




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

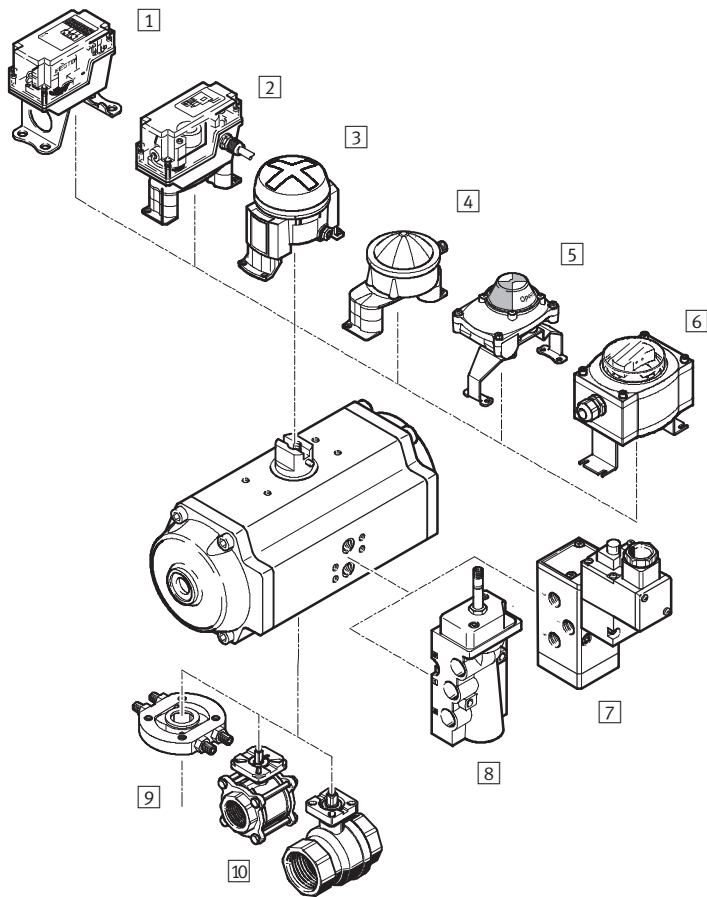


Flange hole pattern – Connection dimensions to DIN ISO 5211 and Namur VDI/VDE 3845

| 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

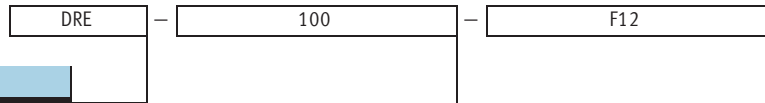


| Mounting attachments and accessories | | | |
|--------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| | 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 | Sensor box SRBP, SRAP | SRBP, binary sensor box reports the open and closed position of the drive SRAP, analogue sensor box continuously senses the entire swivel range and reports this back to the controller | srbp, srpap |
| 7 | 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 |
| 8 | Solenoid valve NVF3 | For F solenoid coil and explosion-proof F solenoid coil | nvf3 |
| 9 | 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 |
| 10 | Ball valve VAPB | Brass or stainless steel, corrosion-resistant | vapb |

Copar quarter turn actuators DRD/DRE

Type codes

FESTO



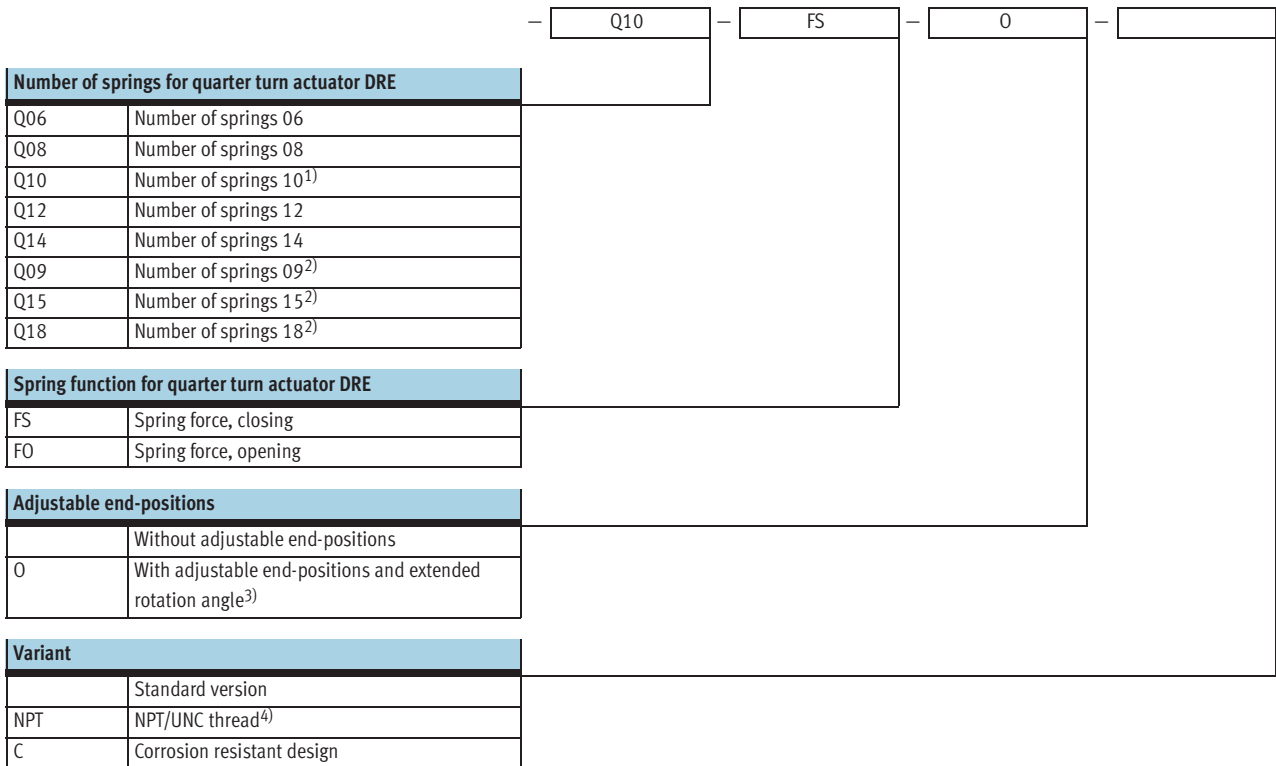
| Type | |
|------|-------------------------------------|
| DRD | Double-acting quarter turn actuator |
| DRE | Single-acting quarter turn actuator |

| Size | |
|------|----------|
| 1 | Size 1 |
| 2 | Size 2 |
| 4 | Size 4 |
| 8 | Size 8 |
| 14 | Size 14 |
| 26 | Size 26 |
| 50 | Size 50 |
| 77 | Size 77 |
| 100 | Size 100 |
| 150 | Size 150 |
| 225 | Size 225 |
| 375 | Size 375 |
| 575 | Size 575 |
| 880 | Size 880 |

| Flange hole pattern | |
|---------------------|---------------------------------------------------|
| F03 | Flange hole pattern F03 with shaft connection V09 |
| F04 | Flange hole pattern F04 with shaft connection V11 |
| F05 | Flange hole pattern F05 with shaft connection V14 |
| F07 | Flange hole pattern F07 with shaft connection V17 |
| F10 | Flange hole pattern F10 with shaft connection V22 |
| F12 | Flange hole pattern F12 with shaft connection V27 |
| F14 | Flange hole pattern F14 with shaft connection V36 |
| F16 | Flange hole pattern F16 with shaft connection V46 |
| F25 | Flange hole pattern F25 with shaft connection V55 |
| F30 | Flange hole pattern F30 with shaft connection V75 |

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

Copar quarter turn actuators DRD/DRE

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

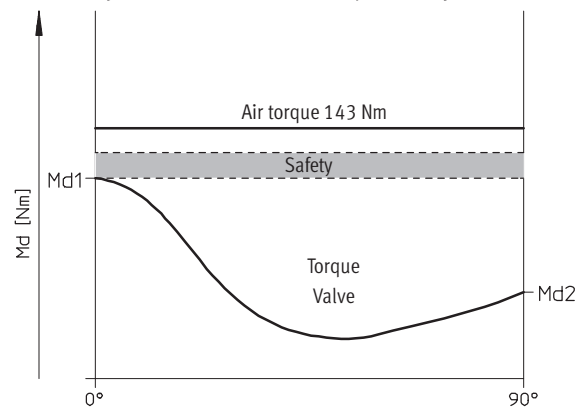
A breakaway torque of 100 Nm is determined for the valve. A safety factor of 1.2 is selected.

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

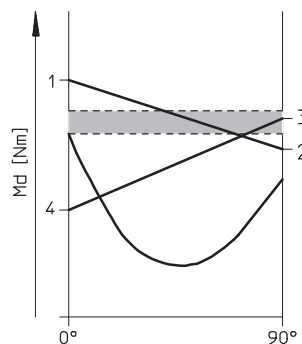
A breakaway torque of 20 Nm is established for a ball valve. A safety factor of 1.2 is selected. This gives a minimum torque of 24 Nm for opening the ball valve.

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.

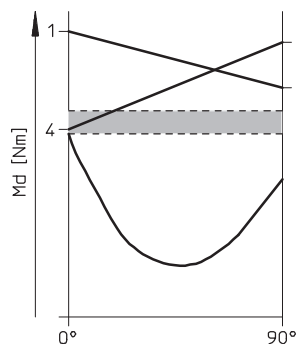
The 3 diagrams below show the calculated breakaway torques and closing torques using the typical torque characteristics of a ball valve and the torque lines of quarter turn actuators of the Copar series. These were selected using the torque tables.

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



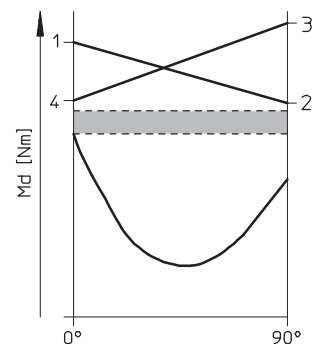
■ Necessary safety factor 20%

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

Copar quarter turn actuators DRD/DRE

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

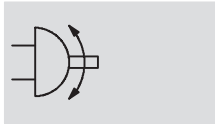
piston by 180° to reverse the direction of rotation), the springs must apply the breakaway torque and the air torque must be large enough to be able to close the valve once more.


Copar quarter turn actuators DRD

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 |


Copar quarter turn actuators DRD

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 |

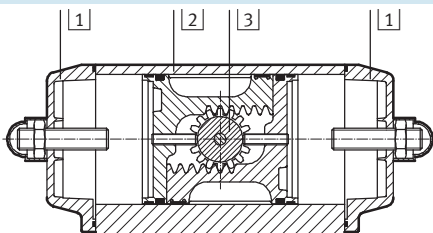
-  - Note

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 |

Copar quarter turn actuators DRD

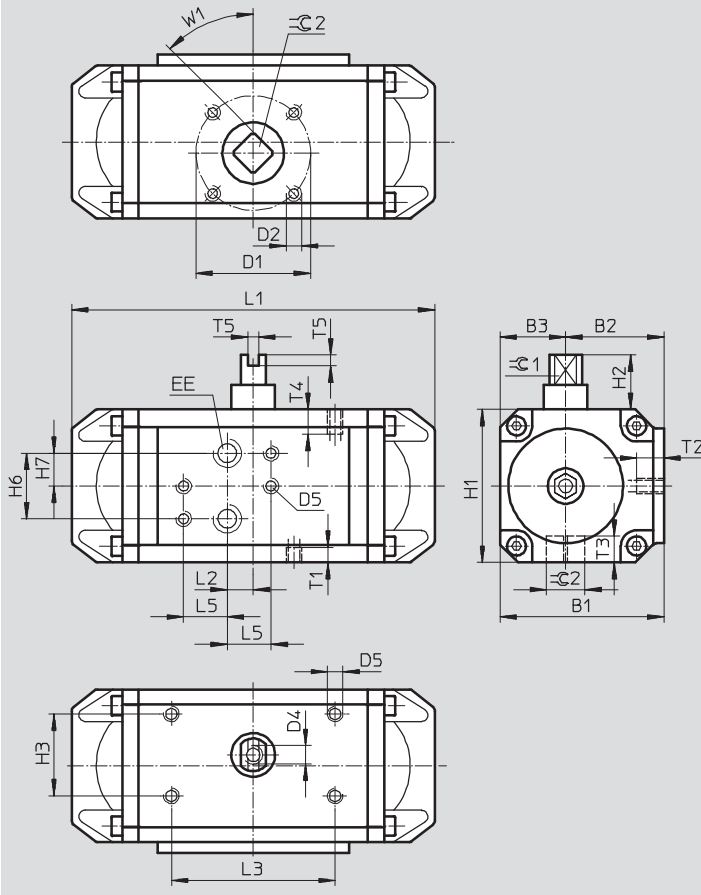
Technical data

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Dimensions

Download CAD data → www.festo.com

Size 1 ... 4



| Size | B1 | B2 | B3 | D1 ∅ | D2 | D4 | D5 | EE | H1 | H2 | H3 | H6 | H7 |
|-----------|----|----|----|---------|----|----|----|-----------------|----|----|----|----|----|
| DRD-1-F03 | 45 | 25 | 20 | 36 | M5 | M6 | M5 | G $\frac{1}{8}$ | 45 | 20 | 25 | 24 | 12 |
| DRD-2-F04 | 60 | 34 | 26 | 42 | M5 | | | | 56 | 20 | 25 | | |
| DRD-2-F03 | | | | 36 | | | | | 66 | 20 | 30 | | |
| DRD-4-F05 | 71 | 38 | 33 | 50 | M6 | | | | 66 | 20 | 30 | | |
| DRD-4-F04 | | | | 42 | M5 | | | | | | | | |

| Size | L1 | L2 | L3 | L5 | T1 min. | T2 | T3 +2 | T4 | T5 | W1 ±0.1 | ≡C1 ±0.1 | ≡C2 H11 |
|-----------|-----|----|----|----|------------|----|----------|----|----|------------|-------------|------------|
| DRD-1-F03 | 89 | 11 | 50 | 16 | 5 | 5 | 10 | 6 | 4 | 45° | 8 | 9 |
| DRD-2-F04 | 133 | 10 | 50 | | 6 | 7 | 12 | | | | 9 | 11 |
| DRD-2-F03 | | | | | 10 | 9 | | | | | | |
| DRD-4-F05 | | | | | 7 | 7 | 16 | | | | 14 | |
| DRD-4-F04 | 175 | 24 | 80 | | 12 | 11 | | | | | | |

Copar quarter turn actuators DRD

Technical data

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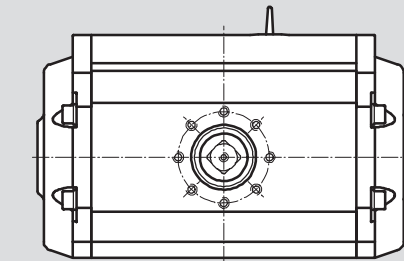
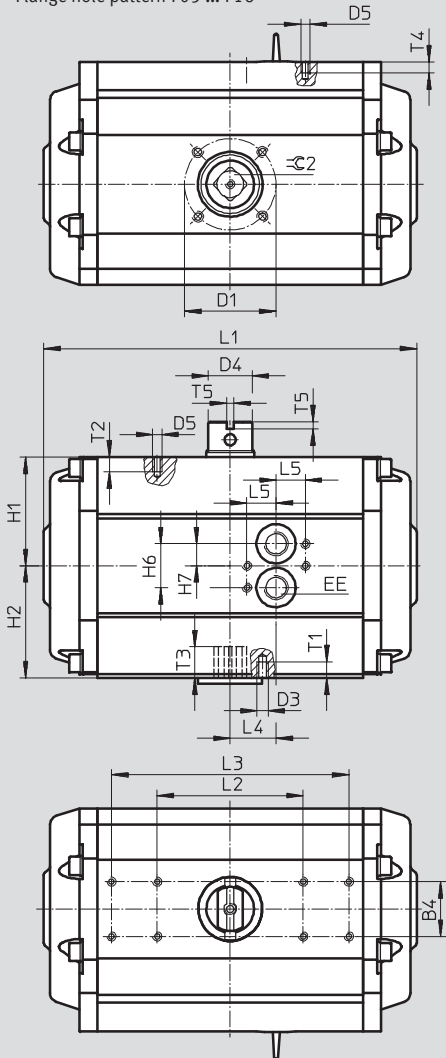
Dimensions

Download CAD data → www.festo.com

Size 8 ... 880

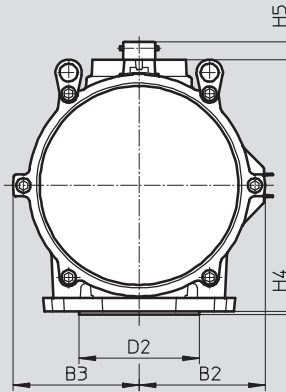
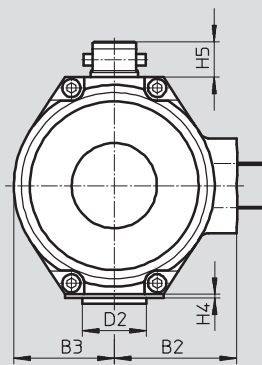
Flange hole pattern F05 ... F16

Flange hole pattern F25 ... F30



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

... 150-F14 880-F30



Copar quarter turn actuators DRD

Technical data



| Size | B2 | B3 | B4 | D1 ∅ | D2 ∅ | D3 ∅ | D4 ∅ | D5 | EE | H1 | H2 | H3 | H4 max. | H5 ±1 |
|-------------|-----------------------|-----------------------|----|---------------------|-------------------|---------|---------------------|----|-------------------------------|----------------------|----------------------|----|------------|----------|
| DRD-8-F05 | 52.5 _{±1} | 41 _{±1} | 30 | 50 | 35 | M6 | 24 | M5 | G ¹ / ₄ | 44.5 _{±1.5} | 46.5 _{±1} | 12 | 3 | 20 |
| DRD-14-F05 | 67 _{±1.5} | 55 _{±1.5} | | 50 | 35 | M6 | | | | 59.5 _{±1.5} | 61.5 _{±1} | | | |
| DRD-26-F07 | 79 _{±2} | 67 _{±2} | | 70 | 55 | M8 | | | | 71.5 _{±1.5} | 74.5 _{±1.5} | | | |
| DRD-50-F07 | 94 _{±2} | 78 _{±2} | | 70 | 55 | M8 | | | | 81.5 _{±2.5} | 84.5 _{±1.5} | | | |
| DRD-50-F10 | | | | 102 | 70 | M10 | | | | | | | | |
| DRD-77-F10 | 100 _{±2} | 90 _{±2} | | 102 | 70 | M10 | | | | 94 _{±3} | 98 _{±2} | | | |
| DRD-77-F12 | | | | 125 | 85 | M12 | | | | | | | | |
| DRD-100-F12 | | | | 114 _{±2.5} | 102 _{±2} | 125 | | | | | | | 85 | M12 |
| DRD-150-F14 | 140 _{±3} | 136 _{±2.5} | | 140 | 100 | M16 | 137 _{±3} | | | 137 _{±3} | | | | |
| DRD-225-F14 | | | | 140 | 100 | M16 | 137 | | | 147 _{±3} | | | | |
| DRD-375-F16 | 177 _{±3.5} | 175 _{±3.5} | | 165 | 130 | M20 | 172 _{±3.5} | | | 172 _{±3.5} | | | | |
| DRD-575-F16 | 210 _{±4} | 210 _{±4} | | 165 | 130 | M20 | 210 _{±4} | | | 210 _{±4} | | | | |
| DRD-575-F25 | | | | 254 | 200 | M16 | | | | | | | | |
| DRD-880-F25 | 223.5 _{±4.5} | 223.5 _{±4.5} | | 254 | 200 | M16 | 225 _{±4.5} | | | 225 _{±4.5} | | | | |
| DRD-880-F30 | | | | 298 | 230 | M20 | | | | | | | | |

| Size | H6 | H7 | L1 max. | L2 | L3 | L4 ±1 | L5 | T1 | T2 | T3 +1 | T4 | T5 | ≈C2 H11 |
|-------------|----|----|------------|-----|-------|----------|----|------|----|----------|----|----|------------|
| DRD-8-F05 | 24 | 12 | 215 | 80 | - | 25.5 | 16 | 8.8 | 8 | 17 | 6 | 4 | 14 |
| DRD-14-F05 | | | 220 | 80 | | 25.15 | | | | | | | |
| DRD-26-F07 | | | 280 | 80 | 130 | 32.25 | | 12.5 | | 21 | | | |
| DRD-50-F07 | | | 365 | 80 | 130 | 46.85 | | 13 | | | | | |
| DRD-50-F10 | | | | 130 | 16 | | | 25 | | | | | |
| DRD-77-F10 | | | 430 | 130 | 16 | 30 | | | | | | | |
| DRD-77-F12 | | | 440 | 130 | 18 | | | 27 | | | | | |
| DRD-100-F12 | | | 370 | 130 | 18 | 36 | | | | | | | |
| DRD-150-F14 | | | 480 | 130 | - | | | 26 | | 40 | | | |
| DRD-225-F14 | | | 480 | 130 | 96.5 | 26 | | | | | | | |
| DRD-375-F16 | | | 520 | 130 | 99 | 22 | | 50 | | | | | |
| DRD-575-F16 | | | 540 | 150 | 96.41 | 25 | | | | | | | |
| DRD-575-F25 | | | | | | 25 | | 59 | | | | | |
| DRD-880-F25 | | | 25 | 75 | | | | | | | | | |
| DRD-880-F30 | | | 700 | | 175 | 136 | | 25 | | | | | |

Copar quarter turn actuators DRD

Technical data

| Ordering data – Without adjustable end position | | | |
|-------------------------------------------------|------------|----------|-------------|
| Part No. | Type | Part No. | Type |
| Size 1 | | Size 77 | |
| 189781 | DRD-1-F03 | 189768 | DRD-77-F10 |
| | | 189769 | DRD-77-F12 |
| Size 2 | | Size 100 | |
| 189782 | DRD-2-F03 | 189770 | DRD-100-F12 |
| 189783 | DRD-2-F04 | | |
| Size 4 | | Size 150 | |
| 189784 | DRD-4-F04 | 189772 | DRD-150-F14 |
| 189785 | DRD-4-F05 | | |
| Size 8 | | Size 225 | |
| 189763 | DRD-8-F05 | 189774 | DRD-225-F14 |
| Size 14 | | Size 375 | |
| 189764 | DRD-14-F05 | 189776 | DRD-375-F16 |
| Size 26 | | Size 575 | |
| 189765 | DRD-26-F07 | 189777 | DRD-575-F16 |
| | | 189778 | DRD-575-F25 |
| Size 50 | | Size 880 | |
| 189766 | DRD-50-F07 | 189779 | DRD-880-F25 |
| 189767 | DRD-50-F10 | 189780 | 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 | | | |
|----------------------------------------------|--------------|----------|---------------|
| Part No. | Type | Part No. | Type |
| Size 8 | | Size 50 | |
| 560518 | DRD-8-F05-0 | 560524 | DRD-50-F07-0 |
| | | 560526 | DRD-50-F10-0 |
| Size 14 | | Size 77 | |
| 560520 | DRD-14-F05-0 | 560528 | DRD-77-F10-0 |
| | | 560530 | DRD-77-F12-0 |
| Size 26 | | Size 100 | |
| 560522 | DRD-26-F07-0 | 560532 | DRD-100-F12-0 |



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

| Ordering data – Corrosion resistant | | Ordering data – Corrosion resistant | |
|-------------------------------------|--------------|-------------------------------------|---------------|
| Part No. | Type | Part No. | Type |
| Size 1 | | Size 77 | |
| 189835 | DRD-1-F03-C | 189822 | DRD-77-F10-C |
| | | 189823 | DRD-77-F12-C |
| Size 2 | | Size 100 | |
| 189836 | DRD-2-F03-C | 189824 | DRD-100-F12-C |
| 189837 | DRD-2-F04-C | | |
| Size 4 | | Size 150 | |
| 189838 | DRD-4-F04-C | 189826 | DRD-150-F14-C |
| 189839 | DRD-4-F05-C | | |
| Size 8 | | Size 225 | |
| 189817 | DRD-8-F05-C | 189828 | DRD-225-F14-C |
| Size 14 | | Size 375 | |
| 189818 | DRD-14-F05-C | 189830 | DRD-375-F16-C |
| Size 26 | | Size 575 | |
| 189819 | DRD-26-F07-C | 189831 | DRD-575-F16-C |
| | | 189832 | DRD-575-F25-C |
| Size 50 | | Size 880 | |
| 189820 | DRD-50-F07-C | 189833 | DRD-880-F25-C |
| 189821 | DRD-50-F10-C | 189834 | 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

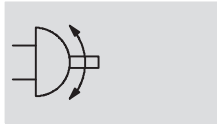
→ 4

Copar quarter turn actuators DRE

FESTO

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

| 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

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-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

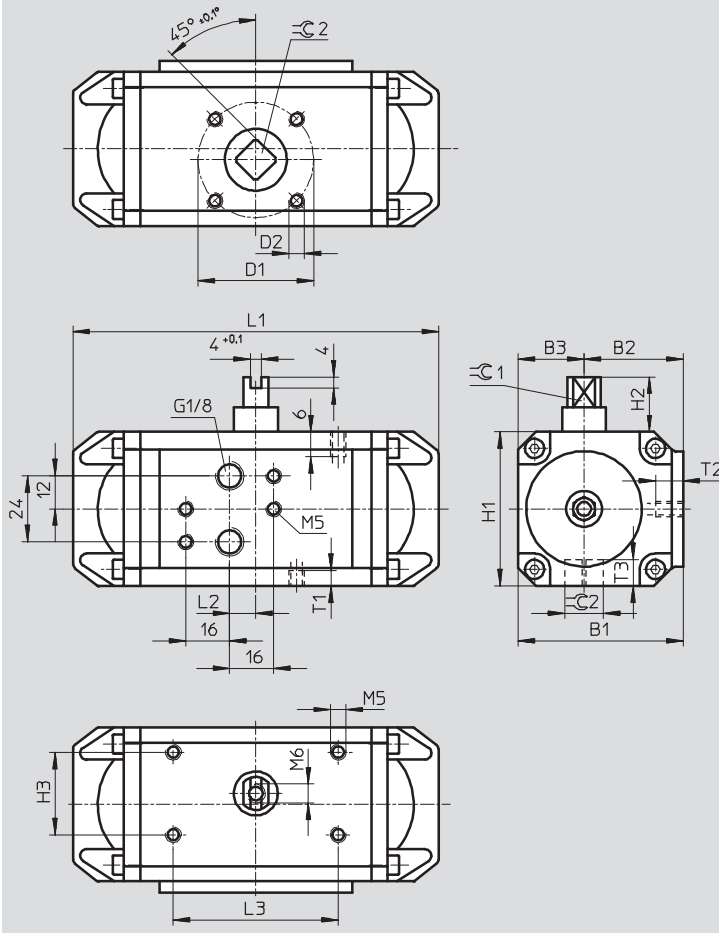
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

Size 2 ... 4



Copar quarter turn actuators DRE

Technical data

| 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 min. | T2 | T3 +2 | ≅C1 ±0.1 | ≅C2 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

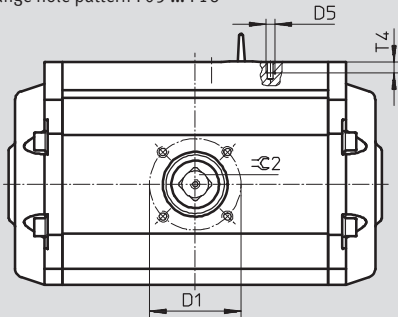
FESTO

Dimensions

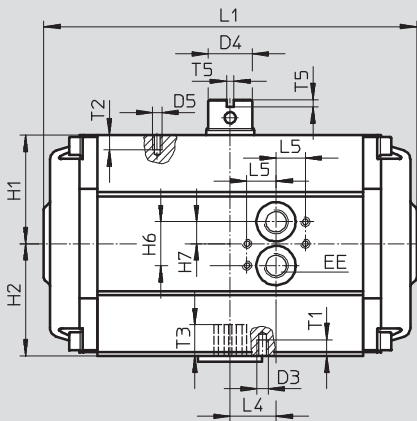
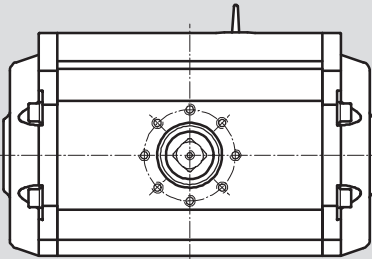
Download CAD data → www.festo.com

Size 8 ... 880

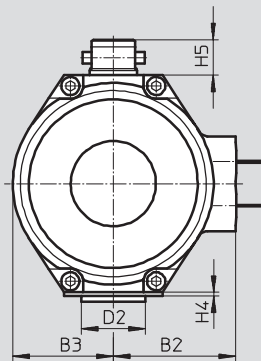
Flange hole pattern F05 ... F16



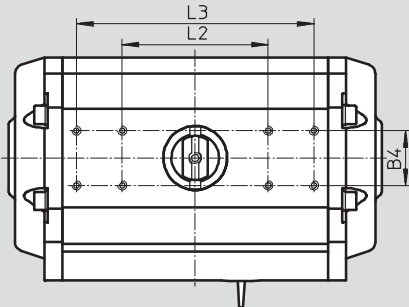
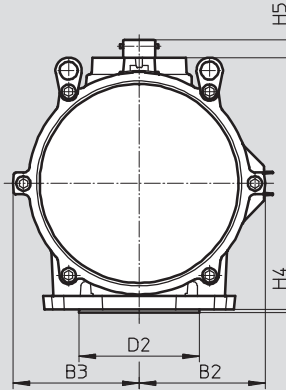
Flange hole pattern F25 ... F30



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



... 150-F14 880-F30



Copar quarter turn actuators DRE

Technical data



| Size | B2 | B3 | B4 | D1 ∅ | D2 ∅ | D3 ∅ | D4 ∅ | D5 | EE | H1 | H2 | H3 | H4 max. | H5 ±1 |
|-------------|-----------------------|-----------------------|-----|---------------------|-------------------|---------------------|---------------------|----|-------------------------------|----------------------|----------------------|----|------------|----------|
| DRE-8-F05 | 52.5 _{±1} | 41 _{±1} | 30 | 50 | 35 | M6 | 24 | M5 | G ¹ / ₄ | 44.5 _{±1.5} | 46.5 _{±1} | 12 | 3 | 20 |
| DRE-14-F05 | 67 _{±1.5} | 55 _{±1.5} | | 50 | 35 | M6 | | | | 59.5 _{±1.5} | 61.5 _{±1} | | | |
| DRE-26-F07 | 79 _{±2} | 67 _{±2} | | 70 | 55 | M8 | | | | 71.5 _{±1.5} | 74.5 _{±1.5} | | | |
| DRE-50-F07 | 94 _{±2} | 78 _{±2} | | 70 | 55 | M8 | | | | 81.5 _{±2.5} | 84.5 _{±1.5} | | 4 | 30 |
| DRE-50-F10 | | | | 102 | 70 | M10 | | | | | | | | |
| DRE-77-F10 | 100 _{±2} | 90 _{±2} | | 102 | 70 | M10 | | | | 94 _{±3} | 98 _{±2} | | 4 | 30 |
| DRE-77-F12 | | | | 125 | 85 | M12 | | | | | | | | |
| DRE-100-F12 | | | | 114 _{±2.5} | 102 _{±2} | 125 | | | | | | | | |
| DRE-150-F14 | 140 _{±3} | 136 _{±2.5} | | 140 | 100 | M16 | | | | 137 _{±3} | 137 _{±3} | | | |
| DRE-225-F14 | | | | 140 | 100 | M16 | | | | 137 | 147 _{±3} | | 4 | 30 |
| DRE-375-F16 | 177 _{±3.5} | 175 _{±3.5} | 165 | 130 | M20 | 172 _{±3.5} | 172 _{±3.5} | 5 | 30 | | | | | |
| DRE-575-F16 | 210 _{±4} | 210 _{±4} | 165 | 130 | M20 | 210 _{±4} | 210 _{±4} | | | 5 | 30 | | | |
| DRE-575-F25 | | | 254 | 200 | M16 | | | | | | | | | |
| DRE-880-F25 | | | 254 | 200 | M16 | | | | | | | | | |
| DRE-880-F30 | 223.5 _{±4.5} | 223.5 _{±4.5} | 298 | 230 | M20 | 225 _{±4.5} | 225 _{±4.5} | 5 | 30 | | | | | |

| Size | H6 | H7 | L1 max. | L2 | L3 | L4 ±1 | L5 | T1 | T2 | T3 +1 | T4 | T5 | ≈C2 H11 |
|-------------|----|----|------------|-----|-------|----------|----|------|----|----------|----|----|------------|
| DRE-8-F05 | 24 | 12 | 215 | 80 | - | 25.5 | 16 | 8.8 | 8 | 17 | 6 | 4 | 14 |
| DRE-14-F05 | | | 220 | 80 | | 25.15 | | | | | | | |
| DRE-26-F07 | | | 280 | 80 | 130 | 32.25 | | 12.5 | | 21 | | | |
| DRE-50-F07 | | | 365 | 80 | 130 | 46.85 | | 13 | | | | | |
| DRE-50-F10 | | | | 130 | 16 | | | 25 | | | | | |
| DRE-77-F10 | | | 430 | 130 | 54.5 | 16 | | | | 30 | | | |
| DRE-77-F12 | | | | | | 18 | | | | | | | |
| DRE-100-F12 | | | 440 | 130 | 18 | 26 | | 40 | | | | | |
| DRE-150-F14 | | | 370 | 130 | 26 | 26 | | | | | | | |
| DRE-225-F14 | | | 480 | 130 | - | 96.5 | | 22 | | 50 | | | |
| DRE-375-F16 | | | 520 | 130 | 99 | 25 | | | | | | | |
| DRE-575-F16 | | | 540 | 150 | 96.41 | 25 | | 59 | | | | | |
| DRE-575-F25 | | | | | | 25 | | | | | | | |
| DRE-880-F25 | | | 700 | 175 | 136 | 25 | | 79 | | | | | |
| DRE-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 | | | |
| 189840 | DRE-2-F03-Q06-FS | 189906 | DRE-2-F03-Q06-FO |
| 189841 | DRE-2-F04-Q06-FS | 189907 | DRE-2-F04-Q06-FO |
| 189842 | DRE-2-F03-Q08-FS | 189908 | DRE-2-F03-Q08-FO |
| 189843 | DRE-2-F04-Q08-FS | 189909 | DRE-2-F04-Q08-FO |
| 189900 | DRE-2-F03-Q10-FS | 189910 | DRE-2-F03-Q10-FO |
| 189901 | DRE-2-F04-Q10-FS | 189911 | DRE-2-F04-Q10-FO |
| 189902 | DRE-2-F03-Q12-FS | 189912 | DRE-2-F03-Q12-FO |
| 189903 | DRE-2-F04-Q12-FS | 189913 | DRE-2-F04-Q12-FO |
| 189904 | DRE-2-F03-Q14-FS | 189914 | DRE-2-F03-Q14-FO |
| 189905 | DRE-2-F04-Q14-FS | 189915 | DRE-2-F04-Q14-FO |
| Size 4 | | | |
| 189956 | DRE-4-F04-Q06-FS | 189966 | DRE-4-F04-Q06-FO |
| 189957 | DRE-4-F05-Q06-FS | 189967 | DRE-4-F05-Q06-FO |
| 189958 | DRE-4-F04-Q08-FS | 189968 | DRE-4-F04-Q08-FO |
| 189959 | DRE-4-F05-Q08-FS | 189969 | DRE-4-F05-Q08-FO |
| 189960 | DRE-4-F04-Q10-FS | 189970 | DRE-4-F04-Q10-FO |
| 189961 | DRE-4-F05-Q10-FS | 189971 | DRE-4-F05-Q10-FO |
| 189962 | DRE-4-F04-Q12-FS | 189972 | DRE-4-F04-Q12-FO |
| 189963 | DRE-4-F05-Q12-FS | 189973 | DRE-4-F05-Q12-FO |
| 189964 | DRE-4-F04-Q14-FS | 189974 | DRE-4-F04-Q14-FO |
| 189965 | DRE-4-F05-Q14-FS | 189975 | DRE-4-F05-Q14-FO |
| Size 8 | | | |
| 190017 | DRE-8-F05-Q06-FS | 190022 | DRE-8-F05-Q06-FO |
| 190018 | DRE-8-F05-Q08-FS | 190023 | DRE-8-F05-Q08-FO |
| 190019 | DRE-8-F05-Q10-FS | 190024 | DRE-8-F05-Q10-FO |
| 190020 | DRE-8-F05-Q12-FS | 190025 | DRE-8-F05-Q12-FO |
| 190021 | DRE-8-F05-Q14-FS | 190026 | DRE-8-F05-Q14-FO |
| Size 14 | | | |
| 190057 | DRE-14-F05-Q06-FS | 190062 | DRE-14-F05-Q06-FO |
| 190058 | DRE-14-F05-Q08-FS | 190063 | DRE-14-F05-Q08-FO |
| 190059 | DRE-14-F05-Q10-FS | 190064 | DRE-14-F05-Q10-FO |
| 190060 | DRE-14-F05-Q12-FS | 190065 | DRE-14-F05-Q12-FO |
| 190061 | DRE-14-F05-Q14-FS | 190066 | DRE-14-F05-Q14-FO |
| Size 26 | | | |
| 190097 | DRE-26-F07-Q06-FS | 190102 | DRE-26-F07-Q06-FO |
| 190098 | DRE-26-F07-Q08-FS | 190103 | DRE-26-F07-Q08-FO |
| 190099 | DRE-26-F07-Q10-FS | 190104 | DRE-26-F07-Q10-FO |
| 190100 | DRE-26-F07-Q12-FS | 190105 | DRE-26-F07-Q12-FO |
| 190101 | DRE-26-F07-Q14-FS | 190106 | 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 | | | |
| 190137 | DRE-50-F07-Q06-FS | 190147 | DRE-50-F07-Q06-FO |
| 190138 | DRE-50-F10-Q06-FS | 190148 | DRE-50-F10-Q06-FO |
| 190139 | DRE-50-F07-Q08-FS | 190149 | DRE-50-F07-Q08-FO |
| 190140 | DRE-50-F10-Q08-FS | 190150 | DRE-50-F10-Q08-FO |
| 190141 | DRE-50-F07-Q10-FS | 190151 | DRE-50-F07-Q10-FO |
| 190142 | DRE-50-F10-Q10-FS | 190152 | DRE-50-F10-Q10-FO |
| 190143 | DRE-50-F07-Q12-FS | 190153 | DRE-50-F07-Q12-FO |
| 190144 | DRE-50-F10-Q12-FS | 190154 | DRE-50-F10-Q12-FO |
| 190145 | DRE-50-F07-Q14-FS | 190155 | DRE-50-F07-Q14-FO |
| 190146 | DRE-50-F10-Q14-FS | 190156 | DRE-50-F10-Q14-FO |
| Size 77 | | | |
| 190217 | DRE-77-F10-Q06-FS | 190227 | DRE-77-F10-Q06-FO |
| 190218 | DRE-77-F12-Q06-FS | 190228 | DRE-77-F12-Q06-FO |
| 190219 | DRE-77-F10-Q08-FS | 190229 | DRE-77-F10-Q08-FO |
| 190220 | DRE-77-F12-Q08-FS | 190230 | DRE-77-F12-Q08-FO |
| 190221 | DRE-77-F10-Q10-FS | 190231 | DRE-77-F10-Q10-FO |
| 190222 | DRE-77-F12-Q10-FS | 190232 | DRE-77-F12-Q10-FO |
| 190223 | DRE-77-F10-Q12-FS | 190233 | DRE-77-F10-Q12-FO |
| 190224 | DRE-77-F12-Q12-FS | 190234 | DRE-77-F12-Q12-FO |
| 190225 | DRE-77-F10-Q14-FS | 190235 | DRE-77-F10-Q14-FO |
| 190226 | DRE-77-F12-Q14-FS | 190236 | DRE-77-F12-Q14-FO |
| Size 100 | | | |
| 190297 | DRE-100-F12-Q06-FS | 190302 | DRE-100-F12-Q06-FO |
| 190298 | DRE-100-F12-Q08-FS | 190303 | DRE-100-F12-Q08-FO |
| 190299 | DRE-100-F12-Q10-FS | 190304 | DRE-100-F12-Q10-FO |
| 190300 | DRE-100-F12-Q12-FS | 190305 | DRE-100-F12-Q12-FO |
| 190301 | DRE-100-F12-Q14-FS | 190306 | DRE-100-F12-Q14-FO |
| Size 150 | | | |
| 190338 | DRE-150-F14-Q06-FS | 190348 | DRE-150-F14-Q06-FO |
| 190340 | DRE-150-F14-Q08-FS | 190350 | DRE-150-F14-Q08-FO |
| 190342 | DRE-150-F14-Q10-FS | 190352 | DRE-150-F14-Q10-FO |
| 190344 | DRE-150-F14-Q12-FS | 190354 | DRE-150-F14-Q12-FO |
| 190346 | DRE-150-F14-Q14-FS | 190356 | 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 | | | |
| 190398 | DRE-225-F14-Q06-FS | 190408 | DRE-225-F14-Q06-FO |
| 190400 | DRE-225-F14-Q08-FS | 190410 | DRE-225-F14-Q08-FO |
| 190402 | DRE-225-F14-Q10-FS | 190412 | DRE-225-F14-Q10-FO |
| 190404 | DRE-225-F14-Q12-FS | 190414 | DRE-225-F14-Q12-FO |
| 190406 | DRE-225-F14-Q14-FS | 190416 | DRE-225-F14-Q14-FO |
| Size 375 | | | |
| 190458 | DRE-375-F16-Q06-FS | 190468 | DRE-375-F16-Q06-FO |
| 190460 | DRE-375-F16-Q08-FS | 190470 | DRE-375-F16-Q08-FO |
| 190462 | DRE-375-F16-Q10-FS | 190472 | DRE-375-F16-Q10-FO |
| 190464 | DRE-375-F16-Q12-FS | 190474 | DRE-375-F16-Q12-FO |
| 190466 | DRE-375-F16-Q14-FS | 190476 | DRE-375-F16-Q14-FO |
| Size 575 | | | |
| 190517 | DRE-575-F16-Q06-FS | 190527 | DRE-575-F16-Q06-FO |
| 190518 | DRE-575-F25-Q06-FS | 190528 | DRE-575-F25-Q06-FO |
| 190519 | DRE-575-F16-Q09-FS | 190529 | DRE-575-F16-Q09-FO |
| 190520 | DRE-575-F25-Q09-FS | 190530 | DRE-575-F25-Q09-FO |
| 190521 | DRE-575-F16-Q12-FS | 190531 | DRE-575-F16-Q12-FO |
| 190522 | DRE-575-F25-Q12-FS | 190532 | DRE-575-F25-Q12-FO |
| 190523 | DRE-575-F16-Q15-FS | 190533 | DRE-575-F16-Q15-FO |
| 190524 | DRE-575-F25-Q15-FS | 190534 | DRE-575-F25-Q15-FO |
| 190525 | DRE-575-F16-Q18-FS | 190535 | DRE-575-F16-Q18-FO |
| 190526 | DRE-575-F25-Q18-FS | 190536 | DRE-575-F25-Q18-FO |
| Size 880 | | | |
| 189719 | DRE-880-F25-Q06-FS | 189729 | DRE-880-F25-Q06-FO |
| 189720 | DRE-880-F30-Q06-FS | 189730 | DRE-880-F30-Q06-FO |
| 189721 | DRE-880-F25-Q08-FS | 189731 | DRE-880-F25-Q08-FO |
| 189722 | DRE-880-F30-Q08-FS | 189732 | DRE-880-F30-Q08-FO |
| 189723 | DRE-880-F25-Q10-FS | 189733 | DRE-880-F25-Q10-FO |
| 189724 | DRE-880-F30-Q10-FS | 189734 | DRE-880-F30-Q10-FO |
| 189725 | DRE-880-F25-Q12-FS | 189735 | DRE-880-F25-Q12-FO |
| 189726 | DRE-880-F30-Q12-FS | 189736 | DRE-880-F30-Q12-FO |
| 189727 | DRE-880-F25-Q14-FS | 189737 | DRE-880-F25-Q14-FO |
| 189728 | DRE-880-F30-Q14-FS | 189738 | 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 | | | |
| 190027 | DRE-8-F05-Q06-FS-O | 190032 | DRE-8-F05-Q06-FO-O |
| 190028 | DRE-8-F05-Q08-FS-O | 190033 | DRE-8-F05-Q08-FO-O |
| 190029 | DRE-8-F05-Q10-FS-O | 190034 | DRE-8-F05-Q10-FO-O |
| 190030 | DRE-8-F05-Q12-FS-O | 190035 | DRE-8-F05-Q12-FO-O |
| 190031 | DRE-8-F05-Q14-FS-O | 190036 | DRE-8-F05-Q14-FO-O |
| Size 14 | | | |
| 190067 | DRE-14-F05-Q06-FS-O | 190072 | DRE-14-F05-Q06-FO-O |
| 190068 | DRE-14-F05-Q08-FS-O | 190073 | DRE-14-F05-Q08-FO-O |
| 190069 | DRE-14-F05-Q10-FS-O | 190074 | DRE-14-F05-Q10-FO-O |
| 190070 | DRE-14-F05-Q12-FS-O | 190075 | DRE-14-F05-Q12-FO-O |
| 190071 | DRE-14-F05-Q14-FS-O | 190076 | DRE-14-F05-Q14-FO-O |
| Size 26 | | | |
| 561881 | DRE-26-F07-Q06-FS-O | 561886 | DRE-26-F07-Q06-FO-O |
| 561882 | DRE-26-F07-Q08-FS-O | 561887 | DRE-26-F07-Q08-FO-O |
| 561883 | DRE-26-F07-Q10-FS-O | 561888 | DRE-26-F07-Q10-FO-O |
| 561884 | DRE-26-F07-Q12-FS-O | 561889 | DRE-26-F07-Q12-FO-O |
| 561885 | DRE-26-F07-Q14-FS-O | 561890 | DRE-26-F07-Q14-FO-O |
| Size 50 | | | |
| 561901 | DRE-50-F07-Q06-FS-O | 561911 | DRE-50-F07-Q06-FO-O |
| 561902 | DRE-50-F10-Q06-FS-O | 561912 | DRE-50-F10-Q06-FO-O |
| 561903 | DRE-50-F07-Q08-FS-O | 561913 | DRE-50-F07-Q08-FO-O |
| 561904 | DRE-50-F10-Q08-FS-O | 561914 | DRE-50-F10-Q08-FO-O |
| 561905 | DRE-50-F07-Q10-FS-O | 561915 | DRE-50-F07-Q10-FO-O |
| 561906 | DRE-50-F10-Q10-FS-O | 561916 | DRE-50-F10-Q10-FO-O |
| 561907 | DRE-50-F07-Q12-FS-O | 561917 | DRE-50-F07-Q12-FO-O |
| 561908 | DRE-50-F10-Q12-FS-O | 561918 | DRE-50-F10-Q12-FO-O |
| 561909 | DRE-50-F07-Q14-FS-O | 561919 | DRE-50-F07-Q14-FO-O |
| 561910 | DRE-50-F10-Q14-FS-O | 561920 | DRE-50-F10-Q14-FO-O |
| Size 77 | | | |
| 561941 | DRE-77-F10-Q06-FS-O | 561951 | DRE-77-F10-Q06-FO-O |
| 561942 | DRE-77-F12-Q06-FS-O | 561952 | DRE-77-F12-Q06-FO-O |
| 561943 | DRE-77-F10-Q08-FS-O | 561953 | DRE-77-F10-Q08-FO-O |
| 561944 | DRE-77-F12-Q08-FS-O | 561954 | DRE-77-F12-Q08-FO-O |
| 561945 | DRE-77-F10-Q10-FS-O | 561955 | DRE-77-F10-Q10-FO-O |
| 561946 | DRE-77-F12-Q10-FS-O | 561956 | DRE-77-F12-Q10-FO-O |
| 561947 | DRE-77-F10-Q12-FS-O | 561957 | DRE-77-F10-Q12-FO-O |
| 561948 | DRE-77-F12-Q12-FS-O | 561958 | DRE-77-F12-Q12-FO-O |
| 561949 | DRE-77-F10-Q14-FS-O | 561959 | DRE-77-F10-Q14-FO-O |
| 561950 | DRE-77-F12-Q14-FS-O | 561960 | DRE-77-F12-Q14-FO-O |
| Size 100 | | | |
| 561981 | DRE-100-F12-Q06-FS-O | 561986 | DRE-100-F12-Q06-FO-O |
| 561982 | DRE-100-F12-Q08-FS-O | 561987 | DRE-100-F12-Q08-FO-O |
| 561983 | DRE-100-F12-Q10-FS-O | 561988 | DRE-100-F12-Q10-FO-O |
| 561984 | DRE-100-F12-Q12-FS-O | 561989 | DRE-100-F12-Q12-FO-O |
| 561985 | DRE-100-F12-Q14-FS-O | 561990 | DRE-100-F12-Q14-FO-O |



Note

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→ 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 | | | |
| 189936 | DRE-2-F03-Q06-FS-C | 189946 | DRE-2-F03-Q06-FO-C |
| 189937 | DRE-2-F04-Q06-FS-C | 189947 | DRE-2-F04-Q06-FO-C |
| 189938 | DRE-2-F03-Q08-FS-C | 189948 | DRE-2-F03-Q08-FO-C |
| 189939 | DRE-2-F04-Q08-FS-C | 189949 | DRE-2-F04-Q08-FO-C |
| 189940 | DRE-2-F03-Q10-FS-C | 189950 | DRE-2-F03-Q10-FO-C |
| 189941 | DRE-2-F04-Q10-FS-C | 189951 | DRE-2-F04-Q10-FO-C |
| 189942 | DRE-2-F03-Q12-FS-C | 189952 | DRE-2-F03-Q12-FO-C |
| 189943 | DRE-2-F04-Q12-FS-C | 189953 | DRE-2-F04-Q12-FO-C |
| 189944 | DRE-2-F03-Q14-FS-C | 189954 | DRE-2-F03-Q14-FO-C |
| 189945 | DRE-2-F04-Q14-FS-C | 189955 | DRE-2-F04-Q14-FO-C |
| Size 4 | | | |
| 189997 | DRE-4-F04-Q06-FS-C | 190007 | DRE-4-F04-Q06-FO-C |
| 189998 | DRE-4-F05-Q06-FS-C | 190008 | DRE-4-F05-Q06-FO-C |
| 189999 | DRE-4-F04-Q08-FS-C | 190009 | DRE-4-F04-Q08-FO-C |
| 190000 | DRE-4-F05-Q08-FS-C | 190010 | DRE-4-F05-Q08-FO-C |
| 190001 | DRE-4-F04-Q10-FS-C | 190011 | DRE-4-F04-Q10-FO-C |
| 190002 | DRE-4-F05-Q10-FS-C | 190012 | DRE-4-F05-Q10-FO-C |
| 190003 | DRE-4-F04-Q12-FS-C | 190013 | DRE-4-F04-Q12-FO-C |
| 190004 | DRE-4-F05-Q12-FS-C | 190014 | DRE-4-F05-Q12-FO-C |
| 190005 | DRE-4-F04-Q14-FS-C | 190015 | DRE-4-F04-Q14-FO-C |
| 190006 | DRE-4-F05-Q14-FS-C | 190016 | DRE-4-F05-Q14-FO-C |
| Size 8 | | | |
| 190047 | DRE-8-F05-Q06-FS-C | 190052 | DRE-8-F05-Q06-FO-C |
| 190048 | DRE-8-F05-Q08-FS-C | 190053 | DRE-8-F05-Q08-FO-C |
| 190049 | DRE-8-F05-Q10-FS-C | 190054 | DRE-8-F05-Q10-FO-C |
| 190050 | DRE-8-F05-Q12-FS-C | 190055 | DRE-8-F05-Q12-FO-C |
| 190051 | DRE-8-F05-Q14-FS-C | 190056 | DRE-8-F05-Q14-FO-C |
| Size 14 | | | |
| 190087 | DRE-14-F05-Q06-FS-C | 190092 | DRE-14-F05-Q06-FO-C |
| 190088 | DRE-14-F05-Q08-FS-C | 190093 | DRE-14-F05-Q08-FO-C |
| 190089 | DRE-14-F05-Q10-FS-C | 190094 | DRE-14-F05-Q10-FO-C |
| 190090 | DRE-14-F05-Q12-FS-C | 190095 | DRE-14-F05-Q12-FO-C |
| 190091 | DRE-14-F05-Q14-FS-C | 190096 | DRE-14-F05-Q14-FO-C |
| Size 26 | | | |
| 190127 | DRE-26-F07-Q06-FS-C | 190132 | DRE-26-F07-Q06-FO-C |
| 190128 | DRE-26-F07-Q08-FS-C | 190133 | DRE-26-F07-Q08-FO-C |
| 190129 | DRE-26-F07-Q10-FS-C | 190134 | DRE-26-F07-Q10-FO-C |
| 190130 | DRE-26-F07-Q12-FS-C | 190135 | DRE-26-F07-Q12-FO-C |
| 190131 | DRE-26-F07-Q14-FS-C | 190136 | 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 | | | |
| 190197 | DRE-50-F07-Q06-FS-C | 190207 | DRE-50-F07-Q06-FO-C |
| 190198 | DRE-50-F10-Q06-FS-C | 190208 | DRE-50-F10-Q06-FO-C |
| 190199 | DRE-50-F07-Q08-FS-C | 190209 | DRE-50-F07-Q08-FO-C |
| 190200 | DRE-50-F10-Q08-FS-C | 190210 | DRE-50-F10-Q08-FO-C |
| 190201 | DRE-50-F07-Q10-FS-C | 190211 | DRE-50-F07-Q10-FO-C |
| 190202 | DRE-50-F10-Q10-FS-C | 190212 | DRE-50-F10-Q10-FO-C |
| 190203 | DRE-50-F07-Q12-FS-C | 190213 | DRE-50-F07-Q12-FO-C |
| 190204 | DRE-50-F10-Q12-FS-C | 190214 | DRE-50-F10-Q12-FO-C |
| 190205 | DRE-50-F07-Q14-FS-C | 190215 | DRE-50-F07-Q14-FO-C |
| 190206 | DRE-50-F10-Q14-FS-C | 190216 | DRE-50-F10-Q14-FO-C |
| Size 77 | | | |
| 190277 | DRE-77-F10-Q06-FS-C | 190287 | DRE-77-F10-Q06-FO-C |
| 190278 | DRE-77-F12-Q06-FS-C | 190288 | DRE-77-F12-Q06-FO-C |
| 190279 | DRE-77-F10-Q08-FS-C | 190289 | DRE-77-F10-Q08-FO-C |
| 190280 | DRE-77-F12-Q08-FS-C | 190290 | DRE-77-F12-Q08-FO-C |
| 190281 | DRE-77-F10-Q10-FS-C | 190291 | DRE-77-F10-Q10-FO-C |
| 190282 | DRE-77-F12-Q10-FS-C | 190292 | DRE-77-F12-Q10-FO-C |
| 190283 | DRE-77-F10-Q12-FS-C | 190293 | DRE-77-F10-Q12-FO-C |
| 190284 | DRE-77-F12-Q12-FS-C | 190294 | DRE-77-F12-Q12-FO-C |
| 190285 | DRE-77-F10-Q14-FS-C | 190295 | DRE-77-F10-Q14-FO-C |
| 190286 | DRE-77-F12-Q14-FS-C | 190296 | DRE-77-F12-Q14-FO-C |
| Size 100 | | | |
| 190327 | DRE-100-F12-Q06-FS-C | 190332 | DRE-100-F12-Q06-FO-C |
| 190328 | DRE-100-F12-Q08-FS-C | 190333 | DRE-100-F12-Q08-FO-C |
| 190329 | DRE-100-F12-Q10-FS-C | 190334 | DRE-100-F12-Q10-FO-C |
| 190330 | DRE-100-F12-Q12-FS-C | 190335 | DRE-100-F12-Q12-FO-C |
| 190331 | DRE-100-F12-Q14-FS-C | 190336 | DRE-100-F12-Q14-FO-C |
| Size 150 | | | |
| 190378 | DRE-150-F14-Q06-FS-C | 190388 | DRE-150-F14-Q06-FO-C |
| 190380 | DRE-150-F14-Q08-FS-C | 190390 | DRE-150-F14-Q08-FO-C |
| 190382 | DRE-150-F14-Q10-FS-C | 190392 | DRE-150-F14-Q10-FO-C |
| 190384 | DRE-150-F14-Q12-FS-C | 190394 | DRE-150-F14-Q12-FO-C |
| 190386 | DRE-150-F14-Q14-FS-C | 190396 | 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 | | | |
| 190438 | DRE-225-F14-Q06-FS-C | 190448 | DRE-225-F14-Q06-FO-C |
| 190440 | DRE-225-F14-Q08-FS-C | 190450 | DRE-225-F14-Q08-FO-C |
| 190442 | DRE-225-F14-Q10-FS-C | 190452 | DRE-225-F14-Q10-FO-C |
| 190444 | DRE-225-F14-Q12-FS-C | 190454 | DRE-225-F14-Q12-FO-C |
| 190446 | DRE-225-F14-Q14-FS-C | 190456 | DRE-225-F14-Q14-FO-C |
| Size 375 | | | |
| 190498 | DRE-375-F16-Q06-FS-C | 190508 | DRE-375-F16-Q06-FO-C |
| 190500 | DRE-375-F16-Q08-FS-C | 190510 | DRE-375-F16-Q08-FO-C |
| 190502 | DRE-375-F16-Q10-FS-C | 190512 | DRE-375-F16-Q10-FO-C |
| 190504 | DRE-375-F16-Q12-FS-C | 190514 | DRE-375-F16-Q12-FO-C |
| 190506 | DRE-375-F16-Q14-FS-C | 190516 | DRE-375-F16-Q14-FO-C |
| Size 575 | | | |
| 189699 | DRE-575-F16-Q06-FS-C | 189709 | DRE-575-F16-Q06-FO-C |
| 189700 | DRE-575-F25-Q06-FS-C | 189710 | DRE-575-F25-Q06-FO-C |
| 189701 | DRE-575-F16-Q08-FS-C | 189711 | DRE-575-F16-Q09-FO-C |
| 189702 | DRE-575-F25-Q08-FS-C | 189712 | DRE-575-F25-Q09-FO-C |
| 189703 | DRE-575-F16-Q10-FS-C | 189713 | DRE-575-F16-Q12-FO-C |
| 189704 | DRE-575-F25-Q10-FS-C | 189714 | DRE-575-F25-Q12-FS-C |
| 189705 | DRE-575-F16-Q12-FS-C | 189715 | DRE-575-F16-Q15-FS-C |
| 189706 | DRE-575-F25-Q12-FS-C | 189716 | DRE-575-F25-Q15-FO-C |
| 189707 | DRE-575-F16-Q14-FS-C | 189717 | DRE-575-F16-Q18-FO-C |
| 189708 | DRE-575-F25-Q14-FS-C | 189718 | DRE-575-F25-Q18-FO-C |
| Size 880 | | | |
| 189759 | DRE-880-F25-Q06-FS-C | 189850 | DRE-880-F25-Q06-FO-C |
| 189760 | DRE-880-F30-Q06-FS-C | 189851 | DRE-880-F30-Q06-FO-C |
| 189761 | DRE-880-F25-Q08-FS-C | 189852 | DRE-880-F25-Q08-FO-C |
| 189762 | DRE-880-F30-Q08-FS-C | 189853 | DRE-880-F30-Q08-FO-C |
| 189844 | DRE-880-F25-Q10-FS-C | 189854 | DRE-880-F25-Q10-FO-C |
| 189845 | DRE-880-F30-Q10-FS-C | 189855 | DRE-880-F30-Q10-FO-C |
| 189846 | DRE-880-F25-Q12-FS-C | 189856 | DRE-880-F25-Q12-FO-C |
| 189847 | DRE-880-F30-Q12-FS-C | 189857 | DRE-880-F30-Q12-FO-C |
| 189848 | DRE-880-F25-Q14-FS-C | 189858 | DRE-880-F25-Q14-FO-C |
| 189849 | DRE-880-F30-Q14-FS-C | 189859 | 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

Stop DADP

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

Scope of delivery:

1 stop

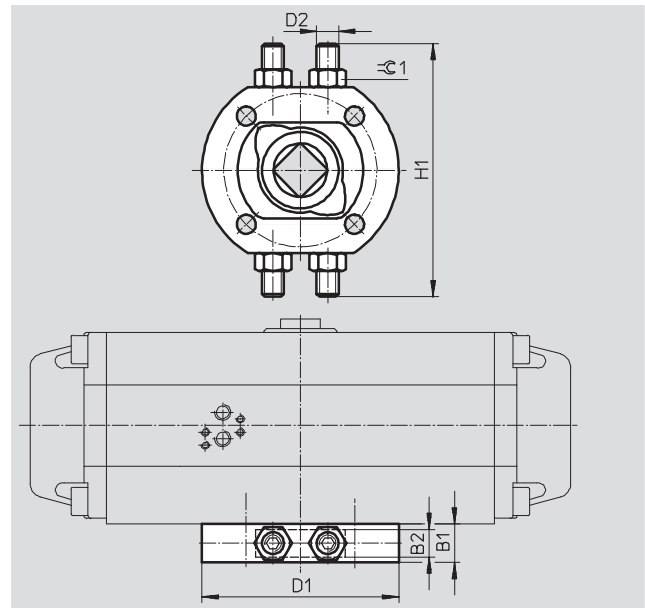
Material:

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 \varnothing | D2 | H1 | $\varnothing 1$ | CRC ¹⁾ | Weight [g] | Part No. | Type |
| 150, 225 | F14 | 35 | 25 | 180 | M20 | 232 | 30 | 2 | 5,000 | 539930 | DADP-F14 |
| 375, 575 | F16 | 45 | 35 | 200 | M24 | 256 | 36 | 2 | 8,000 | 539931 | DADP-F16 |
| 575, 880 | F25 | 60 | 50 | 300 | M30 | 344 | 46 | 2 | 23,500 | 539932 | 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.

| Ordering data – Adapter kits for mounting the sensor boxes SRBP, SRAP | | | | | |
|-----------------------------------------------------------------------|-----------------|--------------------|-------------------|----------|---------------|
| | Size | Dimensions [mm] | CRC ¹⁾ | Part No. | Type |
| | DRD/DRE-4-F05 | 20x30x80 | 3 | 568275 | DASB-P1-HA-SB |
| | DRD/DRE-4-F04 | | | | |
| | DRD/DRE-8-F05 | | | | |
| | DRD/DRE-14-F05 | | | | |
| | DRD/DRE-26-F07 | | | | |
| | DRD/DRE-50-F07 | | | | |
| | DRD/DRE-50-F10 | 30x30x130 | | 572419 | DASB-P1-HC-SB |
| | DRD/DRE-77-F10 | | | | |
| | DRD/DRE-77-F12 | | | | |
| | DRD/DRE-100-F12 | | | | |
| | DRD/DRE-150-F14 | | | | |
| | DRD/DRE-225-F14 | | | | |
| | DRD/DRE-375-F16 | | | | |

1) 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