



Air Preparation Products
Global Air Preparation Series

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Coalescing Filters	B14-B19
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DECLARATION OF COMPLIANCE (ROHS)

European Directive 2011/65/EU – RoHS (Restriction of certain Hazardous Substances in electrical and electronic equipment), restricts the use of the 6 substances in the manufacture of specified electrical equipment.

Lead: Product containing lead and its compound (except for applications of lead as an alloying element by weight in steel up to 0.35%, in aluminium up to 0.4% and in copper alloys up to 4% and in circuit board solder) must not exceed 0.1% by weight

Mercury: The concentration level must not exceed 0.1% by volume

Cadmium: The concentration level must not exceed 0.01% by volume

Hexavalent Chromium:

This is a corrosive protective finish used on our product line. Where this finish is utilized the Chromate solution is Hexavalent (Chrome 6) free.

Polybrominated Biphenyls (PBB):

The concentration level must not exceed 0.1% by weight. This substance is not known to be in any of our products.

Polybrominated Diphenyl Esters (PBDE):

The concentration level must not exceed 0.1% by weight. This substance is not known to be in any of our products.



Global Air Preparation products supplied by Parker Hannifin have been designed and manufactured in accordance with "sound engineering practice", as defined by Article 3 of Pressure Equipment Directive 97/23/EC.



Global Air Preparation product range is in compliance with REACH to ensure continued compliance additions to the list of SVHC (Substance of Very High Concern) are reviewed periodically.

Global Air Preparation product range has been third party Shock & Vibration tested independently in accordance to EN 61373 : 1999, Category 2



Following Ignition Hazard Assessments performed on the non-electrical Global Air Preparation products they are 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.



Global Air Preparation product range has been designed and tested in accordance with ISO flow testing, envelope integrity, and catalog data presented.

- Filters – ISO 5782-1 & ISO 5782-2: 1997
- Regulators- ISO 6953-1 & ISO 6953-2: 2000
- Lubricators- ISO 6301-1 & ISO 6301-2: 2009





Parker Global Air Preparation System

**Global.
Modular.**



*Performance you need,
wherever you need it.*

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

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

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

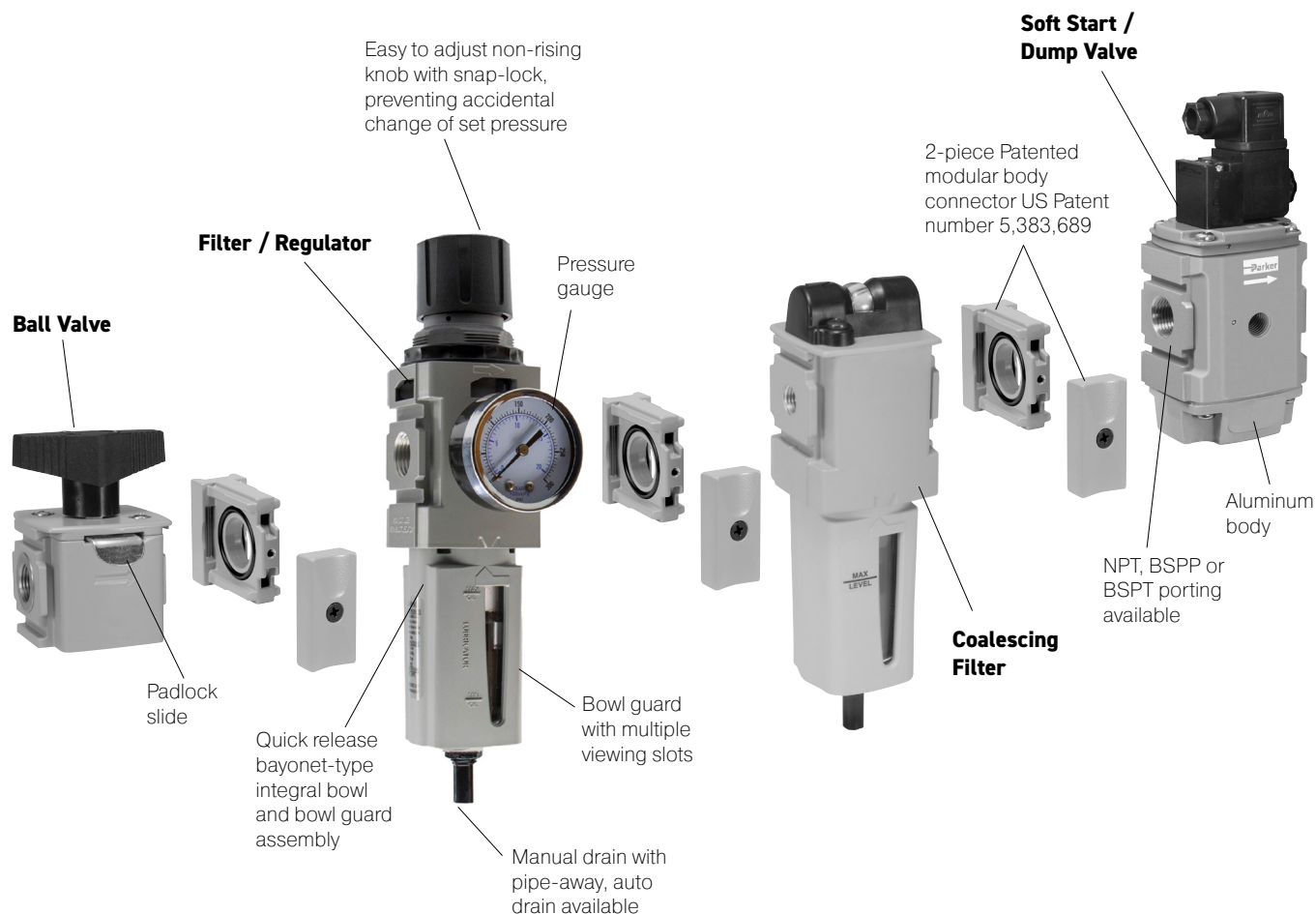
www.parker.com/globalfrl

B
Global Air Preparation
Introduction
Filters
Coalescers
Regulators
Filter / Regulators
Lubricators
Combinations
Accessories and Kits



A completely modular air preparation system

B
Global Air Preparation
Introduction
Filters
Coalescers
Regulators
Filter / Regulators
Lubricators
Combinations
Accessories and Kits



Comprehensive Offering



P31 Mini Series
1/4" ports
40mm body width



P32 Compact Series
1/4", 3/8" and 1/2"
60mm body width



P33 Standard Series
1/2" and 3/4"
73mm body width



Filters

- 5 μ particulate, 1.0 μ and 0.01 μ coalescing, and adsorber available as standard
- Transparent or metal bowl with manual or auto float drains standard



Regulators

- Available as stand alone, common port and electronic proportional
- Both relieving and non-relieving versions available



Filter / Regulators

- Compact design for space savings
- Available with all the same standard options as the filters and regulators



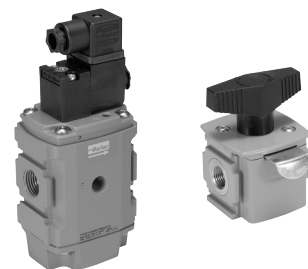
Lubricators

- Proportional oil delivery over a wide range of air flows
- Fill under pressure



Combinations

- Compact design for space savings
- Easily assembled
- Many configurations available



Accessories

- Solenoid operated soft start, quick dump, and soft start/quick dump valves
- Manifold blocks
- Ball style lockout / shutoff valve
- Repair kits, gauges, etc.

B

Global Air
Preparation

Introduction

Filters

Coalescers

Regulators

Filter /
Regulators

Lubricators

Combinations

Accessories
and Kits



Air Preparation

P31 Mini Series

40mm body width
1/4" Ported

Flows up to: scfm (dm³/s, ANR)

Filter	25	(12)
Coalescer	7.5	(3.6)
Regulator	73	(34)
Filter/Regulator	22	(10)
Lubricator	52	(25)

Features:

- Space saving integral gauge
- Manifold style regulators available
- OSHA compliant shut-off valves
- Soft-Start & Quick Dump valves
- Electronic Proportional Regulator



P32 Compact Series

60mm body width
1/4", 3/8", & 1/2" Ported

Flows up to: scfm (dm³/s, ANR)

Filter	82	(39)
Coalescer	36	(17)
Regulator	201	(94)
Filter/Regulator	178	(84)
Lubricator	90	(42)

Features:

- Manifold style regulators available
- OSHA Compliant shut-off valves
- Soft-Start & Quick Dump valves
- Electronic Proportional Regulator



P33 Standard Series

73mm body width
1/2" & 3/4" Ported

Flows up to: scfm (dm³/s, ANR)

Filter	85	(40)
Coalescer	72	(34)
Regulator	233	(111)
Filter/Regulator	230	(108)
Lubricator	150	(71)

Features:

- OSHA Compliant shut-off valves
- Soft-Start & Quick Dump valves (Utilizes P32 size only)
- Electronic proportional regulator (Utilizes P32 size only)



Complete Pneumatic System

Common Port Manifold Regulators

- Multiple output pressures (P2, P3, P4, etc.) with common inlet (P1)
- Available in two sizes P31 and P32
- Balanced valve design for accurate pressure regulation
- Outlet pressure ports in front and rear of unit.
- Multiple spring ranges available



Electronic Proportional Regulator

- Electro-Pneumatic regulator
- Integrated systems control
- Accurate output pressure
- Micro parameter settings
- Selectable I/O parameters
- Quick, full flow exhaust
- LED display indicates output pressure
- No air consumption in steady state
- Multiple mounting options
- Protection to IP65



P31P Mini Series



P32P Compact Series

Optional Tamperproof Kits

- Hinged black part clamps over control knob and is locked in place after sliding yellow cover over it
- Other allows for removable lockout/tagout tamperproofing
 - Four pad lock location holes tagout
 - Hinged locking clamp secures over existing knob via yellow cover which is slid over into place



B

Global Air Preparation

Introduction

Filters

Coalescers

Regulators

Filter /
Regulators

Lubricators

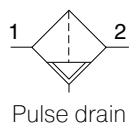
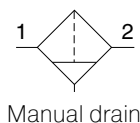
Combinations

Accessories
and Kits



P31 Particulate Filter - Mini

- Integral 1/4" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting



Port Size	Description *	Part Number
1/4"	Poly Bowl, Manual Drain	P31FB92EGMN
1/4"	Poly Bowl, Pulse Drain	P31FB92EGBN
1/4"	Metal Bowl, Manual Drain	P31FB92EMMN
1/4"	Metal Bowl, Pulse Drain	P31FB92EMBN

* For polycarbonate bowl, see caution in Engineering Section A.

Operating information

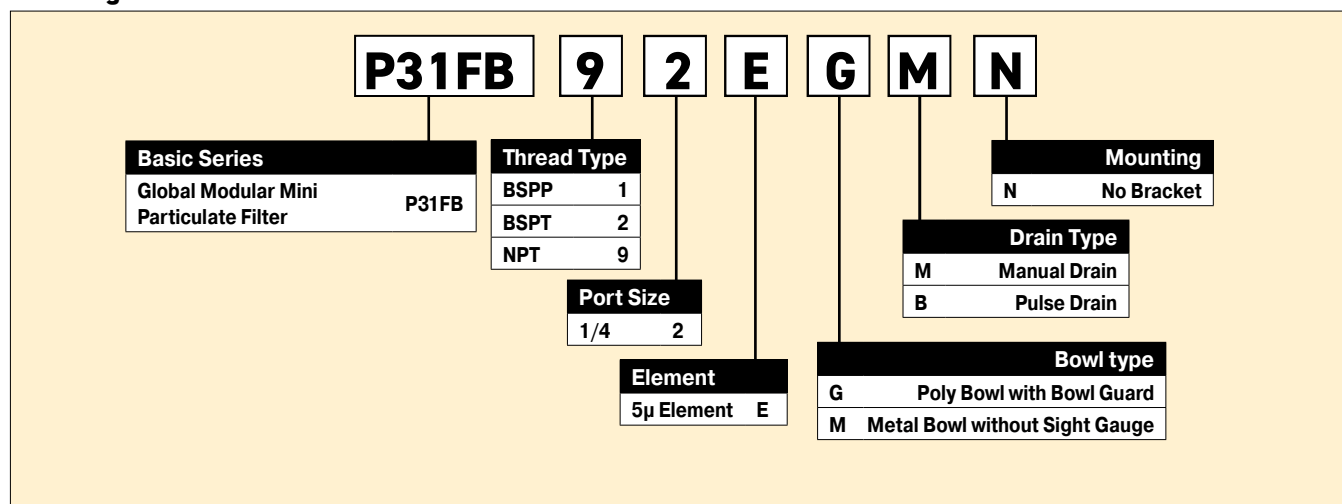
Supply pressure (max):	
Plastic bowl	150 psig (10 bar)
Metal bowl	250 psig (17 bar)
Operating temperature:	
Plastic bowl	14°F to 125°F (-10°C to 52°C)
Metal bowl	14°F to 150°F (-10°C to 65.5°C)
Standard filtration:	5 micron
Flow capacity*:	25 scfm (12 dm³/s, ANR)
Useful retention†:	0.4 US oz. (12 cm³)
Weight:	0.24 lb (0.11 kg)

* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 4.9 psig (0.34 bar).

† Useful retention refers to volume below the quiet zone baffle.

Air quality:
Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2001 Class 6 (Particulates)

Ordering information:



Most popular.



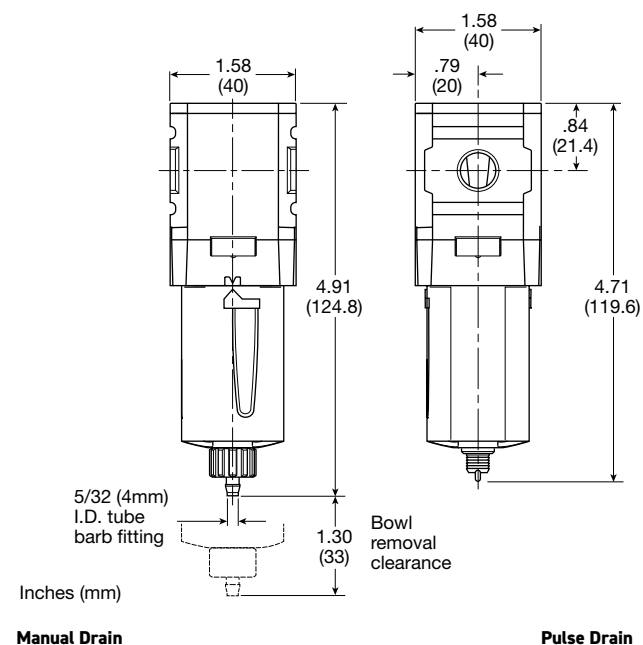
Mini Particulate Filters

Material Specifications

Body	Aluminum
Body cap	ABS
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Bowl guard	Nylon
Element retainer	Acetal
Baffle	Acetal
Filter element polyethylene	Sintered
Seals	Nitrile

Repair and Service Kits

Plastic bowl / bowl guard, manual drain	P31KB00BGM
Metal bowl / w/o sight gauge, manual drain	P31KB00BMM
Plastic bowl / bowl guard, pulse drain	P31KB00BGB
Metal bowl / w/o sight gauge, pulse drain	P31KB00BMB
5 μ particle filter element	P31KA00ESE
C-bracket (fits to body)	P31KA00MW
T-bracket with body connector	P31KA00MT
Body connector	P31KA00CB

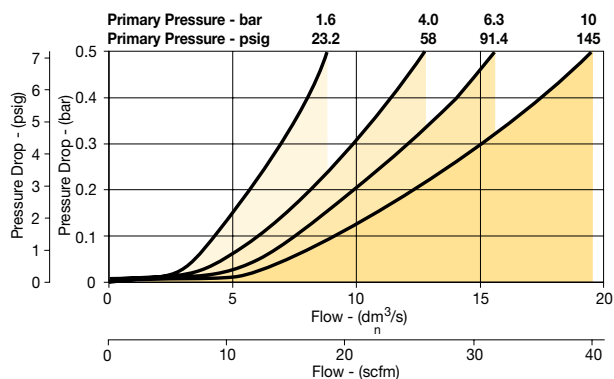


Air Preparation Products

Global Air Preparation

Flow Charts

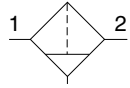
P31FB 1/4" Filter



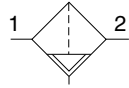
Compact Particulate Filters

P32 Particulate Filter - Compact

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting



Manual drain



Auto drain



Port Size	Description *	Part Number
1/4"	Poly Bowl, Manual Drain	P32FB92EGMN
1/4"	Poly Bowl, Auto Drain	P32FB92EGAN
1/4"	Metal Bowl, Manual Drain	P32FB92ESMN
1/4"	Metal Bowl, Auto Drain	P32FB92ESAN
3/8"	Poly Bowl, Manual Drain	P32FB93EGMN
3/8"	Poly Bowl, Auto Drain	P32FB93EGAN
3/8"	Metal Bowl, Manual Drain	P32FB93ESMN
3/8"	Metal Bowl, Auto Drain	P32FB93ESAN
1/2"	Poly Bowl, Manual Drain	P32FB94EGMN
1/2"	Poly Bowl, Auto Drain	P32FB94EGAN
1/2"	Metal Bowl, Manual Drain	P32FB94ESMN
1/2"	Metal Bowl, Auto Drain	P32FB94ESAN

* For polycarbonate bowl, see caution in Engineering Section A.

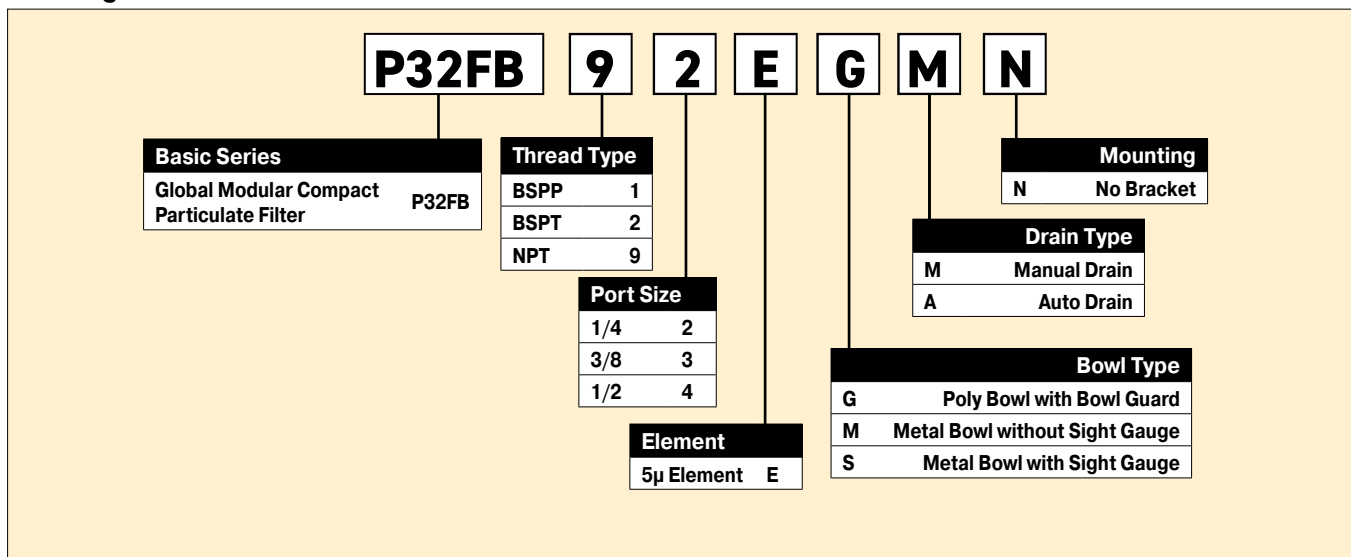
Operating information

Supply pressure (max):	
Plastic bowl	150 psig (10 bar)
Metal bowl	250 psig (17 bar)
Operating temperature:	
Plastic bowl	-13°F to 125°F (-25°C to 52°C)
Metal bowl	-13°F to 150°F (-25°C to 65.5°C)
Standard filtration:	5 micron
Flow capacity*:	1/4 50 scfm (24 dm³/s, ANR)
	3/8 78 scfm (37 dm³/s, ANR)
	1/2 82 scfm (39 dm³/s, ANR)
Useful retention†:	1.7 US oz. (51 cm³)
Weight:	0.62 lb (0.28 kg)

* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 4.9 psig (0.34 bar).
† Useful retention refers to volume below the quiet zone baffle.

Air quality:
Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2001 Class 6 (Particulates)

Ordering Information:



Most popular.



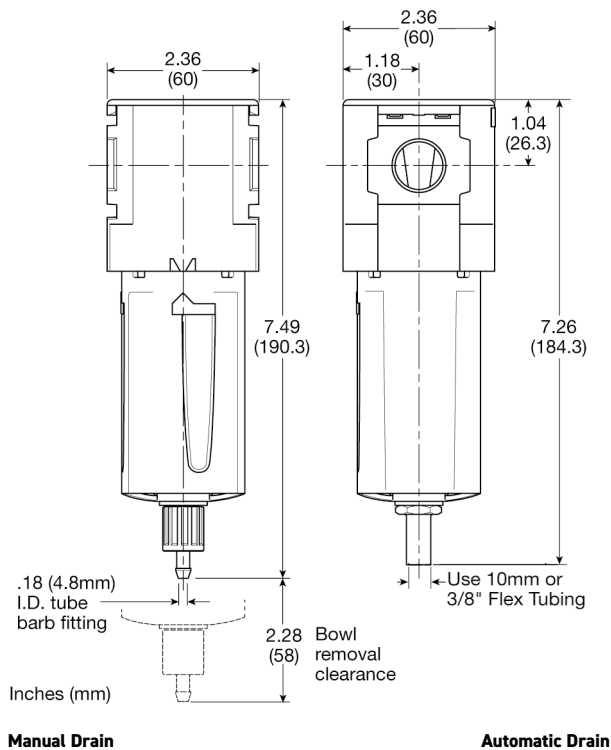
Compact Particulate Filters

Material Specifications

Body	Aluminum
Body cap	ABS
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Bowl guard	Nylon
Deflector	Polypropylene
Element retainer / Baffle	Acetal
Filter element polyethylene	Sintered
Seals	Nitrile
Sight gauge	Nylon

Repair and Service Kits

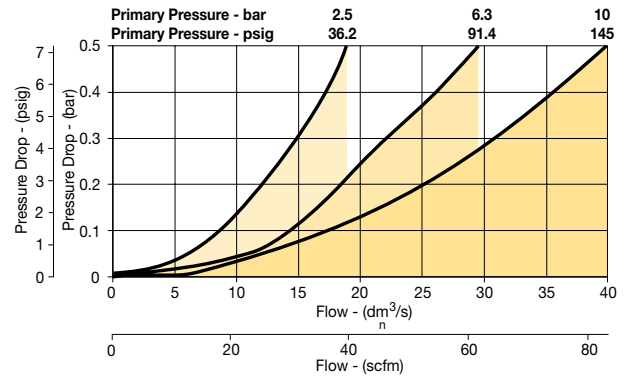
Plastic bowl / bowl guard, manual drain	P32KB00BGM
Metal bowl / sight gauge, manual drain	P32KB00BSM
Auto drain	P32KA00DA
5μ particle filter element	P32KA00ESE
L-bracket (fits to body)	P32KA00ML
T-bracket (fits to body connector)	P32KA00MB
T-bracket with body connector	P32KA00MT
Body connector	P32KA00CB



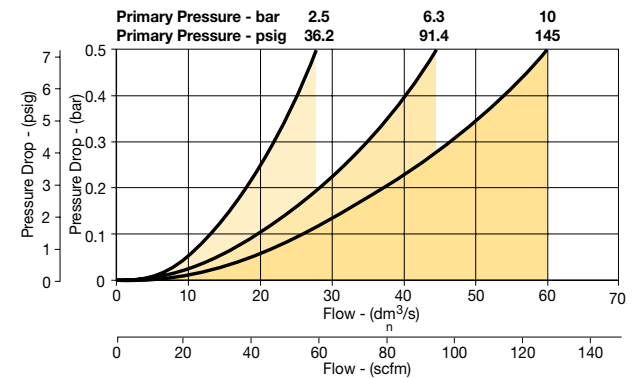
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Flow Charts

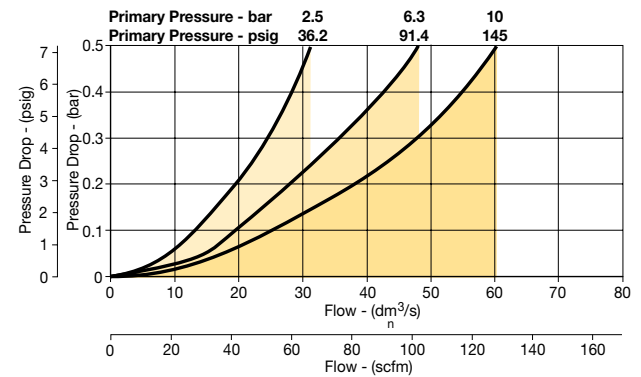
P32FB 1/4" Filter



P32FB 3/8" Filter

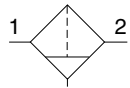


P32FB 1/2" Filter

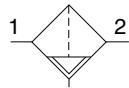


P33 Particulate Filter - Standard

- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting



Manual drain



Auto drain



Operating information

Supply pressure (max):

Plastic bowl	150 psig (10 bar)
Metal bowl	250 psig (17 bar)

Operating temperature:

Plastic bowl	-13°F to 125°F (-25°C to 52°C)
Metal bowl	-13°F to 150°F (-25°C to 65.5°C)

Standard filtration:

5 micron

Flow capacity*:

1/2	85 scfm (40 dm³/s, ANR)
3/4	102 scfm (48 dm³/s, ANR)

Useful retention†:

2.8 US oz. (85 cm³)

Weight:

1.01 lb (0.46 kg)

* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 4.9 psig (0.34 bar).

† Useful retention refers to volume below the quiet zone baffle.

Air quality:

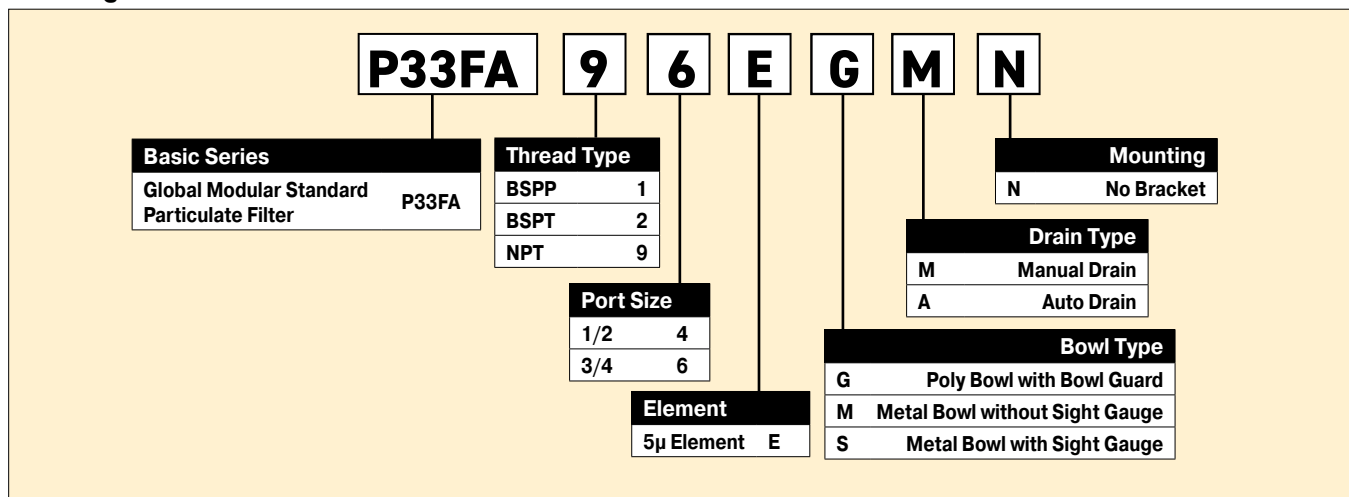
Within ISO 8573-1: 1991 Class 3 (Particulates)

Within ISO 8573-1: 2001 Class 6 (Particulates)

Port Size	Description †	Part Number
1/2"	Poly Bowl, Manual Drain	P33FA94EGMN
1/2"	Poly Bowl, Auto Drain	P33FA94EGAN
1/2"	Metal Bowl, Manual Drain	P33FA94ESMN
1/2"	Metal Bowl, Auto Drain	P33FA94ESAN
3/4"	Poly Bowl, Manual Drain	P33FA96EGMN
3/4"	Poly Bowl, Auto Drain	P33FA96EGAN
3/4"	Metal Bowl, Manual Drain	P33FA96ESMN
3/4"	Metal Bowl, Auto Drain	P33FA96ESAN

† For polycarbonate bowl, see caution in Engineering Section A.

Ordering Information:



Most popular.



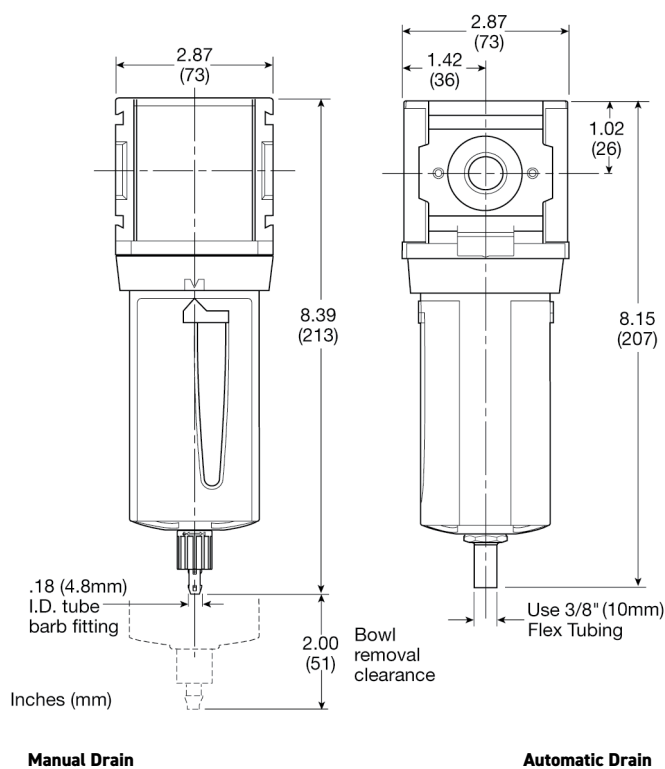
Standard Particulate Filters

Material Specifications

Body	Aluminum
Body cap	ABS
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Bowl guard	Nylon
Deflector	Polypropylene
Element retainer / Baffle	Acetal
Filter element polyethylene	Sintered
Seals	Nitrile
Sight gauge	Nylon

Repair and Service Kits

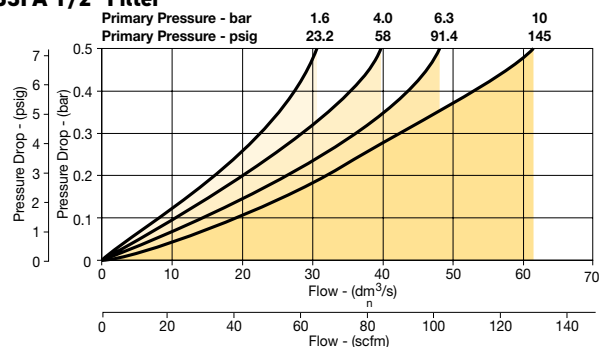
Plastic bowl / bowl guard, manual drain	P33KA00BGM
Metal bowl / sight gauge, manual drain	P33KA00BSM
Auto drain	P32KA00DA
5μ particle filter element	P33KA00ESE
L-bracket (fits to body)	P33KA00ML
T-bracket (fits to body connector)	P32KA00MB
T-bracket with body connector	P32KA00MT
Body connector	P32KA00CB



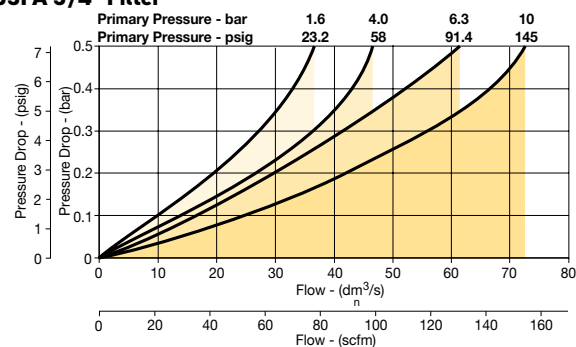
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Flow Charts

P33FA 1/2" Filter



P33FA 3/4" Filter



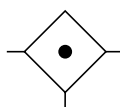
P31 Coalescing and Adsorber Filters – Mini

- Integral 1/4" ports (NPT, BSPP & BSPT)
- Removes liquid aerosols and sub micron particles
- Oil free air for critical applications, such as air gauging, pneumatic instrumentation and control
- Positive bayonet latch to ensure correct and safe fitting
- Adsorbing activated carbon element removes oil vapors and most hydrocarbons



Note: To optimize the life of coalescing element, it is advisable to install a P31F pre-filter with a 5 micron element upstream of the coalescing filter.

To optimize the life of an Adsorber it is advisable to install a P31 Coalescing Filter upstream of the Adsorber. Adsorber element should be replaced approximately every 1000 hours of service.



Port Size	Description *	Element	Part Number
1/4"	Poly Bowl, Manual Drain	0.01 micron	P31FB92DGMN
1/4"	Poly Bowl, Pulse Drain	0.01 micron	P31FB92DGBN
1/4"	Metal Bowl, Manual Drain	0.01 micron	P31FB92DMMN
1/4"	Metal Bowl, Pulse Drain	0.01 micron	P31FB92DMBN

* For polycarbonate bowl, see caution in Engineering Section A.

Operating information

Supply pressure (max):	
Poly bowl	150 psig (10 bar)
Metal bowl w/ DPI	150 psig (10 bar)
Metal bowl w/o DPI	250 psig (17 bar)
Operating temperature:	
Plastic bowl	14°F to 125°F (-10°C to 52°C)
Metal bowl	14°F to 150°F (-10°C to 65.5°C)
Standard filtration:	1.0 and 0.01 micron
Adsorber	Max. oil carryover (ppm w/w) 0.003 @ 70°F (21°C)
Flow capacity*:	
1.0 micron coalescing	12 scfm (5.5 dm³/s, ANR)
0.01 micron coalescing	7.5 scfm (3.6 dm³/s, ANR)
Activated carbon adsorber	12.7 scfm (6 dm³/s, ANR)
Useful retention†:	0.4 US oz. (12 cm³)
Weight:	0.24 lb (0.11 kg)

* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 3 psig (0.2 bar), saturated element.

† Useful retention refers to volume below the quiet zone baffle.

Ordering Information:

P31FB		9	2	D	G	M	N
Basic Series Global Modular Mini Coalescing Filter P31FB		Thread Type BSPP 1 BSPT 2 NPT 9		Port Size 1/4 2		Mounting N No Bracket	
						Drain Type B Pulse Drain M Manual Drain	
		Element 0.01µ Element C 0.01µ Element with DPI D 1µ Element 9 1µ Element with DPI Q Adsorber A		Bowl Type G Poly Bowl with Bowl Guard M Metal Bowl without Sight Gauge			

Most popular.



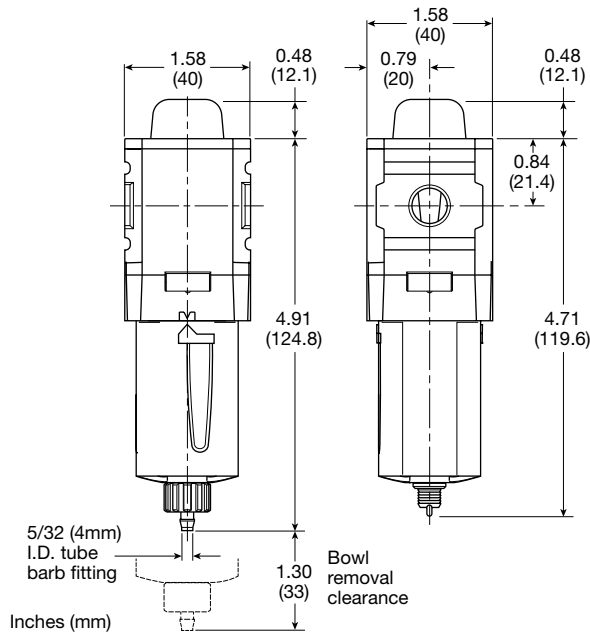
Mini Coalescing and Adsorber Filters

Material Specifications

Body	Aluminum
Body cap	ABS
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Filter element	Borosilicate cloth
Adsorber element	Activated carbon
Seals	Nitrile

Repair and Service Kits

Plastic bowl / bowl guard, manual drain	P31KB00BGM
Metal bowl / w/o sight gauge, manual drain	P31KB00BMM
Plastic bowl / bowl guard, pulse drain	P31KB00BGB
Metal bowl / w/o sight gauge, pulse drain	P31KB00BMB
1 μ coalescing filter element	P31KA00ES9
0.01 μ coalescing filter element	P31KA00ESC
Activated carbon adsorber filter element	P31KA00ESA
C-bracket (fits to body)	P31KA00MW
T-bracket with body connector	P31KA00MT
Body connector	P31KA00CB
Differential pressure indicator (replacement)	P31KB00RQ



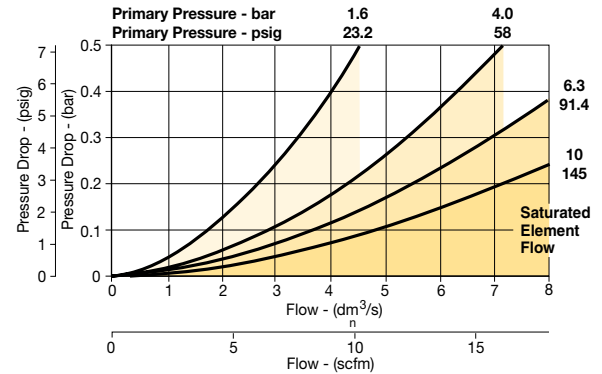
Manual Drain

Pulse Drain

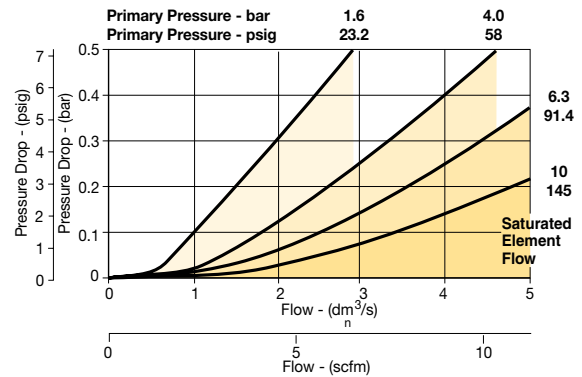
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Flow Charts

P31FB - 1.0 micron flow



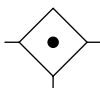
P31FB - 0.01 micron flow



P32 Coalescing and Adsorber Filters – Compact

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- Removes liquid aerosols and sub micron particles
- Oil free air for critical applications, such as air gauging, pneumatic instrumentation and control
- Differential Pressure Indicator (DPI) standard on Coalescing Filters
- Positive bayonet latch to ensure correct & safe fitting
- Adsorbing activated carbon element removes oil vapors and most hydrocarbons

Note: To optimize the life of coalescing element, it is advisable to install a P32F pre-filter with a 5 micron element upstream of the coalescing filter.
To optimize the life of an Adsorber it is advisable to install a P32 Coalescing Filter upstream of the Adsorber. Adsorber element should be replaced approximately every 1000 hours of service.



Port Size	Description *	Element	Part Number
1/4"	Poly Bowl, Manual Drain	0.01 micron	P32FB92DGMN
1/4"	Poly Bowl, Auto Drain	0.01 micron	P32FB92DGAN
1/4"	Metal Bowl, Manual Drain	0.01 micron	P32FB92DSMN
1/4"	Metal Bowl, Auto Drain	0.01 micron	P32FB92DSAN
3/8"	Poly Bowl, Manual Drain	0.01 micron	P32FB93DGMN
3/8"	Poly Bowl, Auto Drain	0.01 micron	P32FB93DGAN
3/8"	Metal Bowl, Manual Drain	0.01 micron	P32FB93DSMN
3/8"	Metal Bowl, Auto Drain	0.01 micron	P32FB93DSAN
1/2"	Poly Bowl, Manual Drain	0.01 micron	P32FB94DGMN
1/2"	Poly Bowl, Auto Drain	0.01 micron	P32FB94DGAN
1/2"	Metal Bowl, Manual Drain	0.01 micron	P32FB94DSMN
1/2"	Metal Bowl, Auto Drain	0.01 micron	P32FB94DSAN

* For polycarbonate bowl, see caution in Engineering Section A.



Operating information

Supply pressure (max):

Poly bowl	150 psig (10 bar)
Metal bowl w/ DPI	150 psig (10 bar)
Metal bowl w/o DPI	250 psig (17 bar)

Operating temperature:

Plastic bowl	-13°F to 125°F (-25°C to 52°C)
Metal bowl	-13°F to 150°F (-25°C to 65.5°C)

Standard filtration:

1.0 and 0.01 micron

Adsorber

Max. oil carryover (ppm w/w)
0.003 @ 70°F (21°C)

Flow capacity*:

1.0 micron coalescing	53 scfm (25 dm³/s, ANR)
0.01 micron coalescing	36 scfm (17 dm³/s, ANR)
Activated carbon adsorber	85 scfm (40 dm³/s, ANR)

Useful retention†:

1.7 US oz. (51 cm³)

Weight:

0.71 lb (0.32 kg)

* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 3 psig (0.2 bar), saturated element.

† Useful retention refers to volume below the quiet zone baffle.

Ordering Information:

P32FB		9	2	D	G	M	N
Basic Series		Thread Type		Port Size		Mounting	
Global Modular Compact Coalescing Filter		BSPP	1			N No Bracket	
P32FB		BSPT	2				
		NPT	9			Drain Type	
				1/4	2	M	Manual Drain
				3/8	3	A	Auto Drain
				1/2	4		
				Bowl Type			
		Element		G Poly Bowl with Bowl Guard			
		0.01µ Element		M Metal Bowl without Sight Gauge			
		0.01µ Element with DPI		S Metal Bowl with Sight Gauge			
		1µ Element					
		1µ Element with DPI					
		Adsorber					

Most popular.



Compact Coalescing and Adsorber Filters

Material Specifications

Body	Aluminum
Body cap	ABS
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Filter element	Borosilicate cloth
Adsorber	Activated carbon
Seals	Nitrile
Sight gauge	Nylon

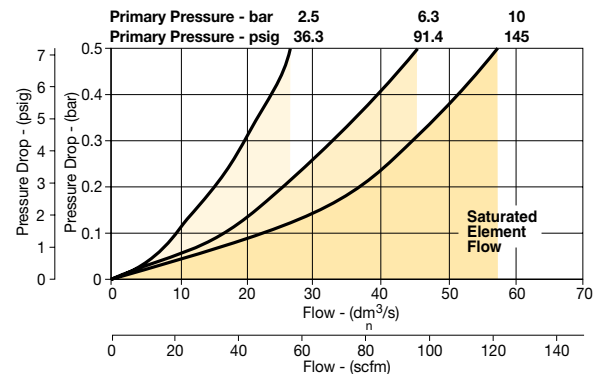
Repair and Service Kits

Plastic bowl / bowl guard, manual drain	P32KB00BGM
Metal bowl / sight gauge, manual drain	P32KB00BSM
Auto drain	P32KA00DA
1 μ coalescing filter element	P32KA00ES9
0.01 μ coalescing filter element	P32KA00ESC
Activated carbon adsorber filter element	P32KA00ESA
L-bracket (fits to body)	P32KA00ML
T-bracket (fits to body connector)	P32KA00MB
T-bracket with body connector	P32KA00MT
Body connector	P32KA00CB
Differential pressure indicator (replacement)	P32KA00RQ

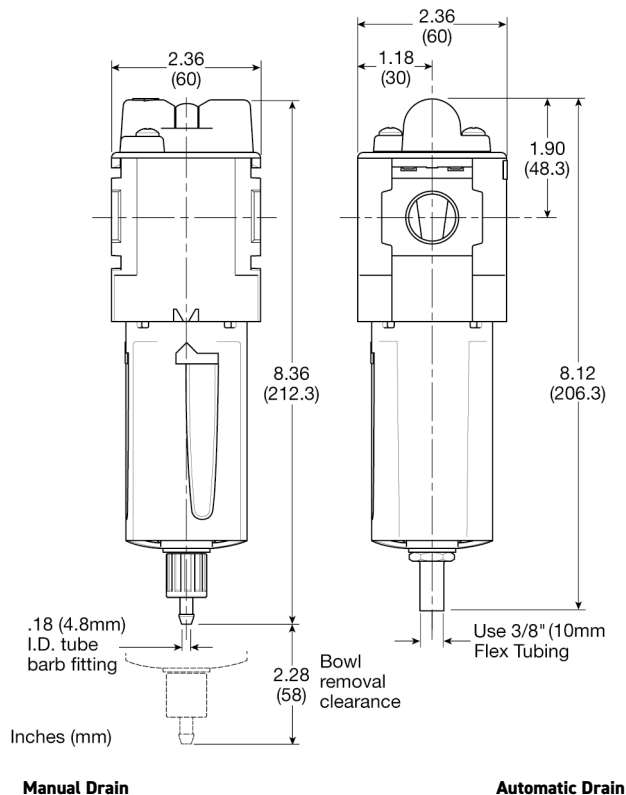
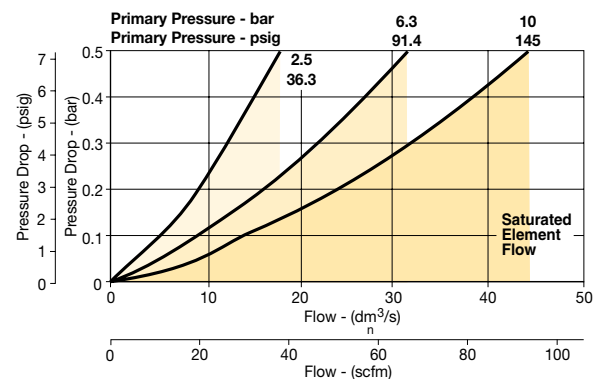
Air Preparation Products Global Air Preparation

Flow Charts

P32FB - 1.0 micron flow



P32FB - 0.01 micron flow

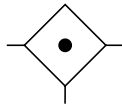


P33 Coalescing and Adsorber Filters – Standard

- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- Removes liquid aerosols and sub micron particles
- Oil free air for critical applications, such as air gauging, pneumatic instrumentation and control
- Differential Pressure Indicator (DPI) standard on Coalescing Filters
- Positive bayonet latch to ensure correct & safe fitting
- Adsorbing activated carbon element removes oil vapors and most hydrocarbons

Note: To optimize the life of coalescing element, it is advisable to install a P33F pre-filter with a 5 micron element upstream of the coalescing filter.

To optimize the life of an Adsorber it is advisable to install a P33 Coalescing Filter upstream of the Adsorber. Adsorber element should be replaced approximately every 1000 hours of service.



Port Size	Description †	Element	Part Number
1/2"	Poly Bowl, Manual Drain	0.01 micron	P33FA94DGMN
1/2"	Poly Bowl, Auto Drain	0.01 micron	P33FA94DGAN
1/2"	Metal Bowl, Manual Drain	0.01 micron	P33FA94DSMN
1/2"	Metal Bowl, Auto Drain	0.01 micron	P33FA94DSAN
3/4"	Poly Bowl, Manual Drain	0.01 micron	P33FA96DGMN
3/4"	Poly Bowl, Auto Drain	0.01 micron	P33FA96DGAN
3/4"	Metal Bowl, Manual Drain	0.01 micron	P33FA96DSMN
3/4"	Metal Bowl, Auto Drain	0.01 micron	P33FA96DSAN

† For polycarbonate bowl, see caution in Engineering Section A.



Operating information

Supply pressure (max):

Poly bowl	150 psig (10 bar)
Metal bowl w/ DPI	150 psig (10 bar)
Metal bowl w/o DPI	250 psig (17 bar)

Operating temperature:

Plastic bowl	-13°F to 125°F (-25°C to 52°C)
Metal bowl	-13°F to 150°F (-25°C to 65.6°C)

Standard filtration:

1.0 and 0.01 micron

Adsorber

Max. oil carryover (ppm w/w)
0.003 @ 70°F (21°C)

Flow capacity*:

1.0 micron coalescing	68 scfm (32 dm³/s, ANR)
0.01 micron coalescing	42 scfm (20 dm³/s, ANR)
Activated carbon adsorber	72 scfm (34 dm³/s, ANR)
Useful retention†:	2.8 US oz. (85 cm³)

Weight:

1.10 lb (0.50 kg)

* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 3 psig (0.2 bar), saturated element.

† Useful retention refers to volume below the quiet zone baffle.

Ordering information:

P33FA		9	6	D	G	M	N
Basic Series Global Modular Standard Coalescing Filter P33FA		Thread Type BSPP 1 BSPT 2 NPT 9		Port Size 1/2 4 3/4 6		Mounting N No Bracket	
		Element 0.01µ Element C 0.01µ Element with DPI D 1µ Element 9 1µ Element with DPI Q Adsorber A		Drain Type M Manual Drain A Auto Drain		Bowl Type G Poly Bowl with Bowl Guard M Metal Bowl without Sight Gauge S Metal Bowl with Sight Gauge	

Most popular.



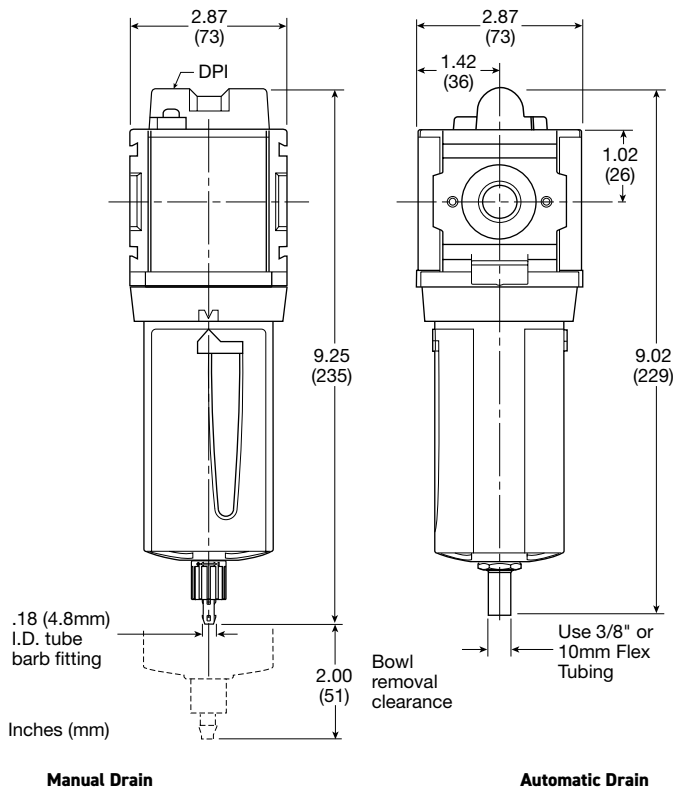
Standard Coalescing and Adsorber Filters

Material Specifications

Body	Aluminum
Body cap	ABS
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Filter element	Borosilicate cloth
Adsorber	Activated carbon
Seals	Nitrile
Sight gauge	Nylon

Repair and Service Kits

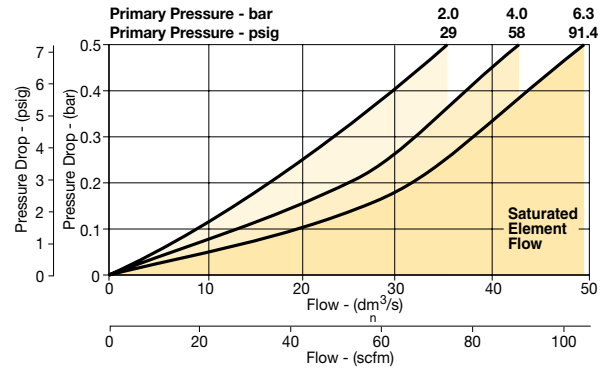
Plastic bowl / bowl guard, manual drain	P33KA00BGM
Metal bowl / sight gauge, manual drain	P33KA00BSM
Auto drain	P32KA00DA
1μ coalescing filter element	P33KA00ES9
0.01μ coalescing filter element	P33KA00ESC
Activated carbon adsorber filter element	P33KA00ESA
L-bracket (fits to body)	P33KA00ML
T-bracket (fits to body connector)	P32KA00MB
T-bracket with body connector	P32KA00MT
Body connector	P32KA00CB
Differential pressure indicator (replacement)	P32KA00RQ



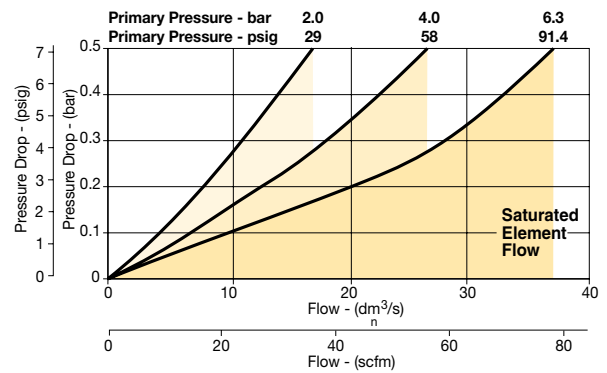
Air Preparation Products Global Air Preparation

Flow Charts

P33FA - 1.0 micron flow



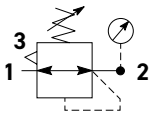
P33FA - 0.01 micron flow



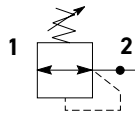
Mini Regulators

P31 Regulators - Mini

- Integral 1/4" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Secondary pressure ranges
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Relieving & non-relieving types
- Non-rising knob



Self relieving regulator with gauge



Non-relieving regulator

Port Size	Description (Relieving)	Gauge	Part Number
1/4"	125 psig (8 bar)	Square	P31RB92BN5P

Operating information

Flow capacity*:	1/4	73 scfm (34 dm ³ /s, ANR)
Operating temperature†:		-4°F to 150°F (-20°C to 65.5°C)
Supply pressure (max):		300 psig (20 bar)
Adjusting range pressure:		30 psig (0-2 bar) 60 psig (0-4 bar) 125 psig (0-8 bar) 232 psig (0-16 bar)
Weight:		0.37 lb (0.17 kg)

* Inlet pressure 145 psig (10 bar). Secondary pressure 100 psig (6.9 bar) and 14.5 psig (1 bar) pressure drop. .
† Units with square gauges: 5°F to 150°F (-15°C to 65.5°C)

Gauge supplied with every part. Gauge can be installed on the front or back of the regulator. If no gauge is installed, both seal screws must be installed.

Ordering Information:

P31RB

9

2

B

N

5

P

Basic Series
Global Modular Mini Regulator
P31RB

Thread Type
BSPP 1
BSPT 2
NPT 9

Port Size
1/4 2

Relief
Relieving B
Non-Relieving N
Reverse Flow - Relieving R

Mounting
P Plastic Panel Mount Nut

Adjustment Range
With Square Gauge

psig	Bar	MPa
1 = 30*	V = 2*	2 = 0.2*
3 = 60	S = 4	4 = 0.4
5 = 125	T = 8	6 = 0.8
7 = 232	W = 16	8 = 1.6

Adjustment
N Non-Rising Knob

* Regulator comes with gauge respective to the adjustment range available.

Most popular.



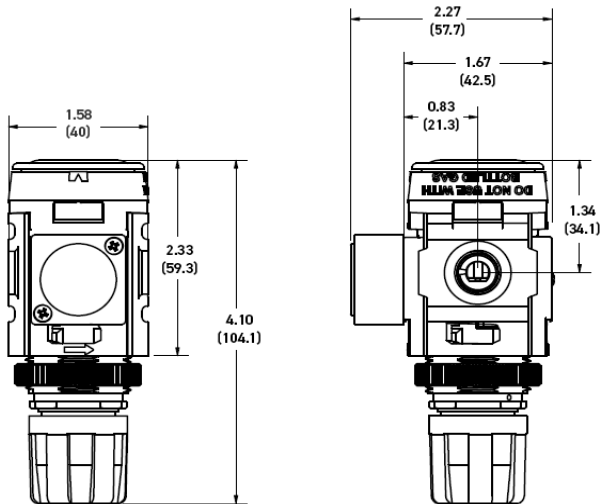
Mini Regulators

Material Specifications

Body	Aluminum
Adjustment knob	Acetal
Bonnet	Glass-filled nylon
Diaphragm assembly	Stainless steel / Nitrile
Valve assembly	Acetal/ Nitrile
Springs	Steel
Seals	Nitrile
Panel nut	Acetal
Bottom Cap	Glass-filled nylon

Repair and Service Kits

Panel mount nut - aluminum	P31KA00MM
Panel mount nut - plastic	P31KA00MP
Angle bracket (attaches via panel nut)	P31KB00MR
C-bracket (fits to body)	P31KA00MW
T-bracket with body connector	P31KA00MT
Body connector	P31KA00CB



NOTE: 1.20 in. (30mm) hole required for panel nut mounting.



WARNING

**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**

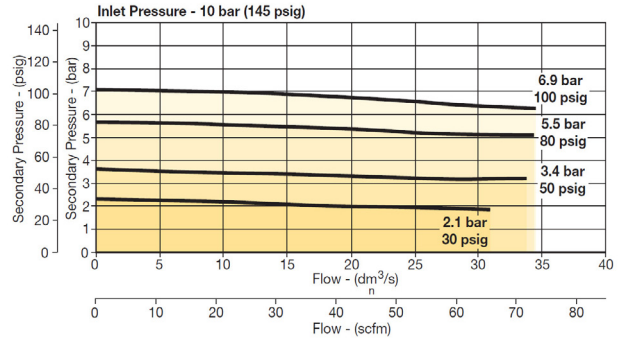
CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

Air Preparation Products Global Air Preparation

Flow Charts

P31RB 1/4" Regulator



Gauges (*see note below)

Square flush mount gauge	0-060 psig	P31KA060XB
	0-160 psig	P31KA160XB
	0-290 psig	P31KA290XB
	0-4 bar	P31KA04BXB
	0-11 bar	P31KA11BXB
	0-20 bar	P31KA20BXB
Square flush mount gauge	0-0.4 MPa	P31KA04MXB
	0-1.1 MPa	P31KA11MXB
	0-2.0 MPa	P31KA20MXB
Square with adapter kit	0-4 bar	K4511SCR04B
	0-11 bar	K4511SCR11B
	0-60 psig	K4511SCR060
	0-160 psig	K4511SCR160
1.00" Round 1/8" center back mount	0-60 psig / 1-4 bar	K4510N18060
	0-160 psig / 0-11 bar	K4510N18160
40mm Round 1/8" center back mount (not for use with common port regulators)	0-30 psig / 0-2 bar	K4515N18030
	0-60 psig / 0-4 bar	K4515N18060
	0-160 psig / 0-11 bar	K4515N18160

1.00" Round 1/8" center back mount

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

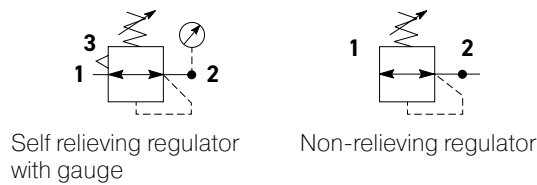
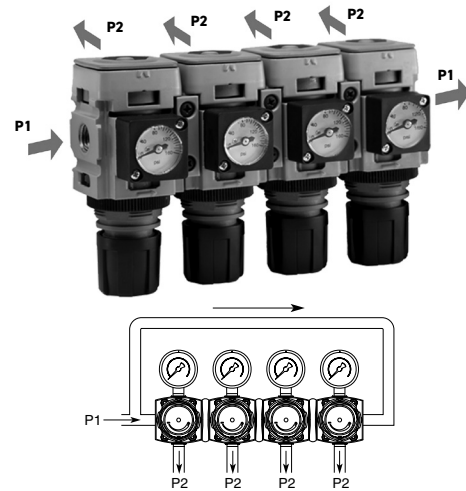
***For P31 Regulators with date code after November 2023 (4423 Date Code), please use these part numbers when ordering a replacement gauge.**



Mini Common P1 Regulators

P31 Common P1 Regulators - Mini

- Manifold style regulator with line pressure on both sides
- Pressure output is at front or rear
- Inlet port 1/4" (NPT, BSPP & BSPT)
- Working port 1/8"
- Robust construction
- Secondary pressure ranges
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & non-relieving types
- Non-rising knob



Port Size	Description (Relieving)	Gauge	Part Number
1/4"	125 psig (8 bar)	Square	P31HB92BN5P

Operating information

Flow capacity*:	1/4	64 scfm (31 dm ³ /s, ANR)
Operating temperature:		-4°F to 150°F (-20°C to 65.5°C)
Supply pressure (max):		300 psig (20 bar)
Adjusting range pressure:		30 psig (0-2 bar) 60 psig (0-4 bar) 125 psig (0-8 bar) 232 psig (0-16 bar)
P1 port size (inlet/outlet)		1/4 NPT, BSPP, BSPT
P2 regulated ports (2 ea.)		1/8 NPT, BSPP, BSPT
Weight:		0.66 lb (0.30 kg)

* Inlet pressure 145 psig (10 bar). Secondary pressure 100 psig (6.9 bar) and 14.5 psig (1 bar) pressure drop.

Gauge supplied with every part. Gauge can be installed on the front or back of the regulator. If no gauge is installed, both seal screws must be installed.

Ordering Information:

P31HB

Basic Series

Global Modular
Mini Common
Regulator

P31HB

9

Thread Type

BSPP	1
BSPT	2
NPT	9

2

Port Size †

1/4	2
-----	---

† Working port 1/8".

B

Relief

Relieving	B
Non-Relieving	N
Reverse Flow - Relieving	R

N

Adjustment

N Non-Rising Knob

5

Adjustment Range

With Square Gauge		
psig	Bar	MPa
1 = 30*	V = 2*	2 = 0.2*
3 = 60	S = 4	4 = 0.4
5 = 125	T = 8	6 = 0.8
7 = 232	W = 16	8 = 1.6

* Regulator comes with gauge respective to the adjustment range available.

P

Mounting

P Plastic Panel Mount Nut

Most popular.



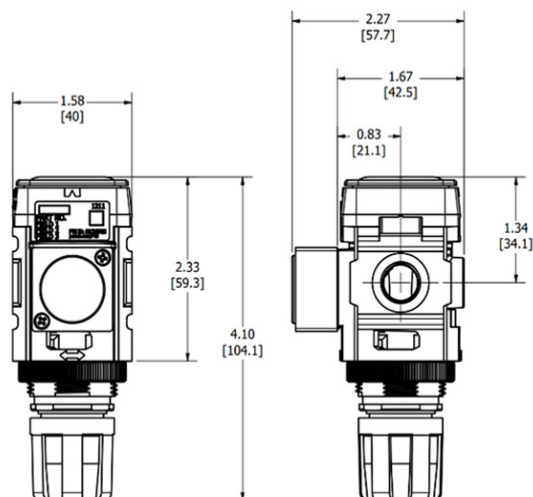
Mini Common P1 Regulators

Materials of Construction

Body	Aluminum
Adjustment knob	Acetal
Bonnet	Glass-filled nylon
Diaphragm assembly	Stainless steel / Nitrile
Valve assembly	Acetal / Nitrile

Repair and Service Kits

Panel mount nut - aluminum	P31KA00MM
Panel mount nut - plastic	P31KA00MP
Angle bracket (attaches via panel nut)	P31KB00MR
T-bracket with body connector	P31KA00MT
Body connector	P31KA00CB



NOTE: 1.20 in. (30mm) hole required for panel nut mounting.



WARNING

**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**

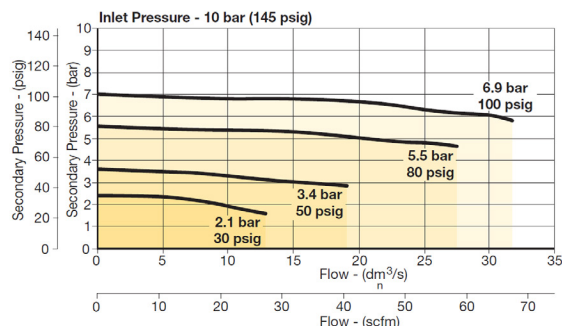
CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

Air Preparation Products Global Air Preparation

Flow Charts

P31HB 1/4" Common Regulator



Gauges (*see note below)

Square flush mount gauge	0-160 psig	P31KA060XB
	0-160 psig	P31KA160XB
	0-290 psig	P31KA290XB
	0-4 bar	P31KA04BXB
	0-11 bar	P31KA11BXB
	0-20 bar	P31KA20BXB
	0-0.4 MPa	P31KA04MXB
Square flush mount gauge	0-1.1 MPa	P31KA11MXB
	0-2.0 MPa	P31KA20MXB
Square with adapter kit	0-4 bar	K4511SCR04B
	0-11 bar	K4511SCR11B
	0-60 psig	K4511SCR060
	0-160 psig	K4511SCR160
1.00" Round 1/8" center back mount	0-60 psig / 1-4 bar	K4510N18060
	0-160 psig / 0-11 bar	K4510N18160
40mm Round 1/8" center back mount (not for use with common port regulators)	0-30 psig / 0-2 bar	K4515N18030
	0-60 psig / 0-4 bar	K4515N18060
	0-160 psig / 0-11bar	K4515N18160

1.00" Round 1/8" center back mount

40mm Round 1/8" center back mount (not for use with common port regulators)

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

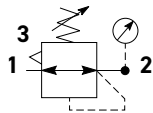
***For P31 Regulators with date code after November 2023 (4423 Date Code), please use these part numbers when ordering a replacement gauge.**



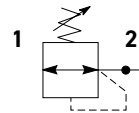
Compact Regulators

P32 Regulators - Compact

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Secondary pressure ranges
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & non-relieving types
- Regulator will reverse flow as standard
- Non-rising knob



Self relieving regulator with gauge



Non-relieving regulator

Port Size	Description (Relieving)	Gauge	Part Number
1/4"	125 psig (8 bar)	None	P32RB92BNNP
1/4"	125 psig (8 bar)	Round	P32RB92BNGP
3/8"	125 psig (8 bar)	None	P32RB93BNNP
3/8"	125 psig (8 bar)	Round	P32RB93BNGP
1/2"	125 psig (8 bar)	None	P32RB94BNNP
1/2"	125 psig (8 bar)	Round	P32RB94BNGP

Operating information

Flow capacity*:	
1/4	179 scfm (84 dm³/s, ANR)
3/8, 1/2	201 scfm (94 dm³/s, ANR)
Operating temperature:	-13°F to 150°F (-25°C to 65.5°C)
Supply pressure (max):	300 psig (20 bar)
Adjusting range pressure:	30 psig (0-2 bar) 60 psig (0-4 bar) 125 psig (0-8 bar) 250 psig (0-17 bar)
Gauge port (2 each)	1/4 NPT, BSPP, BSPT
Weight:	1.24 lb (0.56 kg)
* Inlet pressure 145 psig (10 bar). Secondary pressure 80.0 psig (5.5 bar)	

Ordering Information:

P32RB

Basic Series
Global Modular Compact Regulator **P32RB**

9

Thread Type
BSPP 1
BSPT 2
NPT 9

2

Port Size
1/4 2
3/8 3
1/2 4

B

Relief
Relieving B
Non-Relieving N

N

Adjustment
N Non-Rising Knob

G

Adjustment Range

With Round Gauge	
Z	30 psig; 2 Bar; 0.2 MPa
M	60 psig; 4 Bar; 0.4 MPa
G	125 psig; 8 Bar; 0.8 MPa
J	250 psig; 17 Bar; 1.7 MPa
Without Gauge	
Y	30 psig; 2 Bar; 0.2 MPa
L	60 psig; 4 Bar; 0.4 MPa
N	125 psig; 8 Bar; 0.8 MPa
H	250 psig; 17 Bar; 1.7 MPa

P

Mounting
P Plastic Panel Mount Nut

* Regulator comes with gauge respective to the adjustment range selected.

Most popular.

B

Global Air Preparation

Introduction

Filters

Coalescers

Regulators

Filter / Regulators

Lubricators

Combinations

Accessories and Kits



Compact Regulators

Material Specifications

Body	Aluminum
Adjustment knob	Acetal
Bonnet	Glass-filled nylon
Diaphragm assembly	Nitrile / Stainless steel
Valve assembly	Acetal / Nitrile
Springs	Steel, stainless steel
Seals	Nitrile
Panel nut	Acetal

Repair and Service Kits

Panel mount nut - aluminum	P32KA00MM
Panel mount nut - plastic	P32KA00MP
Angle bracket (attaches via panel nut)	P32KB00MR
T-bracket with body connector	P32KA00MT
T-bracket	P32KA00MB
Body connector	P32KA00CB

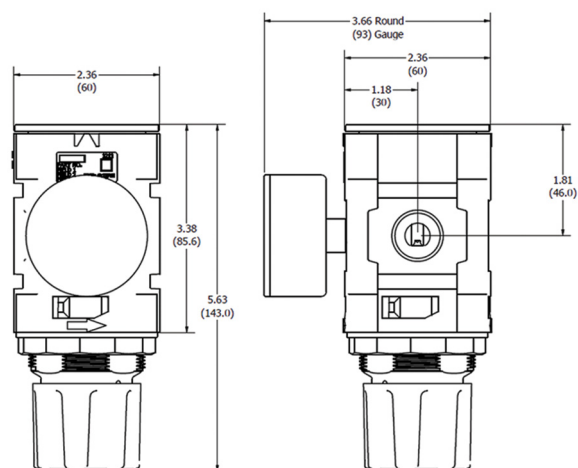


WARNING

**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



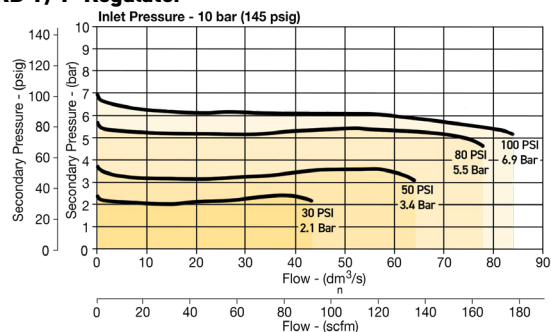
Inches (mm)

NOTE: 1.90 in. (48mm) hole required for panel nut mounting.

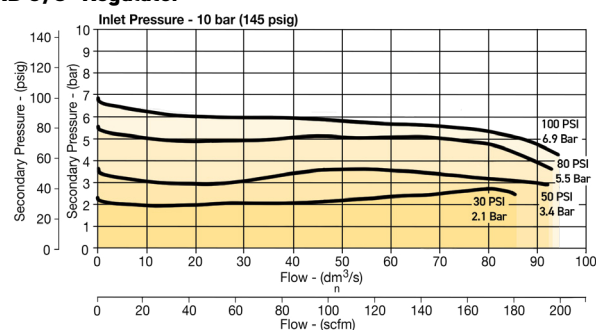
Air Preparation Products Global Air Preparation

Flow Charts

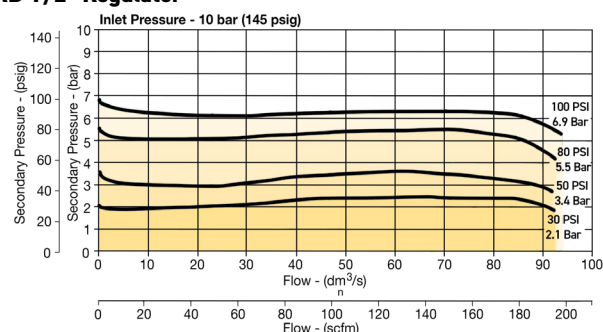
P32RB 1/4" Regulator



P32RB 3/8" Regulator



P32RB 1/2" Regulator



Gauges

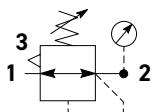
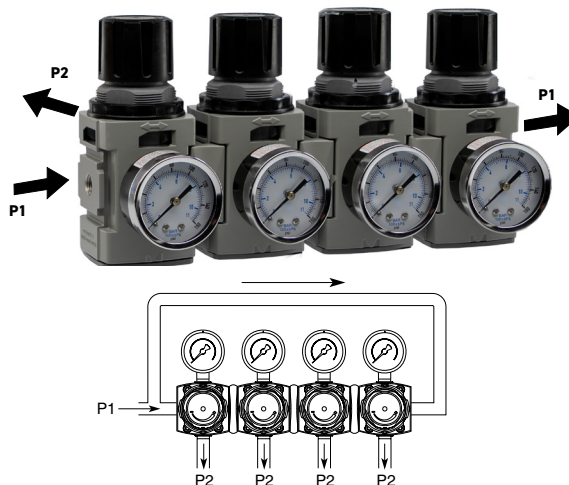
Square with adapter kit	0-4 bar	P6G-PR10040
	0-11 bar	P6G-PR10110
	0-60 psig	P6G-PR90060
	0-160 psig	P6G-PR90160
50mm (2") round 1/4" center back mount	0-30 psig / 0-2 bar	K4520N14030
	0-60 psig / 0-4 bar	K4520N14060
	0-160 psig / 0-11 bar	K4520N14160
	0-300 psig / 0-20 bar	K4520N14300

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

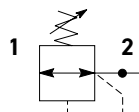


P32 Common - P1 Regulator - Compact

- Manifold style regulator with line pressure on both sides.
- Pressure output is at front or rear.
- Inlet ports 1/4", 3/8" or 1/2" (NPT, BSPP & BSPT)
- Working port 1/4"
- Robust construction
- Secondary pressure ranges
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & non-relieving types
- Regulator will reverse flow as standard
- Non-rising knob



Self relieving regulator with gauge



Non-relieving regulator

Port Size	Description (Relieving)	Gauge	Part Number
1/4"	125 psig (8 bar)	None	P32HB92BNNP
3/8"	125 psig (8 bar)	None	P32HB93BNNP
1/2"	125 psig (8 bar)	None	P32HB94BNNP

Operating information

Flow capacity*:	1/4, 3/8, 1/2	94 scfm (44 dm ³ /s, ANR)
Operating temperature:		-25°C to 65.5°C (-13°F to 150°F)
Supply pressure (max):		300 psig (20 bar)
Adjusting range pressure:		0 to 30 psig (0 to 2 bar) 0 to 60 psig (0 to 4 bar) 0 to 125 psig (0 to 8 bar) 0 to 232 psig (0 to 16 bar)
Gauge port (2 each):		1/4 NPT, BSPP, BSPT
Weight:		1.21 lb (0.55 kg)
* Inlet pressure 145 psig (10 bar). Secondary pressure 80.0 psig (5.5 bar) and 14.5 psig (1 bar) pressure drop.		

Ordering Information:

P32HB 9 2 B N N P

Basic Series
 Global Modular Compact Regulator **P32HB**

Thread Type
 BSPP 1
 BSPT 2
 NPT 9

Port Size †
 1/4 2
 3/8 3
 1/2 4
† Working port 1/4".

Relief
 Relieving B
 Non-Relieving N

Adjustment
 N Non-Rising Knob

Mounting
 P Plastic Panel Mount Nut

Adjustment Range
With Round Gauge
 Z 30 psig; 2 Bar; 0.2 MPa
 M 60 psig; 4 Bar; 0.4 MPa
 G 125 psig; 8 Bar; 0.8 MPa
 J 250 psig; 17 Bar; 1.7 MPa
Without Gauge
 Y 30 psig; 2 Bar; 0.2 MPa
 L 60 psig; 4 Bar; 0.4 MPa
 N 125 psig; 8 Bar; 0.8 MPa
 H 250 psig; 17 Bar; 1.7 MPa

* Regulator comes with gauge respective to the adjustment range selected.

Most popular.



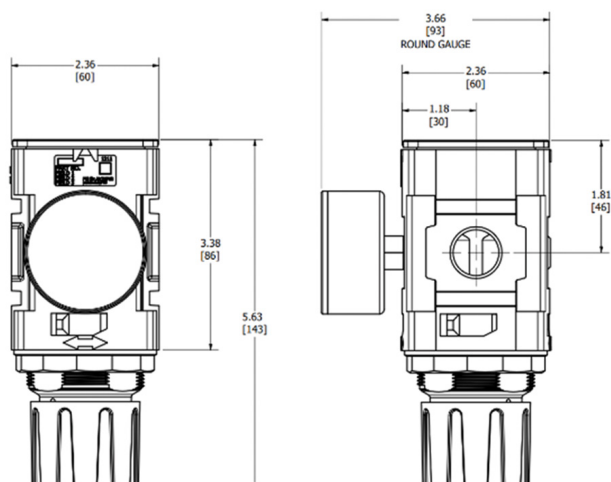
Compact Common P1 Precision Regulator

Material Specifications

Body	Aluminum
Adjustment knob	Acetal
Bonnet	Glass-filled nylon
Diaphragm assembly	Nitrile / Stainless steel
Valve assembly	Acetal / nitrile
Springs	Steel, stainless steel
Seals	Nitrile
Panel nut	Acetal

Repair and Service Kits

Panel mount nut - aluminum	P32KA00MM
Panel mount nut - plastic	P32KA00MP
Angle bracket (attaches via panel nut)	P32KB00MR
T-bracket with body connector	P32KA00MT
T-bracket	P32KA00MB
Body connector	P32KA00CB

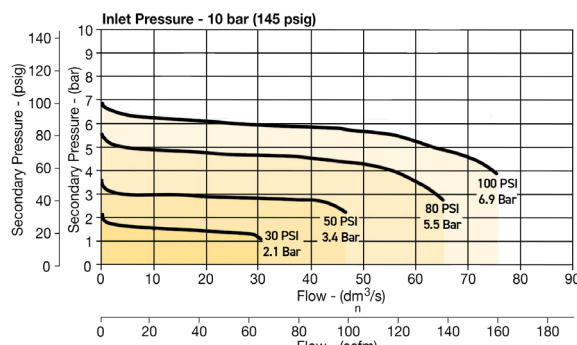


NOTE: 1.90 in. (48mm) hole required for panel nut mounting.

Air Preparation Products Global Air Preparation

Flow Charts

P32HB Common Port Regulator



WARNING

**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

Gauges

Square with adapter kit	0-4 bar	P6G-PR10040
	0-11 bar	P6G-PR10110
	0-60 psig	P6G-PR90060
	0-160 psig	P6G-PR90160
50mm (2") round 1/4" center back mount	0-30 psig / 0-2 bar	K4520N14030
	0-60 psig / 0-4 bar	K4520N14060
	0-160 psig / 0-11 bar	K4520N14160
	0-300 psig / 0-20 bar	K4520N14300

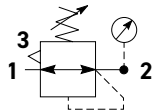
For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



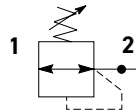
Standard Regulators

P33 Regulators - Standard

- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Secondary pressure ranges
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & non-relieving types
- Non-rising knob



Self relieving regulator with gauge



Non-relieving regulator

Port Size	Description (Relieving)	Gauge	Part Number
1/2"	125 psig (8 bar)	None	P33RA94BNNP
1/2"	125 psig (8 bar)	Round	P33RA94BNGP
3/4"	125 psig (8 bar)	None	P33RA96BNNP
3/4"	125 psig (8 bar)	Round	P33RA96BNGP

Operating information

Flow capacity*: 1/2, 3/4 233 scfm (110 dm³/s, ANR)
 Operating temperature: -13°F to 150°F (-25°C to 65.5°C)
 Supply pressure (max): 300 psig (20 bar)
 Adjusting range pressure: 0 to 30 psig (0 to 2 bar)
 0 to 60 psig (0 to 4 bar)
 0 to 125 psig (0 to 8 bar)
 0 to 250 psig (0 to 17 bar)
 Gauge port (2 each): 1/4 NPT, BSPP, BSPT
 Weight: 1.37 lb (0.62 kg)
 * Inlet pressure 145 psig (10 bar). Secondary pressure 91.3 psig (6.3 bar) and 14.5 psig (1 bar) pressure drop.

Ordering Information:

P33RA 9 6 B N G P

Basic Series

Global Modular Standard Regulator **P33RA**

Thread Type

BSPP	1
BSPT	2
NPT	9

Port Size

1/2	4
3/4	6

Relief

Relieving	B
Non-Relieving	N
Reverse Flow-Relieving	R

Adjustment

Non-Rising Knob	N
-----------------	---

Mounting

P	Plastic Panel Mount Nut
---	-------------------------

Adjustment Range

With Round Gauge	
Z	30 psig; 2 Bar; 0.2 MPa
M	60 psig; 4 Bar; 0.4 MPa
G	125 psig; 8 Bar; 0.8 MPa
J	250 psig; 17 Bar; 1.7 MPa
Without Gauge	
Y	30 psig; 2 Bar; 0.2 MPa
L	60 psig; 4 Bar; 0.4 MPa
N	125 psig; 8 Bar; 0.8 MPa
H	250 psig; 17 Bar; 1.7 MPa

Most popular.



Standard Regulators

Material Specifications

Body	Aluminum
Adjustment knob	Acetal
Body cap	ABS
Bonnet	Glass-filled nylon
Diaphragm assembly	Nitrile / zinc
Valve assembly	Brass / nitrile
Springs	Steel, stainless steel
Seals	Nitrile
Panel nut	Acetal

Repair and Service Kits

Diaphragm repair kit - relieving	P33KA00RB
Diaphragm repair kit - non-relieving	P33KA00RC
Panel mount nut - aluminum	P33KA00MM
Panel mount nut - plastic	P33KA00MP
Angle bracket (attaches via panel nut)	P33KA00MR
T-bracket with body connector	P32KA00MT
T-bracket	P32KA00MB
Body connector	P32KA00CB

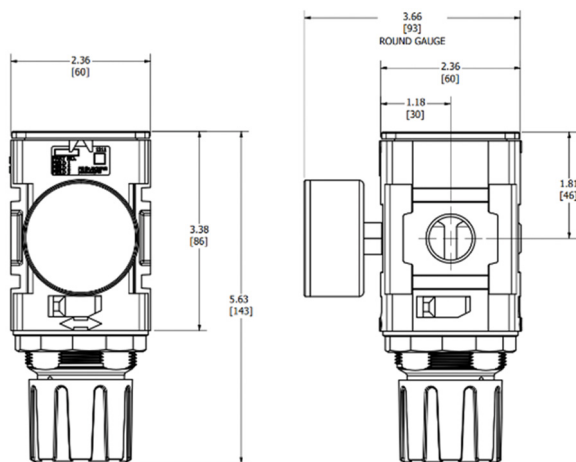


WARNING

**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

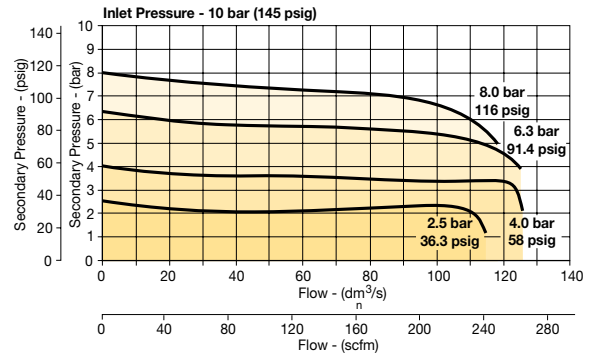


NOTE: 2.40 in. (61mm) hole required for panel nut mounting.

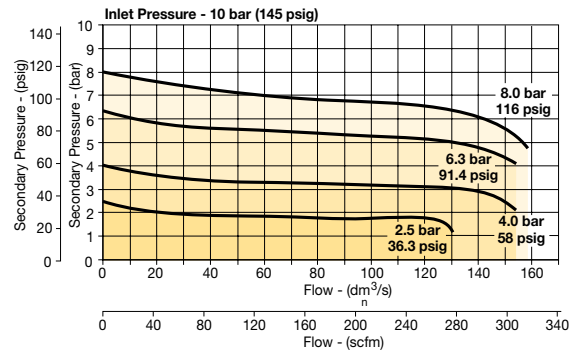
Air Preparation Products Global Air Preparation

Flow Charts

P33RA 1/2" Regulator



P33RA 3/4" Regulator



Gauges

50mm (2") round	0-30 psig / 0-2 bar	K4520N14030
1/4" center back mount	0-60 psig / 0-4 bar	K4520N14060
	0-160 psig / 0-11 bar	K4520N14160
	0-300 psig / 0-20 bar	K4520N14300

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



Proportional Regulators

P31P & P32P Proportional Regulators

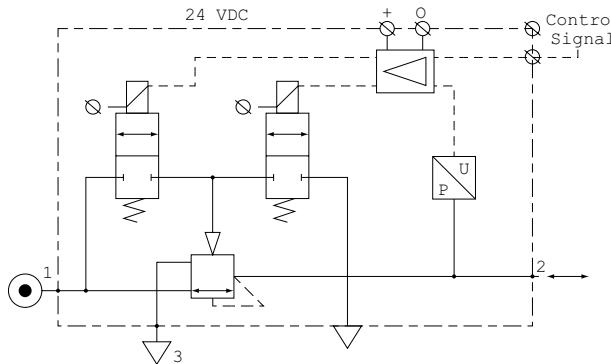
- Very fast response times
- Accurate output pressure
- Parameter settings
- Selectable I/O parameters
- Quick, full flow exhaust
- LED display indicates output pressure
- No air consumption in steady state
- Multiple mounting options
- Protection to IP65



P31P Series
Bottom exhaust



P32P Series
Bottom exhaust



Port Size	Description	Part Number
1/4"	145 psig (0-10 bar), NC 0-10V	P31PA92AD2VD1A
1/2"	145 psig (0-10 bar), NC 0-10V	P32PA94AD2VD1A

Operating information

Flow capacity*:	P31P	40 scfm (19 dm³/s, ANR)
	P32P	120 scfm (57 dm³/s, ANR)
Temperature range:	32°F to 122°F (0°C to 50°C)	
Supply pressure (max):		
2 bar unit	36.3 psig (2.5 bar)	
10 bar unit	152 psig (10.5 bar)	
Operating pressure (min):	P2 pressure + 7.3 psig (0.5 bar)	
Working medium:	Compressed air or inert gasses, filtered to 40µ	
Pressure range:		
	0 to 30 psig (0 to 2 bar)	
	0 to 145 psig (0 to 10 bar)	
Weight:	P31P	0.64 lb (0.291 kg)
	P32P	1.42 lb (0.645 kg)

* Inlet pressure 91.3 psig (6.3 bar), inlet pressure and 4.9 psig (0.34 bar) pressure drop.

Ordering Information:

P31PA
9
2
A
D
2
V
D
1
A

Body Size

Global Modular Mini (1/4")	P31PA
Global Modular Compact (1/2")	P32PA

Thread Type

BSPP	1
BSPT	2
NPT	9

Power Supply

2	24 Volts
---	----------

Control Signal

V	0-10V*
---	--------

* Factory setting is 0-10 V control signal. 4-20 mA control signal available via parameter 4 on keypad.

Input Connector

1	M12 (4-pin)
---	-------------

Output Signal

D	Digital, PNP
P	PNP or 0-10V
N	NPN or 0-10V
M	4-20mA Fixed

D) Digital PNP output only, no analog output selectable
P) Digital PNP and analogue 0-10V outputs selectable, by means of parameter 6.(Factory default 0-10V)
N) Digital NPN and analog 0-10 V outputs selectable by means of parameter 6. (Factory default 0-10V)
M) Analog 4-20mA output only.
Note: On all analog outputs the F.S. value can be adjusted by means of parameter 8.

Pressure Range

Z	0 - 29 psig (0 - 2 Bar)
D	0 - 145 psig (0 - 10 Bar)

Port Size

Global Modular Mini (1/4")	2
Global Modular Compact (1/2")	4

Version

Bottom Ported Exhaust (NC)	A
Bottom Ported Forced Exhaust (NO)†	E

† When the supply voltage is lost the unit will automatically exhaust the regulated pressure to 0 bar (atmospheric pressure)

Most popular.

B

Global Air Preparation

Introduction

Filters

Coalescers

Regulators

Filter / Regulators

Lubricators

Combinations

Accessories and Kits



Proportional Regulators

Technical Information

Accuracy

$\pm 1.0\%$ of F.S.*

* Full scale (F.S.) - For 2 bar (29 psig) versions this will be 2 bar (29 psig), for the 10 bar (145 psig) version full scale will be 10 bar (145 psig).

Air consumption

No consumption in stable regulated situation.

Display

The regulator is provided with a digital display, indicating the output pressure, either in bar or psig.

The factory setting is as indicated on the label, can be changed through to software at all times (parameter 14)

Supply voltage

24 VDC $\pm 10\%$

Power consumption

Max. 1.1W with unloaded signal outputs

Control signals

The electronic pressure regulator can be externally controlled through an analogue control signal of either 0-10V or 4-20mA. (parameter 4).

Output signals

As soon as the output pressure is within the signal band a signal is given of 24VDC, PNP Ri = 1 kOhm
Outside the signal band this connection is 0V.

Connections

(In case of output signal (Option D)

Central M12 connector 4-pole

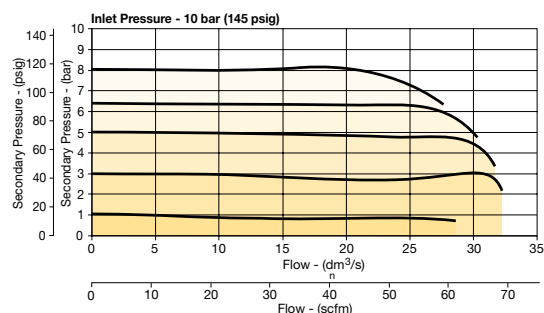
The electrical connections are as follows:

Pin No.	Function	Color
1	24 V	Supply
2	0 to 10 V	Control Signal Ri = 100k Ω
	4 to 20mA	Control Signal Ri = 500 Ω
3	0 V (GND)	Supply & Set Point Ground
4	24 V	Alarm Output Signal

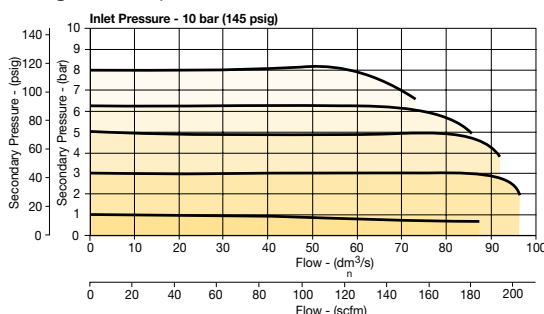
Air Preparation Products Global Air Preparation

Flow Charts

P31P Regulator 1/4" Ports



P32P Regulator 1/2" Ports



Degree of protection: IP65

EU conformity

CE: standard

EMC: according to directive 89/336/EEC

This pressure regulator is in accordance with:

EN 61000-6-1:2001

EN 61000-6-2:2001

EN 61000-6-3:2001

EN 61000-6-4:2001

Mounting position

Preferably vertical, with the cable gland on top.

Materials: P31P & P32P

Magnet core	Steel
Solenoid valve poppet	FPM
Solenoid valve housing	Techno polymer
Regulator body (P31P & P32P versions)	Aluminum
Regulator top housing	Nylon
Valve head	Brass & NBR
Remaining seals	NBR



Proportional Regulators

How to change parameters – How to Videos available at www.pdnetools.com

Pressing the Accept key “acc” for more than 3 seconds, will activate parameter change mode. The user can then select the parameters by pressing up or down key (display will show Pxx). When parameter number is correct, pressing accept again will enter parameter number (display will show parameter value).

Pressing the up or down key will change the parameter itself (display will flash indicating parameter editing mode). Pressing the accept key will accept the new parameter value (all digits will flash whilst being accepted).

After releasing all keys, the next parameter number will be presented on the display (you may step to the next parameter). When no key is pressed, after 3 seconds the display will show the actual output pressure.

When the unit is initially powered up allow approximately 10 seconds for the unit to “boot-up” before changing parameter settings.

Only parameter numbers 0, 4, 6, 8, 9, 14, 18, 19, 20, 12, 13 and 21 are accessible to edit. All other parameters are fixed.

Manual mode:















When keys DOWN and UP are pressed during startup, (connecting to the 24V power supply) manual mode is activated. This means that the user is able to in/decrease the output pressure of the regulator, by pressing the UP or DOWN key. During this action the display will blink, indicating that the manual mode is activated. After powering up again, the unit will revert back to normal mode.

Back to Factory Setting

After start up. (Power is on)

Entering this value in parameter 0 will store the calibrated factory data into the working parameters.
(Default calibration data is used)















Parameter Number 0 – Reset Back to Factory Settings

Step	1	2	3	4	5	
Press 	 3-6 seconds	 or 		 or 		
Until Display Reads			 Flashing Decimal	 Flashing Decimal	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 0.	Displays current parameter value.	Edits parameter. 3 = standard factory settings. If other than 3, use Up or Down Arrow and accept 3	Accepts and saves new parameter setting.	Sequences to next parameter.

Set Control Signal

The unit is factory set for 0-10 V control signal. If 4-20 mA control signal is required, change parameter 4.

Parameter Number 4 – Set Control Signal in Volts or Milliamps

Step	1	2	3	4	5	
Press 	 3-6 seconds	 or 		 or 		
Until Display Reads			 Flashing Decimal	 Flashing Decimal	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 4.	Displays current parameter value. 1 = V 0 = mA	Edits parameter.	Accepts and saves new parameter setting.	Sequences to next parameter.

How to Videos at www.pdnetools.com



Set Output Signal

Parameter 6 is used to set the type of output signal to your PLC.
This parameter is used as follows:

Output Signal option "0" = Digital Output – PNP

- Factory set at "0" Non Adjustable

Output Signal option "P" = Digital PNP or Analog 1-10V

- Factory set at "1" for Analog Signal
- Convert to Digital PNP by changing parameter to "0" setting



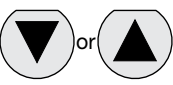

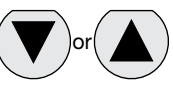







Output Signal option "N" = Digital NPN or Analog 1-10V

- Factory set at "1" Analog Signal
- Convert to Digital NPN by changing parameter to "0"

Output Signal option "M" = Analog 4-20 mA

- Factory set at "2" Non Adjustable

Parameter Number 6 – Set Output Signal

Step	1	2	3	4	5	
Press 	 3-6 seconds					
Until Display Reads			 Flashing Decimal	 Flashing Decimal (Value 0, 1 or 2)	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 6.	Displays current parameter value. 1 = m factory default for P3H with analog options	Edits parameter. 0 = digital (NPN or PNP) 1 = analog 0..10V 2 = analog 4..20 mA	Accepts and saves new parameter setting.	Sequences to next parameter.



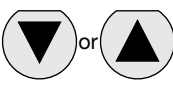

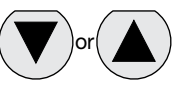







Adjust Span Analog Output Signal

Set value is a % of Full Analog range. As an example for a 0-10V output signal, the original factory setting of 100% will give you an adjustment of 0-10V. If you reset Parameter 8 to 50%, the new output range would be 0-5V or 50% of the full range.

In the event that the output signal is too low, in a certain application, you can adjust it by increasing Parameter 8 to a maximum value of 130% of scale.

Note that all values are nominal and that an actual measurement may be required to ensure signal strength.

Parameter Number 8 – Adjust Span Analog Output Signal

Step	1	2	3	4	5	
Press 	 3-6 seconds					
Until Display Reads			 Flashing Decimal (For 2 bar versions value = 92)	 Flashing Decimal (Value between 0 and 130)	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 8.	Displays current parameter value.	Edits parameter.	Accepts and saves new parameter setting and implements the new analog signal span.	Sequences to next parameter.

How to Videos at www.pdnetools.com



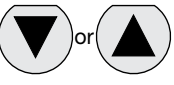

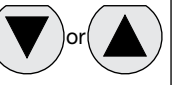









Proportional Regulators

Adjust Digital Display

If necessary, adjustments can be made to the digital display when using an external pressure sensor.



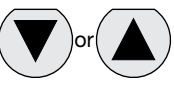

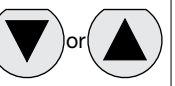







Parameter Number 9 - Adjust Digital Display Value (Pressure Calibration)

Step	1	2	3	4	5	
Press 	 3-6 seconds					
Until Display Reads			 Flashing Decimal	 Flashing Decimal	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 9.	Displays current digital display	Use up or down arrows and accept to adjust the display value if using an external pressure sensor.	Accepts and saves new parameter setting.	Sequences to next parameter.

Set Pressure Scale

Units with NPT port threads are supplied with a factory set psig pressure scale. Use parameter 14 to change scale to bar.

Parameter Number 14 - Set Pressure Scale in psig or bar

Step	1	2	3	4	5	
Press 	 3-6 seconds					
Until Display Reads			 Flashing Decimal	 Flashing Decimal	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 14.	Displays current parameter value. 1 = psig 0 = bar 2 = MPa	Edits parameter.	Accepts and saves new parameter setting.	Sequences to next parameter.










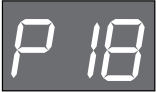



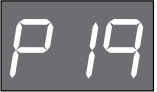
How to Videos at www.pdnetools.com



Preset Minimum Pressure

If there is a need for a pre-set Minimum pressure, use parameter 18. (Note: preset pressure is affected by % P19.)

Parameter Number 18 - Set Minimum Preset Pressure

Step	1	2	3	4	5	
Press 	 3-6 seconds	 or 		 or 		
Until Display Reads			 Flashing Decimal Displays current parameter value. Incremental value is: 2 bar unit: $x 2 \text{ mbar} \times \% P19$ 10 bar unit: $x 10 \text{ mbar} \times \% P19$	 Flashing Decimal (value between 0 and 200)	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 18.		Edits parameter.	Accepts and saves new parameter setting.	Sequences to next parameter.

Set Pressure Correction








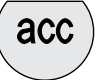

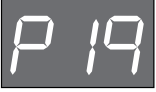




Pressure correction allows the user to set a Maximum pressure as a percentage of secondary pressure F.S.

Example: If F.S. is 10 bar, set parameter 19 to 50 for Maximum preset pressure of 5 bar.

Pressure correction also affects the Minimum preset pressure in parameter 18.

Example: If F.S. is 10 bar and parameter 18 is set to a value of 100 (1 bar), and parameter 19 is set to 50%, then the actual Minimum preset pressure seen is 0.5 bar.

Parameter Number 19 - Set Maximum Preset Pressure

Step	1	2	3	4	5	
Press 	 3-6 seconds	 or 		 or 		
Until Display Reads			 Flashing Decimal Displays current parameter value. Incremental value is: % of F.S.	 Flashing Decimal (value between 0 and 100)	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 19.		Edits parameter.	Accepts and saves new parameter setting.	Sequences to next parameter.

How to Videos at www.pdnetools.com

















Proportional Regulators

Behavior Control

The regulation speed of the pressure regulator can be modified by means of one parameter. (P 20)
The value in this parameter has a range from 0-5. A higher value indicates slower regulation speed, but will be more stable.

Parameter Number 20 - Set Behavior Control

Step	1	2	3	4	5	
Press 	 3-6 seconds	 or 		 or 		
Until Display Reads			 Flashing Decimal	 Flashing Decimal (value between 0 and 5)	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 20.	Displays current parameter value.	Edits parameter 0 = custom set* 1 = fastest (narrow proportional band) 2 = fast 3 = normal 4 = slow 5 = slowest (proportional band is broad)	Accepts and saves new parameter setting.	Sequences to next parameter.















* When the value 0 is entered, you are able to create your own custom settings true parameters 12, 13 and 21.

Fine Settings

Set Proportional Band

Proportional band is used for setting the reaction sensitivity of the regulator. The displayed value is X 10 mbar and has a range between 50 (0.5 bar) and 250 (2.5 bar).

Parameter Number 12 - Set Proportional Band (P20 Must be Set to 0)

Step	1	2	3	4	5	
Press 	 3-6 seconds	 or 		 or 		
Until Display Reads			 Flashing Decimal	 Flashing Decimal (value between 50 and 250)	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 12.	Displays current parameter value. Incremental value is: x 10 mbar	Edits parameter.	Accepts and saves new parameter setting.	Sequences to next parameter.















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Set Deadband















Deadband is the Minimum limit of accuracy at which the regulator is set for normal operation. The displayed value is X 10 mbar and has a range between 4 (40 mbar) and 40 (400 mbar).

Parameter Number 13 - Set Deadband (P20 Must be Set to 0)









Step	1	2	3	4	5	
Press 	 3-6 seconds	 or 		 or 		
Until Display Reads			 Flashing Decimal	 Flashing Decimal (value between 4 and 40)	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 13.	Displays current parameter value. Incremental value is x 10 mbar	Edits parameter.	Accepts and saves new parameter setting.	Sequences to next parameter.

Proportional Effect

Parameter Number 21 - Set Proportional Effect (P20 Must be Set to 0)

Step	1	2	3	4	5	
Press 	 3-6 seconds	 or 		 or 		
Until Display Reads			 Flashing Decimal	 Flashing Decimal (value between 5 and 100)	 Flashing	
Description	Accesses changeable parameters.	Accesses parameter no. 21.	Displays current parameter value.	Edits parameter. 5 = fastest regulation 100 = slowest regulation.	Accepts and saves new parameter setting.	Sequences to next parameter.

Parameter Number 39 - Displays Current Software Version

Step	1	2	3
Press 	 3-6 seconds	 or 	
Until Display Reads			 Flashing Decimal
Description	Accesses changeable parameters.	Accesses parameter no. 39.	Displays current parameter value. XXX = current software version

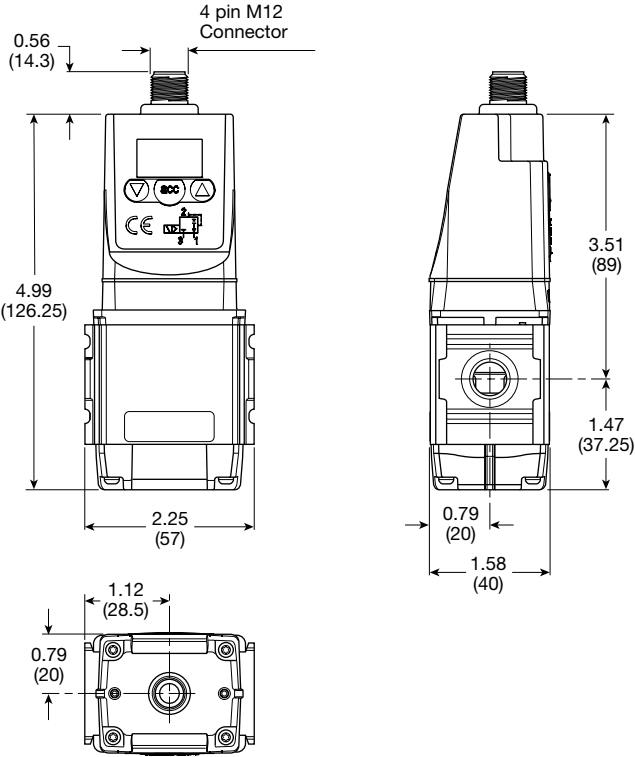
How to Videos at www.pdnetools.com



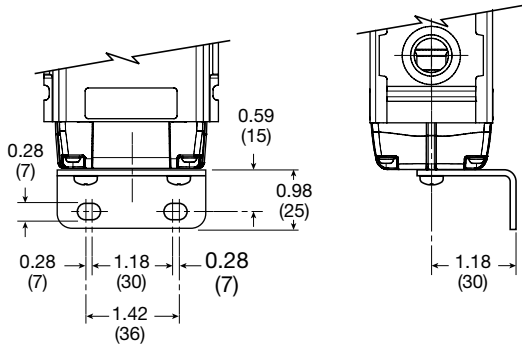
Dimensional Data

P31P

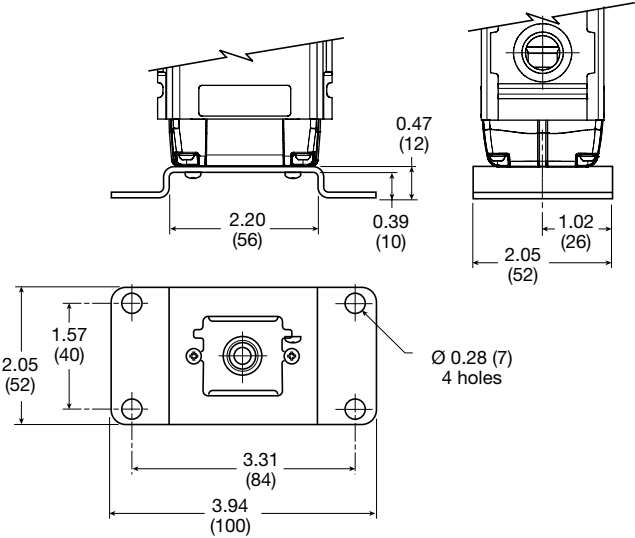
Dimensions inches (mm)



L-Bracket
P3HKA00ML



Foot Bracket
P3HKA00MC



Cables

Description	Part Number
2 mtr. cable with moulded straight M12x1 connector	CB-M12-4P-2M

Most popular.

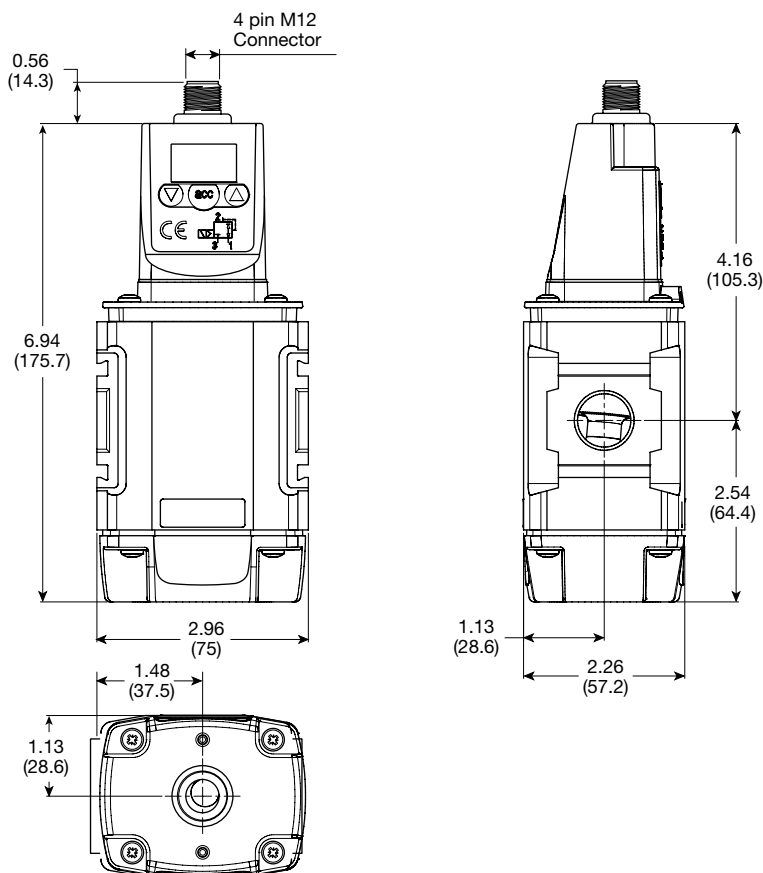


Dimensional Data

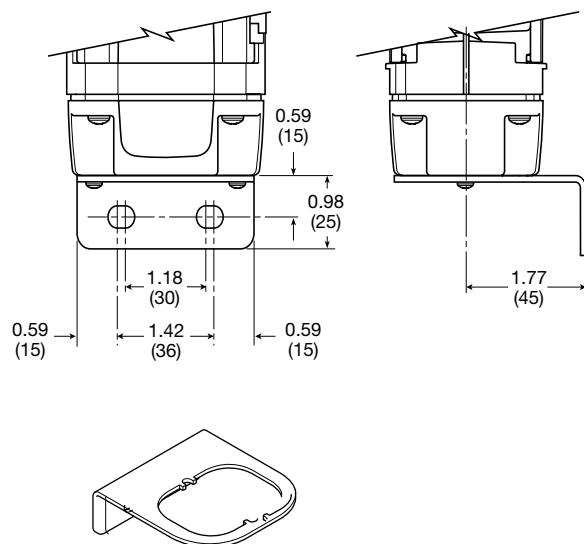
Air Preparation Products Global Air Preparation

P32P

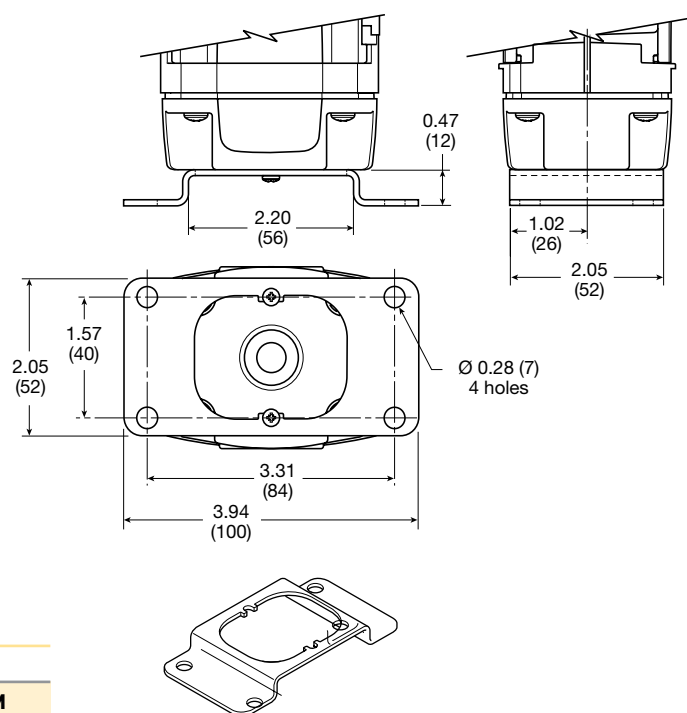
Dimensions inches (mm)



L-Bracket P3KKA00ML



Foot Bracket P3KKA00MC



Cables

Description	Part Number
2 mtr. cable with moulded straight M12x1 connector	CB-M12-4P-2M

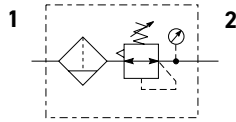
Most popular.



B	Global Air Preparation
	Introduction
	Filters
	Coalescers
	Regulators
	Filter / Regulators
	Lubricators
	Combinations
	Accessories and Kits

P31 Filter / Regulators - Mini

- Integral 1/4" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting
- Secondary pressure ranges
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation



Port Size	Description (Relieving)	Bowl / Drain Type †	Part Number
1/4"	125 psig (8 bar)	Poly / Manual	P31EB92EGMBN5P
1/4"	125 psig (8 bar)	Poly / Pulse	P31EB92EGBBN5P
1/4"	125 psig (8 bar)	Metal / Manual	P31EB92EMMBN5P
1/4"	125 psig (8 bar)	Metal / Pulse	P31EB92EMBBN5P

* For polycarbonate bowl, see caution in Engineering Section A.

Operating information

Flow capacity*:	1/4	73 scfm (35 dm³/s, ANR)
Operating temperature†:		
Plastic bowl		14°F to 125°F (-10°C to 52°C)
Metal bowl		14°F to 150°F (-10°C to 65.5°C)
Supply pressure (max):		
Plastic bowl		150 psig (10 bar)
Metal bowl		250 psig (17 bar)
Standard filtration		5 micron
Useful retention†:		0.4 US oz. (12 cm³)
Adjusting range pressure:		
		0 to 30 psig (0 to 2 bar)
		0 to 60 psig (0 to 4 bar)
		0 to 125 psig (0 to 8 bar)
		0 to 250 psig (0 to 17 bar)
Weight:		0.42 lb (0.19 kg)

* Inlet pressure 145 psig (10 bar). Secondary pressure 100 psig (6.9 bar) and 14.5 psig (1 bar) pressure drop.

† Units with square gauges: 5°F to 150°F (-15°C to 65.5°C)

† Useful retention refers to volume below the quiet zone baffle.

Gauge supplied with every part. Gauge can be installed on the front or back of the regulator. If no gauge is installed, both seal screws must be installed.

Air quality: Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2001 Class 6 (Particulates)

Ordering Information:

P31EB 9 2 E G M B N 5 P

Basic Series Global Modular Mini Filter / Regulator P31EB	Thread Type BSPP 1 BSPT 2 NPT 9	Element 5µ Element E	Port Size 1/4 2	Bowl Type Poly Bowl with Bowl Guard G Metal Bowl without Sight Gauge M	Drain Type Pulse Drain B Manual Drain M	Adjustment N Non-Rising Knob	Relief B Relieving N Non-Relieving	Mounting P Plastic Panel Mount Nut
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Adjustment Range With Square Gauge		
psig	Bar	MPa
1 = 30*	V = 2*	2 = 0.2*
3 = 60	S = 4	4 = 0.4
5 = 125	T = 8	6 = 0.8
7 [§] = 232	W [§] = 16	8 [§] = 1.6

* Regulator comes with gauge respective to the adjustment range available.
[§] Not available with poly bowl with bowl guard.

Most popular.



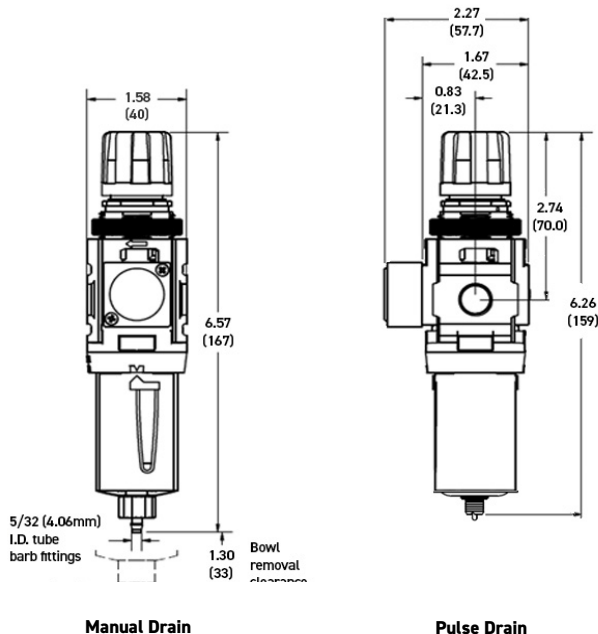
Mini Filter / Regulators

Material Specifications

Body	Aluminum
Adjustment knob	Acetal
Bonnet	Glass-filled nylon
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Bowl guard	Nylon
Filter element	Polyethylene
Seals	Nitrile
Springs	Steel
Valve assembly	Acetal / Nitrile
Diaphragm assembly	Stainless Steel / Nitrile
Panel nut	Acetal

Repair and Service Kits

Plastic bowl / bowl guard manual drain	P31KB00BGM
Plastic bowl / bowl guard pulse drain	P31KB00BGB
Metal bowl / w/o sight gauge pulse drain	P31KB00BMB
5μ particle filter element	P31KA00ESE
Panel mount nut - aluminum	P31KA00MM
Panel mount nut - plastic	P31KA00MP
Angle bracket (attaches via panel nut)	P31KB00MR
C-bracket (fits to body)	P31KA00MW
T-bracket with body connector	P31KA00MT
Body connector	P31KA00CB



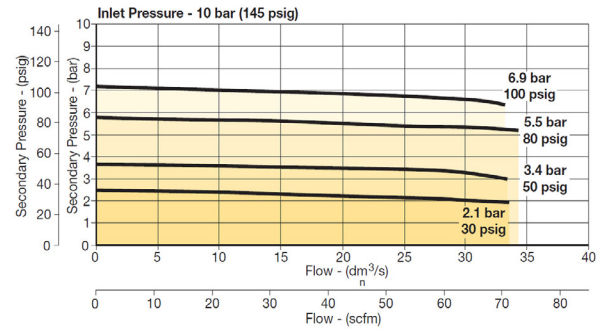
WARNING

**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**

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Flow Charts

P31EB 1/4" Filter / Regulator



Gauges (*see note below)

Square flush mount gauge	0-60 psig	P31KA060XB
	0-160 psig	P31KA160XB
	0-290 psig	P31KA290XB
	0-4 bar	P31KA04BXB
	0-11 bar	P31KA11BXB
	0-20 bar	P31KA20BXB
	0-0.4 MPa	P31KA04MXB
	0-1.1 MPa	P31KA11MXB
Square flush mount gauge	0-2.0 MPa	P31KA20MXB
	0-4 bar	K4511SCR04B
	0-11 bar	K4511SCR11B
	0-60 psig	K4511SCR060
Square with adapter kit	0-160 psig	K4511SCR160
	0-4 bar	P6G-PR10040
	0-11 bar	P6G-PR10110
	0-60 psig	P6G-PR90060
1.00" Round 1/8" center back mount	0-160 psig	P6G-PR90160
	0-60 psig / 1-4 bar	K4510N18060
	0-160 psig / 0-11 bar	K4510N18160
	0-60 psig / 0-2 bar	K4515N18030
40mm Round 1/8" center back mount (not for use with common port regulators)	0-60 psig / 0-4 bar	K4515N18060
	0-160 psig / 0-11 bar	K4515N18160
	0-60 psig	P31KA060XB
	0-60 psig	P31KA060XB

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

***For P31 Regulators with date code after November 2023 (4423 Date Code), please use these part numbers when ordering a replacement gauge.**

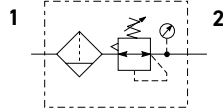
CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



P32 Filter / Regulators - Compact

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting
- Secondary pressure ranges
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation



Port Size	Description (Relieving)	Bowl / Drain Type *	Part Number
1/4"	125 psig (8 bar)	Poly / Manual	P32EB92EGMBNGP
1/4"	125 psig (8 bar)	Poly / Auto	P32EB92EGABNGP
1/4"	125 psig (8 bar)	Metal / Manual	P32EB92ESMBNGP
1/4"	125 psig (8 bar)	Metal / Auto	P32EB92ESABNGP
3/8"	125 psig (8 bar)	Poly / Manual	P32EB93EGMBNGP
3/8"	125 psig (8 bar)	Poly / Auto	P32EB93EGABNGP
3/8"	125 psig (8 bar)	Metal / Manual	P32EB93ESMBNGP
3/8"	125 psig (8 bar)	Metal / Auto	P32EB93ESABNGP
1/2"	125 psig (8 bar)	Poly / Manual	P32EB94EGMBNGP
1/2"	125 psig (8 bar)	Poly / Auto	P32EB94EGABNGP
1/2"	125 psig (8 bar)	Metal / Manual	P32EB94ESMBNGP
1/2"	125 psig (8 bar)	Metal / Auto	P32EB94ESABNGP

* For polycarbonate bowl, see caution in Engineering Section A.

Ordering Information:

Operating information

Flow capacity*:	1/4	166 scfm (78 dm ³ /s, ANR)
	3/8	178 scfm (84 dm ³ /s, ANR)
	1/2	178 scfm (84 dm ³ /s, ANR)
Operating temperature:		
Plastic bowl		-13°F to 125°F (-25°C to 52°C)
Metal bowl		-13°F to 150°F (-25°C to 65.5°C)
Supply pressure (max):		
Plastic bowl		150 psig (10 bar)
Metal bowl		250 psig (17 bar)
Standard filtration:		5 micron
Useful retention†:		1.7 US oz. (51 cm ³)
Adjusting range pressure:		0 to 30 psig (0 to 2 bar)
		0 to 60 psig (0 to 4 bar)
		0 to 125 psig (0 to 8 bar)
		0 to 250 psig (0 to 17 bar)
Gauge port (2 each):		1/4 NPT, BSPP, BSPT
Weight:		1.37 lb (0.62 kg)

Air quality: Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2001 Class 6 (Particulates)

P32EB 9 2 E G M B N G P

Basic Series Global Modular Compact Filter / Regulator P32EB	Thread Type BSPP 1 BSPT 2 NPT 9	Element 5μ E Element	Port Size 1/4 2 3/8 3 1/2 4	Bowl Type Poly Bowl with Bowl Guard G Metal Bowl without Sight Gauge M Metal Bowl with Sight Gauge S	Drain Type Manual Drain M Auto Drain A	Adjustment N Non-Rising Knob	Relief B Relieving N Non-Relieving	Mounting P Plastic Panel Mount Nut
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Adjustment Range	
With Round Gauge	
Z	30 psig; 2 Bar; 0.2 MPa
M	60 psig; 4 Bar; 0.4 MPa
G	125 psig; 8 Bar; 0.8 MPa
J [§]	250 psig; 17 Bar; 1.7 MPa
Without Gauge	
Y	30 psig; 2 Bar; 0.2 MPa
L	60 psig; 4 Bar; 0.4 MPa
N	125 psig; 8 Bar; 0.8 MPa
H [§]	250 psig; 17 Bar; 1.7 MPa

* Regulator comes with gauge respective to the adjustment range selected.
[§] Not available with poly bowl with bowl guard.

Most popular.



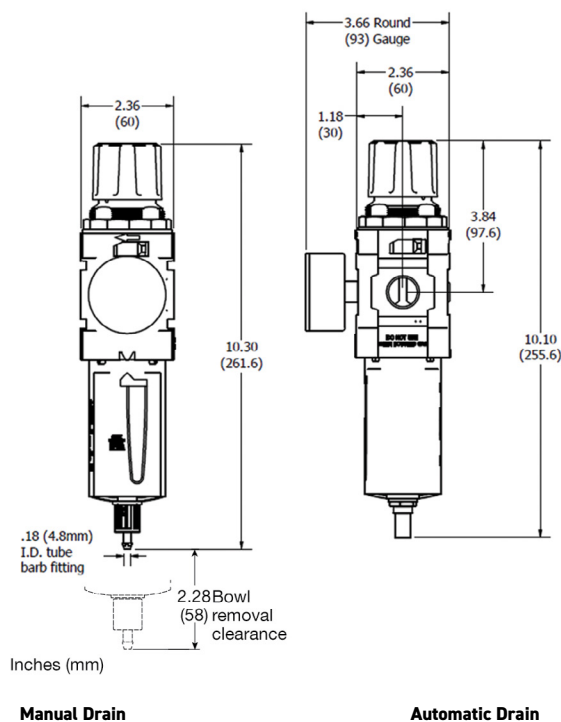
Compact Filter / Regulators

Material Specifications

Body	Aluminum
Adjustment knob	Acetal
Element retainer / baffle	Acetal
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Bowl guard	Nylon
Filter element	Sintered polyethylene
Seals	Nitrile
Springs	Steel, stainless steel
Valve assembly	Acetal / nitrile
Diaphragm assembly	Nitrile /Stainless steel
Panel nut	Acetal
Sight gauge	Nylon

Repair and Service Kits

Plastic bowl / bowl guard manual drain	P32KB00BGM
Metal bowl / sight gauge manual drain	P32KB00BSM
Auto drain	P32KA00DA
5μ particle filter element	P32KA00ESE
Panel mount nut - aluminum	P32KA00MM
Panel mount nut - plastic	P32KA00MP
Angle bracket (fits to panel mount threads)	P32KB00MR
T-bracket (fits to body connector)	P32KA00MB
T-bracket with body connector	P32KA00MT
Body connector	P32KA00CB



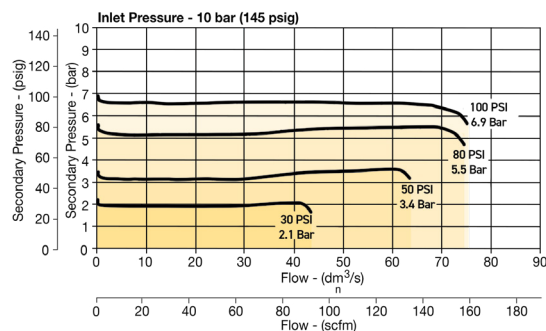
Manual Drain

Automatic Drain

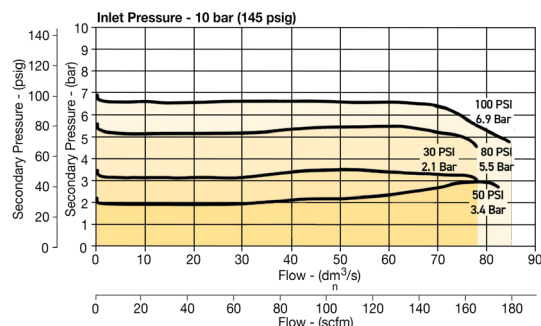
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Flow Charts

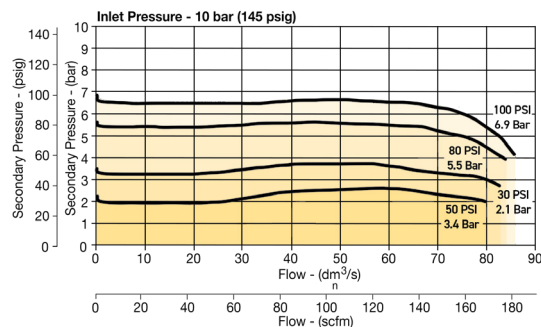
P32EB 1/4" Filter / Regulator



P32EB3/8" Filter/Regulator



P32EB 1/2" Filter/Regulator



WARNING

**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

Gauges

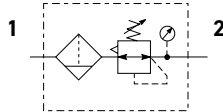
50mm (2") round	0-30 psig / 0-2 bar	K4520N14030
1/4" center back mount	0-60 psig / 0-4 bar	K4520N14060
	0-160 psig / 0-11 bar	K4520N14160
	0-300 psig / 0-20 bar	K4520N14300

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



P33 Filter / Regulators - Standard

- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminum construction
- Positive bayonet latch to ensure correct & safe fitting
- Secondary pressure ranges
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation



Port Size	Description / Relieving	Bowl / Drain Type †	Part Number
1/2"	125 psig (8 bar)	Poly / Manual	P33EA94EGMBNGP
1/2"	125 psig (8 bar)	Poly / Auto	P33EA94EGABNGP
1/2"	125 psig (8 bar)	Metal / Manual	P33EA94ESMBNGP
1/2"	125 psig (8 bar)	Metal / Auto	P33EA94ESABNGP
3/4"	125 psig (8 bar)	Poly / Manual	P33EA96EGMBNGP
3/4"	125 psig (8 bar)	Poly / Auto	P33EA96EGABNGP
3/4"	125 psig (8 bar)	Metal / Manual	P33EA96ESMBNGP
3/4"	125 psig (8 bar)	Metal / Auto	P33EA96ESABNGP

† For polycarbonate bowl, see caution in Engineering Section A.

Operating information

Flow capacity*:	1/2	200 scfm (94 dm³/s, ANR)
	3/4	235 scfm (109 dm³/s, ANR)
Operating temperature:		
Plastic bowl		-13°F to 125°F (-25°C to 52°C)
Metal bowl		-13°F to 150°F (-25°C to 65.5°C)
Supply pressure (max):		
Plastic bowl		150 psig (10 bar)
Metal bowl		250 psig (17 bar)
Standard filtration:		5 micron
Useful retention†:		2.8 US oz. (85 cm³)
Adjusting range pressure:		0 to 30 psig (0 to 2 bar)
		0 to 60 psig (0 to 4 bar)
		0 to 125 psig (0 to 8 bar)
		0 to 250 psig (0 to 17 bar)
Gauge port (2 each):		1/4 NPT, BSPP, BSPT
Weight:		1.87 lbs (0.85 kg)

* Inlet pressure 145 psig (10 bar). Secondary pressure 91.3 psig (6.3 bar) and 14.5 psig (1 bar) pressure drop.

† Useful retention refers to volume below the quiet zone baffle.

Air quality: Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2001 Class 6 (Particulates)

Ordering Information:

P33EA		9	6	E	G	M	B	N	G	P
Basic Series		Thread Type		Element		Adjustment		Mounting		
Global Modular Standard Filter / Regulator		BSPP 1 BSPT 2 NPT 9		5µ E Element		N Non- Rising Knob		P Plastic Panel Mount Nut		
		Port Size				Relief		Adjustment Range		
		1/2 4 3/4 6				B Relieving N Non-Relieving		With Round Gauge		
								Z 30 psig; 2 Bar; 0.2 MPa		
								M 60 psig; 4 Bar; 0.4 MPa		
								G 125 psig; 8 Bar; 0.8 MPa		
								J [§] 250 psig; 17 Bar; 1.7 MPa		
								Without Gauge		
								Y 30 psig; 2 Bar; 0.2 MPa		
								L 60 psig; 4 Bar; 0.4 MPa		
								N 125 psig; 8 Bar; 0.8 MPa		
								H [§] 250 psig; 17 Bar; 1.7 MPa		
		Bowl Type				Drain Type				
		Poly Bowl with Bowl Guard G				M Manual Drain				
		Metal Bowl without Sight Gauge M				A Auto Drain				
		Metal Bowl with Sight Gauge S								

§ Not available with poly bowl with bowl guard.

§ Not available with poly bowl with bowl guard.

Most popular.



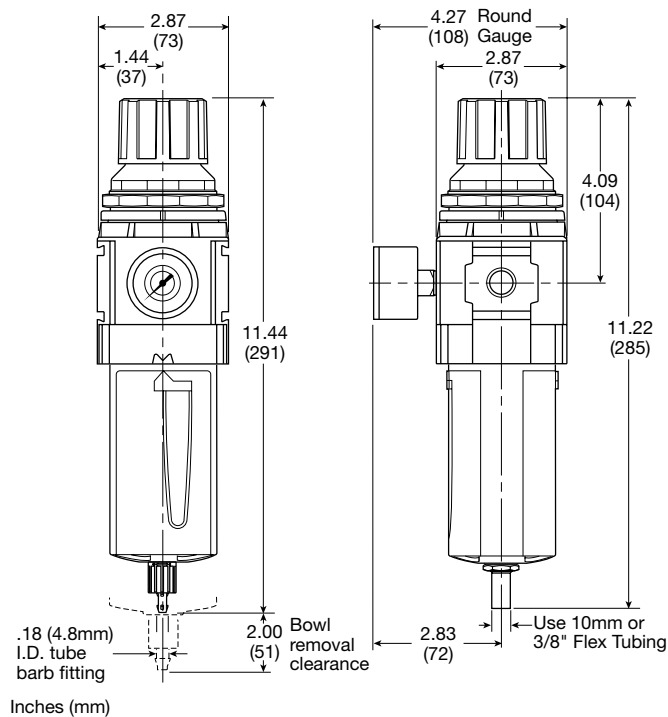
Standard Filter / Regulators

Material Specifications

Body	Aluminum
Adjustment knob	Acetal
Body cap	ABS
Element retainer / baffle	Acetal
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Filter element	Sintered
Polyethylene	
Seals	Nitrile
Springs	Steel, stainless steel
Valve assembly	Brass / nitrile
Diaphragm assembly	Nitrile / zinc
Panel nut	Acetal
Sight gauge	Nylon

Repair and Service Kits

Plastic bowl / bowl guard, manual drain	P33KA00BGM
Metal bowl / sight gauge, manual drain	P33KA00BSM
Auto drain	P32KA00DA
5μ particle filter element	P33KA00ESE
Diaphragm repair kit - Relieving	P33KA00RB
Diaphragm repair kit - Non-relieving	P33KA00RC
Panel mount nut - Aluminum	P33KA00MM
Panel mount nut - Plastic	P33KA00MP
Angle bracket (fits to panel mount threads)	P33KA00MR
T-bracket (fits to body connector)	P32KA00MB
T-bracket with body connector	P32KA00MT
Body connector	P32KA00CB



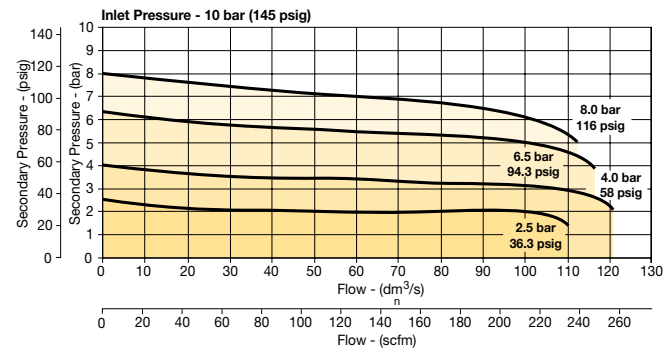
Manual Drain

Automatic Drain

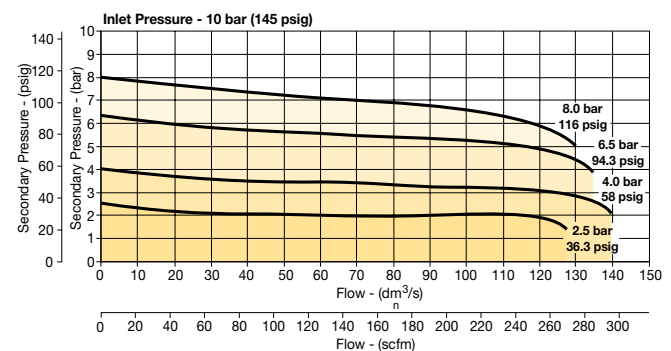
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Flow Charts

P33EA 1/2" Filter / Regulator



P33EA 3/4" Filter/Regulator



WARNING

**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

Gauges

50mm (2") round	0-30 psig / 0-2 bar	K4520N14030
1/4" center back mount	0-60 psig / 0-4 bar	K4520N14060
	0-160 psig / 0-11 bar	K4520N14160
	0-300 psig / 0-20 bar	K4520N14300

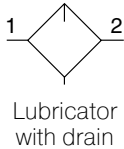
For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



Mini Lubricators

P31 Lubricators - Mini

- Integral 1/4" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Proportional oil delivery over a wide range of air flows
- Finger tip ratchet control for precise oil drip rate adjustment



Operating information

Flow capacity*:	1/4	52 scfm (25 dm³/s, ANR)
Operating temperature:	Plastic bowl	14°F to 125°F (-10°C to 52°C)
	Metal bowl	14°F to 150°F (-10°C to 65.5°C)
Supply pressure (max):	Plastic bowl	150 psig (10 bar)
	Metal bowl	250 psig (17 bar)
Bowl capacity:		0.6 US oz. (18 cm³)
Weight:		0.29 lb (0.13 kg)
* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 4.9 psig (0.34 bar).		

Port Size	Description †	Part Number
1/4"	Poly Bowl - No Drain	P31LB92LGNN
1/4"	Metal Bowl - No Drain	P31LB92LMNN

† For polycarbonate bowl, see caution in Engineering Section A.

Ordering Information:

P31LB		9	2	L	G	N	N
Basic Series		Thread Type		Mounting		Drain Type	
Global Modular Mini Lubricator		BSPP 1 BSPT 2 NPT 9		N No Bracket		N No Drain Closed End	
		Port Size		Bowl Type			
		1/4 2		G Poly Bowl with Bowl Guard M Metal Bowl without Sight Gauge			
		Lube Type					
		Oil Mist Standard Sight Dome L					

Suggested Lubricant **F442 Oil**
Petroleum based oil of 100 to 200 SUS viscosity at 100°F (38°C) and an aniline point greater than 200°F (93°C)
(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Most popular.



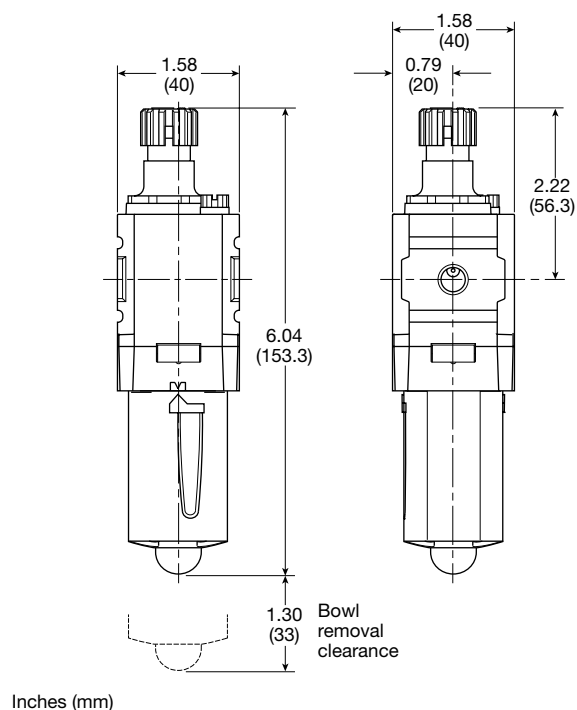
Mini Lubricators

Material Specifications

Body	Aluminum
Body cap	ABS
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Seals	Nitrile
Sight dome	Polycarbonate
Suggested lubricant	ISO / ASTM VG32
Pick-up filter	Sintered bronze

Repair and Service Kits

Plastic bowl / bowl guard no drain	P31KB00BGN
Metal bowl / w/o sight gauge no drain	P31KB00BMN
Drip control assembly	P32KA00PG
Fill plug	P31KA00PL
C-bracket (fits to body)	P31KA00MW
T-bracket with body connector	P31KA00MT
Body connector	P31KA00CB
Oil (1 quart)	F442001
Oil (1 gallon)	F442002
Oil (12 quart case)	F442003
Oil (4 gallon case)	F442005

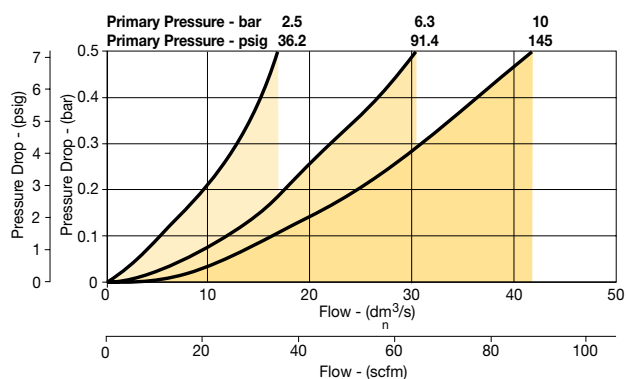


Air Preparation Products

Global Air Preparation

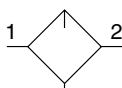
Flow Charts

P31LB 1/4" Lubricator



P32 Lubricators - Compact

- Integral 1/4", 3/8" or 1/2" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Proportional oil delivery over a wide range of air flows
- Finger tip ratchet control for precise oil drip rate adjustment
- Fill from top under system pressure

Lubricator
with drain

Operating information

Flow capacity*:

1/4	38 scfm (17 dm³/s, ANR)
3/8	70 scfm (33 dm³/s, ANR)
1/2	90 scfm (42 dm³/s, ANR)

Operating temperature:

Plastic bowl	14°F to 125°F (-10°C to 52°C)
Metal bowl	14°F to 150°F (-10°C to 65.5°C)

Supply pressure (max):

Plastic bowl	150 psig (10 bar)
Metal bowl	250 psig (17 bar)

Bowl capacity: 4.09 US oz. (121 cm³)

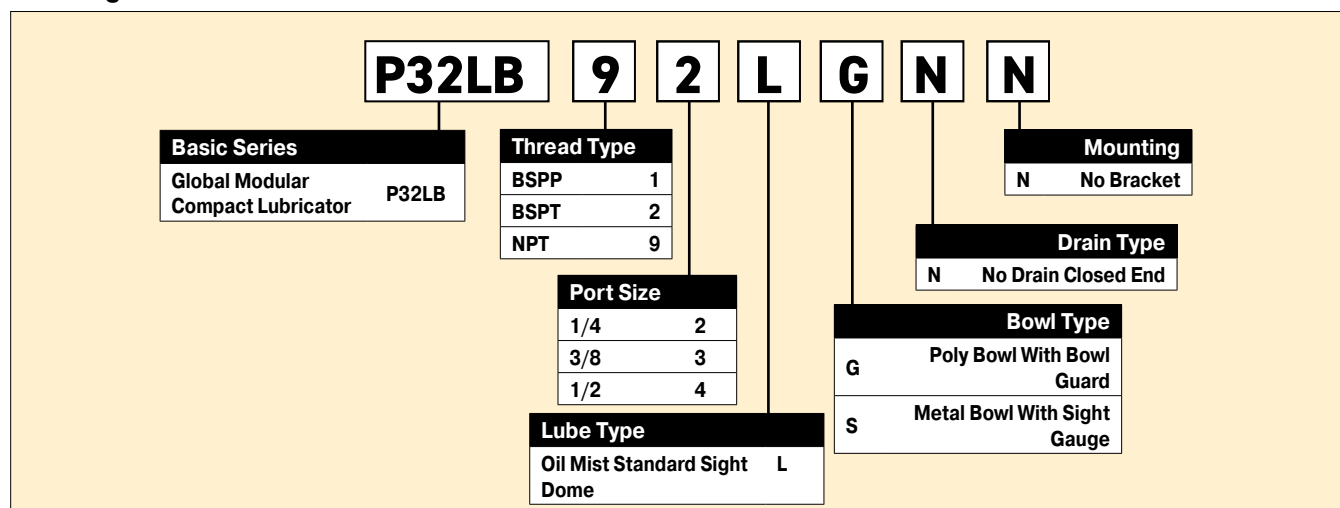
Weight: 0.68 lb (0.31 kg)

* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 4.9 psig (0.34 bar).

Port Size	Description †	Part Number
1/4"	Poly Bowl - No Drain	P32LB92LGNN
1/4"	Metal Bowl - No Drain	P32LB92LSNN
3/8"	Poly Bowl - No Drain	P32LB93LGNN
3/8"	Metal Bowl - No Drain	P32LB93LSNN
1/2"	Poly Bowl - No Drain	P32LB94LGNN
1/2"	Metal Bowl - No Drain	P32LB94LSNN

† For polycarbonate bowl, see caution in Engineering Section A.

Ordering Information:

Suggested Lubricant **F442 Oil**

Petroleum based oil of 100 to 200 SUS viscosity at 100°F (38°C) and an aniline point greater than 200°F (93°C)

(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Most popular.



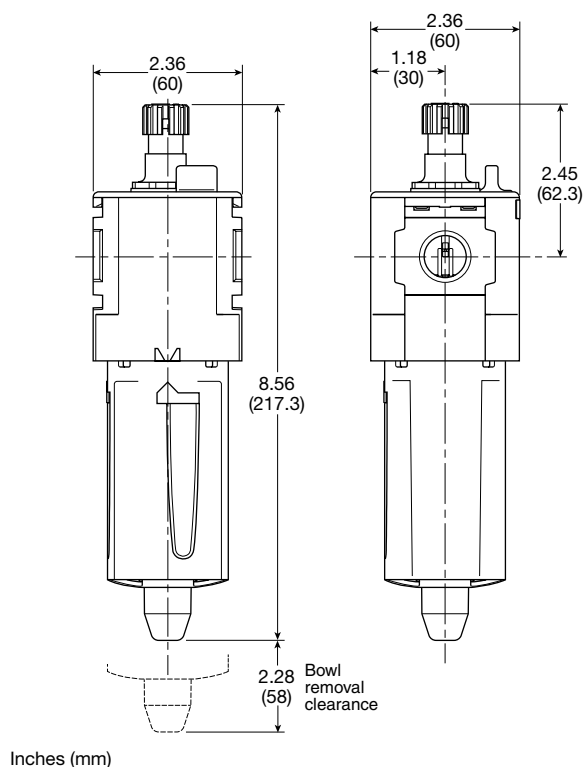
Compact Lubricators

Material Specifications

Body	Aluminum
Body cap	ABS
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Seals	Nitrile
Sight dome	Polycarbonate
Sight gauge	Nylon
Suggested lubricant	ISO / ASTM VG32
Pick-up filter	Sintered bronze

Repair and Service Kits

Plastic bowl / bowl guard no drain	P32KB00BGN
Metal bowl / w/o sight gauge no drain	P32KB00BMN
Metal bowl / Sight gauge no drain	P32KB00BSN
Drip control assembly	P32KA00PG
Fill plug	P32KA00PL
L-bracket (fits to body)	P32KA00ML
T-bracket (fits to body connector)	P32KA00MB
T-bracket with body connector	P32KA00MT
Body connector	P32KA00CB
Oil (1 quart)	F442001
Oil (1 gallon)	F442002
Oil (12 quart case)	F442003
Oil (4 gallon case)	F442005

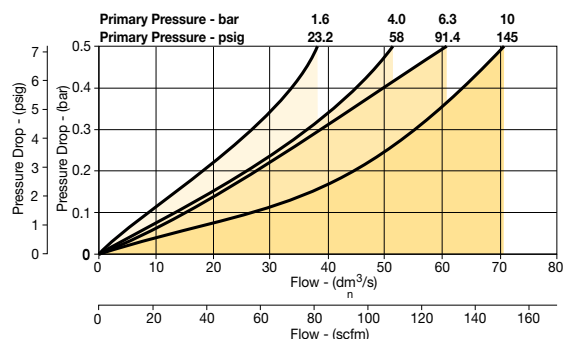


Air Preparation Products

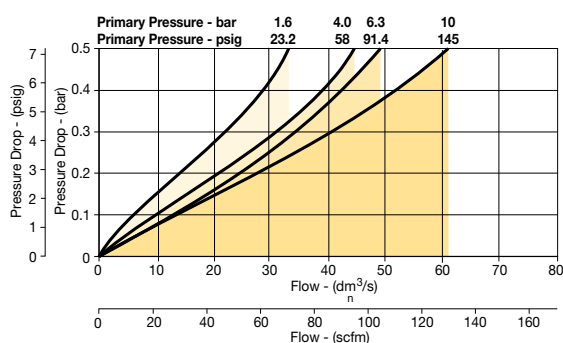
Global Air Preparation

Flow Charts

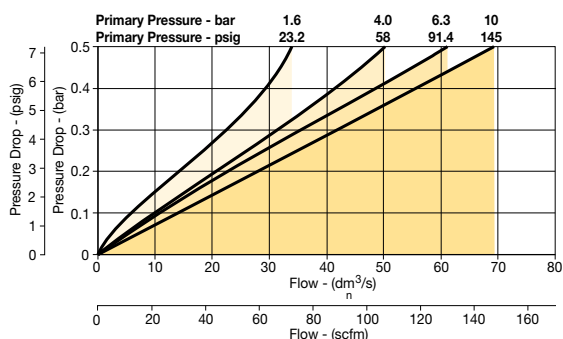
P32LB 1/4" Lubricator



P32LB 3/8" Lubricator

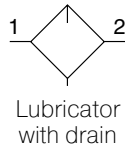


P32LB 1/2" Lubricator



P33 Lubricators - Standard

- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Proportional oil delivery over a wide range of air flows
- Finger tip ratchet control for precise oil drip rate adjustment
- Fill from top under system pressure



Operating information

Flow capacity*:

1/2	110 scfm (52 dm ³ /s, ANR)
3/4	150 scfm (71 dm ³ /s, ANR)

Operating temperature:

Plastic bowl	14°F to 125°F (-10°C to 52°C)
Metal bowl	14°F to 150°F (-10°C to 65.5°C)

Supply pressure (max):

Plastic bowl	150 psig (10 bar)
Metal bowl	250 psig (17 bar)

Bowl capacity:

6.1 US oz. (181 cm³)

Weight:

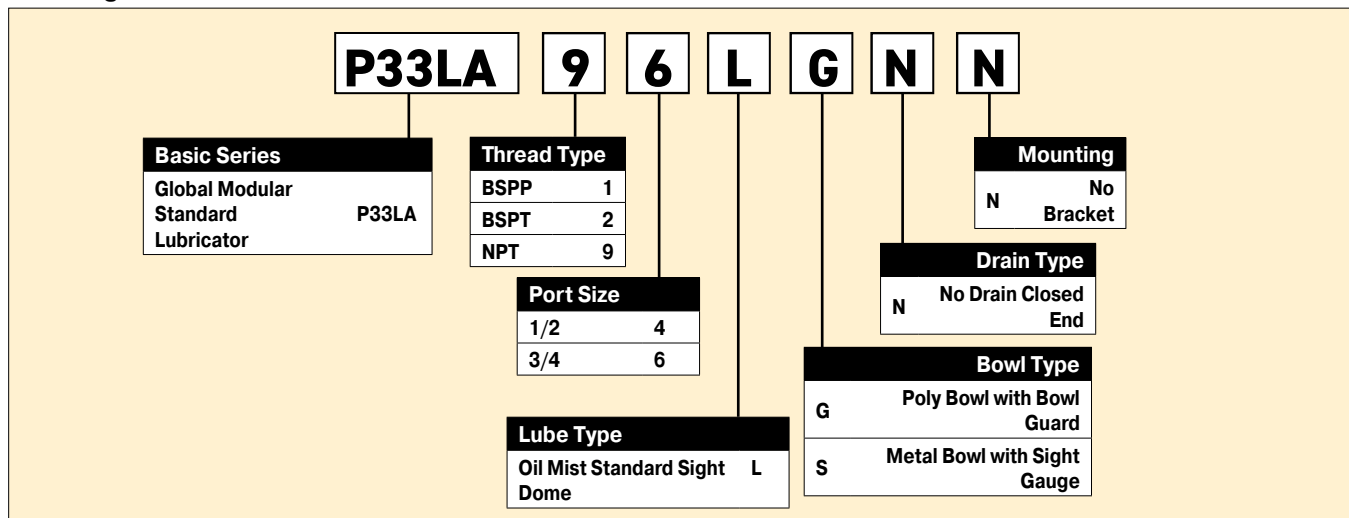
1.04 lb (0.47 kg)

* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 4.9 psig (0.34 bar).

Port Size	Description *	Part Number
1/2"	Poly Bowl - No Drain	P33LA94LGNN
1/2"	Metal Bowl - No Drain	P33LA94LSNN
3/4"	Poly Bowl - No Drain	P33LA96LGNN
3/4"	Metal Bowl - No Drain	P33LA96LSNN

* For polycarbonate bowl, see caution in Engineering Section A.

Ordering Information:

**Suggested Lubricant** **F442 Oil**

Petroleum based oil of 100 to 200 SUS viscosity at 100°F (38°C) and an aniline point greater than 200°F (93°C)

(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Most popular.



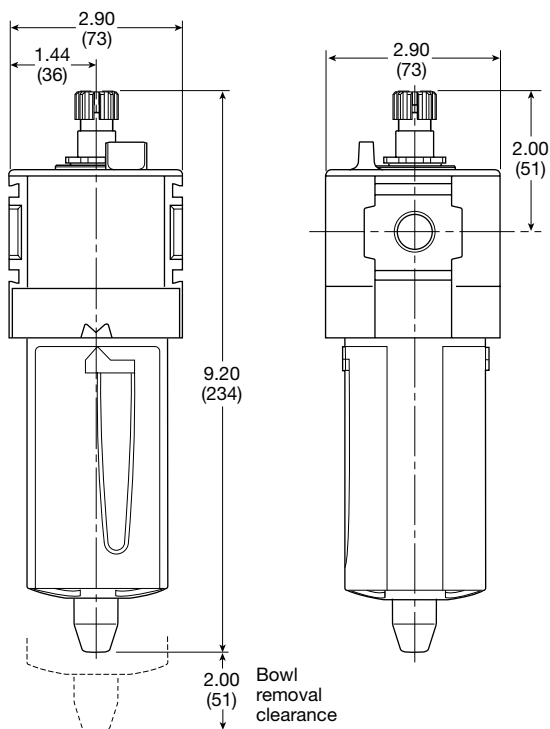
Standard Lubricators

Material Specifications

Body	Aluminum
Body cap	ABS
Plastic bowl	Polycarbonate
Metal bowl	Aluminum
Seals	Nitrile
Sight dome	Polycarbonate
Sight gauge	Nylon
Suggested lubricant	ISO / ASTM VG32
Pick-up filter	Sintered bronze

Repair and Service Kits

Plastic bowl / bowl guard no drain	P33KA00BGN
Metal bowl / w/o sight gauge no drain	P33KA00BMN
Metal bowl / sight gauge no drain	P33KA00BSN
Drip control assembly	P32KA00PG
Fill plug	P32KA00PL
L-bracket (fits to body)	P33KA00ML
T-bracket (fits to body connector)	P32KA00MB
T-bracket with body connector	P32KA00MT
Body connector	P32KA00CB
Oil (1 quart)	F442001
Oil (1 gallon)	F442002
Oil (12 quart case)	F442003
Oil (4 gallon case)	F442005

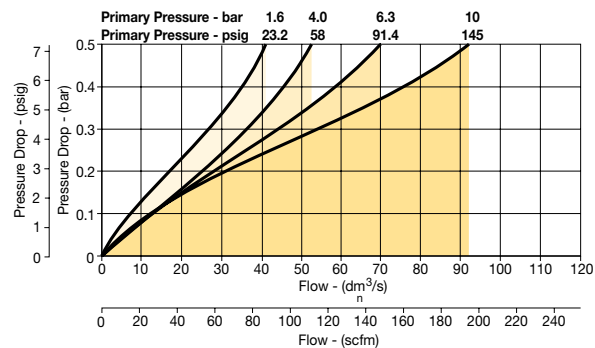


Inches (mm)

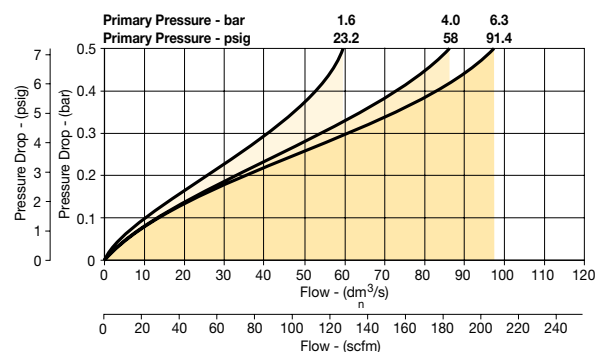
Air Preparation Products Global Air Preparation

Flow Charts

P33LA 1/2" Lubricator



P33LA 3/4" Lubricator



B

Global Air
Preparation

Introduction

Filters

Coalescers

Regulators

Filter /
Regulators

Lubricators

Combinations

Accessories
and Kits



Mini Combinations

Air Preparation Products Global Air Preparation

Popular Combinations: Inlet pressure 145 psig (10 bar), secondary pressure 100 psig (6.9 bar), 14.5 psig (1 bar) pressure drop.

B

Global Air
Preparation

Introduction

Filters

Coalescers

Regulators

Filter /
Regulators

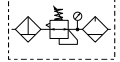
Lubricators

Combinations

Accessories
and Kits



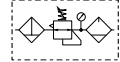
**Filter + Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets**



Port Size	Flow	Manual Drain	Pulse Drain
1/4"	27 scfm (13 dm³/s, ANR)	P31CB92GEMN5LNW	P31CB92GEBN5LNW



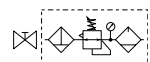
**Filter/Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets**



Port Size	Flow	Manual Drain	Pulse Drain
1/4"	28 scfm (14 dm³/s, ANR)	P31CA92GEMN5LNW	P31CA92GEBN5LNW



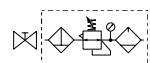
**Ball Valve + Filter + Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets**



Port Size	Flow	Manual Drain	Pulse Drain
1/4"	27 scfm (13 dm³/s, ANR)	P31QB92GEMN5LNW	P31QB92GEBN5LNW



**Ball Valve + Filter/Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets**



Port Size	Flow	Manual Drain	Pulse Drain
1/4"	28 scfm (14 dm³/s, ANR)	P31QA92GEMN5LNW	P31QA92GEBN5LNW

Filter / Regulator coding (use with codes: A M)

Filter coding
(use with combo codes:
B F G). **For multiple filters,**
repeat as needed.

Regulator coding
(use with combo code: B)

Lubricator coding
(use with combo
codes: A B)

**Assembly
configuration**

P31 Combination B/V + Combination Q Combination + B/V X Combination C B/V = Ball valve Combination Type* F/R+L A F+Fc+Fa G F+R+L B F/R+Fc M F+Fc F	C Thread Type BSPP 1 BSPT 2 NPT 9 Port Size 1/4 2	9 2 G Element 5µ Element E 0.01µ Element C 1µ Element 9 Adsorber A Drain Type Manual Drain M Pulse Drain B	E M Relief / Adjustment Non-Rising Knob N Adjustment Range With Square Gauge Psig: 30 psig* 1 60 psig 3 125 psig 5 232 psig 7 Bar: 2 Bar* V 4 Bar S 8 Bar T 16 Bar W *Regulator comes with gauge respective to the adjustment range available. ‡ Not available with poly bowl with bowl guard. Gauge supplied with every part. Gauge can be installed on the front or back of the regulator. If no gauge is installed, both seal screws must be installed.	N 5 L N Lub Type Oil Mist Standard Sight Dome L Drain Type No Drain; Closed End N MPa: 0.2 MPa* 2 0.4 MPa 4 0.8 MPa 6 0.8 MPa 8	W Mounting No Bracket A Port Blocks* C Port Blocks & Wall Brkt* D Wall Bracket W * For 3/8" Port Blocks please order separately. See Kits section.
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* Combination type
 F = 5µ
 Fc1 = 1µ
 Fc = .01µ
 Fa = Adsorber

Bowl Type
 Poly Bowl with Bowl Guard ‡ **G**
 Metal Bowl without Sight Gauge **M**
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.
 ‡ For polycarbonate bowl, see caution in Engineering Section A.



Popular Combinations: Inlet pressure 145 psig (10 bar), secondary pressure 91.3 psig (6.3 bar), 14.5 psig (1 bar) pressure drop.



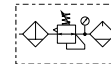
Filter + Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets



Port Size	Flow	Manual Drain	Auto Drain
1/4"	42 scfm (20 dm³/s, ANR)	P32CB92GEMNGLNW	P32CB92GEANGLNW
3/8"	68 scfm (32 dm³/s, ANR)	P32CB93GEMNGLNW	P32CB93GEANGLNW
1/2"	85 scfm (40 dm³/s, ANR)	P32CB94GEMNGLNW	P32CB94GEANGLNW



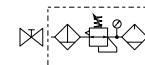
Filter/Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets



Port Size	Flow	Manual Drain	Auto Drain
1/4"	45 scfm (22 dm³/s, ANR)	P32CA92GEMNGLNW	P32CA92GEANGLNW
3/8"	70 scfm (33 dm³/s, ANR)	P32CA93GEMNGLNW	P32CA93GEANGLNW
1/2"	90 scfm (43 dm³/s, ANR)	P32CA94GEMNGLNW	P32CA94GEANGLNW



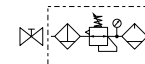
Ball Valve + Filter + Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets



Port Size	Flow	Manual Drain	Auto Drain
1/4"	42 scfm (20 dm³/s, ANR)	P32QB92GEMNGLNW	P32QB92GEANGLNW
3/8"	68 scfm (32 dm³/s, ANR)	P32QB93GEMNGLNW	P32QB93GEANGLNW
1/2"	85 scfm (40 dm³/s, ANR)	P32QB94GEMNGLNW	P32QB94GEANGLNW



Ball Valve + Filter/Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets



Port Size	Flow	Manual Drain	Auto Drain
1/4"	45 scfm (22 dm³/s, ANR)	P32QA92GEMNGLNW	P32QA92GEANGLNW
3/8"	70 scfm (33 dm³/s, ANR)	P32QA93GEMNGLNW	P32QA93GEANGLNW
1/2"	90 scfm (43 dm³/s, ANR)	P32QA94GEMNGLNW	P32QA94GEANGLNW

Filter / Regulator coding
(use with codes: A M)

Filter coding
(use with combo codes: B F G). For multiple filters, repeat as needed.

Regulator coding
(use with combo code: B)

Lubricator coding
(use with combo codes: A B)

Assembly configuration

<p>P32</p> <p>Combination</p> <p>B/V + Combination Q</p> <p>Combination + B/V X</p> <p>Combination C</p> <p>B/V = Ball valve</p> <p>Combination Type*</p> <table border="1"> <tr> <td>F/R+L A</td> <td>F+Fc+Fa G</td> </tr> <tr> <td>F+R+L B</td> <td>F/R+Fc M</td> </tr> <tr> <td>F+Fc F</td> <td></td> </tr> </table> <p>* Combination type</p> <p>F = 5μ</p> <p>Fc1 = 1μ</p> <p>Fc = .01μ</p> <p>Fa = Adsorber</p> <p>* For polycarbonate bowl, see caution in Engineering Section A.</p> <p>Bowl Type</p> <table border="1"> <tr> <td>Poly Bowl with Bowl Guard ‡</td> <td>G</td> </tr> <tr> <td>Metal Bowl without Sight Gauge</td> <td>M*</td> </tr> <tr> <td>Metal Bowl with Sight Gauge</td> <td>S</td> </tr> </table> <p>* Not available when using lubricator.</p> <p>Note: All bowl types are the same for each component.</p> <p>Example: If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.</p>	F/R+L A	F+Fc+Fa G	F+R+L B	F/R+Fc M	F+Fc F		Poly Bowl with Bowl Guard ‡	G	Metal Bowl without Sight Gauge	M*	Metal Bowl with Sight Gauge	S	<p>C</p> <p>B</p> <p>Thread Type</p> <table border="1"> <tr> <td>BSPP 1</td> </tr> <tr> <td>BSPT 2</td> </tr> <tr> <td>NPT 9</td> </tr> </table> <p>Port Size</p> <table border="1"> <tr> <td>1/4" 2*</td> </tr> <tr> <td>3/8" 3</td> </tr> <tr> <td>1/2" 4</td> </tr> </table> <p>* Order combo Q or X: ball valve (BV) comes with 3/8 ports.</p>	BSPP 1	BSPT 2	NPT 9	1/4" 2*	3/8" 3	1/2" 4	<p>9</p> <p>4</p> <p>G</p> <p>Element</p> <table border="1"> <tr> <td>0.01μ Element C</td> </tr> <tr> <td>0.01μ Element with dpi D*</td> </tr> <tr> <td>5μ Element E</td> </tr> <tr> <td>5μ Element with dpi F*</td> </tr> <tr> <td>1μ Element 9</td> </tr> <tr> <td>1μ Element with dpi Q*</td> </tr> <tr> <td>Adsorber A</td> </tr> </table> <p>* Not available with F/R.</p> <p>Drain Type</p> <table border="1"> <tr> <td>Auto Drain A</td> </tr> <tr> <td>Manual Drain M</td> </tr> </table>	0.01μ Element C	0.01μ Element with dpi D*	5μ Element E	5μ Element with dpi F*	1μ Element 9	1μ Element with dpi Q*	Adsorber A	Auto Drain A	Manual Drain M	<p>E</p> <p>M</p> <p>N</p> <p>G</p> <p>Relief / Adjustment</p> <p>Non-Rising Knob N</p> <p>Relieving</p> <p>Adjustment Range</p> <table border="1"> <tr> <th colspan="2">With Round Gauge</th> </tr> <tr> <td>30 psig; 2 Bar; 0.2 MPa</td> <td>Z</td> </tr> <tr> <td>60 psig; 4 Bar; 0.4 MPa</td> <td>M</td> </tr> <tr> <td>125 psig; 8 Bar; 0.8 MPa</td> <td>G</td> </tr> <tr> <td>250 psig; 17 Bar; 1.7 MPa</td> <td>J[§]</td> </tr> <tr> <th colspan="2">Without Gauge</th> </tr> <tr> <td>30 psig; 2 Bar; 0.2 MPa</td> <td>Y</td> </tr> <tr> <td>60 psig; 4 Bar; 0.4 MPa</td> <td>L</td> </tr> <tr> <td>125 psig; 8 Bar; 0.8 MPa</td> <td>N</td> </tr> <tr> <td>250 psig; 17 Bar; 1.7 MPa</td> <td>H[§]</td> </tr> </table>	With Round Gauge		30 psig; 2 Bar; 0.2 MPa	Z	60 psig; 4 Bar; 0.4 MPa	M	125 psig; 8 Bar; 0.8 MPa	G	250 psig; 17 Bar; 1.7 MPa	J[§]	Without Gauge		30 psig; 2 Bar; 0.2 MPa	Y	60 psig; 4 Bar; 0.4 MPa	L	125 psig; 8 Bar; 0.8 MPa	N	250 psig; 17 Bar; 1.7 MPa	H[§]	<p>L</p> <p>N</p> <p>Lub Type</p> <p>Oil Mist L</p> <p>Standard Sight Dome</p> <p>Drain Type</p> <p>No Drain; Closed End N</p>	<p>W</p> <p>Mounting</p> <p>No Bracket A</p> <p>Port Blocks C</p> <p>Port Blocks & Wall Brkt D</p> <p>Wall Bracket W</p>
F/R+L A	F+Fc+Fa G																																																			
F+R+L B	F/R+Fc M																																																			
F+Fc F																																																				
Poly Bowl with Bowl Guard ‡	G																																																			
Metal Bowl without Sight Gauge	M*																																																			
Metal Bowl with Sight Gauge	S																																																			
BSPP 1																																																				
BSPT 2																																																				
NPT 9																																																				
1/4" 2*																																																				
3/8" 3																																																				
1/2" 4																																																				
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5μ Element with dpi F*																																																				
1μ Element 9																																																				
1μ Element with dpi Q*																																																				
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125 psig; 8 Bar; 0.8 MPa	N																																																			
250 psig; 17 Bar; 1.7 MPa	H[§]																																																			



Standard Combinations

Air Preparation Products Global Air Preparation

Popular Combinations: Inlet pressure 145 psig (10 bar), secondary pressure 91.3 psig (6.3 bar), 14.5 psig (1 bar) pressure drop.

B

Global Air
Preparation

Introduction

Filters

Coalescers

Regulators

Filter /
Regulators

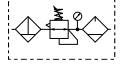
Lubricators

Combinations

Accessories
and Kits



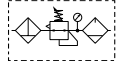
**Filter + Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets**



Port Size	Flow	Manual Drain	Auto Drain
1/2"	90 scfm (43 dm³/s, ANR)	P33CB94GEMNGLNW	P33CB94GEANGLNW
3/4"	110 scfm (52 dm³/s, ANR)	P33CB96GEMNGLNW	P33CB96GEANGLNW



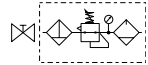
**Filter/Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets**



Port Size	Flow	Manual Drain	Auto Drain
1/2"	110 scfm (52 dm³/s, ANR)	P33CA94GEMNGLNW	P33CA94GEANGLNW
3/4"	150 scfm (71 dm³/s, ANR)	P33CA96GEMNGLNW	P33CA96GEANGLNW



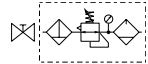
**Ball Valve + Filter + Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets**



Port Size	Flow	Manual Drain	Auto Drain
1/2"	90 scfm (43 dm³/s, ANR)	P33QB94GEMNGLNW	P33QB94GEANGLNW
3/4"	110 scfm (52 dm³/s, ANR)	P33QB96GEMNGLNW	P33QB96GEANGLNW



**Ball Valve + Filter/Regulator + Lubricator Combinations, poly bowl
5 micron element, 116 psig (8 bar) regulator + gauge and wall mounting brackets**



Port Size	Flow	Manual Drain	Auto Drain
1/2"	110 scfm (52 dm³/s, ANR)	P33QA94GEMNGLNW	P33QA94GEANGLNW
3/4"	150 scfm (71 dm³/s, ANR)	P33QA96GEMNGLNW	P33QA96GEANGLNW

Filter / Regulator coding (use with codes: A M)

Filter coding
(use with combo codes:
B F G). For multiple filters,
repeat as needed.

Regulator coding
(use with combo code: B)

Lubricator coding
(use with combo
codes: A B)

**Assembly
configuration**

<p>P33</p> <p>Combination</p> <p>B/V + Combination Q</p> <p>Combination + B/V X</p> <p>Combination C</p> <p>B/V = Ball valve</p> <p>Combination Type*</p> <table border="1"> <tr> <td>F/R+L A</td> <td>F+Fc+Fa G</td> </tr> <tr> <td>F+R+L B</td> <td>F/R+Fc M</td> </tr> <tr> <td>F+Fc F</td> <td></td> </tr> </table> <p>* Combination type F = 5µ Fc = 1µ Fc = .01µ Fa = Adsorber</p> <p>Bowl Type †</p> <table border="1"> <tr> <td>Poly Bowl with Bowl Guard G</td> </tr> <tr> <td>Metal Bowl without Sight Gauge M*</td> </tr> <tr> <td>Metal Bowl with Sight Gauge S</td> </tr> </table> <p>† Not available when using lubricator. 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.</p>	F/R+L A	F+Fc+Fa G	F+R+L B	F/R+Fc M	F+Fc F		Poly Bowl with Bowl Guard G	Metal Bowl without Sight Gauge M*	Metal Bowl with Sight Gauge S	<p>C</p> <p>Thread Type</p> <table border="1"> <tr> <td>BSPP 1</td> </tr> <tr> <td>BSPT 2</td> </tr> <tr> <td>NPT 9</td> </tr> </table> <p>Port Size</p> <table border="1"> <tr> <td>1/2 4</td> </tr> <tr> <td>3/4 6</td> </tr> </table>	BSPP 1	BSPT 2	NPT 9	1/2 4	3/4 6	<p>9</p> <p>6</p> <p>G</p> <p>Element</p> <table border="1"> <tr> <td>0.01µ Element C</td> </tr> <tr> <td>0.01µ Element with dpi D*</td> </tr> <tr> <td>5µ Element E</td> </tr> <tr> <td>5µ Element with dpi F*</td> </tr> <tr> <td>1µ Element 9</td> </tr> <tr> <td>1µ Element with dpi Q*</td> </tr> <tr> <td>Adsorber A</td> </tr> </table> <p>* Not available with F/R.</p> <p>Drain Type</p> <table border="1"> <tr> <td>Auto Drain A</td> </tr> <tr> <td>Manual Drain M</td> </tr> </table>	0.01µ Element C	0.01µ Element with dpi D*	5µ Element E	5µ Element with dpi F*	1µ Element 9	1µ Element with dpi Q*	Adsorber A	Auto Drain A	Manual Drain M	<p>E</p> <p>M</p> <p>Relief / Adjustment</p> <table border="1"> <tr> <td>Non-Rising Knob N</td> </tr> <tr> <td>Relieving</td> </tr> </table> <p>Adjustment Range</p> <table border="1"> <tr> <td>With Round Gauge</td> </tr> <tr> <td>30 psig; 2 bar; 0.2 MPa Z</td> </tr> <tr> <td>60 psig; 4 bar; 0.4 MPa M</td> </tr> <tr> <td>125 psig; 8 bar; 0.8 MPa G</td> </tr> <tr> <td>250 psig; 17 bar; 1.7 MPa J*</td> </tr> <tr> <td>Without Gauge</td> </tr> <tr> <td>30 psig; 2 bar; 0.2 MPa Y</td> </tr> <tr> <td>60 psig; 4 bar; 0.4 MPa L</td> </tr> <tr> <td>125 psig; 8 bar; 0.8 MPa N</td> </tr> <tr> <td>250 psig; 17 bar; 1.7 MPa H*</td> </tr> </table> <p>* Not available with poly bowl with bowl guard.</p>	Non-Rising Knob N	Relieving	With Round Gauge	30 psig; 2 bar; 0.2 MPa Z	60 psig; 4 bar; 0.4 MPa M	125 psig; 8 bar; 0.8 MPa G	250 psig; 17 bar; 1.7 MPa J*	Without Gauge	30 psig; 2 bar; 0.2 MPa Y	60 psig; 4 bar; 0.4 MPa L	125 psig; 8 bar; 0.8 MPa N	250 psig; 17 bar; 1.7 MPa H*	<p>N</p> <p>G</p> <p>Lub Type</p> <table border="1"> <tr> <td>Oil Mist L</td> </tr> <tr> <td>Standard</td> </tr> <tr> <td>Sight</td> </tr> <tr> <td>Dome</td> </tr> </table> <p>Drain Type</p> <table border="1"> <tr> <td>No Drain; Closed End N</td> </tr> </table>	Oil Mist L	Standard	Sight	Dome	No Drain; Closed End N	<p>L</p> <p>N</p> <p>W</p> <p>Mounting</p> <table border="1"> <tr> <td>No Bracket A</td> </tr> <tr> <td>Port Blocks C</td> </tr> <tr> <td>Port Blocks & Wall Brkt D</td> </tr> <tr> <td>Wall Bracket W</td> </tr> </table>	No Bracket A	Port Blocks C	Port Blocks & Wall Brkt D	Wall Bracket W
F/R+L A	F+Fc+Fa G																																																
F+R+L B	F/R+Fc M																																																
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Poly Bowl with Bowl Guard G																																																	
Metal Bowl without Sight Gauge M*																																																	
Metal Bowl with Sight Gauge S																																																	
BSPP 1																																																	
BSPT 2																																																	
NPT 9																																																	
1/2 4																																																	
3/4 6																																																	
0.01µ Element C																																																	
0.01µ Element with dpi D*																																																	
5µ Element E																																																	
5µ Element with dpi F*																																																	
1µ Element 9																																																	
1µ Element with dpi Q*																																																	
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Wall Bracket W																																																	



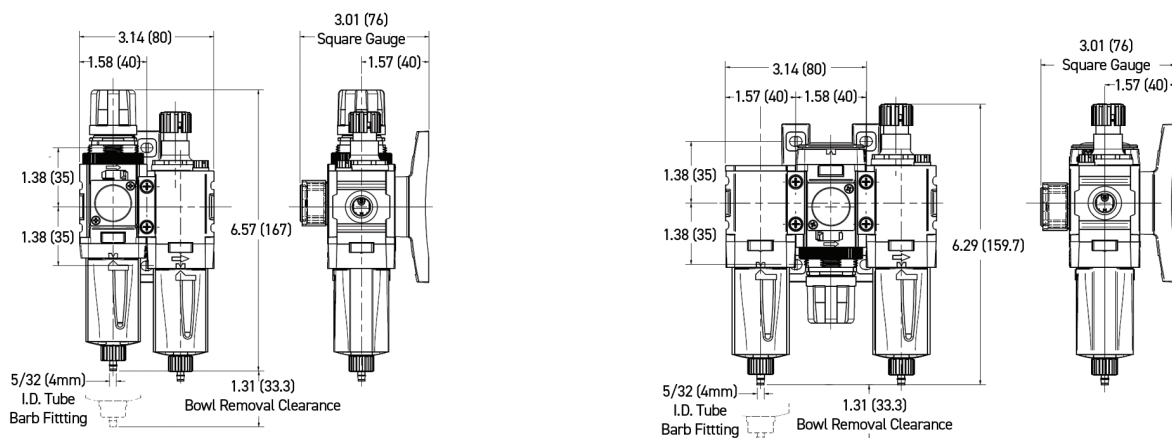
Combination Dimensional Data

Air Preparation Products Global Air Preparation

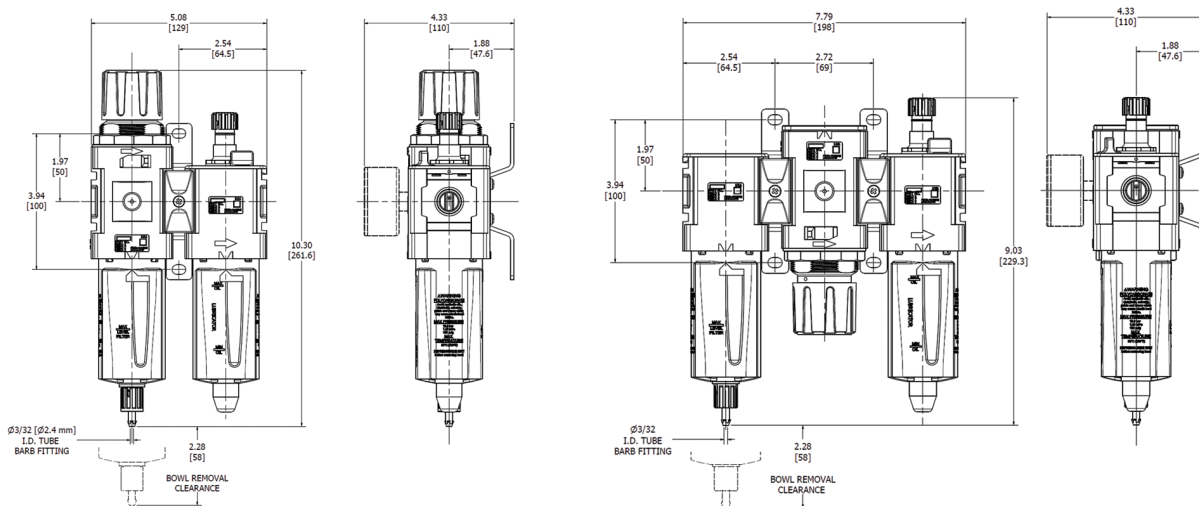
Popular Combination Dimensions

inches (mm)

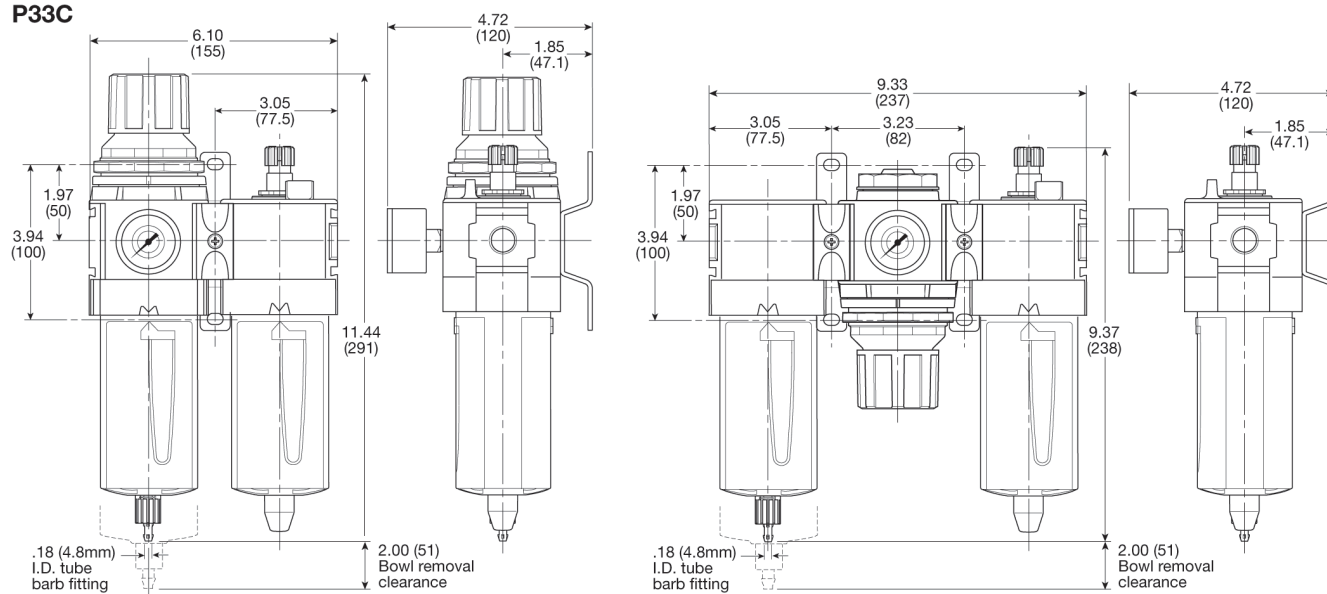
P31C



P32C



P33C

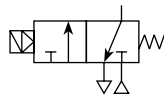


B	Global Air Preparation
Introduction	
Filters	
Coalescers	
Regulators	
Filter / Regulators	
Lubricators	
Combinations	
Accessories and Kits	

Dump Valves

P31D & P32D Dump Valves

- Modular design with 1/4" or 1/2" integral ports (NPT & BSPP)
- The 3-way, 2-position function automatically dumps downstream pressure on the loss of pilot signal
- Solenoid or air pilot options
- High flow & exhaust capability
- Silencer included



Remotely operated dump valves automatically shut off upstream pressure and exhaust the downstream pressure when the pilot pressure is released.

To maintain these units in the open position a pilot supply to the air pilot operated version or an electrical signal to the solenoid operated version must be maintained.

The valve will automatically dump when the holding signal is removed.

Port Size	Description	Weight lbs (kg)	Part Number
1/4"	120VAC Solenoid & cable plug	0.8 (0.37)	P31DA92SGNC1FN
1/4"	24VDC Solenoid & cable plug†	0.9 (0.41)	P31DA92SGNC2CN
1/2"	120VAC 30mm coil & cable plug incl.‡	1.5 (0.69)	P32DA94SCNA3GN
1/2"	24VDC 30mm coil & cable plug incl. ‡	2.0 (0.91)	P32DA94SCNA2CN
1/2"	External air pilot operated†	1.9 (0.87)	P32DA94PPN

‡ Includes exhaust silencer

Operating information

Flow capacity*:	P31D	36 scfm (17 dm³/s, ANR)
	P32D	108 scfm (51 dm³/s, ANR)
Temperature range (max)†:		
	Solenoid operated	14°F to 122°F (-10°C to 50°C)
	Air pilot operated	-4°F to 176°F (-20°C to 80°C)
Pressure (max):		
	Solenoid operated	150 psig (10 bar)
	Air pilot operated	250 psig (17 bar)
Operating pressure (min):		44 psig (3 bar)
Fluid:		Compressed air
Ports:	Air pilot	1/8
	Exhaust	P31D - 1/4; P32D - 1/2
	Gauge	P31D - 1/8; P32D - 1/4

* Inlet pressure 91.3 psig (6.3 bar), inlet pressure and 14.5 psig (1 bar) pressure drop.

† Air supply must be dry enough to avoid ice formation at temperatures below 35.6°F (2°C). Snap pressure: Full flow when downstream pressure reaches 50% of the inlet pressure.

Ordering Information:

P31DA 9 2 S G N C 2CN

Body Size

Dump Valve (1/4")	P31DA
Dump Valve (1/2")	P32DA

Thread Type

BSPP	1
NPT	9

Actuator Interface

G	15mm Solenoid (P31 Only)
C	30mm Solenoid
P	Threaded Air Pilot (P32 only)

Solenoid type only

C	15mm (P31 series only)
A	30mm CNOMO Coil (P32 only)
D	30mm CNOMO Coil (M12 connection) (P32 only)

Solenoid Voltage

2CN	24VDC Non Locking Manual Override
3GN	120VAC Non Locking Manual Override
1FN	120VAC Non Locking Manual Override (P31 series only)

Pilot Type

P	External Air Pilot (P32 only)
S	Solenoid Pilot

Port Size

Global Modular Mini (1/4")	2
Global Modular Compact (1/2")	4

Note:
P32 unit used for both P32 & P33 series

Most popular.





Dump Valves

Material Specifications

Body	Aluminum
Body cover	Polyester
Seals	Nitrile NBR

Mounting Brackets

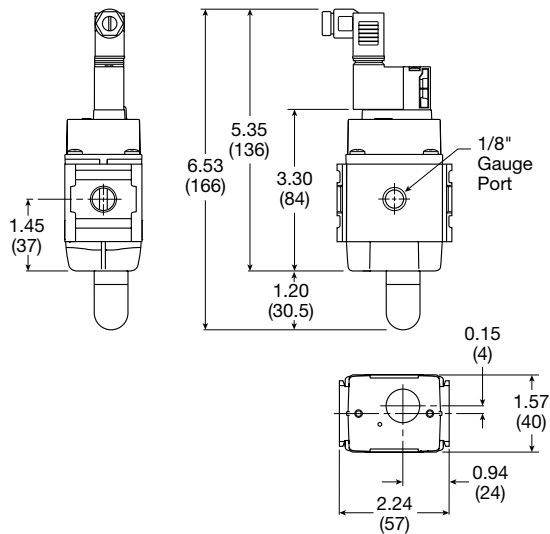
	Description	Part Number
	L-bracket mounting kit	P31D
	Foot bracket mounting kit	P31D


Note:

For solenoid operators and cable plugs (connectors) see pages B83 and B84.

Dimensions inches (mm)

P31D

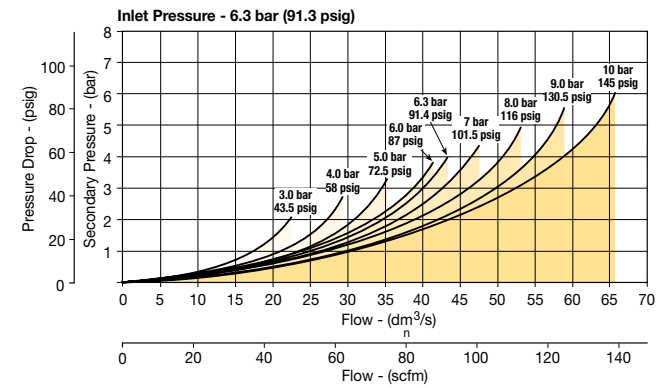


 Most popular.

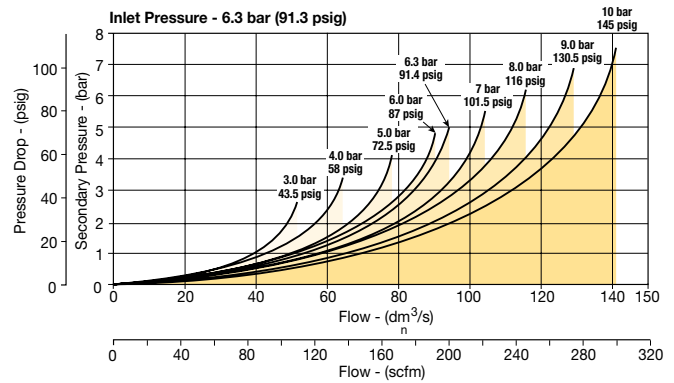
Air Preparation Products Global Air Preparation

Flow Charts

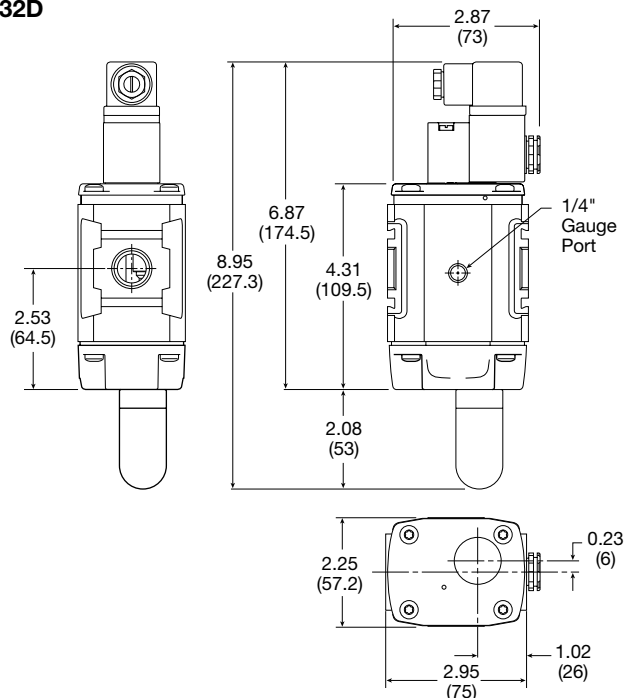
P31DA 1/4" Remote Dump Valve



P32DA 1/2" Remote Dump Valve



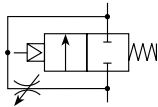
P32D



Soft Start Valves

P31S & P32S Soft Start Valves

- Modular design with 1/4" or 1/2" integral ports (NPT & BSPT)
- The 2-way, 2-position function provides for the safe introduction of pressure
- Adjustable slow start
- Solenoid or air pilot options
- High flow



Parker Global Series Soft Start Valves, provide for the safe introduction of pressure to machines or systems. Soft Start Valves, allow the pressure to gradually build to the set point before fully opening to deliver full flow at line pressure.

The controlled introduction of pressure can be an important safety factor and prevent damage to tooling when air pressure is introduced at machine or system start up.

Note: Soft Start Valves must be installed downstream of a 3/2 valve with exhaust capability

Port Size	Description	Weight lbs (kg)	Part Number
1/4"	120VAC Solenoid & Cable Plug	0.8 (0.37)	P31SA92SGNC1FN
1/4"	24VDC Solenoid & Cable Plug	0.9 (0.41)	P31SA92SGNC2CN
1/2"	120VAC 30mm Coil & Cable Plug Incl.	1.5 (0.87)	P32SA94SCNA3GN
1/2"	24VDC 30mm Coil & Cable Plug	2.0 (0.90)	P32SA94SCNA2CN
1/2"	Internal Air Pilot Operated	2.0 (0.90)	P32SA94Y0N
1/2"	External Air Pilot (1/8 threaded)	1.5 (0.87)	P32SA94PPN



Operating information

Flow capacity*:	P31S	36 scfm (17 dm³/s, ANR)
	P32S	101 scfm (48 dm³/s, ANR)
Temperature range (max)†:		
	Solenoid operated	14°F to 122°F (-10°C to 50°C)
	Air pilot operated	-4°F to 176°F (-20°C to 80°C)
Pressure (max):		
	Solenoid operated	150 psig (10 bar)
	Air pilot operated	250 psig (7 bar)
Operating pressure (min):		44 psig (3 bar)
Fluid:		Compressed air
Ports:	Air pilot	1/8
	Gauge	P31S - 1/8; P32S - 1/4

* Inlet pressure 91.3 psig (6.3 bar), inlet pressure and 14.5 psig (1 bar) pressure drop.

† Air supply must be dry enough to avoid ice formation at temperatures below 35.6°F (2°C). Snap pressure: Full flow when downstream pressure reaches 50% of the inlet pressure.

Ordering Information:

P31SA **9** **2** **S** **G** **N**

Solenoid type only

C **2CN**

Body Size

Soft Start	P31SA
Soft Start	P32SA

Thread Type

BSPP	1
NPT	9

Port Size

Global Modular Mini (1/4")	2
Global Modular Compact (1/2")	4

Actuator Interface

0	Internal Pilot (P32 only)
G	15mm Solenoid (P31 only)
C	30mm Solenoid
P	Threaded Air Pilot (P32 only)

Pilot type

P	External air pilot (P32 only)
S	Solenoid pilot
Y	Internal air pilot (P32 only)

Solenoid Voltage

2CN	24VDC non Locking Manual Override
3GN	120VAC non Locking Manual Override
1FN	120VAC Non Locking Manual Override (P31 series only)

Solenoid type

C	15mm (P31 series only)
A	30mm CNOMO coil (P32 only)
D	30mm CNOMO coil (M12 connection) (P32 only)

Note:
P32 unit used for both P32 & P33 series

Most popular.



Soft Start Valves

Material Specifications

Body	Aluminum
Body cover	Polyester
Seals	Nitrile NBR

Service Kits

P31S	L-bracket mounting kit	P3HKA00ML
	Foot bracket mounting kit	P3HKA00MC
P32S	L-bracket mounting kit	P3KKA00ML
	Foot bracket mounting kit	P3KKA00MC

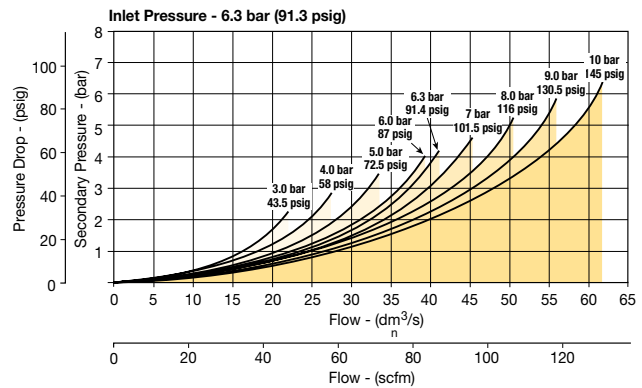
Note:

For solenoid operators and cable plugs (connectors) see pages B83 and B84.

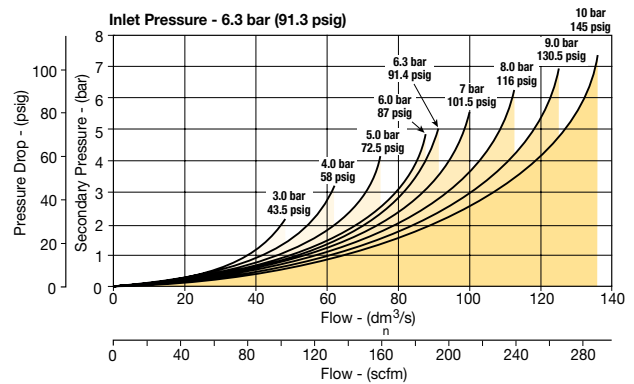
Air Preparation Products Global Air Preparation

Flow Charts

P31SA 1/4" Soft Start Valve

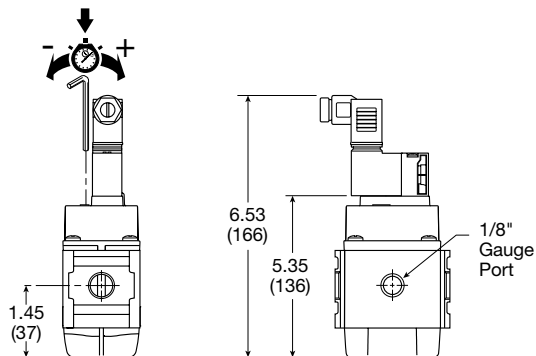


P32SA 1/2" Soft Start Valve

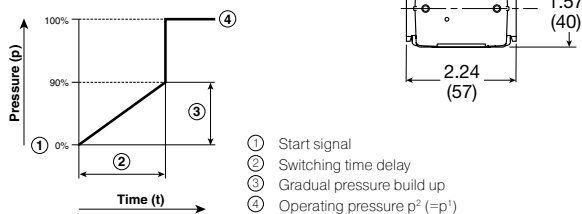


Dimensions inches (mm)

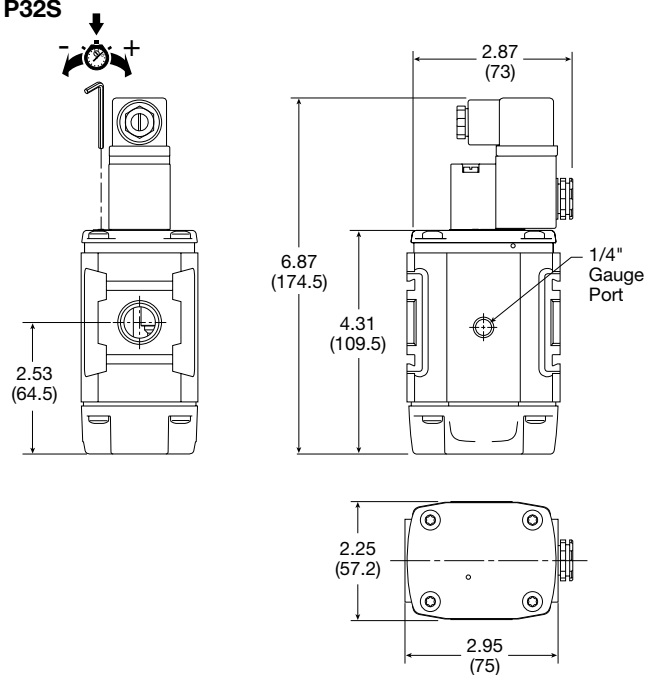
P31S



Soft Start Function:

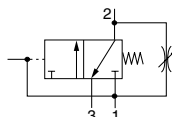


P32S



P31T & P32T Combined Soft Start / Dump Valves

- Modular design with 1/4" or 1/2" integral ports (NPT & BSPP)
- Provides for the safe introduction of pressure
- The 3-way, 2-position function automatically dumps downstream pressure on the loss of pilot signal
- Adjustable slow start
- Solenoid or air pilot options
- High flow & exhaust capability
- Silencer included

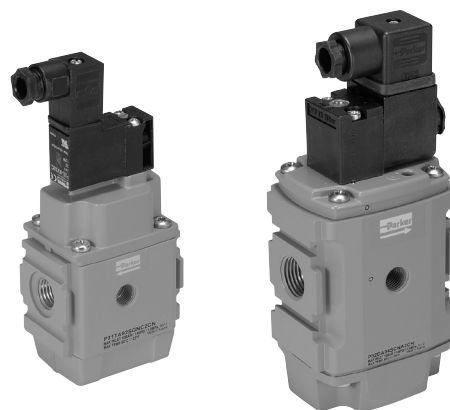


Parker Global Series Combined Soft Start / Dump Valves, provide for the safe introduction of pressure to machines or systems. Soft Start / Dump Valves when set, allow the pressure to gradually build to the set point before fully opening to deliver full flow at line pressure.

The controlled introduction of pressure can be an important safety factor and prevent damage to tooling when air pressure is introduced at machine or system start up.

To maintain these units in the open position a pilot supply to the air pilot operated version or an electrical signal to the solenoid operated version must be maintained. The valve will automatically dump when the holding signal is removed.

Port Size	Description	Weight lbs (kg)	Part Number
1/4"	120VAC Solenoid & cable plug	0.8 (0.37)	P31TA92SGNC1FN
1/4"	24VDC Solenoid & cable plug	0.9 (0.41)	P31TA92SGNC2CN
1/2"	120VAC 30mm coil & cable plug incl.	1.9 (0.87)	P32TA94SCNA3GN
1/2"	24VDC 30mm coil & cable plug incl.	2.0 (0.91)	P32TA94SCNA2CN
1/2"	External air pilot operated	1.9 (0.87)	P32TA94PPN



Operating information

Flow capacity*:	P31T	36 scfm (17 dm ³ /s, ANR)
	P32T	108 scfm (51 dm ³ /s, ANR)
Temperature range (max)†:		
Solenoid operated		14°F to 122°F (-10°C to 50°C)
Air pilot operated		-4°F to 176°F (-20°C to 80°C)
Pressure (max):		
Solenoid operated		150 psig (10 bar)
Air pilot operated		250 psig (7 bar)
Operating pressure (min):		44 psig (3 bar)
Fluid:		Compressed air
Ports:	Air pilot	1/8
	Exhaust	P31T - 1/4; P32T - 1/2
	Gauge	P31T - 1/8; P32T - 1/4

* Inlet pressure 91.3 psig (6.3 bar), inlet pressure and 14.5 psig (1 bar) pressure drop.

† Air supply must be dry enough to avoid ice formation at temperatures below 35.6°F (2°C). Snap pressure: Full flow when downstream pressure reaches 50% of the inlet pressure.

Ordering Information:

<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> P31TA <div style="border: 1px solid black; padding: 2px;"> Body Size Soft Start / Dump Valve (1/4") P31TA Soft Start / Dump Valve (1/2") P32TA </div> <div style="border: 1px solid black; padding: 2px;"> Thread Type BSPP 1 NPT 9 </div> <div style="border: 1px solid black; padding: 2px;"> Port Size Global Modular Mini (1/4") 2 Global Modular Compact (1/2") 4 </div> </div> <div style="text-align: center;"> 9 <div style="border: 1px solid black; padding: 2px;"> Actuator Interface G 15mm Solenoid (P31 only) C 30mm Solenoid P Threaded Air Pilot (P32 only) </div> <div style="border: 1px solid black; padding: 2px;"> Pilot Type P External Air Pilot (P32 only) S Solenoid Pilot </div> </div> <div style="text-align: center;"> 2 <div style="border: 1px solid black; padding: 2px;"> Solenoid type only C 2CN </div> <div style="border: 1px solid black; padding: 2px;"> Solenoid Voltage 2CN 24VDC Non Locking Manual Override 3GN 120VAC Non Locking Manual Override 1FN 120VAC Non Locking Manual Override (P31 series only) </div> </div> <div style="text-align: center;"> S <div style="border: 1px solid black; padding: 2px;"> Solenoid Type C 15mm (P31 series only) A 30mm CNOMO Coil (P32 only) D 30mm CNOMO Coil (M12 connection) (P32 only) </div> </div> <div style="text-align: center;"> G </div> <div style="text-align: center;"> N </div> </div>									
Note: P32 unit used for both P32 & P33 series									

Most popular.



Combined Soft Start / Dump Valves

Material Specifications

Body	Aluminum
Body cover	Polyester
Seals	Nitrile NBR

Service Kits

P31T	L-bracket mounting kit	P3HKA00ML
	Foot bracket mounting kit	P3HKA00MC
P32T	L-bracket mounting kit	P3KKA00ML
	Foot bracket mounting kit	P3KKA00MC

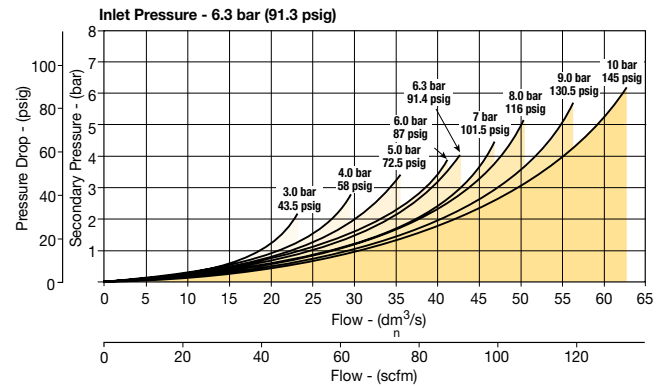
Note:

For solenoid operators and cable plugs (connectors) see pages B83 and B84.

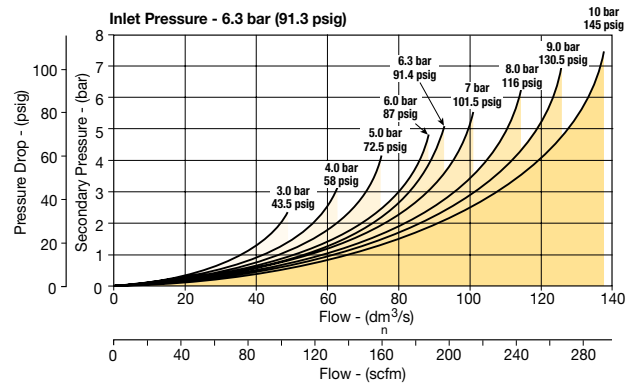
Air Preparation Products Global Air Preparation

Flow Charts

P31TA 1/4" Soft Start & Dump Valve

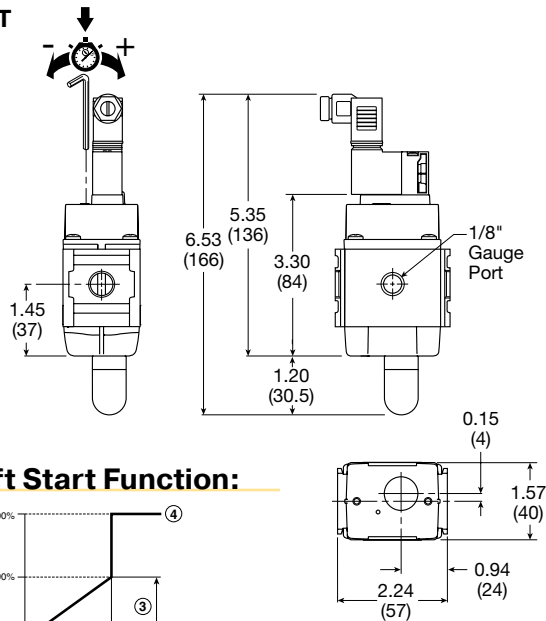


P32TA 1/2" Soft Start & Dump Valve

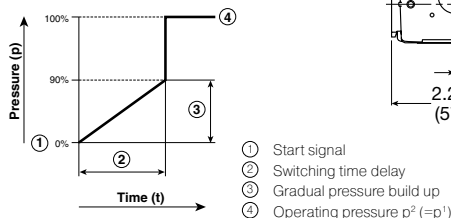


Dimensions inches (mm)

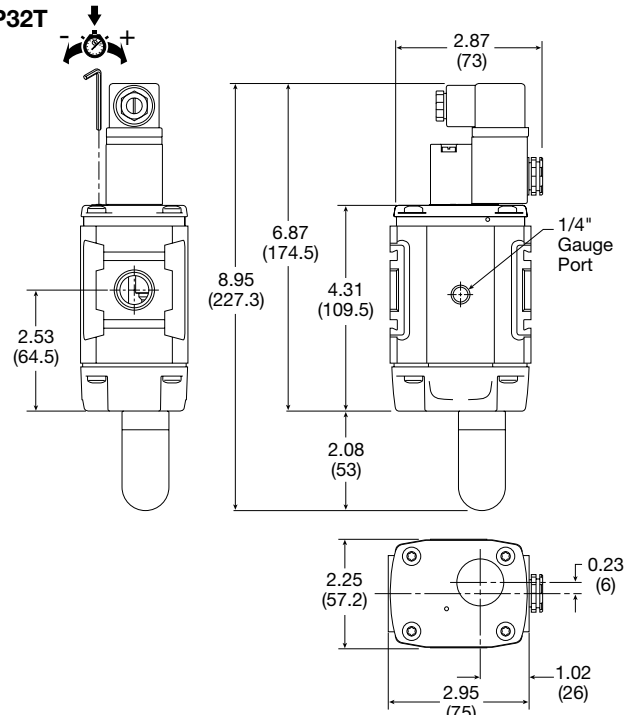
P31T



Soft Start Function:

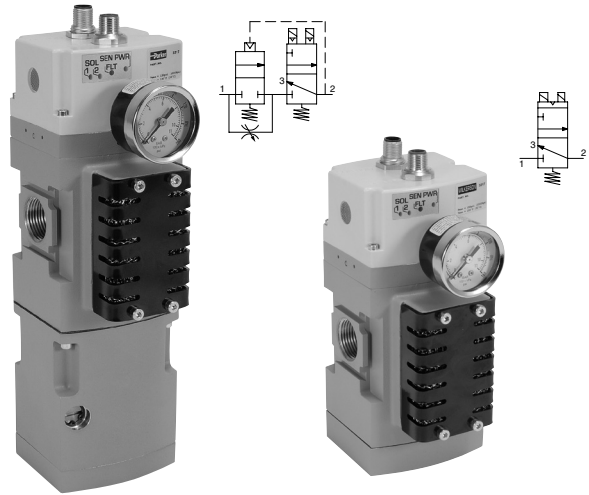


P32T



P33D & P33T Safety Exhaust Valves

- Easy electrical interface with M12 connectors to safety circuit
- External monitoring provides a cost and space saving advantage
- Solid state pressure sensors provide accurate, fast fault detection
- Quick visual LED indicators on the front of the valve
- Superior seated seal design for longer life
- Safety exhaust outlet is no-maintenance and non-clog by design
- Suitable for stand alone use or modular mounting to P32 or P33 FRL assembly
- High B10 life value
- Fast exhaust times allow for smaller machine footprint



(optional soft start)



Operating information

Operating pressure:	30 to 150 PSIG (2 to 10 bar)
Minimum operating pressure:	30 PSIG (2 bar)
Ambient temperature:	40° to 120°F (4° to 50°C)
Recommended filtration:	40μ
Operating medium:	Compressed air
Ingress protection class:	IP65
B10 (mio):	12.5 million switching cycles
B10 d (mio):	25 million switching cycles
Allowable discordance:	150ms
Flow media:	Compresses air to ISO 8573-1 Class 7:4:4
Weight lbs (kg):	6.5 (2.9) with soft start 4.2 (1.9) without soft start

The soft start opens to full flow at approximately 60% of input pressure.

Ordering Information:

P3		3		T		B		1		6		A		B		E		N		F	
Global		Standard		Design		Current		Port Size		Output for Solenoid, M12 Connector Pin		Output for Sensors, M12 Connector Pin		Sensor Monitoring		Gauge²		Options			
Series		Type		Thread Type		Output for Solenoid, M12 Connector Pin		Output for Sensors, M12 Connector Pin		Sensor Monitoring		Gauge²		Options							
Standard P3		Safety Redundant (no soft start) D		BSPP 1		2 & 4, Common 3 A		1 & 2, 1 & 4, Common 3 A		External E		No Gauge N		Black Grill							
		Safety Redundant (c/w soft start) T		NPT 9		3 & 4 C		1 & 2, 5 & 4, Common 3 B				Dial Gauge ³ G		Threaded Exhaust F							
						2 & 4 D		5 & 2, 1 & 4, Common 3 C				(standard)									
												Digital Gauge ³ D									
												MPS-P34 Pressure Sensor M									

Notes:

1. For 1/2" connections use 1/2" port blocks on standard 3/4" housing.
2. Safety valve supplied with 1/8" gauge port in either BSPP or NPT threads as specified for ports. Gauges shipped loose.
3. Dial or digital gauge not available on BSPP version.

Most popular.

Note: Mounting hardware and port blocks are sold separately.



Safety Exhaust Valves

General Technical Data

Valve type	Externally monitored, redundant, dual poppet
Soft start	Optional
Valve function	3/2 way, normally closed
Housing material	Cast aluminum
Seals	NBR
Fasteners	Stainless steel / brass
Silencer	Steel, non clog safety design

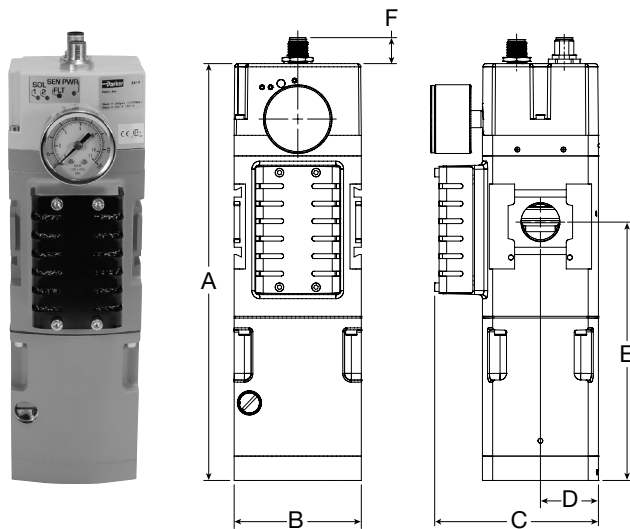
Electrical Specifications

Operating voltage	24V DC
Electrical connection	Two M12 connectors
Switching time 1-2 (ms)	23.3
Switching time 2-3 (ms)	42.7
Duty cycle (%)	100%
Operating voltage (DC)	21.6 to 26.4
Nominal power	
per solenoid coil at 24V DC (W) +/- 10%	1.2 W
per pressure sensor at 24V DC	1.2 W

In accordance with EN ISO 13849-1 this safety valve is suitable for use up to Category 4, Plc, sil 3. Certified to cCSAus and bears the CE mark.

A product Integration Guide is available to help connect your logic controller to the Parker Safety Exhaust Valve under the Product Support tab at www.parker.com/pdn/safetyvalve

Externally Monitored (with Soft Start)

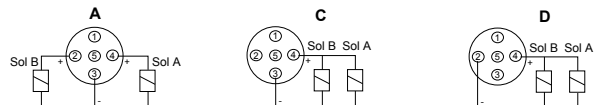


Air Preparation Products Global Air Preparation

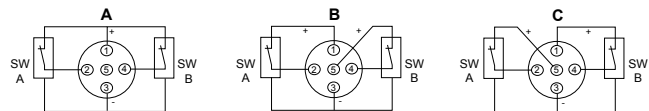
Mounting Hardware

Body Connector	P32KA00CB
T-Bracket w / Body Connector	P32KA00MT
T-Bracket (fits to body connector or port block)	P32KA00MB
Port Block Kits (includes two)	
1/2" NPT	P32KA94CP
1/2" BSPT	P32KA24CP
1/2" BSPP	P32KA14CP
3/4" NPT	P32KA96CP
3/4" BSPT	P32KA26CP
3/4" BSPP	P32KA16CP

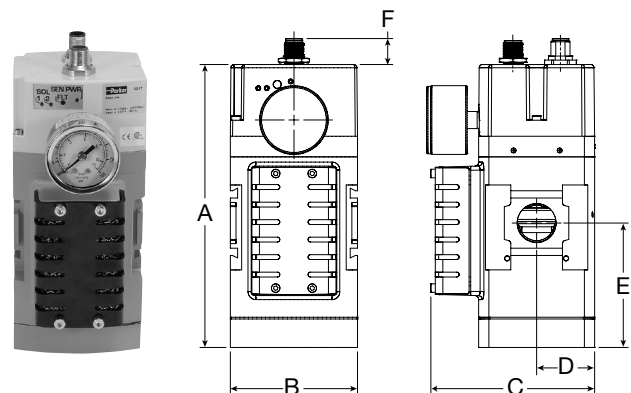
Solenoid M12 Pinouts



Pressure Sensor M12 Pinouts



Externally Monitored (No Soft Start)



Dimensions inches (mm)

		Standard nominal flow rate							
Ports		1 → 2 L/min (SCFM)*	2 → 3 L/min (SCFM)*	A	B	C	D	E	F
Externally Monitored with soft start	3/4"	4,100 (145)	7,500 (265)	10.31 (261.9)	3.15 (80)	4.30 (109.3)	1.44 (36.5)	6.39 (162.3)	0.64 (16.3)
Externally Monitored no soft start	3/4"	4,300 (152)	7,500 (265)	7.03 (178.7)	3.15 (80)	4.30 (109.3)	1.44 (36.5)	3.11 (79.0)	0.64 (16.3)

* Standard nominal flow rate is based on 6 bar input pressure with ΔP = 1 bar



Safety Exhaust Valves

Safety Exhaust Valve Function

When applications demand a safe environment you can count on safety valves from Parker Hannifin. The P33 family of safety exhaust valves are 3/2 normally closed valves designed to rapidly exhaust compressed air in the event of a fault condition and to provide monitored coverage ensuring safe function. The P33 is available in two distinct styles, internally* or externally monitored. The valve is suitable for use up to Category 4, performance level e. Monitoring is achieved externally via a two channel system connected to a safety interface device. Both valves are available with an adjustable soft start and high flow exhaust to shut your equipment down faster when needed. LED's provide clear status of main solenoid operation, sensor power and fault condition for quick visual reference.

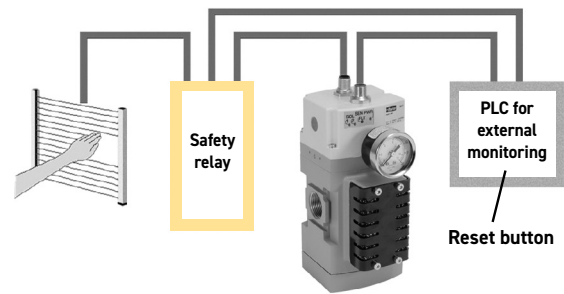
Externally Monitored Valve, Faults and Resets

The externally monitored valve has the monitoring done via a PLC or relay which offers a size and cost advantage over internally monitored valves. The integration of a safety interface into the PLC or relay will help determine the achievable category and performance level of the control system. Customers are required to provide the logic function via the safety device. The valve will lock-out to the "safe state" if asynchronous movement of the valve elements occur which will be detected by solid state pressure sensors. To achieve the proper safety rating, the safety PLC or relay must monitor the solid state pressure sensors to ensure they are not in different states for more than 50ms. If the sensors are in different states for longer than 50ms then the programming logic must shut off power to the solenoids and consider it a fault condition. If during operation the externally monitored P33 enters a fault condition the valve will shut off. A separate reset signal must be incorporated into the logic sequence to avoid automatic restart of the valve. The safety exhaust valves are not for use with clutch or brake applications and are designed for use in conjunction with a safety relay or safety PLC for safe monitoring and fault detection.

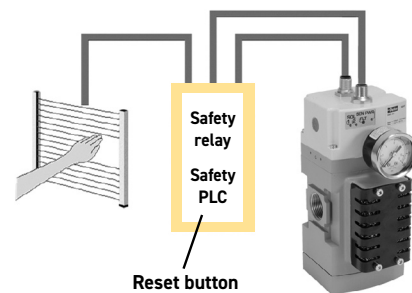
Achieving Desired Performance Level **

The category and performance level (PLr) needed for your machine is determined by a risk assessment of the machinery design and application based on EN ISO 13849-1. The Parker P33 safety valve is designed for those applications requiring a PL d or e. Please note these levels require other aspects of the system to meet these requirements. As a guide: you can achieve a Cat 4 PL e system by integrating monitoring via a programmable safety rated device. Because the P33 is a mechanical fail-safe device, the monitoring could also be done via a standard PLC and still attain as high as a PL d rating.

Cat 3, PL d

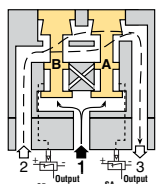


Cat 4, PL e



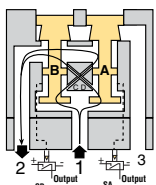
* For information on internally monitored safety valves reference Bulletin 0700-B 14.

** An integration guide is available to provide further information on connecting the safety valve product to achieve the desired performance level. Please consult Parker and the standard EN ISO 13849-1 for more information.



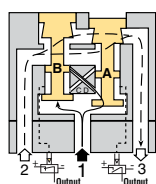
Conditions at Start

The Safety exhaust valve starts with inlet 1 closed to outlet 2 by both valve elements A and B. Outlet 2 is open to exhaust 3. Pressure signals at both sensors SA and SB are exhausted and contacts 1 and 2 of sensors SA and SB are connected. The normally closed sensors both provide voltage feedback signals to the external monitoring system.



Normal Operation

During normal operation the two solenoids are simultaneously energized which actuates both pilots and causes valve elements A and B to shift. Inlet 1 is then connected to outlet 2 via crossflow passages C and D. Exhaust 3 is closed. Sensing pressure signals go to each pressure sensor and become equal to inlet pressure. Both sensors contacts open and no voltage signals are provided to the external monitoring system. This indicates that both sides of the valve actuated as expected.



Detecting a Malfunction

A malfunction in the system or the valve itself could cause one valve element to be open and the other closed. Air then flows past the inlet poppet on valve element A, into crossflow passage D, but is substantially blocked by the spool portion of element B. The large size of the open exhaust passage past element B keeps the pressure at the outlet port below 2% of inlet pressure. Full sensing air pressure from side A goes to sensor SA, and a reduced pressure goes to sensor SB. This full pressure signal causes SA to open. Sensor SB, with a reduced pressure signal, does not open. An external monitoring system can detect the malfunction by monitoring the outputs of the SA and SB sensors. The external monitor system must then react accordingly by shutting down the power to the valve solenoids and any other components deemed necessary to stop the machine.



Machinery Directive - Overview

The Machinery Directives' goal is to protect people and the environment from accidents caused from all types of machinery. Based on the standard EN 13849 [safety of machines; safety-related parts of control systems] these standards build the procedure to assess safety-related control systems.

Required Performance Level (PLr) based on a risk assessment are now commonly used to determine the safety level required for the controls system, for the application of machinery.

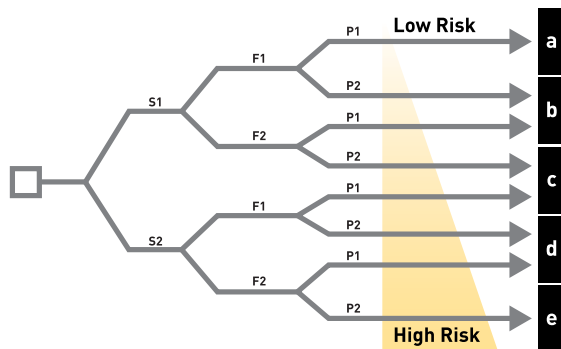
Performance Level (PL) based on the original B, 1,2,3,4 safety categories, diagnostic capabilities, Mean time to dangerous failure (MTTFd), and common cause failure (CCF), define safety levels of a given safety function. This ensures that safety is not just focused on component reliability, but instead introduces common sense safety principles such as redundancy, diversity, and fail-safe behavior of safety related control parts.

The new EN 13849 standards of the Machinery Directive dictates the machine is safe when the Performance Level of the safety control circuit is equal to or greater than the Required Performance Level of the application. When determining the required performance level, the greater the risk, the higher the requirements of the control system.

$$PL_r \leq PL$$

Determining PLr According to EN 13849-1

The level of each hazardous situation is classified in five Performance levels from a to e. With PL a the control functions contribution to risk reduction is low, while at PL e it is high. The risk graph above can be used as a guideline to determine the required performance level PLr for safety function.



Risk Parameters

(S) Severity of injury

- S1 Slight (normally reversible injury)
- S2 Serious (normally irreversible injury, or death)

(F) Frequency and / or duration of exposure to hazard

- F1 Seldom to less often and / or brief
- F2 Frequent to continuous and / or long

(P) Possibility of avoiding the hazard

- P1 Possibility of avoiding the hazard
- P2 Scarcely ever possible

Determining PL According to EN 13849-1

Determining the MTTF_d = Mean Time To Dangerous Failure

Determining the PL = Performance Level	a	b	c	d	e	10 ⁻⁵ ≤ PFH _d < 10 ⁻⁴	3 X 10 ⁻⁴ ≤ PFH _d < 10 ⁻³	10 ⁻³ ≤ PFH _d < 3 X 10 ⁻³	10 ⁻⁷ ≤ PFH _d < 10 ⁻⁶	10 ⁻⁶ ≤ PFH _d < 10 ⁻⁷	Determining the SIL = Safety Integrity Level
DC < 60%											
DC < 60%											
60% ≤ DC < 90%											
90% ≤ DC < 99%											
60% ≤ DC < 90%											
90% ≤ DC < 99%											
99% ≤ DC											
Cat. B	Cat. 1	Cat. 2	Cat. 3	Cat. 4							
CCF not relevant	CCF ≥ 65%										

Categories Defined by EN 13849-1

Category	Summary
Category B	When a fault occurs it can lead to the loss of the safety function.
Category 1	Same that Category B, but loss of the safety function is less likely thanks to a good MTTFd of each channel.
Category 2	System behavior allow that the occurrence of a fault can lead to the loss of the safety function between the checks; the loss of the safety function is detected by the check.
Category 3	A single fault in any of safety related parts does not lead to the loss of the safety function. Whenever reasonably possible the single fault shall be detected at or before the next demand upon the safety function. (Means redundancy)
Category 4	Same as Category 3, but if detection of single fault is not possible on or before the next demand upon the safety, an accumulation of these undetected faults shall not lead to the loss of the safety function. (Means redundancy & check)



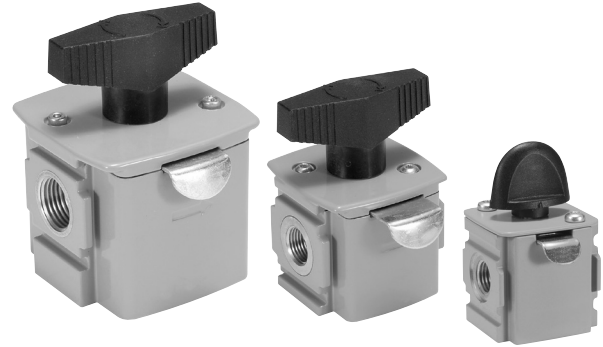
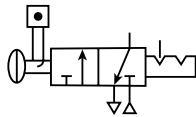
Accessories

Ball Valve / Lockout Valve

The Ball / Lockout Valve shuts off downstream line pressure in the closed position with a 90° turn of the handle. In the closed position, inlet air pressure is blocked and downstream / system air is exhausted through a threaded port. To prevent unauthorized adjustment, the padlock slide may be assembled on either side. It is recommended that this slide is installed after final system assembly.

The Safety Lockout valves conform to OSHA #29 CFR part 1910 — control of hazardous energy source (lockout / tagout).

Note: This padlock slide is a permanent assembly and may not be removed later, any unauthorized tampering will void any warranty claims. The valve can only be locked in the closed position.



Operating information

Operating temperature:	-40°C to 80°C (-40°F to 176°F)
Pressure supply (max):	250 psig (17 bar)
Port size:	BSPP / BSPT / NPT
Weight:	P31 0.33 lbs (0.15 kg) P32 0.79 lbs (0.36 kg) P33 1.21 lbs (0.55 kg)

Ordering Information

Model Type	Port Size	Exhaust Port	Thread Type	Flow scfm (dm³/s, ANR)	Modular Ball Valve Flow from Left to Right
P31	1/4"	1/4"	NPT	42.4 (20)	P31VB92LBNN
P32	3/8"	1/4"	NPT	190.7 (90)	P32VB93LBNN
	1/2"	1/4"	NPT	258.5 (122)	P32VB94LBNN
P33	1/2"	1/2"	NPT	561.5 (265)	P33VB94LBNN
	3/4"	1/2"	NPT	678 (320)	P33VB96LBNN

* Lockout tab and muffler supplied with unit.

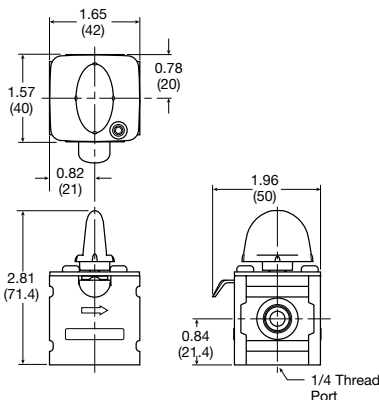
For thread type: BSPP **1**
BSPT **2**
NPT **9**

Material Specifications

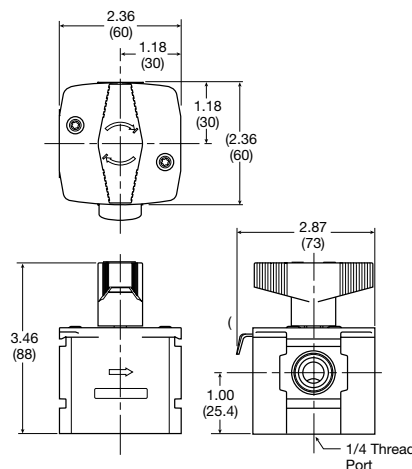
Body	Aluminum
Seals	PTFE
Ball	Stainless Steel
Lockout Tab	Zinc Plated Steel
Screw	Zinc Plated Steel

Dimensions inches (mm)

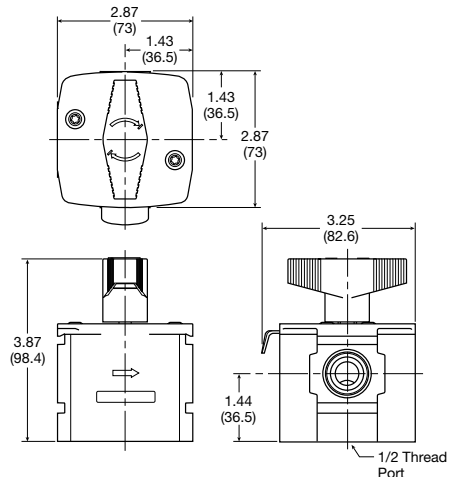
P31



P32



P33

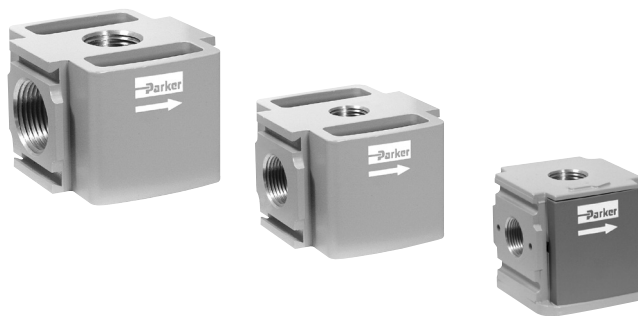
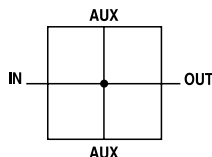


Most popular.



Manifold Blocks

- Available in 1/4" or 3/4" threaded inlet / outlet ports
- Two additional top and bottom auxiliary ports standard
- Can be mounted anywhere in the FRL system



Ordering Information

Model Type	In / Out Port Size	Auxiliary Port Size Top	Auxiliary Port Size Bottom	Thread Type	Part Number
P31	1/4"	1/4"	1/4"	NPT	P31MA92022N
P32	1/2"	1/4"	1/2"	NPT	P32MA94024N
P33	3/4"	1/4"	1/2"	NPT	P33MA96024N

For thread type:

BSPP **1**

BSPT **2**

NPT **9**

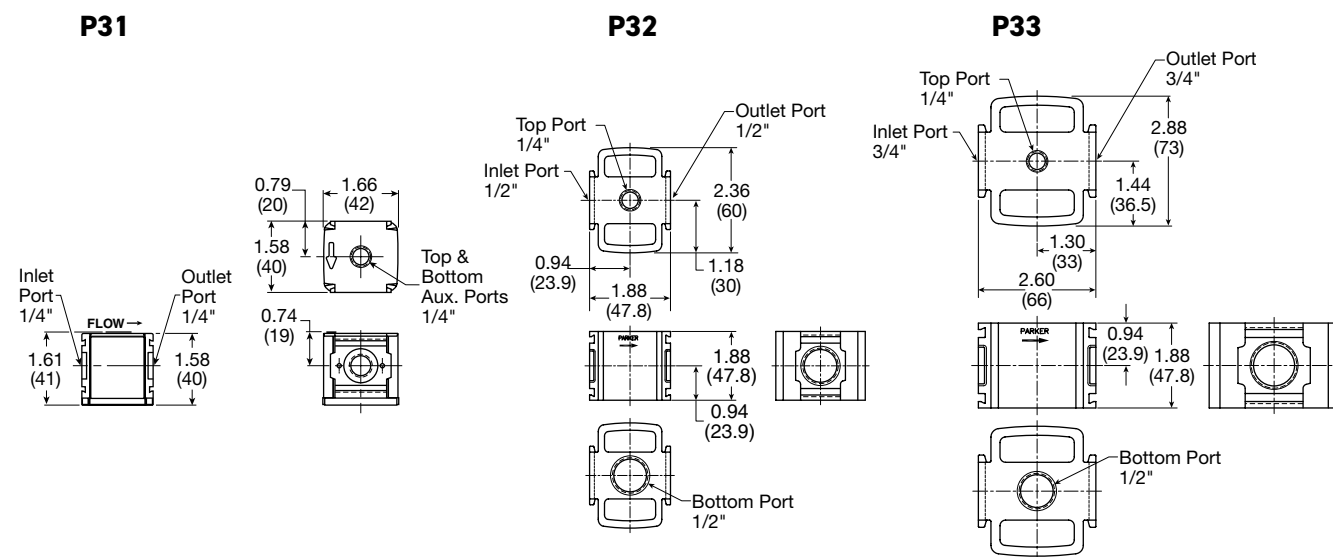
Operating information

Operating temperature:	-40°F to 150°F (-40°C to 65.5°C)
Pressure supply (max):	300 psig (20.7 bar)
Weight:	P31 0.26 lbs (0.12 kg)
	P32 0.45 lbs (0.20 kg)
	P33 0.45 lbs (0.20 kg)

Material Specifications

Body	Aluminum
------	----------

Dimensions inches (mm)

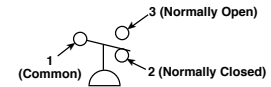


Most popular.



PPS1 Pressure Switch

- Long life elastomer diaphragm
- High quality snap action switch
- Field adjustable
- Compact design
- Easily customized
- Quick delivery
- NEMA 4, 13



Definitions and Terminology

Repeatability — Accuracy is the maximum allowable set point deviation of a single pressure or temperature switch under one given set of environmental and operational conditions.

Single Pole Double Throw (SPDT) Switching element — A SPDT switching element has one normally open, one normally closed and one common terminal. Three terminals mean that the switch can be wired with the circuit either normally open (NO), or normally closed (NC), or both.

Dead Band — The dead band, sometimes referred to as “differential” or “hysteresis”, is the change in pressure between actuation and deactuation set points.

Operating information

Temperature range:	-40°F to 105°F (-40°C to 220°C)
Operating pressure range:	1, 2, 3 - 250 PSI (17.2 bar) 4 - 2000 PSI (137.9 bar)
Set point tolerance	± 1 PSI or 5% (.07 bar)
Deadband	10 - 20% of set pressure
Current rating	3A @ 125 VAC 2A @ 30 VDC (Resistive)
Circuit form	SPDT Standard
Cycle life	1 Million

Ordering Information:

PPS1 - 1 C 3 - R HM

Thread	
1/4" NPT Male	1
1/8" NPT Male	2
1/4" BSPP Male	17
1/8" BSPP Male	18

Set Point Direction	
R	Rising

Electrical Connection	
HM	DIN 9.4mm
WL	Wire Leads 18"

Range*	
1	3-10 PSI
2	6-30 PSI
3	20-120 PSI
4†	100-400 PSI

Circuit	
SPDT	C

* Factory setting for calibration purposes
 Range 1 = 6 PSI
 Range 2 = 18 PSI
 Range 3 = 70 PSI
 Range 4 = 250 PSI

† Only available in 1/4" NPT

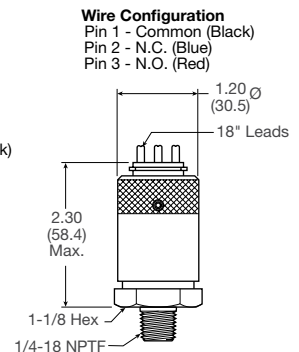
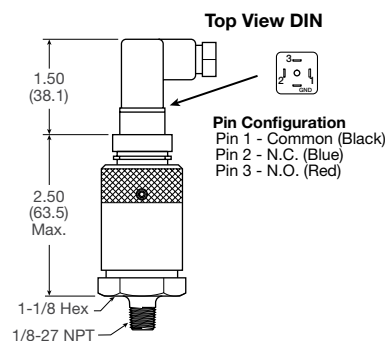
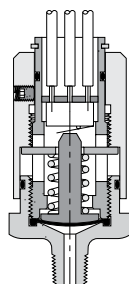
Note: Switch is field adjustable.

Material Specifications

Adjustment knob	Anodized aluminum
Body	Brass
Diaphragm	Nitrile

Operation

The pressure switch monitors the air pressure in your pneumatic system. When the pressure in your system either drops below or exceeds the set point pressure, an electrical output is given.

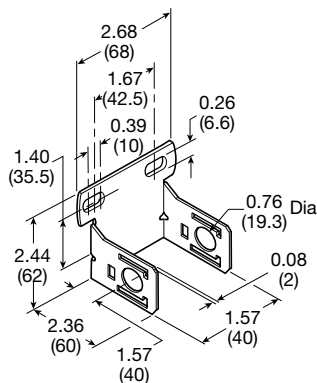
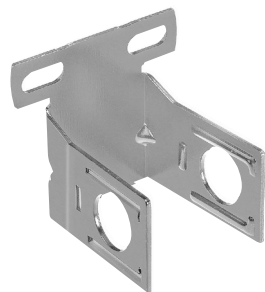


P31 Accessories

C-Bracket

(Fits to filter and lubricator body)

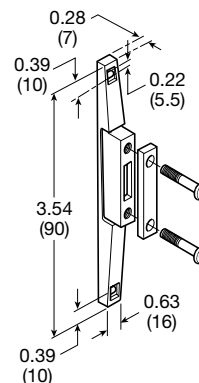
P31KA00MW



T-Bracket w/ Body Connector

(O-ring not shown)

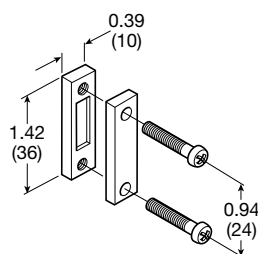
P31KA00MT



Body Connector

(O-ring not shown)

P31KA00CB



Port Block Kit

(O-ring not shown)

1/8 NPT	P31KA91CP	1/8 BSPT	P31KA21CP
1/4 NPT	P31KA92CP	1/4 BSPT	P31KA22CP
3/8 NPT	P31KA93CP	3/8 BSPT	P31KA23CP
1/8 BSPP	P31KA11CP		
1/4 BSPP	P31KA12CP		
3/8 BSPP	P31KA13CP		



Port Block Kit w/ T-Bracket

(O-ring not shown)

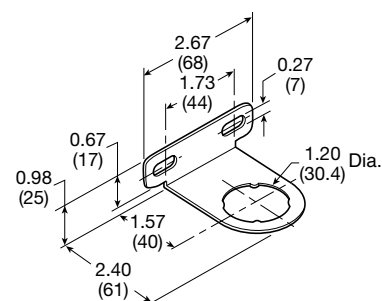
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1/4 NPT	P31KA92CN	1/4 BSPT	P31KA22CN
3/8 NPT	P31KA93CN	3/8 BSPT	P31KA23CN
1/8 BSPP	P31KA11CN		
1/4 BSPP	P31KA12CN		
3/8 BSPP	P31KA13CN		



Angle Bracket

(Fits to regulator and filter/regulator body)

P31KB00MR



B

Global Air
Preparation

Introduction

Filters

Coalescers

Regulators

Filter /
Regulators

Lubricators

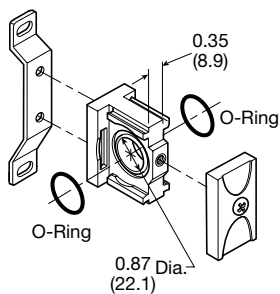
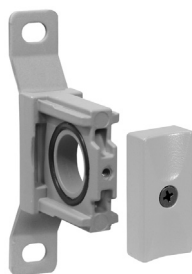
Combinations

Accessories
and Kits

P32 Accessories

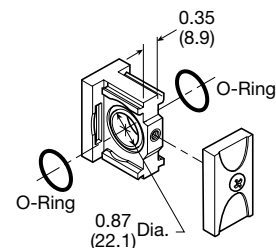
T-Bracket w/ Body Connector

P32KA00MT



Body Connector

P32KA00CB



Port Block Kit

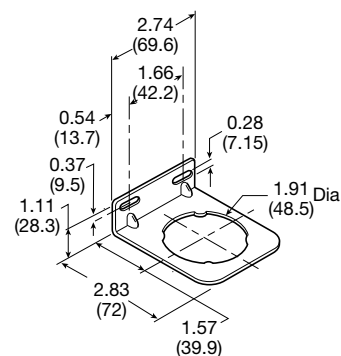
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3/8 NPT	P32KA93CP	3/8 BSPT	P32KA23CP
1/2 NPT	P32KA94CP	1/2 BSPT	P32KA24CP
3/4 NPT	P32KA96CP	3/4 BSPT	P32KA26CP
1/4 BSPP	P32KA12CP		
3/8 BSPP	P32KA13CP		
1/2 BSPP	P32KA14CP		
3/4 BSPP	P32KA16CP		



Angle Bracket

(Fits to regulator and filter/regulator bonnet)

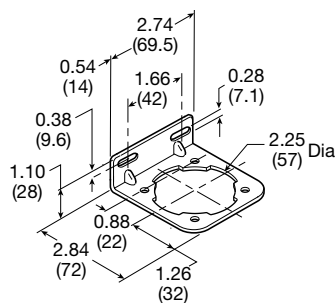
P32KB00MR



L-Bracket

(Fits to filter and lubricator body)

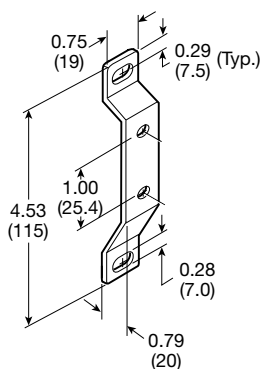
P32KA00ML



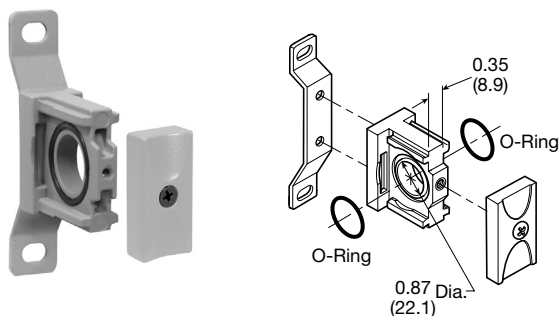
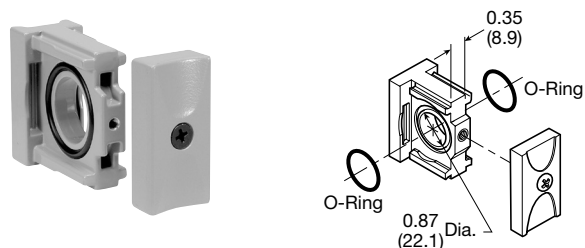
T-Bracket

(fits to body connector or port block)

P32KA00MB



P33 Accessories

T-Bracket w/ Body Connector
P32KA00MTBody Connector
P32KA00CB

Port Block Kit

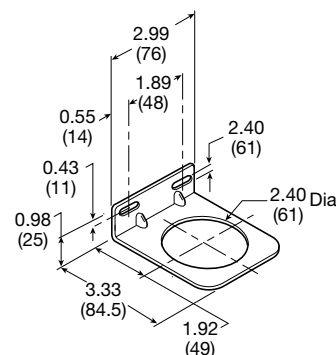
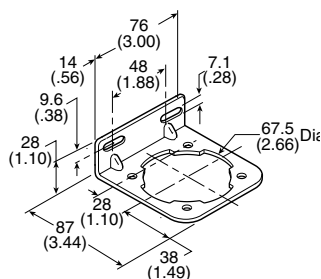
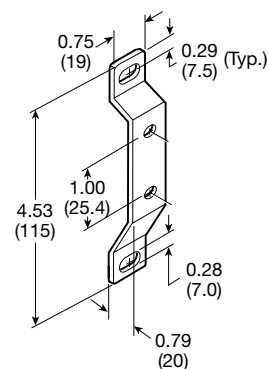
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3/8 NPT	P32KA93CP	3/8 BSPT	P32KA23CP
1/2 NPT	P32KA94CP	1/2 BSPT	P32KA24CP
3/4 NPT	P32KA96CP	3/4 BSPT	P32KA26CP
1/4 BSPP	P32KA12CP		
3/8 BSPP	P32KA13CP		
1/2 BSPP	P32KA14CP		
3/4 BSPP	P32KA16CP		














Angle Bracket

(Fits to regulator and filter/regulator bonnet)

P33KA00MR











L-Bracket
(Fits to filter and lubricator body)
P33KA00MLT-Bracket
(fits to body connector or port block)
P32KA00MB

Accessories		Air Preparation Products Global Air Preparation	
Series	Description	Part number	
P31 P32 P33	Panel Mount Nut (Plastic)	P31KA00MP P32KA00MP P33KA00MP	
P31 P32 P33	Panel Mount Nut (Aluminum)	P31KA00MM P32KA00MM P33KA00MM	
P31 P32 P33	5µ Element Kit	P31KA00ESE P32KA00ESE P33KA00ESE	
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	Drip Control Assembly Kit - Nylon Drip Control Assembly Kit - Polycarbonate	P32KA00PH P32KA00PG	
P31 P32 / P33	Fill Plug Kit	P31KA00PL P32KA00PL	
P31 P32 P33	Lubricator - Plastic Bowl w/ Bowl Guard No Drain	P31KB00BGN P32KB00BGN P33KA00BGN	



Accessories

Air Preparation Products Global Air Preparation

Series	Description	Part number	
P31 P32 P33	Lubricator - Metal Bowl w/o Sight Gauge No Drain	P31KB00BMN P32KB00BMN P33KA00BMN	
P32 P33	Lubricator - Metal Bowl w/ Sight Gauge No Drain	P32KB00BSN P33KA00BSN	
P31 P32 P33	Metal Bowl w/o Sight Gauge & Manual Drain	P31KB00BMM P32KB00BMM P33KA00BMM	
P31	Metal Bowl w/o Sight Gauge & Pulse Drain	P31KB00BMB	
P32 P33	Metal Bowl w/o Sight Gauge & Auto Drain	P32KB00BMA P33KA00BMA	
P32 P33	Metal Bowl w/ Sight Gauge & Manual Drain	P32KB00BSM P33KA00BSM	
P32 P33	Metal Bowl w/ Sight Gauge & Auto Drain	P32KB00BSA P33KA00BSA	
P31 P32 P33	Plastic Bowl w/ Bowl Guard & Manual Drain	P31KB00BGM P32KB00BGM P33KA00BGM	
P31	Plastic Bowl w/ Bowl Guard & Pulse Drain	P31KB00BGB	
P32 P33	Plastic Bowl w/ Bowl Guard & Auto Drain	P32KB00BGA P33KA00BGA	
P33	Regulator - Relieving Repair Kit	P33KA00RB	
P33	Regulator - Non-Relieving Repair Kit	P33KA00RC	

B

Global Air
Preparation

Introduction

Filters

Coalescers

Regulators

Filter /
Regulators

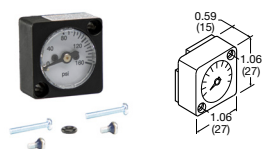
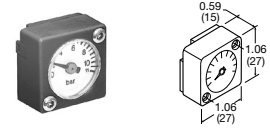
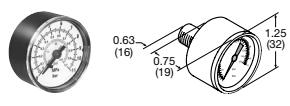
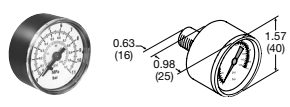
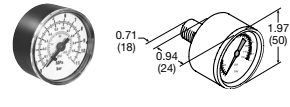


Lubricators

Combinations

Accessories
and Kits


Air Preparation Products Global Air Preparation

Accessories

Series	Description	Connection	Part number	
P33	Regulator - Main Adjusting Spring 0-30 psig (0-2 bar) Kit		P33KA00PR	
P33	Regulator - Main Adjusting Spring 0-60 psig (0-4.1 bar) Kit		P33KA00PS	
P33	Regulator - Main Adjusting Spring 0-125 psig (0-8.6 bar) Kit		P33KA00PT	
P33	Regulator - Main Adjusting Spring 0-250 psig (0-17 bar) Kit		P33KA00PV	
P31	Square Gauge	0-60 psig 0-160 psig 0-290 psig 0-4 bar 0-11 bar 0-20 bar 0-0.4 MPa 0-1.1 MPa 0-2.0 MPa	P31KA060XB P31KA160KB P31KA290XB P31KA04BXB P31KA11BXB P31KA20BXB P31KA04MXB P31KA11MXB P31KA20MXB	
P31	Square Flush Mounting Gauge Kit	0-60 psig 0-160 psig 0-4 bar 0-11 bar	K4511SCR060 K4511SCR160 K4511SCR04B K4511SCR11B	
P31 / P32	Square Mounting Gauge with Adapter Kit	0-60 psig 0-160 psig 0-4 bar 0-11 bar	P6G-PR90060 P6G-PR90160 P6G-PR10040 P6G-PR10110	
P31	1" Round Gauge	0-60 psig / 0-4.1 bar 1/8" 0-160 psig / 0-10 bar 1/8"	K4510N18060 K4510N18160	
P31	40mm Round Gauge	0-30 psig / 0-2 bar 1/8" 0-60 psig / 0-4.1 bar 1/8" 0-160 psig / 0-10 bar 1/8"	K4515N18030 K4515N18060 K4515N18160	
P32 / P33	50mm Round Gauge	0-30 psig / 0-2 bar 1/4" 0-60 psig / 0-4.1 bar 1/4" 0-160 psig / 0-10 bar 1/4" 0-300 psig / 0-20 bar 1/4"	K4520N14030 K4520N14060 K4520N14160 K4520N14300	
P31 P32 / P33	Body Connector O-ring (Replacement kit) (Pack of 10)		P31KA00CY P32KA00CY	
P31 P32	Tamperproof Lockable Kit		P31KB00AL P32KB00AL	



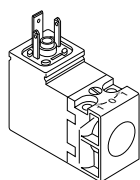
Solenoid Operators - CNOMO

Solenoid operators, coil combinations

	NC Normal Operator with 22 x 30 standard coil	NC Normal Operator with 30 x 30 standard coil
Working pressure	0 to 10 bar	0 to 10 bar
Ambient temperature	-10°C to 60°C *	-10°C to 60°C *
Power (DC)	4.8W	2.7W
Power (AC)	8.5VA	4.9VA
Voltage tolerance	+/- 10%	+/- 10%
Duty cycle	100%	100%
Insulation class	F	F
Electric connection	B Industrial	DIN 43650A
Protection	IP65	IP65
Approval		UL/CSA
Working media	All neutral media such as compressed air	

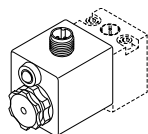
* Limited to 50°C if use with 100% duty cycle

P31 Series only - Solenoid coils 15mm NC



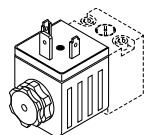
Voltage	Order code Override, blue, non-locking flush	Weight (kg)
24VDC	PS2982B49P	0.038
115VAC 50Hz / 120VAC 60Hz	PS2982B53P	0.038

Solenoid Coils with M12 Connection



Voltage	Part number	Weight (kg)
Direct current		
24VDC	P2FC6449	0.065

Solenoid Coils with DIN A or Industrial B Connection



Voltage	22mm x 30mm Part number B industrial standard	Weight (kg)	30mm x 30mm Part number DIN 43650A standard	Weight (kg)
Direct current				
24VDC	P2FCB449	0.093	P2FCA449	0.105
Alternative current				
110V 50Hz, 120V 60Hz	P2FCB453	0.093	P2FCA453	0.105

Most popular.

Transients

Interrupting the current through the solenoid coil produces momentary voltage peaks which, under unfavorable conditions, can amount to several hundred times the rated operating voltage. Normally, these transients do not cause problems, but to achieve the Maximum life of relays in the circuit (and particularly of transistors, thyristors and integrated circuits) it is desirable to provide protection by means of voltage-dependent resistors (varistors). All connectors/cable plugs EN175301-803 with LED's include this type of circuit protection.

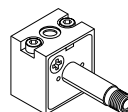
Materials

Pilot Valve

Body:	Polyamide
Armature tube:	Brass
Plunger & core:	Corrosion resistant Cr-Ni steel
Seals:	Fluorocarbon
Screws:	Stainless steel

Coil

Encapsulation material:	Thermoplastic as standard Duroplast for M12 connection
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Spare Base Solenoid Pilot Operator
CNOMO NC

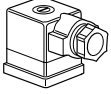
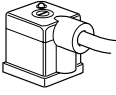
Description	Part number non-lock manual override	Weight (kg)
Standard Duty	P2FP23N4B	0.065
No Override	P2FP23N4A	0.065

Note: Solenoid pilot operators are fitted to the Global range. Order the above part numbers for spares. The operators are supplied with mounting screws and interface 'O' rings. Coils and connectors must be ordered separately.

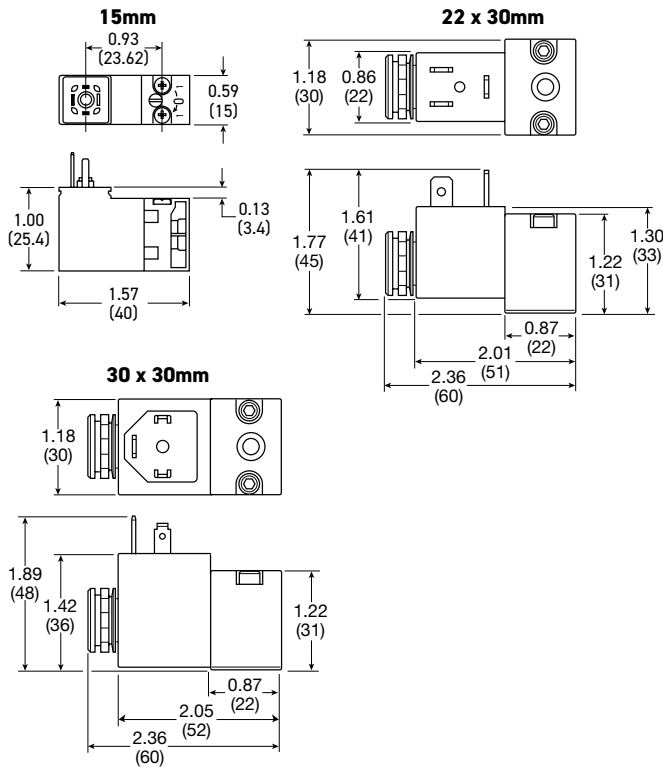


Accessories

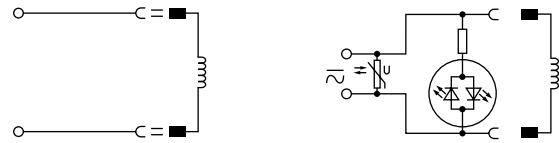
Solenoid Connectors / Cable Plugs EN175301-803

	Description	Part number 22mm Form B Industrial	Part number 30mm Form A DIN 43650A
	With standard screw	PS2429BP	PS2028BP
	With LED and protection 24VAC/DC	PS243079BP	PS203279BP
	With LED and protection 110VAC	PS243083BP	PS203283BP
	With cable	PS2429JBP	PS2028JCP
	24VAC/DC, 2m cable LED and protection IP65	PS2430J79BP	PS2032J79CP
	110VAC/DC, 2m cable LED and protection IP65	PS2430J83BP	PS2032J83CP

Solenoid coil dimensions inches (mm)



Electrical schematics



PS2028BP	PS243079BP	PS203279BP
PS2028JBP	PS2430J79BP	PS2032J79CP
PS2429BP	PS243083BP	PS203283BP
PS2429JBP	PS2430J83BP	PS2032J83CP
PS2932BP	PS294679BP	PS294683BP
PS2932JBP	PS2946J79BP	PS2946J83BP

Cable plug dimensions inches (mm)

22mm Form B Industrial Cable plugs	PS2429BP	30mm DIN 43650A Cable plugs	PS2028BP
<p>Diagram showing cable plug dimensions for various models. Dimensions are provided in inches (mm).</p> <ul style="list-style-type: none"> 22mm Form B Industrial: 1.57 (40), 1.18 (30), 0.22 (5.5), 1.22 (31), 0.82 (20.8) 30mm DIN 43650A: 1.22 (31), 1.65 (42), 1.87 (47.5), 1.18 (30), 1.26 (32), 0.20 (5), 1.22 (31), 0.20 (5) 			

Most popular.

