

Port size: Rp1/8 ... 3,
G1/8 ... 1

**Ideally suited for most
general purpose
applications**

**Easy installation,
simple operation and
maintenance free**

**Full bore passage
giving minimum flow
resistance**

**3-way ball valves with
actuator interface
conforming to ISO 5211
for rotary actuators**

**Wide pressure and
temperature range**



Technical features

Medium:

Compressed air, water, inert gases
and any other fluid compatible with
the valve materials

Port size:

Mini G1/8 ... 1/2
Standard Rp1/8 ... 3
3-way Rp1/4 ... 3/4
Exhausting Rp1/4 ... 1 1/2
Lockable G1/4 ... 1
Heavy duty Rp1/4 ... 1

Operating pressure:

See individual details

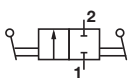
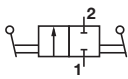
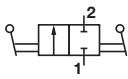
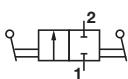
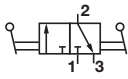
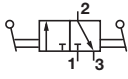
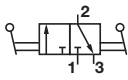
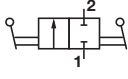
Ambient/Media temperature:

-20 ... +200°C (-4 ... +392°F)
see table on page 2
Air supply must be dry enough to
avoid ice formation at temperatures
below +2°C (+35°F).

Materials:

Body, seats and seals:
see table on page 2
Handle with PVC grip:
zinc plated steel
(plastic handle on mini ball range)

Technical data

Symbol	Port size	Series #	Type	Material Body/Body finish	Seats/seals	Operating pressure (bar)	Temperature (°C)	Thread standard	Drawing No.	Model
	G1/8	6011	Mini	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 10	-10 ... +90	ISO 228/1	1	601112118
	G1/4	6011	Mini	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 10	-10 ... +90	ISO 228/1	1	601112128
	G3/8	6011	Mini	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 10	-10 ... +90	ISO 228/1	1	601112138
	G1/2	6011	Mini	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 10	-10 ... +90	ISO 228/1	1	601112148
	G1/8	6011	Mini *1)	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 10	-10 ... +90	ISO 228/1	2	601112218
	G1/4	6011	Mini *1)	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 10	-10 ... +90	ISO 228/1	2	601112228
	G3/8	6011	Mini *1)	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 10	-10 ... +90	ISO 228/1	2	601112238
	G1/2	6011	Mini *1)	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 10	-10 ... +90	ISO 228/1	2	601112248
	Rp1/4	6021	Standard	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	3	602112128
	Rp3/8	6021	Standard	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 40	-20 ... +60	ISO 7/1	3	602112138
	Rp1/2	6021	Standard	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	3	602112148
	Rp3/4	6021	Standard	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	3	602112168
	Rp1	6021	Standard	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	3	602112188
	Rp1 1/4	6021	Standard	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	3	6021121A8
	Rp1 1/2	6021	Standard	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	3	6021121B8
	Rp2	6021	Standard	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	3	6021121C8
	Rp2 1/2	6021	Standard	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	3	6021121D8
	Rp1/4 (R)	6021	Standard *1)	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	4	602112228
	Rp3/8 (R)	6021	Standard *1)	Brass/Nickel plated	PTFE (virgin)/NBR	-0,4 ... 40	-20 ... +60	ISO 7/1	4	602112238
	Rp1/2 (R)	6021	Standard *1)	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	4	602112248
	Rp3/4 (R)	6021	Standard *1)	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	4	602112268
	Rp1 (R)	6021	Standard *1)	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	4	602112288
	Rp1 1/4 (R)	6021	Standard *1)	Brass/Nickel plated	PTFE (virgin)/ EPDM + HNBR	-0,4 ... 40	-15 ... +90	ISO 7/1	4	6021122A8
	Rp1/4	6021	Three way	Brass/Nickel plated	PTFE/PTFE FKM	0 ... 25	-15 ... +120	ISO 7/1	5	602114428
	Rp3/8	6021	Three way	Brass/Nickel plated	PTFE/PTFE FKM	0 ... 25	-15 ... +120	ISO 7/1	5	602114438
	Rp1/2	6021	Three way	Brass/Nickel plated	PTFE/PTFE FKM	0 ... 25	-15 ... +120	ISO 7/1	5	602114448
	Rp3/4	6021	Three way	Brass/Nickel plated	PTFE/PTFE FKM	0 ... 16	-15 ... +120	ISO 7/1	5	602114468
	Rp1/4	6021	Exhausting	Brass/Nickel plated	PTFE (virgin)/PTFE	0,5 ... 12	0 ... +60	ISO 7/1	6	602113128EX
	Rp3/8	6021	Exhausting	Brass/Nickel plated	PTFE (virgin)/PTFE	0,5 ... 12	0 ... +60	ISO 7/1	6	602113138EX
	Rp1/2	6021	Exhausting	Brass/Nickel plated	PTFE (virgin)/PTFE	0,5 ... 12	0 ... +60	ISO 7/1	6	602113148EX
	Rp3/4	6021	Exhausting	Brass/Nickel plated	PTFE (virgin)/PTFE	0,5 ... 12	0 ... +60	ISO 7/1	6	602113168EX
	Rp1	6021	Exhausting	Brass/Nickel plated	PTFE (virgin)/PTFE	0,5 ... 12	0 ... +60	ISO 7/1	6	602113188EX
	Rp1 1/4	6021	Exhausting	Brass/Nickel plated	PTFE (virgin)/PTFE	0,5 ... 12	0 ... +60	ISO 7/1	6	6021131A8EX
	Rp1 1/2	6021	Exhausting	Brass/Nickel plated	PTFE (virgin)/PTFE	0,5 ... 12	0 ... +60	ISO 7/1	6	6021131B8EX
	G1/4	6018	Lockable exhausting	Brass/Nickel plated	PTFE glass filled/PTFE carbon filled	0 ... 14	-10 ... +100	ISO 228/1	7	601812128
	G3/8	6018	Lockable exhausting	Brass/Nickel plated	PTFE glass filled/PTFE carbon filled	0 ... 14	-10 ... +100	ISO 228/1	7	601812138
	G1/2	6018	Lockable exhausting	Brass/Nickel plated	PTFE glass filled/PTFE carbon filled	0 ... 14	-10 ... +100	ISO 228/1	7	601812148
	G3/4	6018	Lockable exhausting	Brass/Nickel plated	PTFE glass filled/PTFE carbon filled	0 ... 14	-10 ... +100	ISO 228/1	7	601812168
	G1	6018	Lockable exhausting	Brass/Nickel plated	PTFE glass filled/PTFE carbon filled	0 ... 14	-10 ... +100	ISO 228/1	7	601812188
	Rp1/4	6051	Heavy Duty	Carbon steel/Zinc plated	PTFE + Carbographite	0 ... 160	-20 ... +200	ISO 7/1	8	605112128
	Rp3/8	6051	Heavy Duty	Carbon steel/Zinc plated	PTFE + Carbographite	0 ... 160	-20 ... +200	ISO 7/1	8	605112138
	Rp1/2	6051	Heavy Duty	Carbon steel/Zinc plated	PTFE + Carbographite	0 ... 160	-20 ... +200	ISO 7/1	8	605112148
	Rp3/4	6051	Heavy Duty	Carbon steel/Zinc plated	PTFE + Carbographite	0 ... 160	-20 ... +200	ISO 7/1	8	605112168
	Rp1	6051	Heavy Duty	Carbon steel/Zinc plated	PTFE + Carbographite	0 ... 160	-20 ... +200	ISO 7/1	8	605112188

Typical applications

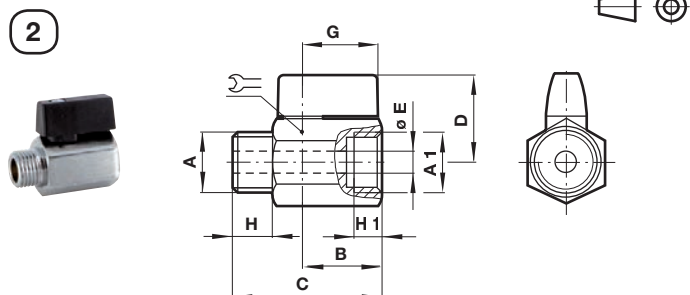
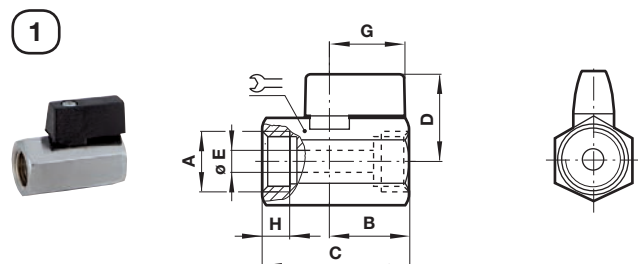
6011: Light duty in-line brass ball valves suitable for a wide variety of low pressure industrial uses.

6018: Medium duty in-line brass exhausting ball valves. Venting action & lockout design adds safety feature to valve.

6021: Medium duty in-line brass ball valves for most applications. Available as a standard valve, a three way diverting valve or with a downstream exhaust option.

6051: Heavy duty ball valve, two piece construction

*1) Male/female thread

Drawings
6011 series, mini ball


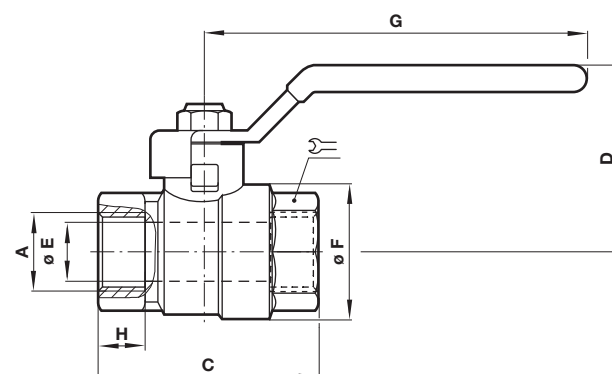
Dimensions in mm
Projection/First angle


Reduced bore, female/female

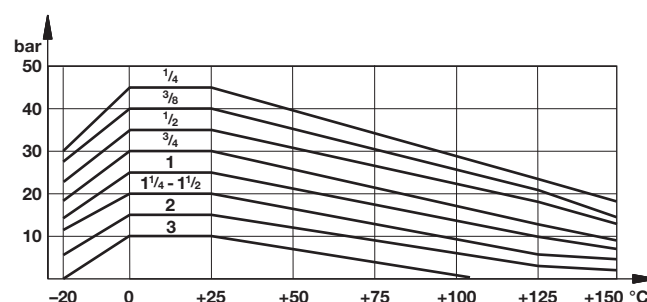
A	B	C	D	ø E	G	H		Weight (kg)	Model
G1/8	18	36	22	5,5	19	9	19	0,08	601112118
G1/4	18	36	22	5,5	19	9	19	0,07	601112128
G3/8	21	41	24	8	19	9	21	0,09	601112138
G1/2	25	48	30	10	22	10	25	0,14	601112148

Reduced bore, male/female

A	A1	B	C	D	ø E	G	H	H1		Weight (kg)	Model
G1/8	G1/8	20	37	22	5,5	19	9	9	19	0,6	601112218
G1/4	G1/4	20	37	22	5,5	19	9	9	19	0,6	601112228
G3/8	G3/8	21	41	24	8	19	9	9	21	0,8	601112238
G1/2	G1/2	25	48	30	10	22	11	11	25	0,13	601112248

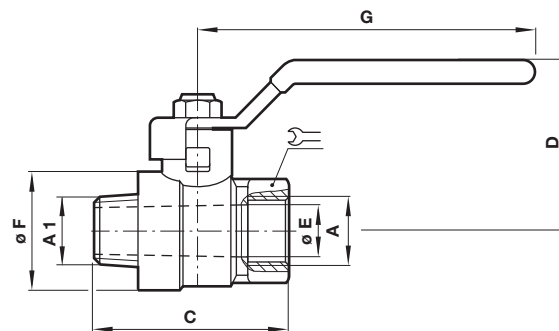
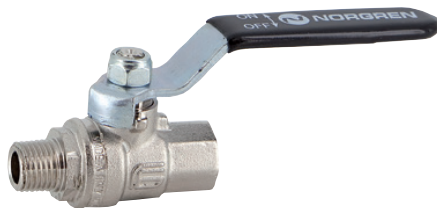
6021 series, Standard ball valves

Full bore, female/female

A	C	D	ø E	ø F	Rp	H		Weight (kg)	Model
Rp1/4	48	36	8	23	85	12	18	0,13	602112128
Rp3/8	49	36	10	24	85	12	21	0,15	602112138
Rp1/2	60	40	15	30	85	15	25	0,20	602112148
Rp3/4	69	47	20	38	105	16,3	31	0,34	602112168
Rp1	83	51	25	46	105	19,1	38	0,47	602112188
Rp1 1/4	96	63	32	58	130	21,4	47	0,80	6021121A8
Rp1 1/2	106	69	40	70	130	22	54	1,14	6021121B8
Rp2	129	83	50	86	165	25,7	66	2,03	6021121C8
Rp2 1/2	159	99	65	111	248	30,2	85	3,85	6021121D8
Rp3	182	110	80	135	248	33,3	100	6,00	6021121E8

Pressure/temperature diagram


6021 series, Standard ball valves

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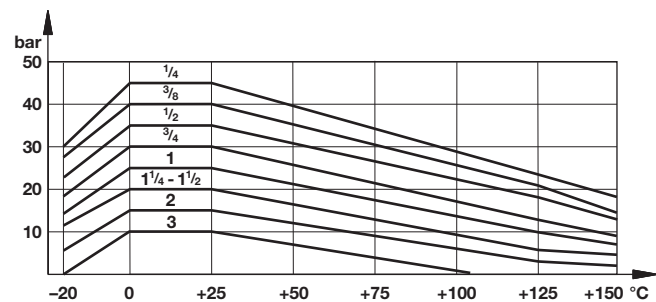
Dimensions in mm
Projection/First angle



Full bore, male/female

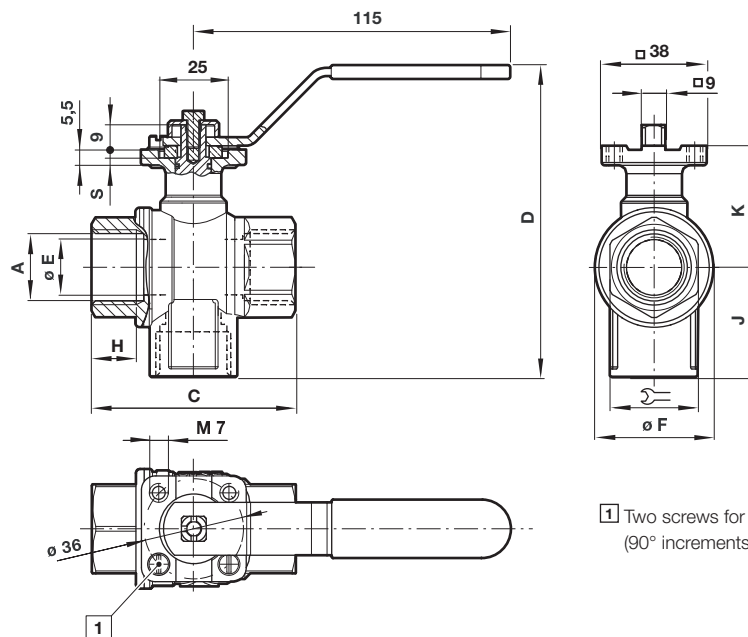
A	A1	C	D	ø E	ø F	G		Weight (kg)	Model
Rp1/4	R1/4	50	36	8	23	85	18	0,13	602112228
Rp3/8	R3/8	54	36	10	24	85	21	0,16	602112238
Rp1/2	R1/2	65	40	15	30	85	25	0,22	602112248
Rp3/4	R3/4	75	47	20	38	105	31	0,37	602112268
Rp1	R1	86	51	25	46	105	38	0,51	602112288
Rp1 1/4	R1 1/4	99	63	32	58	130	47	0,87	6021122A8

Pressure/temperature diagram




6021 series, 3-way ball valve conforms to ISO 5211

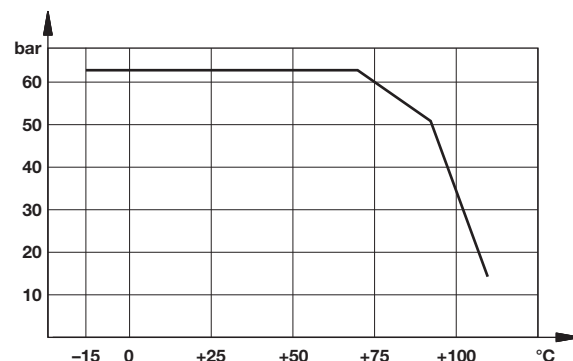
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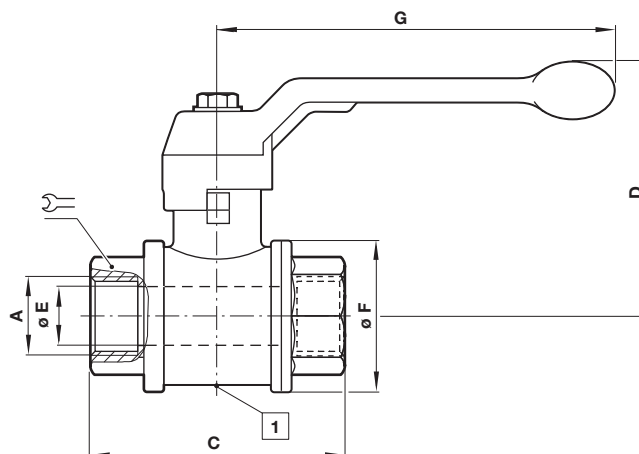


3-way full bore

A	C	D	ø F	H	J	K		Weight (kg)	Model
Rp1/4	52	60	28	11	26	29	22	0,33	602114428
Rp3/8	52	60	28	11,5	26	29	22	0,31	602114438
Rp1/2	64	62	34,5	15	33,5	32	27	0,43	602114448
Rp3/4	74	43	43	16	39,5	42	32	0,57	602114468


Pressure/temperature diagram

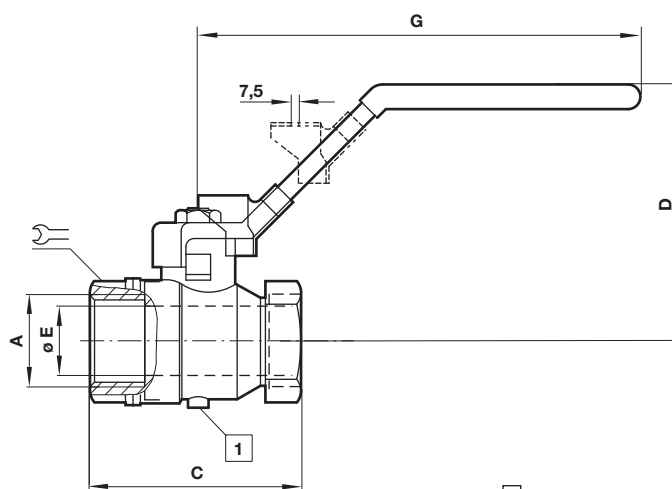


6021 series, Exhausting ball valve
6

 Dimensions in mm
Projection/First angle

Full bore, female/female

1 Ø 2,5 mm exhaust port

A	C	D	ø E	ø F	Rp		Weight (kg)	Model
Rp1/4	52	61	8	29	100	22	0,26	602113128EX
Rp3/8	54	61	10	29	100	22	0,23	602113138EX
Rp1/2	69	64	15	36	100	27	0,37	602113148EX
Rp3/4	77	76	20	45	120	33	0,63	602113168EX
Rp1	89	80	25	54	120	40	0,91	602113188EX
Rp1 1/4	103	98	32	65	150	50	1,55	6021131A8EX
Rp1 1/2	114	104	40	79	150	-	2,30	6021131A8EX

6018 series, Lockable exhausting ball valve
7


1 M5

Full bore, female/female

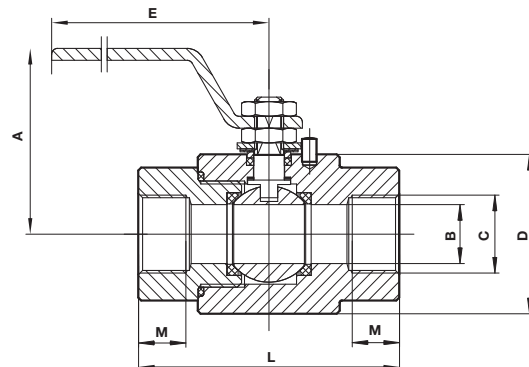
A	C	D	ø E	G		Weight (kg)	Model
G1/4	44	45	8	93	20	0,17	601812128
G3/8	44	45	9	93	20	0,16	601812138
G1/2	58	50	14	93	24	0,24	601812148
G3/4	64	57	19	114	30	0,37	601812168
G1	81	61	24	114	40	0,62	601812188

Lever lockable only in closed position. Standard handle accepts Ø 7 mm shackle.
Test specification differs from standard. Please consult our Technical Service for further details.

6051 series, Carbon steel ball valve

Dimensions in mm
Projection/First angle

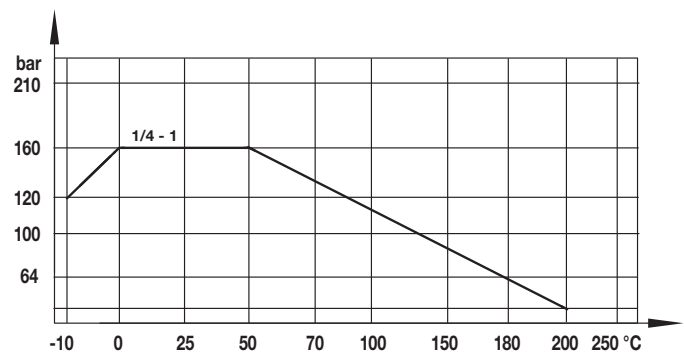
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Full bore, female/female

Size	A	B	D	E	L	M	Weight (kg)	Model
1/4"	72	10	42	148	67	11	0.61	605112128
3/8"	72	10	42	148	67	11,4	0.62	605112138
1/2"	75	15	50	148	75	15	0.93	605112148
3/4"	85	20	60	180	90	16,3	1.56	605112168
1"	95	25	68	180	105	19,1	2.27	605112188

Pressure/temperature diagram



Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI Precision Engineering, Norgren Ltd.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

- > 3/2 way
Port size: G1/2, G3/4, G1, 1/2", 3/4" or 1" PFT
- > Lockable only in the "off" position
- > Clear visual indication when in the "on" position
- > High exhaust flow
- > Helps you to comply to OSHA regulation 29 CFR 1910.147 - The control of hazardous energy (lockout/tagout)



Technical features

Medium:

Compressed air

Operation:

Inline lockout valve

Operating pressure:

0 ... 20 bar (0 ... 290 psi)

Port size:

G1/2, G3/4 or G1
1/2", 3/4" or 1" PTF

Mounting position:

Optional

Ambient/Media temperature:

-30 ... +80°C (-22 ... +176°F)

Air supply must be dry enough to avoid ice formation at temperatures below +2°C (35°F).

Materials:

Valve body: Aluminum

Silencer base: Zinc

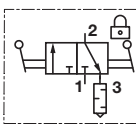
Spool, T-Handle, silencer shell: Aluminum

Spring detent: Stainless steel

Elastomers: NBR and PUR

Technical data

Standard models with silencer

Symbol	Basic size	Port size	Flow 1 » 2 (l/min)	2 » 3 (l/min)	Handle colour	Weight		Model
						(kg)	(lbs)	
	1/2"	G1/2	8200	6970	Red	0,95	2	CR043C
		1/2" PTF	8200	6970	Black	0,95	2	C0023C
		G3/4	11120	7590	Red	0,92	2	CR043D
		3/4" PTF	11120	7590	Black	0,92	2	C0023D
	1"	G1	14300	8120	Red	1,88	4.1	CR044B
		1" PTF	14300	8120	Black	1,88	4.1	C0024B

Option selector

Handle colour		Substitute		Port size		Substitute	
Red		R		1/2" (1/2" base size)		C	
Black		0		3/4" (1/2" base size)		D	
				1" (1" base size)		B	
Thread form		Substitute					
PTF		2					
ISO G		4					
Base size		Substitute					
1/2"		3					
1"		4					

C★0★★★

Accessories

Replacement silencer



Base size

1/2"	ML004F
1"	ML008F

Repair kits

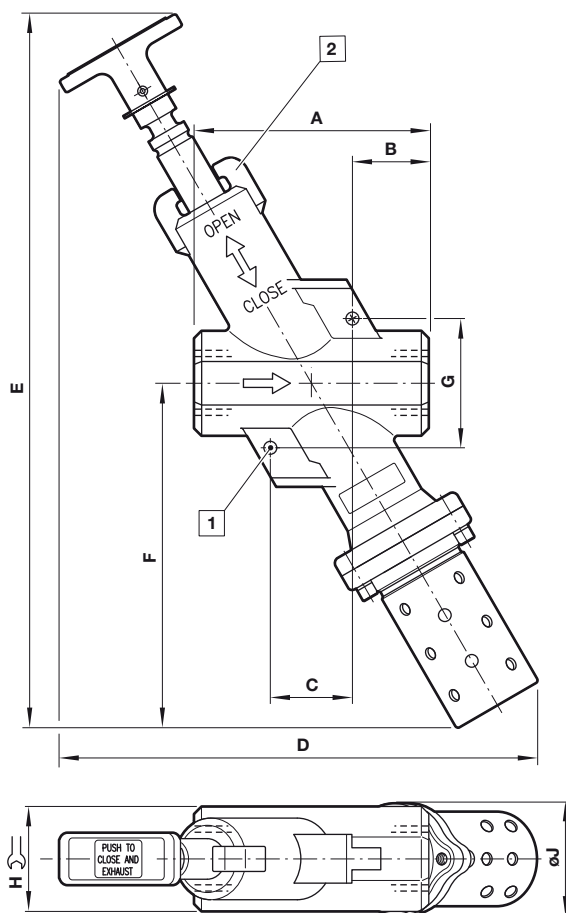
Repair kits



53474-43 (NBR - 1/2" base size)
53475-34 (NBR - 1" base size)

Drawings

Dimensions in mm
Projection/First angle



- 1 Hole dia 7 mm
- 2 Padlock with bolt of 8 mm for locking out

Basic size	A	B	C	D	E	F	G	H	J
1/2"	102	35	32	202	299	136	57	48	48
1"	127 (131)	41 (43)	44	266	399	198	77	57	54

() = values for PTF version

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Safe Systems

Engineering
GREAT Solutions



**Products For Safer
Pneumatic Systems**

 **IMI NORGREN**

 **IMI HERION**

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04 Electrically operated safety valves

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10 Actuator control devices

11 Exhaust control devices



Engineering GREAT solutions through people, products, innovation and service

IMI Precision Engineering is a world-leader in fluid and motion control. Building close, collaborative relationships with our customers, we gain a deep understanding of their engineering needs and then mobilise our resources and expertise to deliver distinctive products and solutions.

Wherever precision, speed and engineering reliability are essential, our global footprint, problem-solving capability and portfolio of high performance products enables us to deliver GREAT solutions which help customers tackle the world's most demanding engineering challenges.

> **Reliability**

We deliver and support our high quality products through our global service network.

> **High performance products**

Calling on a world-class portfolio of fluid and motion control products including IMI Norgren, IMI Buschjost, IMI FAS, IMI Herion and IMI Maxseal. We can supply these singly, or combined in powerful customised solutions to improve performance and productivity.

> **Partnership & Problem Solving**

We get closer to our customers to understand their exact challenges.

Helping create a safer place to work

It is of vital importance that any industrial automation process is considered to provide a safe working environment for its operators and those around it. Compressed air is an extremely versatile and safe medium but if used incorrectly can also provide a major hazard to personal safety. Ever present from the early days of machine automation, IMI Precision Engineering has been able to offer solutions that assist our customers in achieving this safe workplace using many standard product ranges. In addition, we have over 50 years of experience of more specific products designed primarily for use in safety applications helping customers meet the requirements of global or local legislation, for example the European DIN EN ISO13849. Subjects important to machine designers and users here include:

- > Safety valves with self monitoring functions
- > Specifics of safety functions and necessary performance levels
- > Support on risk analysis through machine validation to relevant documentation

When an emergency situation appears, the operator also needs to know that machine elements are at least under controlled conditions. Any such situation can then be investigated and corrected safely prior to a re-start. Of primary importance here is the fast, effective evacuation of the air supply and the ability to keep any maintenance operatives safe during remedial work under conditions known in the industry as "LOTO" – "lock out tag out".

A machine or system need not be complex in order to require consideration with respect to safety levels. Even a simple flexible hose installation where a failure can present a risk to safety can benefit from the addition of anti-flay devices. Alongside this, devices to limit the system pressure to the optimum setting assist with both safety and energy efficiency.

A simple example of worthwhile improvements which can be made to most systems involves the use of efficient exhaust port silencers. These can improve operator comfort and reduce health risks by controlling the level of noise resulting from exhausting air.

This brochure seeks to help in the selection of a range of standard IMI Precision Engineering products which assist safety of machine and workshop systems. We also have additional more specialised solutions in our portfolio for more specific applications. If you can't see what you want or need more information, why not give us a call.



PROTECTING
OPERATORS AND
THEIR MACHINES

Electrically operated safety valves

SCVA cross monitored safety valve

In situations requiring a complex machine system to be rendered safe during an emergency, then a dual cross monitored dump valve is essential. The SCVA is a pneumatically monitored valve eliminating the need for further electronic systems in order to meet the requirements of DIN EN ISO13849-1 "e Cat.4" or similar.

Downstream air is exhausted in the shortest possible time due to the very high reverse flow (up to 30,000 l/min).

- > Four port sizes in both BSP and NPT thread forms
- > Requires only 50 micron filtration for cost effective operation
- > Supplied complete with highly effective exhaust silencer
- > Extremely long service life even in high frequency switching applications - excellent B10 values



Model	Description	Port Size	Voltage	Pressure Range	Supply Flow - Port 1 to 2	Exhaust Flow - Port 2 to 3
SCVA081BB0A02400	3/2 Self-monitoring Safety Valve	G1/4	24v dc	3 ... 10 bar	1,280 l/min	1,550 l/min
SCVA101DE0A02400	3/2 Self-monitoring Safety Valve	G1/2	24v dc	2 ... 10 bar	3,150 l/min	6,500 l/min
SCVA201EF0B02400	3/2 Self-monitoring Safety Valve	G3/4	24v dc	2 ... 10 bar	3,900 l/min	14,000 l/min
SCVA321FH0C02400	3/2 Self-monitoring Safety Valve	G1	24v dc	2 ... 10 bar	8,250 l/min	30,000 l/min
SCVA081RR0A02400	3/2 Self-monitoring Safety Valve	1/4 NPT	24v dc	45 ... 150 psig	1.3 Cv	1.6 Cv
SCVA101TU0A02400	3/2 Self-monitoring Safety Valve	1/2 NPT	24v dc	30 ... 150 psig	3.2 Cv	6.6 Cv
SCVA201UV0B02400	3/2 Self-monitoring Safety Valve	3/4 NPT	24v dc	30 ... 150 psig	4.0 Cv	14.2 Cv
SCVA321VX0C02400	3/2 Self-monitoring Safety Valve	1 NPT	24v dc	30 ... 150 psig	8.4 Cv	30.5 Cv

Other voltage options available contact IMI Precision Engineering for more information

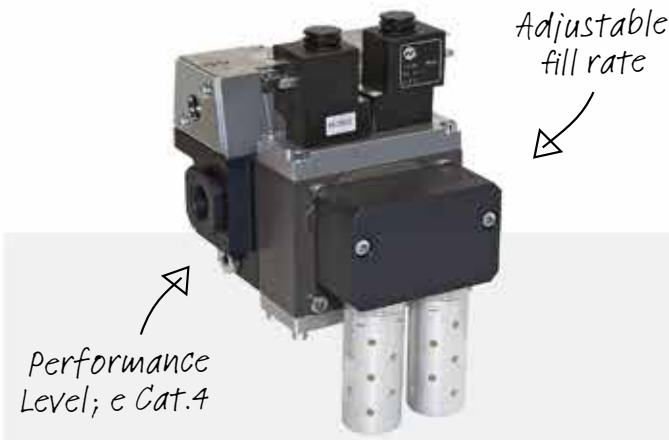
SCSQ cross monitored safety valve with integrated soft start

In applications requiring a controlled re-start of the air supply, the SCSQ includes a variable soft start function.

This can be adjusted to suit the downstream volume and required fill rate.

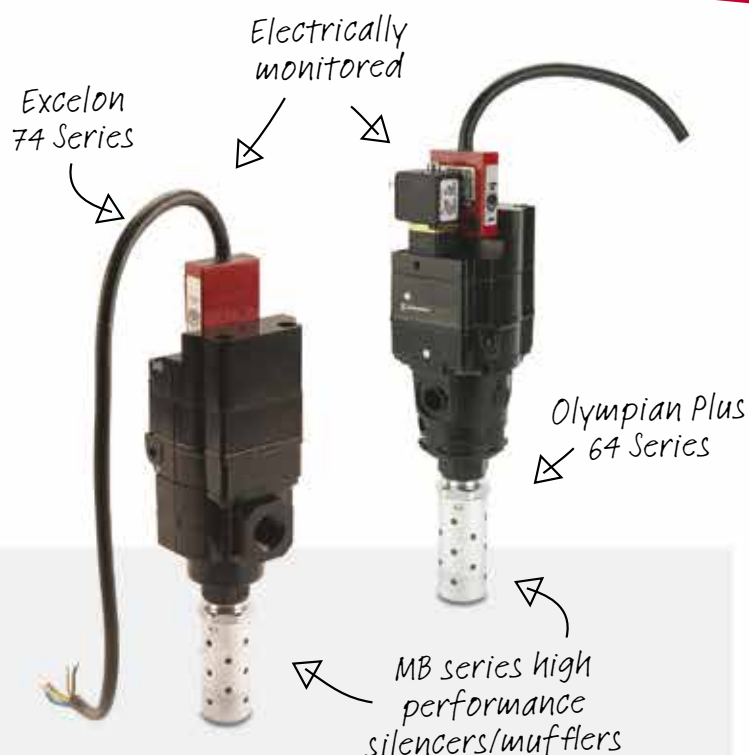
Like the SCVA, the SCSQ is pneumatically monitored to meet the requirements of current safety legislation and requires no additional electronics.

- > Incorporates a glandless spool for extremely long life expectancy, giving best in class B10 values
- > Can be mounted as part of a control system or connected to Excelon air preparation units via integral adaptors
- > Supplied complete with highly effective exhaust silencer



Model	Description	Port Size	Voltage	Pressure Range	Supply Flow - Port 1 to 2	Exhaust Flow - Port 2 to 3
SCSQ101D00D02400	3/2 Self-monitoring Safety Valve with Soft Start	G1/2	24v dc	2.5 ... 10 bar	2,450 l/min	4,100 l/min
SCSQ101T00D02400	3/2 Self-monitoring Safety Valve with Soft Start	1/2 NPT	24v dc	40 ... 150 psig	2.5 Cv	4.2 Cv

Other voltage options available contact IMI Precision Engineering for more information



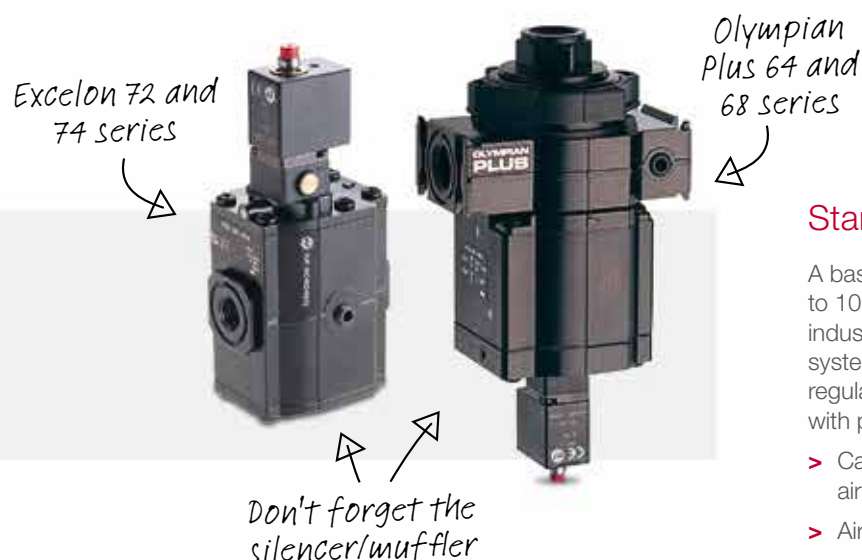
Monitored soft start dump valves

This range of products, whilst not including the cross monitoring function, does have the facility to provide an electrical output indicating the valve status. This can be incorporated into the machine control system where required – for example in a 2 channel system requiring a level of redundancy. Available in both Excelon and Olympian Plus ranges.

- > Rate of pressure build up can be adjusted to suit the application
- > High capacity dump facility for optimum performance
- > Positively driven micro switch indicating valve position

Model	Description	Port Size	Voltage	Pressure Range	Supply Flow - Port 1 to 2	Exhaust Flow - Port 2 to 3
P74S-4GC-N1N	Excelon Monitored Soft Start Dump Valve	G1/2	24v dc	10 bar	3,420 l/min	4,940 l/min
P64S-4GC-N1N	Olympian Plus Monitored Soft Start Dump Valve	G1/2	24v dc	10 bar	3,420 l/min	4,940 l/min
P74S-4AC-N1N	Excelon Monitored Soft Start Dump Valve	1/2 PTF	24v dc	150 psig	3.5 Cv	5.0 Cv
P64S-4AC-N1N	Olympian Plus Monitored Soft Start Dump Valve	1/2 PTF	24v dc	150 psig	3.5 Cv	5.0 Cv

Other models and voltage options available contact IMI Precision Engineering for more information. Silencers/Mufflers ordered separately, see page 11



Standard function soft start dump valves

A basic soft start dump valve with flow rates from 1,260 l/min to 10,240 l/min (1.3 Cv to 10.4 Cv), suitable for use on most industrial applications. Can be incorporated into machine systems to assist compliance with POWER and other regulations. Available in Excelon and Olympian Plus ranges with port sizes from 1/4" to 1".

- > Can be mounted individually or as part of an air preparation assembly
- > Air pilot operated versions available

Model	Description	Port Size	Voltage	Pressure Range	Supply Flow - Port 1 to 2	Exhaust Flow - Port 2 to 3
P72F-2GC-PFA	Excelon Soft Start Dump Valve	G1/4	24v dc	10 bar	1,260 l/min	1,520 l/min
P74F-4GC-PFA	Excelon Soft Start Dump Valve	G1/2	24v dc	10 bar	3,420 l/min	4,940 l/min
P64F-4GC-PFA	Olympian Plus Soft Start Dump Valve	G1/2	24v dc	10 bar	3,420 l/min	4,940 l/min
P68F-8GC-PFA	Olympian Plus Soft Start Dump Valve	G1	24v dc	10 bar	8,820 l/min	10,240 l/min
P72F-2AC-PFA	Excelon Soft Start Dump Valve	1/4 PTF	24v dc	150 psig	1.3 Cv	1.7 Cv
P74F-4AC-PFA	Excelon Soft Start Dump Valve	1/2 PTF	24v dc	150 psig	3.5 Cv	5.0 Cv
P64F-4AC-PFA	Olympian Plus Soft Start Dump Valve	1/2 PTF	24v dc	150 psig	3.5 Cv	5.0 Cv
P68F-8AC-PFA	Olympian Plus Soft Start Dump Valve	1 PTF	24v dc	150 psig	9.0 Cv	10.4 Cv

Other voltage options available contact IMI Precision Engineering for more information

Manually operated safety valves

Inline lockout valves

When carrying out maintenance duties on machine installations, of vital importance is the safety of the personnel engaged in the work. "LOTO" or "lock out tag out" is a primary function before any work begins. The air supply to the area should be isolated and the downstream air exhausted quickly and safely then locked to ensure safety of the workforce. Our lock out valves provide a solution to this task, and are easily fitted into the system.

- > Valves can only be locked in the "off" position and made secure with a purpose made hasp
- > Operating handle provides a clear, simple method of operation
- > Complete with integral heavy duty silencer / muffler



Model	Description	Port Size	Handle Colour	Max. Pressure	Supply Flow - Port 1 to 2	Exhaust Flow - Port 2 to 3
CR043C	3/2 Lockout Valve + Silencer	G1/2	Red	20 bar	8,200 l/min	6,970 l/min
CR043D	3/2 Lockout Valve + Silencer	G3/4	Red	20 bar	11,120 l/min	7,590 l/min
CR044B	3/2 Lockout Valve + Silencer	G1	Red	20 bar	14,300 l/min	8,120 l/min
C0023C	3/2 Lockout Valve + Silencer/Muffler	1/2 PTF	Black	300 psig	9.3 Cv	7.9 Cv
C0023D	3/2 Lockout Valve + Silencer/Muffler	3/4 PTF	Black	300 psig	12.6 Cv	8.6 Cv
C0024B	3/2 Lockout Valve + Silencer/Muffler	1 PTF	Black	300 psig	16.2 Cv	9.2 Cv
54547-01	Lockout Hasp					

Other port sizes available, contact IMI Precision Engineering for more information

Emergency stop valves

When designing complex industrial systems, localised emergency stop buttons are the best way of providing operators with the means of stopping the machine or process quickly and effectively. Emergency stop buttons should generally be bright in colour, large enough to be easily operated and detented to provide a "latching" action. Our Super X range of manual valves includes a range of suitable products and provides a rugged, reliable solution.

- > Electrical style operators with 3/2 and 5/2 function provide maximum versatility
- > Reset can be via simple "twist" action or via a key
- > 3/2 versions include a moulded body which is recyclable



Model	Description	Port Size	Body Material	Max. Pressure	Flow
03042802	3/2 Emergency Stop/Twist Reset	G1/8	Polymer - PA6	10 bar	335 l/min
03M42802	3/2 Emergency Stop/Twist Reset	G1/8	Zinc	10 bar	335 l/min
X3046802	5/2 Emergency Stop/Twist Reset	G1/8	Zinc	10 bar	335 l/min
03033502801	3/2 Palm Button/Key Reset	G1/8	Polymer - PA6	10 bar	335 l/min
X3037502801	5/2 Palm Button/Key Reset	G1/8	Zinc	10 bar	335 l/min
03042822	3/2 Emergency Stop/Twist Reset	1/8 NPT	Polymer - PA6	150 psig	0.34 Cv
X3046822	5/2 Emergency Stop/Twist Reset	1/8 NPT	Zinc	150 psig	0.34 Cv
03033522801	3/2 Palm Button/Key Reset	1/8 NPT	Polymer - PA6	150 psig	0.34 Cv
X3037522801	5/2 Palm Button/Key Reset	1/8 NPT	Zinc	150 psig	0.34 Cv

Other options available including integral Push-in fittings, contact IMI Precision Engineering for more information



Lockable ball valves

Simple isolation of specific sections of a compressed air ring main can assist in safety and benefit energy efficiency. Machines left unattended with the supply connected could potentially offer a hazard if unauthorised use occurs. In addition, any air leakage overnight or during shutdown periods increases energy cost. The IMI Norgren lockable ball valve presents a simple, fast solution to the problem.

Lockable in the "off" position by means of a simple padlock with downstream air exhausted via a threaded port.

Model	Description	Port Size	Max. Pressure
601812128	Full Bore Lockable Ball Valve	G1/2	14 bar
601812138	Full Bore Lockable Ball Valve	G1/2	14 bar
601812148	Full Bore Lockable Ball Valve	G1/2	14 bar
601812168	Full Bore Lockable Ball Valve	G3/4	14 bar
601812188	Full Bore Lockable Ball Valve	G1	14 bar

EN 574
CLASS IIIB



Two hand start unit

The standard IMI Norgren two hand start unit can be fitted to any machine function where the requirement exists for the operator to utilise both hands in order to begin operation. Both buttons need to be operated within 0.5 seconds in order to achieve an output. The unit is supplied as a strong, sealed unit designed to prevent accidental operation.

- > Meets requirements of EN574 class IIIB
- > No additional setting or adjustment required

Model	Description	Port Size	Max. Pressure
M/2720	Two-hand Start Unit	G1/8	3 ... 8 bar

Pressure control and accessory products

Pressure relief valves

Pressure relief valves are often ignored when designing and installing compressed air systems, but are vital to ensure maximum cost effectiveness and safety. Best practice dictates that every pneumatic system should include a means of protection against over-pressurisation. IMI Precision Engineering has a wide and varied selection of relief valves for all manner of applications, from simple “pop type” devices to more complex larger capacity units.

- > Prevents the build up of excess pressure which could lead to machine damage or operator injury
- > Easy to install and set to required pressure levels
- > Wide range of devices including examples from both Excelon and Olympian Plus ranges



Model	Description	Port Size	Relief Pressure Range	Relief Flow Rate (at max. pressure)
61B2/BM000	Miniature Pop Type Relief Valve	R1/4	0.6 to 1.6 bar	295 l/min
61B2/BN000	Miniature Pop Type Relief Valve	R1/4	1.6 to 4 bar	295 l/min
61B2/BS000	Miniature Pop Type Relief Valve	R1/4	2.5 to 5 bar	295 l/min
61B2/BT000	Miniature Pop Type Relief Valve	R1/4	5 to 10 bar	295 l/min
61B2/BU000	Miniature Pop Type Relief Valve	R1/4	10 to 16 bar	295 l/min
1002/BG008	Pop Type Pressure Relief Valve with Pull Ring	R1/4	2.0 to 6.3 bar	295 l/min
1002/BR008	Pop Type Pressure Relief Valve with Pull Ring	R1/4	6.3 to 14 bar	295 l/min
16-004-031	Miniature Pop Type Relief Valve	1/4 PTF	5 to 25 psig	0.3 Cv
16-004-009	Miniature Pop Type Relief Valve	1/4 PTF	25 to 50 psig	0.3 Cv
16-004-010	Miniature Pop Type Relief Valve	1/4 PTF	25 to 75 psig	0.3 Cv
16-004-011	Miniature Pop Type Relief Valve	1/4 PTF	70 to 150 psig	0.3 Cv
16-004-012	Miniature Pop Type Relief Valve	1/4 PTF	125 to 300 psig	0.3 Cv

Other pressure ranges and port size available contact IMI Precision Engineering for more information

Model	Description	Port Size	Relief Pressure Range	Relief Flow Rate (at max. pressure)
V07-200-NNKG	Miniature Pressure Relief Valve	G1/4	0.3 to 7 bar	640 l/min
V72G-2GK-NMN	Excelon Pressure Relief Valve	G1/4	0.3 to 10 bar	1,670 l/min
V74G-4GK-NMN	Excelon Pressure Relief Valve	G1/2	0.3 to 10 bar	3,250 l/min
V64H-4GD-RMN	Olympian Plus Pressure Relief Valve	G1/2	1 to 10 bar	3,540 l/min
V68H-8GD-RMN	Olympian Plus Pressure Relief Valve	G1	1 to 10 bar	15,050 l/min
V07-200-NNKA	Miniature Pressure Relief Valve	1/4 PTF	5 to 100 psig	0.7 Cv
V72G-2AK-NMN	Excelon Pressure Relief Valve	1/4 PTF	5 to 150 psig	1.7 Cv
V74G-4AK-NMN	Excelon Pressure Relief Valve	1/2 PTF	5 to 150 psig	3.3 Cv
V64H-4AD-RMN	Olympian Plus Pressure Relief Valve	1/2 PTF	15 to 150 psig	3.6 Cv
V68H-8AD-RMN	Olympian Plus Pressure Relief Valve	1 PTF	15 to 150 psig	15.3 Cv

Other pressure ranges and port size available contact IMI Precision Engineering for more information



anti-flay
protection



Air fuses

Throughout industrial automation, extensive use is made of flexible hoses used to connect together two or more portable devices. Should this hose fail in service either via damage or excessive wear, then escaping air can create a major hazard to personal safety. A simple air fuse, correctly installed, can provide an effective anti-flay device should failure occur. Following repair of the hose, the airfuse resets automatically for subsequent use.

- > Tamper-proof - requires no adjustment
- > Number of options of size and flow capacity
- > Minimal pressure drop across device

Model	Description	Port Size	Reduced Pressure At Shut Off	Flow Rate Required To Achieve Shut Off *
T60C2890	Low Flow Air Fuse	G1/4	0.14 bar	500 l/min
T60C3890	Low Flow Air Fuse	G3/8	0.14 bar	1,160 l/min
T60C4890	Low Flow Air Fuse	G1/2	0.14 bar	1,930 l/min
T60C6890	Low Flow Air Fuse	G3/4	0.14 bar	2,900 l/min
T60C8890	Low Flow Air Fuse	G1	0.14 bar	5,520 l/min
T60CB890	Low Flow Air Fuse	G1 1/2	0.14 bar	11,160 l/min
T60C2891	High Flow Air Fuse	G1/4	0.30 bar	840 l/min
T60C3891	High Flow Air Fuse	G3/8	0.30 bar	1,930 l/min
T60C4891	High Flow Air Fuse	G1/2	0.30 bar	2,900 l/min
T60C6891	High Flow Air Fuse	G3/4	0.30 bar	4,800 l/min
T60C8891	High Flow Air Fuse	G1	0.30 bar	7,680 l/min
T60CB891	High Flow Air Fuse	G1 1/2	0.30 bar	16,080 l/min
T60A2890	Low Flow Air Fuse	1/4 NPT	2.0 psig	18 scfm
T60A3890	Low Flow Air Fuse	3/8 NPT	2.0 psig	41 scfm
T60A4890	Low Flow Air Fuse	1/2 NPT	2.0 psig	68 scfm
T60A6890	Low Flow Air Fuse	3/4 NPT	2.0 psig	102 scfm
T60A8890	Low Flow Air Fuse	1 NPT	2.0 psig	195 scfm
T60AB890	Low Flow Air Fuse	1 1/2 NPT	2.0 psig	394 scfm
T60A2891	High Flow Air Fuse	1/4 NPT	4.4 psig	30 scfm
T60A3891	High Flow Air Fuse	3/8 NPT	4.4 psig	68 scfm
T60A4891	High Flow Air Fuse	1/2 NPT	4.4 psig	102 scfm
T60A6891	High Flow Air Fuse	3/4 NPT	4.4 psig	170 scfm
T60A8891	High Flow Air Fuse	1 NPT	4.4 psig	271 scfm
T60AB891	High Flow Air Fuse	1 1/2 NPT	4.4 psig	568 scfm

* At 7 bar supply pressure \pm 10%

Model	Description	Port Size	Preset Pressure	Flow Rate
R16-200-R30G	Pre-set Pressure Regulator	G1/4	2 bar	340 l/min
R16-200-R30A	Pre-set Pressure Regulator	1/4 PTF	30 psig	12 scfm

Other models available contact IMI Precision Engineering for more information



Preset

Tamper-proof pressure regulator

Health and safety guidelines require simple blow guns – used throughout industry – to be supplied with a maximum pressure of 2 bar for reasons of safety. The easiest way of ensuring that this happens is to use a IMI Norgren preset tamper-proof regulator from the R16 range. This unit is factory set and locked prior to despatch. On applications using flexible hoses, the R16 should also be used in conjunction with an air fuse, shown above.

- > Compact and easy to install
- > Cannot be tampered with by operators
- > Available with different pressure settings for use on other applications

Actuator control devices

Piston rod locks

When a pneumatic actuator is exhausted, the piston rod is free to move. This unregulated movement could present a major hazard to safety during an emergency condition on a machine application. Imagine a vertically mounted actuator carrying a heavy machine slide or similar – the actuator will simply drop under the effect of gravity. A piston rod lock, fitted to the actuator during manufacture, is a mechanical locking device holding the piston rod secure during this kind of situation. The lock is “passive” – therefore when an air signal to it is removed, the lock acts automatically.

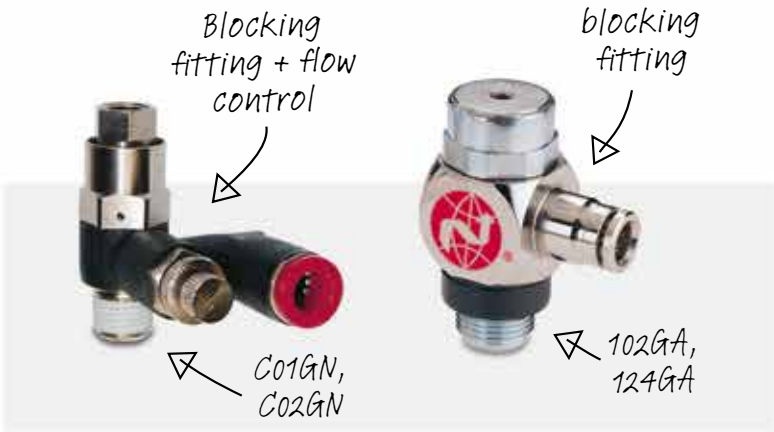
- > Provides secure locking of piston rod in any position
- > Robust, maintenance free design
- > Available to fit ISO/VDMA, ISO roundline and ISO compact ranges



Blocking fittings / pilot check valves

As a potential alternative to a mechanical piston rod lock, a function fitting can also be used to hold the actuator position by trapping air inside. This can help to provide a short term pneumatic alternative to a mechanical device – air is compressed gas, and leakage and / or external forces could influence the actuator position. Two styles are available – a combined flow control and check valve or a simple blocking fitting; composite body or nickel plated brass respectively.

- > Compact design screws directly into actuator port thread
- > Easy connection via push in fitting



Model	Description	Actuator Port Size	PIF Tube Size	Max. Pressure
C01GN0618	Blocking Fitting + Flow Control	R1/8	6 mm	10 bar
C01GN0628	Blocking Fitting + Flow Control	R1/4	6 mm	10 bar
C01GN0828	Blocking Fitting + Flow Control	R1/4	8 mm	10 bar
C01GN0838	Blocking Fitting + Flow Control	R3/8	8 mm	10 bar
C01GN1038	Blocking Fitting + Flow Control	R3/8	10 mm	10 bar
C01GN1048	Blocking Fitting + Flow Control	R1/2	10 mm	10 bar
C01GN1248	Blocking Fitting + Flow Control	R1/2	12 mm	10 bar
C02GN0618	Blocking Fitting + Flow Control	G1/8	6 mm	10 bar
C02GN0628	Blocking Fitting + Flow Control	G1/4	6 mm	10 bar
C02GN0828	Blocking Fitting + Flow Control	G1/4	8 mm	10 bar
C02GN0838	Blocking Fitting + Flow Control	G3/8	8 mm	10 bar
C02GN1038	Blocking Fitting + Flow Control	G3/8	10 mm	10 bar
C02GN1048	Blocking Fitting + Flow Control	G1/2	10 mm	10 bar
C02GN1248	Blocking Fitting + Flow Control	G1/2	12 mm	10 bar

Other sizes available contact IMI Precision Engineering for more information

Model	Description	Actuator Port Size	PIF Tube/ Thread Size	Max. Pressure
102GA0418	Blocking Fitting	G1/8	4 mm	10 bar
102GA0618	Blocking Fitting	G1/8	6 mm	10 bar
102GA1818	Blocking Fitting	G1/8	G1/8	10 bar
102GA0628	Blocking Fitting	G1/4	6 mm	10 bar
102GA0828	Blocking Fitting	G1/4	8mm	10 bar
102GA2828	Blocking Fitting	G1/4	G1/4	10 bar
102GA0838	Blocking Fitting	G3/8	8 mm	10 bar
102GA1038	Blocking Fitting	G3/8	10 mm	10 bar
102GA3838	Blocking Fitting	G3/8	G3/8	10 bar
102GA1248	Blocking Fitting	G1/2	12 mm	10 bar
102GA4848	Blocking Fitting	G1/2	G1/2	10 bar
124GA0418	Blocking Fitting	1/8 NPTF	1/4"	150 psig
124GA1818	Blocking Fitting	1/8 NPTF	1/8 NPTF	150 psig
124GA0428	Blocking Fitting	1/4 NPTF	1/4"	150 psig
124GA2828	Blocking Fitting	1/4 NPTF	1/4 NPTF	150 psig
124GA0638	Blocking Fitting	3/8 NPTF	3/8"	150 psig
124GA3838	Blocking Fitting	3/8 NPTF	3/8 NPTF	150 psig
124GA0748	Blocking Fitting	1/2 NPTF	1/2"	150 psig
124GA4848	Blocking Fitting	1/2 NPTF	1/2 NPTF	150 psig

Other sizes available contact IMI Precision Engineering for more information

Exhaust control devices

Coalescing exhaust silencers

Whilst most modern pneumatic products will operate successfully with non lubricated air, in most cases lubrication is still used to prolong the life of products in a system. Exhausting air can however present major hazards for machine operators and others creating harmful noise levels and air borne pollutants. A large capacity coalescing silencer can be utilised to capture this air, reclassifying the oil into liquid form for safe collection and reducing noise to an acceptable level.

- > Assists in complying with COSHH regulations
- > Filter element is easily replaceable for optimum performance
- > Liquid sump can be connected to a suitable collection device



Model	Description	Port Size	Max. Flow
MQ004C	Coalescing Exhaust Silencer	G1/2	1,250 l/min
MQ006C	Coalescing Exhaust Silencer	G3/4	1,670 l/min
MQ008C	Coalescing Exhaust Silencer	G1	2,920 l/min
MQ004A	Coalescing Exhaust Silencer	1/2 NPT	1.3 Cv
MQ006A	Coalescing Exhaust Silencer	3/4 NPT	1.7 Cv
MQ008A	Coalescing Exhaust Silencer	1 NPT	3.0 Cv
CS13-464-10GG	Coalescing Exhaust Silencer - Olympian Plus mounting	G1/2	1,250 l/min
CS13-664-10GG	Coalescing Exhaust Silencer - Olympian Plus mounting	G3/4	1,670 l/min
CS15-800-10DD	Coalescing Exhaust Silencer - Olympian Plus mounting	G1	2,920 l/min

Other options available contact IMI Precision Engineering for more information



Exhaust port silencers/mufflers

Any open exhaust port in a system is a source of noise as air escapes to atmosphere. This can present danger to operators by creating a "mask" of background noise and also damaging hearing in the longer term. Open ports should always be guarded with an effective silencer.

Our range of Quietaire heavy duty units provide one of the most effective units available. Available with either male or female threads, they can easily be connected to most pneumatic devices.

- > High flow capacity with low back pressure build up
- > Can be cleaned to ensure ongoing performance
- > Rugged construction virtually eliminates damage in use

Model	Description	Port Size	Max. Flow
MB001B	Heavy Duty Silencer - Male Thread	R1/8	490 l/min
MB002B	Heavy Duty Silencer - Male Thread	R1/4	540 l/min
MB003B	Heavy Duty Silencer - Male Thread	R3/8	1,170 l/min
MB004B	Heavy Duty Silencer - Male Thread	R1/2	1,340 l/min
MB006B	Heavy Duty Silencer - Male Thread	R3/4	3,060 l/min
MB008B	Heavy Duty Silencer - Male Thread	R1	3,840 l/min
MB001A	Heavy Duty Muffler - Male Thread	1/8 PTF	2.0 Cv
MB002A	Heavy Duty Muffler - Male Thread	1/4 PTF	2.2 Cv
MB003A	Heavy Duty Muffler - Male Thread	3/8 PTF	4.8 Cv
MB004A	Heavy Duty Muffler - Male Thread	1/2 PTF	5.5 Cv
MB006A	Heavy Duty Muffler - Male Thread	3/4 PTF	12.5 Cv
MB008A	Heavy Duty Muffler - Male Thread	1 PTF	15.7 Cv

Other options available contact IMI Precision Engineering for more information

IMI Precision Engineering operates four global centres of technical excellence and a sales and service network in 75 countries, as well as manufacturing capability in the USA, Germany, China, UK, Switzerland, Czech Republic, Mexico and Brazil.

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