



Parker Global Air Preparation System

Global.
Economical.
Modular.



*Performance you need,
wherever you need it.*

The comprehensive Global Air Preparation System is available in three body sizes with either BSPP or NPT to accommodate thread type requirements.

Full featured filters, regulators, filter/regulators, and lubricators are available with a wide range of standard options to meet air preparation needs.

Individual units can easily be assembled into various combinations, utilizing patented modular lightweight body connectors.

www.parker.com/globalfrl

Validated for transport applications



As you would expect from a member of the Rail Industry Association, the Global FRL meets the test specification standards enabling the Global FRL to be used as a validated product in a variety of rail applications.

RAILWAY INDUSTRY
ASSOCIATION

CEI/ICE 61373 1999-1 Category 2 (BS EN 61373:1999)






Application Guide

FRL to Valve: The chart below contains recommendations for the correct selection of Global Air Preparation units to suit the number and size of valves in a typical application.

	P31 Mini Series				P32 Compact Series				P33 Standard Series							
	Number of valves that would actuate at once															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Moduflex 1	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Isys Micro	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
HB / Viking Xtreme	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Moduflex 2	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
HA / Global ISO	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
See Larger Parker FRL Offering																

Actuator to FRL: The chart below contains recommendations for the correct selection of Global Air Preparation units suitable for each cylinder size. If you have a tube length over 2 m, choose one tube size larger than the chart. The table is based on a Maximum cylinder speed of 0.5m/s

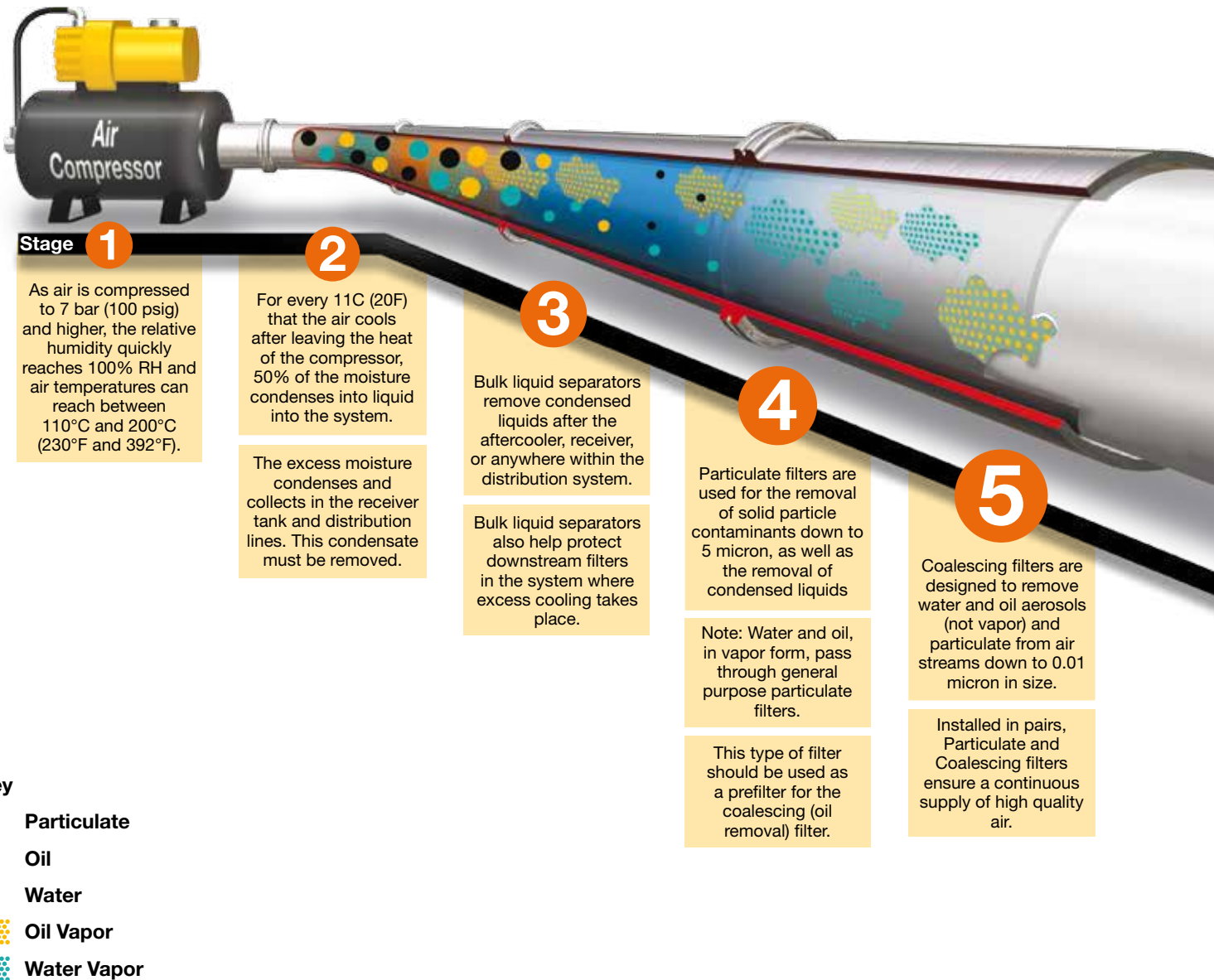
Cyl Ø mm Cyl Ø inches		Cylinder bore size														
		5 (5/16)	10 (7/16)	16 (9/16)	20 (3/4)	25 (1)	28 (1-1/8)	32 (1-1/4)	40 (1-1/2)	45 (1-3/4)	50 (2)	63 (2-1/2)	75 (3)	80 (3-1/4)	100 (4)	
Tube Ø mm Tube Ø inches		Tube diameter external														
		4 (5/32)	4 (5/32)	4 (5/32)	6 (1/4)	6 (1/4)	6 (1/4)	6 (1/4)	8 (5/16)	8 (5/16)	8 (5/16)	10 (3/8)	10 (3/8)	12 (1/2)	12 (1/2)	
Number of cylinders actuating at once	1	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	2	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	3	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	4	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	5	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	6	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	7	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	8	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	9	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	10	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
		P31 Mini Series				P32 Compact Series				P33 Standard Series				See Larger Parker FRL Offering		
																







Note: Data listed above is simply a guideline for a typical application only. Proper sizing and correct flow requirements must be taken into account.

Together we can power your application with clean, dry air

Fast cycle times, high product quality, and low downtime all require a clean, dry pneumatic system to function properly. Parker has what it takes to make sure pneumatic systems perform at their best.

Clean, dry pneumatic systems with Parker Global Air Preparation



						
Stages	1 2	3	4	5	6	7
Function	Air Compressor	Bulk Liquid Removal	Particulate Filtration	Coalescing Filtration	Air Dryers	Hydrocarbon Removal
Application	All pneumatic systems	Basic pneumatic systems	Basic pneumatic systems	Systems requiring highest quality air.	Systems requiring air with reduced moisture content	Systems requiring highest quality air for critical applications
Description	Air leaving the compressor room at 93°C (200°F) releases 95% of its moisture into the piping system when it cools to 38°C (100°F)	Removes bulk liquid contamination and protects filters where excess cooling takes place in the distribution piping	Removes solid particulates down to 5 micron, and the separation of bulk contaminants.	Removes liquid aerosols and submicron particulates (not vapor) down to 0.01 micron.	Removes water vapor from air stream. Dew point reduced down to -40°C membrane and -70°C desiccant.	Removal of odors and trace vapors for critical applications.
Parker Global Air Preparation Solution	Customer supplied	P3TF Bulk Liquid Separator	P31, P32, P33 Particulate Filter	P31, P32, P33 Coalescing Filter	P3XJ Membrane Dryer P3TJ Regenerative Desiccant Dryer	P31, P32, P33 Activated Carbon (Adsorber) Filter



6

Refrigeration, membrane and desiccant dryers lower the air's dew point by removing water vapor, providing appropriately dry air for the downstream application.

7

Hydrocarbon and oil vapors are removed using filters utilizing activated carbon. These airborne hydrocarbons are often left over from the compressor oils.



DECLARATION



We **Parker Hannifin Manufacturing
Austria GmbH**
Badener Straße 12
2700 Wiener Neustadt
Austria

Product	Series	Category
Filter*	P31FB, P32FB, P33FA	for zone 1, 21
Regulator	P31RB, P32RB, P33RA	for zone 1, 21
Filter regulator*	P31EB, P32EB, P33EA	for zone 1, 21
Lubricator*	P31LB, P32LB, P33LA	for zone 1, 21
Ball Valve & Slide Valve	P31VB, P32VB, P33VB	for zone 1, 21
Manifold	P31MA, P32MA, P33MA	for zone 1, 21
For non-fitted solenoid product		
Soft start & Dump Valve	P31TA, P32TA	for zone 1, 21
Soft Start Valve	P31SA, P32SA	for zone 1, 21
Dump Valve	P31DA, P32DA	for zone 1, 21

*Filter, Filter Regulator and Lubricator – This evaluation applies to products fitted with metal bowls only.

Following Ignition Hazard Assessments performed on the non-electrical products listed above, in accordance with the requirements of EN 13463-1:2009, it was considered that the equipment does not contain its own source of ignition, and therefore is not within the scope of directive 94/9/EC.

The products can be used in a Group II Category 2 environment assuming that the ATEX Directive and the following conditions are complied with:

- Installation and maintenance of the product must be undertaken by qualified personnel.
- Do not mount the products in an area where impact may occur.
- Filters must be used to limit the introduction of particles and to capture particles generated in service.
- Supply air quality must be within ISO 8573-1:2010 Class 1.4.2.
- Maximum working temperature to be as stated on product label.
- WARNING – pulsating pressure and/or a closed circuit can generate heat.
- Deposits of dust on the product must not exceed 5mm thickness.
Refer to technical file for surface areas of plastics.
The unit must be earthed via the compressed air supply line.
- The unit must not come into contact with liquid solvents, acids or alkalis
Refer to technical file for chemicals known to be incompatible.
Product cleaning must be undertaken using a method complying with the specifications of the ATEX zone, preferably by using mild soap and water or antistatic products.
- **Regulators, Filter Regulators:**
Do not use Regulators or Filter Regulators within systems that can create vibration within the Regulator/Filter Regulator unit.
- **Solenoid Operated Valves:**
Are suitable for use in an ATEX environment, (Group II Category 2) providing ATEX approved solenoids are fitted.
- Technical file available on request.

Approved by:

Engineering Manager – Air Preparation EMEA

Validated for transport applications



As you would expect from a member of the Rail Industry Association, Global air preparation meets the test specification standards enabling the Global series to be used as a validated product in a variety of rail applications.



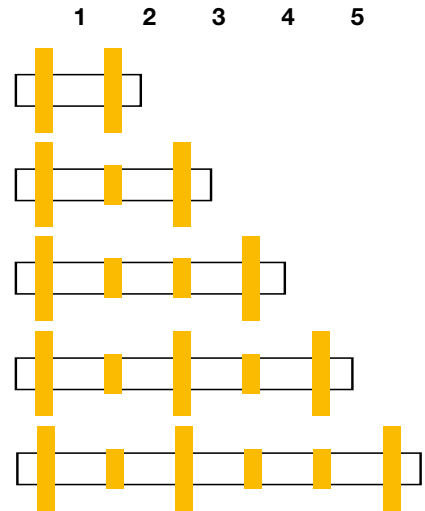
Railway Industry Association

CEI/ICE 61373 1999-1 Category 2 (BS EN 61373:1999)

Recommended mounting / fixation method for use in transportation applications.

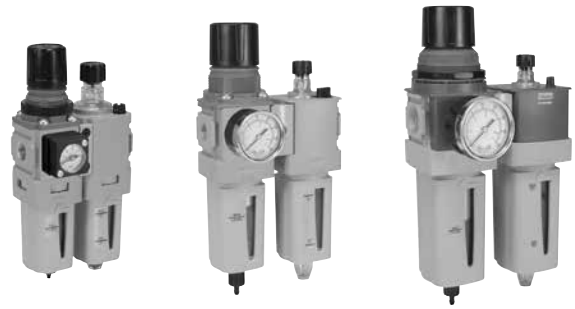
- The use of a port block kit and T-bracket should be used at all times (angle / L-brackets should not be used in rail applications)
- Additional security is recommended with the use of 'vibration proof adhesive' on the wall mounting screws to the port / connector block
- Inlet (P1) and Outlet (P2) ports should always have a T-Bracket fixation to eliminate product cantilever stress
- 'L' brackets should not be used in the use for rail service

Position of T-Brackets for multiple units




For illustration purposes only

- High flow modular air-preparation series
- Space saving integral gauge (P31 size only)
- Manifold style regulators available
- OSHA compliant shut-off valves



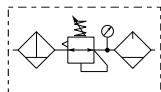
Operating information		Flow characteristics					
Working pressure :		40mm body width		60mm body width		73mm body width	
Plastic bowl: 10 bar max		1/4" Ported		1/4", 3/8", & 1/2" Ported		1/2" & 3/4" Ported	
Metal bowl: 17 bar max		Flow	dm³/s	Flow	dm³/s	Flow	dm³/s
Working temperature :		Filter	12	Filter	39	Filter	40
* Plastic bowl: -10°C to +52°C		Coalescing Filter	3,6	Coalescing Filter	17	Coalescing Filter	34
* Metal bowl: -10°C to +65.5°C		Regulator	32	Regulator	78	Regulator	111
* Refer to Technical Catalogue for individual unit temperatures		Filter Regulator	35	Filter Regulator	64	Filter Regulator	108
		Lubricator	19	Lubricator	42	Lubricator	71


Popular Combinations - P31 Series



Filter + Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

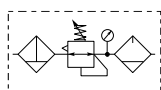
Port size	Flow dm ³ /s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight
1/4"	13	27	P31CB12GEMNTLNW	0.46 kg	P31CB12GEBNTLNW	0.46 kg






Filter/Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

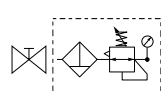
Port size	Flow dm ³ /s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight
1/4"	14	28	P31CA12GEMNTLNW	0.35 kg	P31CA12GEBNTLNW	0.35 kg






Ball Valve + Filter/Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

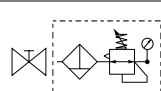
Port size	Flow dm ³ /s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight
1/4"	14	28	P31QA12GEMNTLNW	0.54 kg	P31QA12GEBNTLNW	0.54 kg





Ball Valve + Filter/Regulator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

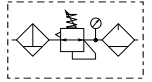
Port size	Flow dm ³ /s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight
1/4"	14	28	P31QN12GEMNTW	0.4 kg	P31QN12GEBNTW	0.4 kg



<p>P 3 1</p> <table border="1" style="width: 100%;"> <tr><th colspan="2">Combination</th></tr> <tr><td>Combination</td><td>C</td></tr> <tr><td>Shut off + Combi¹</td><td>Q</td></tr> </table>	Combination		Combination	C	Shut off + Combi ¹	Q	<table border="1" style="width: 100%;"> <tr><th>Thread type</th></tr> <tr><td>BSPP</td><td>1</td></tr> <tr><td>NPT</td><td>9</td></tr> </table>	Thread type	BSPP	1	NPT	9	<table border="1" style="width: 100%;"> <tr><th>Port size</th></tr> <tr><td>1/4</td><td>2</td></tr> </table>	Port size	1/4	2	<p>E</p> <table border="1" style="width: 100%;"> <tr><th>Drain type</th></tr> <tr><td>Manual drain</td><td>M</td></tr> <tr><td>Pulse drain</td><td>B</td></tr> </table>	Drain type	Manual drain	M	Pulse drain	B	<p>N</p> <table border="1" style="width: 100%;"> <tr><th>Adjustment range</th></tr> <tr><td colspan="2">With square gauge</td></tr> <tr><td>2 bar *</td><td>V</td></tr> <tr><td>4 bar</td><td>S</td></tr> <tr><td>8 bar **</td><td>T</td></tr> </table> <p><small>* Unit comes with 0-4 bar, gauge respectively</small></p> <p><small>** Unit comes with 0-10 bar, gauge respectively</small></p>	Adjustment range	With square gauge		2 bar *	V	4 bar	S	8 bar **	T	<p>LN W</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;"> Add only for options with Lubricator </div>
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<table border="1" style="width: 100%;"> <tr><th>Combination type</th></tr> <tr><td>F/R+L</td><td>A</td></tr> <tr><td>F+R+L</td><td>B</td></tr> <tr><td>F/R</td><td>N</td></tr> </table>	Combination type	F/R+L	A	F+R+L	B	F/R	N	<table border="1" style="width: 100%;"> <tr><th>Bowl type</th></tr> <tr><td>Poly bowl with bowl guard</td><td>G</td></tr> <tr><td>Metal bowl without sight glass</td><td>M</td></tr> </table> <p><small>Note: All bowl types are the same for each component</small></p> <p><small>Example: If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.</small></p>	Bowl type	Poly bowl with bowl guard	G	Metal bowl without sight glass	M																				
Combination type																																	
F/R+L	A																																
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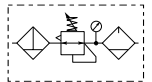
¹ Option not available with F+R+L

Popular Combinations - P32 Series



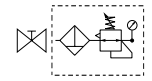
Filter + Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

Port size	Flow		Manual Drain	Weight	Auto Drain	Weight
	dm ³ /s	(scfm)				
1/4"	20	42	P32CB12GEMNGLNW	1.29 kg	P32CB12GEANGLNW	1.29 kg
3/8"	32	68	P32CB13GEMNGLNW	1.29 kg	P32CB13GEANGLNW	1.29 kg
1/2"	40	85	P32CB14GEMNGLNW	1.29 kg	P32CB14GEANGLNW	1.29 kg



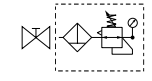
Filter/Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

Port size	Flow		Manual Drain	Weight	Auto Drain	Weight
	dm ³ /s	(scfm)				
1/4"	22	45	P32CA12GEMNGLNW	1.03 kg	P32CA12GEANGLNW	1.03 kg
3/8"	33	70	P32CA13GEMNGLNW	1.03 kg	P32CA13GEANGLNW	1.03 kg
1/2"	43	90	P32CA14GEMNGLNW	1.03 kg	P32CA14GEANGLNW	1.03 kg



Ball Valve + Filter/Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

Port size	Flow		Manual Drain	Weight	Auto Drain	Weight
	dm ³ /s	(scfm)				
3/8"	33	70	P32QA13GEMNGLNW	1.5 kg	P32QA13GEANGLNW	1.5 kg
1/2"	43	90	P32QA14GEMNGLNW	1.5 kg	P32QA14GEANGLNW	1.5 kg



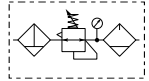
Ball Valve + Filter/Regulator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

Port size	Flow		Manual Drain	Weight	Auto Drain	Weight
	dm ³ /s	(scfm)				
3/8"	33	70	P32QN13GEMNGW	1.1 kg	P32QN13GEANGW	1.1 kg
1/2"	43	90	P32QN14GEMNGW	1.1 kg	P32QN14GEANGW	1.1 kg

P 3 2					E		N		L N	W
Combination		Thread type		Port size		Drain type		Adjustment range		Add only for options with Lubricator
Combination C		BSPP 1		1/4 2		Auto drain A		With round gauge		
Shut off + Combination ¹ Q		NPT 9		3/8 3		Manual drain M		0-2 bar; 0-30 psi; 0.2 MPa Z		
				1/2 4				4 bar; 60 psi; 0.4 MPa M		
								8 bar; 125 psi; 0.8 MPa G		
Combination type		Bowl type		Note: All bowl types are the same for each component						
F/R+L A		Poly bowl with bowl guard G		Example: If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.						
F+R+L B		Metal bowl with sight glass S								
F/R N										

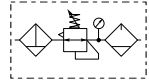
¹ Option not available with F+R+L and 1/4" port size (2)

Popular Combinations - P33 Series



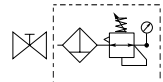
Filter + Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

Port size	Flow dm ³ /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	43	90	P33CB14GEMNGLNW	1.84 kg (4.06 lbs)	P33CB14GEANGLNW	1.84 kg (4.06 lbs)
3/4"	52	110	P33CB16GEMNGLNW	1.84 kg (4.06 lbs)	P33CB16GEANGLNW	1.84 kg (4.06 lbs)



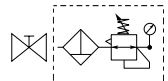
Filter/Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

Port size	Flow dm ³ /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	52	110	P33CA14GEMNGLNW	1.51 kg (3.33 lbs)	P33CA14GEANGLNW	1.51 kg (3.33 lbs)
3/4"	71	150	P33CA16GEMNGLNW	1.51 kg (3.33 lbs)	P33CA16GEANGLNW	1.51 kg (3.33 lbs)



Ball Valve + Filter/Regulator + Lubricator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

Port size	Flow dm ³ /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	52	110	P33QA14GEMNGLNW	2.35 kg (5.2 lbs)	P33QA14GEANGLNW	2.35 kg (5.2 lbs)
3/4"	71	150	P33QA16GEMNGLNW	2.35 kg (5.2 lbs)	P33QA16GEANGLNW	2.35 kg (5.2 lbs)



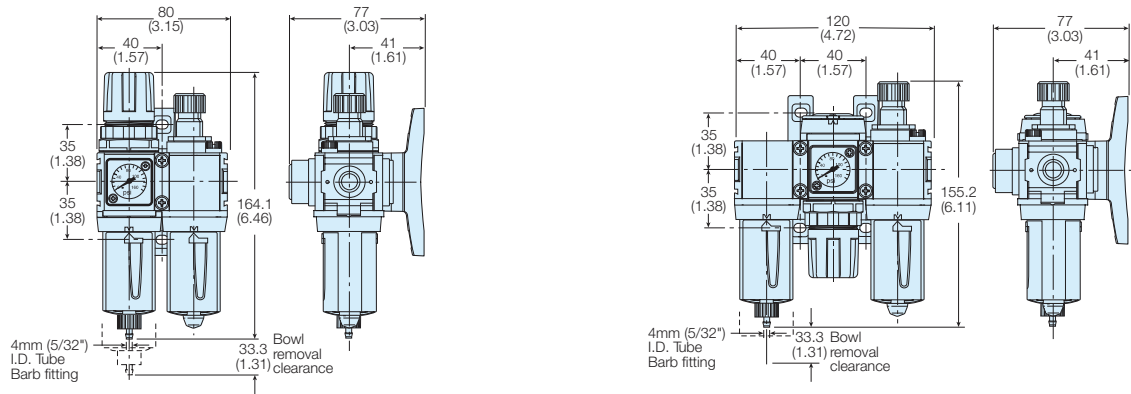
Ball Valve + Filter/Regulator Combinations + Poly bowl
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

Port size	Flow dm ³ /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	52	110	P33QN14GEMNGW	1.7 kg (3.75 lbs)	P33QN14GEANGW	1.7 kg (3.75 lbs)
3/4"	71	150	P33QN16GEMNGW	1.7 kg (3.75 lbs)	P33QN16GEANGW	1.7 kg (3.75 lbs)

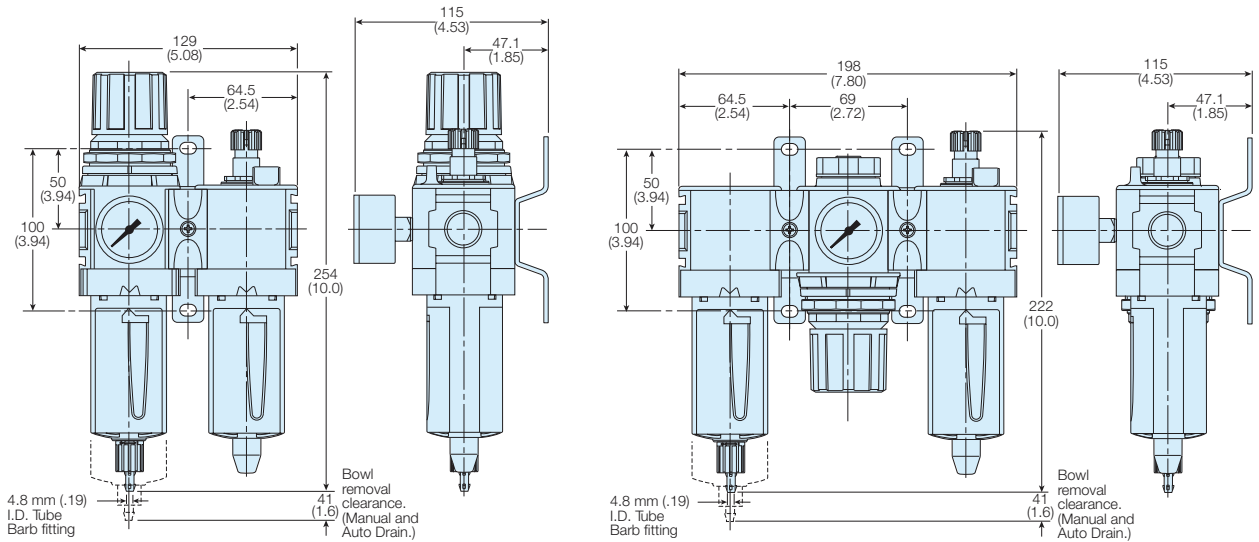
P 3 3						E		N		LN	W
Combination		Thread type		Port size		Drain type		Adjustment range		Add only for options with Lubricator	
Combination C		BSPP 1		1/2 4		Auto drain A		With round gauge			
Shut off + Combination ¹ Q		NPT 9		3/4 6		Manual drain M		0-2 bar; 0-30 psi; 0.2 MPa Z			
								4 bar; 60 psi; 0.4 MPa M			
								8 bar; 125 psi; 0.8 MPa G			
¹ Option not available with F+R+L		Combination type		Bowl type		Note: All bowl types are the same for each component					
		F/R+L A		Poly bowl with bowl guard G		Example: If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.					
		F+R+L B		Metal bowl with sight glass S							
		F/R N									

Popular Combination Dimensions - mm (inches)

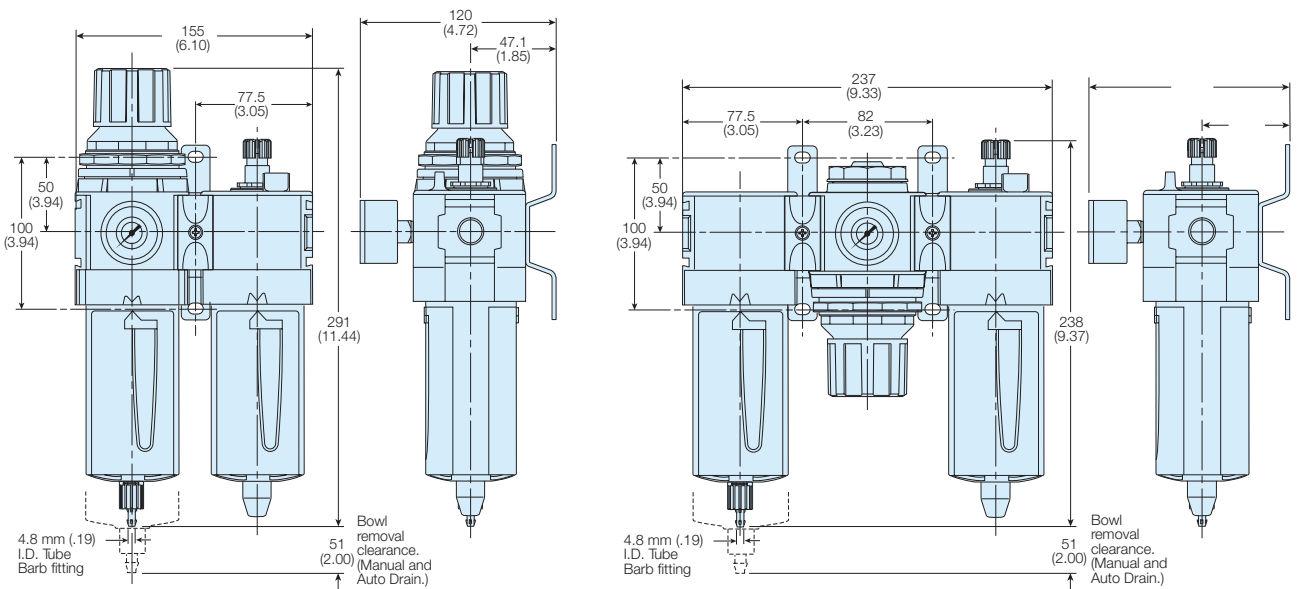
P31



P32



P33





Filters - 5 µm

Port	Description	Order code
1/4"	Poly bowl - Manual drain	P31FB12EGMN
1/4"	Poly bowl - Pulse drain	P31FB12EGBN
1/4"	Metal bowl - Manual drain	P31FB12EMMN
1/4"	Metal bowl - Pulse drain	P31FB12EMBN
1/4"	Poly bowl - Manual drain	P32FB12EGMN
1/4"	Poly bowl - Auto drain	P32FB12EGAN
1/4"	Metal bowl sight glass - Manual drain	P32FB12ESMN
1/4"	Metal bowl sight glass - Auto drain	P32FB12ESAN
3/8"	Poly bowl - Manual drain	P32FB13EGMN
3/8"	Poly bowl - Auto drain	P32FB13EGAN
3/8"	Metal bowl sight glass - Manual drain	P32FB13ESMN
3/8"	Metal bowl sight glass - Auto drain	P32FB13ESAN
1/2"	Poly bowl - Manual drain	P32FB14EGMN
1/2"	Poly bowl - Auto drain	P32FB14EGAN
1/2"	Metal bowl sight glass - Manual drain	P32FB14ESMN
1/2"	Metal bowl sight glass - Auto drain	P32FB14ESAN
1/2"	Poly bowl - Manual drain	P33FA14EGMN
1/2"	Poly bowl - Auto drain	P33FA14EGAN
1/2"	Metal bowl sight glass - Manual drain	P33FA14ESMN
1/2"	Metal bowl sight glass - Auto drain	P33FA14ESAN
3/4"	Poly bowl - Manual drain	P33FA16EGMN
3/4"	Poly bowl - Auto drain	P33FA16EGAN
3/4"	Metal bowl sight glass - Manual drain	P33FA16ESMN
3/4"	Metal bowl sight glass - Auto drain	P33FA16ESAN



Regulators

Port	Description	Order code
1/4"	8 bar relieving	P31RB12BNNP
1/4"	8 bar relieving + gauge	P31RB12BNTP
1/4"	8 bar (125 psi) Relieving	P32RB12BNNP
1/4"	8 bar (125 psi) Relieving + Gauge	P32RB12BNGP
3/8"	8 bar (125 psi) Relieving	P32RB13BNNP
3/8"	8 bar (125 psi) Relieving + Gauge	P32RB13BNGP
1/2"	8 bar (125 psi) Relieving	P32RB14BNNP
1/2"	8 bar (125 psi) Relieving + Gauge	P32RB14BNGP
1/2"	8 bar (125 psi) Relieving	P33RA14BNNP
1/2"	8 bar (125 psi) Relieving + Gauge	P33RA14BNGP
3/4"	8 bar (125 psi) Relieving	P33RA16BNNP
3/4"	8 bar (125 psi) Relieving + Gauge	P33RA16BNGP



Coalescing Filters + Absorbers - 0,01 µm

Port	Description	Order code
1/4"	Poly bowl - 0.01 µm - Manual drain	P31FB12DGMN
1/4"	Poly bowl - 0.01 µm - Pulse drain	P31FB12DGBN
1/4"	Metal bowl - 0.01 µm - Manual drain	P31FB12DMMN
1/4"	Metal bowl - 0.01 µm - Pulse drain	P31FB12DMBN
1/4"	Poly bowl - Adsorber	P31FB12AGMN
1/4"	Metal bowl - Adsorber	P31FB12AMMN
1/4"	Poly bowl - 0.01 µm, Manual drain	P32FB12DGMN
1/4"	Poly bowl - 0.01 µm, Auto drain	P32FB12DGAN
1/4"	Metal bowl sight glass - 0.01 µm, Man. drain	P32FB12DSMN
1/4"	Metal bowl sight glass - 0.01 µm, Auto drain	P32FB12DSAN
3/8"	Poly bowl - 0.01 µm, Manual drain	P32FB13DGMN
3/8"	Poly bowl - 0.01 µm, Auto drain	P32FB13DGAN
3/8"	Metal bowl sight glass - 0.01 µm, Man. drain	P32FB13DSMN
3/8"	Metal bowl sight glass - 0.01 µm, Auto drain	P32FB13DSAN
1/2"	Poly bowl - 0.01 µm, Manual drain	P32FB14DGMN
1/2"	Poly bowl - 0.01 µm, Auto drain	P32FB14DGAN
1/2"	Metal bowl sight glass - 0.01 µm, Man. drain	P32FB14DSMN
1/2"	Metal bowl sight glass - 0.01 µm, Auto drain	P32FB14DSAN
1/4"	Poly bowl - Adsorber	P32FB12AGMN
1/4"	Metal bowl sight glass - Adsorber	P32FB12ASMN
3/8"	Poly bowl - Adsorber	P32FB13AGMN
3/8"	Metal bowl sight glass - Adsorber	P32FB13ASMN
1/2"	Poly bowl - Adsorber	P32FB14AGMN
1/2"	Metal bowl sight glass - Adsorber	P32FB14ASMN
1/2"	Poly bowl - 0.01 µm, Manual drain	P33FA14DGMN
1/2"	Poly bowl - 0.01 µm, Auto drain	P33FA14DGAN
1/2"	Metal bowl sight glass - 0.01 µm, Man. drain	P33FA14DSMN
1/2"	Metal bowl sight glass - 0.01 µm, Auto drain	P33FA14DSAN
3/4"	Poly bowl - 0.01 µm, Manual drain	P33FA16DGMN
3/4"	Poly bowl - 0.01 µm, Auto drain	P33FA16DGAN
3/4"	Metal bowl sight glass - 0.01 µm, Man. drain	P33FA16DSMN
3/4"	Metal bowl sight glass - 0.01 µm, Auto drain	P33FA16DSAN
1/2"	Poly bowl - Adsorber	P33FA14AGMN
1/2"	Metal bowl sight glass - Adsorber	P33FA14ASMN
3/4"	Poly bowl - Adsorber	P33FA16AGMN
3/4"	Metal bowl sight glass - Adsorber	P33FA16ASMN



Filter Regulators - (P31) pressures 2 & 4 bar (P32/P33) pressures 2,4 & 17 bar available.

Port	Description	Order code
1/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	P31EB12EGMBNTP
1/4"	8 bar (125 psi) Relieving - Poly bowl - Pulse drain	P31EB12EGBBNTP
1/4"	8 bar (125 psi) Relieving - Metal bowl - Manual drain	P31EB12EMMBNTP
1/4"	8 bar (125 psi) Relieving - Metal bowl - Pulse drain	P31EB12EMBBNTP
1/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	P32EB12EGMBNGP
1/4"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	P32EB12EGABNGP
1/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	P32EB12ESMBNGP
1/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	P32EB12ESABNGP
3/8"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	P32EB13EGMBNGP
3/8"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	P32EB13EGABNGP
3/8"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	P32EB13ESMBNGP
3/8"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	P32EB13ESABNGP
1/2"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	P32EB14EGMBNGP
1/2"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	P32EB14EGABNGP
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	P32EB14ESMBNGP
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	P32EB14ESABNGP
1/2"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	P33EA14EGMBNGP
1/2"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	P33EA14EGABNGP
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	P33EA14ESMBNGP
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	P33EA14ESABNGP
3/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	P33EA16EGMBNGP
3/4"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	P33EA16EGABNGP
3/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	P33EA16ESMBNGP
3/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	P33EA16ESABNGP



Lubricators

Port	Description	Order code
1/4"	Poly bowl - No drain	P31LB12LGNN
1/4"	Metal bowl - No drain	P31LB12LMNN
1/4"	Poly bowl - No drain	P32LB12LGNN
1/4"	Metal bowl - No drain	P32LB12LSNN
3/8"	Poly bowl - No drain	P32LB13LGNN
3/8"	Metal bowl - No drain	P32LB13LSNN
1/2"	Poly bowl - No drain	P32LB14LGNN
1/2"	Metal bowl - No drain	P32LB14LSNN
1/2"	Poly bowl - No drain	P33LA14LGNN
1/2"	Metal bowl - No drain	P33LA14LSNN
3/4"	Poly bowl - No drain	P33LA16LGNN
3/4"	Metal bowl - No drain	P33LA16LSNN

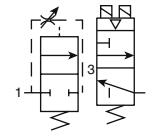


Gauges

Port	Description	Order code
P31	Square Flush Mounting Gauge Kit	0-4 bar K4511SCR04B 0-11 bar K4511SCR11B
P31	40mm Round Gauge	0-30 psi / 0-2 bar 1/8" P3D-KAB1AYN 0-60 psi / 0-4.1 bar 1/8" P3D-KAB1ALN 0-160 psi / 0-10 bar 1/8" P3D-KAB1ANN
P32 / P33	40mm Round Gauge	0-60 psi / 0-4.1 bar 1/4" P6G-ERB2040 0-160 psi / 0-10 bar 1/4" P6G-ERB2110 0-300 psi / 0-20 bar 1/4" P6G-ERB2200

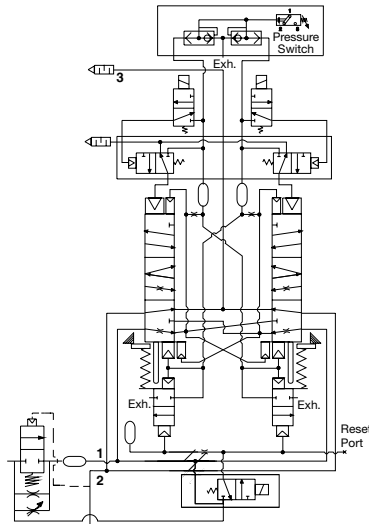
Redundant Safety Exhaust Valve

Symbol



- Proven control reliable technology with integrated soft start
- Soft start application of air to the system when energized; can be adjusted for slower or faster buildup of system pressure
- Rapid exhaust of downstream air when de-energized to remove stored energy and allow safe access
- Memory, monitoring, and air flow control functions are integrated into two identical valve elements. Valves lock-out if asynchronous movement of valve elements occurs during actuation or de-actuation, resulting in a residual outlet pressure of less than 1% of supply.
- Reset can only be accomplished by the integrated electrical (solenoid) reset. Cannot be reset by removing and re-applying supply pressure.
- Basic 3/2 normally closed valve function: Dirt tolerant, wear compensating poppet design for quick response and high flow capacity.
- LED indicators of main solenoid operation, reset solenoid operation, and status indicator condition.
- Optional transducer for monitoring of downstream pressure in the system.
- Dual exhaust silencers included.
- Not for use with clutch / brake applications.
- For use in conjunction with a safety relay or safety PLC.

P33T Schematic



Options:

P33TA		6	R	G	4		2CN
Body size		Port size		Operator		Solenoid	Voltage
Standard P33T		3/4" 6		15mm Solenoid G		Dual M12 connector without transducer F	24VDC with manual override 2CN
	Thread type	Type		Mounting		Triple M12 connector with transducer G	
	BSP 1	Solenoid pilot + gauge R		Cat 4 w/ bracket 4			
	NPT 9						

Port size			Cv		Height mm (inches)	Width mm (inches)	Depth mm (inches)	Weight kg (lb)	Part number*
Inlet	Outlet	Transducer	1 to 2	2 to 3					
3/4	3/4	w/o transducer	3.7	8.5	273.8 (10.78)	136.0 (5.35)	147.6 (581)	7.3 (16.1)	P33TA16RG4F2CN
3/4	3/4	w/ transducer	3.7	8.5	273.8 (10.78)	136.0 (5.35)	147.6 (581)	7.4 (16.3)	P33TA16RG4G2CN

* BSP port threads. For NPT threads, replace "1" in the part number with a "9".

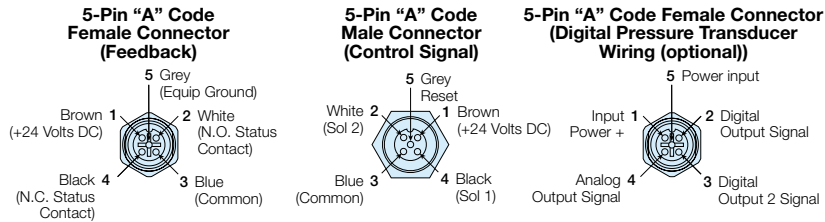
Technical Information

Pilot Solenoids:	According to VDE 0580
Enclosure rating:	According to DIN 400 50 IP65
Connector socket:	According to DIN 43650 Form A Three solenoids, rated for continuous duty
Standard voltages:	24VDC
Power consumption (each solenoid): for primary and reset solenoids:	1.2 Watts on DC
Enclosure rating:	IP65, IEC 60529
Electrical connection:	M12, 5-pin
Ambient temperature:	15°F to 122°F (-10°C to 50°C)
Media temperature:	40°F to 175°F (4°C to 80°C)
Flow media:	Compressed Air, Filtered to Minimum 40 Micron
Inlet pressure:	30 to 150 PSIG (2 to 10 bar)
Pressure switch rating (Status indicator):	5 Amps at 30 Volts DC.
Monitoring:	Dynamically, cyclically, internally during each actuating and de-actuating movement. Monitoring function has memory and requires an overt act to reset unit after lockout.
Mounting orientation:	Vertically with pilot solenoids on top
Port threads:	3/4 NPT, 3/4 BSPP
Control reliable:	Category 4 (Cat 4); performance Level e (PLe) in accordance with Machine directive - EN ISO 13849-1 (Certification pending)

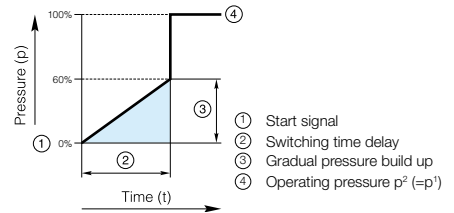
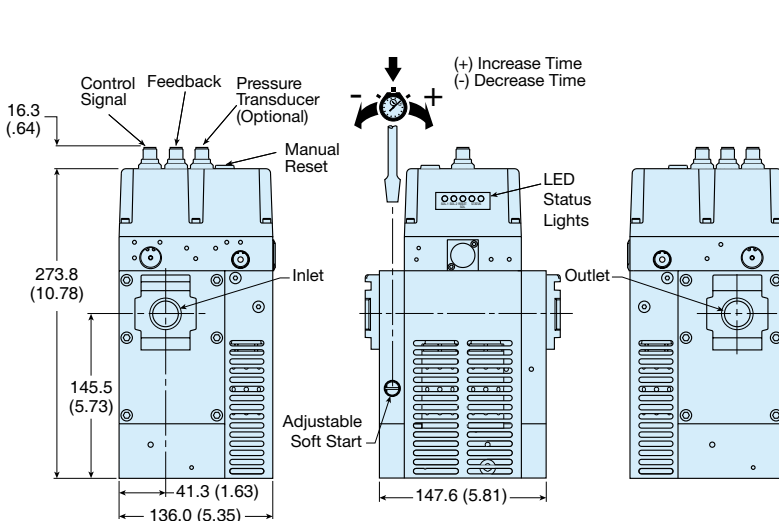
Repair and Service Kits

Description	Part number
Black grill	1834C05-001
Body connector	P32KA00CB
Cables	
M12, 5-pin female to flying lead cable, TPE; 2 m (6.6 ft).....	RKC 4.5T-2/S1587
M12, 5-pin male to flying lead cable, TPE; 2 m (6.6 ft).....	RSC 4.5T-2/S1587
Port block kit	
1/2 NPT	P32KA94CP
3/4 NPT	P32KA96CP
1/2 BSPP	P32KA14CP
3/4 BSPP	P32KA16CP
Pressure switch	1227A30-001
Pressure transducer (Optional)	1232H30-001
T-bracket w/ body connector	P32KA00MT
T-bracket (Fits to body connector or port block)	P32KA00MB
Silencer(s) 3/4"	5500A5013
Solenoid (Main & reset)	1527B7916-001
Square flush mounting gauge kit, 0-160 psig	K4511SCR160

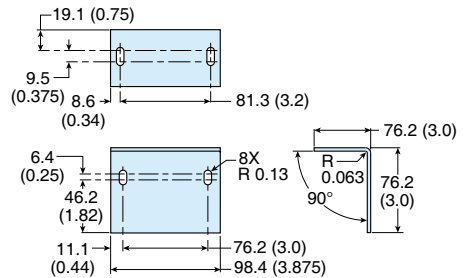
Valve Wiring



Dimensions mm (inches)



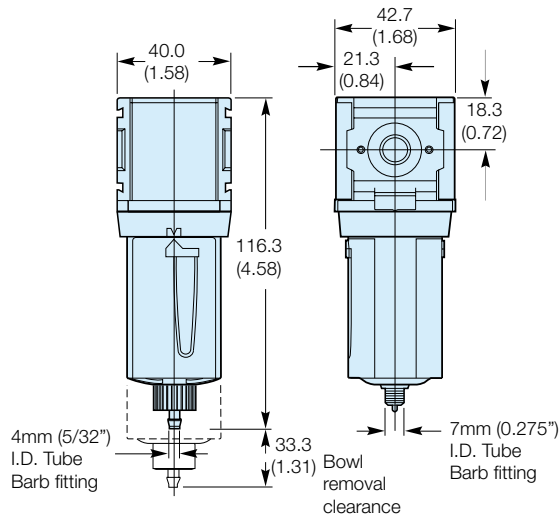
Angle Mounting Bracket



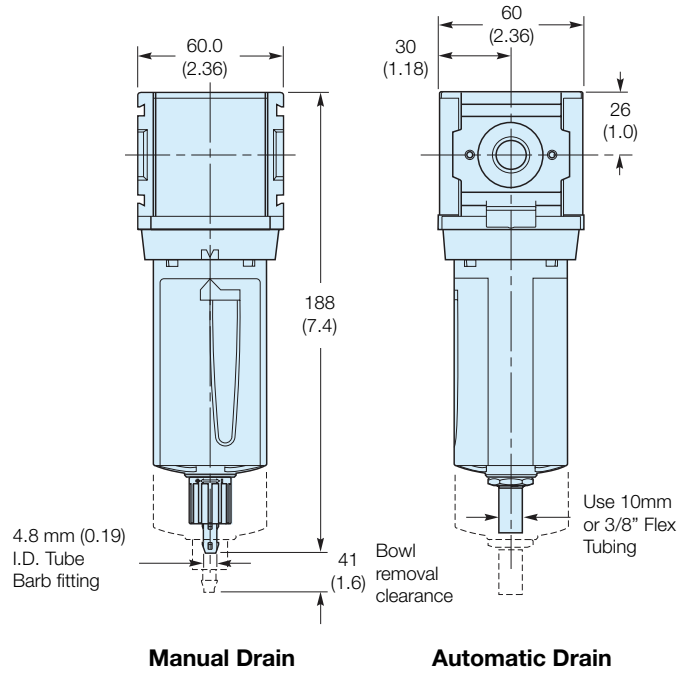
Note: Mounting bracket and installation screws included and required to install unit in the system.

Filter Dimensions - mm (inches)

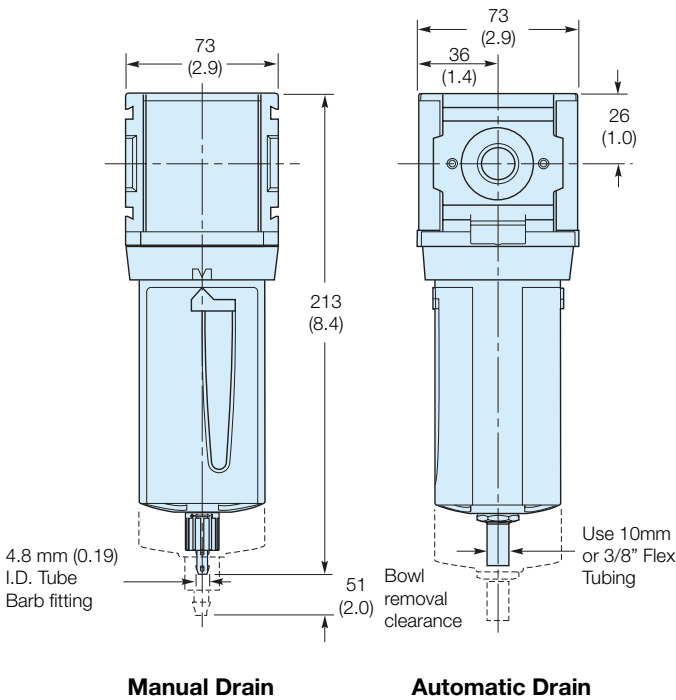
P31



P32

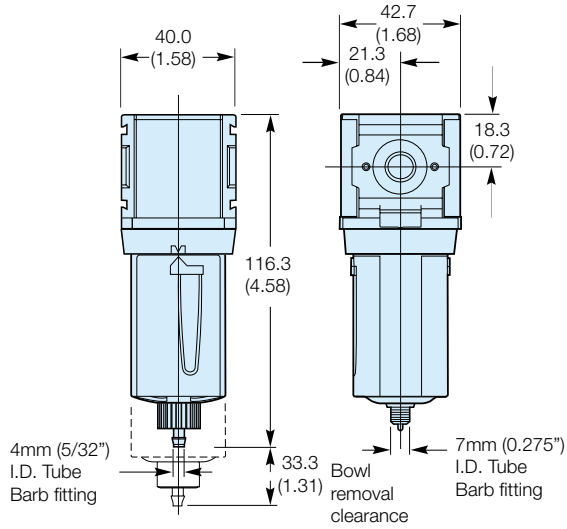


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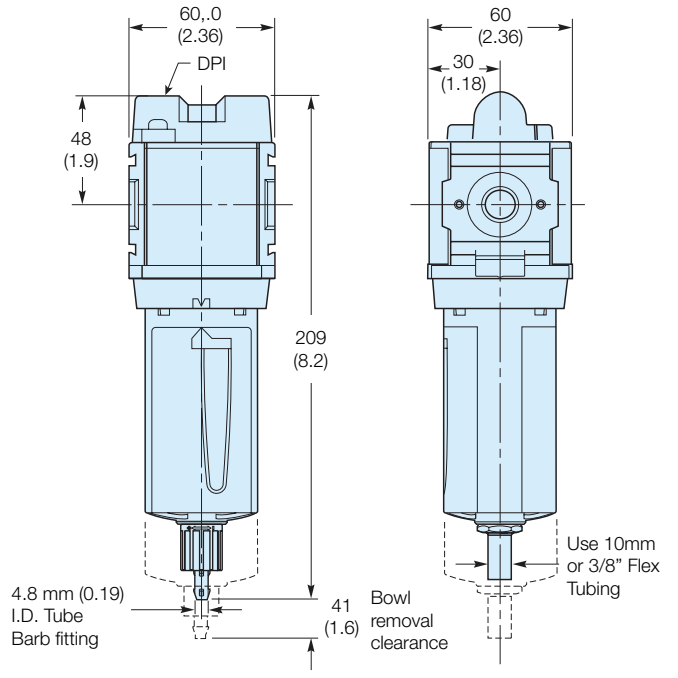


Coalescing / Adsorber Filter Dimensions - mm (inches)

P31



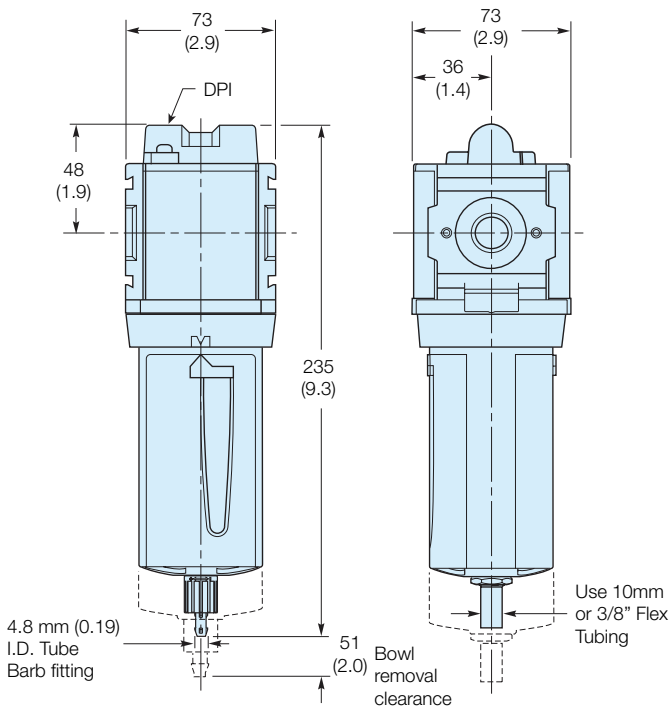
P32



Manual Drain

Automatic Drain

P33

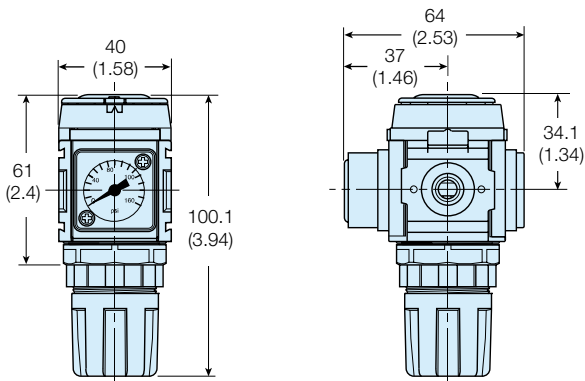


Manual Drain

Automatic Drain

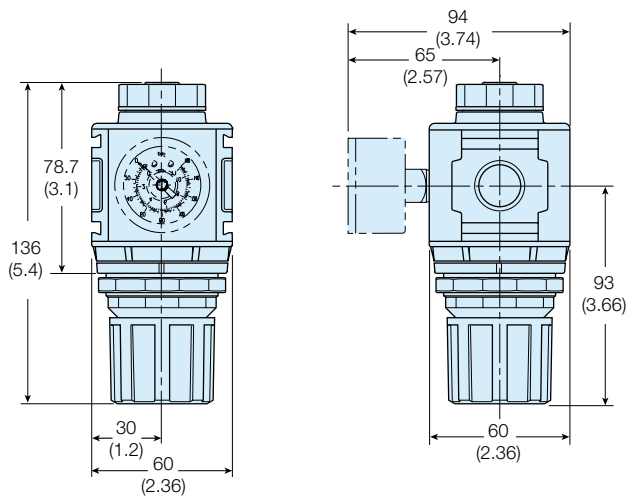
Regulator Dimensions - mm (inches)

P31



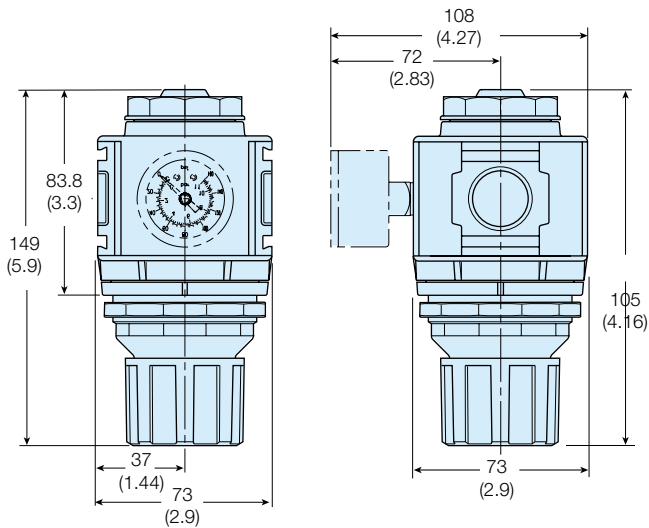
NOTE: Ø 30 mm hole required for panel nut mounting.

P32



NOTE: Ø 47 mm hole required for panel nut mounting.

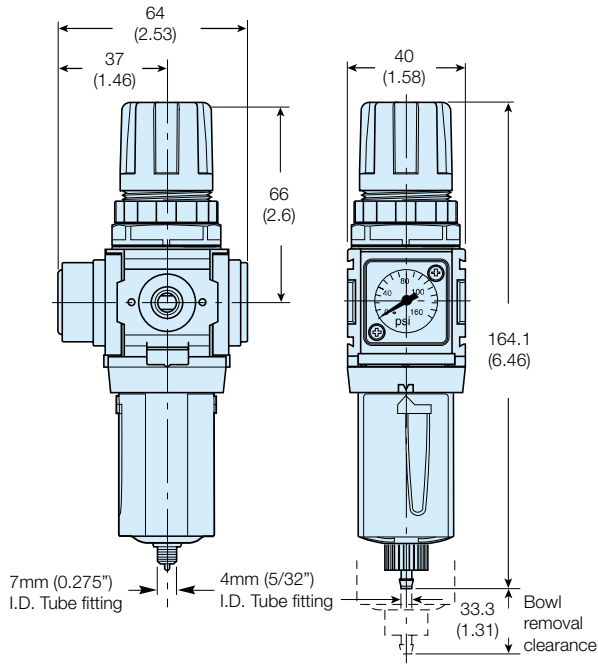
P33



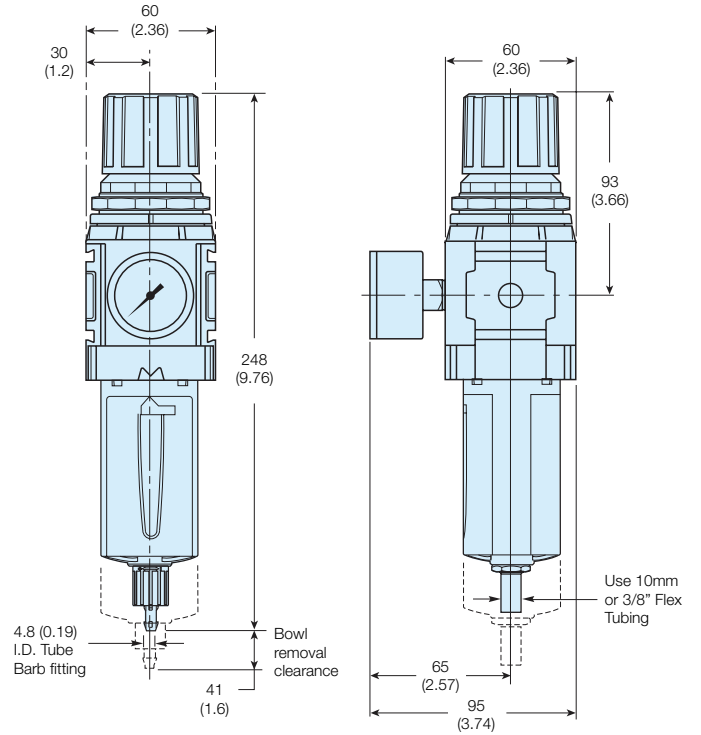
NOTE: Ø 60 mm hole required for panel nut mounting.

Filter Regulator Dimensions - mm (inches)

P31



P32

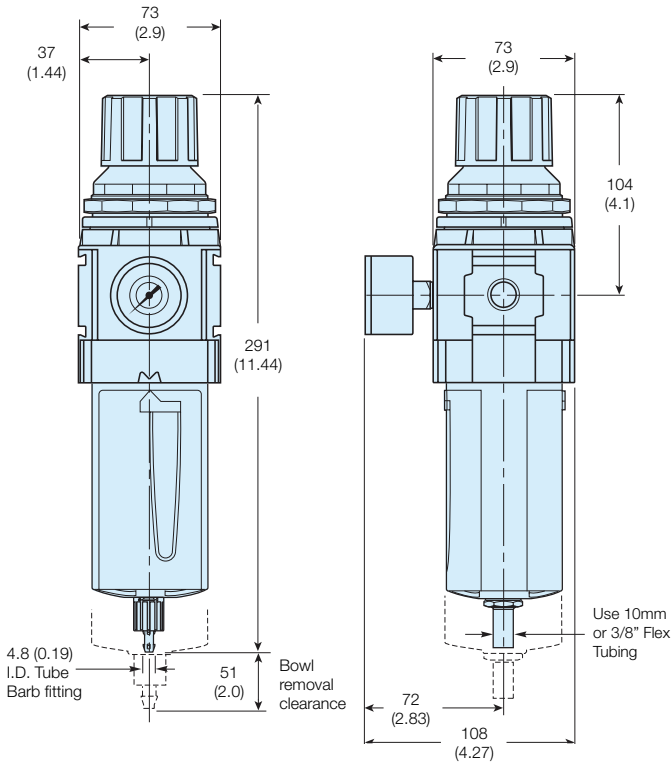


Note:
 Flush-mounted gauge kits will not fit units originally purchased with threaded gauge ports.

Manual Drain

Automatic Drain

P33

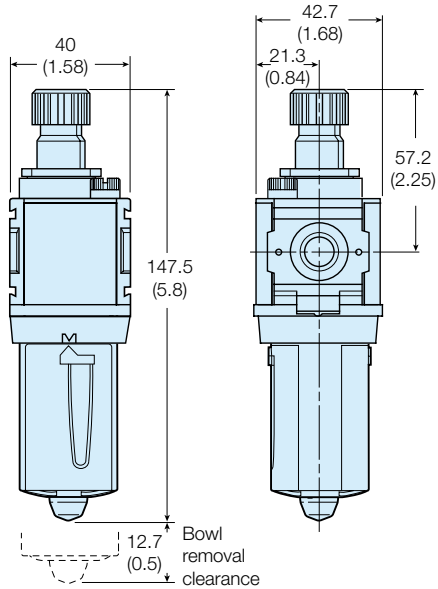


Manual Drain

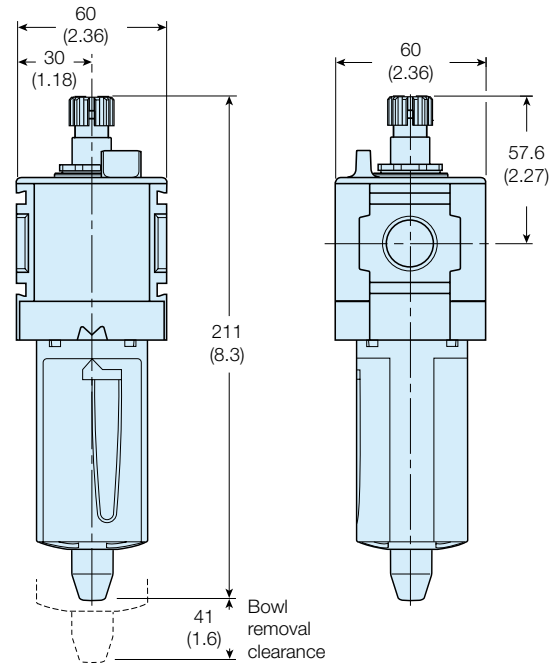
Automatic Drain

Lubricator Dimensions - mm (inches)

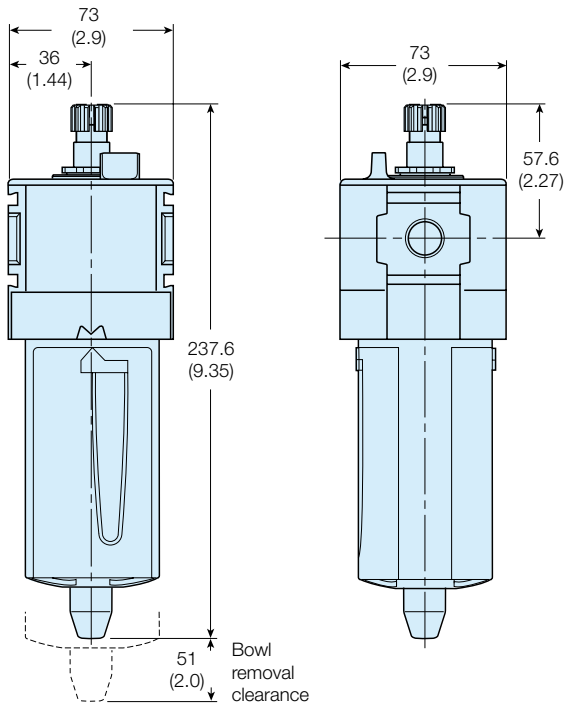
P31



P32

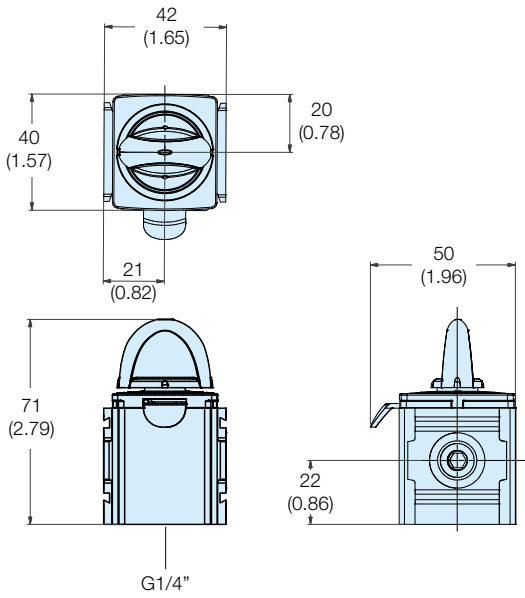


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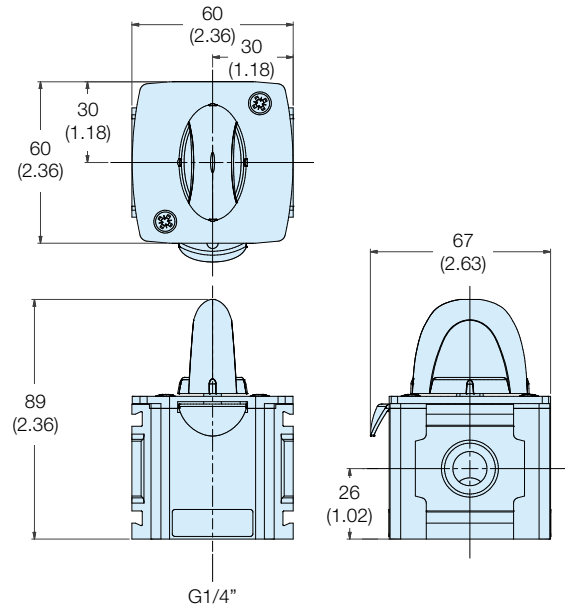


Modular Ball Valve Dimensions - mm (inches)

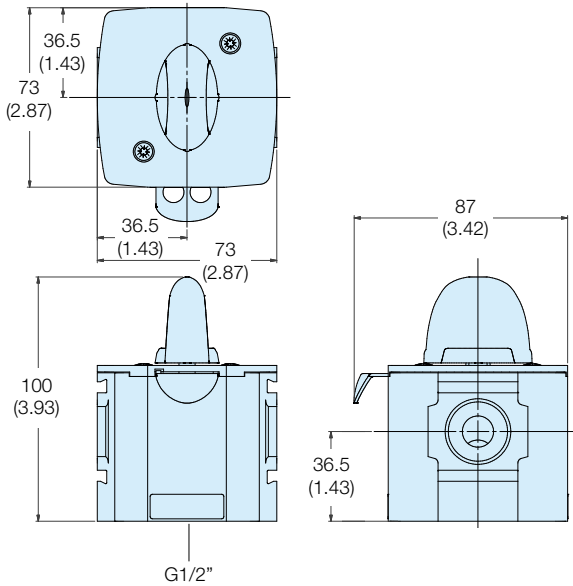
P31



P32

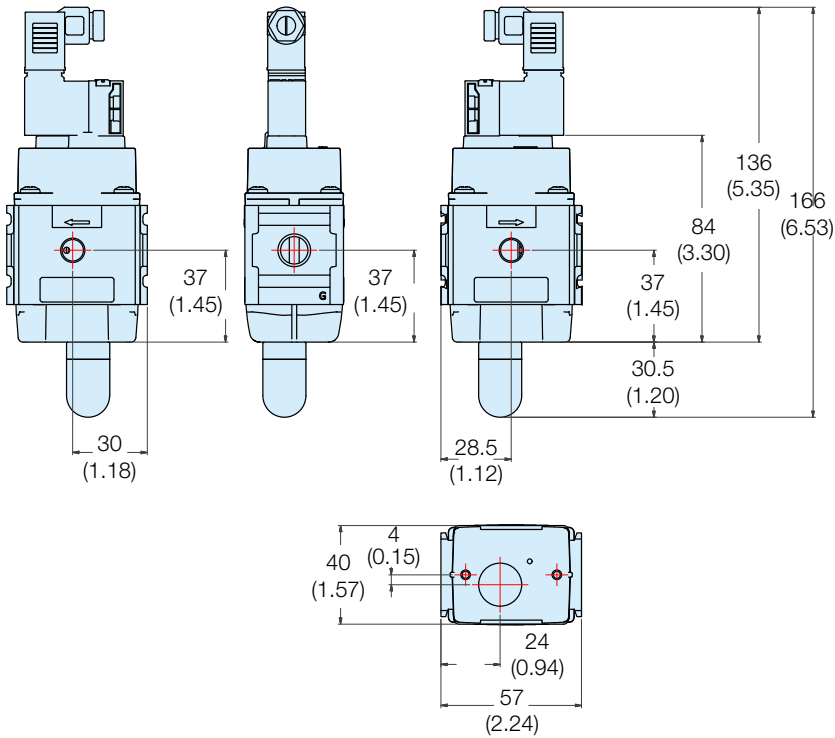


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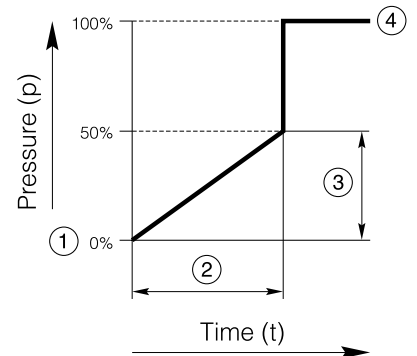
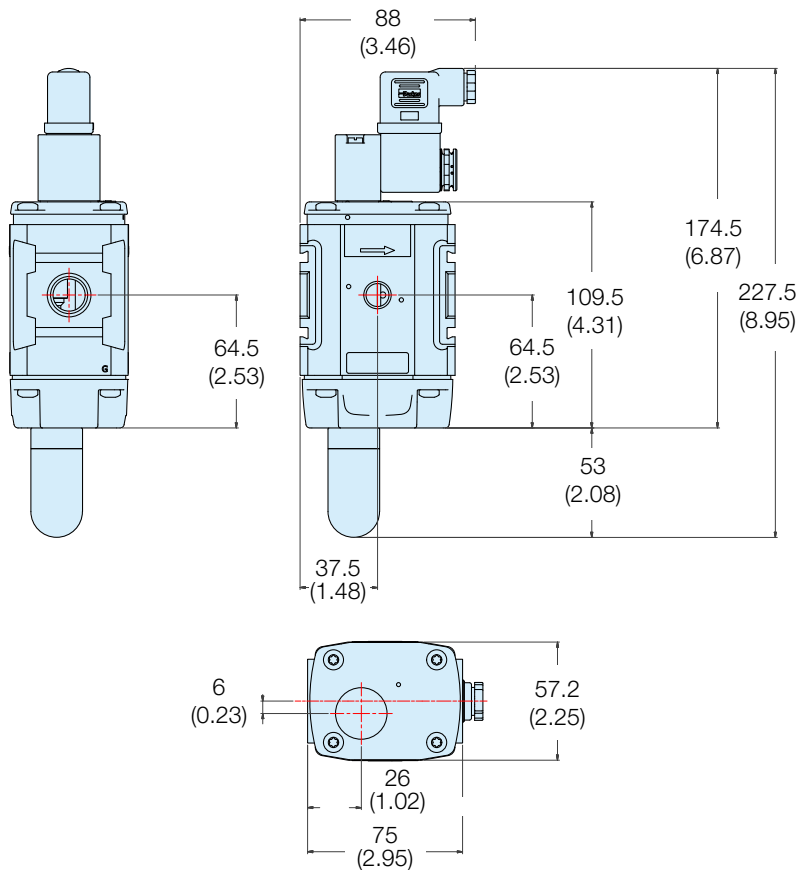


**Combined Soft Start Dump Valve and Remote Operated Dump Valve
Dimensions - mm (inches)**

P31



P32



- ① Start signal
- ② Switching time delay
- ③ Gradual pressure build up
- ④ Operating pressure p² (=p¹)

Combined Soft Start Dump Valve and Remote Operated Dump Valve

Port	Description	Order code
1/4	Solenoid operated (not included)	P31TA12SGN0000
1/4	24VDC Solenoid & cable plug	P31TA12SGNC2CN
1/4	Air pilot operated	P31TA12PPN
1/2	Solenoid operated (not included)	P32TA14SCN0000
1/2	24VDC 30mm coil & cable plug incl.	P32TA14SCNA2CN
1/2	Air pilot operated	P32TA14PPN
1/2	Solenoid operated (not included) Category 2 - Machine Directive Valve Contact - Sales Office for further details.	P32TA14SC20000

Soft Start Valve

Port	Description	Order code
1/4	Solenoid operated (not included)	P31SA12SGN0000
1/4	24VDC Solenoid & cable plug	P31SA12SGNC2CN
1/4	External air pilot (1/8 threaded)	P31SA12PPN
1/2	Solenoid operated (not included)	P32SA14SCN0000
1/2	24VDC 30mm coil & cable plug	P32SA14SCNA2CN
1/2	Internal air pilot operated	P32SA14Y0N
1/2	External air pilot (1/8 threaded)	P32SA14PPN

Remote Operated Dump Valve

Port	Description	Order code
1/4	Solenoid operated (not included)	P31DA12SGN0000
1/4	24VDC Solenoid & cable plug	P31DA12SGNC2CN
1/4	Air pilot operated	P31DA12PPN
1/2	Solenoid operated (not included)	P32DA14SCN0000
1/2	24VDC 30mm coil & cable plug incl.	P32DA14SCNA2CN
1/2	Air pilot operated	P32DA14PPN
1/2	Solenoid operated (not included) Category 2 - Machine Directive Valve Contact - Sales Office for further details.	P32DA14SC20000

C-Bracket

(Fits to filter and lubricator body)

P31
P31KA00MW

L-Bracket

(Fits to filter and lubricator body)

P32	P33
P32KA00ML	P33KA00ML

Body Connector 'O' ring kit -

Pack of 5

P31	P32
P31KA00CY	P32KA00CY

T-Bracket

(Fits to body connector or port block)

P32	P33
P32KA00MB	P33KA00MB

Angle Bracket

(Fits to regulator and filter/regulator)

P31	P32	P33
P31KB00MR	P32KB00MR	P33KA00MR

Body Connector

P31	P32	P33
P31KA00CB	P32KA00CB	P33KA00CB

Modular Ball Valve / Lockout Valve

Model type	Port size	Thread type	Flow dm ³ /s (scfm)	Modular Ball Valve Flow from left to right
P31	1/4"	BSPP	20 (42.4)	P31VB12LBNN
P32	3/8"	BSPP	90 (190.7)	P32VB13LBNN
	1/2"	BSPP	122 (258.5)	P32VB14LBNN
P33	1/2"	BSPP	122 (258.5)	P33VB14LBNN
	3/4"	BSPP	122 (258.5)	P33VB16LBNN

For thread type: BSPP 1
NPT 9

Manifold Blocks

Model Type	In / Out Port Size	Auxiliary Port Size Top	Auxiliary Port Size Bottom	Thread Type	Order Code
P31	1/4"	1/4"	1/4"	BSPP	P31MA12022N
P32	1/2"	1/4"	1/2"	BSPP	P32MA14024N
P33	3/4"	1/4"	1/2"	BSPP	P33MA16024N

For thread type: BSPP 1
NPT 9

Branch Manifold

P32	1/2"	1/4"	1/4"	BSPP	P32MD14022N
P32	1/4"	1/4"	1/4"	BSPP	P32MD12022N

T-Bracket w / Body Connector

P31	P32	P33
P31KA00MT	P32KA00MT	P33KA00MT

Panel mounting nut (Aluminium)

P31	P32	P33
P31KA00MM	P32KA00MM	P33KA00MM



Accessories Kits

Series	Description	Order Code	
P31 P32 P33	Panel Mount Nut (Plastic)	P31KA00MP P32KA00MP P33KA00MP	
P31 P32 P33	Panel Mount Nut (Aluminium)	P31KA00MM P32KA00MM P33KA00MM	
P31 P32 P33	5µ Element Kit	P31KA00ESE P32KA00ESE P33KA00ESE	
P31 P32 P33	40µ Element Kit	P31KA00ESG P32KA00ESG P33KA00ESG	
P31 P32 P33	1µ Element Kit	P31KA00ES9 P32KA00ES9 P33KA00ES9	
P31 P32 P33	0.01µ Element Kit	P31KA00ESC P32KA00ESC P33KA00ESC	
P31 P32 P33	Adsorber Element Kit	P31KA00ESA P32KA00ESA P33KA00ESA	
P32 / P33	Auto Drain Kit	P32KA00DA	
P31 P32 / P33	Differential Pressure Indicator Kit	P31KB00RQ P32KA00RQ	
P31 P32 / P33	Fill Plug Kit	P31KA00PL P32KA00PL	
P31 / P32 / P33	Drip Control Assembly Kit	P32KA00PG	

Accessories Kits

Series	Description	Order Code	
P31 P32 P33	Plastic Bowl with Bowl Guard & Manual Drain	P31KB00BGM P32KB00BGM P33KA00BGM	
P31	Plastic Bowl with Bowl Guard & Pulse Drain	P31KB00BGB	
P32 P33	Plastic Bowl with Bowl Guard & Auto Drain	P32KB00BGA P33KA00BGA	
P31	Metal Bowl without Sight Gauge & Pulse Drain	P31KB00BMB	
P32 P33	Metal Bowl with Sight Gauge & Manual Drain	P32KB00BSM P33KA00BSM	
P32 P33	Metal Bowl with Sight Gauge & Auto Drain	P32KB00BSA P33KA00BSA	
P31 P32 P33	Lubricator - Plastic Bowl with Bowl Guard & Close End	P31KB00BGN P32KB00BGN P33KA00BGN	
P31 P32 P33	Lubricator - Metal Bowl Without Sight Gauge, No Drain Lubricator - Metal Bowl With Sight Gauge, No Drain Lubricator - Metal Bowl With Sight Gauge, No Drain	P31KB00BMN P32KB00BSN P33KA00BSN	

- Compact body ported units.
- Port size G¹/₄
- Unique deflector plate ensuring maximum water and particulate removal.
- Solid control piston with lip seal for extended life.
- Proportional oil delivery over a wide range of air flows.
- Tamperproof options available.



Operating information		Flow characteristics	
Working pressure:	Max 10 bar	Flow dm³/s	1/4
Working temperature:	-10 °C to +52 °C	Filter	30.5
		Coalescing Filter	5.9
		Adsorber Filter	5.9
		Regulator	12.9
		Regulator - Brass	9.8
		Filter Regulator	9.2
		Lubricator	23.3

Filters

Port size	Description	Order Code
G1/4	Poly bowl - Manual drain - 5µ	P3LFA12EPPN
G1/4	Poly bowl - Pulse drain - 5µ	P3LFA12EPSN
G1/4	Poly bowl - Manual drain - 40µ	P3LFA12GPPN
G1/4	Poly bowl - Pulse drain - 40µ	P3LFA12GPSN
	Individual mounting bracket - P3LFA / P3LLA	P3LKA00MW

Regulators - 2 & 4 bar - relieving type & non relieving type

Port size	Description	Order Code
G1/4	8 bar relieving	P3LRA12BNNP
G1/4	8 bar relieving + gauge	P3LRA12BNGP
G1/4	8 bar relieving + Tamperproof	P3LRA12BANP
G1/4	8 bar relieving + gauge - Tamperproof	P3LRA12BAGP

Regulators (Brass) - 2, 4 & 16 bar-relieving type & non relieving type

Port size	Description	Order Code
G1/4	8 bar relieving	P3LRX12BNNP
G1/4	8 bar relieving + gauge	P3LRX12BNGP
G1/4	16 bar relieving	P3LRX12BNHP
G1/4	8 bar relieving + Tamperproof	P3LRX12BANP
G1/4	8 bar relieving + gauge - Tamperproof	P3LRX12BAGP
G1/4	16 bar relieving + Tamperproof	P3LRX12BAHP

Pressure Gauges

40mm (1 1/2") Round 1/8" center back mount		
		Order Code
0-30 PSIG / 0-2 bar	(2)	KZ8810-00
0-58 PSIG / 0-4 bar	(4)	KZ8811-00
0-160 PSIG / 0-10 bar	(10)	KZ8813-00

Coalescing Filters - 0.01µ element

Port size	Description	Order Code
G1/4	Poly bowl - Manual drain - 0.01µ	P3LFA12CPPN
	Individual mounting bracket - P3LFA / P3LLA	P3LKA00MW

Adsorber Filters

Port size	Description	Order Code
G1/4	Poly bowl - Adsorber	P3LFA12APPN

Filter/Regulators - 2 & 4 bar pressure, 40µ available

Port size	Description	Order Code
G1/4	8 bar relieving - Poly bowl Manual drain - 5µ	P3LEA12EPPBNNP
G1/4	8 bar relieving - Poly bowl Semi auto-drain - 5µ	P3LEA12EPSBNNP
G1/4	8 bar relieving - Poly bowl Manual drain + Gauge - 5µ	P3LEA12EPPBNGP
G1/4	8 bar relieving - Poly bowl Semi auto-drain + Gauge - 5µ	P3LEA12EPSBNGP

Lubricators

Port size	Description	Order Code
G1/4	Poly bowl - No drain	P3LLA12LPNN
	Lubricator OIL VG32-1 Litre	P3YKA00PPBB

Filter/Regulator + Lubricator Combination

Available in boxed quantities of 25

Port size	Description	Order Code
G1/4	Manual push drain	P3LCA12PEPNGLNWQ25
G1/4	Semi auto drain	P3LCA12PESNGLNWQ25

