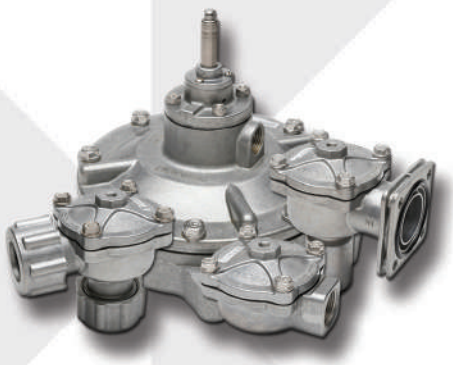
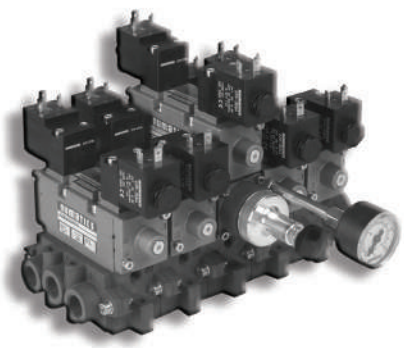
APS CONTROL

GOYEN
FILTER CLEANING SOLUTION

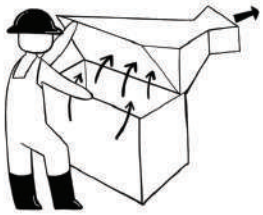


VALBIA
FLUID CONTROL SYSTEMS

ASCO®
INDUSTRIAL AUTOMATION

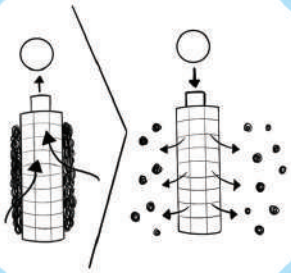


WHAT WE DO ?



Filter cleaning solution

Dust collector

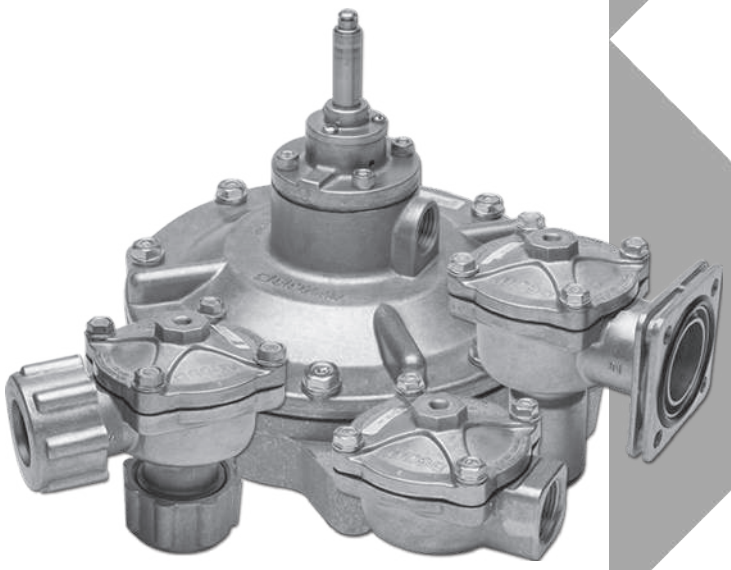


Industrial automation

Packaging -
handle & moving

Scan me

We are engineering partner as a total system solution provider,
The manufactures a range of components to ensure cost effective and reliable cleaning system design, The products are produced to exacting tolerances and quality standards to ensure their effectiveness within any reverse pulse filter. As a comprehensive solution provider, We have great quality control procedures. The calculate various system designs and can work together perfectly. Finally we are fully committed to maintaining environment quality together.



GOYEN

FILTER CLEANING SOLUTIONS
FOR REVERSE JET PULSE DUST COLLECTORS

A CLEAN FUTURE...
INTEGRATED, INNOVATIVE
ENVIRONMENTAL SOLUTIONS

- Cement
- Power
- Steel
- Asphalt
- Starch
- Wood
- Feed Mill
- Rice Mill
- Agriculture
- Food & Bev
- Pharma
- Chemical

GOYEN Clean Air Systems ผู้นำระดับโลก ในระบบการกำจัดฝุ่น - เรา คือหุ้นส่วนทางวิศวกรรม ที่ผ่านการยอมรับ จากบรรดาบริษัทผู้สร้างระบบ Reverse Pulse Filter ชั้นนำ มากมายทั่วโลก ตั้งแต่ปี 1935, ลูกค้าของเราต่างได้รับประโยชน์จากประสบการณ์ และความเชี่ยวชาญเฉพาะด้าน, การออกแบบ นวัตกรรมใหม่ๆ, และเหนือสิ่งอื่นใด คือคุณภาพอันเป็นเลิศของตัวสินค้า อันประกอบไปด้วย วาล์วเป่ากระแทกฝุ่น, วาล์วพร้อมถังพัก, หัวยิงนอซเซิล, ชุดไทม์เมอร์ ควบคุมลำดับการยิงของวาล์ว และเครื่องมือตรวจวัดปริมาณฝุ่นละอองในอากาศ

ในระบบ Reverse Pulse Filter - ประสิทธิภาพในการยิงเป่า ทำความสะอาด และการทำงานร่วมกับถงผ้ากรองในระยะยาว เป็นเรื่องที่ขึ้นกับการจัดสรรควบคุม ปริมาณ และ ความดันลม ที่จะกระจายเข้าไปในถุงผ้ากรอง 'แต่ละใบ' ตั้งแต่ถุงแรก จนถึงถุงสุดท้ายที่ปลายท่อยิง, เป็นหัวใจสำคัญ, เพื่อประสิทธิภาพ และความสำเร็จ ของทุกๆระบบกำจัดฝุ่น - GOYEN พร้อมให้คำปรึกษา จากประสบการณ์อันยาวนาน ร่วมกับ **GOCO** Software Design Tool และสินค้าคุณภาพสูงที่ได้มาตรฐานทุกตัว

ในฐานะที่เป็นผู้ให้บริการโซลูชั่นอย่างครบวงจร - GOYEN ทั้งผลิตตัวอุปกรณ์ และคำนวณออกแบบระบบ ที่จะทำงานร่วมกันอย่างสมบูรณ์แบบ บนการบริหารจัดการต้นทุนอย่างมีประสิทธิภาพ, เรา ยึดมั่นในขั้นตอนการควบคุมคุณภาพอย่างเข้มงวด และมุ่งมั่นอย่างเต็มที่ ในการรักษาคุณภาพสิ่งแวดล้อมควบคู่กันไป

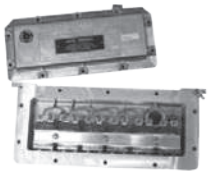

Emission Monitoring

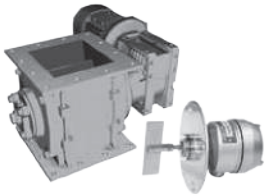

Pulse Jet Valves

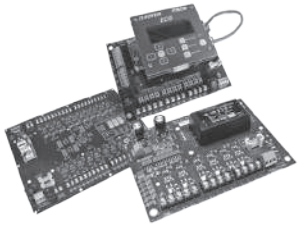

Blowtube Nozzles

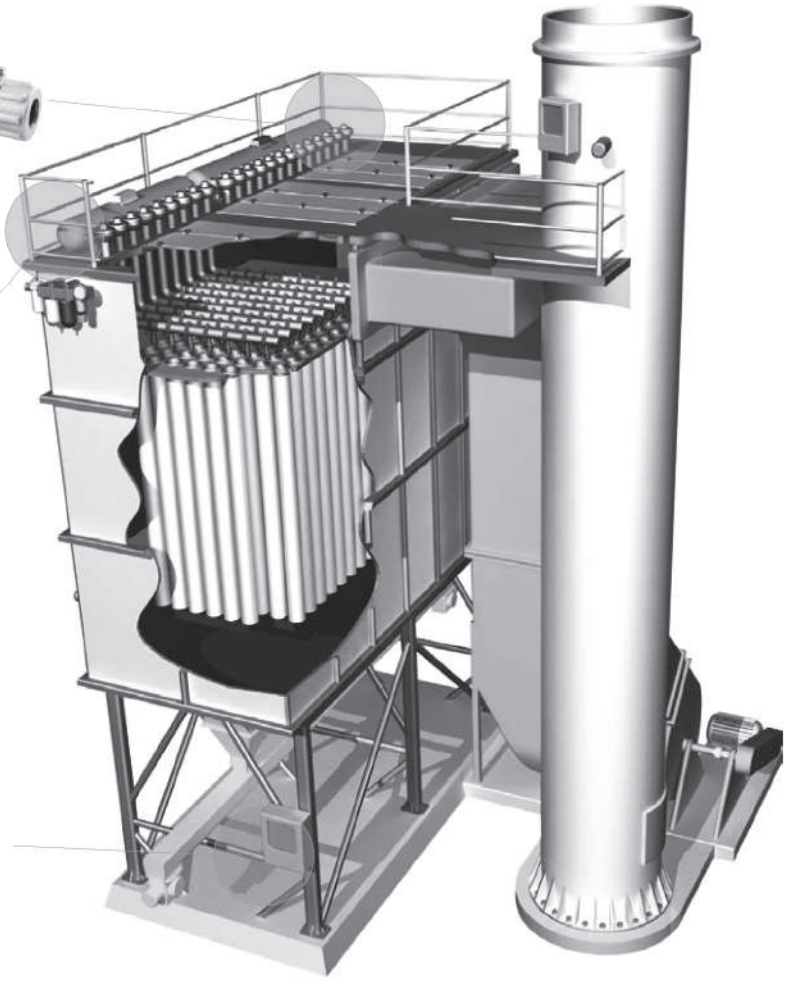

Header Tank Solutions


Knockers & Vibrators


Enclosures & Pilot Valves


Rotary Valves


Filter Cleaning Controllers



PULSE JET VALVES
& DIAPHRAGM VALVES

READ MORE

Goyen manufactures diaphragm valves in a range of configurations to suit a variety of reverse pulse filter designs. These sophisticated valves precisely control airflow through the filters for optimal cleaning. Superior performance, easy maintenance diaphragm valve available with threaded ports (T) dresser nut ports (DD), flange and slide (FS) or manifold mounted (MM). Each series are available with integral pilot (CA) or as remotely piloted valve (RCA)




Port Size	Diap. Kit NBR	MM series	Kv m3/h	Cv usGal/min	T series	Kv m3/h	Cv usGal/min	DD series	Kv m3/h	Cv usGal/min	FS series	Kv m3/h	Cv usGal/min
3/8"	K1001				10 T	2.5	2.9						
3/4"	K2000				20 T	12	14	20 DD	12	14			
1"	K2501	25 MM	26	30	25 T	20	23	25 DD	20	23	25 FS	22	25
1.5"	K3500				35 T	36	42						
1.5"	K4000	40 MM	44	51									
1.5"	K4502				45 T	44	51	45 DD	44	51	45 FS	52	61
2"	K5004				50 T	91	106	model CA	Integral Pilot		Pressure	0.3 to 8.6 bar	
2.5"	K5004				62 T	117	136	model RCA	Remote Pilot		Nitrile seals	-40 to 82 °C	
3"	K7600	76 MM	200	233	76 T	144	167	Body mat'l	Aluminium diecast		Viton seals	-29 to 232 °C	
3.5"	K10200	102 MM	238	277				Diap. seat	PA-6 (standard)		Low temp.	-60 to 40 °C	

PILOT SOLENOID VALVES
& ENCLOSEURES

READ MORE

Pilot solenoid valves are used in a reverse pulse filter cleaning system to operate the diaphragm valves from a remote location
Pilot valves can be mounted separately or in multi valve enclosures. Multi valve enclosures provided a cost effective and organised method of housing banks of remote control pilot valves. Goyen offers a range accommodating up to 12 pilots in dust/rain proof and explosion proof configurations

Pilot Valves

3D1-QR DIN Plug

3PV

3D1-QT2 Screws

3D1-QF Flying leads

Enclosures

3-5V 5 valves
conduit M25x1.5

3-8V 8 valves
conduit M25x1.5

3-12V 12 valves
conduit M25x1.5

3-6VFD ATEX II 2GD
EEx d IIB T6 T85°C IP6X

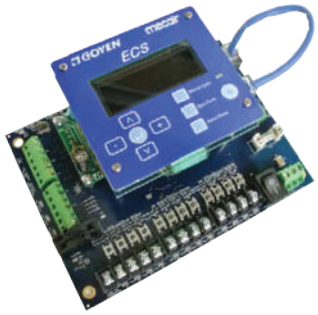
TIMERS & dP GAUGES

SEQUENTIAL TIMERS AND DIFFERENTIAL PRESSURE GAUGES/SWITCH

READ MORE

DS Sequencer

IS/ISP Sequencer



ECS Control System

dP GAUGES dual scale

dP GAUGES / SWITCHES

DS Sequencer Technical Specifications

Technical Characteristics & Performance	
Differential Pressure Support	dP Module can be used with the Fan Stop Input
Input Voltage	110-240 VAC, 50/60 Hz or 24 VDC
Output Voltage	110-240 VAC or 24 VDC
Discrete Solenoid Outputs	12 Outputs
Enclosure	Polycarbonate
Protection Rating	IP 66/67 & NEMA 1, 4, 4X, 6, 12 &13
Dimentions	PCB: 172x127 mm
	Enclosure: 255x180x77 mm
Operating Temperture	-20°C to 60°C (-4°F to 140°F)
ON & OFF Time	ON: 30 ms to 100 ms, OFF: 1 s to 1000 s
Inputs	Voltage Free: Fan Stop

Simple, durable, certified sequencer at a low price, for smaller collectors

IS/ISP Sequencer Technical Specifications

Technical Characteristics & Performance	
Differential Pressure Support	0 to 4.5KPa on the ISP
Input Voltage	110 - 240 VAC, 50/60 Hz
Output Voltage	110 - 240 VAC or 24 VDC
Discrete Solenoid Outputs	12, 20 & 40 Outputs
Enclosure	Polycarbonate
Protection Rating	Small: IP65 & NEMA 1, 4, 4X, 12 & 13 or
	Large: IP 66/67 & NEMA 1, 3, 35, 4, 4X, 6, 6P & 12
Dimentions	PCB: Small 172x127mm, Large 273x197mm
	Enclosure: Small 280x219x156mm, Large 378x278x130mm
Operating Temperture	-40°C to 60°C (-40°F to 140°F)
ON & OFF Time	ON: 30 ms to 1000 ms, OFF: 1 s tp 1000 s
Inputs	Voltage Free: Fan Stop, Low Header Alarm
Outputs	Voltage Free: Coil Error, Analogue 4-20ma on the ISP

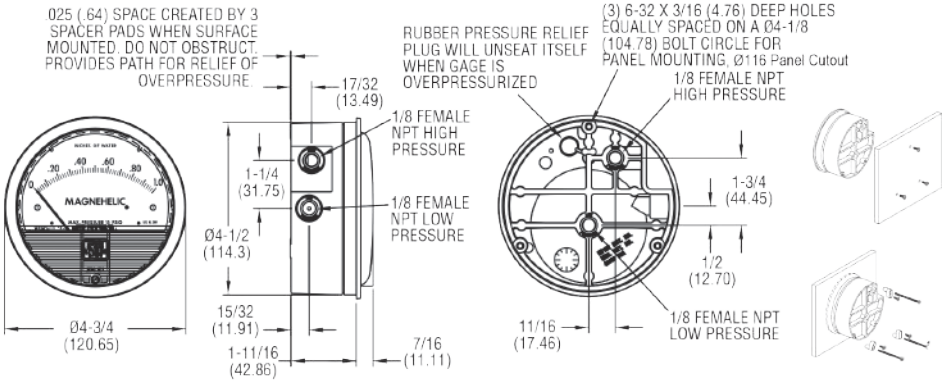
Simple, durable, certified sequencer at a low price, for larger collectors

dP GAUGES dual scale

2010D	0-10 inch w.c., 0-2.5 kPa
2015D	0-15 inch w.c., 0-3.7 kPa

Frictionless Magnehelic® Gage Design
ความแม่นยำสูง ใช้กับแก๊สที่ไม่กัดกร่อน
ทนต่อความดันเกิน,กระแทก,หรือสั่น
วัดความดันบวก,ความดันลบ,และผลต่าง

Housing	Diecast aluminium
Dial Face	Acrylic, Ø4"
Range (inch w.c.)	0-0.25 to 0-150
Accuracy	±2% of F.S.
Pressure Limits	-0.67 to 1.03 bar
Temp. Limits	-6 to 60 °C
Weight	0.51 kg
Approvals	RoHS, GOST-R

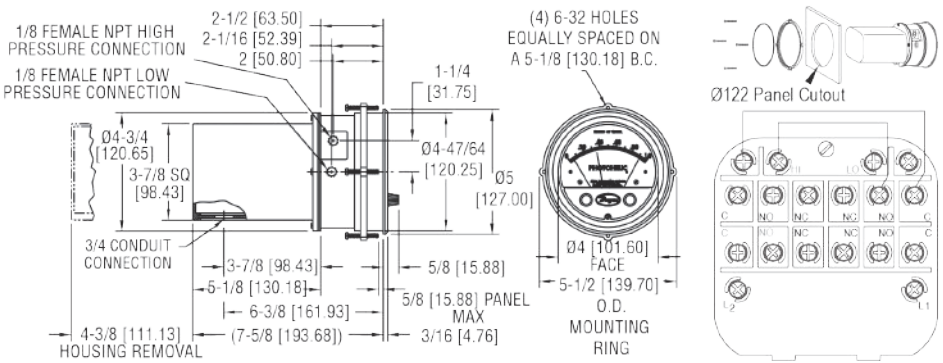


dP GAUGES / SWITCHES

A3010	0-10 inch w.c.
A3015	0-15 inch w.c.

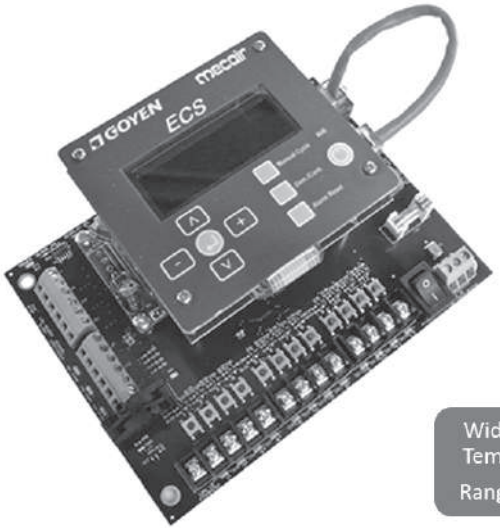
เกจวัดความดัน พร้อม Relay Output
เพื่อนำไปตัดต่อการทำงานของ Timer
ให้สังยิง เปาถุงผ้ากรอง เมื่อเริ่มลกปรก
และให้หยดเปา เมื่อถุงผ้ากรองสะอาด

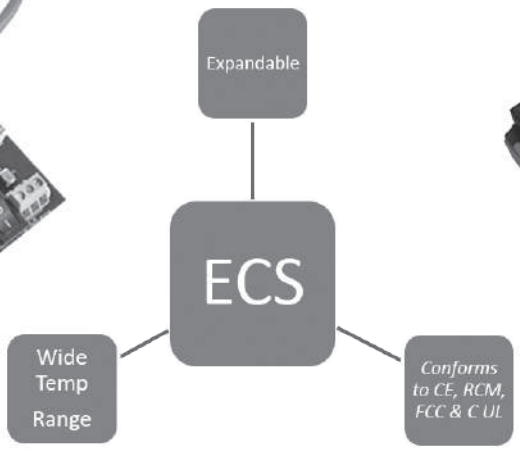
Power Supply	230VAC, 120VAC
Switch Type	2x DPDT, 10A
Switch Function	Hi, Lo, Hysteresis
Repeatability	±1% of F.S.
Setpoint Adj. by	Knobs on gage face
Temp. Limits	-6 to 48 °C
Weight	1.81 kg
Approvals	CE, CSA, UL



WHAT IS ECS CONTROL SYSTEM

An expandable reverse pulse jet valve control system that can run in continuous or demand mode and support up to 360 discrete outputs via 12 output expansion cards.





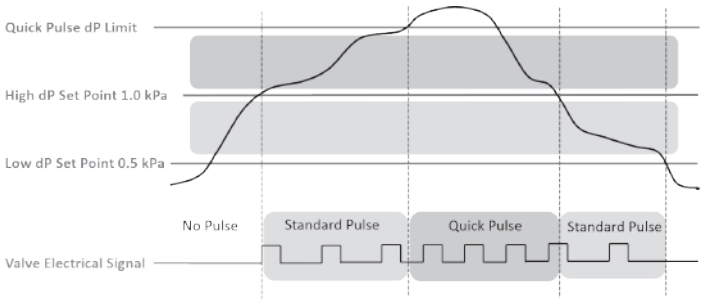
UNIQUE FEATURES OF ECS CONTROL SYSTEM

Expandable	• Can support 29 unique 12 output expansion cards.
Simple Interface	• Uses a portable membrane interface with an OLED screen
Cleaning Mode Selection	• Demand or Continuous
Manual Push Buttons	• Actuate each output via the push of a button
Multiple Voltage Free Inputs	• Fan Stop, Low Header Alarm, Demand/Continuous Selection
Multiple Voltage Free Outputs	• Coil is Firing, Coil Alarm, High dP
Wide Operating Temperature	• -40°C to 60°C (-40°F to 140°F)

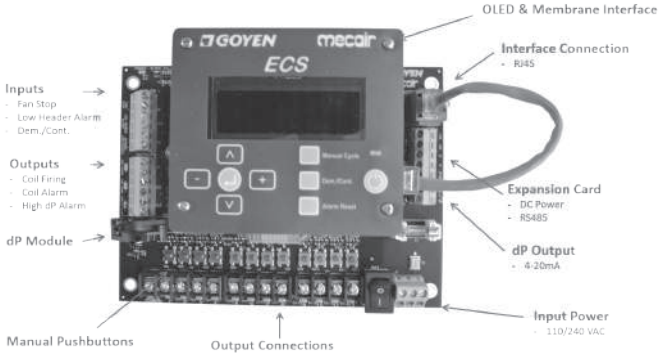
ECS QUICK PULSE TECHNOLOGY

- This is a feature to give your baghouse additional protection in case your dust collector starts to get out of control.
- It gives you another differential pressure (dP) limit where you can start puising with a shorter off time, quickening your pulse time, If the dP between the clean side and dirty side of your dust collector is still rising.
- This feature is disabled by default and just requires setting two parameters to implement:
  + Quick dP Limit
  + Quick OFF Time

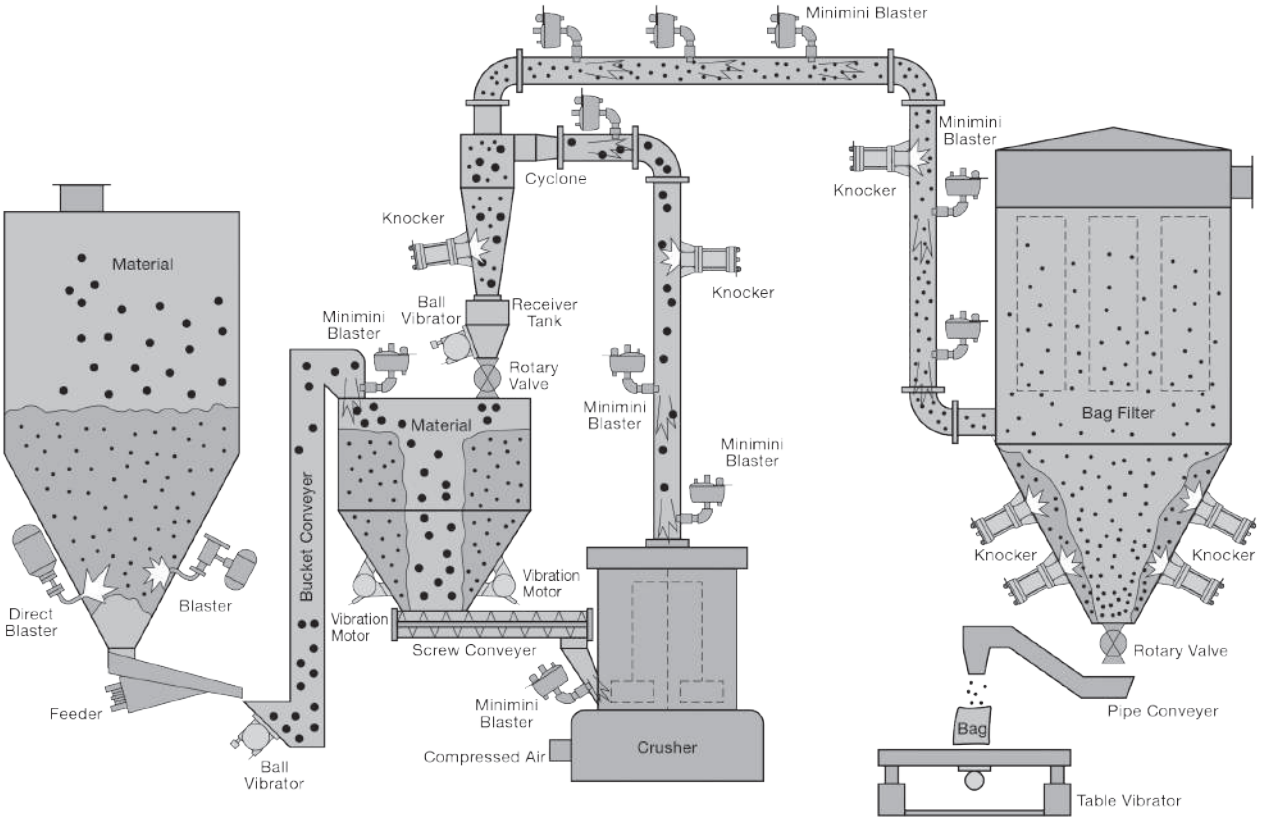
ECS QUICK PULSE TECHNOLOGY



ECS CONTROL SYSTEM - DC OUTPUT MAIN BOARD

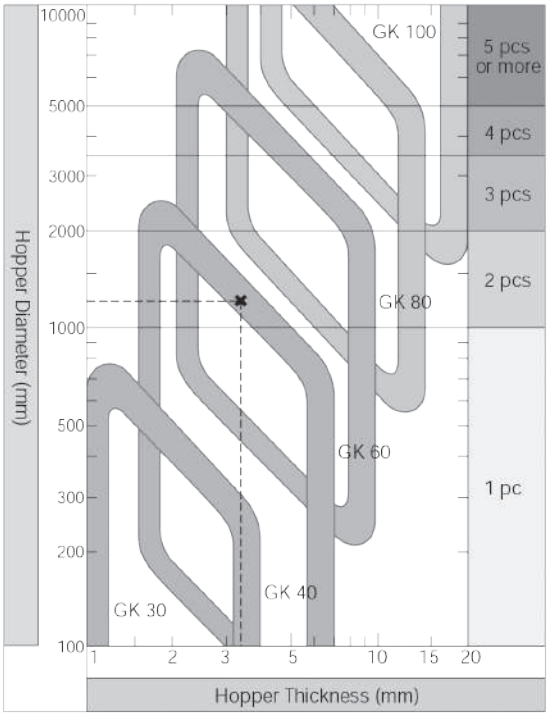


BULK SOLIDS HANDLING
TYPICAL FLOW AID SYSTEM INSTALLATION

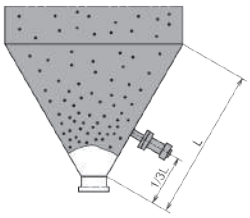


MODEL SELECTION GUIDE

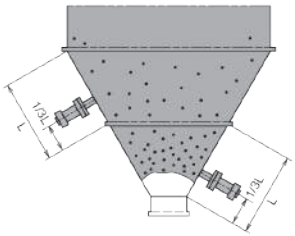
The model and the quantity having the optimum impact force are selected according to the type, the shape, the size, and clinging and blocking condition in silo, hopper etc. For instance, when installing on the conical hopper of 1,200mm dia. 3.2mm thick, find the point of intersection X according to the figure below. As the point X is within the range of GK40 2 pcs, and GK60 2 pcs, select GK40 2 pcs, for small clinging strength, and GK60 2 pcs, for large clinging strength.



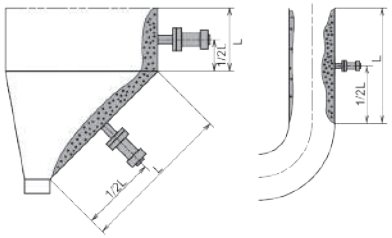
INSTALLING POSITION



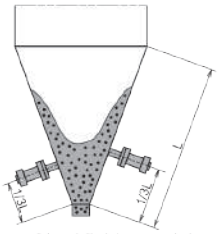
For small cone, pyramid hopper.



For large cone, pyramid hopper.

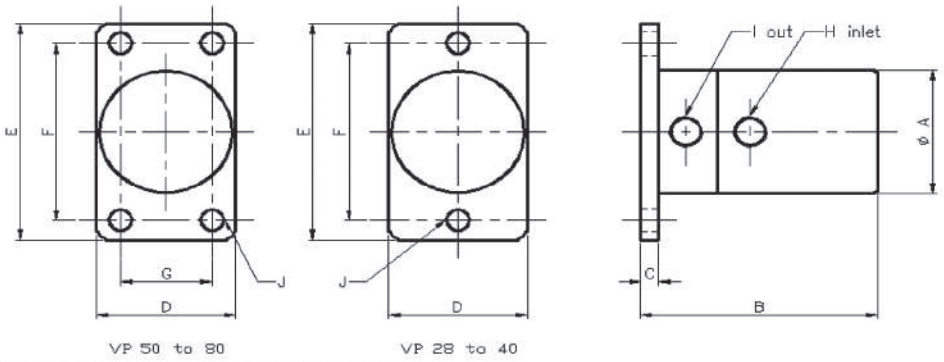


In case of clinging on the surface of wall and the inside pipe.



In case of bad fluid materials.

VIBRATORS, AIR CANNONS, AIR KNOCKERS
EQUIPMENT FOR POWDER AND BULK SOLIDS HANDLING

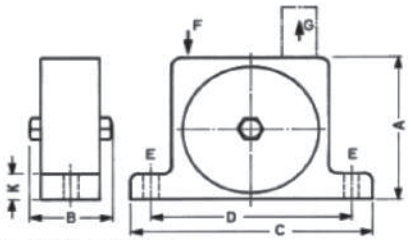


Type VP
Linear Piston Vibrators
ไวเบรเตอร์แบบลูกสูบ สร้างการสั่นเชิงเส้น โดยความถี่ และความแรง สามารถปรับได้ อย่างอิสระต่อกัน
- ความถี่ จะเปลี่ยนตามความดันลม
- ความแรง จะเปลี่ยนตามน้ำหนักของตุ้มลูกสูบที่เขย่า

PRODUCT PERFORMANCE & DIMENSIONS

Model	Frequency rpm	Force N	Air Cons. L/min	Weight kg	A	B	C	D	E	F	G	H,I	J
VP 28	3,000	1,080	141	1.04	55	82	6	60	120	90	0	1/4"	10
VP 40	2,500	1,600	190	3.25	74	127	10	77	130	108	0	1/4"	12
VP 50	2,400	2,170	270	4.25	100	167	16	100	160	130	80	3/8"	12
VP 65	2,500	3,200	350	7.00	124	200	16	130	210	180	90	1/2"	14
VP 80	2,700	4,270	450	9.40	150	228	19	155	220	180	100	3/4"	14

Data measured at 6 bar

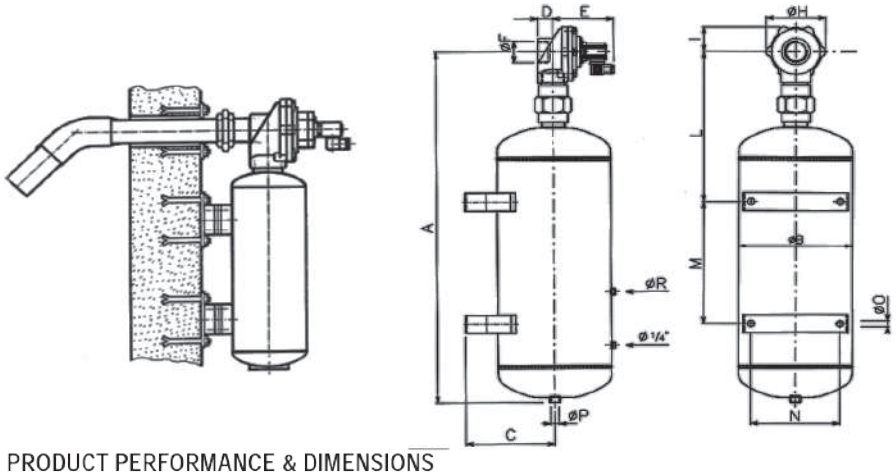


Type GT
Turbine Vibrators
เทอร์ไบน์ไวเบรเตอร์ สร้างการสั่นโดยใช้ลมไปหมุนวงล้อที่ถ่วงน้ำหนักแบบเยื้องศูนย์, ติดตั้งได้ทุกทิศทาง
- เสียงเบา ต่ำกว่า 70 dB
- The ball bearing are lubricated for lifetime, the devices run with dry air

PRODUCT PERFORMANCE & DIMENSIONS

Model	Frequency rpm	Force N	Air Cons. L/min	Weight kg	A	B	C	D	E	F	G	K	
GT 0	16,500	715	85	0.30	50	37	86	73	7	1/8"	1/8"	13	
GT 1	15,500	950	105	0.40	70	45	115	90	9	1/8"	1/8"	16	
GT 2	11,000	1,310	180	0.75	81	50	128	105	9	1/4"	1/4"	16	
GT 3	8,500	2,470	325	2.00	100	67	155	130	11	1/4"	1/4"	20	
GT 4	5,000	5,080	550	4.20	120	75	180	160	14	3/8"	3/8"	40	

Data measured at 6 bar

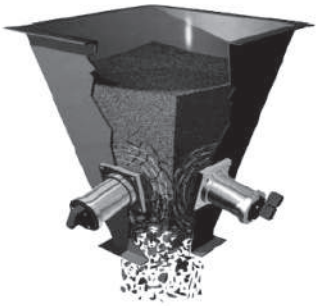


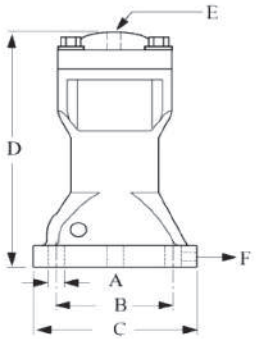
Type GC
Pneumatic Air Cannons
ถังระเบิดลม สามารถกะเทาะฝุ่นทุกชนิดที่เกาะผนังไซโลให้หลุดออกได้ โดยเฉพาะฝุ่นที่เกาะแน่น, เป็นระบบที่ดีกว่าการเขย่า เพราะลมจะพุ่งเข้าไปกะเทาะฝุ่นโดยตรง

PRODUCT PERFORMANCE & DIMENSIONS

Model	Valve Type	Tank Litre	Wg. kg	A	B	C	D	E	F	H	I	L	M	N	O	P	R
GC 20	CA 20T4	5	7	515	142	100	18	100	3/4"	60	34	230	150	120	13	1/2"	1/2"
GC 25	CA 25T4	15	14	605	220	160	23	100	1"	72	38	220	280	260	13	1/2"	1/2"
GC 45	CA 45T	20	20	895	220	160	31	122	1.5"	135	58	362	320	260	13	1/2"	1/2"

LEVEL SWITCHES, ROTARY AIRLOCK VALVES
EQUIPMENT FOR POWDER AND BULK SOLIDS HANDLING





Type GK
Pneumatic Knockers
ค้อนลม หรือ แอร์น็อคเกอร์ สร้างแรงกระแทกกับท่อ หรือผนังไซโล เพื่อให้ฝุ่นที่เกาะตามผนังร่วง และไหลต่อไปได้
Max. 15 cycles per minute
Ambient Temp. -20°C to +70°C

PRODUCT PERFORMANCE & DIMENSIONS

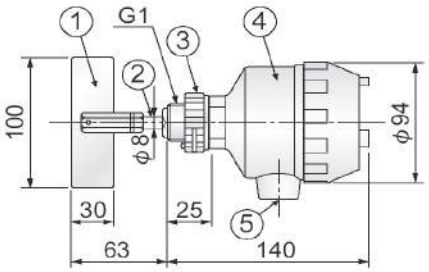
Model	Energy		Pressure	Air Cons.	Weight	A	B	C	D	E	F
	J (Nm)	kp.m	bar	NL/time	kg	hole x no.	P.C.D.	ø		in	out
GK 30	7.4	0.75	3 - 7	0.28	1.1	ø 9 x 4	67	82	135	1/4"	1/8"
GK 40	22	2.2	3 - 7	0.82	3.0	ø 11 x 4	77	98	175	1/4"	1/8"
GK 60	73	7.4	3 - 7	2.28	7.8	ø 12.5 x 4	110	143	220	1/4"	1/4"
GK 80	161	16.4	4 - 5	4.55	16.5	ø 17 x 4	140	170	275	3/8"	3/8"

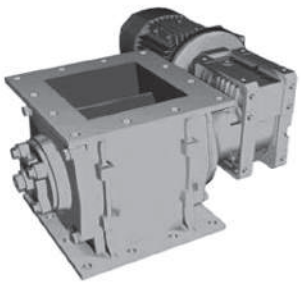
1 Joule = 1 Nm = 0.102 kp.m (kilopond meter)

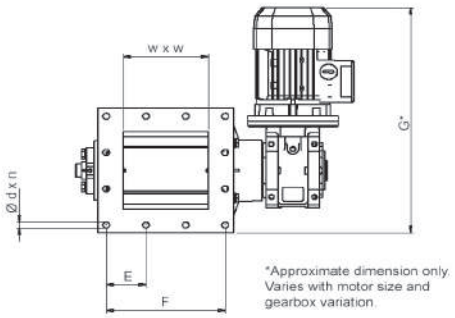
Type NM-SC
Rotaty Paddle Level Switches
ใช้ใบหมุนตรวจจับระดับของฝุ่นในไซโล สามารถตั้งระดับความแข็งของสวิตช์ได้

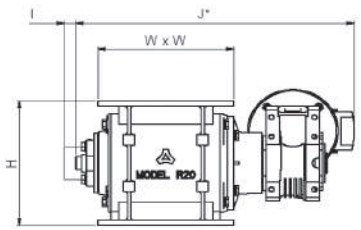
PRODUCT PERFORMANCE & DIMENSIONS

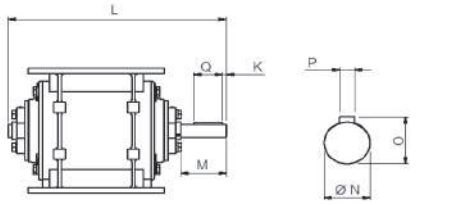
Model	NM-SC
Power Supply	220VAC 4W
Contact Output	SPDT 250VAC 5A
Operating Torque	0.098 ~ 0.176 Nm
Rotation Speed	1 rpm
Pressure Range	0 - 0.19 bar
Temperature	0 - 50 °C
Mounting	G1"
Electrical Wiring	G1/2 Conduit, IP55

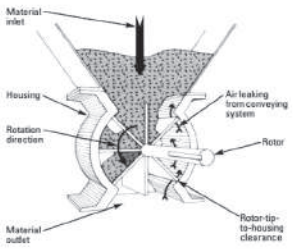










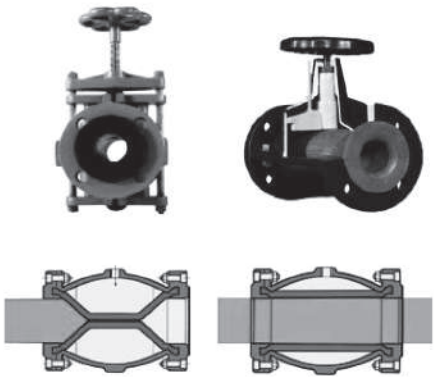


Type GR
Rotary Airlock Valves
โรตารี่แอร์ล็อควาล์ว หรือโรตารีฟีดเดอร์ ทำหน้าที่ป้องกันลมจากภายนอก รั่วเข้าไปในห้องดูดฝุ่น และถ่ายฝุ่นทิ้งออกมาโดยการหมุนใบกวาดฝุ่น rotating impeller

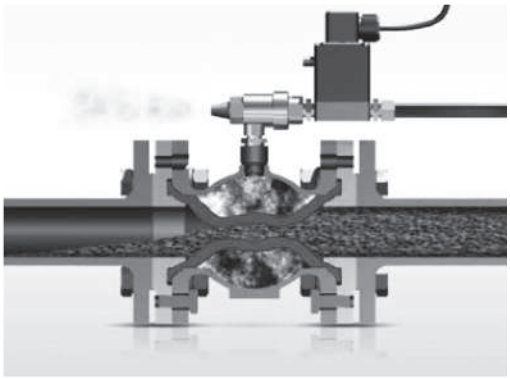
PRODUCT PERFORMANCE & DIMENSIONS

Model	Flange	d x no.	E	F	G*	H	I	J*	K	L	M	N	O	P	Q	W	w
GR 150	6" x 6"	ø 12 x 4	205	205	490	300	27	530	7	350	50	30	33	8	30	245	150
GR 200	8" x 8"	ø 12 x 8	128	255	610	325	33	630	7	400	56	35	39	8	30	295	200
GR 250	10" x 10"	ø 12 x 12	104	312	660	400	38	700	7	500	60	40	45	10	40	370	250

PREMAFLEX PINCH VALVES
FOR VICOUS, GRANULATED, CONTAMINATED AND AGGRESSIVE MEDIA



closed, by pressure open, by release



DESCRIPTION
สำหรับ เปิด-ปิด ฝุ่น ผง ถ่าน หิน กรวด ทราย ซีเมนต์ ซิลิกา แป้ง แกลบ ขี้เถ้า เมล็ด เยื่อ โคลน น้ำ น้ำมัน แก๊ส เคมี ระบบลำเลียง ฯลฯ โดยการใช้ ลม Pneumatic บีบ Sleeve เพื่อ ปิดวาล์ว, และ เปิดวาล์ว โดยการระบายลมทิ้ง เพื่อให้ Sleeve คืนตัว กลับไปอยู่ใน สภาวะปกติ หรือ Normally Open

CONSTRUCTION
Body

- PP food-safe	Threaded DN15-50
- POM food-safe	Threaded DN15-50
- Bronze, Steel	Threaded DN20-25
- Cast Iron GG20	Flange DIN PN10
- Aluminium	Flange DIN PN10
- Manual Valves	Flange DIN PN10

Sleeve

a high-elastic, fabric-rainforce

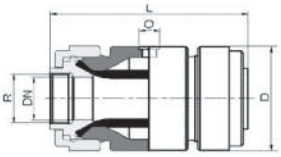
- NR Standard	80 °C
- NR SKAZ	80 °C
- NR Food white	80 °C
- NR Food black	100 °C
- NR Electrically Conductible	80 °C
- CR Neoprene	100 °C
- NBR black	100 °C
- NBR Food white	100 °C
- NBR Electrically Conductible	100 °C
- EPDM Food black	120 °C
- EPDM Food white	120 °C
- SBR Buna	100 °C
- FPM Viton	100 °C
- MQ Silicone	150 °C
- IIR Butyl	100 °C
- CSM Hypalon	100 °C

OPERATION

Media Pressure	0-6 bar, Threaded
	0-4 bar, Flanged
Pilot Pressure	+2 bar, higher than
G 3/8"	media pressure,
	max. 10 bar

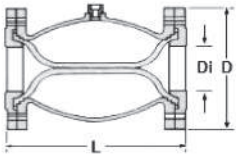
DIMENSIONS - Threaded

Model DN	Thread R	L	D	Wg. kg
PQVI 015	G 1/2"	130	63	0.40
PQVI 020	G 3/4"	142	76	0.55
PQVI 025	G 1"	152	80	0.70
PQVI 032	G 1.1/4"	189	95	0.80
PQVI 040	G 1.1/2"	202	110	1.50
PQVI 050	G 2"	210	120	2.00



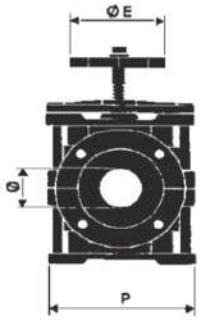
DIMENSIONS - Flange PN10

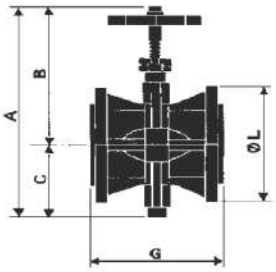
Model DN	Flange Hole, PCD	L	D	Di
PQVF 040	4x ø18, 110	156	150	40
PQVF 050	4x ø18, 125	167	165	45
PQVF 065	4x ø18, 145	184	185	60
PQVF 080	8x ø18, 160	226	200	75
PQVF 100	8x ø18, 180	282	220	95
PQVF 125	8x ø18, 210	350	250	120
PQVF 150	8x ø22, 240	420	285	145
PQVF 200	8x ø22, 295	559	340	195



DIMENSIONS - Manual Valves

Model DN	Flange DIN PN10	A	B	C	E	G	L	P
P.S.1 010		145	100	45	60	73	90	62
P.S.1 015	1/2"	165	115	50	60	92	95	62
P.S.1 020	3/4"	210	150	60	70	107	105	84
P.S.1 025	1"	230	160	70	80	118	115	102
P.S.1 030	1.1/4"	255	178	77	80	130	140	110
P.S.1 040	1.1/2"	305	212	93	100	154	150	140
P.S.1 050	2"	335	233	102	110	176	165	160
P.S.1 060		355	245	110	120	194	185	180
P.S.1 070		390	260	130	140	206	185	205
P.S.1 080	3"	420	280	140	140	215	200	225
P.S.1 090		490	320	170	200	250	210	275
P.S.1 100	4"	500	330	170	200	275	220	275
P.S.1 125	5"	630	415	215	220	300	250	325
P.S.1 150	6"	680	445	235	240	330	285	360
P.S.1 175		765	500	265	330	355	315	405
P.S.1 200	8"	840	550	290	330	375	340	450

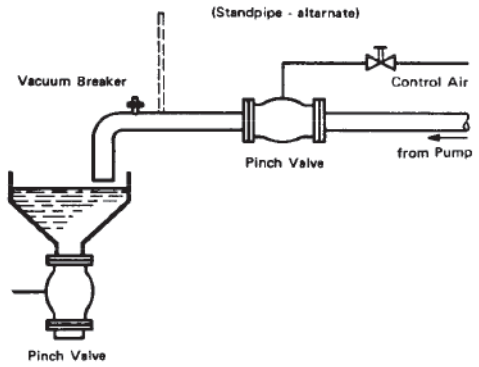




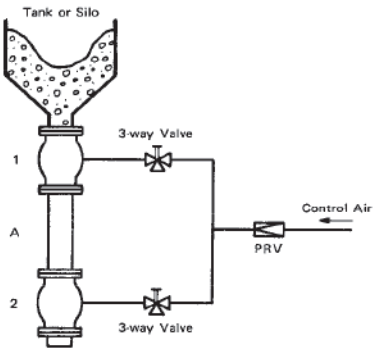
Special design available upon request.

PREMAFLEX APPLICATIONS
PINCH VALVES | TYPICAL APPLICATIONS AND INSTALLTIONS

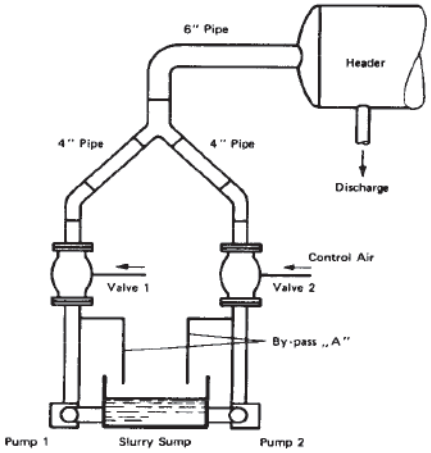
1. Liquid Level ON-OFF CONTROL
ใช้ Pinch Valve ในการ เปิด-ปิด รักษาระดับน้ำในแท็งค์ Vacuum Breaker (หรือ Standpipe) ทำหน้าที่ป้องกันไม่ให้ภายในท่อและ Sleeve เกิดสภาวะสุญญากาศ จากการ suction ของน้ำที่ไหลออก ซึ่งจะมากหรือน้อยก็ขึ้นกับความยาว และขนาดของท่อทางออก ที่อยู่ในแนวดิ่ง



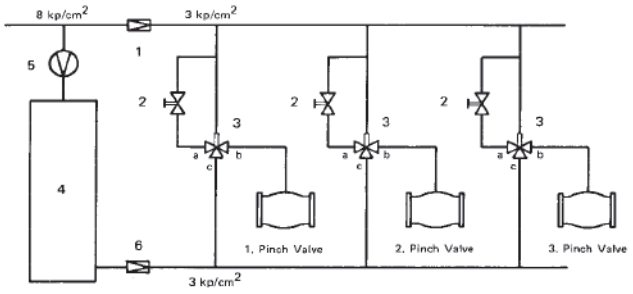
2. Silo AIR LOCK
ติดตั้ง Pinch Valves 2 ตัว ซ้อนกัน เพื่อบล็อกไม่ให้อากาศไหลเข้าออก จากแท็งค์ที่มีความดัน หรือแท็งที่เป็นVacuum. ปิด V.2, เปิด V.1 เพื่อกักวัสดุไว้ในช่วง "A" จากนั้น ปิด V.1, เปิด V.2 เพื่อปล่อยวัสดุ



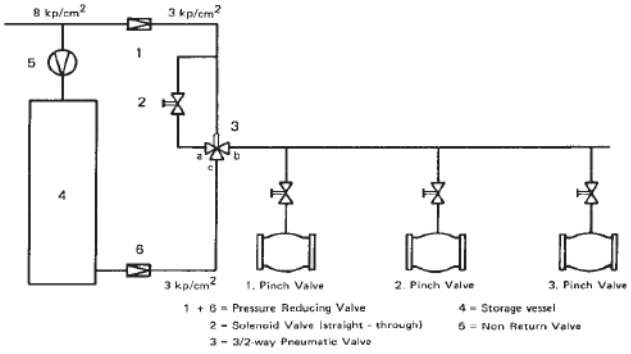
3. STANDBY PUMPING
ขณะ Pump1 standby, V.1 ปิด, Pump2 run V.2 เปิด. เมื่อต้องการสลับ, ให้เริ่ม run Pump1 โดยยังปิด V.1 ก่อน, เพื่อไล่อากาศ ออกทาง by-pass A, เมื่ออากาศออกหมด ค่อยเปิด V.1 และปิด V.2 วิธีการนี้จะช่วยให้ไม่เกิด water-hammer กับ V.1



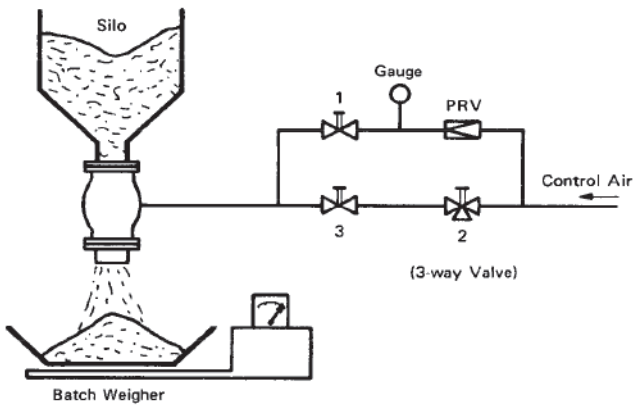
4. AIR FAILURE CLOSED - Independent
หาก safety position ต้องการให้ Pinch Valve "ปิด" เมื่อเกิดปัญหา Air Fail, สามารถทำได้โดย ใช้วงจรด้านล่างนี้.
(2) 3/2-way sol.v. มีหน้าที่สั่ง เปิด-ปิด Pinch Valve โดยมี (3) 3/2-way air pilot valve ขวางอยู่, ส่วน (4) เป็นถังสำรองลม โดยมี (5) เป็น check valve.
ในสภาวะปกติ, (3) จะได้รับสัญญาณ air pilot จาก (1) และเชื่อมต่อ a-b ตลอดเวลา, (2) จะสามารถควบคุม เปิด-ปิด Pinch Valve ได้โดยตรง.
ในสภาวะ Air Fail, สัญญาณ air pilot จาก (1) หายไป, (3) จะกลับตำแหน่ง มาเชื่อมต่อ c-b แทน, ลมจากถังสำรอง (4) ก็จะไหลเข้าไป "ปิด" Pinch Valve



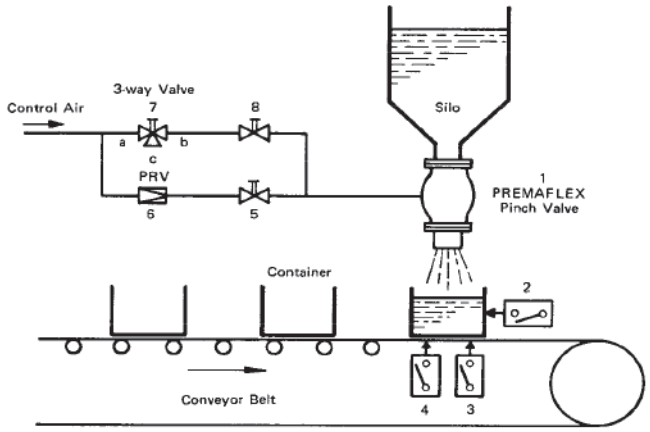
5. AIR FAILURE CLOSED - Simultaneous



6. DRIBBLE CONTROL
งานชั่งตวงปริมาณ อาจต้องการให้ Pinch Valve เปิดสุด-หรี่-และปิด. เริ่มต้น (1) ปิด, (3) เปิด, (2) 3/2-way sol.v. สั่ง Pinch Valve ให้เปิดสุด เมื่อตวงได้ 90%, (1) เปิด, (3) ปิด, Pinch Valve จะหรี่ลง ตามความดันที่ตั้งไว้ และเมื่อตวงได้ 99%, (1) ปิด, (3) เปิด, (2) ระบายลมทิ้ง เพื่อปิด Pinch Valve



7. AUTOMATIC FILLING STATION
ต่อยอดจาก Dribble Control ให้เป็นการตวงอัตโนมัติ บนระบบสายพาน. เมื่อภาชนะถูกลำเลียงเข้ามาถึงตำแหน่ง Switch (2) จะสั่งเริ่มการตวง เมื่อตวงได้ 90%, Switch (3) จะสั่งให้หรี่ Pinch Valve เพื่อความแม่นยำในการตวง, และเมื่อตวงได้ปริมาณครบ Switch (4) จะสั่งจบ Batch, ปิดวาล์ว

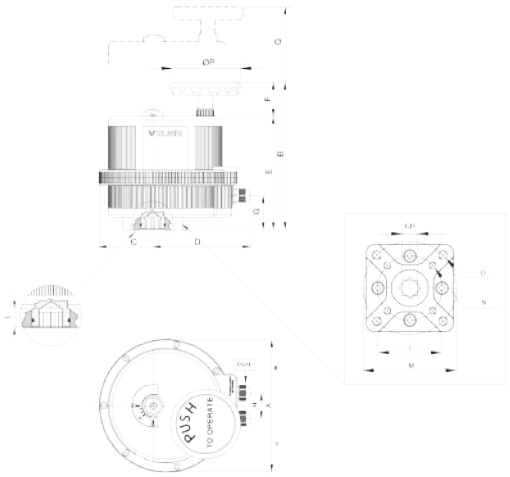


VALBIA

ELECTRIC ACTUATOR

READ MORE

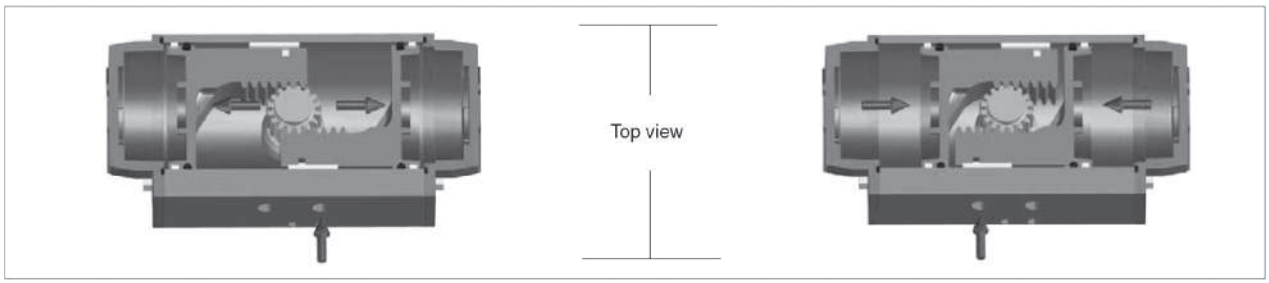
MODELLO - MODEL		VB015	VB030	VB060	VB110	VB190	VB270	VB350
MASSIMA COPPIA DI LAVORO (Nm) MAX WORKING TORQUE (Nm)		15	30	60	110	190	270	350
TENSIONE NOMINALE (V) NOMINAL TENSION (V)	BASSA TENSIONE - LOW VOLTAGE	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC
		24V AC/DC	24V AC/DC	24V AC/DC	24V AC/DC	24V AC/DC	24V AC/DC	24V AC/DC
	MULTITENSIONE - MULTIVOLTAGE	100-240V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC
TEMPO DI MANOVRA (sec) - WORKING TIME (sec)		10	8	9	27	27	50	50
LIMITATORE DI COPPIA - TORQUE LIMITER		STD	STD	STD	STD	STD	STD	STD
DUTY RATING		12VAC/24VAC 50% 12VDC/24VDC 75% 100-240V AC	12V AC/DC 50% 24V AC/DC 75% 100-240V AC	12V AC/DC 50% 24V AC/DC 75% 100-240V AC	12V AC/DC 50% 24V AC/DC 75% 100-240V AC	12V AC/DC 50% 24V AC/DC 75% 100-240V AC	12V AC/DC 50% 24V AC/DC 75% 100-240V AC	12V AC/DC 50% 24V AC/DC 75% 100-240V AC
PROTEZIONE - PROTECTION		IP65	IP67	IP67	IP67	IP67	IP67	IP67
ROTAZIONE - ROTATION		90°	90°	90°	90°	90°	90°	90°
ROTAZIONE A RICHIESTA - UPON REQUEST		180°	180° or 270°	180° or 270°	180° or 270°	180° or 270°	180° or 270°	180° or 270°
COMANDO EMERGENZA MAN. - MANUAL OVERRIDE		STD	STD	STD	STD	STD	STD	STD
INDICATORE DI POSIZIONE - POSITION INDICATOR		STD	STD	STD	STD	STD	STD	STD
TEMPERATURA DI UTILIZZO - WORKING TEMPERATURE		-20°C + 55°C	-20°C + 55°C	-20°C + 55°C	-20°C + 55°C	-20°C + 55°C	-20°C + 55°C	-20°C + 55°C
RESISTENZA ANTICONDENSA - HEATER		STD	STD	STD	STD	STD	STD	STD
FINECORSA AGGIUNTIVI - ADDITIONAL FREE LIMIT SWITCHES		n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)	n°2 STD (type SPDT)
FORATURA ISO 5211 - DRILLING ISO 5211		*F03 - F05	*F03 - F05	F05 - F07	F07 - F10	F07 - F10	F07 - F10	F07 - F10
QUADRO (mm) - SQUARE (mm)		11	11	14	17	17	22	22
QUADRO A RICHIESTA (mm) - SQUARE UPON REQUEST (mm)		9	9-14	11-17	14-22	14-22	17	17
ALIMENT. MANOVRA DI SICUREZZA - SAFETY BLOCK		NON FORNIBILE NOT AVAILABLE	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST
			NON DISPONIBILE PER MOD. 12V - NOT AVAILABLE FOR MOD 12V					
POSIZIONATORE STD (4~20mA or 0~10 VDC) REVERSE (20~4mA or 10~0 VDC) POSITIONER STD (4~20mA or 0~10 VDC) REVERSE (20~4mA or 10~0 VDC)		NON FORNIBILE NOT AVAILABLE	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST
POTENZIOMETRO LINEARE (5K Ω 1W) LINEAR POTENTIOMETER (5K Ω 1W)		NON FORNIBILE NOT AVAILABLE	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST	A RICHIESTA UPON REQUEST
CONNESSIONI ELETTRICHE - ELECTRICAL CONNECTIONS		PG11	PG11	PG11	PG11	PG11	PG11	PG11
PESO (Kg) - WEIGHT (Kg)		1.40	2.30	3.30	4.90	4.90	6.00	6.00

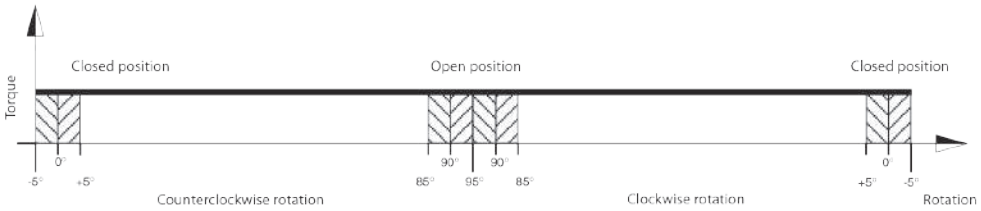


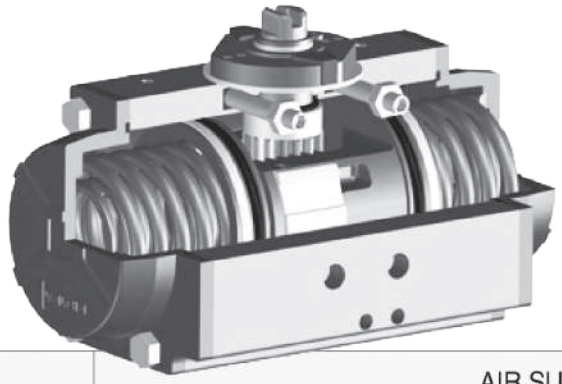
MOD.	FORATURA ISO 5211	CH	A	B	C	D	E	F	G	H	I	L	M	N	O	ØP	Q
VB015	F03-F05*	11	123	141,5	42,5	120,5	126	15,5	103	32	14	36	50	M5X12	M6X14	68	65
VB030	F03-F05*	11	157	188	60,5	129,5	146	42	33	36	12	36	50	M5X12	M6X14	65	100
VB060	F05-F07	14	185	215	67,5	146,5	173	42	51	36	16	50	70	M6X15	M8X17	65	110
VB110	F07-F10	17	211	232,1	84	153	178	54,1	54	40	19	70	102	M8X20	M10X20	110	115
VB190	F07-F10	17	211	232,1	84	153	178	54,1	54	40	19	70	102	M8x20	M10x20	110	115
VB270	F07-F10	22	222	233,5	77	170	182	51,5	54	40	24	70	102	M8x20	M10x20	110	115
VB350	F07-F10	22	222	233,5	77	170	182	51,5	54	40	24	70	102	M8x20	M10x20	110	115

PNEUMATIC ACTUATOR
DOUBLE ACTING ACTUATOR

READ MORE



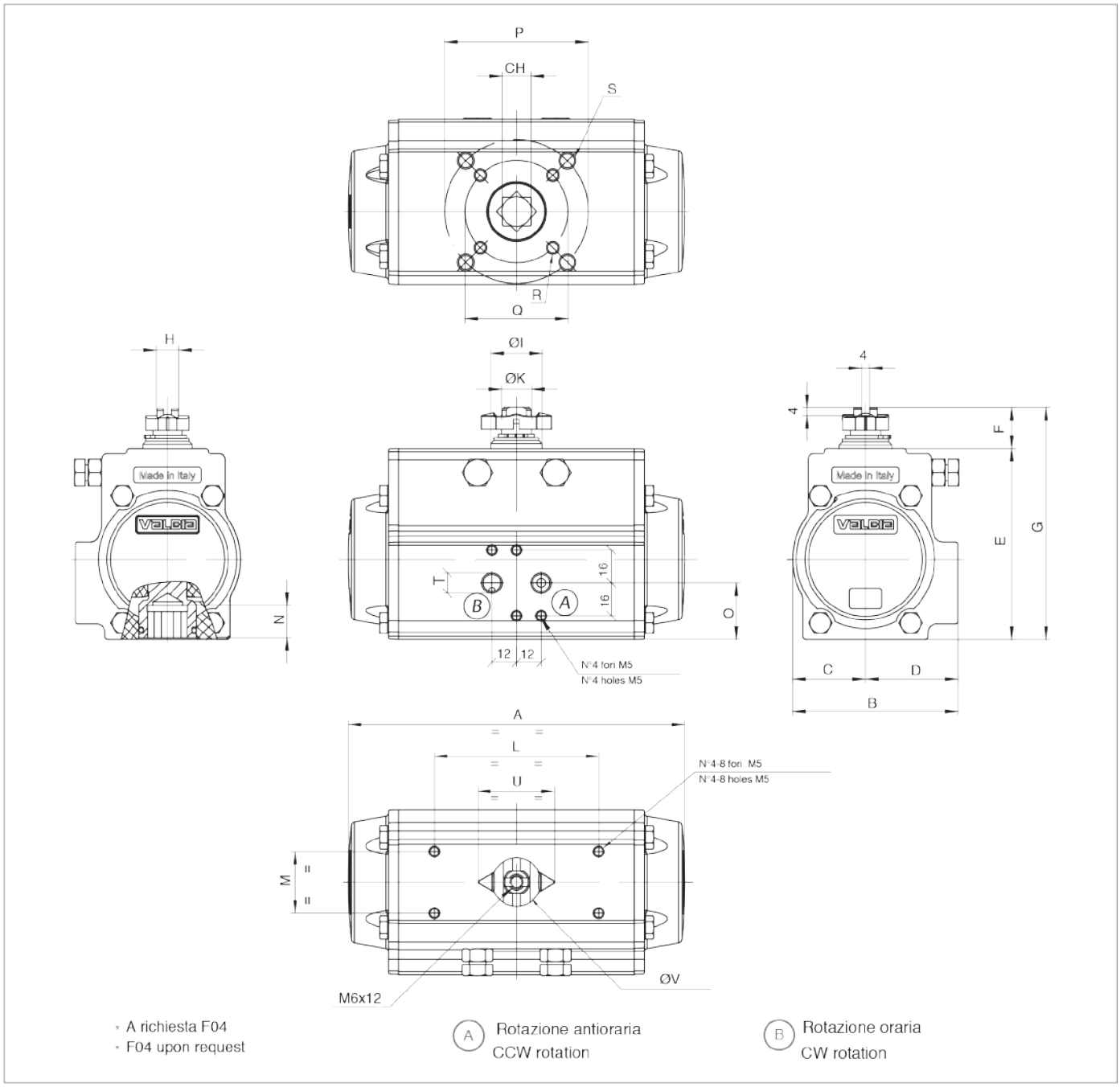




With reference to the above diagram it can be noted that the torque of a double acting actuator remains constant through-out the complete action. The user can decide on which model to choose according to his/her own specific requirements, using the following guidelines:
1. Define the maximum torque of the valve to automate.
2. To obtain a safety factor increase the torque value chosen by 25-50% (subject to the type of valve and working conditions).
3. Once the torque value suggested is obtained consult the torque chart and in relation to the corresponding air pressure find a torque value exact to or exceeding the one obtained.
4. Once the torque value is determined move horizontally to the column "model" to find the actuator model required.

TYPE	AIR SUPPLY PRESSURE (bar)							
	2,5	3	4	5	5,5	6	7	8
	TORQUE OUTPUT DOUBLE ACTING ACTUATORS (Nm)							
DA 32	3,5	4,2	6	7,5	8	9	10	11,5
DA 52	9	11	14,5	18,5	20	22	26	30
DA 63	15,5	19	26	33	36	39,5	46,5	53,5
DA 75	29	35	47,5	60	66	72	84,5	97
DA 85	41,5	50,5	68,5	87	96	105	123	141
DA 100	66	80	108	136	150	164,5	193	221
DA 115	109	132	179	226	249	272	319	366
DA 125	143,5	174	235	297	327	358	419	481
DA 140	205	246	328	410	451	493	575	657
DA 160	300	360	480	600	660	720	840	960
DA 200	562	675	900	1125	1237	1350	1575	1800
DA 270	1304	1565	2086	2608	2869	3130	3651	4173

PNEUMATIC ACTUATOR
DOUBLE ACTING ACTUATOR

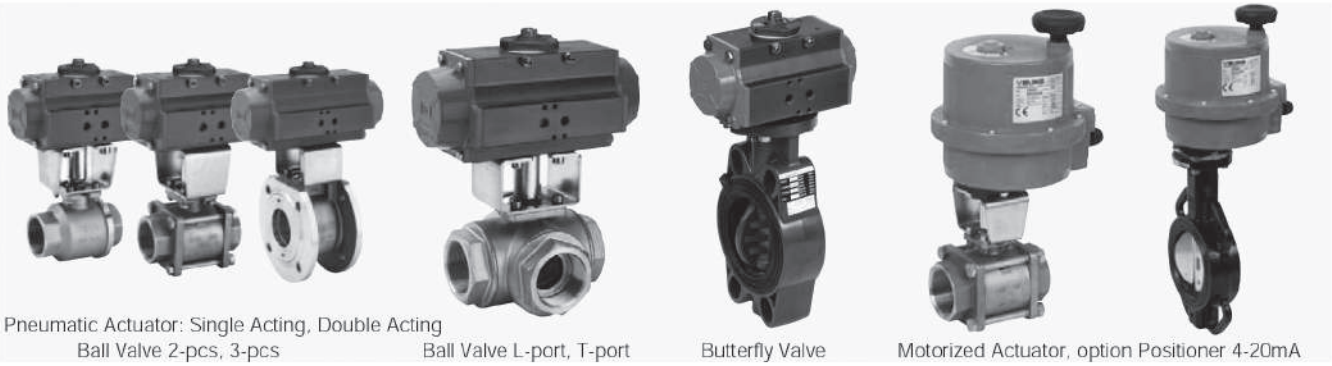


MOD.	FORATURA ISO 5211	CH	A	B	C	D	E	F	G	H	ØI	ØK	L	M	N	O	P	Q	R	S	T ISO 7/1	U	øV
52	F03-F05 *	11	141	71	30	41	81,5	20	101,5	10	21	12	80	30	12	26,5	50	36	M5X7,5	M6X9	1/8"	34,5	22
63	F05 - F07	14	164	80,5	35,5	45	93	20	113	11	25	15	80	30	16	27,5	70	50	M6X8	M8X12	1/8"	34,5	22
75	F05 - F07	17	210	94,5	42	52,5	111,1	20	131	13	29	19	80	30	19	35	70	50	M6X8	M8X12	1/8"	42	29
85	F05 - F07	17	240,5	106	47,5	58,5	125	20	145	15	35	22	80	30	19	42	70	50	M6X8	M8X12	1/8"	42	29
100	F07 - F10	17	275	123	55	68	137,8	20	157,8	15	35	22	80	30	20,5	50	102	70	M8X8	M10X14	1/4"	42	29
115	F07 - F10	22	333	137	64	73	162,4	30	192,4	22	49	32	80/130	30	24	50	102	70	M8X12	M10X15	1/4"	64	44
125	F07 - F10	22	372	148	68	80	174,4	30	204,4	22	49	32	80/130	30	24	61	102	70	M8X12	M10X15	1/4"	64	44
140	F10 - F12	27	435	164	76,5	87,5	197	30	227	24	49	35	80/130	30	29	71	125	102	M10X15	M12X18	1/4"	64	44
160	F10 - F12	27	500	186	87	99	221	30	251	30	57	40	80/130	30	32	80	125	102	M10X14	M12X17	1/4"	80,5	60
180	F10 - F14	36	493	213	98	115	253	30	283	36	62	45	80/130	30	43	99	140	102	M10X15	M16X25	1/4"	80,5	60
200	F14	36	578,5	217	108	109	278	30	308	36	67	50	80/130	30	37	78	140	/	/	M16X24	1/4"	80,5	60
230	F16	** 46	690	248,5	124	124,5	325	30	355	36	67	50	80/130	30	50	92	165	/	/	M20X29	1/4"	80,8	60

** SOLO QUADRO 45° - ONLY SQUARE CONNECTION AT 45°

READ MORE

READ MORE

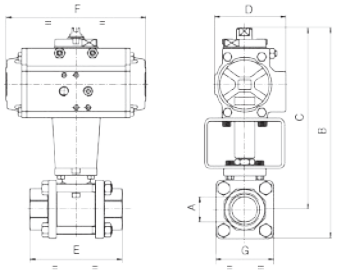


Pneumatic Actuator: Single Acting, Double Acting
Ball Valve 2-pcs, 3-pcs

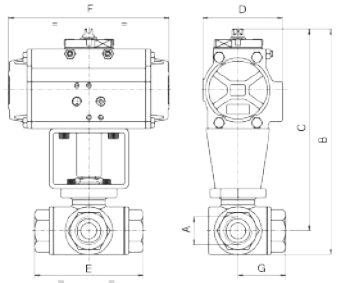
Ball Valve L-port, T-port

Butterfly Valve

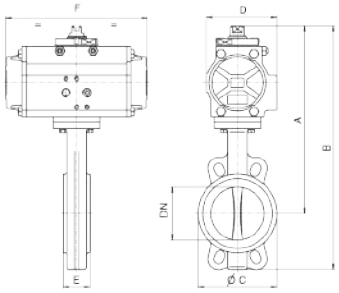
Motorized Actuator, option Positioner 4-20mA



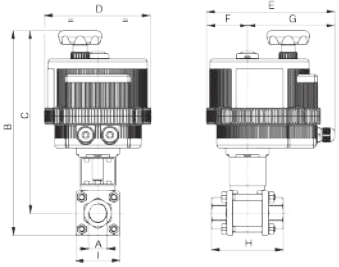
PN	• 64	64	64	40	40	25	25	25	16	16	16
DN / A	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
B	152	152	163	211	220	229	282	309	394	430	461
C	136	136	144	187	191	196	244	264	327	350	366
D	71	71	71	81	81	81	106	123	137	148	148
E	57	57	65	76	92	107	116	136	154	180	217
F	140	140	140	162	162	162	238	272	328	366	366
G	33	33	38	47	58	67	76	90	134	161	190
SR	SR 52	SR 52	SR 52	SR 63	SR 63	SR 63	SR 85	SR 100	SR 115	SR 125	SR 125
DA	DA 32	DA 32	DA 32	DA 52	DA 52	DA 52	DA 63	DA 75	DA 85	DA 85	DA 100



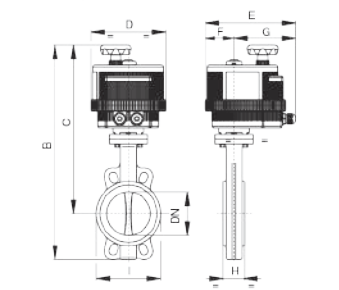
PN	64	64	64	64	64	64	64	64
DN / A	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"
B	201	201	201	237	258	274	294	313
C	183	183	183	219	232	240	256	265
D	81	81	81	95	106	106	123	123
E	79	79	79	86	108	124	134	164
F	162	162	162	207	238	238	272	272
G	39	39	39	43	54	62	67	81
SR	SR 63	SR 63	SR 63	SR 75	SR 85	SR 85	SR 100	SR 100
DA	DA 52	DA 52	DA 52	DA 63	DA 63	DA 63	DA 85	DA 85



DN / PN	32 16	40 16	50 16	65 16	80 16	100 16	125 16	150 16	200 16	250 16	300 16
A	252	252	252	264	292	310	338	348	454	481	534
B	310	310	315	336	386	418	458	484	619	683	784
Ø C	75	82	96	109	126	152	182	207	273	320	378
D	81	81	81	81	106	106	123	123	164	187	187
E	33	33	43	46	46	52	56	56	60	68	78
F	162	162	162	162	238	238	272	272	428	522	522
SR	SR 63	SR 63	SR 63	SR 63	SR 85	SR 85	SR 100	SR 100	SR 140	SR 160	SR 160
DA	DA 52	DA 52	DA 52	DA 52	DA 63	DA 75	DA 75	DA 85	DA 100	DA 115	DA 125



PN	• 64	64	64	40	40	25	25	25	16	16	16
DN / A	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
B	205	205	215	252	308	317	368	382	434	459	510
C	188	188	196	229	279	283	330	337	367	378	415
D	123	123	123	123	157	157	185	185	211	211	211
E	164	164	164	164	191	191	215	215	237	237	237
F	43	43	43	43	61	61	68	68	84	84	84
G	121	121	121	121	130	130	147	147	153	153	153
H	57	57	65	76	92	107	116	136	154	180	217
I	33	33	38	47	58	67	76	90	134	161	190
ACT.	VB 015	VB 015	VB 015	VB 015	VB 030	VB 030	VB 060	VB 060	VB 110	VB 110	VB 190
RI	3021	3021	3790	3781	3030	3030	3031	3031	3003	3003	3004



DN / PN	32 16	40 16	50 16	65 16	80 16	100 16	125 16	150 16	200 16	250 16	300 16
B	351	351	402	423	473	504	548	574	657	708	875
C	293	293	339	351	379	396	428	438	492	507	625
D	123	123	157	157	185	185	211	211	222	222	222
E	164	164	191	191	215	215	237	237	247	247	247
F	43	43	61	61	68	68	84	84	77	77	77
G	121	121	130	130	147	147	153	153	170	170	170
H	33	33	43	46	46	52	56	56	60	68	78
I	75	82	96	109	126	152	182	207	273	320	378
ACT.	VB 015	VB 015	VB 030	VB 030	VB 060	VB 060	VB 110	VB 190	VB 270	VB 270 *	VB 350
RI	3836	3836	3836	3836	3883	3884	3840	3847	3842	3842	4047

SR/DA Actuator

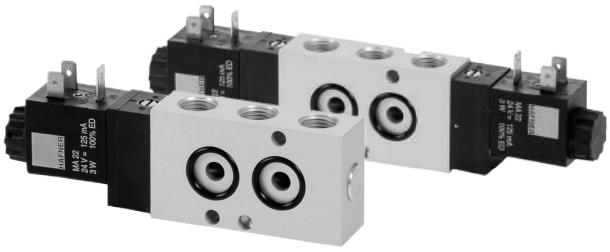
Positioner

0°- 180° Actuator

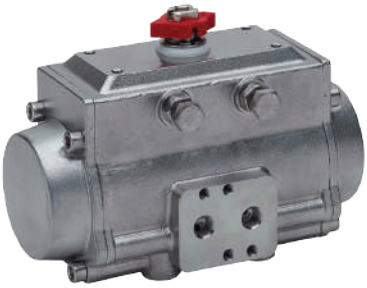
Limit Switch Box

Nickel Plated Actuator

Namur Valve



Stainless Steel Actuator



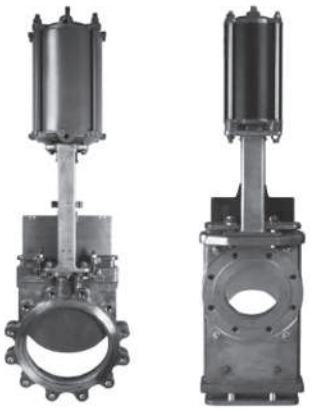
Square & Sleev

P.T.F.E Coated Actuator

KNIFE GATE & AIR DAMPERS
KNIFE GATE VALVES, BUTTERFLY VALVES AND REGULATION DAMPERS

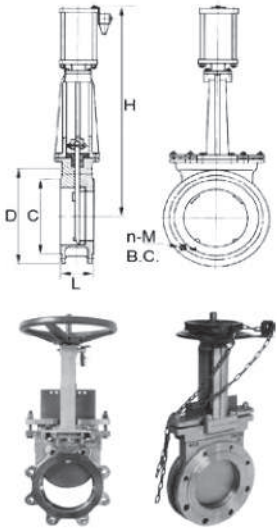
KNIFE GATE VALVES

Pneumatic, Manual, PN16, >100°C
Seal: Rubber, PTFE, SSt, Hard Alloy
เยื่อกระดาษ น้ำเสีย โคลน ขี้เถ่า แร่ ฯลฯ



DN	50	65	80	100	125	150	200	250	300	350
D	160	180	195	215	245	280	335	405	460	520
BC	125	145	160	180	210	240	295	355	410	470
n	4	4	8	8	8	8	12	12	12	16
M	M16	M16	M16	M16	M16	M20	M20	M22	M22	M22
C	100	120	135	155	185	210	265	320	375	435
L	50	50	50	50	50	70	70	70	80	90
H	490	520	580	660	770	880	990	1130	1300	1450

DN	400	450	500	600	700	800	900	1000	1200
D	580	640	705	840	910	1020	1120	1255	1485
BC	525	585	650	770	840	950	1050	1170	1390
n	16	20	20	20	24	24	28	28	32
M	M27	M27	M30	M36	M36	M36	M36	M42	M48
C	485	545	608	718	788	898	998	1110	1325
L	100	120	130	130	160	160	160	160	200
H	1680	1850	2055	2400	2760	3155	3555	3900	4400



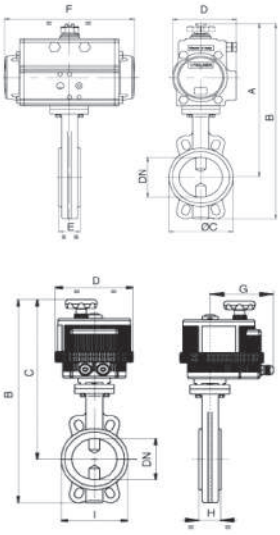
BUTTERFLY VALVES

SR Spring Return, Pneumatic Actuator
DA Double Acting, Pneumatic Actuator
VB Electric Actuator, or with Positioner

PN16, >100°C

DN	32	40	50	65	80	100	125	150	200	250	300
A	252	252	252	264	292	310	338	348	454	481	534
B	310	310	315	336	386	418	458	484	619	683	784
C	75	82	96	109	126	152	182	207	273	320	378
D	81	81	81	81	106	106	123	123	164	187	187
F	162	162	162	162	238	238	272	272	428	522	522
SR	063	063	063	063	085	085	100	100	140	160	160
DA	052	052	052	052	063	075	075	085	100	115	125

DN	32	40	50	65	80	100	125	150	200	250	300
B	351	351	402	423	473	504	548	574	657	708	875
C	293	293	339	351	379	396	428	438	492	507	625
D	123	123	157	157	185	185	211	211	222	222	222
G	121	121	130	130	147	147	153	153	170	170	170
H	33	33	43	46	46	52	56	56	60	68	78
I	75	82	96	109	126	152	182	207	273	320	378
VB	015	015	030	030	060	060	110	190	270	270	350



AIR VOLUME DAMPERS

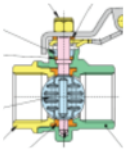
Single Blade, Round Regulation Dampers

- แดมเปอร์ ควบคุมปริมาณลมผ่าน จากท่อกลม, แบบใบเดียว, Balance Type
- แบบมือโยก Manual, แบบใช้ลมขับ Pneumatic, แบบใช้หัวขับไฟฟ้า Motorized Actuator
- ควบคุมแบบ เปิด-ปิด Shut-off, และแบบ เร่ง-หรี่ Regulate, โดยใช้ Positioner Function
- เริ่มจาก DN80 ขึ้นไป, ออกแบบได้ตามต้องการ Custom Design

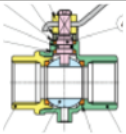
Multiple Blade, Square Regulation Dampers

- แดมเปอร์ ควบคุมปริมาณลมผ่าน จากท่อรูปสี่เหลี่ยม, แบบหลายใบ, แต่ละใบกว้าง 100 mm
- แบบมือโยก Manual, แบบใช้ลมขับ Pneumatic, แบบใช้หัวขับไฟฟ้า Motorized Actuator
- ควบคุมแบบ เปิด-ปิด Shut-off, และแบบ เร่ง-หรี่ Regulate, โดยใช้ Positioner Function
- เริ่มจาก 200x200 mm ขึ้นไป, ออกแบบได้ตามต้องการ Custom Design

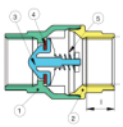
RUBINETTERIE BRESCIANE

RB Rubinetterie Bresciane		Model	DN mm	Kv m3/h	PN bar	TN °C	Port	Body	Seal	Code	Box ea
		**EUROFLY** Butterfly Valve with Throttling *Dirty Media *Flow Regulating	**15** **20** **25** **32** **40** **50**	8.5 17.0 27.0 50.0 82.5 ###	16 16 16 16 16 16	130 130 130 130 130 130	G1/2 G3/4 G1" G1.1/4 G1.1/2 G2"	MS/PEI MS/PEI MS/PEI MS/PEI MS/PEI MS/PEI	EPDM EPDM EPDM EPDM EPDM EPDM	60000004 60000005 60000006 60000007 60000008 60000010	20 10 10 6 4 2

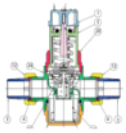
- Brass butterfly valve full bore
- F/F threaded with throttling

		**FULL-SFER** Ball Valve with Drain M5	**8** **10** **15** **20** **25**	5.4 6.0 16.3 29.5 43.0	10 10 10 10 10	100 100 100 100 100	G1/4 G3/8 G1/2 G3/4 G1"	MS MS MS MS MS	PTFE PTFE PTFE PTFE PTFE	5110020000 5110030000 5110040000 5110050000 5110060000	20 20 20 10 10

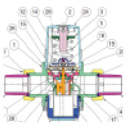
- Full bore ball valve
- F/F threaded
- with drain hole and steel handle

		**EUROBLOCK** Check Valve *High FLOW *High Pressure	**10** **15** **20** **25** **32** **40** **50**	3.7 5.8 8.6 13.8 20.2 30.9 48.8	40 40 40 25 25 16 16	100 100 100 100 100 100 100	G3/8 G1/2 G3/4 G1" G1.1/4 G1.1/2 G2"	MS/PEI MS/PEI MS/PEI MS/PEI MS/PEI MS/PEI MS/PEI	NBR NBR NBR NBR NBR NBR NBR	10000003 10000004 10000005 10000006 10000007 10000008 10000010	20 15 10 10 6 4 2

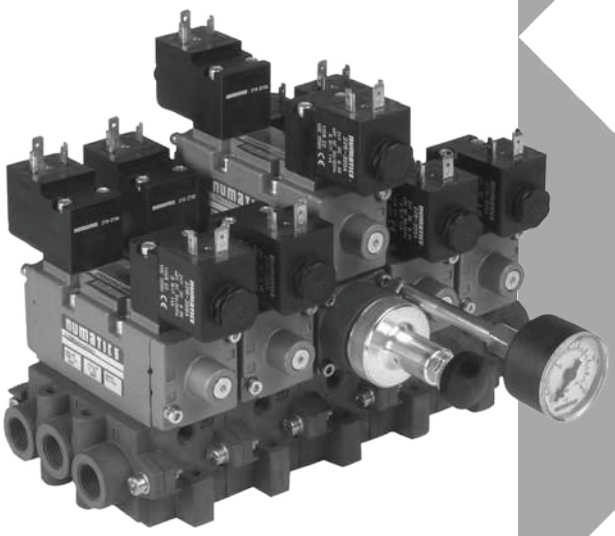
- Full bore check valve
- F/F threaded

		**EURO 300000** PRV w/Union, Strainer Handwheel & SCALE Pout 1.5-6 bar	**15** **20** **25** **32**		30 30 30 30	70 70 70 70	1/2" 3/4" 1" 1.1/4"	MS/POM MS/POM MS/POM MS/POM	NBR NBR NBR NBR	30000004 30000005 30000006 30000007	1 1 1 1

- Pressure reducing and regulating valve
- with balanced seat
- outlet setting from 1,5 to 6 bar
- with upstream 500 micron flow filtering system
- connections with ring nut and union

		**EURO 300030** PRV w/Union, Strainer Pout 1.5-6 bar Pressure Reducing V.	**10** **20** **25** **32** **40** **50**		30 30 30 30 30 30	70 70 70 70 70 70	1/2" 3/4" 1" 1.1/4" 1.1/2" 2"	MS/POM MS/POM MS/POM MS/POM MS/POM MS/POM	NBR NBR NBR NBR NBR NBR	30003004 30003005 30003006 30003007 30003008 30003010	1 1 1 1 1 1

- Pressure reducing and regulating valve
- with balanced seat
- outlet setting from 1,5 to 6 bar
- with upstream 500 micron flow filtering system
- connections with ring nut and union



numatics

SUB-BASE MOUNTED VALVES
TO ISO 5599/1

READ MORE

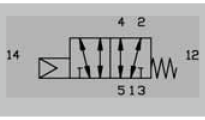
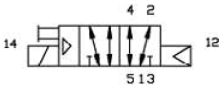
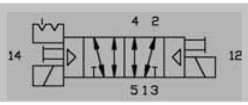
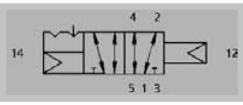
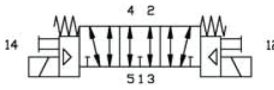
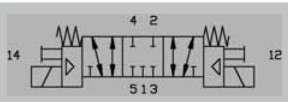
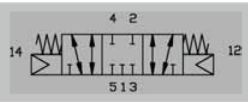
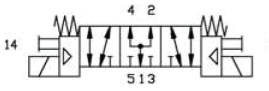
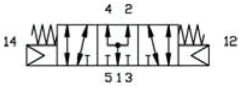
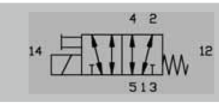
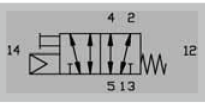
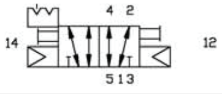
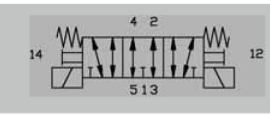
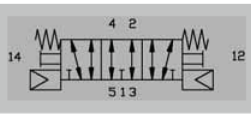
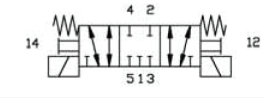
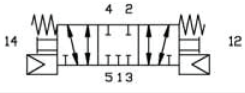
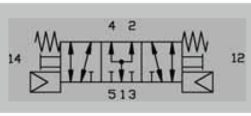
General Information

ISO 1, 2 and 3 valve series as well as ISO 1 and 2 compact series are manufactured according to ISO standard 5599/1, and incorporate the famous Numatics lapped spool and sleeve for ultimate service life.
Due to the great variety of configuration and drive possibilities, they adapt to each task.

Characteristics:
- Modular reality, thus flexible and wear-free.
- **Strong and light** due to **aluminium alloy housing**
- Equipped with the famous **Numatics lapped spool and sleeve assembly:**
  - Insensitive, self-cleaning spool made of stainless steel with **"air bearing effect"** by air entrained between spool and sleeve (1 µm clearance), typical service life of **more than 200 million cycles**.
  - Can operate with **different pressures at the same time** within one valve, **independent** of flow direction.
  - Available as **5-port., 2-pos. and 3-pos. valves**.
- **Exchange** of valves **without dismounting** valve manifold.
- **M12** connector, also DESINA standand, available
- **Worldwide support** by Numatics subsidiaries and dealers in **almost all countries in the world**.

Common Technical Data:
- Direct solenoid, solenoid pilot or air pilot actuated
- -20 °C to +80 °C ambient temperature range (not for C12... & C23...valves with M12 connector to VDMA 24571)
- Max. 50 °C medium temperature
- 1 to 16 bar pilot pressure
- Vacuum to 21 bar operating pressure
- Suitable media see Operating Instructions Compressed Air, page 844
- AC or DC
- Protection: IP 65 with plug-in and screwed connector
- 100 % solenoid rating
- Several types of manual overrides
- Materials:
  - Body — Aluminium
  - Other parts — Stainless steeel, steel, aluminium alloy or plastic
  - Static Seals — NBR (Poppet valves H-NBR)
  - Finish — Anodized or varnished

Valve Symbols

BA4 **ZA4**		single solenoid pilot actuated 5-ported, 2-pos. valve with spring return and manual override	**PA4**		single air pilot actuated 5-ported, 2-pos. valve with spring return without manual override
BW4 **ZW4**		single solenoid pilot actuated 5-ported, 2-pos. valve with air return and indirectly acting manual override			
BB4 **ZZ4**		double solenoid pilot actuated 5-ported, 2-pos. valve with manual override	**PP4**		double air pilot actuated 5-ported, 2-pos. valve without manual override
BB5 **ZZ5**		double solenoid pilot actuated 5-ported, 3-pos. valve, spring centred (1 blocked, 4 & 2 exhausted to 3 & 5) and manual override	**PP5**		double air pilot actuated 5-ported, 3-pos. valve, spring centred (1 blocked, 4 & 2 exhausted to 3 & 5) without manual override
BB6 **ZZ6**		double solenoid pilot actuated 5-ported, 3-pos. valve, spring centred (all ports blocked) and manual override	**PP6**		double air pilot actuated 5-ported, 3-pos. valve, spring return (all ports blocked) without manual override
BB7 **ZZ7**		double solenoid pilot actuated 5-ported, 3-pos. valve, spring centred (2 & 4 pressurised, from 3 & 5 blocked) and manual override	**PP7**		double air pilot actuated 5-ported, 3-pos. valve, spring centred (2 & 4 pressurised, from 3 & 5 blocked) without manual override
SA4		single direct solenoid actuated 5-ported, 2-pos. valve with spring return and manual override	**JA4**		single air pilot actuated 5-ported, 2-pos. valve, with spring return and manual override
SS4		double direct solenoid actuated 5-ported, 2-pos. valve with manual override	**JJ4**		double air pilot actuated 5-ported, 2-pos. valve, with manual override
SS5		double direct solenoid actuated 5-ported, 3-pos. valve, spring centred (1 blocked, 4 & 2 exhausted to 3 & 5) and manual override	**JJ5**		double air pilot actuated 5-ported, 3-pos. valve, spring centred (1 blocked, 4 & 2 exhausted to 3 & 5) and manual override
SS6		double direct solenoid actuated 5-ported, 3-pos. valve, spring centred (all ports blocked) and manual override	**JJ6**		double air pilot actuated 5-ported, 3-pos. valve, spring centred (all ports blocked) and manual override
SS7		double direct solenoid actuated 5-ported, 3-pos. valve, spring centred (2 & 4 pressurised, from 3 & 5 blocked) and manual override	**JJ7**		double air pilot actuated 5-ported, 3-pos. valve, spring centred (2 & 4 pressurised, from 3 & 5 blocked) and manual override

READ MORE

ISO 1; ISO 2; ISO 3 Series • Overview

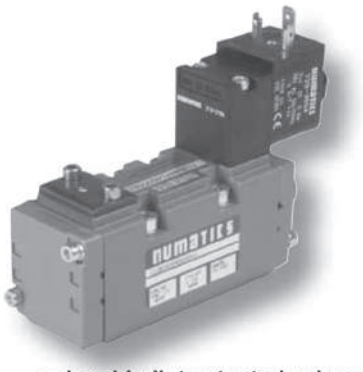
How to Order: (example)

I23

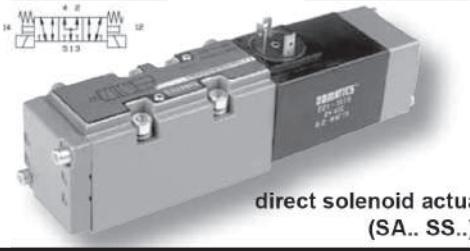
	Valve Series	Port Size	Flow Capacity
I12 =	ISO 1	1/4	1200 Nl/min C_v 1.2
I23 =	ISO 2	3/8	1700 Nl/min C_v 1.7
I34 =	ISO 3	1/2	4400 Nl/min C_v 4.4

BA4

Valve Function		Valve Function	
BA4 =		PA4 =	
BW4 =		PP4 =	
BB4 =		PP5 =	
BB5 =		PP6 =	
BB6 =		PP7 =	
BB7 =		JA4 =	
SA4 =		JJ4 =	
SS4 =		JJ5 =	
SS5 =		JJ6 =	
SS6 =		JJ7 =	
SS7 =			



solenoid pilot actuated valves
(BA.. BW.. BB..)



direct solenoid actuated valves
(SA.. SS..)

Technical Data

	Solenoid Pilot Actuated ISO 1; ISO 2; ISO 3 Series			
Power input:	Low-wattage DC 2.7 W; AC 5.2/3.9 VA Standard DC 6.8 W; AC 10.9/7.6 VA			
Pilot pressure range:	Low-wattage 1 to 10 bar Standard 1 to 16 bar			
Operating pressure:	Vacuum to 21 bar (opt. 40 bar)			
Voltage:	24 VDC ± 10%		24 V,-110V,-230 V, 50-60 Hz ± 10%	
	Response Time [ms]			
Single actuated (5-port., 2 pos.)	Energise 20	De-energise 32	Energise 15	De-energise 36
Double actuated (5-port., 2 pos.)	Energise 20	—	Energise 15	—
Double actuated (5-port., 3 pos.)	Energise 20	De-energise 32	Energise 15	De-energise 36
	Direct Solenoid Actuated			
	ISO 1; ISO 2 Series		**ISO 3 Series**	
Power input:	—		5-port., 2-pos. valve AC 300/34 VA	
	Standard DC 6.0 W;	AC 50.0/9.6 VA	5-port., 3-pos. valve AC 300/34 VA	
Pilot pressure range:	Low-wattage	—	—	
	Standard	1 to 16 bar	1 to 16 bar	
Operating pressure:	Vacuum to 21 bar	(opt. 40 bar)	Vacuum to 21 bar (opt. 40 bar)	
Voltage:	24 VDC ± 10%	24 V,-110V,-230 V, 50-60 Hz ± 10%	24 V,-110V,-230 V, 50-60 Hz ± 10%	
	Response Time [ms]			
Single actuated (5-port., 2 pos.)	Energise 32	De-energise 12	Energise 15	De-energise 30
Double actuated (5-port., 2 pos.)	Energise 32	—	Energise 18	—
Double actuated (5-port., 3 pos.)	Energise 32	De-energise 12	Energise 18	De-energise 30

READ MORE

ISO 1; ISO 2; ISO 3 Series • Overview

00 **4** **0** **000** **61**

Bases

- **00** = Without base
- **1A** = Mounted on manifold block form C
- **11** = Mounted on connector plate form E, incl. manifold block "1A"
- **15** = Mounted on manifold block with side and bottom ports
- **25** = Mounted on sandwich speed control and manifold block "15"
- **41** = Mounted on individual base form A
- **56** = Mounted on individual base form B
- **58** = Mounted on sandwich speed control and individual base "56"

* **On request:** other bases

air pilot actuated valves w/o manual override (PA.. PP..)

Base Ports

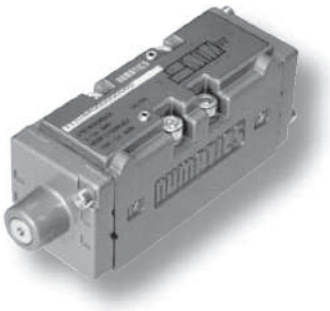
- **0** = Without base
- **G** = G-thread
- **N** = NPTF-thread

Valve Actuation

- **0** = Air pilot actuated
- **2** = AC
- **4*** = DC
- **7** = M12 DESINA standard connector (DC only) Type 30 mm
- **C** = Solenoid with UL- and CSA-approval
- **T** = M12 connector with LED (DC only) type 30 mm

* not for SA / SS valves size 3

air pilot actuated valves with manual override (JA.. JJ..)



Solenoid Type

- **00** = Air pilot actuated
- **61** = 24 VDC
- **40** = 230 VAC/50-60 Hz
- **30** = 110 VAC/50-60 Hz
- **20** = 24 VAC/50-60 Hz

On request: Solenoid to ATEX, see page 612

Options

- **000** = Manual override in the cover acting directly on the spool, BA/BB-valves and SA/SS-valves
- **000** = Indirectly acting manual override, BW-valves without manual override
- **000** = PA/PP-valves
- **11M** = Without manual override, BA/BB-valves
- **17P** = Indirectly acting non-locking manual override, BA/BB-valves
- **18W** = Indirectly acting manual override push/locking, BA/BB-valves
- **26Y** = Indirectly acting non-locking manual override and low-wattage, BA/BB-valves
- **44Q** = Indirectly acting manual override push/locking and low-wattage, BA/BB-valves
- **26Z** = Without manual override and low-wattage, BA/BB-valves
- **J08** = **For high temperatures up to +150°C (*Viton® = FPM)**
- **A39** = **Operating pressure Vakuum to 40 bar, without man. override, ext. supply 12+14, 1 to 10 bar Pilot pressure Range**

***For further Information see page 9**
On request: other options

Note: **High temperature valves**

Sizes ISO 1, ISO 2 and ISO 3 available for high temperatures
Maximum temperature:

Valve with connector socket 230-592 (grey) :	**+125°C**
Valve with connector socket 230-593 (black) :	**+125°C**
Air pilot actuated valve :	**+150°C**

Option J08 in 11th to 13th digit of order code

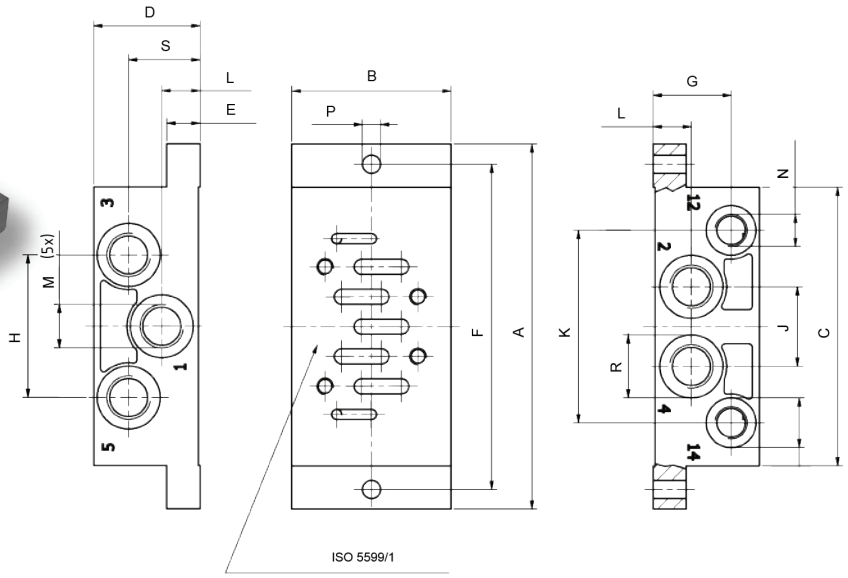
Order example: **I23BA4004000061**

This refers to a ISO 2 series single solenoid pilot actuated 5-ported, 2-pos. valve with spring return.
The manual override acting directly on the spool is standard.
Voltage of the solenoid is 24 VDC.
The valve is supplied without base.

READ MORE

Accessories

Individual Base Form A to VDMA 24345, with Side Ports



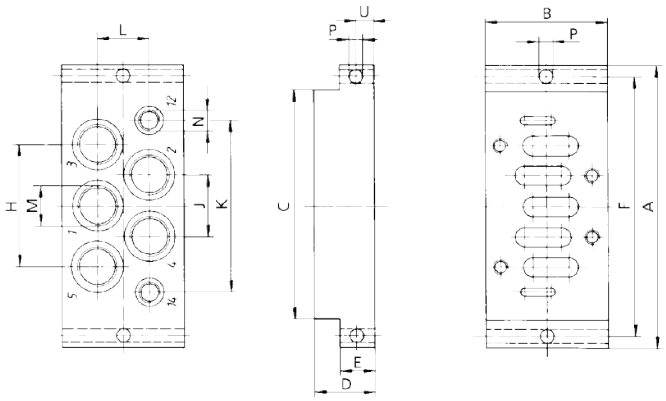
Dimensions [mm]

Series	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
ISO 1	110,0	48,0	84,0	32,0	10,0	98,0	22,0	48,0	25,0	64,0	11,0	G 1/4	G 1/8	5,5	15,0 / 0,3	**19,00 (5X)**
ISO 2	124,0	57,0	95,0	40,0	13,0	112,0	31,0	56,0	30,0	73,0	15,0	G 3/8	G 1/8	6,6	15,0 / 0,3	
ISO 3	149,0	64,0	119,0	32,0	18,0	136,0	22,0	68,0	32,0	90,0	16,0	G 1/2	G 1/8	6,6	15,0 / 0,3	

Series	S	Weight approx. [kg]	Order Code
ISO 1	21,50	0,200	**103-544**
ISO 2		0,300	**103-549**
ISO 3		0,400	**103-545**

On request: individual bases with NPTF-thread

Individual Base Form B to VDMA 24345, with Bottom Ports



Dimensions [mm]

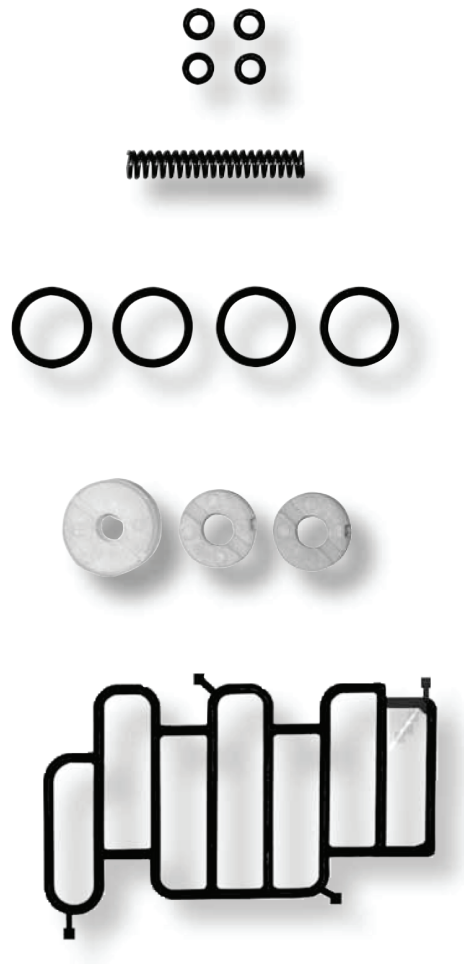
Series	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Weight approx. [kg]	Order Code
ISO 1	110.0	46.0	84.0	30.0	10.0	98.0	5.0	46.0	23.0	62.0	23.0	G 1/4	G 1/8	5.5	0.190	**103-542**
ISO 2	124.0	56.0	95.0	35.0	13.0	112.0	6.5	56.0	26.0	74.0	27.0	G 3/8	G 1/8	6.6	0.320	**103-557**
ISO 3	149.0	64.0	119.0	32.0	18.0	136.0	9.0	64.0	32.0	90.0	27.0	G 1/2	G 1/8	6.6	0.410	**103-543**

On request: individual bases with NPTF-thread

READ MORE

Accessories

Spare Part Kits for Valves



ISO 1; ISO 2 and ISO 3 Series

Valve Type	Order Code		
	ISO 1	ISO 2	ISO 3
BA4.. / ZA4.. PA4.. / JA4..	I1B-K1	I2B-K1	I3B-K1
BB4.. / ZZ4.. PP4.. / JJ4..	I1B-K2	I2B-K2	I3B-K2
BB5 / 6 / 7.. / ZZ5 / 6 / 7.. PP5 / 6 / 7.. / JJ5 / 6 / 7..	I1B-K3	I2B-K3	I3B-K3
BW4.. / ZW4..	I1B-K4	I2B-K4	I3B-K4
SA4..	I1S-K1	I2S-K1	I3S-K1
SS4..	I1S-K2	I2S-K2	I3S-K2
SS5 / 6 / 7..	I1S-K3	I2S-K3	I3S-K3
incl. Gasket, O-Rings, Spring or Bumper			

ISO 1; ISO 2 and ISO 3 Compact Series

Valve Type	Order Code		
	ISO 1	ISO 2	ISO 3
BA4.. / ZA4.. PA4..	C1B-K1	C2B-K1	C3B-K1
BB4.. / ZZ4.. / PP4..	C1B-K2	C2B-K2	C3B-K2
BB5 / 6 / 7.. / ZZ5 / 6 / 7.. PP5 / 6 / 7..	C1B-K3	C2B-K3	C3B-K3
BW4.. / ZW4..	C1B-K4		

incl. Gasket, O-Rings, Spring or Bumper

Poppet Valves Series ISO 3

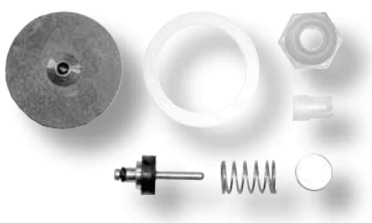
Valve Type	Order Code Series ISO 3
G34B....	G3B-K1
G34P....	G3P-K1

incl. O-Rings, gaskets, spring

Slow-Start-Valve

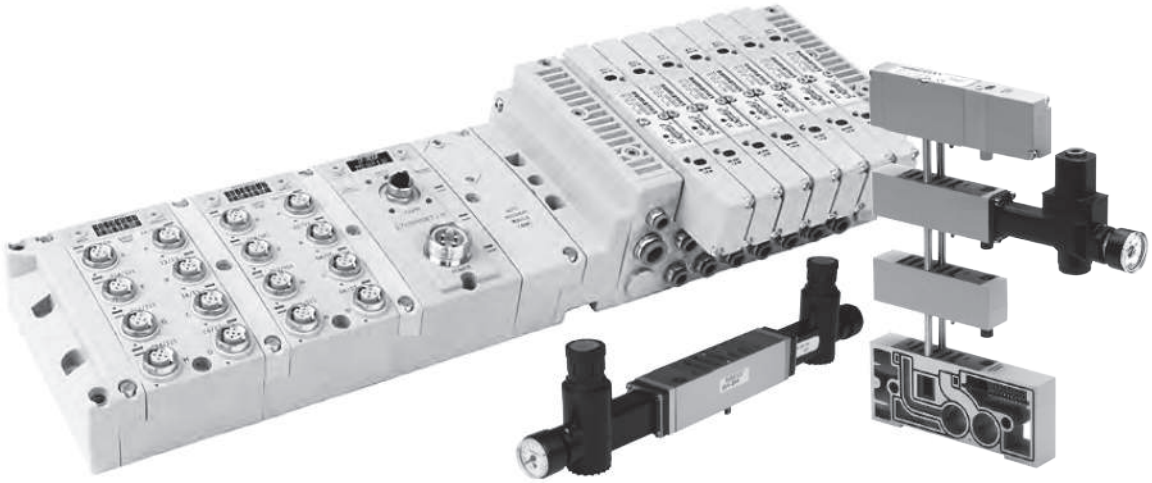
Valve-Type	Order Code
P01794000....	40.7069

Spare Part Kits for Regulators

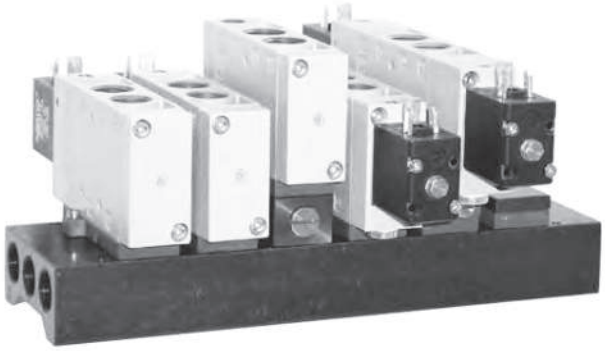


Series	Type		Order Code
ISO 1	I12RS... / I12RD...		229-640
ISO 2	I23RS... / I23RD...		229-640
ISO 3	I34RS... / I34RD...	< Nov. 2004	229-907
ISO 3	I34RS... / I34RD...	> Nov. 2004	239-2277
ISO 3	I34NS... / I34ND		239-2259

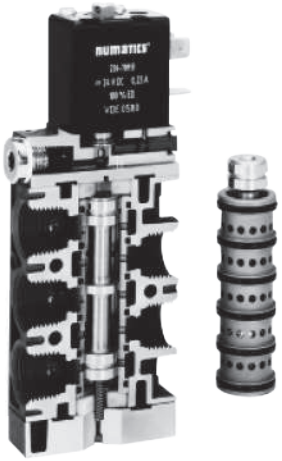
G3 Fieldbus I/O, Valve Manifold and Sandwich Regulator



L1/L2 Valve Manifold



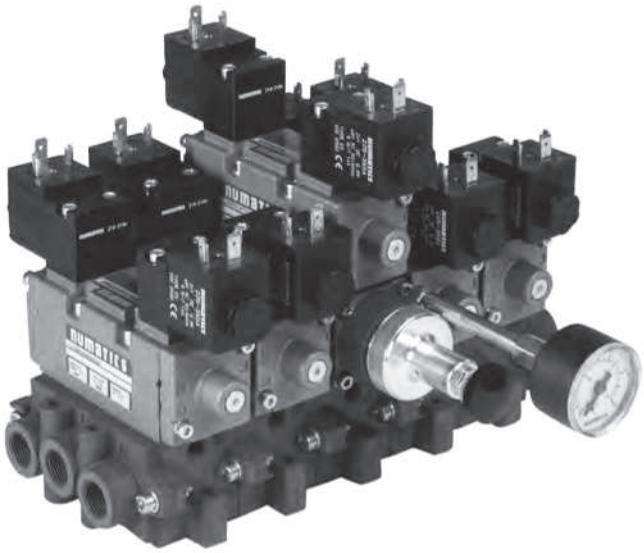
Metal Spool & Sleeve

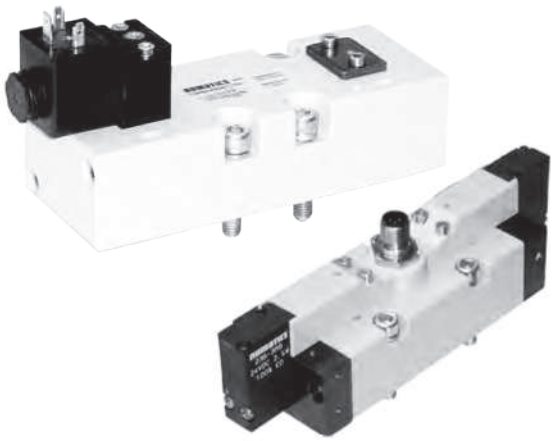


ประกันการทำงาน
เกินกว่า 200 ล้านรอบ

Patented Spool & Sleeve technology,
- wearfree and self-cleaning -
guaranteed for more than 200 million cycles.
This was a Numatics invention in 1952.
It cannot be beaten even today.

ISO 5599/1 Valve Manifold and Sandwich Regulator

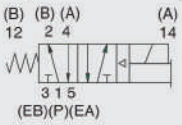




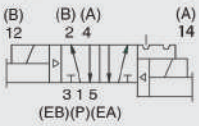
YA SERIES

READ MORE

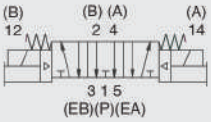
single solenoid pilot
2 position 4-way



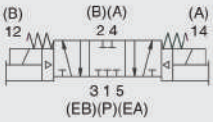
double solenoid pilot
2 position 4-way



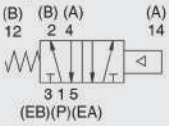
double solenoid pilot
3 position 4-way
open center



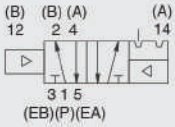
double solenoid pilot
3 position 4-way
closed center



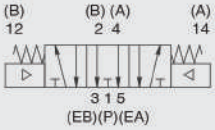
single air pilot
2 position 4-way



double air pilot
2 position 4-way

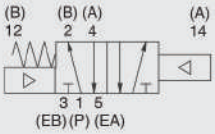


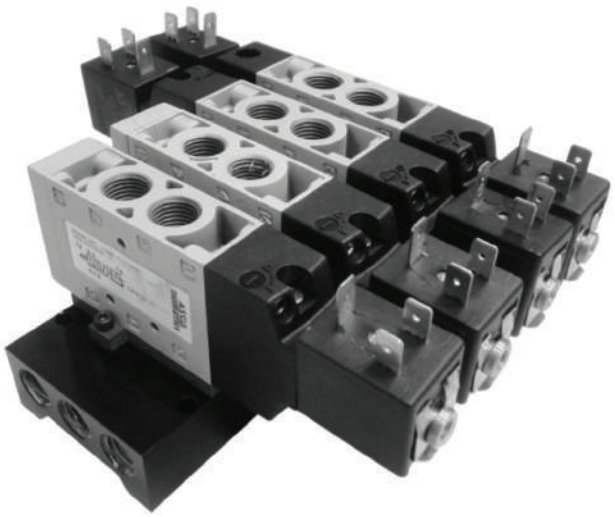
double air pilot
3 position 4-way
open center



double air pilot
3-position 4-way
closed center

double air pilot
2 position 4-way
spring offset

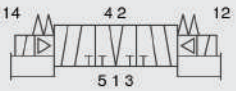




5 Ported, 2 and 3 position, 4-way, Spool & Sleeve
Cv: 1.0

- Solenoid pilot
- DIN plug-in solenoid
  indicator light
- Unlubricated or lubricated service
- In-line or manifold mounted

double solenoid pilot
3 Position 4-Way (5/3),
open to 4 (A) and
2 (B) in center



double air pilot
3 Position 4-Way (5/3),
open to 4 (A) and
2 (B) in center

Technical Data

VALVE DATA	ENGLISH		METRIC	
Cv	1/8 = 1.0	1/4 = 1.0	1/8 = 1.0	1/4 = 1.0
Flow Capacity	46 SCFM upstream pressure to atmosphere @ 80 PSIG		985 Nl/m @6 bar upstream/5 bar downstream	
Main Valve Operating Pressure Range	28" HG. Vacuum to 150 PSIG		Vacuum to 10 bar	
Pilot Pressure Range: Internal and External	14.5 to 150 PSIG		1 to 10 bar	
Temperature Range: Solenoid Pilot (ambient)	-10°F to +115°F		-23°C to +46°C	

READ MORE

Operating Data

ALL SOLENOIDS ARE CONTINUOUS DUTY RATED		12 VDC	24 VDC	24 VAC 50-60 Hz	110 VAC 50-60 Hz	230 VAC 50-60 Hz
*Power (Watts)		2.5	2.5	2.5	2.5	2.5
Holding Current (Amps.)		0.21	0.1	0.146	0.032	0.015
Inrush Current (Amps.)		N/A	N/A	0.25	0.055	0.026
Energize in Seconds	2-Position, Single, Spring Return	0.050	0.050	0.045	0.045	0.045
	2-Position, Double, Detented	0.050	0.050	0.045	0.045	0.045
	3-Position, Spring Centered	0.050	0.050	0.045	0.045	0.045
De-Energize in Seconds	2-Position, Single, Spring Return	0.035	0.035	0.035	0.035	0.035
	2-Position, Double, Detented	N/A	N/A	N/A	N/A	N/A
	3-Position, Spring Centered	0.035	0.035	0.035	0.035	0.035

How to Order

Valves

YA1 BA 4 52 4 N 000 20

Valve Series & Port Size
YA1 = 1/8
YA2 = 1/4

Valve Type
BA = Single Solenoid Pilot, Spring Return W/Flush Locking Override
BB = Double Solenoid Pilot W/Flush Locking Override
PA = Single Air Pilot w/Spring Return
PP = Double Air Pilot

Function
4 = 2 Position, 4-Way
5 = 3 Position, 4-Way Open Center
6 = 3 Position, 4-Way Closed Center
7 = 3 Position 4-Way (5/3), Open to 4 (A) and 2 (B) in Center

Mounting
52 = Line Mounted (Manifold Mount With Adaptor)

Voltage
20 = 24 / 50-60 VAC
30 = 110 / 50-60 VAC
40 = 230 / 50-60 VAC
60 = 12 VDC
61 = 24 VDC
66 = 110 VDC
00 = N/A (Used With Air Pilot)

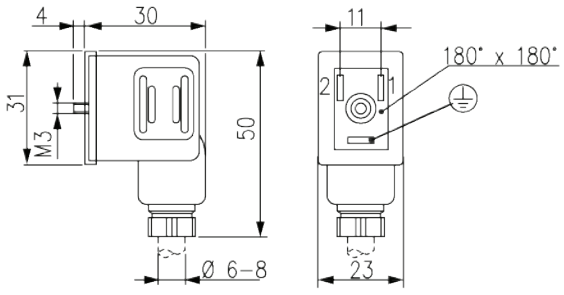
Options
000 = Standard (Class F Coil)
*83C = 22mm Class H Coil
12A = Viton Seals on Sleeve Assembly
14A = External Pilot Supply
18D = Side Ports (Namur Plate Needed When 18D Option Is Used For Namur Interface)

Port Type
N = NPTF
G = G tap

Wiring Option
4 = DIN Plug-In DC Solenoid
2 = DIN Plug-In AC Solenoid or Air Pilot

NOTE: Plug connector is included with DIN solenoid
* : Consult ASCO SongJiang factory

Plug Connector Assemblies

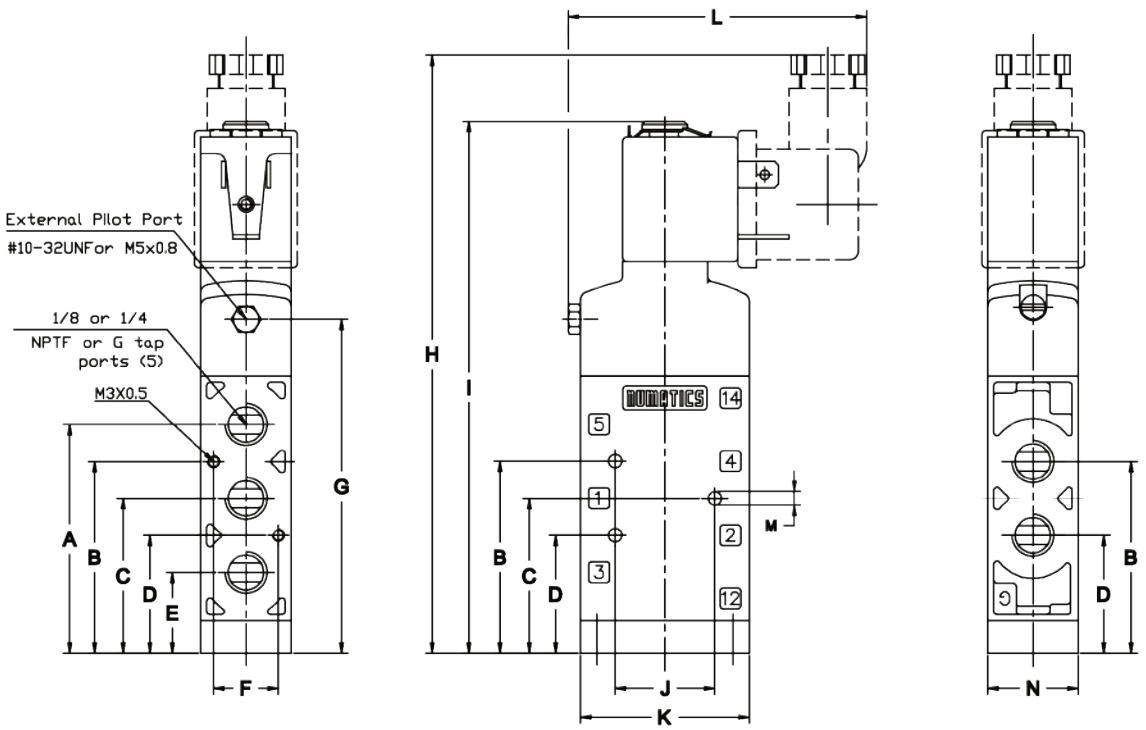


PLUG CONNECTOR DESCRIPTION	PART NO.
Black Plug Assembly	88122404
Plug Assembly with 24V Led	88122405
Plug Assembly with 115V Led	88122407
Plug Assembly with 230V Led	88122410

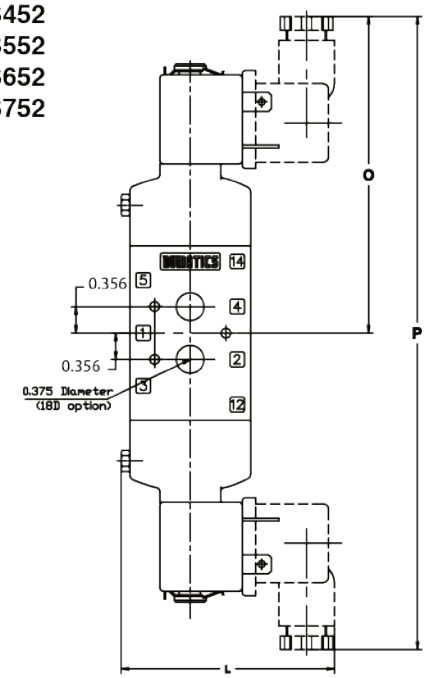
READ MORE

Solenoid-Pilot Valve

YA_BA452 YA



YA_BB452
YA_BB552
YA_BB652
YA_BB752



Dimensions

top dimensions = inches and bottom dimensions (in parenthesis) = millimeters

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
2.21 (56.1)	1.85 (47.0)	1.50 (38.1)	1.14 (29.0)	0.78 (19.8)	0.62 (15.7)	2.90 (73.6)	5.76 (146.3)	5.12 (130.0)	0.96 (24.4)	1.62 (41.1)	2.87 (72.9)	0.13 (3.3)	0.88 (22.4)	4.27 (108.4)	8.53 (209.0)

READ MORE

PARTICULATE FILTER/REGULATOR

- High flow with a wide range of adjustable output pressure ranges
- Optional low profile gauge, round gauge, digital gauge or digital pressure switch
- Optional extended temperature range of -40 °F to 176 °F (-40 °C to 80 °C)
- Sintered polyethylene elements, with centrifugal separator, include 5, 25 and 40 Microns
- Threaded ports allow for individual or modular mounting
- Innovative two position plastic drain with manual and semi-automatic functions. Additional drains include an automatic style (brass) and manual (stainless steel)
- Polycarbonate and Aluminum bowls with a selection of sight gauge materials that meet industry and application requirements
- Key lockable and tamper resistant models
- Air purity class according to ISO 8573-1: 2010

Performance Data					
Series			**651**	**652**	**653**
Port Sizes			1/8, 1/4	1/4, 3/8, 1/2	1/2, 3/4, 1
Thread Type			NPTF, G & Rc		
Nominal Flow - Per ISO 6358 P1 = 145 PSI (10 bar) Setpoint P2 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)		Micron Rating	SCFM (L/min ANR)		
	1/8	5µ	25.1 (710)	-	-
		25µ	25.8 (730)	-	-
		40µ	28.5 (800)	-	-
	1/4	5µ	79.1 (2240)	133.0 (3800)	-
		25µ	83.4 (2360)	144.2 (4120)	-
		40µ	100.1 (2840)	150.5 (4300)	-
	3/8	5µ	-	155.8 (4450)	-
		25µ	-	189.7 (5420)	-
		40µ	-	196.0 (5590)	-
	1/2	5µ	-	157.2 (4490)	275.4 (7800)
		25µ	-	192.5 (5500)	278.9 (7900)
		40µ	-	203.0 (5800)	307.2 (8700)
	3/4	5µ	-	-	314.3 (8900)
		25µ	-	-	317.1 (9000)
		40µ	-	-	353.1 (10000)
	1	5µ	-	-	317.8 (9000)
		25µ	-	-	353.1 (10000)
		40µ	-	-	370.8 (10500)
Maximum Inlet Pressure PSIG (bar) P1		Polycarbonate Bowl	232 (16)		174 (12)
		Aluminum Bowl	232 (16)		290 (20)
Adjustable Pressure Ranges PSIG (bar) P2			3 to 45 (0.2 to 3)		
			3 to 60 (0.2 to 4)		
			7 to 125 (0.5 to 8)		
			7 to 145 (0.5 to 10)		
Ambient Temperature Range °F (°C)			-4 to 122 (-20 to 50)		
Fluid Temperature Range °F (°C)			-4 to 122 (-20 to 50)		
Fluid			Air or Inert Gas		
Weight lbs. (kg)		w/Polycarbonate Bowl	0.62 (0.304)	1.20 (0.546)	2.90 (1.315)
		w/Aluminum Bowl	0.99 (0.449)	1.52 (0.688)	3.45 (1.565)

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Springs	Stainless Steel
Filter Element	Sintered Polyethylene
Bowl	Polycarbonate or Aluminum
Poppet	Brass
Stem	PA

Air Purity Class - ISO 8573-1: 2010	
5µ	(5:8:4)
25µ	(6:8:4)
40µ	(7:8:4)

READ MORE

PARTICULATE FILTER

- Large selection of filtering capacities to remove particulate and water droplets from compressed air or inert gas
- Sintered polyethylene elements, with centrifugal separator, include 5, 25 and 40 Microns
- Optional extended temperature range of -40 °F to 176 °F (-40 °C to 80 °C)
- Innovative two position plastic drain with manual and semi-automatic functions. Additional drains include an automatic style (brass) and manual (stainless steel)
- Polycarbonate and Aluminum bowls with a selection of sight gauge materials that meet industry and application requirements
- Threaded ports allow for individual or modular mounting
- Air purity class according to ISO 8573-1: 2010

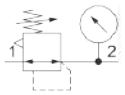
Performance Data					
Series			**651**	**652**	**653**
Port Sizes			1/8, 1/4	1/4, 3/8, 1/2	1/2, 3/4, 1
Thread Type			NPTF, G & Rc		
Nominal Flow - Per ISO 6358 P1 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)		Micron Rating	SCFM (L/min ANR)		
	1/8	5µ	31.2 (885)	-	-
		25µ	32.5 (920)	-	-
		40µ	34.6 (980)	-	-
	1/4	5µ	44.1 (1250)	70.8 (2020)	-
		25µ	49.6 (1410)	89.3 (2250)	-
		40µ	54.7 (1550)	92.4 (2640)	-
	3/8	5µ	-	76.5 (2190)	-
		25µ	-	118.7 (3390)	-
		40µ	-	135.5 (3870)	-
	1/2	5µ	-	80.2 (2290)	136.0 (3850)
		25µ	-	129.5 (3700)	162.4 (4600)
		40µ	-	153.0 (4370)	196.0 (5550)
	3/4	5µ	-	-	141.3 (4000)
		25µ	-	-	166.0 (4700)
		40µ	-	-	229.5 (6500)
	1	5µ	-	-	150.1 (4250)
		25µ	-	-	176.6 (5000)
		40µ	-	-	245.4 (6950)
Maximum Inlet Pressure PSIG (bar)		Polycarbonate Bowl	232 (16)		174 (12)
		Aluminum Bowl	232 (16)		290 (20)
Ambient Temperature Range °F (°C)			-4 to 122 (-20 to 50)		
Fluid Temperature Range °F (°C)			-4 to 122 (-20 to 50)		
Fluid			Air or Inert Gas		
Weight lbs. (kg)		w/Polycarbonate Bowl	0.52 (0.238)	0.94 (0.426)	2.06 (0.934)
		w/Aluminum Bowl	0.84 (0.382)	1.22 (0.553)	2.51 (1.140)

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Filter Element	Sintered Polyethylene
Bowl	Polycarbonate or Aluminum

Air Purity Class - ISO 8573-1:2010	
5µ	(5:8:4)
25µ	(6:8:4)
40µ	(7:8:4)

READ MORE

REGULATOR



- High flow with a wide range of adjustable output pressure ranges
- Available with relieving, non-relieving and internal flow check options
- Optional low profile gauge, round gauge, digital gauge or digital pressure switch
- Optional extended temperature range of -40 °F to 176 °F (-40 °C to 80 °C)
- Threaded ports allow for individual or modular mounting
- Key lockable and tamper resistant options

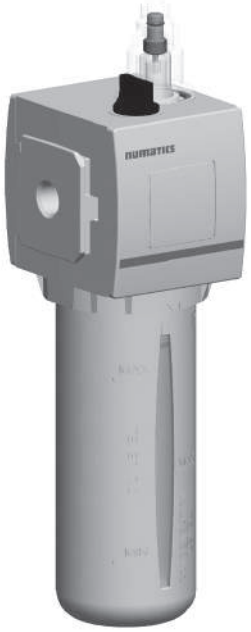
Performance Data				
Series		**651**	**652**	**653**
Port Size		1/8, 1/4	1/4, 3/8, 1/2	1/2, 3/4, 1
Thread Type		NPTF, G & Rc		
Nominal Flow - Per ISO 6358 P1 = 145 PSI (10 bar) Setpoint P2 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)		SCFM (L/min ANR)		
	1/8	28.1 (800)	-	-
	1/4	72.6 (2060)	144.2 (4120)	-
	3/8	-	228.6 (6530)	-
	1/2	-	245.0 (7000)	245.0 (7000)
	3/4	-	-	353.1 (10000)
	1	-	-	406.1 (11500)
Maximum Inlet Pressure PSIG (bar) P1		232 (16)		290 (20)
Adjustable Pressure Ranges PSIG (bar) P2		3 to 45 (0.2 to 3)		
		3 to 60 (0.2 to 4)		
		7 to 125 (0.5 to 8)		
		7 to 145 (0.5 to 10)		
Pilot Operated Regulator Input-to-Output Pressure Ratio		-	1:1	-
Ambient Temperature Range °F (°C)		-4 to 122 (-20 to 50)		
Fluid Temperature Range °F (°C)		-4 to 122 (-20 to 50)		
Fluid		Air or Inert Gas		
Weight lbs. (kg)		0.47 (0.215)	0.95 (0.431)	2.43 (1.102)

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Springs	Stainless Steel
Poppet	Brass
Stem	PA

READ MORE

LUBRICATOR

1 2



- Provides consistent reliable lubrication to the system
- Uses venturi type technology to distribute the lubrication into the compressed air line
- Optional electronic liquid level indicator provides condition monitoring
- Allows fill while under pressure from fill port or bowl by removing the fill plug
- Polycarbonate and Aluminum bowls with a selection of sight gauge materials that meet industry and application requirements
- Recommended oil type: Non-detergent type and without aggressive additives (VG32 - ISO3448)
- Threaded ports allow for individual or modular mounting

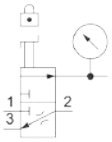
Performance Data				
Series		**651**	**652**	**653**
Port Sizes		1/8, 1/4	1/4, 3/8, 1/2	1/2, 3/4, 1
Thread Type		NPTF, G & Rc		
Nominal Flow - Per ISO 6358 P1 = 91.4 PSI (6.3 bar) ΔP = 11.6 PSI (0.8 bar)		SCFM (L/min ANR)		
	1/8	31.8 (900)	-	-
	1/4	68.5 (1940)	97.3 (2780)	-
	3/8	-	175.0 (5000)	-
	1/2	-	178.5 (5100)	328.4 (9300)
	3/4	-	-	459.1 (13000)
	1	-	-	459.1 (13000)
Maximum Pressure PSIG (bar)	Polycarbonate Bowl	145 (10)		
	Aluminum Bowl	145 (10)		232 (16)
Minimum Flow for Lubrication - SCFM (L/min)		0.16 (4.5)	0.71 (20)	8.83 (250)
Ambient Temperature Range °F (°C)		41 to 122 (5 to 50)		
Fluid Temperature Range °F (°C)		41 to 122 (5 to 50)		
Fluid		Air or Inert Gas		
Bowl Capacity - mL (fluid oz.)		45 (1.52)	90 (3.04)	200 (6.76)
Weight lbs. (kg)	Polycarbonate Bowl	0.53 (0.240)	1.16 (0.526)	2.05 (0.930)
	Aluminum Bowl	0.74 (0.334)	1.47 (0.667)	2.55 (1.157)

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM

READ MORE

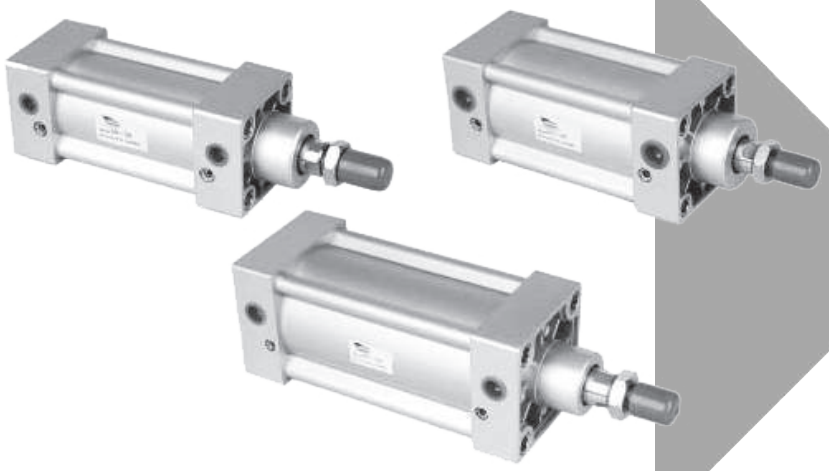
SHUT OFF ISOLATION VALVE

- Robust and easy-to-operate shut off valve, with lockout (front or back) on handle
- Provides shut off to downstream machinery
- Optional low profile gauge provides clear indication of the downstream pressure, and when the downstream components can be safely removed when pressure (P2) is at zero
- Available as 3/2 or 2/2 construction
- Threaded ports allow for individual or modular mounting



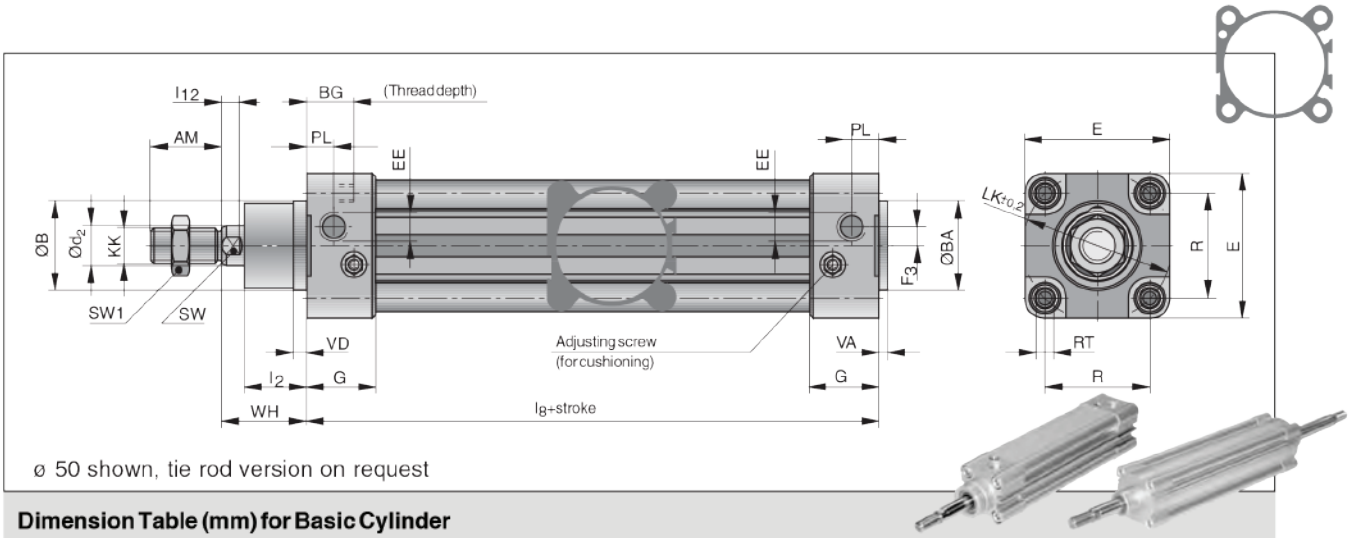
Performance Data							
Series		**651**		**652**		**653**	
Port Sizes		1/8, 1/4		1/4, 3/8, 1/2		1/2, 3/4, 1	
Thread Type		NPTF, G & Rc					
Nominal Flow - Per ISO 6358 P1 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)		SCFM (L/min ANR)					
		1 → 2	2 → 3	1 → 2	2 → 3	1 → 2	2 → 3
	1/8	50.8 (1440)	8.8 (250)	-	-	-	-
	1/4	166.7 (4720)	8.8 (250)	151.0 (4300)	8.1 (230)	-	-
	3/8	-	-	308.0 (8800)	8.1 (230)	-	-
	1/2	-	-	400.0 (11400)	8.1 (230)	458.0 (12970)	10.6 (300)
	3/4	-	-	-	-	1165.0 (33000)	10.6 (300)
	1	-	-	-	-	1833.0 (51900)	10.6 (300)
Maximum Inlet Pressure PSIG (bar)		232 (16)				290 (20)	
Ambient Temperature Range °F (°C)		14 to 122 (-10 to 50)					
Fluid Temperature Range °F (°C)		14 to 122 (-10 to 50)					
Fluid		Air or Inert Gas					
Weight lbs. (kg)		0.57 (0.260)		0.97 (0.438)		2.08 (0.943)	

Materials in Contact with Fluid	
Body	Aluminum
Ball	Chrome Plated Brass
Seat	PTFE
Seals	NBR/FKM



DNC

DNC AIR CYLINDER

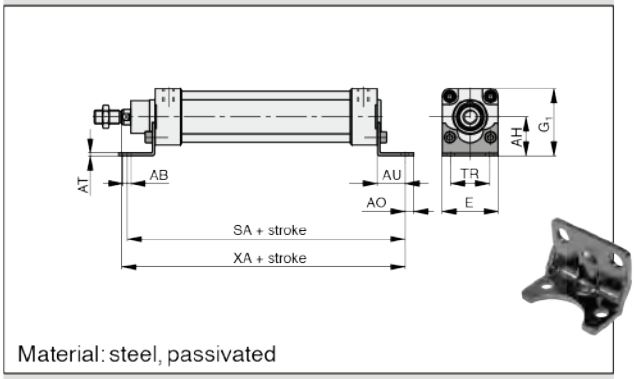


ø 50 shown, tie rod version on request

Dimension Table (mm) for Basic Cylinder

Cyl. ø	AM	øB d11	øBA d11	BG	ød$_2$	E	EE	F$_3$	G	KK	l$_2$	l$_8$ +stroke	l$_{12}$	øLK	PL	R	RT	SW	SW1	VA	VD	WH	F at 6 bar
32	22	30	30	16	12	47	G1/8	4	26	M10 x1,25	16	94	6	46	9,8	32,5	M6	10	17	4	7	26	434 N
40	24	35	35	16	16	53	G1/4	4	30	M12 x1,25	20	105	6,5	54	14,5	38	M6	13	19	5	9	30	678 N
50	32	40	40	16	20	65	G1/4	4	30	M16 x1,5	25	106	8	66	16	46,5	M8	17	24	5	11	37	1060 N
63	32	45	45	16	20	75	G3/8	7	32	M16 x1,5	25	121	8	80	16	56,5	M8	17	24	5	13	37	1683 N
80	40	45	45	16	25	95	G3/8	7	38	M20 x1,5	32	128	10	102	20,5	72	M10	22	30	6	15	46	2714 N
100	40	55	55	16	25	115	G1/2	7	40	M20 x1,5	35	138	10	126	19	89	M10	22	30	6	15	51	4241 N

Dimensions for Mounting A

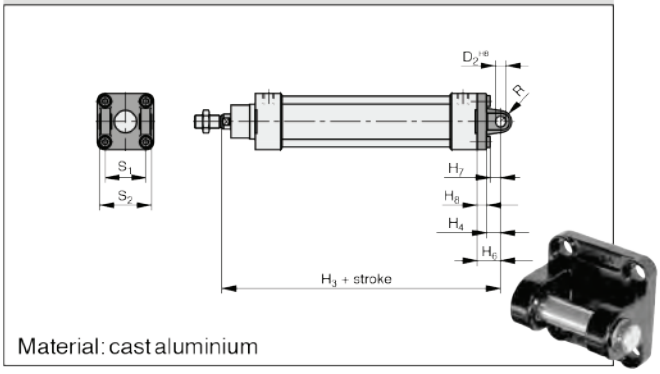


Material: steel, passivated

Dimension Table (mm) for Mounting A

Cyl.-Ø	AB	AH	AO	AT	AU	E	G1	TR	SA+ stroke	XA+ stroke
32	7	32	8	3	24	47	55,5	32	142	144
40	9	36	10	3	28	53	62,5	36	161	163
50	9	45	10	3	32	65	77,5	45	170	175
63	9	50	10	3	32	75	87,5	50	185	190
80	12	63	14	4	41	95	110,5	63	210	215
100	14	71	15	4	41	115	128,5	75	220	230

Dimensions for Mounting B

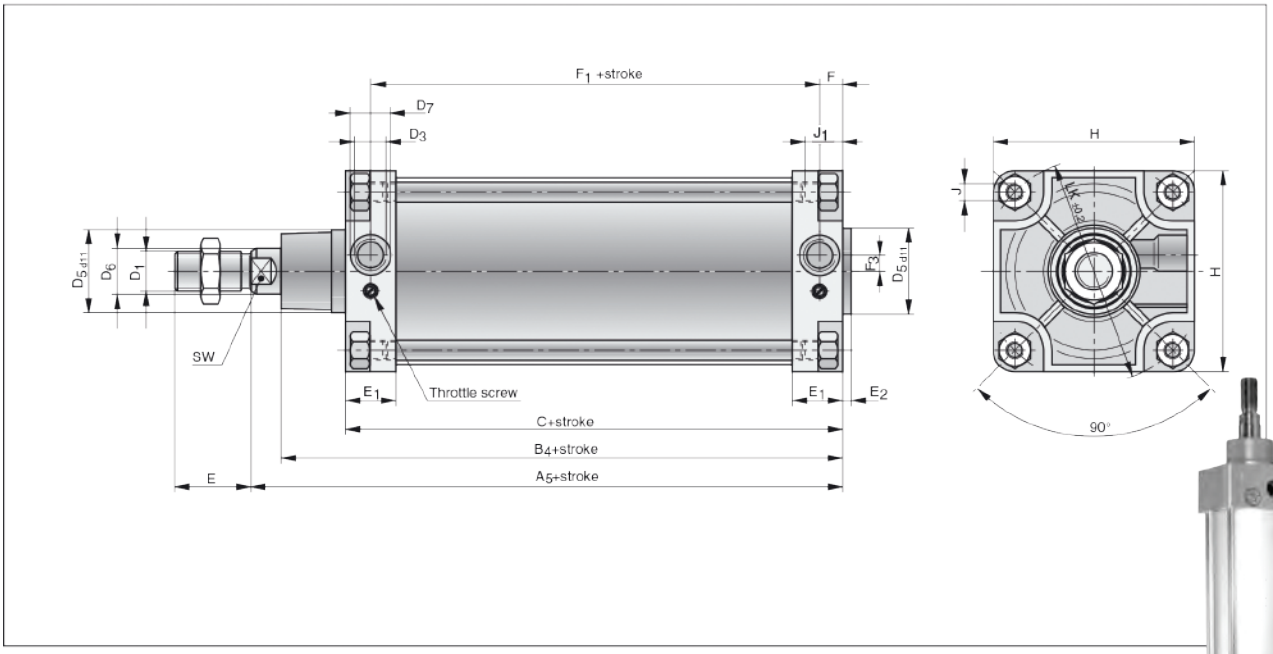


Material: cast aluminium

Dimension Table (mm) for Mounting B

Cyl.-Ø	ØD H8	H$_3$+ stroke	H$_4$	H$_6$	H$_7$	H$_8$	R	S$_1$	S$_2$
32	10	142	12	22	11	10	9	26	45
40	12	160	15	25	14	10	11	28	52
50	12	170	16	27	15	11	12	32	60
63	16	190	21	32	20	11	15	40	70
80	16	210	22	36	21	14	16	50	90
100	20	230	25	41	24	16	20	60	110

DNC AIR CYLINDER

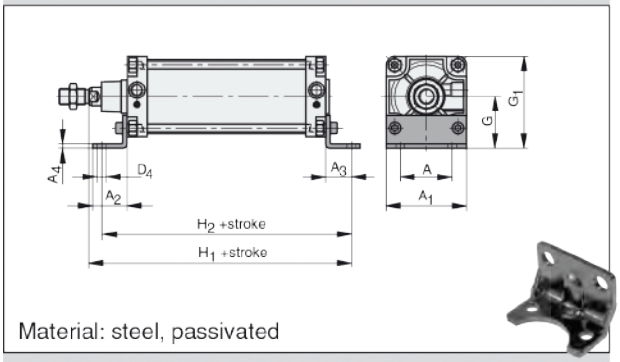


Dimension Table (mm) for Basic Cylinder

Cyl. Ø	A_5+ stroke	B_4+ stroke	C+ stroke	D_1	D_3	ØD_5	ØD_6	ØD_7	E	E_1	E_2	F	F_1+ stroke	F_3	J	J_1 max.	H	ØLK	SW	F at 6 bar
125	225	205	160	M27x2*	G1/2	60	32	28	54	35	6	19	122	11	M12	18	140	156	27	6.6 kN
160	260	230	180	M36x2	G3/4	65	40	33	72	45	6	25	130	11	M16	23	180	198	36	10.8 kN
200	275	240	180	M36x2	G3/4	75	40	33	72	45	6	25	130	11	M16	23	220	248	36	16.9 kN
250	305	270	200	M42x2	G 1	90	50	40	84	53	10	32	136	21	M20	27	280	311	48	26.5 kN
320	340	310	220	M48x2	G1	110	63	40	96	55	10	31	158	–	M24	28	340	382	55	43.4 kN

** Standard piston rod thread M27x2 - on request M24x2 to CETOP RP 53 P can also be deliverd.

Abmessungen Befestigungsart A

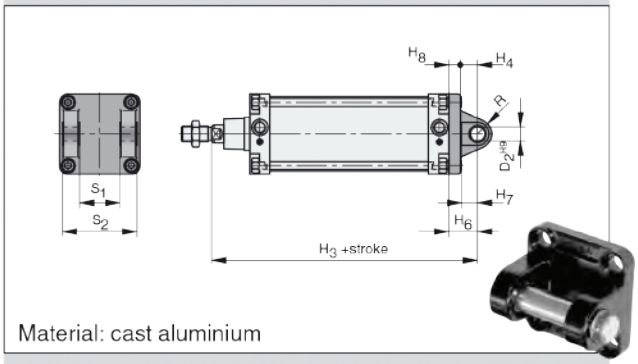


Material: steel, passivated

Dimension Table (mm) for Mounting A

Cyl. Ø	A	A_1	A_2	A_3	A_4	ØD_4	G	G_1	H_1+ stroke	H_2+ stroke
125	90	140	60	45	8	16	90	160	270	250
160	115	180	80	60	8	18	115	205	320	300
200	135	220	100	70	9	22	135	245	345	320
250	165	280	110	75	12	26	165	305	380	350
320	200	353	130	85	23	35	200	370	425	390

Abmessungen Befestigungsart B



Material: cast aluminium

Dimension Table (mm) for Mounting B

Cyl. Ø	D_2^{H9}	H_3+ stroke	H_4	H_6	H_7	H_8	R	S_1	S_2
125	25	275	30	50	29	20	25	70	130
160	30	315	35	55	34	20	30	90	170
200	30	335	35	60	35	25	31	90	170
250	40	375	45	70	44	25	41	110	200
320	45	420	50	80	50	30	46	120	220

Equipment Group II Category 2GD
Piston Rod Cylinders: ⟨Ex⟩ II 2GD c T4 T135°C

Note on ordering:
When ordering the ATEX version of a cylinder, please add "ATEX" to the type designation and order no.

Formula	F = p · A-R
Symbol	Description
A	Piston area
p	Pressure in bar
R	Friction ca. 10%

[1]) Air consumption when charging in dm3/100 mm stroke. The tube volume must also be taken into consideration. The given figures relate to piston area A.

The figures for piston area B change proportionally with the piston areas A to B.

A = Piston area - piston side
B = Piston area - piston rod side

Piston Force and Air Consumption

for Standard Cylinders

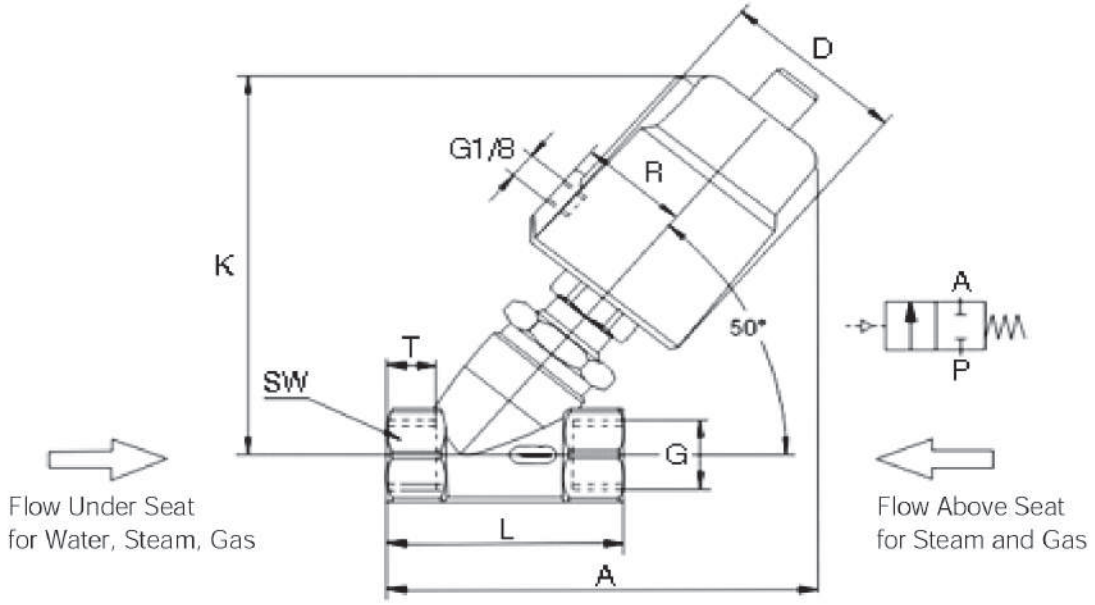
		Piston diameter (mm)																
		8	10	12	16	20	25	32	40	50	63	80	100	125	160	200	250	320
Piston area * (cm^2)	A	0.5	0.8	1.1	2.0	3.1	4.9	8.0	12.6	19.6	31.2	50.0	78.0	122.7	201.0	314.1	490.8	804
	B	0.38	0.65	0.85	1.7	2.6	4.1	6.9	10.6	16.5	28.0	45.4	73.6	114.7	188.5	301.5	471.2	773
Approx. piston force (kN) at ... bar	1	0.0045	0.007	0.010	0.018	0.028	0.044	0.072	0.113	0.176	0.281	0.452	0.706	1.104	1.809	2.827	4.417	7.236
	2	0.0090	0.014	0.020	0.036	0.056	0.088	0.144	0.226	0.353	0.561	0.905	1.413	2.209	3.619	5.654	8.835	14.476
	3	0.0135	0.021	0.030	0.054	0.084	0.132	0.217	0.339	0.530	0.842	1.357	2.120	3.313	5.428	8.482	13.253	21.715
	4	0.0180	0.028	0.040	0.072	0.113	0.176	0.289	0.452	0.707	1.122	1.809	2.827	4.417	7.238	11.309	17.671	28.953
	5	0.0225	0.035	0.050	0.090	0.141	0.220	0.362	0.565	0.884	1.402	2.262	3.534	5.522	9.407	14.137	22.089	36.191
	6	**0.0270**	**0.042**	**0.060**	**0.108**	**0.169**	**0.265**	**0.434**	**0.678**	**1.060**	**1.683**	**2.714**	**4.241**	**6.626**	**10.857**	**16.964**	**26.507**	**43.429**
	7	0.0315	0.049	0.070	0.126	0.197	0.309	0.506	0.792	1.237	1.963	3.167	4.948	7.731	12.666	19.792	30.952	50.652
	8	0.0360	0.056	0.080	0.144	0.226	0.353	0.579	0.905	1.414	2.244	3.619	5.654	8.835	14.476	22.619	35.342	57.788
	9	0.0405	0.063	0.090	0.162	0.254	0.397	0.651	1.018	1.590	2.524	4.071	6.361	9.940	16.286	25.447	39.760	65.124
	10	0.0450	0.070	0.100	0.180	0.282	0.441	0.723	1.131	1.767	2.805	4.523	7.068	11.044	18.095	28.274	44.178	72.360
Approx. air consumption (dm3/100 mm stroke at ... bar1) Figures are valid for piston area A (see symbol)	1	0.010	0.016	0.02	0.04	0.06	0.09	0.18	0.30	0.46	0.71	1.20	1.90	2.65	4.60	6.90	10.80	16.50
	2	0.015	0.024	0.03	0.06	0.09	0.14	0.27	0.43	0.69	1.00	1.85	2.85	4.10	6.90	10.40	16.30	24.50
	3	0.020	0.032	0.04	0.08	0.12	0.19	0.36	0.58	0.92	1.40	2.45	3.80	5.50	9.20	13.90	21.80	32.50
	4	0.025	0.040	0.05	0.10	0.15	0.24	0.45	0.72	1.15	1.75	3.00	4.75	6.95	11.50	17.40	27.20	40.50
	5	0.030	0.048	0.06	0.12	0.18	0.29	0.55	0.86	1.40	2.10	3.65	5.70	8.40	13.80	20.90	32.70	48.00
	6	**0.035**	**0.056**	**0.07**	**0.14**	**0.21**	**0.34**	**0.65**	**1.00**	**1.60**	**2.50**	**4.25**	**6.60**	**9.70**	**16.00**	**24.40**	**38.20**	**56.50**
	7	0.040	0.064	0.08	0.16	0.25	0.39	0.73	1.15	1.80	2.85	4.85	7.60	11.15	18.30	27.90	43.70	64.50
	8	0.045	0.072	0.09	0.18	0.28	0.41	0.82	1.30	2.00	3.20	5.45	8.50	12.55	20.60	31.50	49.20	72.50
	9	0.050	0.080	0.10	0.20	0.31	0.49	0.90	1.45	2.30	3.55	6.10	9.50	14.00	22.90	35.00	54.60	80.50
	10	0.055	0.088	0.11	0.22	0.34	0.53	1.00	1.60	2.50	3.90	6.40	10.40	15.40	25.20	38.50	60.10	89.00

READ MORE

FLOTON

251
2/2-WAY ANGLE-SEAT VALVE, SST

Operated Way	Direct Operated
Control Way	Normally Closed, Pilot 3-8 bar
Port Size	G 3/8 to G 2 (standard)
Orifice	DN 13 to 50
Pressure	see table
Medium	Neutral Gas and Liquid
Viscosity	max. 600 mm2/s
Medium Temp.	-10 to +180 °C
Ambient Temp.	-10 to +60 °C
Body	Stainless Steel
Seal	PTFE
Installation	As required, preferably head upright
Speciality	Free of maintenance, Easy installation Ultralong life span and Quick response



Under Seat P/N	Above Seat P/N	DN mm	Under PN bar	Above PN bar	Kv m3/h	G Port	A	D	K	L	SW	R	T
2215010-40U	2215010-40A	13	0-10	0-16	4.7	G 3/8	120	46	115	68	27	35	15
2215010-50U	2215010-50A		0-10	0-16			133	60	126	68	27	35	15
2215015-40U	2215015-40A	13	0-10	0-16	4.7	G 1/2	120	46	115	68	27	35	15
2215015-50U	2215015-50A		0-10	0-16			133	60	126	68	27	35	15
2215020-50U	2215020-50A	20	0 - 8	0-16	9.5	G 3/4	137	60	131	75	32	35	16
2215025-50U	2215025-50A	25	0 - 5	0-16	18.1	G 1	149	60	140	90	40	35	17
2215025-63U	2215025-63A		0 - 8	0-16			174	77	165	90	40	43	17
2215032-63U	2215032-63A	32	0 - 6	0-16	23.1	G 1.1/4	188	77	175	116	50	43	21
2215032-80U	2215032-80A		0 - 8	0-16			203	98	185	116	50	43	21
2215040-63U	2215040-63A	40	0 - 4	0-16	32.9	G 1.1/2	190	77	178	120	55	43	20
2215040-80U	2215040-80A		0 - 8	0-16			204	98	187	120	55	43	20
2215050-63U	2215050-63A	50	0 - 2	0-16	52.8	G 2	203	77	184	138	70	43	22
2215050-80U	2215050-80A		0 - 4	0-16			218	98	195	138	70	43	22

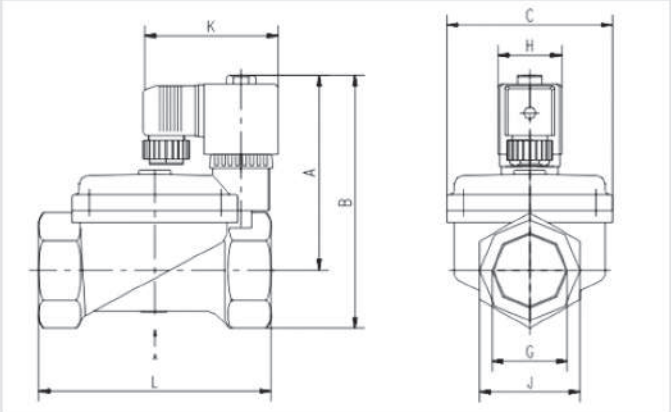
281
2/2-WAY SOLENOID VALVE, SERVO DIAPHRAGM

READ MORE

OPERATED WAY : PILOT-OPERATED
CONTROL WAY : NC(STANDARD),NO
PIPE SIZE : G1/4～G2(STANDARD)
DN : DN10～50mm
PN : THE HIGHEST PN : 1.6MPA
MEDIUM : neutral gas and liquid
VISCOSITY : ≤21mm2/s
MEDIUM TEMPERATURE : -10～+80℃(+130℃,)
CIRCUMSTANCE TEMPERATURE : -10～+50℃
MATERIAL : BRASS
SEALING MATERIAL : NBR(STANDARD)、FPM、EPDM
STANDARD VOLTAGE : AC:220V(50/60Hz) DC:24V
CHANGEABLE OF THE VOLTAGE : ±10%
WORKING PERIOD : COIL CAN WORK CONTINUOUSLY
CONNECTING : JUNCTION BOX(PLUG)、IP65
INSTALLATION : HEAD IS UP STRAIGHT

Standard:

Item no.	DN (mm)	PIPE SIZE (G)	PN (MPa)	Kv (m3/h)	circumstance temperature (℃)	medium temperature (℃)
2231008B 2231008BT	10	1/4	0.02～1.0	1.4	-10～+50	-10～+80
2231010B 2231010BT	10	3/8	0.02～1.0	1.4		
2231015B 2231015BT	10	1/2	0.02～1.0	1.4		
2231015-14B	14	1/2	0.02～1.0	2.52		
2231020B	14	3/4	0.02～1.0	2.52		
2231020-20B	20	3/4	0.02～1.6	5.0		
2231025B	20	1	0.02～1.6	5.0		
2231032B	40	11/4	0.05～1.6	18		
2231040B	40	11/2	0.05～1.6	18		
2231050B	50	2	0.05～1.6	28		



SIZE(mm)

item no	G	L	K	A		B		C	H	J
				NC	NO	NC	NO			
2231008B、2231008BT	G1/4	50	76	71	***	85	***	38	36	26
2231010B、2231010BT	G3/8	50	76	71	***	85	***	38	36	26
2231015B、2231015BT	G1/2	50	76	71	***	85	***	38	36	26
2231015-14B	G1/2	66	76	71	97	91	111	44	36	26
2231020B	G3/4	60	76	80	***	96	***	44	36	31
2231020-20B	G3/4	83	76	97	111	117	131	65	36	41
2231025B	G1	83	76	97	111	117	131	65	36	41
2231032B	G1 1/4	133	76	108	122	140	154	96	36	56
2231040B	G1 1/2	133	76	108	122	140	154	96	36	56
2231050B	G2	160	76	124	138	167	178	113	36	76

XO SERIES
FR.L COMBINATION

READ MORE

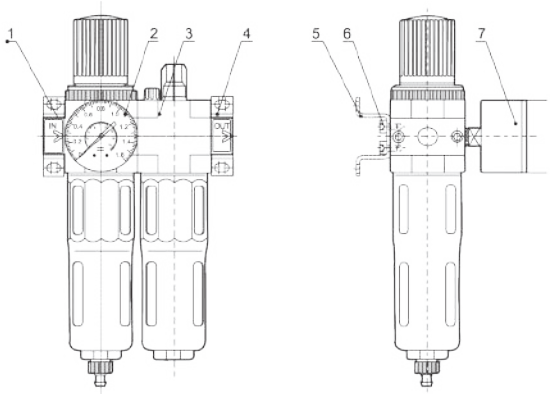
The XOU consisted of XOFR and XOL,each unit can be ordered separately.

The XOF with water separator cleans the compressed air of fluid oil,condensation and dirt. Particles.For special application,the standard 40μm filter element may easily be replaced by a 5μm filter element.

The XOR maintain imputting constant operating pressure despite fluctuation in line pressure and the amount of air consumed.The proportional lubricator adds a regulated quantity of oil to the filtered air.The oil-mist content proportional to the flow and oil can be added during operation. The oil drip rate is controiled by the adjustable bolt.Normally,1to 12 drops/1000L of the air is Suffcient

XO	U	1/4	□	□	MINI
Series XO Series	**Function code** FR.L Combination	**Port Size** G1/8" G1/2" G1/4" G3/4" G3/8" G1"	**Grade of filtration** Blank:40 μ m 5M:5 μ m	**Manometer** Blank:12bar 7:7bar	**Size** MINI MIDI MAXI

Service units		MINI			MIDI			MAXI	
Manual Drain	Working pressure:12bar,40μm	XOU-1/8-MINI	XOU-1/4-MINI	XOU-3/8-MINI	XOU-3/8-MIDI	XOU-1/2-MIDI	XOU-3/4-MIDI	XOU-3/4-MAXI	XOU-1-MAXI
	Working pressure:7bar,40μm	XOU-1/8-7-MINI	XOU-1/4-D-7-MINI	XOU-3/8-7-MINI	XOU-3/8-7-MIDI	XOU-1/2-7-MIDI	XOU-3/4-7-MIDI	XOU-3/4-7-MAXI	XOU-1-7-MAXI
	Working pressure:12bar,5μm	XOU-1/8-5M-MINI	XOU-1/4-5M-MINI	XOU-3/8-5M-MINI	XOU-3/8-5M-MIDI	XOU-1/2-5M-MIDI	XOU-3/4-5M-MIDI	XOU-3/4-5M-MAXI	XOU-1-5M-MAXI
Manometer	0~12bar	OMA-40-16-1/8			OMA-50-16-1/4				
	0~7bar	OMA-40-10-1/8			OMA-50-10-1/4				
Medium		Compressed air							
Features of structure		Sintered filter with water sparator;MINI/MIDI:MAXI:Piston regulator;Diaphragm type regulator;Direct constant-density lubricator							
Mounting type		Pipe mounting or foot mounting							
Assembly position		Vertical ±5°							
Connection		G1/8"	G1/4"	G3/8"	G3/8"	G1/2"	G3/4"	G3/4"	G1"
Standard nominal flow rate	XOU-...(-A)	700	1000	1200	2000	2600	2600	7000	8000
	XOU-...-7-(-A)	800	1300	1500	2500	2800	2800	8500	8700
	XOU-...-5M-(-A)	600	850	1050	1700	1800	2100	6500	7200
Primary pressure	Manualcondensate drain	1~16bar							
	Automatic condensate drain	1.5~12bar							
Working pressure		0.5~12bar/0.5~7bar							
Min.Standard nominal flow rate		3 L/min			6 L/min			10 L/min	
Grade of filtration		40μm/5μm							
Capacity of condensate fluid		22ml							
Timperature range		0~60℃							
Materials information		Housing:Zinc die-casting;Filter bowl and oil bowl:PC;Meta bowl guard:Aluminium alloy;Sealing:NBR;Adjusting knob:POM							



NO	Item	Material
1	Flange-IN	Zinc alloy
2	Filter + Regulator	
3	Lubricator	
4	Flange - OUT	Zinc alloy
5	Bracket	SPCC
6	Allen screw	S35C
7	Pressure guage	

XO SERIES
AIR FILTER

READ MORE

The OF with water separator cleans the compressed air of fluid oil,condensation and dirt particles,for special application,the standard 40μm filter element may easily be replaced by a 5μm filte relement.

XO — **F** — **1/4** — **□** — **MINI**

Series
XO Series

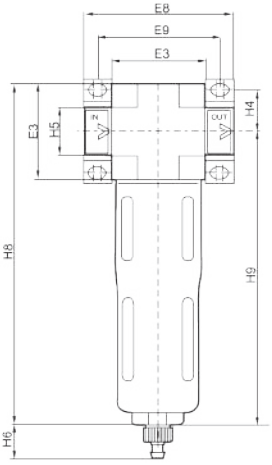
Function code
Filter

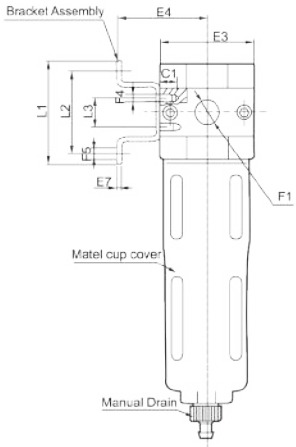
Port Size
G1/8"
G1/4"
G3/8"
G1/2"
G3/4"
G1"

Grade of filtration
Blank:40μm
5M:5μm

Size
MINI
MIDI
MAXI

Filters		MINI			MIDI			MAXI	
40μm	Manual Drain	XOF-1/8-MINI	XOF-1/4-MINI	XOF-3/8-MINI	XOF-3/8-MIDI	XOF-1/2-MIDI	XOF-3/4-MIDI	XOF-3/4-MAXI	XOF-1-MAXI
5μm		XOF-1/8-5M-MINI	XOF-1/4-5M-MINI	XOF-3/8-5M-MINI	XOF-3/8-5M-MIDI	XOF-1/2-5M-MIDI	XOF-3/4-5M-MIDI	XOF-3/4-5M-MAXI	XOF-1-5M-MAXI
Medium		Compressed air							
Features of structure		Sintered filter with water spartor							
Mounting type		Pipe mounting or foot mounting							
Assembly position		Vertical ±5°							
Connection		G1/8"	G1/4"	G3/8"	G3/8"	G1/2"	G3/4"	G3/4"	G1"
Standard nominal flow rate	OF-...	1000	1200	1400	2700	3000	3000	5000	5300
	OF-...-5M	600	950	1100	1800	1900	1900	3200	3300
Primary pressure	Manual drain	1~16bar							
Grade of filtration		40μm/5μm							
Max.condensate capacity		22ml							
Timperature range		0~60℃							
Materials information		Housing:Zinc die-casting;Filter bowl :PC;Metal bowl guard:Aluminium alloy;Sealing:NBR							





Graphic Symbol

Model	E3	E4	E7	E8	E9	F1	F4	F5Φ	L1	L2	L3	H4	H5	H6	H8	H9
XOF-...-MINI	40	39	2	64	52	G1/8",G1/4",G3/8"	M4	4.5	44	35	11	17.5	20	15	144	129
XOF-...-MIDI	55	47	3	85	70	G1/8",G1/2",G3/4"	M5	5.5	71	60	22	24.5	32	15	179	156
XOF-...-MAXI	66	53	3	96,116	80,91	G3/4",G1"	M5	5.5	71	60	22	24.5	32,40	15	203	175

XO SERIES
REGULATOR

READ MORE

The XOR maintain imputting constant operating pressure despite fluctuation in line pressure and the amount of air consumed.

XO — **R** — **1/4** — □ — **MINI**

Series
XO Series

Function code
Regulator

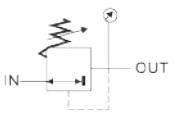
Port Size
G1/8"
G1/4"
G3/8"
G1/2"
G3/4"
G1"

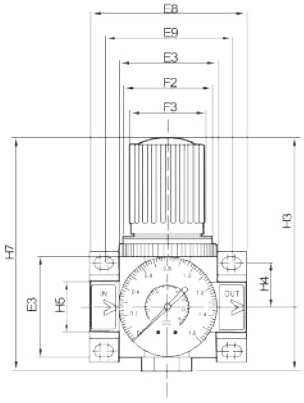
Manometer
Blank:12bar
7:7bar

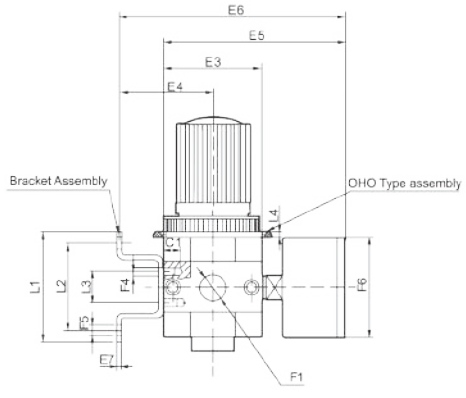
Size
MINI
MIDI
MAXI

Regulators		MINI			MIDI			MAXI	
Working pressure 12bar		XOR-1/8-MINI	XOR-1/4-MINI	XOR-3/8-MINI	XOR-3/8-MIDI	XOR-1/2-MIDI	XOR-3/4-MIDI	XOR-3/4-MAXI	XOR-1-MAXI
Working pressure 7bar		XOR-1/8-7-MINI	XOR-1/4-7-MINI	XOR-3/8-7-MINI	XOR-3/8-7-MIDI	OXR-1/2-7-MIDI	XOR-3/4-7-MIDI	XOR-3/4-7-MAXI	XOR-1-7-MAXI
Manometer	0~12bar	OMA-40-16-1/8			OMA-50-16-1/4				
	0~7bar	OMA-40-10-1/8			OMA-50-10-1/4				
Medium		Filttered,compressed air(lubricated or unlubricated)							
Features of structure		MINI/MIDI:Diaphragm type regulator;MAXI: Piston regulator							
Mounting type		Pipe/foot/Plate mounting							
Assembly position		Any							
Connection		G1/8"	G1/4"	G3/8"	G3/8"	G1/2"	G3/4"	G3/4"	G1"
Standard nominal flow rate	XOR-...	800	1500	1700	3200	3500	3500	11000	11500
	XOR-...-7-	1000	1600	1800	3300	4000	4500	12000	12500
Primary pressure		1~16bar							
Working pressure		0.5~12bar/0.5~7bar							
Timperature range		0~60℃							
Materials information		Housing:Zinc die-casting; Sealing:NBR; Adjusting knob:POM							

Graphic Symbol







Model	E3	E4	E5	E6	E8	E9	F1	F2	F3Φ	F4	F5Φ	F6Φ	L1	L2	L3	L4	H3	H4	H7
XOR-...-MINI	40	39	76	95	64	52	G1/8",G1/4",G3/8"	M36×1.5	31	M4	4.5	40	44	35	11	Max.3	69	17.5	96
XOR-...-MIDI	55	47	93	112	85	70	G1/8",G1/2",G3/4"	M52×1.5	50	M5	5.5	52	71	60	22	Max.5	98	24.5	96
XOR-...-MAXI	66	53	104	124	96,116	80,91	G3/4",G1"	M36×1.5	31	M5	5.5	63	71	60	22	Max.4	80	24.5	96

XO SERIES
LUBRICATOR

READ MORE

The direct constant-density lubricator add regulatd quantity oil to the compressed air.A valve maintains oil mist content proportional to the compressed oil flow.

The pressure drop that occurs when the air flow through a sight feed oil cup delives oil fnom the bowl to the sight oil indicator.The drop of the oil flows into the air channel when it is atomized.

The oil drip rate is controlled by means of the regulating screw.Normally,1 to 12 drops/1000L of the air is sufficient.

XO — **L** — **1/4** — **MINI**

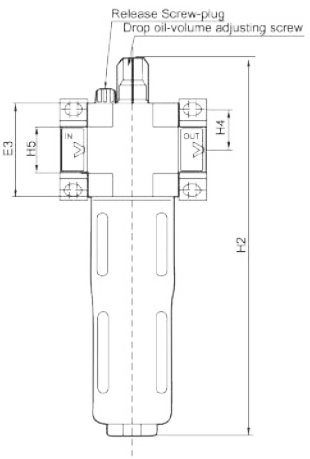
Series
XO Series

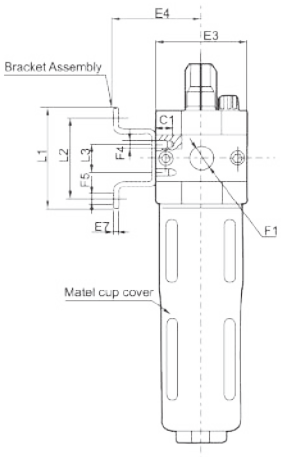
Function code
Lubricator

Port Size
G1/8" G1/2"
G1/4" G3/4"
G3/8" G1"

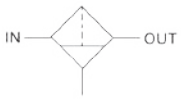
Size
MINI
MIDI
MAXI

Lubricators	MINI			MIDI			MAXI	
	XOL-1/8-MINI	XOL-1/4-MINI	XOL-3/8-MINI	XOL-3/8-MIDI	XOL-1/2-MIDI	XOL-3/4-MIDI	XOL-3/4-MAXI	XOL-1-MAXI
Medium	Compressed air							
Features of structure	Sintered filter with water spartor The direct Constant-density Lubricator							
Mounting type	Pipe mounting or foot mounting							
Assembly position	Vertical ±5°							
Connection	G1/8"	G1/4"	G3/8"	G3/8"	G1/2"	G3/4"	G3/4"	G1"
Standard nominal flow rate	1300	2300	2700	5500	6100	6300	8400	9000
Max.Working pressure	16bar							
Min.Standard nominal flow rate	3 L/min			6 L/min			10 L/min	
Max.condensate capacity	22ml							
Timperature range	0~60℃							
Materials information	Housing:Zinc die-casting;Oil bowl and Drip cap :PC;Metal bowl guard:Aluminium alloy;Sealing:NBR							
Recommended oil	ISO VG 32 or the same grade							





Graphic Symbol



Model	E3	E4	E7	F1	F4	F5Φ	L1	L2	L3	H4	H5
XOL-...-MINI	40	39	2	G1/8",G1/4",G3/8"	M4	4.5	44	35	11	17.5	20
XOL-...-MIDI	55	47	3	G1/8",G1/2",G3/4"	M5	5.5	71	60	22	24.5	32
XOL-...-MAXI	66	53	3	G3/4",G1"	M5	5.5	71	60	22	24.5	32,40

ACCESSORIES
PUSH-IN FITTINGS, PUSH-ON FITTINGS, SILENCERS


PC


POC


PCF


PU


PGJ


PIJ


PTJ


PM


PL


PLB


PLE


PV


PLL


PH


PHW


PMF


PB


PBB


PBE


PE


PD


PX


PY


PP


PSU


PSC-A (cyl)


PSC-As (cyl)


PSC-Bs (vlv)

Materials
-% Resin body & plastic ring
-i Nickel-plated & plastic ring
-m Nickel-plated body & ring


TC


TC-t


TC-s


TCF


TU


TM


TZ


TN


TL-t


TL-s


TLB


TLE


TLF


TV


TSC-As (cyl)


TSC-Bs (vlv)


TD


TB


TBB


TBE


TE

Options
-A Meter-out control, cylinder
-B Meter-in control, for valves
-s Slotted or Swivel or Special
-t Taper threaded


SCT


SCQ


SE


SEJ


SS


SEC


SEP


SP


SVE, SVE-s


SVL


SVL-s


SPL


SCO

Port Size	
01 1/8	06 3/4
02 1/4	10 1"
03 3/8	12 1.1/4"
04 1/2	14 1.1/2"
	20 2"

ACCESSORIES
STANDARD FITTINGS, VALVES, TUBES, SPECIAL UNITS


BI


BI-t


BC


BC


BC


BC-s


BU


BV


BL


BVM


BE


BB


BD


BDM


BEF


BEM


BZ


BZ1


BZM


BMFF


BPM


BPO


BPH


BPF


BN, BN-L


BN2


BNS-A (cyl)


BNS-As (cyl)


BSC-As (cyl)


BLE


BNW


BGJ


BRV-i


VU check v.


VU-europa


VS-mf


VS-ff


VM-i


Q.Exh. VSR-m


Q.Exh. VSR-i


center back


bottom port


SEU / VUS


07 regulator


pilot check v.


manifold


Y-strainer VY


VSR-diap.


PU, PA, PE


coiling tube


tube binder


tube cutter


tube insert


disconnect key


Cleanroom


anti-Static


anti-Spatter


PPS resin


PP resin


PP 304


CC


CL


push-in 304


push-in 316


push-on 316

Ordering Example

PC 8-02 m	SCT 02
PSC 8-02 A	BI 01-02
TC 8/6-02 s	BC (m)-(f)
TE 8/6	BRV 02 i

VACUUM SYSTEMS

Stand alone type Ejector

VH VS VU VUM VB VM VC | VY

อย่างง่าย แบบตัวเดี่ยวๆ
สร้างแรง Vacuum จากลมอัด

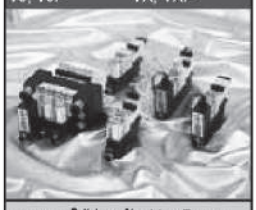
Combination type Ejector

VG VK

มาพร้อม Filter, Suction Sol.,
Blow-off Sol., Vacuum Switch

Comb.Ejector+Vac.Pump System

VJ, VJP VX, VXP



สามารถใช้ร่วมกับ Vac.Pump
ในกรณีที่ suction เป็นเวลานาน

Ejc.+V.Pump on Sub-D Manifolds

VQ, VQP VZ, VZP

ขนาดกระทัดรัด พร้อม Sub-D
Connector สำหรับต่อสายไฟ

Vac.Gen. for Particle Transport

VRL

สำหรับล่าเลียง แป้ง ผง ฝุ่น
ตั้งแต่ขนาดเล็กๆ จนถึง 7 mm

Standard Type

VP_R VP_A

ผิวราบเรียบ ผิวโค้งเรียบ
แผ่นหนา ผลไม้ ลูกบอล

Sponge Type

VP_S

ผิวขรุขระ ผนังด้านนอก
หิน กรวด เปลือกหอย

Bellow Type

VP_B

บรรจุภัณฑ์อาหาร
ผิวยับ ห่อฟิล์มพลาสติก

Oval Type

VP_E

เซอร์กิดบอร์ด แผงวงจร
จับขอบสองข้างของชิ้นงาน

Soft Type

VP_L

แผ่นพลาสติกฉีด
ชิ้นส่วนของเล่น เปราะบาง

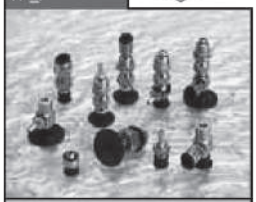
Skid-proof

VP_KNH

ชิ้นงานเปื้อนคราบน้ำมัน
แผ่นโลหะปั๊มขึ้นรูป ลื่น

Thin Type

VP_P



แผ่นกระดาษ แผ่นฟิล์ม
ของพลาสติก

Long Stroke

VP_xx

ชิ้นงานพื้นผิวต่างระดับ

Free Holder

FH

Free Holder ทำให้ Pad
สามารถแกว่ง ให้ตัวได้ 30°

Air Pincette

VTA VTB

Vac. Pad + Vac. Generator
ในรูปแบบของปากกา

Polyurethane

UB (cleanroom)

-1 ~ 8 bar
-15 ~ 60 °C
Air, Water

Nylon, Vacuum

NA NB

-1 ~ 15 bar	-1 ~ 10 bar
-15 ~ 60 °C	
Air, Water	

Coiling Twin-coiling

NL UL, ULF

-1 ~ 15 bar	-1 ~ 8 bar
-15 ~ 60 °C	
Air	

Multi-core

UQ

-1 ~ 8 bar
-15 ~ 60 °C
Air

Plarailchains

HPU

Cable Conveyers

Fluororesin (PFA)

SFT (cleanroom)

-1 ~ 10 bar
-65 ~ 260 °C
Corrosive fluids

Polyamide

SNT

-1 ~ 15 bar
-15 ~ 60 °C
Drinking water, Air

Hot-water Resistant

WA WB

-1 ~ 7 bar	
0 ~ 90 °C	0 ~ 99 °C
Thermal oil	Water, Air

Spatter

FB

-1 ~ 7 bar
0 ~ 90 °C
Thermal oil, Water,Air

Anti-static

UE

-1 ~ 6 bar
-15 ~ 40 °C
Air

บริษัท เอ.พี.เอส. คอนโทรล จำกัด
เลขที่ 7 ซ.อ่อนนุช 62 ถ.สุขุมวิท 77
แขวงอ่อนนุช เขตสวนหลวง กรุงเทพฯ 10250
โทร. 02-721-1800 (Auto) แฟกซ์ 02-721-1791

GOYEN

VALBIA

ASCO®

numatics

FLOTON

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