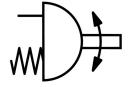
## Quarter turn actuator DFPD-N-20-RP-90-RS35-F05-R3-C

Part number: 8102799





General operating condition

## Data sheet

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     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 nothors to standard   VDI/VDE 3845 (NAMUR)     Connection point for position sensor conforms to standard   VDI/VDE 3845 size AA 1     Devices type according to VDMA 66413   Safety device     Safety function   The safety function consists of the drive switching to the defined safety switching force of the spring force of the spring force of the spring movement is achieved by 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   0.35 MPa     Nominal operating pressure <td< th=""><th>Feature</th><th>Value</th></td<>	Feature	Value
Swivel angle   90 deg     End-position adjusting range at nominal swivel angle   -5 deg 5 deg     Depth shaft connection   12 mm     Standard connection for valve   ISO 5211     Mounting position   Any     Mounting position   Any     Standard connection for valve   ISO 5211     Mounting position   Any     Mode of operation   Single-acting     Structural design   Gear rack/pinion     Closking closing   Closking closing     Symbol   00991266     Valve connection conforms to standard   VDI/VDE 3845 size AA 1     Standard   VDI/VDE 3845 size AA 1     Standard   Safety device     Safety function   The safety function consists of the drive switching to the defined safety switching position when the compressembly.     Veir Standard   VDI/VDE 3845 size AA 1     Safety integrity level (SIL)   Up to SIL 2 low demand mode up to SIL 2 low demand mode up to SIL 3 in a redundant architecture up to SIL 1 ing demand mode up to SIL 3 in a redundant architecture up to SIL 1 ing demand mode up to SIL 3 in a redundant architecture     Querating pressure   0.2 MPa 0.8 MPa     Operating pressure   0.2 MPa 0.8 MPa     Operating pressure	Size of valve actuator	20
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     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   VDI/VDE 3845 size AA 1     Safety function   Safety device     Safety function   Safety device     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.     Up to SIL 2 low demand mode   Up to SIL 2 low demand mode     Product can be used in safety-related parts of control systems up to SIL 2, low demand   1 in a redundant architecture up to SIL 3 in a redundant architecture     Up to SIL 3 in a redundant architecture   0.2 MPa 0.8 MPa   0.2 MPa 0.8 MPa     Operating pressure   0.2 M a 0.8 MPa   0.2 M pa 0.3 S MPa <	Flange hole pattern	F05
End-position adjusting range at nominal swivel angle   5 deg 5 deg     Depth shaft connection   12 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 positioner and position sensor conforms to standard   VDI/VDE 3845 size AA 1     Devices type according to VDMA 66413   Safety device     Safety function   The safety function consists of the drive switching movement is achieved by the spring chamber is exhausted. This switching movement is achieved by the spring chamber is exhausted. This switching movement is achieved by the spring chrone and mode up to SIL 1 in a redundant architecture up to SIL 1 in a redundant architecture up to SIL 1 in a redundant architecture up to SIL 3 in a redundant architecture     Operating pressure   0.2 MPa 0.8 MPa     Operating pressure   0.35 MPa     Nominal operating pressure   0.35 MPa     Nominal operating pressure   3.5 bar     Nominal operating pressure   3.5 bar     Nominal operating pressure   3.5 bar     N	Swivel angle	90 deg
Depth shaft connection   12 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   VDI/VDE 3845 size A1     Devices type according to VDMA 66413   Safety device     Safety function   The safety function consists of the drive switching to the defined safety switching postion 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 3 in a redundant architecture 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 up to SIL 3 in a redundant architecture     Operating pressure   0.2 MPa 0.8 MPa     Operating pressure   0.2 MPa 0.3 MPa     Nominal operating pressure   3.5 bar     Nominal operating pressure   0.75 psi     Mominal operating pressure   0.75 psi     Mominal operating pressur	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 1     Standard   Devices type according to VDMA 66413     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 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 mode     Up to SIL 1 air a redundant architecture up to SIL 1 high demand mode   Up to SIL 1 air a redundant architecture     Operating pressure   0.2 MPa 0.8 MPa   Operating pressure     Operating pressure   0.35 MPa   0.35 MPa     Nominal operating pressure   3.5 bar   Nominal operating pressure     Nominal operating pressure   3.5 bar   So.75 psi     Maritime classification   See certificate   CE marking (see declaration of conformity)	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 1     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 1 bigh 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   0.35 MPa     Nominal operating pressure   3.5 bar     Nominal operating pressure   50.75 psi     Mominal operating pressure   50.75 psi     Maritime classification   See certificate     CE marking (see declaration of conformity)   as per EU explosion	Depth shaft connection	12 mm
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 1     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   0.35 MPa     Nominal operating pressure   0.35 MPa     Nominal operating pressure   3.5 bar     Nominal operating pressure   50.75 psi     Maritime classification   See certificate     CE marking (see declaration of conformity)   as per EU explosion protection directive (ATEX)	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 1     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   0.2 MPa 0.8 MPa     Operating pressure   0.35 MPa     Nominal operating pressure   3.5 bar     Nominal operating pressure   50.75 psi     Maritime classification   See certificate     CE marking (see declaration of conformity)   as per EU explosion protection directive (ATEX)	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 1Devices type according to VDMA 66413Safety deviceSafety functionThe safety function consists of the drive switching to the defined safety switching position when the compressed ari is switched off and the spring chamber is exhausted. This switching movement is achieved by the spring the schausted. 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 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 pressure0.35 MPaNominal operating pressure3.5 barNominal operating pressure50.75 psiMaritime classificationSee certificate Cer etificateCE marking (see declaration of conformity)as per EU explosion protection directive (ATEX)	Mode of operation	Single-acting
Symbol     O0991266       Valve connection conforms to standard     VDI/VDE 3845 (NAMUR)       Connection point for positioner and position sensor conforms to standard     VDI/VDE 3845 size AA 1       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     0.35 MPa       Nominal operating pressure     0.35 MPa       Nominal operating pressure     50.75 psi       Maritime classification     See certificate       CErt marking (see declaration of conformity)     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 1     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 accore of the spring force of the spring accore of the spring force of the spring accore of the spring accore of the spring accore of the spring accore of the spring force of the spring force of the spring force of the spring force of the spring accore of the spring force of the spring force of the spring force of the spring force of the spring accore of the spring force of the spring accore of the spring accore of the spring force of the spring accore of the spring force of the spring accore	Closing direction	Clockwise closing
Connection point for positioner and position sensor conforms to standard   VDI/VDE 3845 size AA 1     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 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   0.35 MPa     Nominal operating pressure   3.5 bar     Nominal operating pressure   50.75 psi     Maritime classification   See certificate     CE 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 up to SIL 3 in a redundant architectureOperating pressure0.2 MPa 0.8 MPaOperating pressure0.2 MPa 0.35 MPaNominal operating pressure0.35 MPaNominal operating pressure3.5 barNominal operating pressure50.75 psiMaritime classificationSee certificate a sper 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 pressure0.35 MPaNominal operating pressure3.5 barNominal operating pressure50.75 psiMaritime classificationSee certificate as per EU explosion protection directive (ATEX)	Connection point for positioner and position sensor conforms to standard	VDI/VDE 3845 size AA 1
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 pressure2 bar 8 barOperating pressure0.35 MPaNominal operating pressure3.5 barNominal operating pressure50.75 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 1, high demand up to SIL 3 in a redundant architectureOperating pressure0.2 MPa 0.8 MPaOperating pressure2 bar 8 barOperating pressure0.35 MPaNominal operating pressure3.5 barNominal operating pressure50.75 psiMaritime classificationSee certificate as per EU explosion protection directive (ATEX)	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 pressure0.35 MPaNominal operating pressure3.5 barNominal operating pressure50.75 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 pressure0.35 MPaNominal operating pressure3.5 barNominal operating pressure50.75 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   0.35 MPa     Nominal operating pressure   3.5 bar     Nominal operating pressure   50.75 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   0.35 MPa     Nominal operating pressure   3.5 bar     Nominal operating pressure   50.75 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   3.5 bar     Nominal operating pressure   50.75 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 pressure50.75 psiMaritime classificationSee certificateCE marking (see declaration of conformity)as per EU explosion protection directive (ATEX)	Nominal operating pressure	0.35 MPa
Maritime classification   See certificate     CE marking (see declaration of conformity)   as per EU explosion protection directive (ATEX)	Nominal operating pressure	3.5 bar
CE marking (see declaration of conformity) as per EU explosion protection directive (ATEX)	Nominal operating pressure	50.75 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	8.6 Nm
Torque at nominal operating pressure and 90° swivel angle	4.5 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	5.4 Nm
Spring return torque with 90° swivel angle	10.7 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	1383 g
Shaft connection	T11
Pneumatic connection	1/8 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	High-alloy stainless steel
Material of screws	High-alloy stainless steel
Material of Sciews	