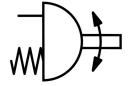
Quarter turn actuator DFPD-N-480-RP-90-RS45-F12-R3-C

Part number: 8102864





General operating condition

Data sheet

| F12 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 29 mm 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 point for position sensor conforms to VDI/VDE 3845 yize AA 2 standard VDI/VDE 3845 yize AA 2 standard Safety device Devices type according to VDMA 66413 Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 3 in a redundant architecture up to SIL 3 in a redundant architecture up to SIL 3 in a redundant architecture Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa | Feature | Value |
|---|--|--|
| Swivel angle 90 deg End-position adjusting range at nominal swivel angle -5 deg 5 deg Depth shaft connection 29 mm Standard connection for valve ISO 5211 Mounting position Any Mode of operation Single-acting Gear rack/pinion Clockwise closing Symbol 00991266 Valve connection roms to standard VDI/VDE 3845 (NAMUR) Connection point for positioner and position sensor conforms to standard VDI/VDE 3845 size AA 2 Safety function Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 2 low demand mode Up to SIL 2 is in a redundant architecture up to SIL 3 in a redundant architecture up to SIL 3 in a redundant architecture up to SIL 3 in a redundant architecture Querating pressure 0.2 MPa Operating pressure 0.2 MPa Operating pressure 0.2 MPa Operating pressure 0.45 MPa Nominal operating pressure 6.25 Dpsi Mominal operating press | Size of valve actuator | 480 |
| 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 29 mm 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 point for positioner and position sensor conforms to standard Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 2 low demand up to SIL 3 in a redundant architecture up to SIL 1 high demand mode Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa Nominal operating pressure 4.5 bar Nominal o | Flange hole pattern | F12 |
| End-position adjusting range at nominal swivel angle 5 deg 5 deg Depth shaft connection 29 mm 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 Size AA 2 Connection point for positioner and position sensor conforms to standard VDI/VDE 3845 size AA 2 Devices type according to VDMA 66413 Safety device Safety function The safety function consists of the drive switching movement is achieved by the spring force of the spring sesembly. Safety integrity level (SIL) Up to SIL 2 low demand mode up to SIL 3 in a redundant architecture Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa | Swivel angle | 90 deg |
| Depth shaft connection 29 mm 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 size AA 2 Connection point for position er and position sensor conforms to standard VDI/VDE 3845 size AA 2 Devices type according to VDMA 66413 Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhaused. This switching movement is achieved by the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 3 in a redundant architecture 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 3, high demand Up to SIL 3 in a redundant architecture Up to SIL 3 in a redundant architecture Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.4 MPa Operating pressure 0.45 MPa | End-position adjusting range at 0° | -5 deg 5 deg |
| 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 size AA 2 Standard Devices type according to VDMA 66413 Safety device The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly. Safety function Up to S1L 3 in a redundant architecture up to S1L 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 S1L 1, high demand mode Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.4 MPa Operating pressure 0.45 MPa Nominal operating pressure 0.45 Dar Nominal operating pressure 0.45 Dar Nominal operating pressure 6.52 psi Mominal operating pressure 6.52 psi Mominal operating pressure 6.52 psi Maritime classific | End-position adjusting range at nominal swivel angle | -5 deg 5 deg |
| 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 point for positioner and position sensor conforms to standard VDI/VDE 3845 size AA 2 Devices type according to VDMA 66413 Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 2 low demand mode up to SIL 2 low 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 1, high demand up to SIL 3 in a redundant architecture Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.45 MPa Nominal operating pressure 4.5 bar Nominal operating pressure 65.25 psi Mominal operating pressure 65.25 psi Mominal operating pressure 65.25 psi Maritime classificat | Depth shaft connection | 29 mm |
| Mode of operation Single-acting Structural design Gear rack/plinion Closing direction Clockwise closing Symbol 00991266 Valve connection conforms to standard VDI/VDE 3845 (NAMUR) Connection point for positioner and position sensor conforms to standard VDI/VDE 3845 size AA 2 Devices type according to VDMA 66413 Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed aris switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 2 low demand mode up to SIL 3 in a redundant architecture up to SIL 1 ing hemand 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 1, high demand up to SIL 3 in a redundant architecture Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa Nominal operating pressure 65.25 psi Mominal operating pressure 65.25 psi Maritime classification See certificate CE marking (see declara | Standard connection for valve | ISO 5211 |
| Structural design Gear rack/pinion Closing direction Clockwise closing Symbol 00991266 Valve connection conforms to standard VDI/VDE 3845 (NAMUR) Connection point for positioner and position sensor conforms to standard VDI/VDE 3845 size AA 2 Devices type according to VDMA 66413 Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 2 low demand mode up to SIL 3 in a redundant architecture up to SIL 3 in a redundant architecture up to SIL 3 in a redundant architecture up to SIL 3 in a redundant architecture Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.4 MPa Operating pressure 0.45 MPa Nominal operating pressure 4.5 bar Nominal operating pressure 6.25 psi Maritime classification See certificate CE marking (see declaration of conformity) | Mounting position | Any |
| Closing directionClockwise closingSymbol00991266Valve connection conforms to standardVDI/VDE 3845 (NAMUR)Connection point for positioner and position sensor conforms to standardVDI/VDE 3845 size AA 2Devices type according to VDMA 66413Safety deviceSafety functionThe safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly.Safety integrity level (SIL)Up to SIL 2 low demand mode up to SIL 1 high demand modeCertified for safety function to ISO 13849 and IEC 61508 (SIL)Product can be used in safety-related parts of control systems up to SIL 1, high demand up to SIL 3 in a redundant architectureOperating pressure0.2 MPa 0.8 MPaOperating pressure0.45 MPaNominal operating pressure0.45 MPaNominal operating pressure65.25 psiMaritime classificationSee certificate accertificateCE marking (see declaration of conformity)as per EU explosion protection directive (ATEX) | Mode of operation | Single-acting |
| Symbol 00991266 Valve connection conforms to standard VDI/VDE 3845 (NAMUR) Connection point for positioner and position sensor conforms to standard VDI/VDE 3845 size AA 2 Devices type according to VDMA 66413 Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 2 low demand mode up to SIL 2 low 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 up to SIL 3 in a redundant architecture Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa Nominal operating pressure 65.25 psi Maritime classification See certificate as per EU explosion protection directive (ATEX) | Structural design | Gear rack/pinion |
| Valve connection conforms to standard VDI/VDE 3845 (NAMUR) Connection point for positioner and position sensor conforms to standard VDI/VDE 3845 size AA 2 Devices type according to VDMA 66413 Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 2 low demand mode 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 1, high demand mode Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.45 MPa Nominal operating pressure 4.5 bar Nominal operating pressure 65.25 psi Maintime classification See certificate CET marking (see declaration of conformity) as per EU explosion protection directive (ATEX) | Closing direction | Clockwise closing |
| Connection point for positioner and position sensor conforms to standard VDI/VDE 3845 size A2 Devices type according to VDMA 66413 Safety device Safety function The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring force of the spring assembly. Safety integrity level (SIL) Up to SIL 2 low demand mode up to SIL 1 nigh 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 mode Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.2 MPa 0.8 MPa Operating pressure 0.45 MPa Nominal operating pressure 0.45 MPa Nominal operating pressure 65.25 psi Maritime classification See certificate CErt marking (see declaration of conformity) as per EU explosion protection directive (ATEX) | Symbol | 00991266 |
| standardSafety deviceDevices type according to VDMA 66413Safety deviceSafety functionThe safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly.Safety integrity level (SIL)Up to SIL 2 low demand mode up to SIL 3 in a redundant architecture up to SIL 1 high demand modeCertified 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 Product can be used in safety-related parts of control systems up to SIL 1, high demand up to SIL 3 in a redundant architectureOperating pressure0.2 MPa 0.8 MPaOperating pressure0.45 MPaNominal operating pressure0.45 MPaNominal operating pressure4.5 barNominal operating pressure5.25 psiMaritime classificationSee certificate as per EU explosion protection directive (ATEX) | Valve connection conforms to standard | VDI/VDE 3845 (NAMUR) |
| Safety functionThe safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly.Safety integrity level (SIL)Up to SIL 2 low demand mode up to SIL 2 low demand mode up to SIL 1 high demand modeCertified 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 Product can be used in safety-related parts of control systems up to SIL 1, high demand up to SIL 3 in a redundant architectureOperating pressure0.2 MPa 0.8 MPaOperating pressure2 bar 8 barOperating pressure0.45 MPaNominal operating pressure4.5 barNominal operating pressure65.25 psiMaintime classificationSee certificate as per EU explosion protection directive (ATEX) | Connection point for positioner and position sensor conforms to standard | VDI/VDE 3845 size AA 2 |
| switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring force of the spring assembly.Safety integrity level (SIL)Up to SIL 2 low demand mode up to SIL 3 in a redundant architecture up to SIL 1 high demand modeCertified 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 Product can be used in safety-related parts of control systems up to SIL 1, high demand up to SIL 3 in a redundant architectureOperating pressure0.2 MPa 0.8 MPaOperating pressure0.45 MPaOperating pressure0.45 MPaNominal operating pressure4.5 barNominal operating pressure65.25 psiMaritime classificationSee certificate as per EU explosion protection directive (ATEX) | Devices type according to VDMA 66413 | Safety device |
| up to SIL 3 in a redundant architecture up to SIL 1 high demand modeCertified 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 Product can be used in safety-related parts of control systems up to SIL | Safety function | switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is achieved by |
| 2, low demand Product can be used in safety-related parts of control systems up to SIL 1, high demand up to SIL 3 in a redundant architectureOperating pressure0.2 MPa 0.8 MPaOperating pressure2 bar 8 barOperating pressure29 psi 116 psiNominal operating pressure0.45 MPaNominal operating pressure65.25 psiMaritime classificationSee certificateCE marking (see declaration of conformity)as per EU explosion protection directive (ATEX) | Safety integrity level (SIL) | up to SIL 3 in a redundant architecture |
| Operating pressure2 bar 8 barOperating pressure29 psi 116 psiNominal operating pressure0.45 MPaNominal operating pressure4.5 barNominal operating pressure65.25 psiMaritime classificationSee certificateCE marking (see declaration of conformity)as per EU explosion protection directive (ATEX) | Certified for safety function to ISO 13849 and IEC 61508 (SIL) | 2, low demand Product can be used in safety-related parts of control systems up to SIL 1, high demand |
| Operating pressure 29 psi 116 psi Nominal operating pressure 0.45 MPa Nominal operating pressure 4.5 bar Nominal operating pressure 65.25 psi Maritime classification See certificate CE marking (see declaration of conformity) as per EU explosion protection directive (ATEX) | Operating pressure | 0.2 MPa 0.8 MPa |
| Nominal operating pressure 0.45 MPa Nominal operating pressure 4.5 bar Nominal operating pressure 65.25 psi Maritime classification See certificate CE marking (see declaration of conformity) as per EU explosion protection directive (ATEX) | Operating pressure | 2 bar 8 bar |
| Nominal operating pressure 4.5 bar Nominal operating pressure 65.25 psi Maritime classification See certificate CE marking (see declaration of conformity) as per EU explosion protection directive (ATEX) | Operating pressure | 29 psi 116 psi |
| Nominal operating pressure65.25 psiMaritime classificationSee certificateCE marking (see declaration of conformity)as per EU explosion protection directive (ATEX) | Nominal operating pressure | 0.45 MPa |
| Maritime classification See certificate CE marking (see declaration of conformity) as per EU explosion protection directive (ATEX) | Nominal operating pressure | 4.5 bar |
| CE marking (see declaration of conformity) as per EU explosion protection directive (ATEX) | Nominal operating pressure | 65.25 psi |
| | Maritime classification | See certificate |
| UKCA marking (see declaration of conformity) acc. to UK EX instructions | CE marking (see declaration of conformity) | as per EU explosion protection directive (ATEX) |
| | UKCA marking (see declaration of conformity) | acc. to UK EX instructions |

FESTO

| Feature | Value |
|---|---|
| Explosion protection certification outside the EU | EPL Db (GB) EPL Gb (GB) |
| Explosion prevention and protection | Zone 1 (ATEX) Zone 1 (UKEX) Zone 2 (ATEX) Zone 21 (ATEX) Zone 21 (UKEX) Zone 22 (ATEX) |
| Certificate issuing authority | DNV TAP00001CE German Technical Control Board (TÜV) Rheinland 968/V 1106.01/2023 |
| ATEX category gas | 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 | Dew point min. 10 °C below the ambient temperature and temperature of medium Operation with oil lubrication possible (required for further use) |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L |
| Storage temperature | -20 °C 60 °C |
| Ambient temperature | -20 °C 80 °C |
| Torque at nominal operating pressure and 0° swivel angle | 260.3 Nm |
| Torque at nominal operating pressure and 90° swivel angle | 135.7 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 | 127.5 Nm |
| Spring return torque with 90° swivel angle | 252.1 Nm |
| MTTFd | 1126 years |
| PFH | 1.01E-7 |
| PFD | 7.8E-4 |
| Air consumption at 6 bar per cycle 0°-nominal swivel angle-0° | 17.2 |
| Product weight | 17906 g |
| Shaft connection | T27 |
| Pneumatic connection | 1/4 NPT |
| Note on materials | RoHS-compliant |
| Material of sub-base | Wrought aluminum alloy, anodized |
| Cover material | Wrought aluminum alloy, anodized |
| 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 | Steel |
| Material of screws | High-alloy stainless steel |
| material of scients | |