



# 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](http://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
<b>Moduflex 1</b>	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
<b>Isys Micro</b>	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
<b>HB / Viking Xtreme</b>	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
<b>Moduflex 2</b>	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
<b>HA / Global ISO</b>	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow

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
	2	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
	4	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
	6	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
	8	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
	10	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow


**P31 Mini Series**



**P32 Compact Series**



**P33 Standard Series**



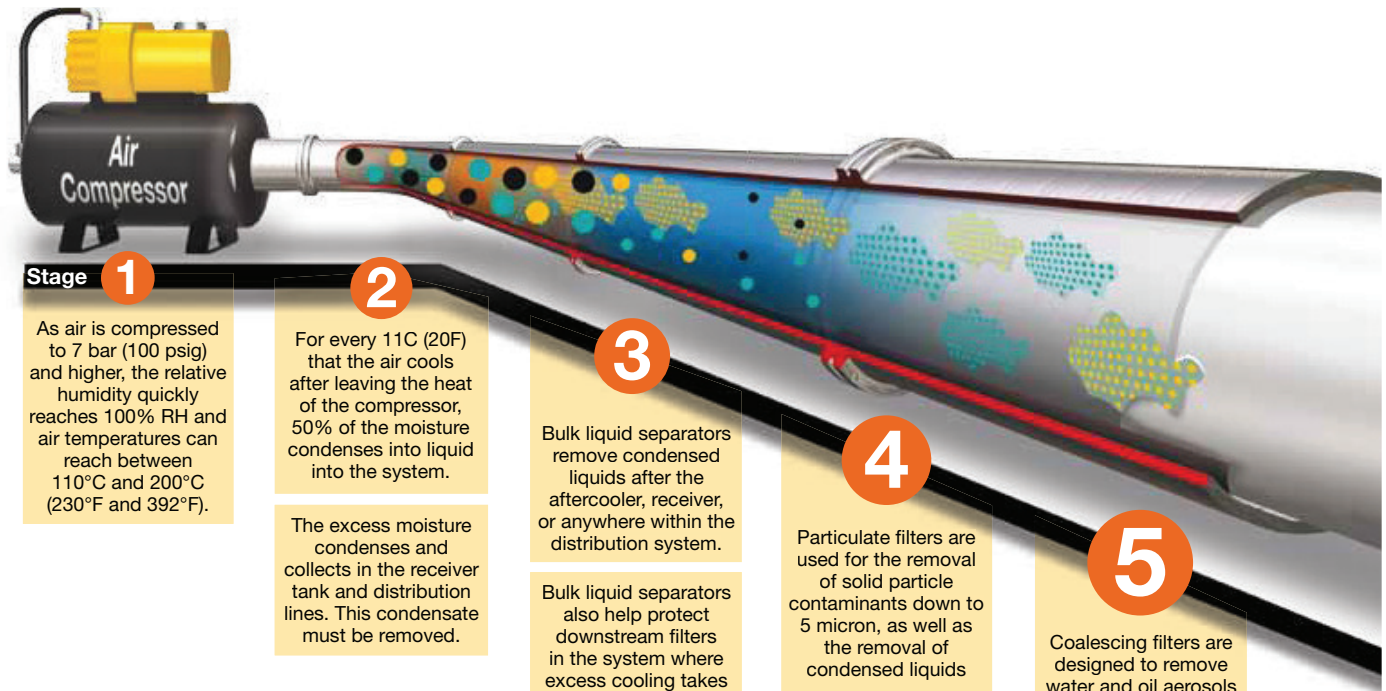
See Larger  
Parker FRL Offering

**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



### Stage 1

As air is compressed to 7 bar (100 psig) and higher, the relative humidity quickly reaches 100% RH and air temperatures can reach between 110°C and 200°C (230°F and 392°F).

### 2

For every 11C (20F) that the air cools after leaving the heat of the compressor, 50% of the moisture condenses into liquid into the system.

The excess moisture condenses and collects in the receiver tank and distribution lines. This condensate must be removed.

### 3

Bulk liquid separators remove condensed liquids after the aftercooler, receiver, or anywhere within the distribution system.

Bulk liquid separators also help protect downstream filters in the system where excess cooling takes place.

### 4

Particulate filters are used for the removal of solid particle contaminants down to 5 micron, as well as the removal of condensed liquids

Note: Water and oil, in vapor form, pass through general purpose particulate filters.

This type of filter should be used as a prefilter for the coalescing (oil removal) filter.




### 5

Coalescing filters are designed to remove water and oil aerosols (not vapor) and particulate from air streams down to 0.01 micron in size.

Installed in pairs, Particulate and Coalescing filters ensure a continuous supply of high quality air.

### Key

- Particulate
- Oil
- Water
- Oil Vapor
- Water Vapor

						
<b>Stages</b>	<b>1 2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Function</b>	<b>Air Compressor</b>	<b>Bulk Liquid Removal</b>	<b>Particulate Filtration</b>	<b>Coalescing Filtration</b>	<b>Air Dryers</b>	<b>Hydrocarbon Removal</b>
<b>Application</b>	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
<b>Description</b>	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.
<b>Parker Global Air Preparation Solution</b>	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 Ltd**  
**Pneumatic Division**  
**The Collins Centre**  
**Lichfield South**  
**Lichfield**  
**WS14 0QP**  
**UK**

Product	Series	Category
Filter*	P31FA, P32FA, P33FA	for zone 1, 21
Regulator	P31RA, P32RA, P33RA	for zone 1, 21
Filter regulator*	P31EA, P32EA, P33EA	for zone 1, 21
Lubricator*	P31LA, P32LA, P33LA	for zone 1, 21
Ball Valve & Slide Valve	P31VA, P32VA, P33VA	for zone 1, 21
Manifold	P31MA, P32MA, P33MA	for zone 1, 21
<b>For non-fitted solenoid product</b>		
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 specification 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:

**A. MacGuire**  
 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.



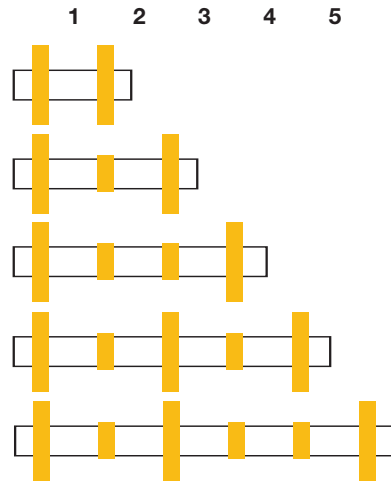
**CEI/ICE 61373 1999-1 Category 2 (BS EN 61373:1999)**

**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



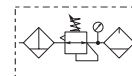
Operating information		Flow characteristics					
Working pressure :		<b>40mm body width</b>		<b>60mm body width</b>		<b>73mm body width</b>	
Plastic bowl: 10 bar max		<b>1/4" Ported</b>		<b>1/4", 3/8", &amp; 1/2" Ported</b>		<b>1/2" &amp; 3/4" Ported</b>	
Metal bowl: 17 bar max		<b>Flow</b>	<b>dm<sup>3</sup>/s</b>	<b>Flow</b>	<b>dm<sup>3</sup>/s</b>	<b>Flow</b>	<b>dm<sup>3</sup>/s</b>
Working temperature :		Filter	12	Filter	38	Filter	48
* Plastic bowl: -10°C to +52°C		Coalescing Filter	2	Coalescing Filter	11	Coalescing Filter	20
* Metal bowl: -10°C to +65.5°C		Regulator	30	Regulator	67	Regulator	100
* Refer to Technical Catalogue for individual unit temperatures		Filter Regulator	14	Filter Regulator	64	Filter Regulator	98
		Lubricator	13	Lubricator	47	Lubricator	68

**Popular Combinations - P31 Series**

	<b>Filter + Regulator + Lubricator Combinations + Poly bowl</b> <b>5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets</b> <b>Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.</b>						
	Port size	Flow dm <sup>3</sup> /s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight
	1/4"	13	27	<b>P31CB12GEMNTLNW</b>	0.46 kg	<b>P31CB12GEBNTLNW</b>	0.46 kg
	<b>Filter/Regulator + Lubricator Combinations + Poly bowl</b> <b>5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets</b> <b>Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.</b>						
	Port size	Flow dm <sup>3</sup> /s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight
	1/4"	14	28	<b>P31CA12GEMNTLNW</b>	0.35 kg	<b>P31CA12GEBNTLNW</b>	0.35 kg
	<b>Slide Valve + Filter/Regulator + Lubricator Combinations + Poly bowl</b> <b>5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets</b> <b>Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.</b>						
	Port size	Flow dm <sup>3</sup> /s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight
	1/4"	14	28	<b>P31YA12GEMNTLNW</b>	0.54 kg	<b>P31YA12GEBNTLNW</b>	0.54 kg
	<b>Slide Valve + Filter/Regulator Combinations + Poly bowl</b> <b>5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets</b> <b>Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.</b>						
	Port size	Flow dm <sup>3</sup> /s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight
	1/4"	14	28	<b>P31YN12GEMNTW</b>	0.4 kg	<b>P31YN12GEBNTW</b>	0.4 kg

P 3 1	E	N	L N	W
<b>Combination</b> Combination <b>C</b> Shut off + Combi <sup>1</sup> <b>Y</b>	<b>Thread type</b> BSPP <b>1</b> NPT <b>9</b>	<b>Port size</b> 1/4 <b>2</b>	<b>Drain type</b> Manual drain <b>M</b> Pulse drain <b>B</b>	<b>Adjustment range</b> With square gauge 2 bar * <b>V</b> 4 bar <b>S</b> 8 bar ** <b>T</b>
<b>Combination type</b> F/R+L <b>A</b> F+R+L <b>B</b> F/R <b>N</b>	<b>Bowl type</b> Poly bowl with bowl guard <b>G</b> Metal bowl without sight glass <b>M</b>	Add only for options with Lubricator		
<b>Note:</b> All bowl types are the same for each component <b>Example:</b> If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.				
* Unit comes with 0-4 bar, gauge respectively ** Unit comes with 0-10 bar, gauge respectively <sup>1</sup> Option not available with F+R+L				

Popular Combinations - P32 Series



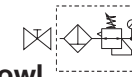
**Filter + Regulator + Lubricator Combinations + Poly bowl**  
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets  
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

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



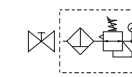
**Filter/Regulator + Lubricator Combinations + Poly bowl**  
5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets  
Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.

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



**Slide 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 <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/4"	22 45	<b>P32YA12GEMNGLNW</b>	1.5 kg	<b>P32YA12GEANGLNW</b>	1.5 kg
3/8"	33 70	<b>P32YA13GEMNGLNW</b>	1.5 kg	<b>P32YA13GEANGLNW</b>	1.5 kg
1/2"	43 90	<b>P32YA14GEMNGLNW</b>	1.5 kg	<b>P32YA14GEANGLNW</b>	1.5 kg



**Slide 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 <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/4"	22 45	<b>P32YN12GEMNGW</b>	1.1 kg	<b>P32YN12GEANGW</b>	1.1 kg
3/8"	33 70	<b>P32YN13GEMNGW</b>	1.1 kg	<b>P32YN13GEANGW</b>	1.1 kg
1/2"	43 90	<b>P32YN14GEMNGW</b>	1.1 kg	<b>P32YN14GEANGW</b>	1.1 kg

**P 3 2**

<b>Combination</b>	<b>Thread type</b>	<b>Port size</b>	<b>Drain type</b>
Combination <b>C</b>	BSPP <b>1</b>	1/4 <b>2</b>	Auto drain <b>A</b>
Shut off + Combination <sup>1</sup> <b>Y</b>	NPT <b>9</b>	3/8 <b>3</b>	Manual drain <b>M</b>
		1/2 <b>4</b>	

<b>Combination type</b>	<b>Bowl type</b>	<b>Adjustment range</b>	<b>LN W</b>
F/R+L <b>A</b>	Poly bowl with bowl guard <b>G</b>	<b>With round gauge</b>	Add only for options with Lubricator
F+R+L <b>B</b>	Metal bowl with sight glass <b>S</b>	0-2 bar; 0-30 psi; 0.2 MPa <b>Z</b>	
F/R <b>N</b>		4 bar; 60 psi; 0.4 MPa <b>M</b>	
		8 bar; 125 psi; 0.8 MPa <b>G</b>	
		17 bar; 250 psi; 1.7 MPa <sup>⊙</sup> <b>J</b>	

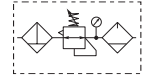
<sup>1</sup> Option not available with F+R+L.

**Note:** All bowl types are the same for each component

**Example:** If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.

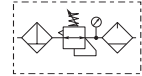
<sup>⊙</sup> Only available with metal bowl option

Popular Combinations - P33 Series



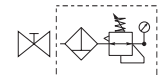
**Filter + Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

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



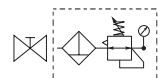
**Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

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



**Slide 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 <sup>3</sup> /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	52	110	<b>P33YA14GEMNGLNW</b>	2.35 kg (5.2 lbs)	<b>P33YA14GEANGLNW</b>	2.35 kg (5.2 lbs)
3/4"	71	150	<b>P33YA16GEMNGLNW</b>	2.35 kg (5.2 lbs)	<b>P33YA16GEANGLNW</b>	2.35 kg (5.2 lbs)



**Slide 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.**

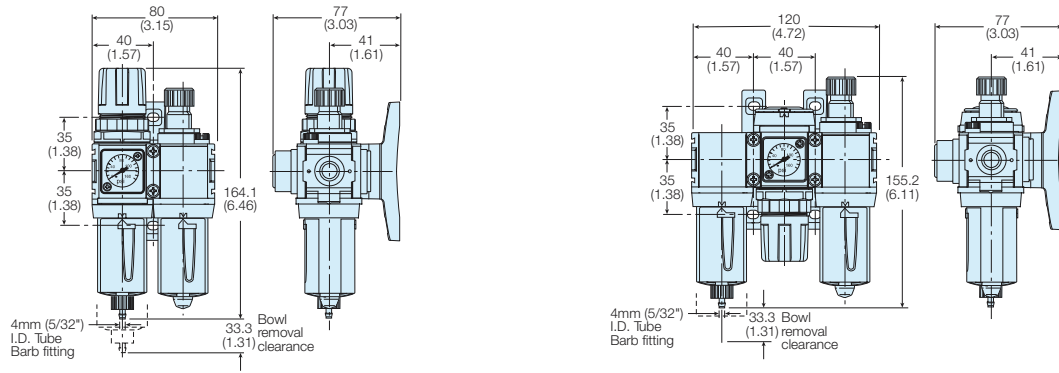
Port size	Flow dm <sup>3</sup> /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	52	110	<b>P33YN14GEMNGW</b>	1.7 kg (3.75 lbs)	<b>P33YN14GEANGW</b>	1.7 kg (3.75 lbs)
3/4"	71	150	<b>P33YN16GEMNGW</b>	1.7 kg (3.75 lbs)	<b>P33YN16GEANGW</b>	1.7 kg (3.75 lbs)

**P 3 3**      **E**      **N**      **L N**      **W**

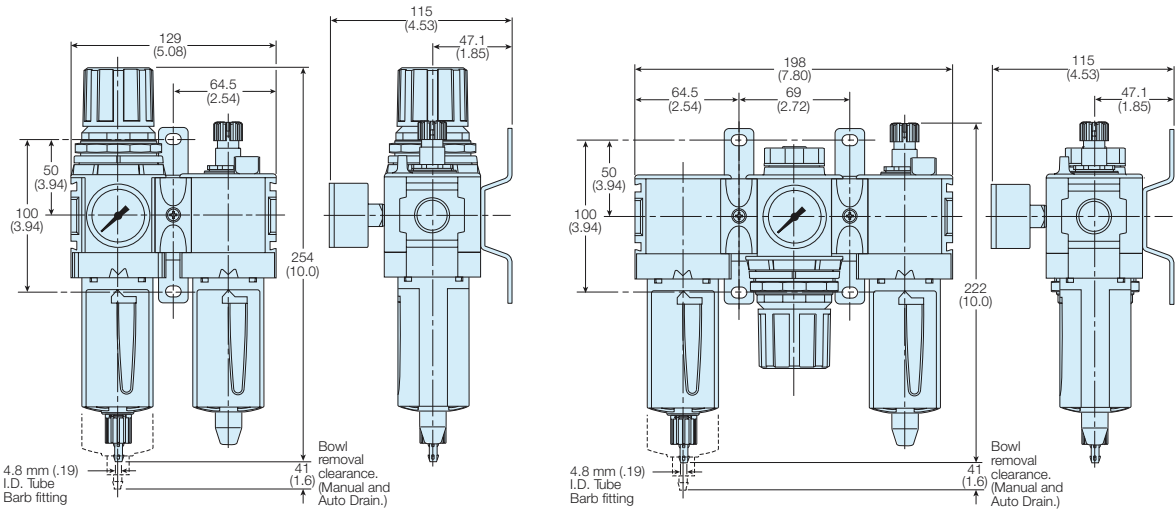
<p><b>Combination</b></p> <table border="1"> <tr><td>Combination</td><td><b>C</b></td></tr> <tr><td>Shut off + Combination <sup>1</sup></td><td><b>Y</b></td></tr> </table> <p><sup>1</sup> Option not available with F+R+L</p>	Combination	<b>C</b>	Shut off + Combination <sup>1</sup>	<b>Y</b>	<p><b>Thread type</b></p> <table border="1"> <tr><td>BSPP</td><td><b>1</b></td></tr> <tr><td>NPT</td><td><b>9</b></td></tr> </table>	BSPP	<b>1</b>	NPT	<b>9</b>	<p><b>Port size</b></p> <table border="1"> <tr><td>1/2</td><td><b>4</b></td></tr> <tr><td>3/4</td><td><b>6</b></td></tr> </table>	1/2	<b>4</b>	3/4	<b>6</b>	<p><b>Drain type</b></p> <table border="1"> <tr><td>Auto drain</td><td><b>A</b></td></tr> <tr><td>Manual drain</td><td><b>M</b></td></tr> </table>	Auto drain	<b>A</b>	Manual drain	<b>M</b>	<p><b>Adjustment range</b></p> <table border="1"> <tr><td colspan="2"><b>With round gauge</b></td></tr> <tr><td>0-2 bar; 0-30 psi; 0.2 MPa</td><td><b>Z</b></td></tr> <tr><td>4 bar; 60 psi; 0.4 MPa</td><td><b>M</b></td></tr> <tr><td>8 bar; 125 psi; 0.8 MPa</td><td><b>G</b></td></tr> <tr><td>17 bar; 250 psi; 1.7 MPa<sup>⊙</sup></td><td><b>J</b></td></tr> </table>	<b>With round gauge</b>		0-2 bar; 0-30 psi; 0.2 MPa	<b>Z</b>	4 bar; 60 psi; 0.4 MPa	<b>M</b>	8 bar; 125 psi; 0.8 MPa	<b>G</b>	17 bar; 250 psi; 1.7 MPa <sup>⊙</sup>	<b>J</b>	<p>Add only for options with Lubricator</p>
Combination	<b>C</b>																														
Shut off + Combination <sup>1</sup>	<b>Y</b>																														
BSPP	<b>1</b>																														
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<p><b>Combination type</b></p> <table border="1"> <tr><td>F/R+L</td><td><b>A</b></td></tr> <tr><td>F+R+L</td><td><b>B</b></td></tr> <tr><td>F/R</td><td><b>N</b></td></tr> </table>	F/R+L	<b>A</b>	F+R+L	<b>B</b>	F/R	<b>N</b>	<p><b>Bowl type</b></p> <table border="1"> <tr><td>Poly bowl with bowl guard</td><td><b>G</b></td></tr> <tr><td>Metal bowl with sight glass</td><td><b>S</b></td></tr> </table>	Poly bowl with bowl guard	<b>G</b>	Metal bowl with sight glass	<b>S</b>	<p><b>Note:</b> All bowl types are the same for each component</p> <p><b>Example:</b> If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.</p> <p><sup>⊙</sup> Only available with metal bowl option</p>																			
F/R+L	<b>A</b>																														
F+R+L	<b>B</b>																														
F/R	<b>N</b>																														
Poly bowl with bowl guard	<b>G</b>																														
Metal bowl with sight glass	<b>S</b>																														

**Popular Combination Dimensions - mm (inches)**

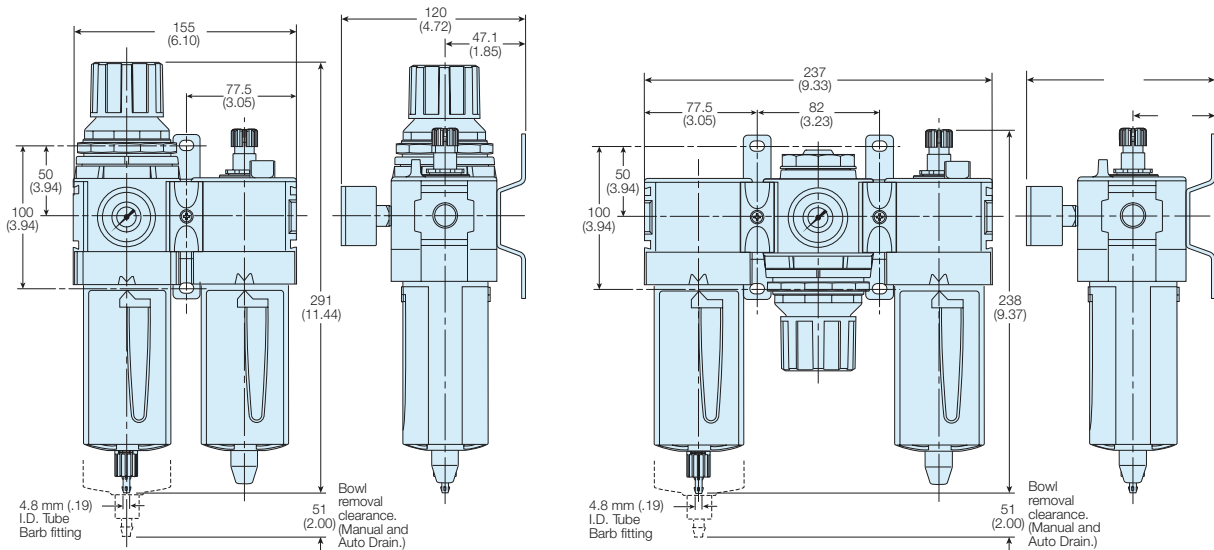
**P31**



**P32**



**P33**





### Filters - 5 µm

Port	Description	Order code
1/4"	Poly bowl - Manual drain	<b>P31FA12EGMN</b>
1/4"	Poly bowl - Pulse drain	<b>P31FA12EGBN</b>
1/4"	Metal bowl - Manual drain	<b>P31FA12EMMN</b>
1/4"	Metal bowl - Pulse drain	<b>P31FA12EMBN</b>
1/4"	Poly bowl - Manual drain	<b>P32FA12EGMN</b>
1/4"	Poly bowl - Auto drain	<b>P32FA12EGAN</b>
1/4"	Metal bowl sight glass - Manual drain	<b>P32FA12ESMN</b>
1/4"	Metal bowl sight glass - Auto drain	<b>P32FA12ESAN</b>
3/8"	Poly bowl - Manual drain	<b>P32FA13EGMN</b>
3/8"	Poly bowl - Auto drain	<b>P32FA13EGAN</b>
3/8"	Metal bowl sight glass - Manual drain	<b>P32FA13ESMN</b>
3/8"	Metal bowl sight glass - Auto drain	<b>P32FA13ESAN</b>
1/2"	Poly bowl - Manual drain	<b>P32FA14EGMN</b>
1/2"	Poly bowl - Auto drain	<b>P32FA14EGAN</b>
1/2"	Metal bowl sight glass - Manual drain	<b>P32FA14ESMN</b>
1/2"	Metal bowl sight glass - Auto drain	<b>P32FA14ESAN</b>
1/2"	Poly bowl - Manual drain	<b>P33FA14EGMN</b>
1/2"	Poly bowl - Auto drain	<b>P33FA14EGAN</b>
1/2"	Metal bowl sight glass - Manual drain	<b>P33FA14ESMN</b>
1/2"	Metal bowl sight glass - Auto drain	<b>P33FA14ESAN</b>
3/4"	Poly bowl - Manual drain	<b>P33FA16EGMN</b>
3/4"	Poly bowl - Auto drain	<b>P33FA16EGAN</b>
3/4"	Metal bowl sight glass - Manual drain	<b>P33FA16ESMN</b>
3/4"	Metal bowl sight glass - Auto drain	<b>P33FA16ESAN</b>



### Regulators

Port	Description	Order code
1/4"	8 bar relieving	<b>P31RA12BNNP</b>
1/4"	8 bar relieving + gauge	<b>P31RA12BNTP</b>
1/4"	8 bar (125 psi) Relieving	<b>P32RA12BNNP</b>
1/4"	8 bar (125 psi) Relieving + Gauge	<b>P32RA12BNGP</b>
3/8"	8 bar (125 psi) Relieving	<b>P32RA13BNNP</b>
3/8"	8 bar (125 psi) Relieving + Gauge	<b>P32RA13BNGP</b>
1/2"	8 bar (125 psi) Relieving	<b>P32RA14BNNP</b>
1/2"	8 bar (125 psi) Relieving + Gauge	<b>P32RA14BNGP</b>
1/2"	8 bar (125 psi) Relieving	<b>P33RA14BNNP</b>
1/2"	8 bar (125 psi) Relieving + Gauge	<b>P33RA14BNGP</b>
3/4"	8 bar (125 psi) Relieving	<b>P33RA16BNNP</b>
3/4"	8 bar (125 psi) Relieving + Gauge	<b>P33RA16BNGP</b>



### Coalescing Filters + Absorbers - 0,01 µm

Port	Description	Order code
1/4"	Poly bowl - 0.01 µ - Manual drain	<b>P31FA12CGMN</b>
1/4"	Poly bowl - 0.01 µ - Pulse drain	<b>P31FA12CGBN</b>
1/4"	Metal bowl - 0.01 µ - Manual drain	<b>P31FA12CMMN</b>
1/4"	Metal bowl - 0.01 µ - Pulse drain	<b>P31FA12CMBN</b>
1/4"	Poly bowl - Adsorber	<b>P31FA12AGMN</b>
1/4"	Metal bowl - Adsorber	<b>P31FA12AMMN</b>
1/4"	Poly bowl - 0.01 µ, Manual drain	<b>P32FA12DGMN</b>
1/4"	Poly bowl - 0.01 µ, Auto drain	<b>P32FA12DGAN</b>
1/4"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P32FA12DSMN</b>
1/4"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P32FA12DSAN</b>
3/8"	Poly bowl - 0.01 µ, Manual drain	<b>P32FA13DGMN</b>
3/8"	Poly bowl - 0.01 µ, Auto drain	<b>P32FA13DGAN</b>
3/8"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P32FA13DSMN</b>
3/8"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P32FA13DSAN</b>
1/2"	Poly bowl - 0.01 µ, Manual drain	<b>P32FA14DGMN</b>
1/2"	Poly bowl - 0.01 µ, Auto drain	<b>P32FA14DGAN</b>
1/2"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P32FA14DSMN</b>
1/2"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P32FA14DSAN</b>
1/4"	Poly bowl - Adsorber	<b>P32FA12AGMN</b>
1/4"	Metal bowl sight glass - Adsorber	<b>P32FA12ASMN</b>
3/8"	Poly bowl - Adsorber	<b>P32FA13AGMN</b>
3/8"	Metal bowl sight glass - Adsorber	<b>P32FA13ASMN</b>
1/2"	Poly bowl - Adsorber	<b>P32FA14AGMN</b>
1/2"	Metal bowl sight glass - Adsorber	<b>P32FA14ASMN</b>
1/2"	Poly bowl - 0.01 µ, Manual drain	<b>P33FA14DGMN</b>
1/2"	Poly bowl - 0.01 µ, Auto drain	<b>P33FA14DGAN</b>
1/2"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P33FA14DSMN</b>
1/2"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P33FA14DSAN</b>
3/4"	Poly bowl - 0.01 µ, Manual drain	<b>P33FA16DGMN</b>
3/4"	Poly bowl - 0.01 µ, Auto drain	<b>P33FA16DGAN</b>
3/4"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P33FA16DSMN</b>
3/4"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P33FA16DSAN</b>
1/2"	Poly bowl - Adsorber	<b>P33FA14AGMN</b>
1/2"	Metal bowl sight glass - Adsorber	<b>P33FA14ASMN</b>
3/4"	Poly bowl - Adsorber	<b>P33FA16AGMN</b>
3/4"	Metal bowl sight glass - Adsorber	<b>P33FA16ASMN</b>



**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	<b>P31EA12EGMBNTP</b>
1/4"	8 bar (125 psi) Relieving - Poly bowl - Pulse drain	<b>P31EA12EGBBNTP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl - Manual drain	<b>P31EA12EMMBNTP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl - Pulse drain	<b>P31EA12EMBBNTP</b>
1/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P32EA12EGMBNGP</b>
1/4"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P32EA12EGABNGP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P32EA12ESMBNGP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P32EA12ESABNGP</b>
3/8"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P32EA13EGMBNGP</b>
3/8"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P32EA13EGABNGP</b>
3/8"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P32EA13ESMBNGP</b>
3/8"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P32EA13ESABNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P32EA14EGMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P32EA14EGABNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P32EA14ESMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P32EA14ESABNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P33EA14EGMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P33EA14EGABNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P33EA14ESMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P33EA14ESABNGP</b>
3/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P33EA16EGMBNGP</b>
3/4"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P33EA16EGABNGP</b>
3/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P33EA16ESMBNGP</b>
3/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P33EA16ESABNGP</b>



**Lubricators**

Port	Description	Order code
1/4"	Poly bowl - No drain	<b>P31LA12LGNN</b>
1/4"	Metal bowl - No drain	<b>P31LA12LMNN</b>
1/4"	Poly bowl - No drain	<b>P32LA12LGNN</b>
1/4"	Metal bowl - No drain	<b>P32LA12LSNN</b>
3/8"	Poly bowl - No drain	<b>P32LA13LGNN</b>
3/8"	Metal bowl - No drain	<b>P32LA13LSNN</b>
1/2"	Poly bowl - No drain	<b>P32LA14LGNN</b>
1/2"	Metal bowl - No drain	<b>P32LA14LSNN</b>
1/2"	Poly bowl - No drain	<b>P33LA14LGNN</b>
1/2"	Metal bowl - No drain	<b>P33LA14LSNN</b>
3/4"	Poly bowl - No drain	<b>P33LA16LGNN</b>
3/4"	Metal bowl - No drain	<b>P33LA16LSNN</b>

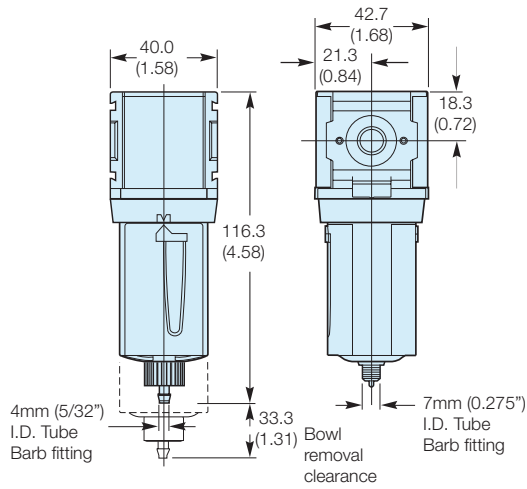
**Gauges**



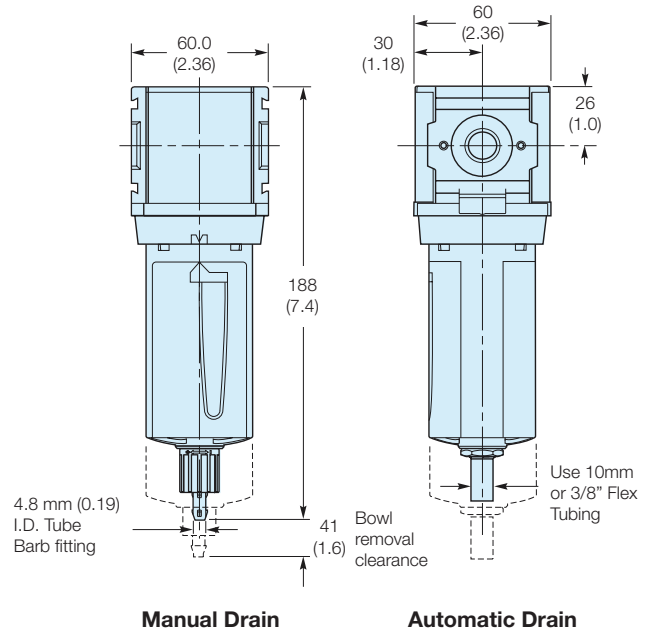
Port	Description	Order code
P31	Square Flush Mounting Gauge Kit	0-4 bar 0-10 bar <b>K4511SCR04B</b> <b>K4511SCR11B</b>
P31	40mm Round Gauge	0-30 psi / 0-2 bar 0-60 psi / 0-4.1 bar 0-160 psi / 0-10 bar 1/8" <b>P3D-KAB1AYN</b> 1/8" <b>P3D-KAB1ALN</b> 1/8" <b>P3D-KAB1ANN</b>
P32 / P33	50mm Round Gauge	0-60 psi / 0-4.1 bar 0-160 psi / 0-10 bar 0-300 psi / 0-20 bar 1/4" <b>P6G-ERB2040</b> 1/4" <b>P6G-ERB2110</b> 1/4" <b>P6G-ERB2200</b>

**Filter Dimensions - mm (inches)**

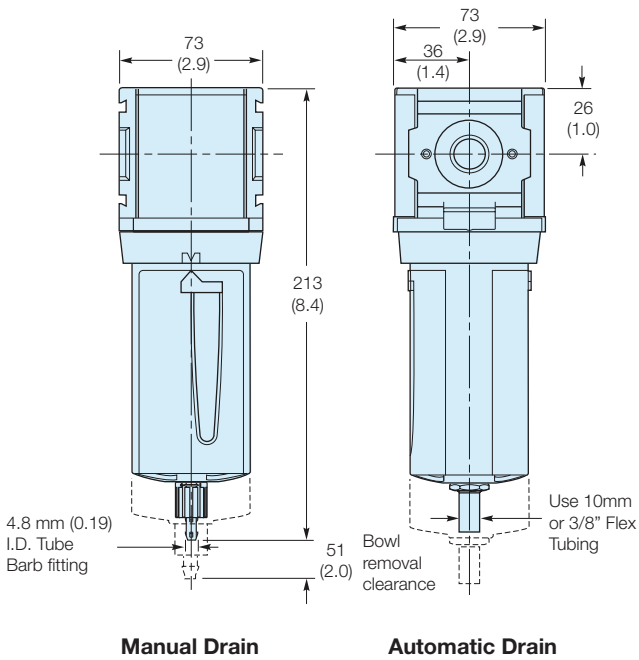
**P31**



**P32**

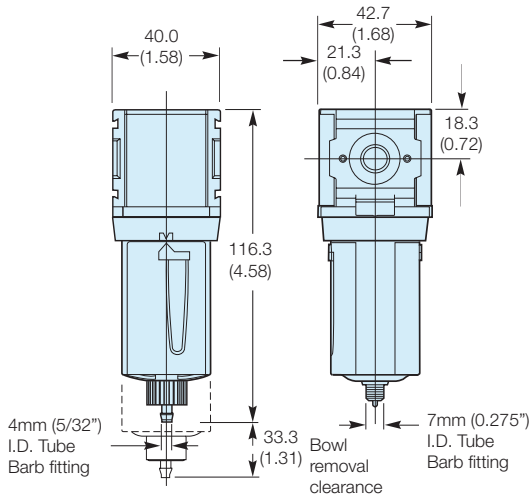


**P33**

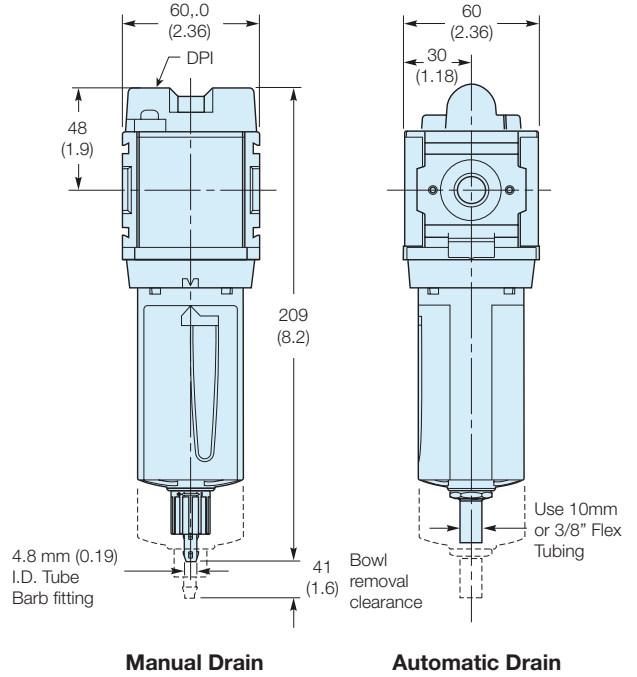


**Coalescing / Adsorber Filter Dimensions - mm (inches)**

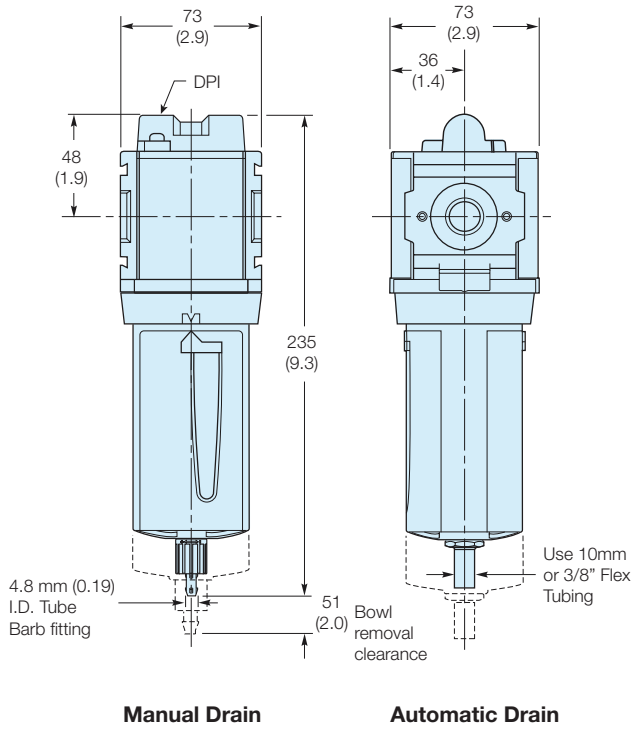
**P31**



**P32**

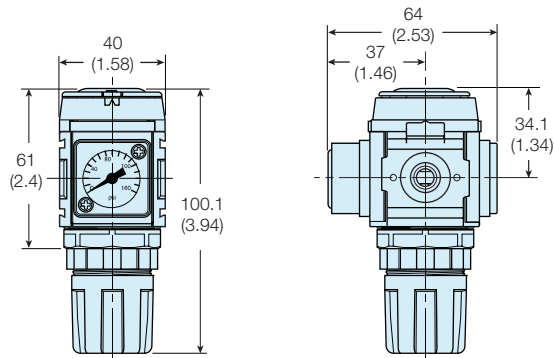


**P33**



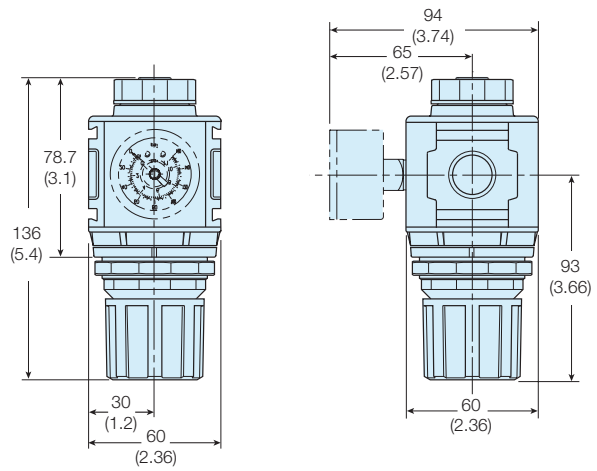
**Regulator Dimensions - mm (inches)**

**P31**



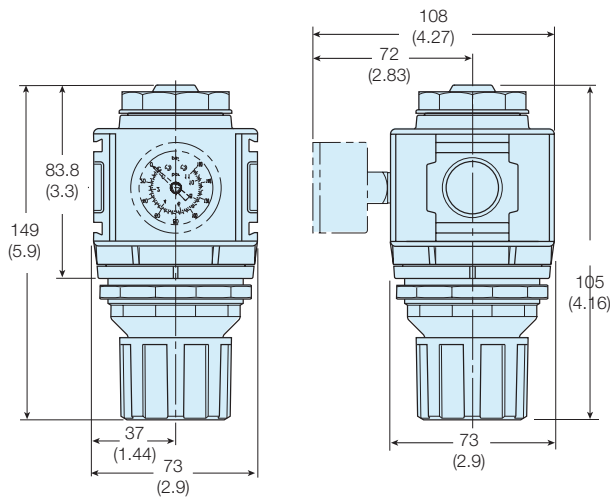
**NOTE:** Ø 30 mm hole required for panel nut mounting.

**P32**



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

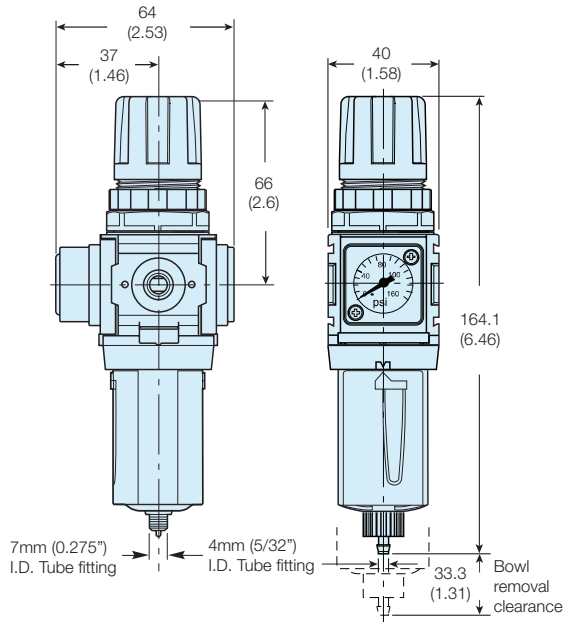
**P33**



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

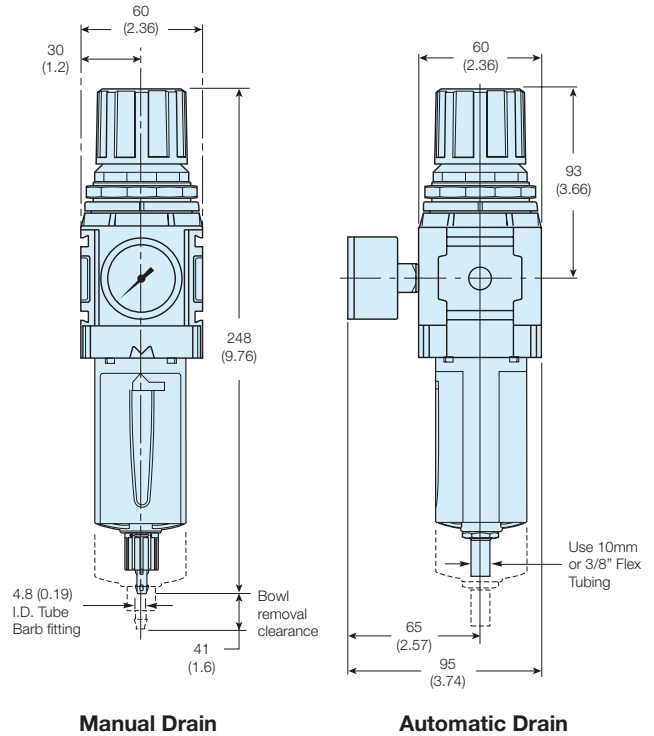
**Filter Regulator Dimensions - mm (inches)**

**P31**



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

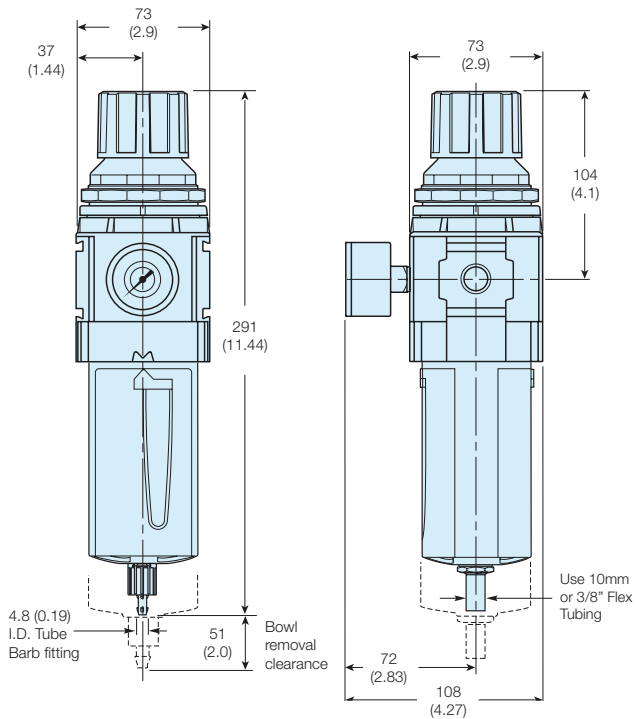
**P32**



**Manual Drain**

**Automatic Drain**

**P33**

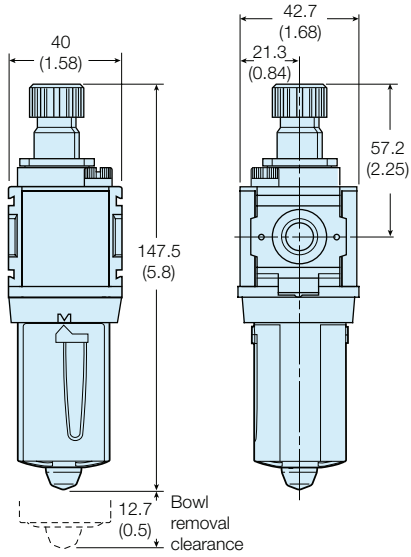


**Manual Drain**

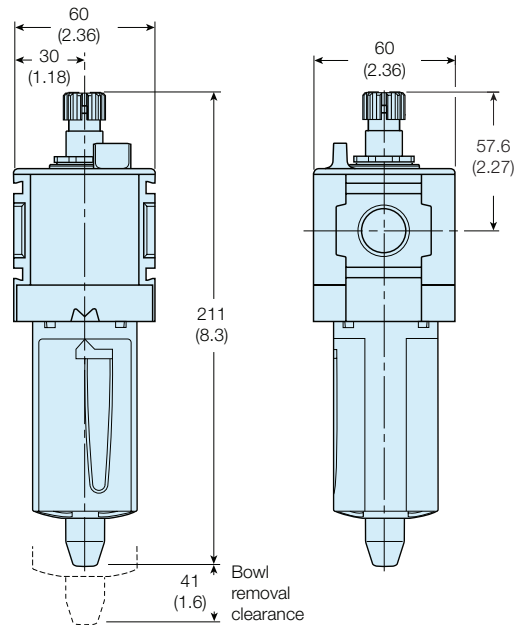
**Automatic Drain**

**Lubricator Dimensions - mm (inches)**

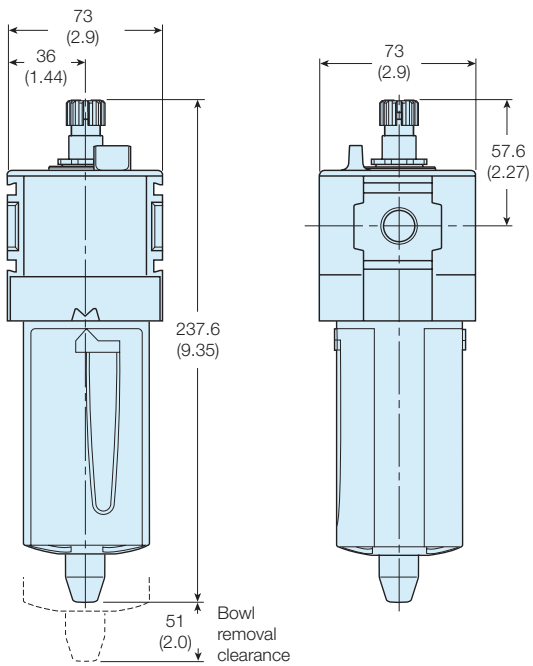
**P31**



**P32**

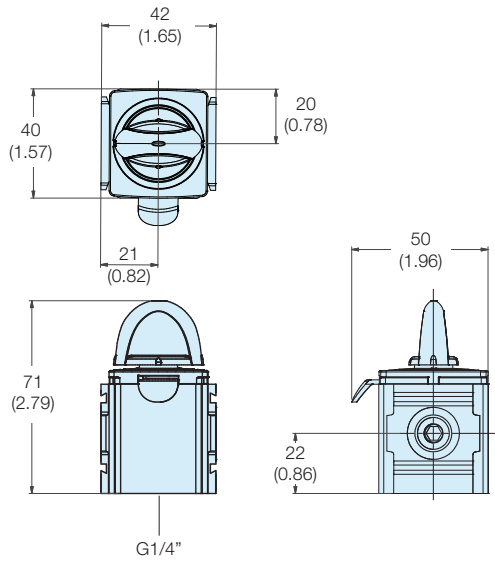


**P33**

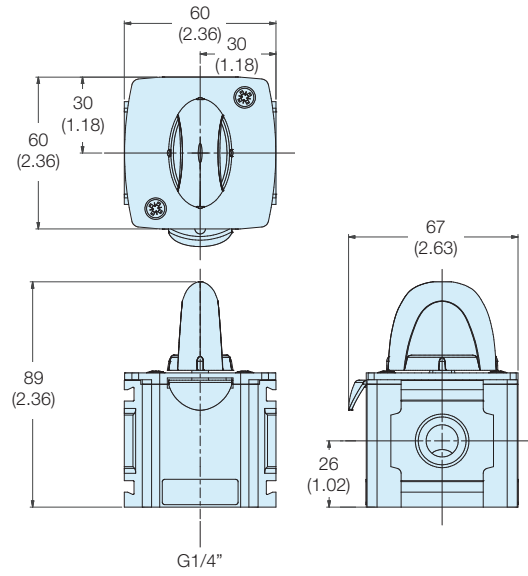


**Modular Ball Valve Dimensions - mm (inches)**

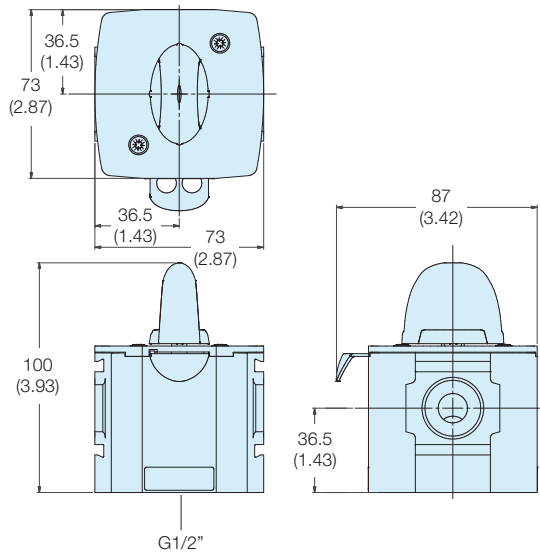
**P31**



**P32**

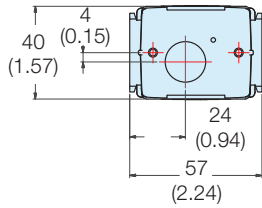
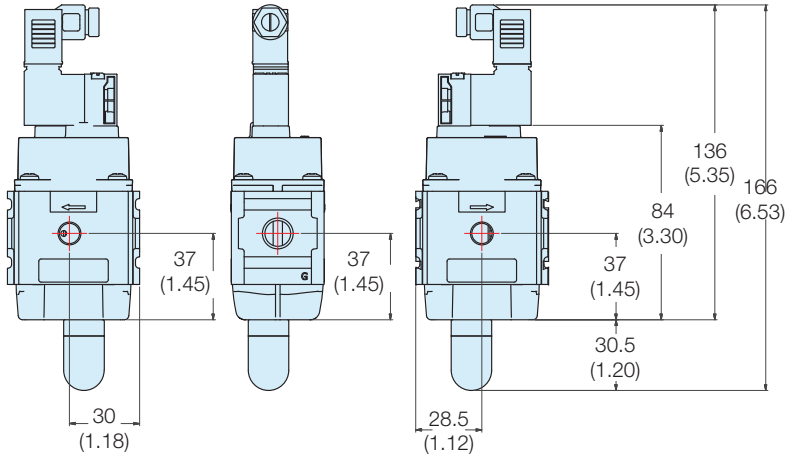


**P33**

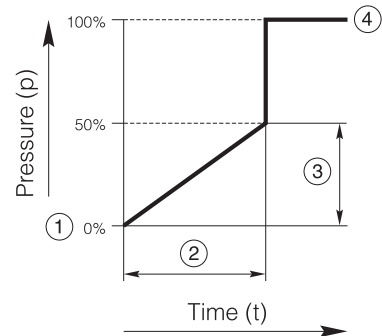
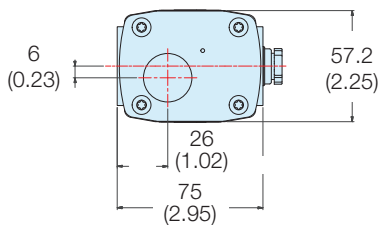
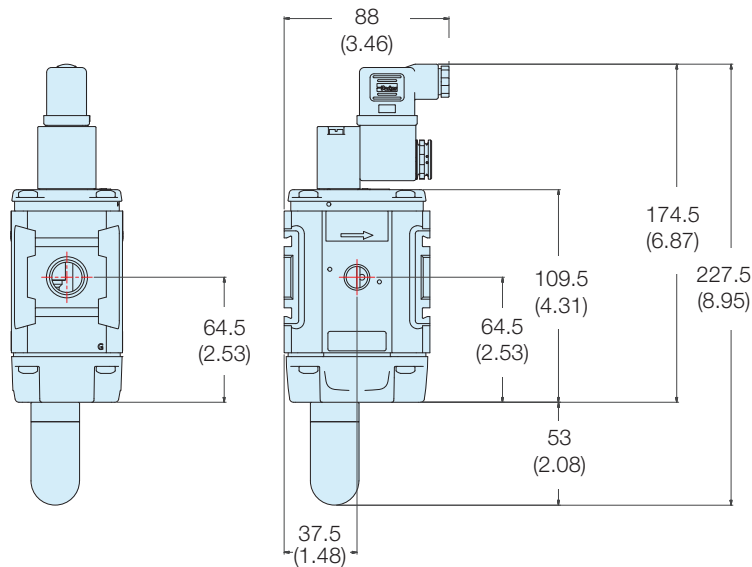


**Combined Soft Start Dump Valve and Remote Operated Dump Valve  
Dimensions - mm (inches)**

**P31**



**P32**



- ① Start signal
- ② Switching time delay
- ③ Gradual pressure build up
- ④ Operating pressure  $p^2 (=p^1)$

**Combined Soft Start Dump Valve and Remote Operated Dump Valve**

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

**Soft Start Valve**

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

**Remote Operated Dump Valve**

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

**C-Bracket**

(Fits to filter and lubricator body)

P31
<b>P31KA00MW</b>

**L-Bracket**

(Fits to filter and lubricator body)

P32	P33
<b>P32KA00ML</b>	<b>P33KA00ML</b>

**Body Connector 'O' ring kit -**

Pack of 5

P31	P32
<b>P31KA00CY</b>	<b>P32KA00CY</b>

**T-Bracket**

(Fits to body connector or port block)

P32	P33
<b>P32KA00MB</b>	<b>P32KA00MB</b>

**Angle Bracket**

(Fits to regulator and filter/regulator)

P31	P32	P33
<b>P31KA00MR</b>	<b>P32KA00MR</b>	<b>P32KA00MR</b>

**Body Connector**

P31	P32	P33
<b>P31KA00CB</b>	<b>P32KA00CB</b>	<b>P32KA00CB</b>

**Modular Ball Valve / Lockout Valve**

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

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
<b>P31</b>	1/4"	1/4"	1/4"	BSPP	<b>P31MA12022N</b>
<b>P32</b>	1/2"	1/4"	1/2"	BSPP	<b>P32MA14024N</b>
<b>P33</b>	3/4"	1/4"	1/2"	BSPP	<b>P33MA16024N</b>

For thread type: BSPP 1  
NPT 9

**Branch Manifold**

<b>P32</b>	1/2"	1/4"	1/4"	BSPP	<b>P32MD14022N</b>
<b>P32</b>	1/4"	1/4"	1/4"	BSPP	<b>P32MD12022N</b>
Seal kit for square gauge mtg on P32MD					<b>P32KA00RX</b>

**Accessories Kits**

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

**Accessories Kits**

Series	Description	Order Code	
P31 P32 P33	Plastic Bowl with Bowl Guard & Manual Drain	<b>P31KA00BGM</b> <b>P32KA00BGM</b> <b>P33KA00BGM</b>	
P31	Plastic Bowl with Bowl Guard & Pulse Drain	<b>P31KA00BGB</b>	
P32 P33	Plastic Bowl with Bowl Guard & Auto Drain	<b>P32KA00BGA</b> <b>P33KA00BGA</b>	
P31	Metal Bowl without Sight Gauge & Pulse Drain	<b>P31KA00BMB</b>	
P32 P33	Metal Bowl with Sight Gauge & Manual Drain	<b>P32KA00BSM</b> <b>P33KA00BSM</b>	
P32 P33	Metal Bowl with Sight Gauge & Auto Drain	<b>P32KA00BSA</b> <b>P33KA00BSA</b>	
P31 P32 P33	Lubricator - Plastic Bowl with Bowl Guard & Close End	<b>P31KA00BGN</b> <b>P32KA00BGN</b> <b>P33KA00BGN</b>	
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	<b>P31KA00BMN</b> <b>P32KA00BSN</b> <b>P33KA00BSN</b>	