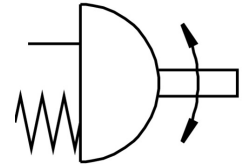


# Quarter turn actuator DFPD-N-20-RP-90-RS60-F05-R3-C

Part number: 8102801

**FESTO**



## Data sheet

| Feature                                                                  | Value                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Size of valve actuator                                                   | 20                                                                                                                                                                                                                           |
| Flange hole pattern                                                      | F05                                                                                                                                                                                                                          |
| Swivel angle                                                             | 90 deg                                                                                                                                                                                                                       |
| End-position adjusting range at 0°                                       | -5 deg ... 5 deg                                                                                                                                                                                                             |
| End-position adjusting range at nominal swivel angle                     | -5 deg ... 5 deg                                                                                                                                                                                                             |
| Depth shaft connection                                                   | 12 mm                                                                                                                                                                                                                        |
| Type code                                                                | DFPD                                                                                                                                                                                                                         |
| Standard connection for valve                                            | ISO 5211                                                                                                                                                                                                                     |
| Mounting position                                                        | Any                                                                                                                                                                                                                          |
| Mode of operation                                                        | Single-acting                                                                                                                                                                                                                |
| Structural design                                                        | Gear rack/pinion                                                                                                                                                                                                             |
| Closing direction                                                        | Clockwise closing                                                                                                                                                                                                            |
| Symbol                                                                   | 00991266                                                                                                                                                                                                                     |
| Valve connection conforms to standard                                    | VDI/VDE 3845 (NAMUR)                                                                                                                                                                                                         |
| Connection for valve positioner and position sensor conforms to standard | VDI/VDE 3845 size AA 1                                                                                                                                                                                                       |
| Devices type according to VDMA 66413                                     | Safety device                                                                                                                                                                                                                |
| Safety function                                                          | The fundamental safety function is that the control valve moves to the switching position when the compressed air is turned off. It is reset by spring force.                                                                |
| Safety integrity level (SIL)                                             | Up to SIL 2 low demand mode<br>up to SIL 3 in a redundant architecture<br>up to SIL 1 high demand mode                                                                                                                       |
| Certified for safety function to ISO 13849 and IEC 61508 (SIL)           | Product can be used in safety-related parts of control systems up to SIL 2, low demand<br>Product can be used in safety-related parts of control systems up to SIL 1, high demand<br>up to SIL 3 in a redundant architecture |
| Operating pressure                                                       | 0.2 MPa ... 0.8 MPa                                                                                                                                                                                                          |
| Operating pressure                                                       | 2 bar ... 8 bar                                                                                                                                                                                                              |
| Operating pressure                                                       | 29 psi ... 116 psi                                                                                                                                                                                                           |
| Nominal operating pressure                                               | 0.6 MPa                                                                                                                                                                                                                      |
| Nominal operating pressure                                               | 6 bar                                                                                                                                                                                                                        |
| Nominal operating pressure                                               | 87 psi                                                                                                                                                                                                                       |
| Maritime classification                                                  | See certificate                                                                                                                                                                                                              |
| CE marking (see declaration of conformity)                               | as per EU explosion protection directive (ATEX)                                                                                                                                                                              |

| Feature                                                       | Value                                                                                                                                                                 |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Explosion prevention and protection                           | Zone 1 (ATEX)<br>Zone 2 (ATEX)<br>Zone 21 (ATEX)<br>Zone 22 (ATEX)                                                                                                    |
| Certificate issuing authority                                 | DNVGL TAP00001CE<br>German Technical Control Board (TÜV) Rheinland 968/V 1106.00/19                                                                                   |
| ATEX category gas                                             | II 2G                                                                                                                                                                 |
| ATEX category for dust                                        | II 2D                                                                                                                                                                 |
| Type of ignition protection for gas                           | Ex h IIC T4 Gb X                                                                                                                                                      |
| Type of (ignition) protection for dust                        | Ex h IIIC T105°C Db X                                                                                                                                                 |
| Explosive ambient temperature                                 | -20°C ≤ Ta ≤ +80°C                                                                                                                                                    |
| Operating medium                                              | Compressed air as per ISO 8573-1:2010 [7:4:4]                                                                                                                         |
| Information on operating and pilot media                      | Operation with oil lubrication possible (required for further use)                                                                                                    |
| Corrosion resistance class (CRC)                              | 2 - Moderate corrosion stress                                                                                                                                         |
| Storage temperature                                           | -20 °C ... 60 °C                                                                                                                                                      |
| Ambient temperature                                           | -20 °C ... 80 °C                                                                                                                                                      |
| Torque at nominal operating pressure and 0° swivel angle      | 14.7 Nm                                                                                                                                                               |
| Torque at nominal operating pressure and 90° swivel angle     | 7.6 Nm                                                                                                                                                                |
| Note about the torque                                         | The actuator's operating torque must not be higher than the maximum permissible torque listed in ISO 5211, based on the size of the mounting flange and the coupling. |
| Spring return torque at 0° swivel angle                       | 7.2 Nm                                                                                                                                                                |
| Spring return torque with 90° swivel angle                    | 14.3 Nm                                                                                                                                                               |
| MTTFd                                                         | 1126 years                                                                                                                                                            |
| PFH                                                           | 1.01E-7                                                                                                                                                               |
| PFD                                                           | 7.8E-4                                                                                                                                                                |
| Air consumption at 6 bar per cycle 0°-nominal swivel angle-0° | 0.8 l                                                                                                                                                                 |
| Product weight                                                | 1423 g                                                                                                                                                                |
| Shaft connection                                              | T11                                                                                                                                                                   |
| Pneumatic connection                                          | 1/8 NPT                                                                                                                                                               |
| Note on materials                                             | RoHS-compliant                                                                                                                                                        |
| Material of sub-base                                          | Wrought aluminum alloy, anodized                                                                                                                                      |
| Cover material                                                | Die-cast aluminum, coated                                                                                                                                             |
| Seals material                                                | NBR                                                                                                                                                                   |
| Material of spring                                            | Spring steel                                                                                                                                                          |
| Housing material                                              | Wrought aluminum alloy, anodized                                                                                                                                      |
| Material of piston                                            | Die-cast aluminum                                                                                                                                                     |
| Material of bearing                                           | POM                                                                                                                                                                   |
| Cam material                                                  | Cast stainless steel                                                                                                                                                  |
| Material of screws                                            | High-alloy stainless steel                                                                                                                                            |
| Shaft material                                                | High-alloy stainless steel                                                                                                                                            |