

Primary characteristics

NAF-RC pneumatic actuators are intended for on-off control and are suitable for most valves with 90° angle of rotation.

Design

The actuators are based on the 'Scotch yoke' principle, which means that they deliver the highest torque at the beginning and end of the rotary travel. They are equipped with low-friction seals consisting of surface treated O-rings, which results in a long, lubrication-free useful life and thus low maintenance costs. The actuators are available in a double-acting version designated NAF 791270 and spring-return version designated NAF 791272 for spring closing and NAF 791274 for spring opening. The end covers are equipped with adjusting screws for fine adjustment of any end position within ±3°. The NAF 791270/72/74 have drive shafts with two milled flats, tuned 45° from each other acc. to DIN 3337/ISO 5211.



NAF 791270



NAF 791272/74

(Table 1)

NAF-No	Air Consumption, in litres, free air at 6 bar Open / Close	Torque at 6 bar - Nm		
		Double-acting		
		0°	50°	90°
791270 -210	0.6 / 1.1	38	19	27
791270 -220	1.1 / 1.3	76	38	54
791270 -230	2.2 / 4	145	72	105
791270 -240	4.4 / 5	290	145	210
791270 -250	6.9 / 13	450	225	320
791270 -260	13.8 / 16	910	460	650
791270-265	32 / 36	1295	610	921
791270 -270	33 / 54	1890	940	1360
791270 -280	66 / 67	3800	1900	2740

When rating the actuator, reduce the tabulated value at 0° by a factor of 0.9.

(Table 2)

NAF-No	Air consumption free air at 6 bar	Torque at 6 bar - Nm					
		Air to open			Spring to close		
		0°	60°	90°	90°	30°	0°
791272 -210	1.1	20	9	11	18	9	12
-220	1.3	41	18	22	37	18	25
-230	4	78	33	41	69	33	47
-240	5	158	68	84	140	68	96
-250	13	245	105	130	215	105	150
-260	16	500	215	265	440	215	305
-265	36	730	305	330	610	330	440
-270	54	1030	440	550	910	440	620
-280	67	2080	900	1110	1840	900	1260

When rating the actuator, reduce the tabulated value at 0° by a factor of 0.9. For single-acting actuators with spring return, contact NAF if the supply pressure is other than 6 bar.

Technical data

Temperature range: -20°C to +80°C¹⁾

Actuating pressure: Up to 10 bar²⁾

Actuating medium: Air

Total travel: Approx. 93°

1) Other temperatures on request

2) Size 265 8bar

Material specification

Body/cylinder: Extruded anodized aluminium

Drive shaft: Stainless steel (sizes 210 - 260)

Yellow cromated steel

(sizes 265-280)

Scotch yoke: Hardened steel

Piston bearing: Reinforced POM

Piston seal: Surface treated Nitrile rubber

O-ring

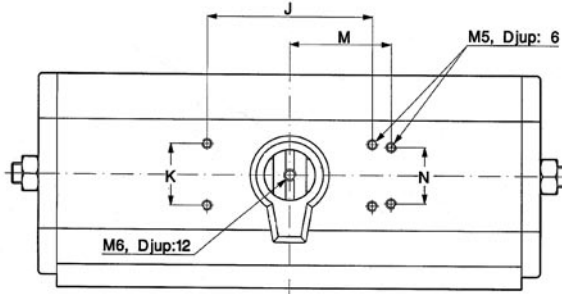
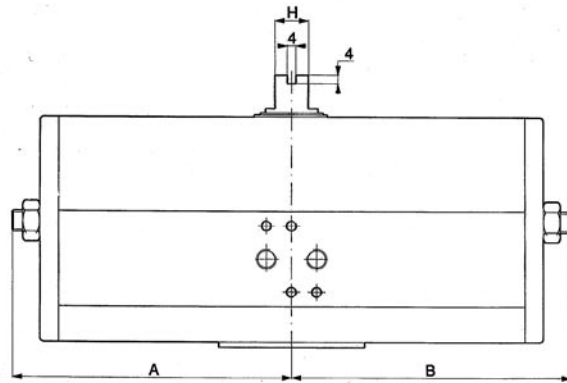
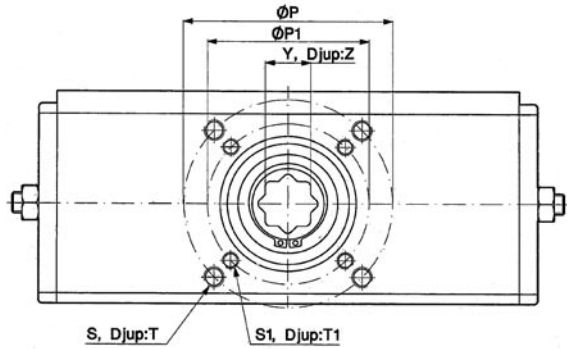
For double-acting actuator NAF 791270 at supply pressures other than 6 bar the specified torque is changed proportionately with supply pressure. At 5 bar the torque will be 5:6 = 0.83 x torque of the relevant actuator.

(Table 3)

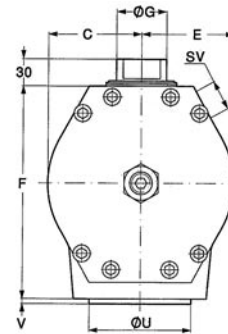
NAF-No	Air consumption free air at 6 bar	Torque at 6 bar - Nm					
		Spring to open			Air to close		
		0°	60°	90°	90°	30°	0°
791274-210	1.1	21	8	10	16	9	15
-220	1.3	43	16	20	33	19	30
-230	4	84	30	37	62	34	52
-240	5	172	60	75	127	69	106
-250	13	265	94	118	193	107	162
-260	16	540	191	240	390	215	330
-265	36	735	260	325	530	295	445
-270	54	1120	385	480	830	450	670
-280	67	2265	780	965	1670	910	1355

When rating the actuator, reduce the tabulated value at 0° by a factor of 0.9. For single-acting actuators with spring return, contact NAF if the supply pressure is other than 6 bar.

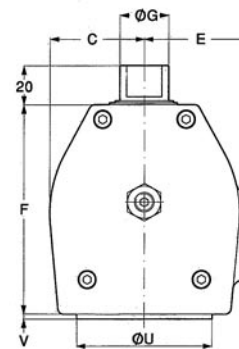
Dimensions and mass 791270-XXX



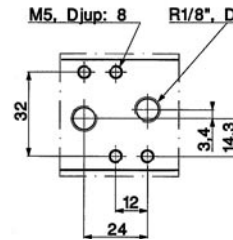
Size 270 - 280



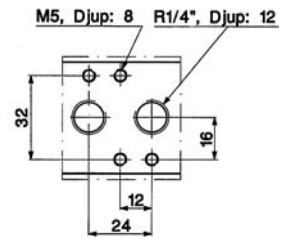
Size 210 - 265



Drilled according to NAMUR



Size 210 - 240



Size 250 - 280

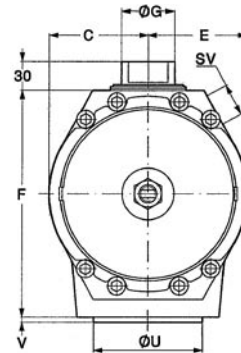
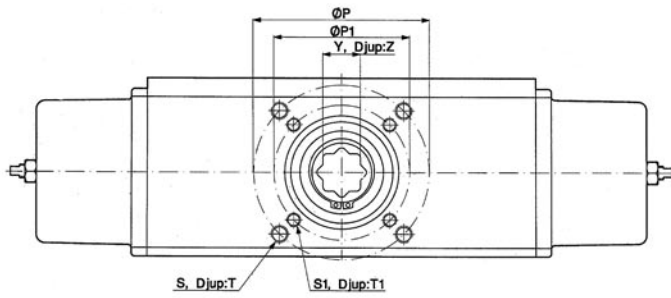
(Table 4)

NAF No.	N.FI	A	B	C	E	F	G	H	J	K	M	N	FI	P	S	T	FI	P1	S1	T1	U	V	Y**	Z	Mass kg
791270-210	F05	45	98	32	41	75	16	10	35.4	35.4	40	30	F05	50	M6	11	-	-	-	-	35	2	14	19	1.2
791270-220	F05	98	98										F05	50	M6	11	-	-	-	-	35				
791270-230	F07	65	135	49	55	110	25	16	80	30	-	-	F10*	102*	M10*	17*	F07	70	M8	14	55	3	17	30	3.5
791270-240	F10	135	135										F10	102	M10	17	F07*	70*	M8*	14*	70				
791270-250	F10	90	190	69	75	155	35	22	80	30	-	-	F12*	125*	M12*	21*	F10	102	M10	17	70	3	22	37	9.4
791270-260	F12	190	190										F10	125	M12	21	F10*	102*	M10*	17*	85				
791270-265	F12	195	195	76	76	202	35	22	80	30	-	-	F12	125	M12	21	-	-	-	-	85	3	27	37	18.6
791270-270	F14	145	300										F14	140	M16	25	-	-	-	-	100				
791270-280	F16	300	300	110	110	248	60	40	130	30	-	-	F16	165	M20	32	F12*	125*	M12*	25*	130	5	46	64	42.0

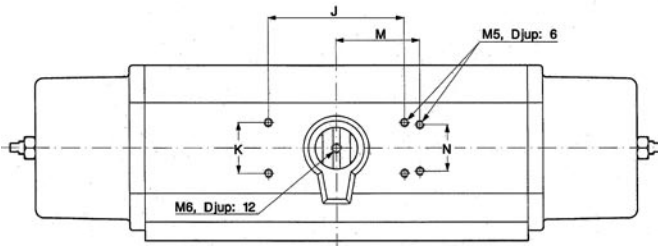
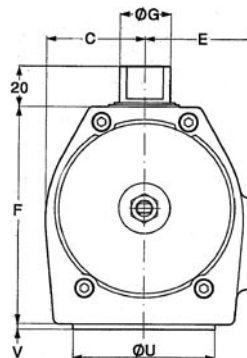
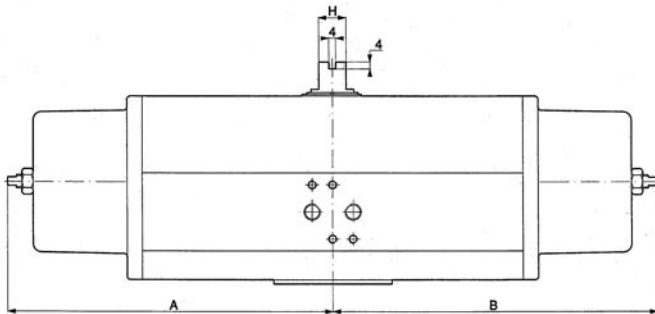
N.FI Nominal ISO/DIN-flange. I.e. mounting hole circle to valve, guide ring diameter U and measure Y follow the same standard flange
 SV Connection to solenoid valve on RC270-280.
 * Extra mounting holes on all RC230-260 and 280 for alternative ISO/DIN hole pattern.
 ** Tolerance H9. The hole is octagonal and adapts to valve stems with squares both in 90° and 45° direction.
 Size 270 also has the following hole pattern on the bottom side: CC 170x110 mm placed alongside the actuator, 4 pcs M16, depth 25 mm.
 Size 280 also has the fo

Dimensions and mass 791272/74 -XXX

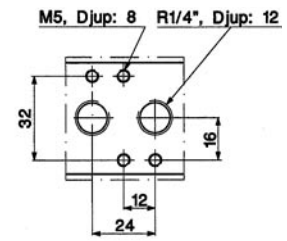
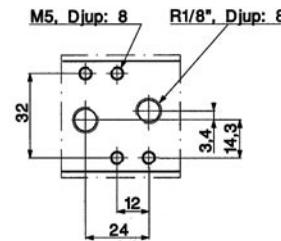
Size 270 - 280



Size 210 - 265



Drilled acc. to NAMUR



Size 210 - 240

Size 250 - 280

(Table 5)

NAF No.	N.FI	A	B	C	E	F	G	H	J	K	M	N	FI	P	S	T	FI	P1	S1	T1	U	V	Y**	Z	Mass kg												
791272/74-210	F05	45	150	32	41	75	16	10	35.4	35.4	40	30	F05	50	M6	11	-	-	-	-	35	2	14	19	1.5												
791272/74-220	F05	150	150										F05	50	M6	11	-	-	-	-	35		14	19	2.2												
791272/74-230	F07	65	200	49	55	110	25	16					80	30	-	-	F10*	102*	M10*	17*	F07	70	M8	14	55	3	17	30	4.2								
791272/74-240	F10	200	200														F10	102	M10	17	F07*	70*	M8*	14*	70		22	30	7.0								
791272/74-250	F10	90	285	69	75	155	35	22									30	-	-	-	F12*	125*	M12*	21*	F10	102	M10	17	70	3	37	12.4					
791272/74-260	F12	285	285																		F12	125	M12	21	F10*	102*	M10*	17*	85		27	37	18.5				
791272/74-265	F12	317	317	76	76	202	35	22													130	-	-	-	F12	125	M12	21	-	-	-	-	85	4	27	36	26.6
791272/74-270	F14	145	510																						F14	140	M16	25	-	-	-	-	100		4	36	64
791272/74-280	F16	510	510	110	110	248	60	40	F16	165	M20	32													F12*	125*	M12*	25*	130	5	46	64	68.0				

N.FI Nominal ISO/DIN-flange. I.e. mounting hole circle to valve, guide ring diameter U and measure Y follow the same standard flange

SV Connection to solenoid valve on RC270-280.

* Extra mounting holes* on all RC230-260 and 280 for alternative ISO/DIN hole pattern.

** Tolerance H9. The hole is octagonal and adapts to valve stems with squares both in 90° and 45° direction.

Size 270 also has the following hole pattern on the bottom side: CC 170x110 mm placed alongside the actuator, 4 pcs M16, depth 25 mm.

Size 280 also has the fo

**Solenoid valves for 3/2 and 5/2 function
(Table 6)**

Act. size	NAF-No.	Conn.
210-260	799975-341 N01-230V/50Hz	1/8"
270-280	799975-341 N02-230V/50Hz	1/4"

Standard power supply: 230V / 50Hz

Standard degree of protection: IP 65

Power consumption: 2W

For particulars of solenoid valves for other voltages and in other versions, please contact NAF.

Limit position indication

In addition to the standard visual indication of the valve position, various types of limit position indication and also continuous electrical or pneumatic indication are available.

NAF 799980-0012

Limit position indication box for closed and open positions, with mechanical switches.

NAF 799980-0015

Continuous signal transmitter/potentiometer, 0° - 90°, standard 1 kohm, and mechanical switches for closed and open positions.

Top mounted limit switches

NAF 799942

Product code

Example

Code	NAF 799942 - 7 2 00			
	1	2	3	4

NAF 799942

1. **42** Top mounted limit switches
2. **7** For direct mounting on NAF 791270/72/74 size 210-265 actuator
 - 8** For direct mounting on NAF 791270/72/74 size 270-280 actuator
3. **2** Open and closed position
4. **00** Switch, 34917330, IN5251, 10-36 VDC, 3-wires PNP
 - 01** Switch, 34917331, IN5290, 10-36 VDC, 2-wires PNP/NPN
 - 03** Switch, 34917333, IN5224, 10-36 VDC, 2-wires PNP/NPN
 - 05** Switch, 34917335, IN0110, 20-250 AC/DC, 2-wires
 - 06** Switch, 34917336, IN0109, 20-250 AC/DC, RTF-cabel
 - 07** Switch, 34917337, IN5225, 10-36 V DC, 3-wires PNP
 - 08*** Switch, 34917338, NN5009, 8.2 VDC, 2-wires for ex version zone II A and B

* Amplifier with relay output is required
All switches have protection class IP67



NAF 799942