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Warning: filectime(): stat failed for /var/www/vhost/www.omal.it/htdocs/https://www.omal.it./FilesProdotti/UMAAPV00-AGOHANDWHEEL-attuatoriconvolantinointegrato-IT.pdf in /var/www/vhost/www.omal.it/htdocs/prodotto-printable.php on line 65

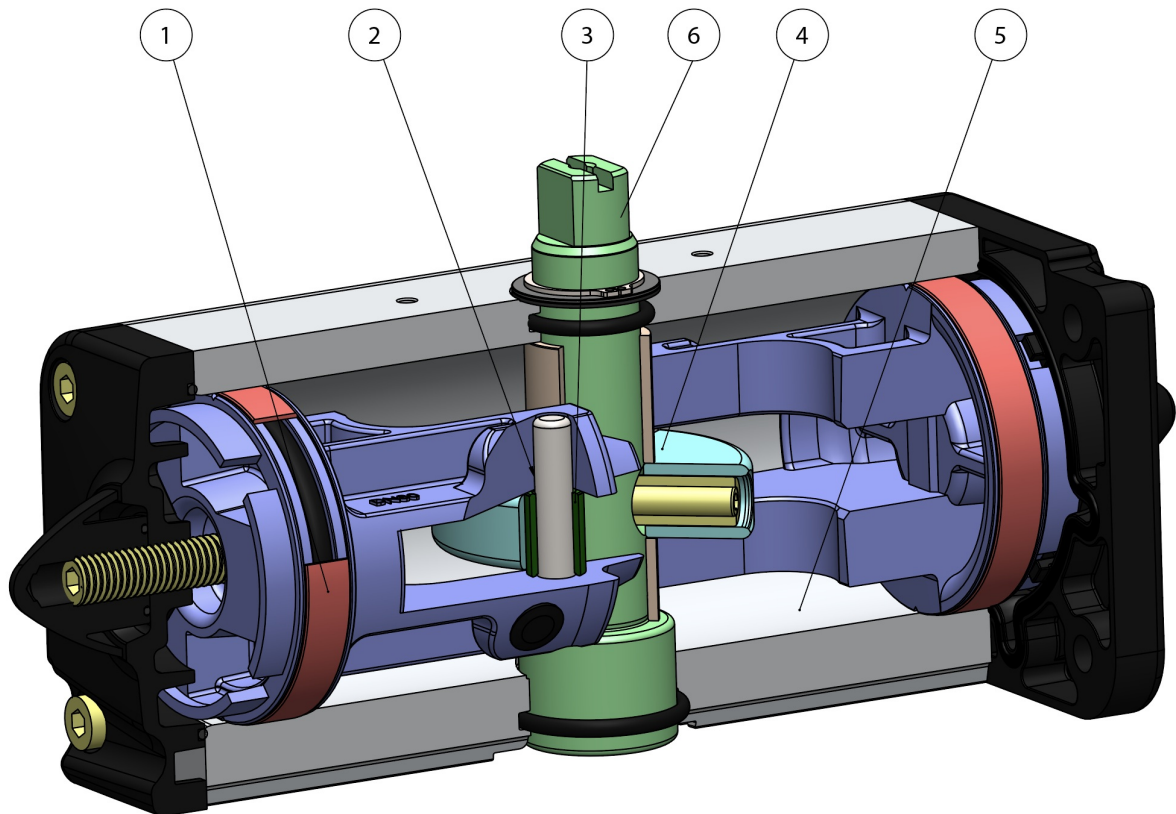
AGO HANDWHEEL - DA with integrated handwheel

Macro Pneumatic actuators

Category AGO HANDWHEEL - Actuators with
integrated handwheel



benefits



1. Energized and self-lubricated strips

Less friction between piston and cylinder
 It prevents the bonding of the seal to the cylinder even after long periods of inactivity

2. Slots, bushes and pins made by steel with hardness higher than 50 HRC

Higher resistance to the forces inside the actuator

3. Rolling friction between piston and slot

Less friction

4. Scotch yoke with rolling friction (transforming rotary motion into linear motion using piston and shaft without teeth/gears)

Reduced friction between piston and shaft with consequently less wear on the relevant parts
 Empowered Breakaway Torque (BTO & BTC)
 Smaller volume/size than rack and pinion actuators (with the same torque) therefore less space required for installation
 Less weight than the rack and pinion (-30% kg / Nm), with consequent savings on the construction sizing of the plant/equipment
 Lower air consumption compared to the rack and pinion actuators (-40% air cm³/Nm for Double Acting and -20% air cm³/Nm for Spring Return) therefore less load on the compressor or the possibility of using a smaller compressor's size.

5. Rolled cylinder

Less wear of the energized ties thanks to the low roughness of the surface

6. Stainless Steel shaft

Higher corrosion resistance

From sizes bigger than DAN15, NAMUR interface for solenoid valve is already integrated

No need for extra plate.

100% in-house manufacturing process technology

Maximum control and accuracy in all the stages of the manufacturing process

ATEX Certificate

Installation is allowed in a potential explosive environment

Up to SIL 3 Certified

Guarantee of the high level of functional safety.

features

TECHNICAL FEATURES

Torque from 60 Nm to 3840 Nm.

Mounting flange according to EN ISO 5211

F05 - F07 - F10 - F12 - F14 - F16.

In accordance with EN 15714-3

Rotation angle: 92° (-1°, +91°)

Torque: directly proportional to the air supply (see table).

The code numbers after the DANV letters, always correspond to the breakaway torque in Nm by 5,6 bar air supply.

ATEX version in conformity with directive 2014/34/EU. Please add YX at the end of the code for ATEX version.

WORKING CONDITIONS

Temperature: from -20°C to +80°C. (Special versions: high temperature: -20°C +150°C; low temperature: -50°C +60°)

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.

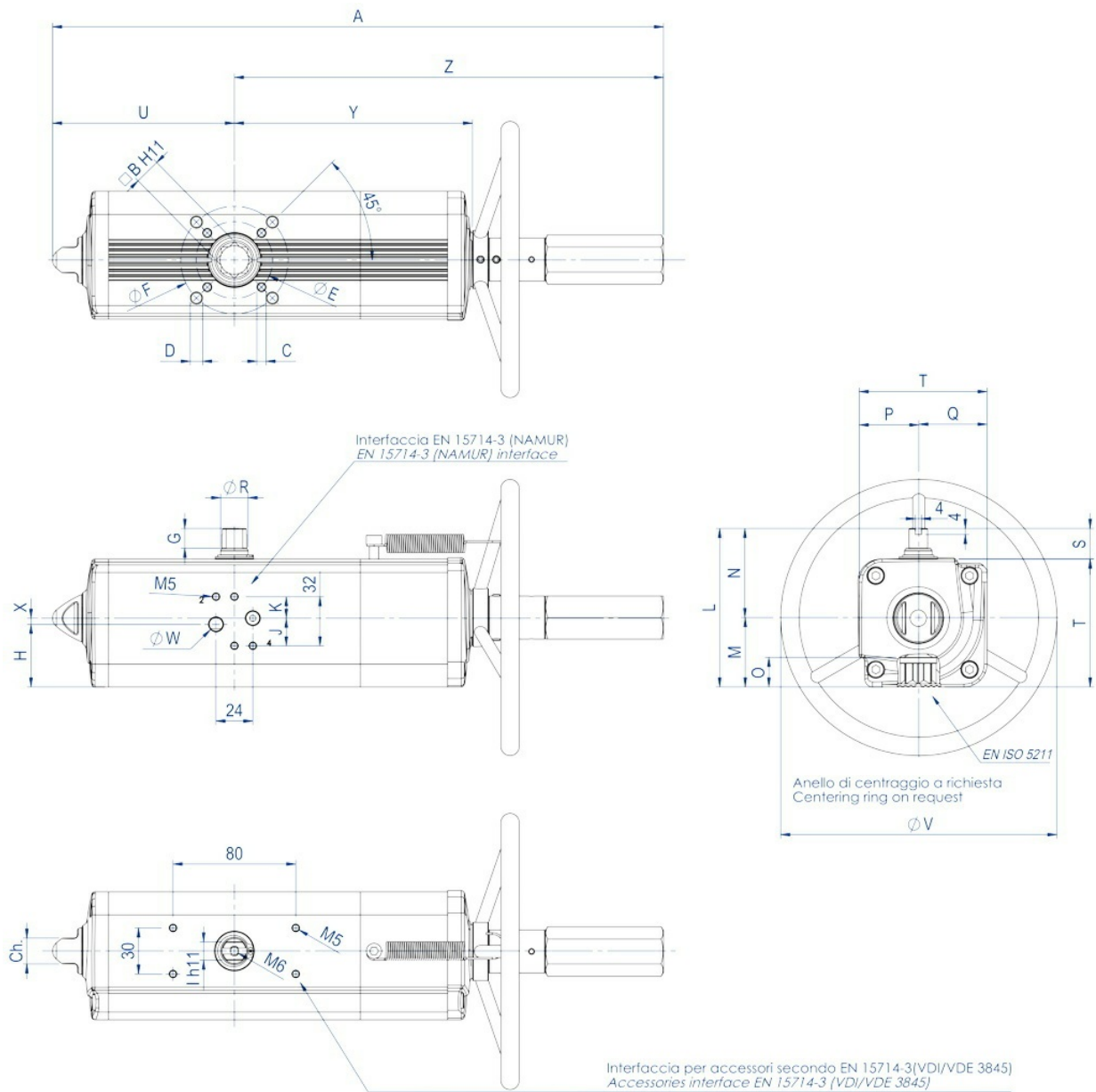
Once required the quarter turn pneumatic actuator can be equipped with a manual handwheel. The device can be integrated either in Double Acting and Spring Return versions.

For the proper functioning of the system and for the mechanical integrity of the device is essential to ensure that the pneumatic actuator is disconnected from the power lines of compressed air before performing any operation using the manual handwheel.

The manual handwheel acts on the transmission of the primary mechanical transmission of the pneumatic actuator and with torques applied to the handwheel according to EN 12570 it releases output torque of equal value of the nominal torque of the actuator.

dimensions

DANV 60 ÷ DANV 1920



DATA SHEET DANV 60 ÷ DANV 480

Code	DANV0060411S	DANV0060412S	DANV0106411S	DANV0120411S	DANV0180411S	DANV0240411S
Spare Seals	KGGI0016VX	KGGI0016VX	KGGI0060VX	KGGI0018VX	KGGI0019VX	KGGI0020VX
Size	DANV 60	DANV 60	DANV 106	DANV 120	DANV 180	DANV 240
ISO	F04	F05/F07	F05/F07	F05/F07	F07/F10	F07/F10
A	362,3	362,3	397,8	410,5	483	510,5
B	14	14	17	17	22	22
C x depth	M5x8	M6x9	M6x9	M6x9	M8x12	M8x12
D x depth	-	M8x12	M8x12	M8x12	M10x15	M10x15
E	42	50	50	50	70	70
F	-	70	70	70	102	102
G	13	13	13	13	16	17
H	33,7	33,7	40,8	42,8	52,5	56,1
J	18	18	18	18	18	18
K	14	14	14	14	14	14
I	10	10	12	12	15	15
L	90,4	90,4	103,3	107	137,5	141,1
M	37,7	37,7	44,8	46,8	56,5	60,1
N	52,7	52,7	58,5	60,2	81	81
O	16,5	16,5	19,3	19,3	24,8	24,8
P	32,7	32,7	38,5	40,2	51	51
Q	37,7	37,7	44,8	46,8	56,5	60,1
R	14,5	14,5	16,2	18	20,2	22,5
S	20	20	20	20	30	30
T	70,4	70,4	83,3	87	107,5	111,1
U	99	99	118,5	122,1	144,9	156,8
V	180	180	180	180	220	220
W (Gas)	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
X	4	4	4	4	4	4
Y	137,6	137,6	154,8	163,9	183,5	199,1
Z	263,3	263,3	279,3	288,4	338,1	353,7
Ch	13	13	17	17	22	22
N°of turns*	11	11	13	14	16	18
Weight (Kg)	2,8	2,8	4	4,5	6	8
Air (dm ³ /cycle)	0,3	0,3	0,7	0,59	1,2	1,65

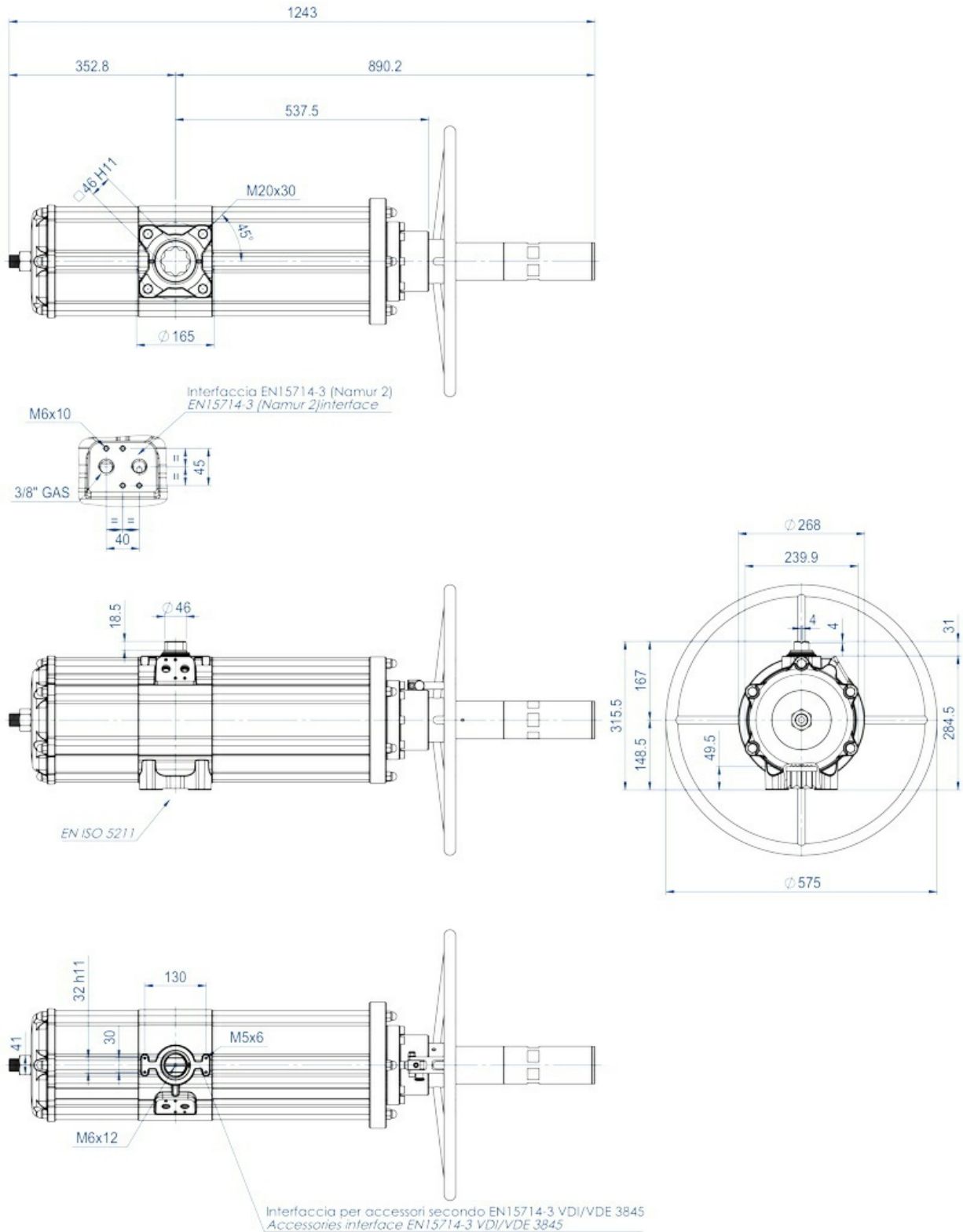
* Theoretical n° of turns to close/open starting from neutral position.

DATA SHEET DANV 720 ÷ DANV 1920

Code	DANV072041IS	DANV096041IS	DANV0960412S	DANV144041IS	DANV1440412S	DANV192041IS
Spare Seals	KGGI0023VX	KGGI0024VX		KGGI0025VX		KC
Size	DANV 720	DANV 960		DANV 1440		D
ISO	F10/F12	F10/F12	F14	F14	F12	F14
A	720,1	758	758	919,9	919,9	954,1
B	27	36	36	36	36	46
C x depth	M10x15	M10x15	M16x24	M16x24	M12x18	M16x24
D x depth	M12x18	M12x18	-	-	-	-
E	102	102	140	140	125	140
F	125	125	-	-	-	-
G	19,5	19,5	19,5	19,5	19,5	18,5
H	61,5	78	78	86,5	86,5	99,2
J	16	16	16	16	16	16
K	16	16	16	16	16	16
I	22	24	24	27	27	32
L	178	198	198	216	216	237,7
M	78,5	93,5	93,5	101,5	101,5	114,7
N	99,5	104,5	104,5	114,5	114,5	123
O	29,5	38,5	38,5	38,5	38,5	48,5
P	69,5	74,5	74,5	84,5	84,5	93
Q	78,5	93,5	93,5	101,5	101,5	114,7
R	31,8	36,5	36,5	41	41	46
S	30	30	30	30	30	30
T	148	168	168	186	186	207,7
U	216,6	239,7	239,7	283,5	283,5	300,4
V	350	350	350	400	400	400
W (Gas)	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
X	-	-	-	-	-	-
Y	282,3	297,1	297,1	365,6	365,6	382,9
Z	503,5	518,3	518,3	636,4	636,4	653,7
Ch	27	27	27	36	36	36
N°of turns*	19	20		25		
Weight (Kg)	17,8	23,8		33,6		
Air (dm ³ /cycle)	4,6	6,05		9,7		

* Theoretical n° of turns to close/open starting from neutral position.

DANV 3840



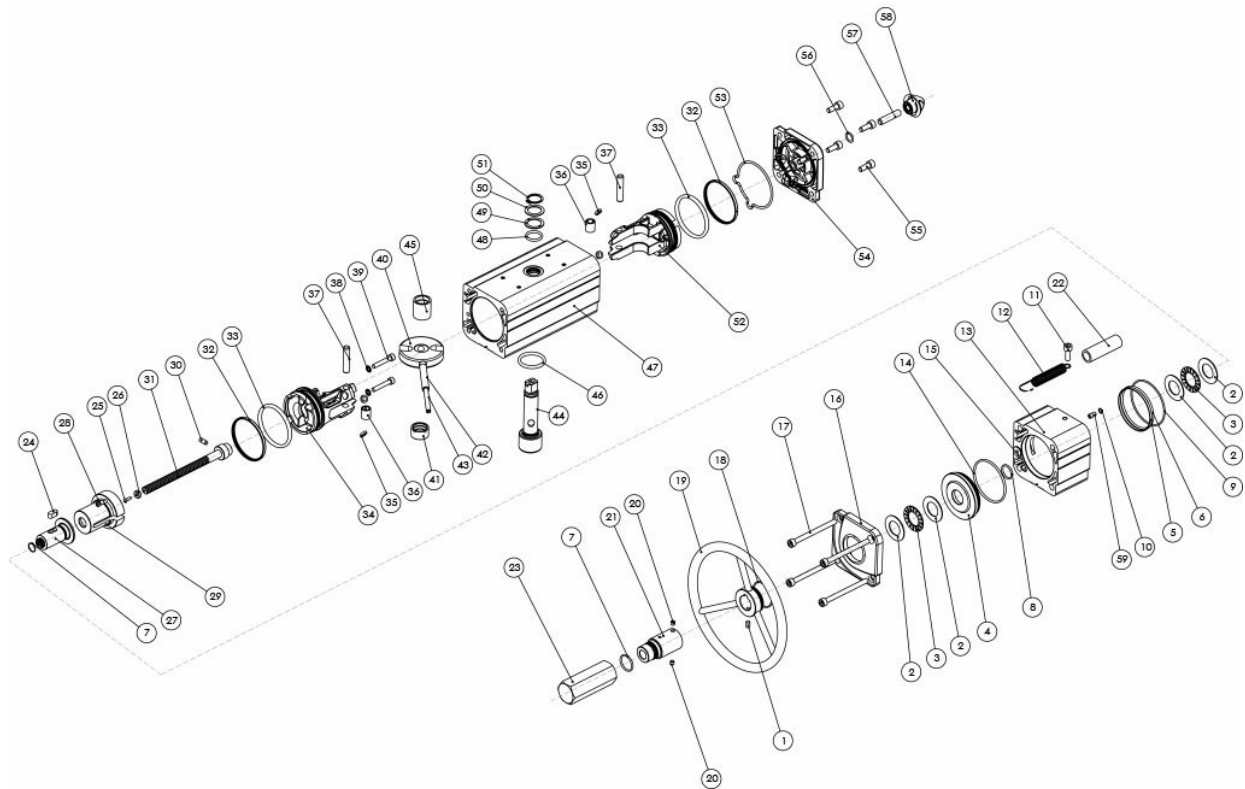
DATA SHEET DANV 3840

Code	DANV3840E1600A
Spare Seals	KGGI0130VX
Size	DANV 3840
ISO	F16
N°of turns*	30
Weight (Kg)	75
Air (dm ³ /cycle)	24,3

* Theoretical n° of turns to close/open starting from neutral position.

materials

DOUBLE ACTING ACTUATOR COMPONENTS WITH MANUAL INTEGRATED HANDWHEEL - SIZES: UP TO DANV1920

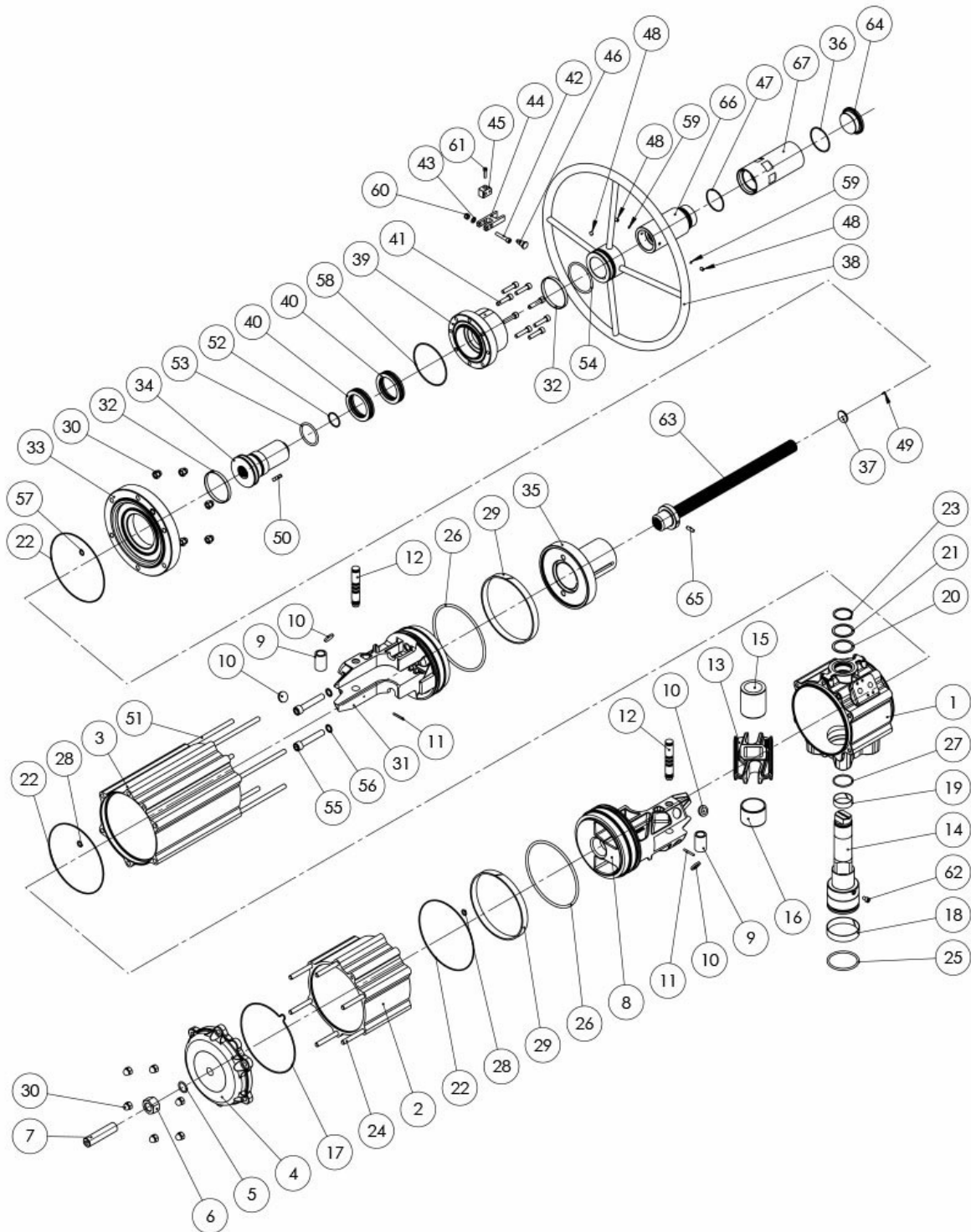


MATERIALS UP TO DANV1920

Pos	Denomination	Q.	Material
1	Screw	1	Stainless Steel
2*	Washer for roller bearings	4	Steel alloy
3*	Roller bearings	2	Steel alloy
4	Flange	1	Aluminium alloy
5	Centering ring (Only for DANV720)	1	Aluminium alloy
6*	O'ring (Only for DANV720)	1	Nitrilic rubber
7*	O'ring	2	Nitrilic rubber
8*	O'ring	1	Nitrilic rubber
9*	O'ring	1	Nitrilic rubber
10*	O'ring	1	Nitrilic rubber
11	Screw	1	Stainless Steel
12	Spring	1	Stainless Steel
13	Cylinder spacer	1	Aluminium alloy
14*	O'ring	1	Nitrilic rubber
15*	Seal cap	1	Ottone+Gomma nitrilica
16	Cap (modified)	1	Aluminium alloy
17	Vite	4	Stainless Steel
18*	O'ring	1	Nitrilic rubber
19	Handwheel for manuever	1	Steel alloy
20	Set screw	2	Stainless Steel
21	Protecting tube	1	Aluminium alloy
22	Trasparent tube	1	PVC
23	Protecting cap	1	Aluminium alloy

24	Key	1	Steel alloy
25*	Rivet	1	Steel alloy
26*	Indicator	1	Polipropilene
27	Lead nut maneuver	1	Steel alloy
28	Threaded bush (Only for DANV480)	2	Stainless Steel
29	Special spring cap	1	Aluminium alloy
30	Pin	1	Steel alloy
31	Screw maneuver	1	Steel alloy
32*	Dynamic seal (Piston)	2	Polyurethane
33*	Piston O'ring	2	Nitrilic rubber
34	Piston (modified)	1	Aluminium alloy
35*	Piston's support	4	P.T.F.E. carbo-graphite filled
36	Bush	2	Steel alloy
37	Rotative sleeve	2	Steel alloy
38*	Bounded	2	Steel alloy+Nitrilic rubber
39	Screw	2	Stainless Steel
40	Scotch yoke	1	Steel alloy
41	Shaft support	1	Acetalic resin
42	External elastic pin of the yoke	1	Steel alloy
43	Internal elastic pin of the yoke	1	Steel alloy
44	Shaft	1	Stainless Steel
45	Support bush	1	Acetalic resin
46	Lower sealing shaft	1	FKM
47	Cylinder	1	Aluminium alloy
48	Upper sealing shaft	1	FKM
49	External support ring	1	Acetalic resin
50	Rondella	1	Stainless Steel
51	Seeger	1	Stainless Steel
52	Piston (Standard)	1	Aluminium alloy
53*	Cap o'ring	1	Nitrilic rubber
54	Cap (Standard)	1	Aluminium alloy
55	Screw	4	Stainless Steel
56*	O'ring	1	Nitrilic rubber
57	Grub screw	1	Stainless Steel
58	Nut	1	Aluminium alloy
59	Insert for o'ring (Only for DANV106-240-360-720)	1	Stainless Steel
*Components of spare part kit			

DOUBLE ACTING ACTUATOR COMPONENTS WITH MANUAL INTEGRATED HANDWHEEL - SIZE: DANV3840



MATERIALS DANV3840

Pos	Denomination	Q.ty	Material
1	Cylinder	1	Aluminium alloy
2	Cylinder	1	Aluminium alloy
3	Cylinder	1	Aluminium alloy
4	Cap (Standard)	1	Aluminium alloy
5*	O'ring	1	Nitrilic rubber
6	Nut	1	Stainless Steel
7	Grub screw	1	Stainless Steel
8	Piston (Standard)	1	Aluminium alloy

9	Bush	2	Steel alloy
10*	Piston's support	4	Acetalic resin
11	Pin	2	Steel alloy
12	Rotative sleeve	2	Steel alloy
13	Scotch yoke	1	Steel alloy
14	Shaft	1	Stainless Steel
15	Support bush	1	Acetalic resin
16	Shaft support	1	Acetalic resin
17*	Cap o'ring	1	Nitrilic rubber
18*	Bearing (shaft bottom)	1	P.T.F.E. carbo-graphite filled
19*	Bearing (shaft top)	1	P.T.F.E. carbo-graphite filled
20*	External support ring	1	Acetalic resin
21	Washer	1	Stainless Steel
22*	O'ring	3	Nitrilic rubber
23	Seeger	1	Stainless Steel
24	Screw	6	Stainless Steel
25*	Lower sealing shaft	1	FKM
26*	Piston o'ring	2	Nitrilic rubber
27*	Upper sealing shaft	1	FKM
28*	O'ring	2	Nitrilic rubber
29*	Bearing (piston head)	2	P.T.F.E. Carbo-Graphite filled
30	Nut	12	Stainless Steel
31	Piston (modified)	1	Aluminium alloy
32*	Bearings (Handwheel)	2	Poliuretano
33	Cap (modified)	1	Aluminium alloy
34	Lead nut maneuver	1	Steel alloy
35	Special spring cap	1	Steel alloy
36*	O'ring	1	Nitrilic rubber
37*	Indicator	1	Polypropylene
38	Handwheel for maneuver	1	Steel alloy
39	Flange	1	Aluminium alloy
40*	Thrust bearings	2	Steel alloy
41	Screw	8	Stainless Steel
42	Screw	1	Stainless Steel
43	Washer	1	Stainless Steel
44	Closing fork	1	Aluminium alloy
45	Fork support	1	Aluminium alloy
46	Lock wheel	1	Stainless Steel
47*	O'ring	1	Nitrilic rubber
48	Screw	3	Stainless Steel
49*	Rivet	1	Stainless Steel
50	Key	1	Stainless Steel
51	Screw	6	Steel alloy
52*	O'ring	1	Nitrilic rubber
53*	O'ring	1	Nitrilic rubber
54*	O'ring	1	Nitrilic rubber
55	Screw	2	Stainless Steel
56*	Bounded	2	Steel alloy+Nitrilic rubber
57*	O'ring	1	Nitrilic rubber
58*	O'ring	1	Nitrilic rubber
59*	Plug	2	P.T.F.E
60	Nut	1	Stainless Steel

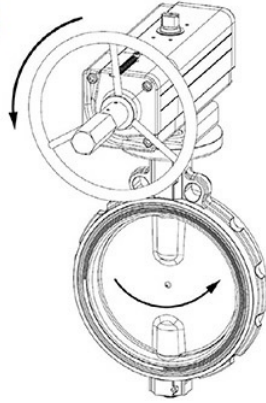
61	Screw	1	Stainless Steel
62	Safety screw	1	Stainless Steel
63	Screw maneuver	1	Stainless Steel
64	Protecting cap	1	Aluminium alloy
65	Pin	1	Stainless Steel
66	Protecting tube	1	Aluminium alloy
67	Protecting removable tube	1	Aluminium alloy
*Components of spare part kit			

specifications

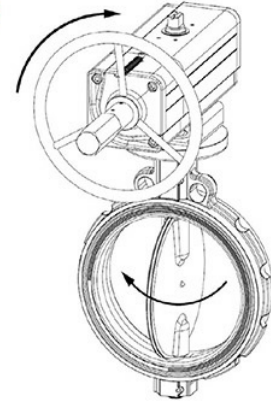
Working plane pneumatic actuator with integrated handwheel

Prima di azionare manualmente, assicurarsi che l'attuatore sia privo d'aria in pressione.
Prior to operate manually, ensure that the actuator is free from pressure.

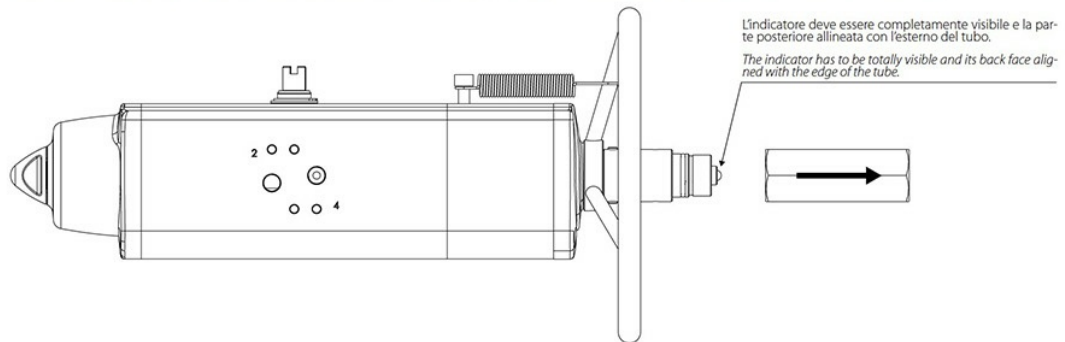
APRIRE LA VALVOLA
TO OPEN THE VALVE



CHIUDERE LA VALVOLA
TO CLOSE THE VALVE

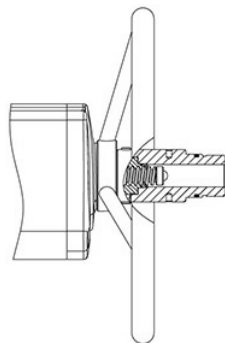


Dopo che l'attuatore è stato azionato manualmente, ritornare alla posizione neutrale prima di riprendere l'azionamento pneumatico.
When the actuator has been manually operated, return to the neutral position prior to start normal operation.



POSIZIONE NEUTRALE NEUTRAL POSITION

Con la vite in posizione neutrale, il pistone può muoversi liberamente e l'attuatore può essere comandato pneumaticamente.
With the screw in neutral position the piston can move freely and the actuator can be driven pneumatically.



AZIONAMENTO MANUALE

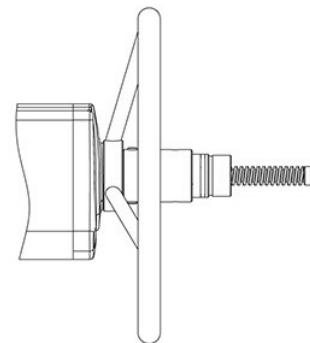
DANV: Quando il volantino gira in senso antiorario, spinge la vite e i pistoni verso l'interno. La valvola si apre.

SRNV: Quando il volantino gira in senso orario, spinge la vite e i pistoni verso l'interno. La valvola si chiude.

MANUAL OPERATION

DANV: When the handwheel turned counter clockwise, pushes the screw and piston inwards. The valve opens.

SRNV: When the handwheel turned clockwise pushes the screw and piston inwards. The valve closes.



AZIONAMENTO MANUALE

DANV: Quando il volantino gira in senso orario, tira la vite e i pistoni verso l'esterno. La valvola si chiude.

SRNV: Quando il volantino gira in senso antiorario, tira la vite e i pistoni verso esterno. La valvola si apre.

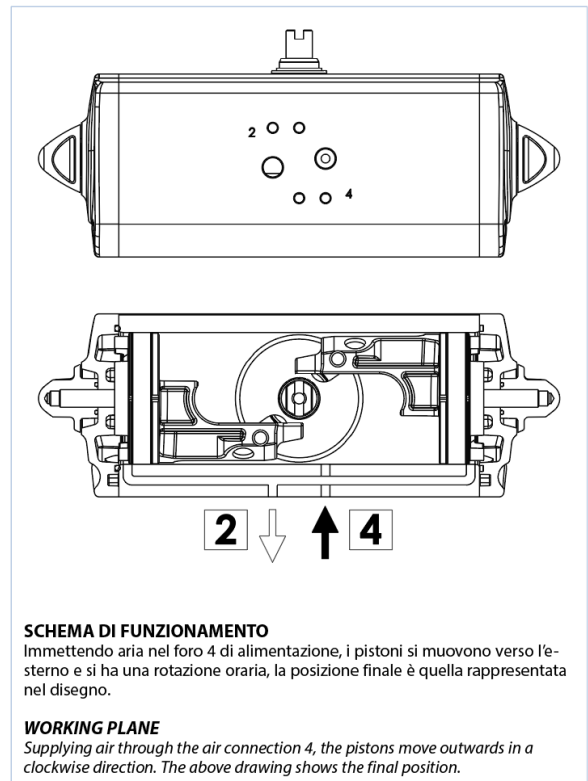
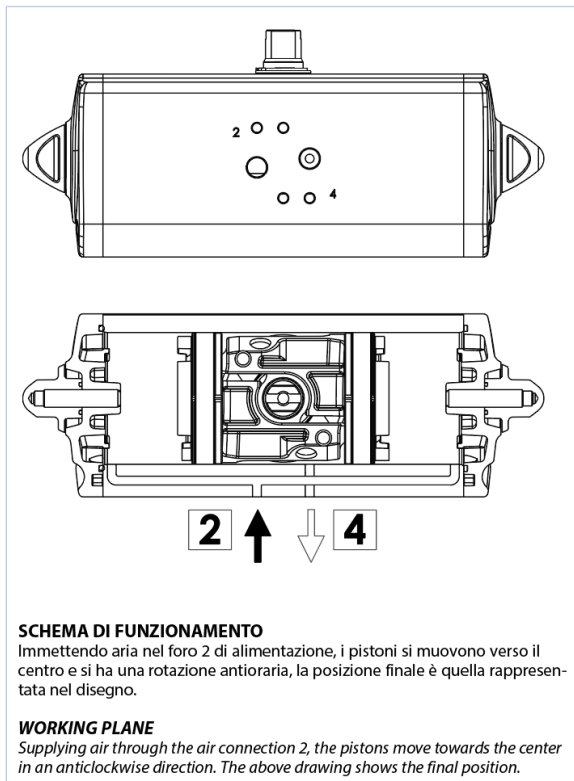
MANUAL OPERATION

DANV: When the handwheel is turned clockwise, the screw and piston are drawn outwards. The valve closes.

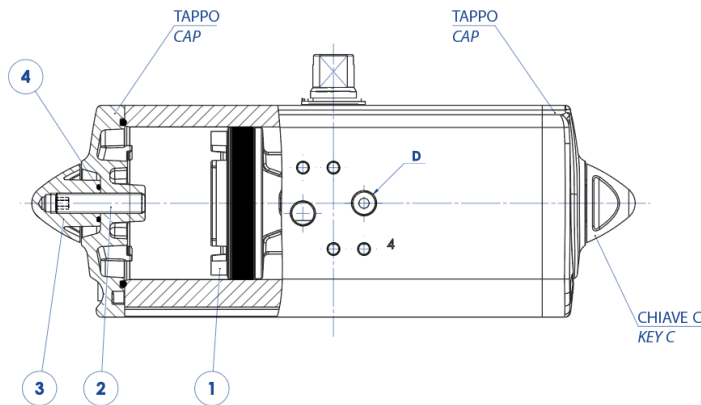
SRNV: When the handwheel is turned counter clockwise, the screw and the piston are drawn outwards. The valve opens.

WORKING PLANE PNEUMATIC ACTUATOR "DA" TYPE

SCHEMA FUNZIONAMENTO ATTUATORE PNEUMATICO AGO "DA"
WORKING PLANE PNEUMATIC ACTUATOR AGO "DA" TYPE



ATTUATORE REGOLABILE-ISTRUZIONI PER L' UTILIZZO ACTUATOR WITH STROKE ADJUSTMENT-INSTRUCTIONS



- A)** Immettere aria nel foro "D" in modo che i pistoni (part. n°1) si vengano a trovare in posizione di finecorsa verso i tappi.
B) Togliere il controdado (part. n°3) agendo sulla chiave C.
C) Togliere l'aria di alimentazione.
D) Con una chiave a brugola agire sulle viti (part. n°2) ed effettuare la limitazione di corsa desiderata.
N.B. La corsa può essere limitata per un massimo di 10° da 80° a 90°. Altre regolazioni disponibili a richiesta.
E) Mettere aria nel foro "D"; verificare che entrambe le viti (part. n°2) siano a battuta contro i pistoni.
F) Mettere il controdado (part. n°3) munito di O-ring (part. n°4) per la tenuta tra dado e tappo.

N.B. queste spiegazioni sono indicative, per le istruzioni operative, vedere il manuale.

- A)** Supply air through the air connection D so that the pistons (Part. 1) move to the end-stroke position, towards the caps.
B) Remove the counter nut (part. 3) acting on the C key.
C) Shut off the air supply.
D) Adjust the end stroke as desired, acting on the screws (part 2) with an hexagonal key.
Note: maximum adjusting stroke 10°, ranging from 80° to 90°. Other regulations on request.
E) Supply air through the air connection D and check that both screws stop the pistons.
F) Screw the counter-nut (part 3) and its o-ring (part 4) to keep nut and cap tight.

N.B. these explanations are indicative, for operating instructions, see the manual.

documents

Certificati

[ATEX - Pneumatic Actuators](#)

[SIL EN 61508 - Actuators: SR, SRN, DA, DAN](#)

[Type Approval Certificate for Marine and machinery systems and equipment](#)

Istruzioni

[ISTRUZIONI ATEX UITGOG01ATX](#)

Manuali

[MANUALE UMAAPV00](#)