

ACTUATION · PNEUMATIC

APDA Pneumatic Actuator — Double Acting

Rack and pinion quarter-turn double acting air actuator with NAMUR pneumatic and accessory interfaces and ISO 5211 bottom mount. Cylinder Ø32–Ø400, 12–13,024 Nm.



NAMUR

ISO 5211

RACK & PINION

2.5–8 BAR

FEATURES

- Double acting air actuator
- Rack and pinion quarter turn design
- End of stroke adjustment
- Air supply connection to NAMUR standard for solenoid valves and speed controllers
- ISO 5211 bottom mount for direct installation onto valves, declutchable gearboxes or mounting kits
- Position indicator with NAMUR interface for limit switch boxes and positioners
- Two independent externally mounted travel stops, $\pm 5^\circ$ adjustment at open or closed
- Operating direction is reversible
- Fasteners: 316 stainless steel

TECHNICAL SPECIFICATION

Body	Extruded aluminium alloy
End caps	Cast aluminium, epoxy coated
Cylinder size	32 mm – 400 mm
Control pressure	2.5 – 8 bar
Control medium	Dry or lubricated air, non-corrosive gases Max particle diameter 30 μ m
Ambient temperature	Standard –20 °C to +80 °C Low temp option –40 °C to +80 °C High temp option –20 °C to +150 °C
Coatings	Hard anodise, epoxy, PTFE or nickel plated
Mounting pad	ISO 5211
Application	Indoor or outdoor use

OPTIONS

LIMIT SWITCHES

Mechanical switches · proximity sensors · explosion proof

NAMUR SOLENOIDS

12 V DC, 24 V DC · 24 V AC, 110 V AC, 240 V AC

ACCESSORIES

Viton seals for –20 °C to 150 °C · filter regulators · positioners · extensions · repair seal kits

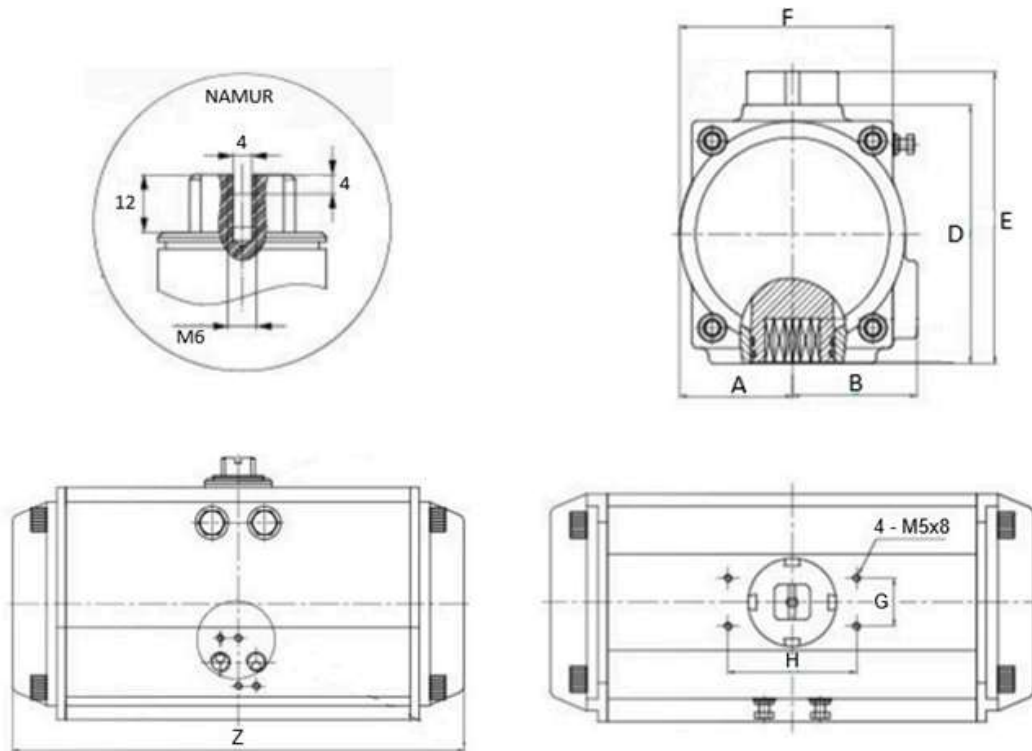
DIMENSIONAL SPECIFICATIONS


Fig. 1 — NAMUR accessory pad, end view (A, B, D, E, F), plan views (G, H, Z) and mounting threads.

Model	Cylinder Ø	A	B	D	E	F	G	H	Z	Weight (kg)
APRT007DA	32	—	—	45	65	51	30	80	116	0.7
APRT012DA	40	28.5	36.5	60	80	52	30	80	122	1
APRT020DA	52	30	41.5	72	92	65	30	80	149	1.35
APRT035DA	63	36	47	88	108	72	30	80	168	1.95
APRT050DA	75	42	53	99.5	119.5	81	30	80	184	2.56
APRT075DA	83	46	57	109	129	92	30	80	210	3.28
APRT110DA	92	50	58.5	116.5	136.5	98	30	80	262	4.58
APRT160DA	105	57.5	64	133	153	109.5	30	80	268	5.89
APRT255DA	125	67.5	74.5	155	175	127.5	30	80	301	8.94
APRT435DA	140	75	77	172	192	137.5	30	80	394	13.43
APRT665DA	160	87	87	197	217	158	30	80	458	19.96
APRT1000DA	190	103	103	230	260	189	30	130	528	34.99
APRT1200DA	210	113	113	255	285	210	30	130	536	46.77
APRT1800DA	240	130	130	289	319	245	30	130	606	54.16
APRT2700DA	270	147	147	328	358	273	30	130	726	77.17
APRT3800DA	300	203	203	348	378	290	30	130	760	106.53
APRT5700DA	350	230	230	408	438	336	30	130	888	160.07
APRT8000DA	400	258	258	480	510	360	30	130	930	181.94

All dimensions in millimetres unless stated.

MOUNTING & SHAFT INTERFACE

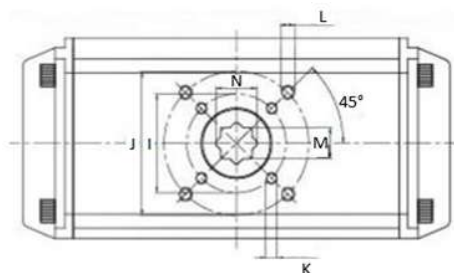


Fig. 2 — Bottom mount flange (I, J, K, L, M, N).

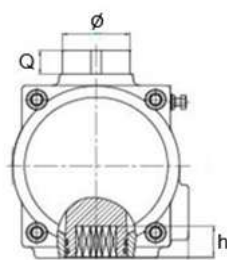


Fig. 3 — Drive interface.

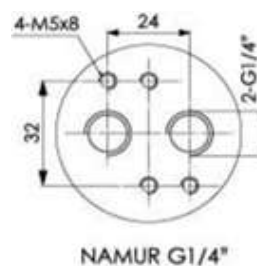


Fig. 4 — NAMUR G1/4", 4 - M5x8.

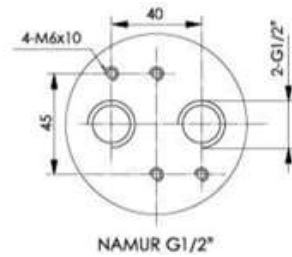


Fig. 5 — NAMUR G1/2", 4 - M6x10.

ISO 5211 FLANGE SPECIFICATIONS

Flange	OD	PCD	Bolt qty	Bolt size	Thread depth
F03	46	36	4	M5	8
F04	54	42	4	M5	8
F05	65	50	4	M6	10
F07	90	70	4	M8	13
F10	125	102	4	M10	16
F12	150	125	4	M12	20
F14	175	140	4	M16	25
F16	210	165	4	M20	25
F25	300	254	8	M16	25

MOUNTING FLANGE, SHAFT AND AIR SUPPLY BY MODEL

Model	ISO 5211 flange		M	N	Ø Q	h	Ø	Air supply
	I	J						
APRT007DA	F03	—	9	12	—	11	40	NAMUR 1/8"
APRT012DA	F03	F05	11	12	—	14	40	NAMUR 1/4"
APRT020DA	F03	F05	11	15.5	20	14	40	NAMUR 1/4"
APRT035DA	F05	F07	14	19.7	20	18	40	NAMUR 1/4"
APRT050DA	F05	F07	14	19.7	20	18	40	NAMUR 1/4"
APRT075DA	F05	F07	17	24	20	21	40	NAMUR 1/4"
APRT110DA	F05	F07	17	24	20	31	40	NAMUR 1/4"
APRT160DA	F07	F10	22	31	20	26	40	NAMUR 1/4"
APRT255DA	F07	F10	22	29.5	20	37	55	NAMUR 1/4"
APRT435DA	F10	F12	27	36.7	20	37	55	NAMUR 1/4"
APRT665DA	F10	F12	27	36.7	20	37	55	NAMUR 1/4"
APRT1000DA	F14	—	36	49.5	30	47	80	NAMUR 1/4"
APRT1200DA	F14	—	36	49.5	30	47	80	NAMUR 1/4"
APRT1800DA	F14	—	46	63.6	30	53	80	NAMUR 1/4"
APRT2700DA	F16	—	46	63.6	30	66	80	NAMUR 1/4"
APRT3800DA	F16	—	Ø50.6	59.2	30	72	80	NAMUR 1/2"
APRT5700DA	F16	F25 *	55	63.6	30	72	80	NAMUR 1/2"
APRT8000DA	F16	F25 *	55	77.7	30	72	80	NAMUR 1/2"

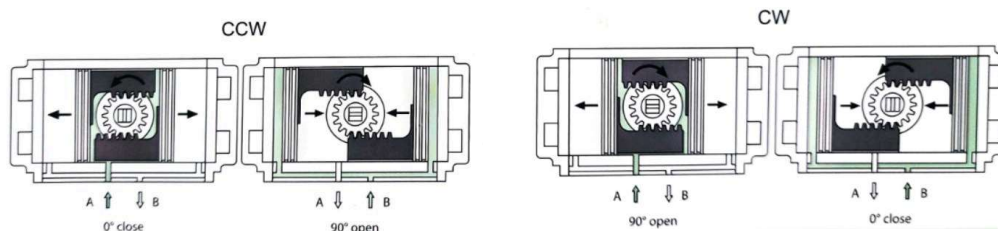
* denotes output shaft can be custom configured.

TORQUE OUTPUT & AIR CONSUMPTION

Model	Air pressure (bar) — output torque (Nm)							Air consumption (litres)	
	2	3	4	5	6	7	8	Opening	Closing
APRT007DA	3	5	6	8	9	11	12	0.04	0.05
APRT012DA	5	7	10	12	14	17	19	0.08	0.11
APRT020DA	8	12	16	20	24	28	32	0.12	0.16
APRT035DA	15	22	29	36	44	51	58	0.21	0.23
APRT050DA	20	30	40	50	60	70	80	0.3	0.34
APRT075DA	31	47	63	78	94	110	125	0.43	0.47
APRT110DA	45	68	90	113	135	158	181	0.64	0.73
APRT160DA	66	99	132	165	198	231	264	0.95	0.88
APRT255DA	100	150	200	251	301	351	401	1.6	1.4
APRT435DA	171	256	342	427	513	598	684	2.5	2.2
APRT665DA	266	399	532	665	798	931	1064	3.7	3.2
APRT1000DA	426	638	851	1064	1277	1490	1702	5.9	5.4
APRT1200DA	532	798	1064	1330	1596	1862	2128	7.5	7.5
APRT1800DA	769	1154	1539	1924	2308	2693	3078	11	9
APRT2700DA	1170	1754	2339	2924	3509	4094	4679	17	14
APRT3800DA	1526	2289	3052	3815	4578	5341	6104	23.8	29.7
APRT5700DA	2285	3427	4570	5712	6854	7997	9139	35.1	46.3
APRT8000DA	3256	4884	6512	8140	9768	11396	13024	52.6	56

Air volume and cycle time: L/min = air volume (opening + closing consumption) × 101.3 × actuator cycles per minute ÷ (air supply kPa + 101.3).

OPERATING PRINCIPLES



Air to port A drives the pistons outwards and the shaft counter clockwise, exhausting port B. Air to port B drives the pistons inwards and the shaft clockwise.

Reversed assembly: air to port A drives the shaft clockwise, air to port B counter clockwise. Operating direction is reversible on site.

STANDARDS & COMPLIANCE

Air supply interface to NAMUR standard
 Accessory interface to NAMUR (VDI/VDE 3845)

Bottom mounting flange according to ISO 5211
 Fasteners in 316 stainless steel

Designs, materials and specifications shown are subject to change without notice due to our continuing program of product development. Confirm critical dimensions with Global Water Group prior to fabrication.