14 | | | |
| 190 057 | DRE-14-F05-Q06-FS | 190 062 | DRE-14-F05-Q06-FO |
| 190 058 | DRE-14-F05-Q08-FS | 190 063 | DRE-14-F05-Q08-FO |
| 190 059 | DRE-14-F05-Q10-FS | 190 064 | DRE-14-F05-Q10-FO |
| 190 060 | DRE-14-F05-Q12-FS | 190 065 | DRE-14-F05-Q12-FO |
| 190 061 | DRE-14-F05-Q14-FS | 190 066 | DRE-14-F05-Q14-FO |
| Size 26 | | | |
| 190 097 | DRE-26-F07-Q06-FS | 190 102 | DRE-26-F07-Q06-FO |
| 190 098 | DRE-26-F07-Q08-FS | 190 103 | DRE-26-F07-Q08-FO |
| 190 099 | DRE-26-F07-Q10-FS | 190 104 | DRE-26-F07-Q10-FO |
| 190 100 | DRE-26-F07-Q12-FS | 190 105 | DRE-26-F07-Q12-FO |
| 190 101 | DRE-26-F07-Q14-FS | 190 106 | DRE-26-F07-Q14-FO |



Note

Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary data see

→ 4

Copar quarter turn actuators DRE

Technical data

FESTO

| Ordering data – Without adjustable end position | | | |
|---|--------------------|----------------------|--------------------|
| Spring-force closing | | Spring-force opening | |
| Part No. | Type | Part No. | Type |
| Size 50 | | | |
| 190 137 | DRE-50-F07-Q06-FS | 190 147 | DRE-50-F07-Q06-FO |
| 190 138 | DRE-50-F10-Q06-FS | 190 148 | DRE-50-F10-Q06-FO |
| 190 139 | DRE-50-F07-Q08-FS | 190 149 | DRE-50-F07-Q08-FO |
| 190 140 | DRE-50-F10-Q08-FS | 190 150 | DRE-50-F10-Q08-FO |
| 190 141 | DRE-50-F07-Q10-FS | 190 151 | DRE-50-F07-Q10-FO |
| 190 142 | DRE-50-F10-Q10-FS | 190 152 | DRE-50-F10-Q10-FO |
| 190 143 | DRE-50-F07-Q12-FS | 190 153 | DRE-50-F07-Q12-FO |
| 190 144 | DRE-50-F10-Q12-FS | 190 154 | DRE-50-F10-Q12-FO |
| 190 145 | DRE-50-F07-Q14-FS | 190 155 | DRE-50-F07-Q14-FO |
| 190 146 | DRE-50-F10-Q14-FS | 190 156 | DRE-50-F10-Q14-FO |
| Size 77 | | | |
| 190 217 | DRE-77-F10-Q06-FS | 190 227 | DRE-77-F10-Q06-FO |
| 190 218 | DRE-77-F12-Q06-FS | 190 228 | DRE-77-F12-Q06-FO |
| 190 219 | DRE-77-F10-Q08-FS | 190 229 | DRE-77-F10-Q08-FO |
| 190 220 | DRE-77-F12-Q08-FS | 190 230 | DRE-77-F12-Q08-FO |
| 190 221 | DRE-77-F10-Q10-FS | 190 231 | DRE-77-F10-Q10-FO |
| 190 222 | DRE-77-F12-Q10-FS | 190 232 | DRE-77-F12-Q10-FO |
| 190 223 | DRE-77-F10-Q12-FS | 190 233 | DRE-77-F10-Q12-FO |
| 190 224 | DRE-77-F12-Q12-FS | 190 234 | DRE-77-F12-Q12-FO |
| 190 225 | DRE-77-F10-Q14-FS | 190 235 | DRE-77-F10-Q14-FO |
| 190 226 | DRE-77-F12-Q14-FS | 190 236 | DRE-77-F12-Q14-FO |
| Size 100 | | | |
| 190 297 | DRE-100-F12-Q06-FS | 190 302 | DRE-100-F12-Q06-FO |
| 190 298 | DRE-100-F12-Q08-FS | 190 303 | DRE-100-F12-Q08-FO |
| 190 299 | DRE-100-F12-Q10-FS | 190 304 | DRE-100-F12-Q10-FO |
| 190 300 | DRE-100-F12-Q12-FS | 190 305 | DRE-100-F12-Q12-FO |
| 190 301 | DRE-100-F12-Q14-FS | 190 306 | DRE-100-F12-Q14-FO |
| Size 150 | | | |
| 190 338 | DRE-150-F14-Q06-FS | 190 348 | DRE-150-F14-Q06-FO |
| 190 340 | DRE-150-F14-Q08-FS | 190 350 | DRE-150-F14-Q08-FO |
| 190 342 | DRE-150-F14-Q10-FS | 190 352 | DRE-150-F14-Q10-FO |
| 190 344 | DRE-150-F14-Q12-FS | 190 354 | DRE-150-F14-Q12-FO |
| 190 346 | DRE-150-F14-Q14-FS | 190 356 | DRE-150-F14-Q14-FO |



Note

Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary data see

→ 4

Copar quarter turn actuators DRE

Technical data

FESTO

| Ordering data – Without adjustable end position | | | |
|---|--------------------|----------------------|--------------------|
| Spring-force closing | | Spring-force opening | |
| Part No. | Type | Part No. | Type |
| Size 225 | | | |
| 190 398 | DRE-225-F14-Q06-FS | 190 408 | DRE-225-F14-Q06-FO |
| 190 400 | DRE-225-F14-Q08-FS | 190 410 | DRE-225-F14-Q08-FO |
| 190 402 | DRE-225-F14-Q10-FS | 190 412 | DRE-225-F14-Q10-FO |
| 190 404 | DRE-225-F14-Q12-FS | 190 414 | DRE-225-F14-Q12-FO |
| 190 406 | DRE-225-F14-Q14-FS | 190 416 | DRE-225-F14-Q14-FO |
| Size 375 | | | |
| 190 458 | DRE-375-F16-Q06-FS | 190 468 | DRE-375-F16-Q06-FO |
| 190 460 | DRE-375-F16-Q08-FS | 190 470 | DRE-375-F16-Q08-FO |
| 190 462 | DRE-375-F16-Q10-FS | 190 472 | DRE-375-F16-Q10-FO |
| 190 464 | DRE-375-F16-Q12-FS | 190 474 | DRE-375-F16-Q12-FO |
| 190 466 | DRE-375-F16-Q14-FS | 190 476 | DRE-375-F16-Q14-FO |
| Size 575 | | | |
| 190 517 | DRE-575-F16-Q06-FS | 190 527 | DRE-575-F16-Q06-FO |
| 190 518 | DRE-575-F25-Q06-FS | 190 528 | DRE-575-F25-Q06-FO |
| 190 519 | DRE-575-F16-Q09-FS | 190 529 | DRE-575-F16-Q09-FO |
| 190 520 | DRE-575-F25-Q09-FS | 190 530 | DRE-575-F25-Q09-FO |
| 190 521 | DRE-575-F16-Q12-FS | 190 531 | DRE-575-F16-Q12-FO |
| 190 522 | DRE-575-F25-Q12-FS | 190 532 | DRE-575-F25-Q12-FO |
| 190 523 | DRE-575-F16-Q15-FS | 190 533 | DRE-575-F16-Q15-FO |
| 190 524 | DRE-575-F25-Q15-FS | 190 534 | DRE-575-F25-Q15-FO |
| 190 525 | DRE-575-F16-Q18-FS | 190 535 | DRE-575-F16-Q18-FO |
| 190 526 | DRE-575-F25-Q18-FS | 190 536 | DRE-575-F25-Q18-FO |
| Size 880 | | | |
| 189 719 | DRE-880-F25-Q06-FS | 189 729 | DRE-880-F25-Q06-FO |
| 189 720 | DRE-880-F30-Q06-FS | 189 730 | DRE-880-F30-Q06-FO |
| 189 721 | DRE-880-F25-Q08-FS | 189 731 | DRE-880-F25-Q08-FO |
| 189 722 | DRE-880-F30-Q08-FS | 189 732 | DRE-880-F30-Q08-FO |
| 189 723 | DRE-880-F25-Q10-FS | 189 733 | DRE-880-F25-Q10-FO |
| 189 724 | DRE-880-F30-Q10-FS | 189 734 | DRE-880-F30-Q10-FO |
| 189 725 | DRE-880-F25-Q12-FS | 189 735 | DRE-880-F25-Q12-FO |
| 189 726 | DRE-880-F30-Q12-FS | 189 736 | DRE-880-F30-Q12-FO |
| 189 727 | DRE-880-F25-Q14-FS | 189 737 | DRE-880-F25-Q14-FO |
| 189 728 | DRE-880-F30-Q14-FS | 189 738 | DRE-880-F30-Q14-FO |



Note

Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary data see

→ 4

Copar quarter turn actuators DRE

Technical data

FESTO

| Ordering data – With adjustable end position | | | |
|--|----------------------|----------------------|----------------------|
| Spring-force closing | | Spring-force opening | |
| Part No. | Type | Part No. | Typ |
| Size 8 | | | |
| 190 027 | DRE-8-F05-Q06-FS-O | 190 032 | DRE-8-F05-Q06-FO-O |
| 190 028 | DRE-8-F05-Q08-FS-O | 190 033 | DRE-8-F05-Q08-FO-O |
| 190 029 | DRE-8-F05-Q10-FS-O | 190 034 | DRE-8-F05-Q10-FO-O |
| 190 030 | DRE-8-F05-Q12-FS-O | 190 035 | DRE-8-F05-Q12-FO-O |
| 190 031 | DRE-8-F05-Q14-FS-O | 190 036 | DRE-8-F05-Q14-FO-O |
| Size 14 | | | |
| 190 067 | DRE-14-F05-Q06-FS-O | 190 072 | DRE-14-F05-Q06-FO-O |
| 190 068 | DRE-14-F05-Q08-FS-O | 190 073 | DRE-14-F05-Q08-FO-O |
| 190 069 | DRE-14-F05-Q10-FS-O | 190 074 | DRE-14-F05-Q10-FO-O |
| 190 070 | DRE-14-F05-Q12-FS-O | 190 075 | DRE-14-F05-Q12-FO-O |
| 190 071 | DRE-14-F05-Q14-FS-O | 190 076 | DRE-14-F05-Q14-FO-O |
| Size 26 | | | |
| 561 881 | DRE-26-F07-Q06-FS-O | 561 886 | DRE-26-F07-Q06-FO-O |
| 561 882 | DRE-26-F07-Q08-FS-O | 561 887 | DRE-26-F07-Q08-FO-O |
| 561 883 | DRE-26-F07-Q10-FS-O | 561 888 | DRE-26-F07-Q10-FO-O |
| 561 884 | DRE-26-F07-Q12-FS-O | 561 889 | DRE-26-F07-Q12-FO-O |
| 561 885 | DRE-26-F07-Q14-FS-O | 561 890 | DRE-26-F07-Q14-FO-O |
| Size 50 | | | |
| 561 901 | DRE-50-F07-Q06-FS-O | 561 911 | DRE-50-F07-Q06-FO-O |
| 561 902 | DRE-50-F10-Q06-FS-O | 561 912 | DRE-50-F10-Q06-FO-O |
| 561 903 | DRE-50-F07-Q08-FS-O | 561 913 | DRE-50-F07-Q08-FO-O |
| 561 904 | DRE-50-F10-Q08-FS-O | 561 914 | DRE-50-F10-Q08-FO-O |
| 561 905 | DRE-50-F07-Q10-FS-O | 561 915 | DRE-50-F07-Q10-FO-O |
| 561 906 | DRE-50-F10-Q10-FS-O | 561 916 | DRE-50-F10-Q10-FO-O |
| 561 907 | DRE-50-F07-Q12-FS-O | 561 917 | DRE-50-F07-Q12-FO-O |
| 561 908 | DRE-50-F10-Q12-FS-O | 561 918 | DRE-50-F10-Q12-FO-O |
| 561 909 | DRE-50-F07-Q14-FS-O | 561 919 | DRE-50-F07-Q14-FO-O |
| 561 910 | DRE-50-F10-Q14-FS-O | 561 920 | DRE-50-F10-Q14-FO-O |
| Size 77 | | | |
| 561 941 | DRE-77-F10-Q06-FS-O | 561 951 | DRE-77-F10-Q06-FO-O |
| 561 942 | DRE-77-F12-Q06-FS-O | 561 952 | DRE-77-F12-Q06-FO-O |
| 561 943 | DRE-77-F10-Q08-FS-O | 561 953 | DRE-77-F10-Q08-FO-O |
| 561 944 | DRE-77-F12-Q08-FS-O | 561 954 | DRE-77-F12-Q08-FO-O |
| 561 945 | DRE-77-F10-Q10-FS-O | 561 955 | DRE-77-F10-Q10-FO-O |
| 561 946 | DRE-77-F12-Q10-FS-O | 561 956 | DRE-77-F12-Q10-FO-O |
| 561 947 | DRE-77-F10-Q12-FS-O | 561 957 | DRE-77-F10-Q12-FO-O |
| 561 948 | DRE-77-F12-Q12-FS-O | 561 958 | DRE-77-F12-Q12-FO-O |
| 561 949 | DRE-77-F10-Q14-FS-O | 561 959 | DRE-77-F10-Q14-FO-O |
| 561 950 | DRE-77-F12-Q14-FS-O | 561 960 | DRE-77-F12-Q14-FO-O |
| Size 100 | | | |
| 561 981 | DRE-100-F12-Q06-FS-O | 561 986 | DRE-100-F12-Q06-FO-O |
| 561 982 | DRE-100-F12-Q08-FS-O | 561 987 | DRE-100-F12-Q08-FO-O |
| 561 983 | DRE-100-F12-Q10-FS-O | 561 988 | DRE-100-F12-Q10-FO-O |
| 561 984 | DRE-100-F12-Q12-FS-O | 561 989 | DRE-100-F12-Q12-FO-O |
| 561 985 | DRE-100-F12-Q14-FS-O | 561 990 | DRE-100-F12-Q14-FO-O |



Note

Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary data see

→ 4

Copar quarter turn actuators DRE

Technical data

FESTO

| Ordering data – Corrosion resistant | | | |
|-------------------------------------|---------------------|----------------------|---------------------|
| Spring-force closing | | Spring-force opening | |
| Part No. | Type | Part No. | Type |
| Size 2 | | | |
| 189 936 | DRE-2-F03-Q06-FS-C | 189 946 | DRE-2-F03-Q06-FO-C |
| 189 937 | DRE-2-F04-Q06-FS-C | 189 947 | DRE-2-F04-Q06-FO-C |
| 189 938 | DRE-2-F03-Q08-FS-C | 189 948 | DRE-2-F03-Q08-FO-C |
| 189 939 | DRE-2-F04-Q08-FS-C | 189 949 | DRE-2-F04-Q08-FO-C |
| 189 940 | DRE-2-F03-Q10-FS-C | 189 950 | DRE-2-F03-Q10-FO-C |
| 189 941 | DRE-2-F04-Q10-FS-C | 189 951 | DRE-2-F04-Q10-FO-C |
| 189 942 | DRE-2-F03-Q12-FS-C | 189 952 | DRE-2-F03-Q12-FO-C |
| 189 943 | DRE-2-F04-Q12-FS-C | 189 953 | DRE-2-F04-Q12-FO-C |
| 189 944 | DRE-2-F03-Q14-FS-C | 189 954 | DRE-2-F03-Q14-FO-C |
| 189 945 | DRE-2-F04-Q14-FS-C | 189 955 | DRE-2-F04-Q14-FO-C |
| Size 4 | | | |
| 189 997 | DRE-4-F04-Q06-FS-C | 190 007 | DRE-4-F04-Q06-FO-C |
| 189 998 | DRE-4-F05-Q06-FS-C | 190 008 | DRE-4-F05-Q06-FO-C |
| 189 999 | DRE-4-F04-Q08-FS-C | 190 009 | DRE-4-F04-Q08-FO-C |
| 190 000 | DRE-4-F05-Q08-FS-C | 190 010 | DRE-4-F05-Q08-FO-C |
| 190 001 | DRE-4-F04-Q10-FS-C | 190 011 | DRE-4-F04-Q10-FO-C |
| 190 002 | DRE-4-F05-Q10-FS-C | 190 012 | DRE-4-F05-Q10-FO-C |
| 190 003 | DRE-4-F04-Q12-FS-C | 190 013 | DRE-4-F04-Q12-FO-C |
| 190 004 | DRE-4-F05-Q12-FS-C | 190 014 | DRE-4-F05-Q12-FO-C |
| 190 005 | DRE-4-F04-Q14-FS-C | 190 015 | DRE-4-F04-Q14-FO-C |
| 190 006 | DRE-4-F05-Q14-FS-C | 190 016 | DRE-4-F05-Q14-FO-C |
| Size 8 | | | |
| 190 047 | DRE-8-F05-Q06-FS-C | 190 052 | DRE-8-F05-Q06-FO-C |
| 190 048 | DRE-8-F05-Q08-FS-C | 190 053 | DRE-8-F05-Q08-FO-C |
| 190 049 | DRE-8-F05-Q10-FS-C | 190 054 | DRE-8-F05-Q10-FO-C |
| 190 050 | DRE-8-F05-Q12-FS-C | 190 055 | DRE-8-F05-Q12-FO-C |
| 190 051 | DRE-8-F05-Q14-FS-C | 190 056 | DRE-8-F05-Q14-FO-C |
| Size 14 | | | |
| 190 087 | DRE-14-F05-Q06-FS-C | 190 092 | DRE-14-F05-Q06-FO-C |
| 190 088 | DRE-14-F05-Q08-FS-C | 190 093 | DRE-14-F05-Q08-FO-C |
| 190 089 | DRE-14-F05-Q10-FS-C | 190 094 | DRE-14-F05-Q10-FO-C |
| 190 090 | DRE-14-F05-Q12-FS-C | 190 095 | DRE-14-F05-Q12-FO-C |
| 190 091 | DRE-14-F05-Q14-FS-C | 190 096 | DRE-14-F05-Q14-FO-C |
| Size 26 | | | |
| 190 127 | DRE-26-F07-Q06-FS-C | 190 132 | DRE-26-F07-Q06-FO-C |
| 190 128 | DRE-26-F07-Q08-FS-C | 190 133 | DRE-26-F07-Q08-FO-C |
| 190 129 | DRE-26-F07-Q10-FS-C | 190 134 | DRE-26-F07-Q10-FO-C |
| 190 130 | DRE-26-F07-Q12-FS-C | 190 135 | DRE-26-F07-Q12-FO-C |
| 190 131 | DRE-26-F07-Q14-FS-C | 190 136 | DRE-26-F07-Q14-FO-C |



Note

Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary data see

→ 4

Copar quarter turn actuators DRE

Technical data

FESTO

| Ordering data – Corrosion resistant | | | |
|-------------------------------------|----------------------|----------------------|----------------------|
| Spring-force closing | | Spring-force opening | |
| Part No. | Type | Part No. | Type |
| Size 50 | | | |
| 190 197 | DRE-50-F07-Q06-FS-C | 190 207 | DRE-50-F07-Q06-FO-C |
| 190 198 | DRE-50-F10-Q06-FS-C | 190 208 | DRE-50-F10-Q06-FO-C |
| 190 199 | DRE-50-F07-Q08-FS-C | 190 209 | DRE-50-F07-Q08-FO-C |
| 190 200 | DRE-50-F10-Q08-FS-C | 190 210 | DRE-50-F10-Q08-FO-C |
| 190 201 | DRE-50-F07-Q10-FS-C | 190 211 | DRE-50-F07-Q10-FO-C |
| 190 202 | DRE-50-F10-Q10-FS-C | 190 212 | DRE-50-F10-Q10-FO-C |
| 190 203 | DRE-50-F07-Q12-FS-C | 190 213 | DRE-50-F07-Q12-FO-C |
| 190 204 | DRE-50-F10-Q12-FS-C | 190 214 | DRE-50-F10-Q12-FO-C |
| 190 205 | DRE-50-F07-Q14-FS-C | 190 215 | DRE-50-F07-Q14-FO-C |
| 190 206 | DRE-50-F10-Q14-FS-C | 190 216 | DRE-50-F10-Q14-FO-C |
| Size 77 | | | |
| 190 277 | DRE-77-F10-Q06-FS-C | 190 287 | DRE-77-F10-Q06-FO-C |
| 190 278 | DRE-77-F12-Q06-FS-C | 190 288 | DRE-77-F12-Q06-FO-C |
| 190 279 | DRE-77-F10-Q08-FS-C | 190 289 | DRE-77-F10-Q08-FO-C |
| 190 280 | DRE-77-F12-Q08-FS-C | 190 290 | DRE-77-F12-Q08-FO-C |
| 190 281 | DRE-77-F10-Q10-FS-C | 190 291 | DRE-77-F10-Q10-FO-C |
| 190 282 | DRE-77-F12-Q10-FS-C | 190 292 | DRE-77-F12-Q10-FO-C |
| 190 283 | DRE-77-F10-Q12-FS-C | 190 293 | DRE-77-F10-Q12-FO-C |
| 190 284 | DRE-77-F12-Q12-FS-C | 190 294 | DRE-77-F12-Q12-FO-C |
| 190 285 | DRE-77-F10-Q14-FS-C | 190 295 | DRE-77-F10-Q14-FO-C |
| 190 286 | DRE-77-F12-Q14-FS-C | 190 296 | DRE-77-F12-Q14-FO-C |
| Size 100 | | | |
| 190 327 | DRE-100-F12-Q06-FS-C | 190 332 | DRE-100-F12-Q06-FO-C |
| 190 328 | DRE-100-F12-Q08-FS-C | 190 333 | DRE-100-F12-Q08-FO-C |
| 190 329 | DRE-100-F12-Q10-FS-C | 190 334 | DRE-100-F12-Q10-FO-C |
| 190 330 | DRE-100-F12-Q12-FS-C | 190 335 | DRE-100-F12-Q12-FO-C |
| 190 331 | DRE-100-F12-Q14-FS-C | 190 336 | DRE-100-F12-Q14-FO-C |
| Size 150 | | | |
| 190 378 | DRE-150-F14-Q06-FS-C | 190 388 | DRE-150-F14-Q06-FO-C |
| 190 380 | DRE-150-F14-Q08-FS-C | 190 390 | DRE-150-F14-Q08-FO-C |
| 190 382 | DRE-150-F14-Q10-FS-C | 190 392 | DRE-150-F14-Q10-FO-C |
| 190 384 | DRE-150-F14-Q12-FS-C | 190 394 | DRE-150-F14-Q12-FO-C |
| 190 386 | DRE-150-F14-Q14-FS-C | 190 396 | DRE-150-F14-Q14-FO-C |



Note

Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary data see

→ 4

Copar quarter turn actuators DRE

Technical data

FESTO

| Ordering data – Corrosion resistant | | | |
|-------------------------------------|----------------------|----------------------|----------------------|
| Spring-force closing | | Spring-force opening | |
| Part No. | Type | Part No. | Type |
| Size 225 | | | |
| 190 438 | DRE-225-F14-Q06-FS-C | 190 448 | DRE-225-F14-Q06-FO-C |
| 190 440 | DRE-225-F14-Q08-FS-C | 190 450 | DRE-225-F14-Q08-FO-C |
| 190 442 | DRE-225-F14-Q10-FS-C | 190 452 | DRE-225-F14-Q10-FO-C |
| 190 444 | DRE-225-F14-Q12-FS-C | 190 454 | DRE-225-F14-Q12-FO-C |
| 190 446 | DRE-225-F14-Q14-FS-C | 190 456 | DRE-225-F14-Q14-FO-C |
| Size 375 | | | |
| 190 498 | DRE-375-F16-Q06-FS-C | 190 508 | DRE-375-F16-Q06-FO-C |
| 190 500 | DRE-375-F16-Q08-FS-C | 190 510 | DRE-375-F16-Q08-FO-C |
| 190 502 | DRE-375-F16-Q10-FS-C | 190 512 | DRE-375-F16-Q10-FO-C |
| 190 504 | DRE-375-F16-Q12-FS-C | 190 514 | DRE-375-F16-Q12-FO-C |
| 190 506 | DRE-375-F16-Q14-FS-C | 190 516 | DRE-375-F16-Q14-FO-C |
| Size 575 | | | |
| 189 699 | DRE-575-F16-Q06-FS-C | 189 709 | DRE-575-F16-Q06-FO-C |
| 189 700 | DRE-575-F25-Q06-FS-C | 189 710 | DRE-575-F25-Q06-FO-C |
| 189 701 | DRE-575-F16-Q08-FS-C | 189 711 | DRE-575-F16-Q09-FO-C |
| 189 702 | DRE-575-F25-Q08-FS-C | 189 712 | DRE-575-F25-Q09-FO-C |
| 189 703 | DRE-575-F16-Q10-FS-C | 189 713 | DRE-575-F16-Q12-FO-C |
| 189 704 | DRE-575-F25-Q10-FS-C | 189 714 | DRE-575-F25-Q12-FS-C |
| 189 705 | DRE-575-F16-Q12-FS-C | 189 715 | DRE-575-F16-Q15-FS-C |
| 189 706 | DRE-575-F25-Q12-FS-C | 189 716 | DRE-575-F25-Q15-FO-C |
| 189 707 | DRE-575-F16-Q14-FS-C | 189 717 | DRE-575-F16-Q18-FO-C |
| 189 708 | DRE-575-F25-Q14-FS-C | 189 718 | DRE-575-F25-Q18-FO-C |
| Size 880 | | | |
| 189 759 | DRE-880-F25-Q06-FS-C | 189 850 | DRE-880-F25-Q06-FO-C |
| 189 760 | DRE-880-F30-Q06-FS-C | 189 851 | DRE-880-F30-Q06-FO-C |
| 189 761 | DRE-880-F25-Q08-FS-C | 189 852 | DRE-880-F25-Q08-FO-C |
| 189 762 | DRE-880-F30-Q08-FS-C | 189 853 | DRE-880-F30-Q08-FO-C |
| 189 844 | DRE-880-F25-Q10-FS-C | 189 854 | DRE-880-F25-Q10-FO-C |
| 189 845 | DRE-880-F30-Q10-FS-C | 189 855 | DRE-880-F30-Q10-FO-C |
| 189 846 | DRE-880-F25-Q12-FS-C | 189 856 | DRE-880-F25-Q12-FO-C |
| 189 847 | DRE-880-F30-Q12-FS-C | 189 857 | DRE-880-F30-Q12-FO-C |
| 189 848 | DRE-880-F25-Q14-FS-C | 189 858 | DRE-880-F25-Q14-FO-C |
| 189 849 | DRE-880-F30-Q14-FS-C | 189 859 | DRE-880-F30-Q14-FO-C |



Note

Should a quarter turn actuator be required with options that exceed these, then the appropriate order code needs to be established. There is no part number for this order code; for the necessary data see

→ 4

Copar quarter turn actuators DRD/DRE

Accessories

FESTO

Stop DADP

Based/complies with standard VDI/VDE 3845 (Namur)

Scope of delivery:

1 stop

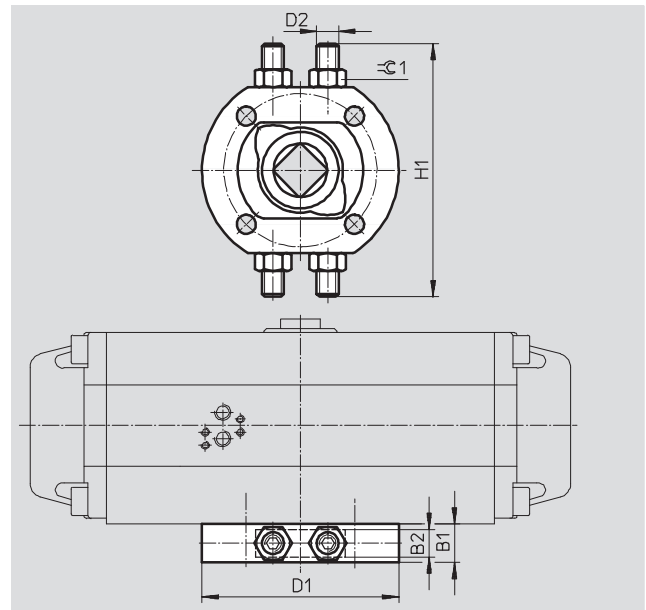
Material:

Housing, plate: Nickel plated steel

Nut, screws: Galvanised steel

Bearing: Polyacetal

Free of copper, PTFE and silicone



| Dimensions and ordering data | | | | | | | | | | | |
|------------------------------|---------------------|----|----|---------|-----|-----|-----|-------------------|---------------|----------------|-----------------|
| Size | Flange hole pattern | B1 | B2 | D1 ∅ | D2 | H1 | ≈C1 | CRC ¹⁾ | Weight [g] | Part No. | Type |
| 150, 225 | F14 | 35 | 25 | 180 | M20 | 232 | 30 | 2 | 5,000 | 539 930 | DADP-F14 |
| 375, 575 | F16 | 45 | 35 | 200 | M24 | 256 | 36 | 2 | 8,000 | 539 931 | DADP-F16 |
| 575, 880 | F25 | 60 | 50 | 300 | M30 | 344 | 46 | 2 | 23,500 | 539 932 | DADP-F25 |

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.