

GDD aluminium pneumatic dosing pump actuator

Macro **Pneumatic actuators**

Category **Aluminium two stage pneumatic actuator**

Nominal torque of the actuator: from 30 Nm to 480 Nm



features

TECHNICAL FEATURES

Metering rotation angle: 45° max

Max. rotation angle: 92° (-1°, +91°)

Torque (see the corresponding actuator tables)

In the code of standard version GDD actuators, it is indicated the breakaway torque in Nm at 5,6 bar air supply.

ATEX version in conformity with directive 2014/34/EU

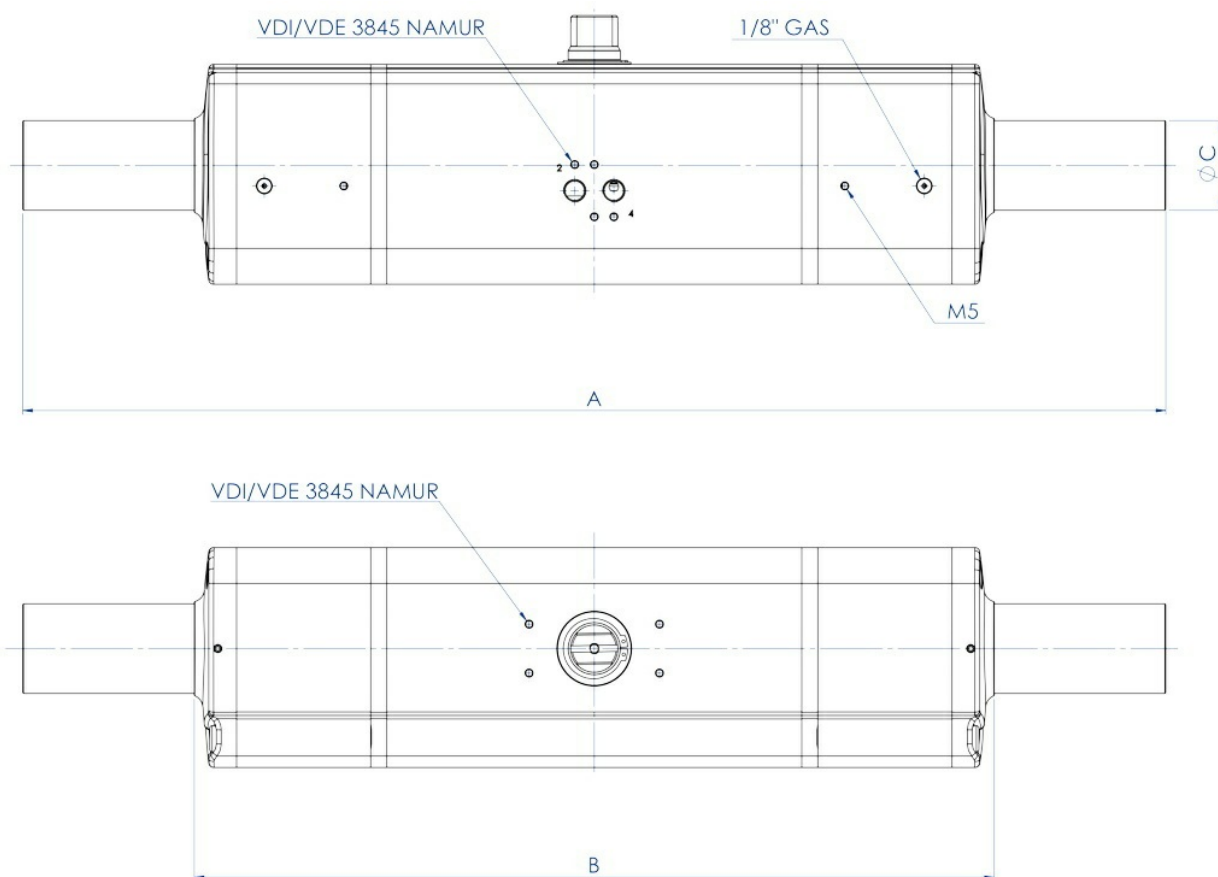
WORKING CONDITION

Temperature: from -20°C to +80°C

Air supply: 5,6 bar; maximum 8,4 bar

Actuating media: filtered dry compressed air, not necessarily lubricated. In case of lubricated air, either non detergent oil, NBR compatible oil, must be used.

dimensions



DATA SHEET							
Size	GDD30 F03-F05	GDD30 F04	GDD60 F04	GDD60 F05-F07	GDD106 F05-F07	GDD240 F07-F10	GDD480 F10-F12
A [mm]	355	355	423	423	502	589	702
B [mm]	245	245	278	278	345	416	491
C [mm]	29	29	29	29	29	40	55
Full stroke air (dm ³ /cycle)	0,17	0,17	0,31	0,31	0,57	1,3	2,46
Partial stroke air (dm ³ /cycle)	0,18	0,18	0,33	0,33	0,59	1,36	2,55
Weight [Kg]	1,8	1,8	2,8	2,8	4,7	8	14,3

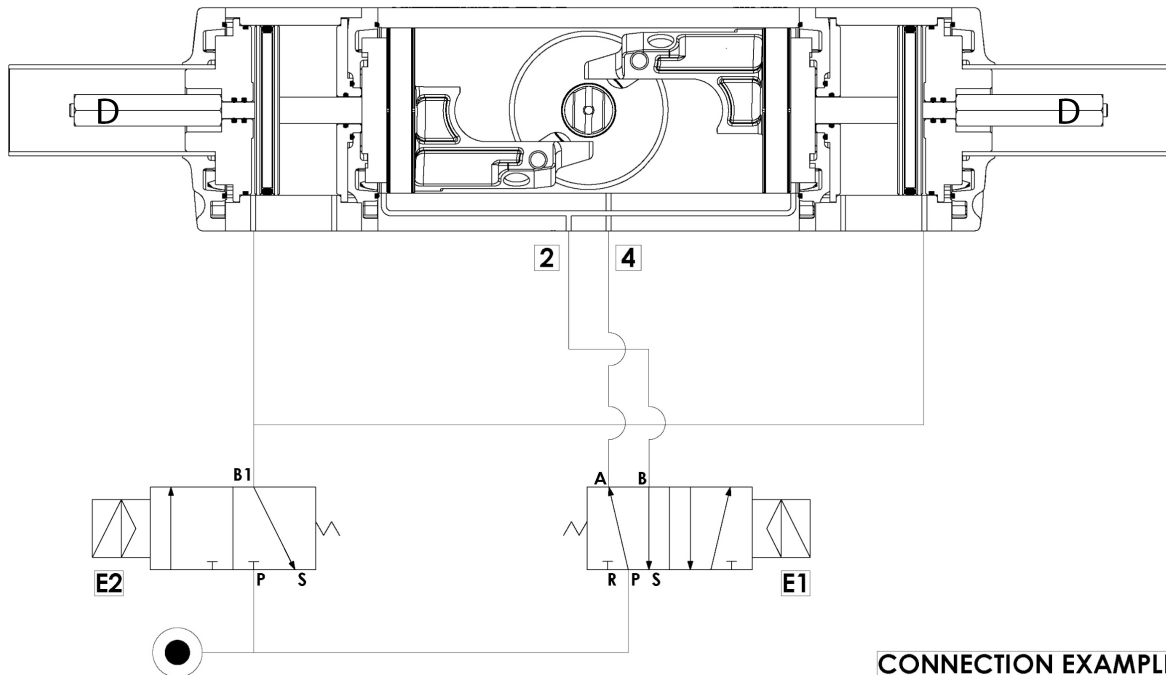
TWO STAGE PNEUMATIC ACTUATOR COMPONENTS SIZE: GDD30 - GDD480



MATERIALS			
Pos	Denomination	Q.ty	Material
1	Cylinder	1	Aluminium alloy
2	Piston	2	Aluminium alloy
3	Shaft	1	Stainless steel
4	Scotch yoke	1	Steel alloy
5	Bush	1	Acetalic resin
6	Bush	1	Acetalic resin
7	Int.elastic pin	1	Steel alloy
8	Ext.elastic pin	1	Steel alloy
9	Bush	2	Steel alloy
10	Sleeve	2	Steel alloy
11	Dynamic seal	2	Polyurethan
12	O-ring	2	Nitrilic rubber
13	Support disks	4	P.T.F.E. carbo-graphite filled
14	Seeger	1	Stainless steel
15	Washer	1	Stainless steel
16	Ext.support ring	1	Acetalic resin
17	O-ring	1	FKM
18	Centering ring (OPTIONAL)	1	Aluminium alloy
19	O-ring	1	FKM
20	O-ring	2	Nitrilic rubber
21	Grub screw	2	Stainless steel
22	screws	8	Stainless steel
23	protection	2	Aluminium alloy
24	Support bush	2	FKM
25	Intermediate cap	2	Aluminium alloy
26	Adjusting nut	2	Aluminium alloy
27	O-ring	2	Nitrilic rubber
28	O-ring	2	Nitrilic rubber
29	Auxiliary piston	2	Aluminium alloy
30	Auxiliary cylinde	2	Aluminium alloy
31	O-ring	2	Nitrilic rubber
32	Terminal cap	2	Aluminium alloy
33	O-ring	4	FKM
34	Grub screw	2	Stainless steel



Working plane



CONNECTION EXAMPLE

General use and working condition

USE: Filling and metering of fluids or solids-mix materials by means of a special metering device. Double acting actuator for fine or rough metering.

EXECUTION: According to EN ISO 5211, in compliance with EN 15714-3.

WORKING SYSTEM: The basic model consists of an Actuatech double acting actuator, equipped with two additional cylinders whose inner-pistons, by means of a stroke adjustment device, stop the rotating angle of the actuator to a pre-set position, preventing it from a complete rotation and influencing the total valve flow pressure.

This device is driven by two solenoid valves.

E1 = 5/2; E2 = 3/2. E1 drives the actuator, while E2 drives the two external cylinders.

Some examples referring to the valves in the drawing above:

- with a completely CLOSED VALVE (0°) You will have:

E1: air supply in A, exhausts in B

E2: exhausts in B1.

- with a completely OPEN VALVE (90°) rough metering You will have:

E1: exhausts in A, air supply in B

E2: exhausts in B1.

When You reach the desired level, e.g. 90% of the total filling, the rough signal (completely open valve) will turn off and the air, flowing through E2 and then changing the position of E1, will get to the external pistons which will move to the desired rotating angle, e.g. 30° (fine metering), consequently reducing the total valve flow..

With an OPEN VALVE, e.g. 30° fine metering, You will have:

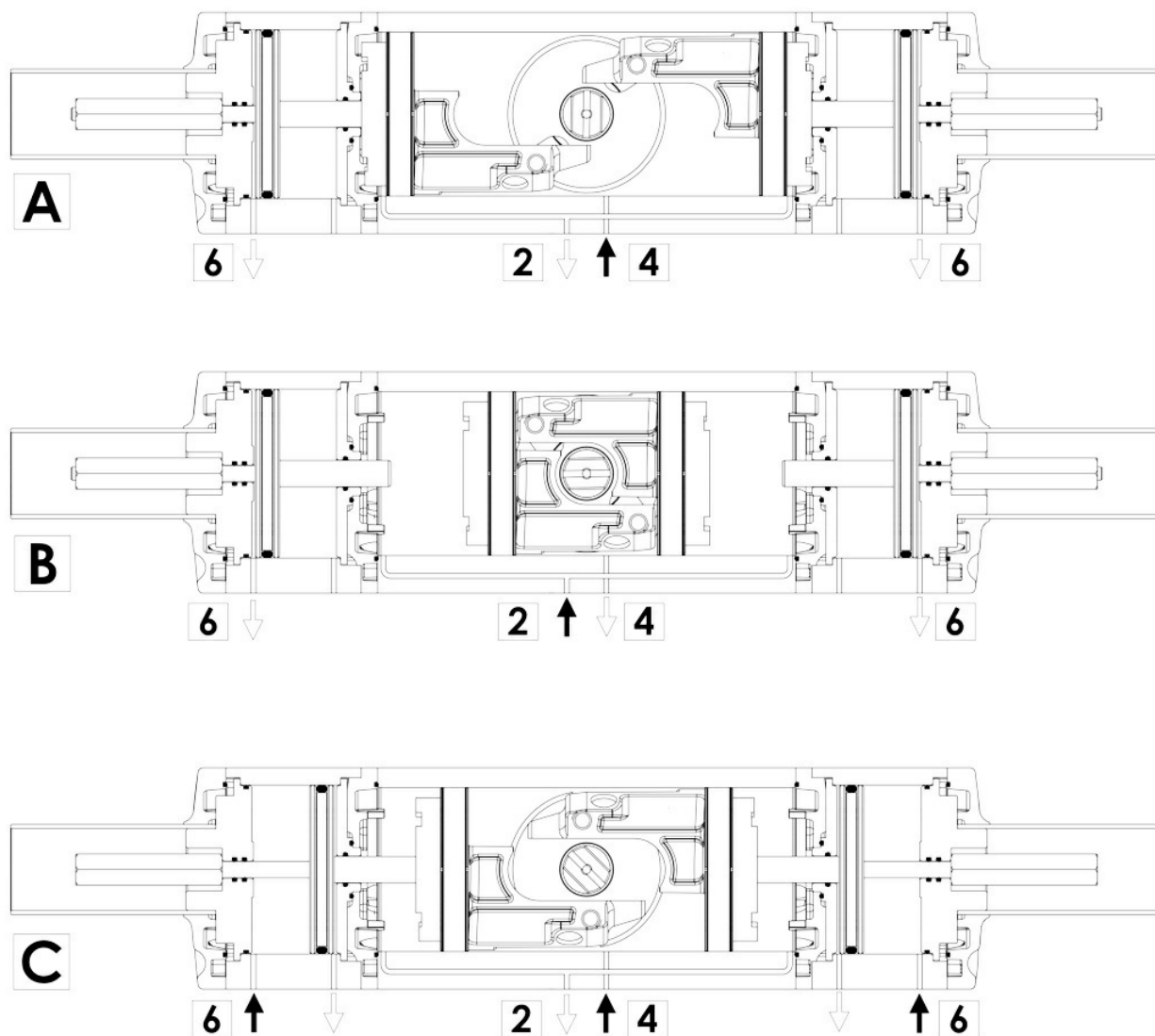
E1: air supply in A, exhaust in B;

E2: air supply in B1

This intermediate position and the corresponding valve flow pressure will be reproduced, whenever you repeat the process.

NOTE: Thanks to control "D", the desired metering can range from 0° to 45°. When the desired level is the same as the actual one, the fine-metering signal on E2 (exhaust in B1) will turn off; the actuator will start moving and make the valve close, completely. Now the filling and metering process is over.

CONCLUSION: "ACTUATECH" device can be assembled wherever you need to furnish exactly the same quantities in long working cycles.



A. FULLY CLOSED POSITION

In this position the air is supplied to port 4 with exhaust air at port 2 and 6.

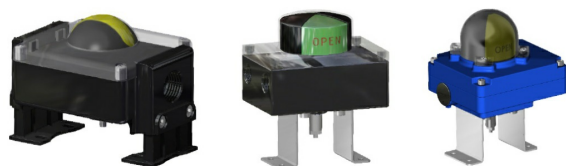
B. FULLY OPEN POSITION (90° rough metering)

In this position the air is supplied to port 2 with exhaust air at port 4 and 6.

C. INTERMEDIATE POSITION (fine metering)

In this position the air is supplied to port 6 than to port 4, with exhaust air at port 2. In this case the external pistons will move to the desired rotating angle, consequently reducing the total valve flow.

LIMIT SWITCH BOX



MANUAL OVERRIDE WITH HAND WHEEL



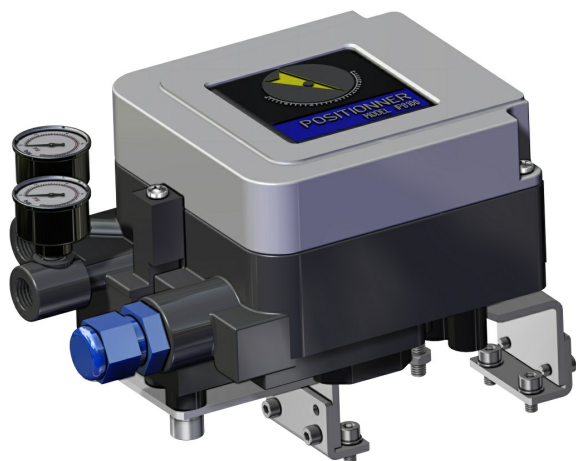
NAMUR SOLENOID VALVES



SOLENOID VALVES



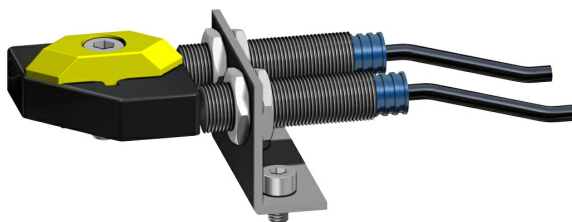
ELECTROPNEUMATIC POSITIONER (INTRINSICALLY SAFE)



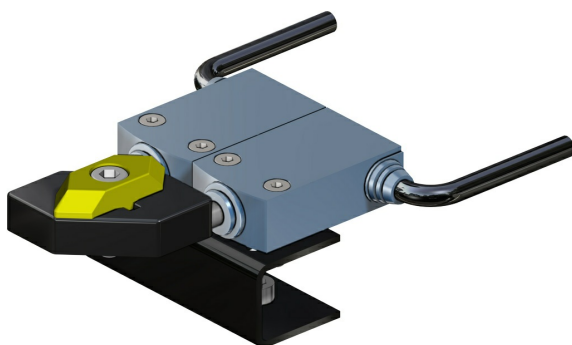
PNEUMATIC POSITIONER



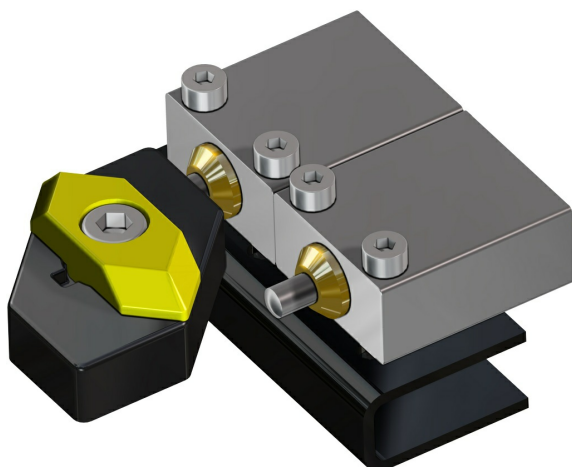
PROXIMITY LIMIT SWITCHES



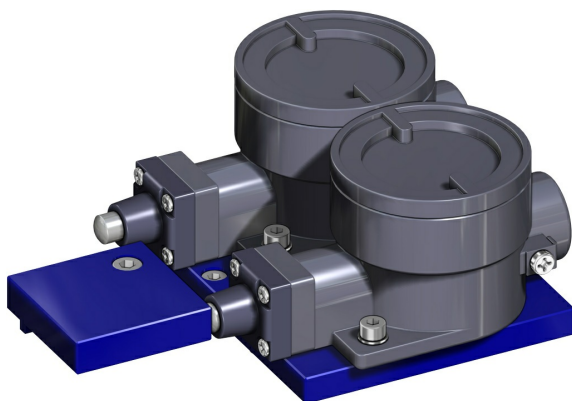
ELECTROMECHANICAL LIMIT SWITCHES



PNEUMATIC LIMIT SWITCHES



EXPLOSION PROOF LIMIT SWITCHES II2GD ExdIIC



For more information check the ACTUATECH Accessories Catalogue.

documents

Certificates

[AKNOWLEDGEMENT OF RECEIPT - EC - ATEX](#)

Datasheet

[GDD30-GDD480 - 8_0756](#)

[GDD30-GDD480 - 8_0757](#)

Catalogs

[ATTUATORE PNEUMATICO DOSATORE](#)

Manuals

[ATTUATORE PNEUMATICO DOSATORE IN ALLUMINIO](#)

