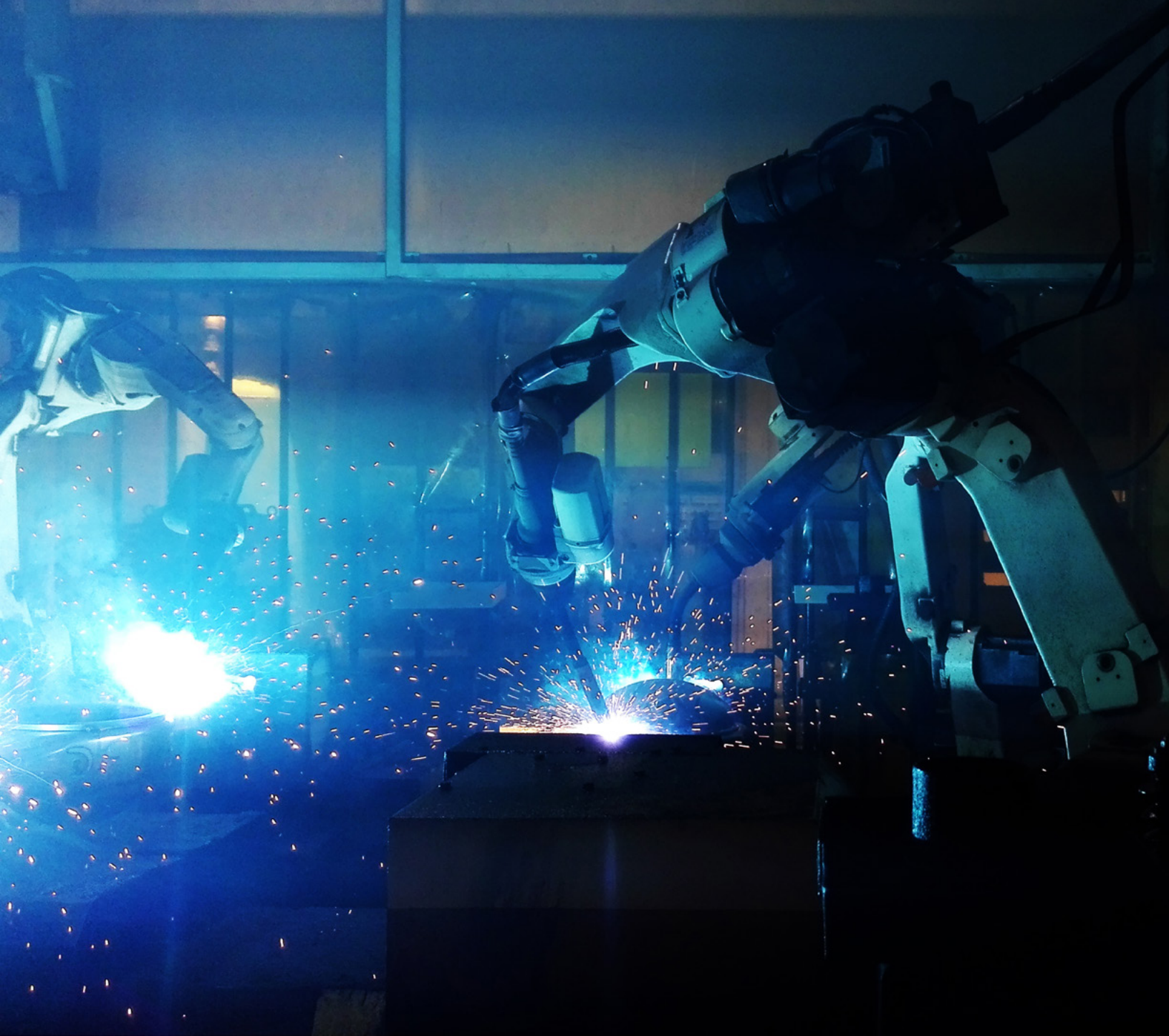




Automation CRN Catalog

Parker Canada Division



ENGINEERING **YOUR** SUCCESS.

Table of Contents

Global	1
Filters	2
Regulators	8
Filter Regulators	11
Lubricators	14
P3Y	17
Filters	18
Regulators	19
Lubricators	20
Industrial	22
Filters	23
Regulators	24
Viking Extreme	30
LV/EZ Valves	66

All CRN certifications can be downloaded from: parker.com/crn.

CANADIAN REGISTRATION NUMBER LOCATOR

CRN



In order to legally install and operate a variety of pressure retaining systems in Canada, a CRN may be required on parts being used. Parker Canada wants to ensure your purchase upholds a high standard of safety and quality.

Locate the accompanying CRN for purchased Parker parts. Look for products that have an existing CRN; parker.com/crn.



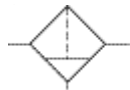
Approved Working Pressure

Type	Product Family Approved	CRN #'s	PSI	Bar
Filter Regulators	P31EB	0H19559	250	17.2
Filter Regulators	P32EB	0H19559	250	17.2
Filter Regulators	P33EA	0H19559	250	17.2
Filter Regulators	PB12	0H19106	300	20.7
Filter Regulators	PB558	0H19106	300	20.7
Filters	F30	0E19063	200	13.8
Filters	F35 / 35F	0E19063	250	17.2
Filters	F43 / 43F	0E19063	250	17.2
Filters	P31FB	0E19433	200	13.8
Filters	P32FB	0E19433	200	13.8
Filters	P33FA	0E19433	200	13.8
Filters	P3YF / M90	0E19132	160	11
Filters	P3YFA / F90	0E19132	160	11
Filters	PF10	0E19116	395	27.2
Filters	PF11	0E19116	300	20.7
Filters	PF501	0E19116	300	20.7
Filters	PF504	0E19116	300	20.7
Lubricators	P31LB	0H19559	250	17.2
Lubricators	P32LB	0H19559	250	17.2
Lubricators	P33LA	0H19559	250	17.2
Lubricators	PL10	0H19106	140	9.7
Pressure Regulators	09R	0C17071	300	20.7
Pressure Regulators	54R	0C17071	300	20.7
Pressure Regulators	PR11	0C18891	300	20.7
Pressure Regulators	PR354	0C18891	300	20.7
Pressure Regulators	R119	0C18449	125	8.6
Pressure Regulators	R21 / 52R	0C19078	200	13.8
Pressure Regulators	R30	0C19078	200	13.8
Pressure Regulators	R31	0C19078	200	13.8
Pressure Regulators	R40 and R41	0C17071	300	20.7
Pressure Regulators	P31RB	0C19560	145	10
Pressure Regulators	P32RB	0C19560	145	10
Pressure Regulators	P33RA	0C19560	145	10
Pressure Regulators	P3YR	0C20362	160	11
Valves	EZ	0C19618	290	20
Valves	LV	0C19618	290	20
Valves	P2LAX	0C19076	232	16
Valves	P2LBX	0C19076	232	16
Valves	P2LCX	0C19076	174	12
Valves	P2LDX	0C19076	174	12
Valves	P3YV / V90	0C20362	254	17.5
Valves	P3YT / E90	0C20362	181	12.5

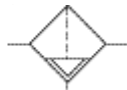
P31 Particulate Filter – Mini

CRN: 0E19433

- 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



Manual drain



Pulse drain



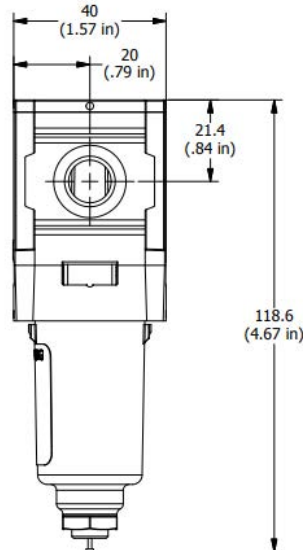
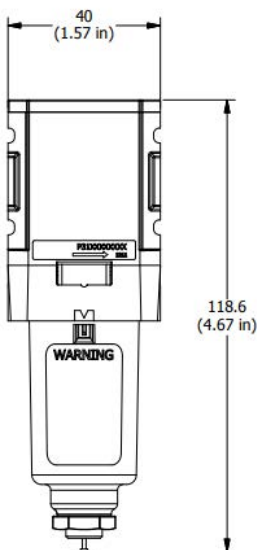
Operating information

CRN Registered Max Working Pressure:	200 psi (13.8 bar)
Supply pressure (max): Metal bowl	250 psig (17 bar)
Operating temperature: 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.

Port size	Description †	Part number
1/4"	5 micron, metal bowl no sight glass, tire drain	P31FB92EMTN



P31 Coalescing and Adsorber Filters – Mini

CRN: 0E19433

- 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
- Differential Pressure Indicator (DPI) standard on coalescing filters
- 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.

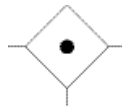


Operating information

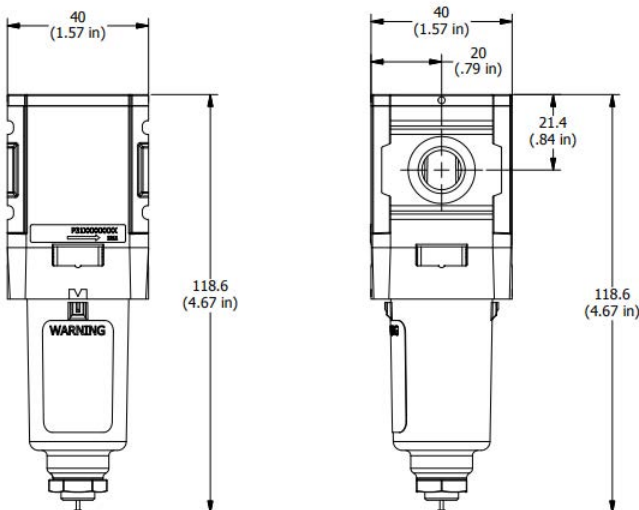
CRN Registered Max Working Pressure:	200 psi (13.8 bar)
Supply pressure (max):	
Metal bowl w/o DPI	250 psig (17 bar)
Operating temperature:	
Metal bowl	14°F to 150°F (-10°C to 65.5°C)
Standard filtration:	1.0 and 0.01 micron
Adsorber	Max. oil carryover (ppm w/w) 0.003 @ 70°F (21°C)
Flow capacity*:	
1.0 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.



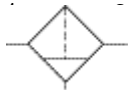
Port size	Description †	Element	Part number
1/4"	Metal bowl no sight glass, tire drain	5 micron	P31FB92DMTN



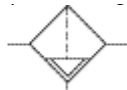
P32 Particulate Filter – Compact

CRN: 0E19433

- 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"	5 micron, metal bowl no sight glass, draincock	P32FB92EMDN
3/8"	5 micron, metal bowl no sight glass, draincock	P32FB93EMDN
1/2"	5 micron, metal bowl no sight glass, draincock	P32FB94EMDN

Operating information

CRN Registered Max Working Pressure:	200 psi (13.8 bar)
Supply pressure (max): Metal bowl	250 psig (17 bar)
Operating temperature: 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)

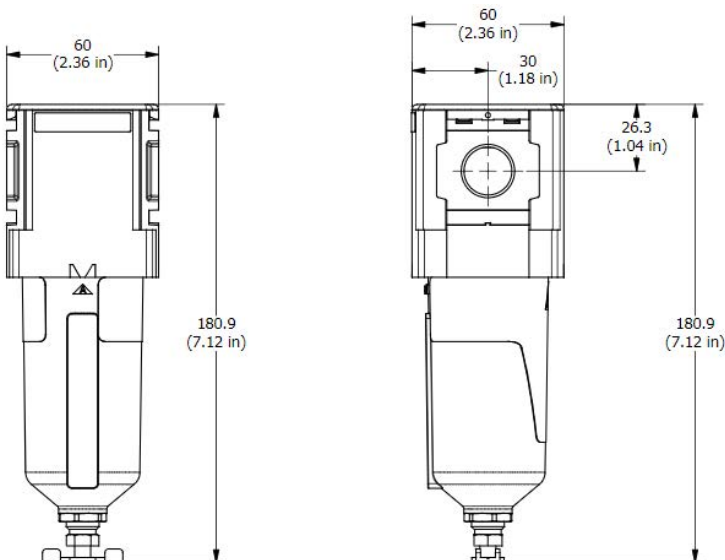
* Inlet pressure 91.3 psig (6.3 bar). Pressure drop 4.9 psig (0.34 bar).

† 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)

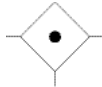


P32 Coalescing and Adsorber Filters – Compact

CRN: 0E19433

- 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"	Metal bowl no sight glass, draincock	5 micron	P32FB92DMDN
3/8"	Metal bowl no sight glass, draincock	5 micron	P32FB93DMDN
1/2"	Metal bowl no sight glass, draincock	5 micron	P32FB94DMDN

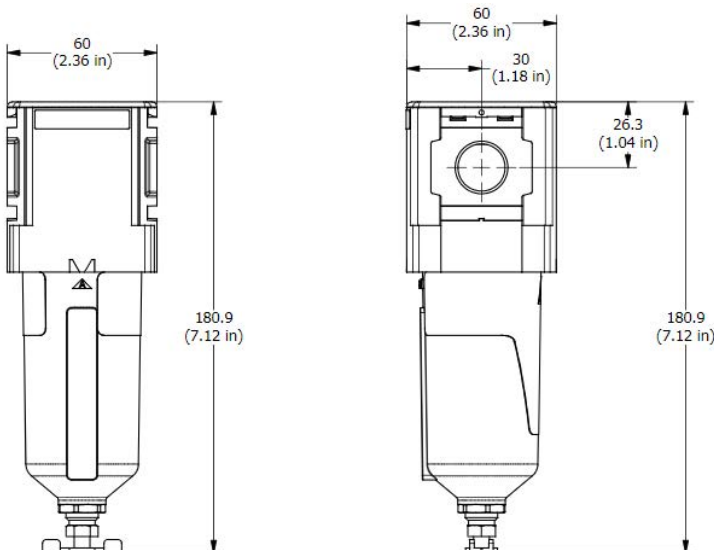


Operating information

CRN Registered Max Working Pressure:	200 psi (13.8 bar)
Supply pressure (max): Metal bowl w/o DPI	250 psig (17 bar)
Operating temperature: 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.

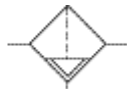


P33 Particulate Filter – Standard

- 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



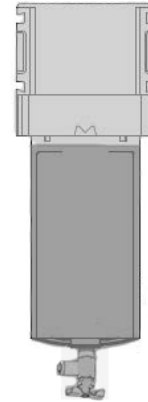
Manual drain



Auto drain

Port size	Description †	Part number
1/2"	5 micron, metal bowl no sight glass, draincock	P33FA94EMDN
3/4"	5 micron, metal bowl no sight glass, draincock	P33FA96EMDN

CRN: 0E19433



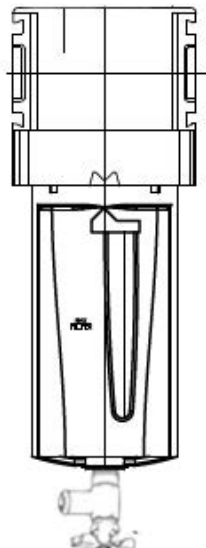
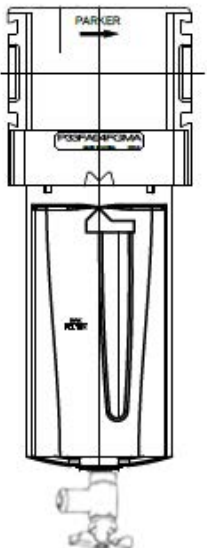
Operating information

CRN Registered Max Working Pressure:	200 psi (13.8 bar)
Supply pressure (max):	
Metal bowl	250 psig (17 bar)
Operating temperature:	
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)



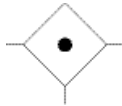
P33 Coalescing and Adsorber Filters – Standard

CRN: 0E19433

- 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"	Metal bowl no sight glass, draincock	5 micron	P33FA94DMDN
3/4"	Metal bowl no sight glass, draincock	5 micron	P33FA96DMDN

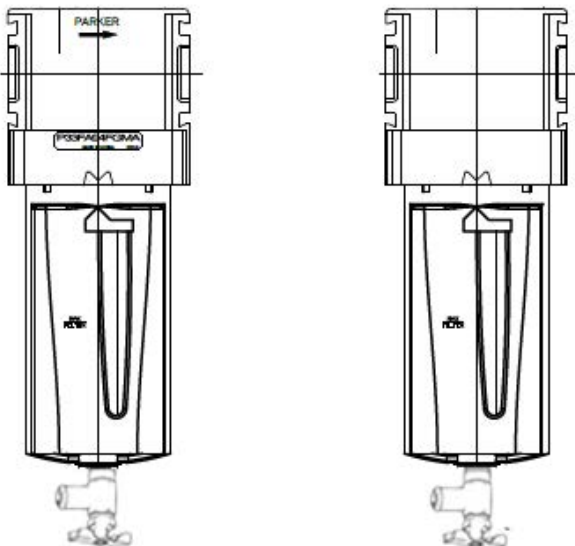


Operating information

CRN Registered Max Working Pressure:	200 psi (13.8 bar)
Supply pressure (max): Metal bowl w/o DPI	250 psig (17 bar)
Operating temperature: 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.

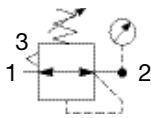
† Useful retention refers to volume below the quiet zone baffle.



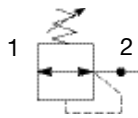
P31 Regulators – Mini

- 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

CRN: 0C19560



Self relieving regulator with gauge



Non-relieving regulator

Port size	Description (relieving)	Part number
1/4"	0-116psi, metal bonnet, relieving	P31RB92BMNM

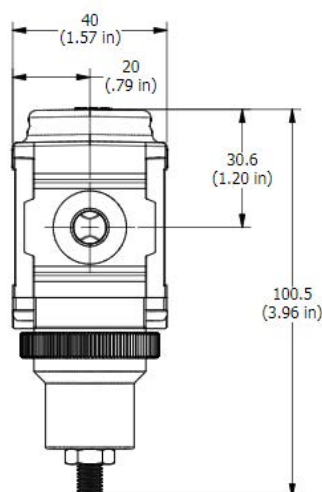
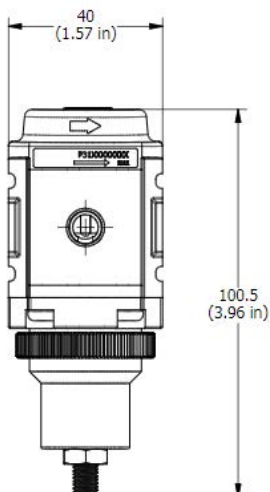
Operating information

CRN Registered Max Working Pressure:	145 psi (10 bar)
Flow capacity*:	1/4 68 scfm (32 dm³/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)
Gauge port (2 each)**	1/8 BSPP, BSPT, NPT
Weight:	0.37 lb (0.17 kg)

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

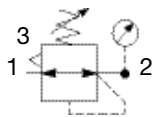
** Non-gauge option only.

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

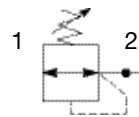


P32 Regulators – Compact

- 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
- Available T-handle



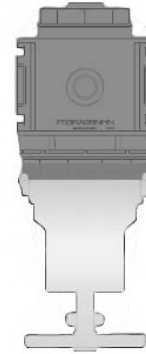
Self relieving regulator with gauge



Non-relieving regulator

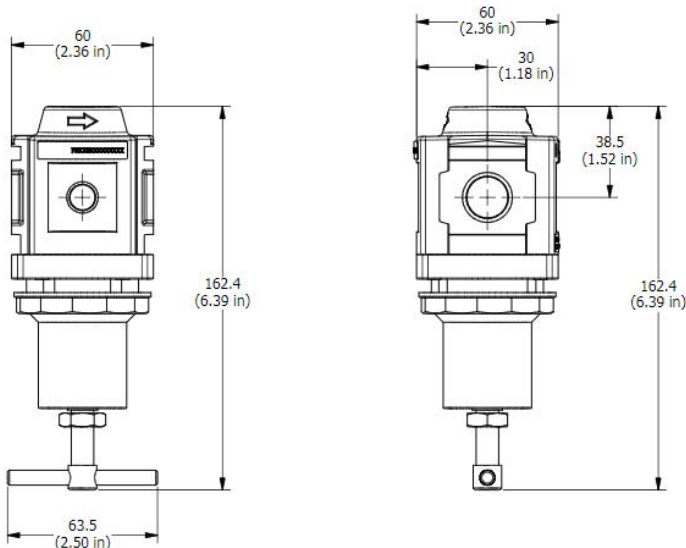
Port size	Description (relieving)	Part number
1/4"	0-125psi, Metal Bonnet, T-handle, relieving	P32RB92BMNM
3/8"	0-125psi, Metal Bonnet, T-handle, relieving	P32RB93BNNM
1/2"	0-125psi, Metal Bonnet, T-handle, relieving	P32RB94BNNM

CRN: 0C19560



Operating information

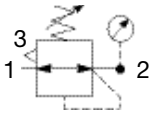
CRN Registered Max Working Pressure:	145 psi (10 bar)
Flow capacity*:	
1/4	148 scfm (70 dm³/s, ANR)
3/8, 1/2	165 scfm (78 dm³/s, ANR)
Operating temperature:	-13°F to 150°F (-25°C to 65.5°C)
Supply pressure (max):	300 psig (20 bar)
Adjusting range pressure:	30 psig (0-2 bar) 60 psig (0-4 bar) 125 psig (0-8 bar) 250 psig (0-17 bar)
Gauge port (2 each)	1/4 NPT, BSPP, BSPT
Weight:	0.90 lb (0.41 kg)
* Inlet pressure 145 psig (10 bar). Secondary pressure 91.3 psig (6.3 bar) and 14.5 psig (1 bar) pressure drop.	



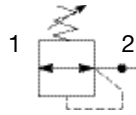
P33 Regulators – Standard

CRN: 0C19560

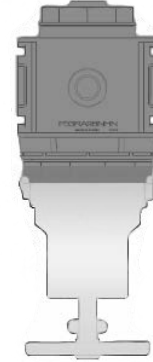
- Integral 1/2" or 3/4" ports (NPT, BSPP & BSPT)
- Robust but lightweight aluminum construction
- Secondary pressure ranges
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Relieving & non-relieving types
- Non-rising knob



Self relieving regulator with gauge



Non-relieving regulator

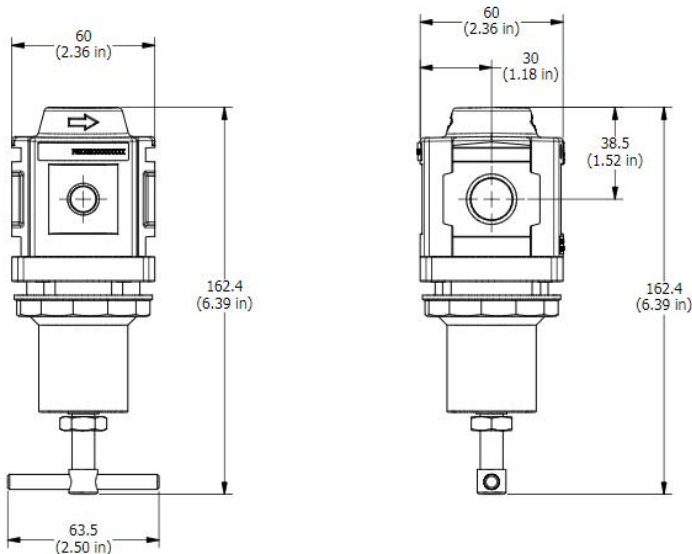


Port size	Description (relieving)	Part number
1/2"	5-125psi, metal bonnet, T-handle, relieving	P33RA94BMNM
3/4"	5-125psi, metal bonnet, T-handle, relieving	P33RA96BMNM

Operating information

CRN Registered Max Working Pressure:	145 psi (10 bar)
Flow capacity*:	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)

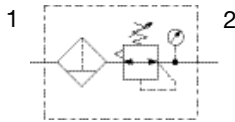
* Inlet pressure 145 psig (10 bar). Secondary pressure 91.3 psig (6.3 bar) and 14.5 psig (1 bar) pressure drop.



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

CRN: 0H19559



Port size	Description (relieving)	Bowl / drain type †	Part number
1/4"	0-116psi, 5 micron, metal bonnet, metal bowl no sight glass, tire drain		P31EB92EMTBMNM

Operating information

CRN Registered Max Working Pressure:	250 psi (17.2 bar)
Flow capacity*:	1/4
Operating temperature†:	73 scfm (35 dm³/s, ANR)
Metal bowl	14°F to 150°F (-10°C to 65.5°C)
Supply pressure (max): Metal bowl	250 psig (17 bar) 5 micron
Standard filtration	
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)
Gauge port (2 each)**:	1/8 NPT, BSPP, BSPT
Weight:	0.42 lb (0.19 kg)

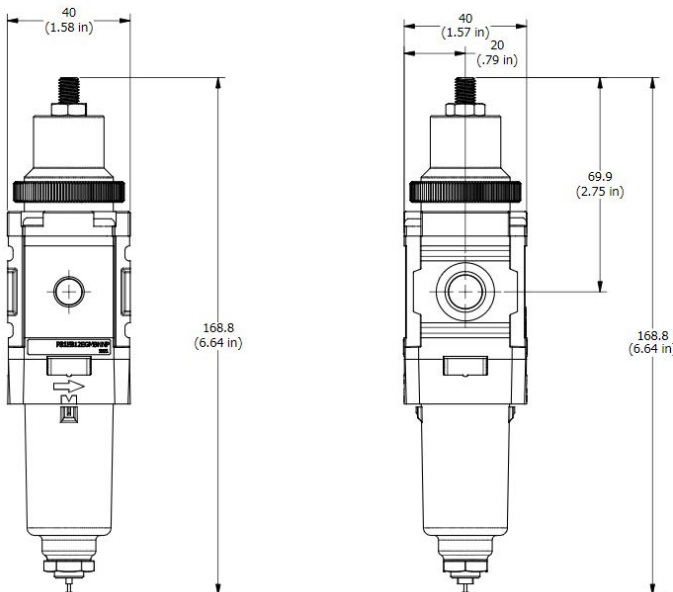
* Inlet pressure 145 psig (10 bar). Secondary pressure 91.3 psig (6.3 bar) and 14.5 psig (1 bar) pressure drop.

** Non-gauge option only.

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

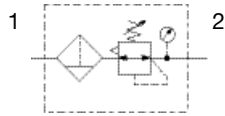
† Useful retention refers to volume below the quiet zone baffle.

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

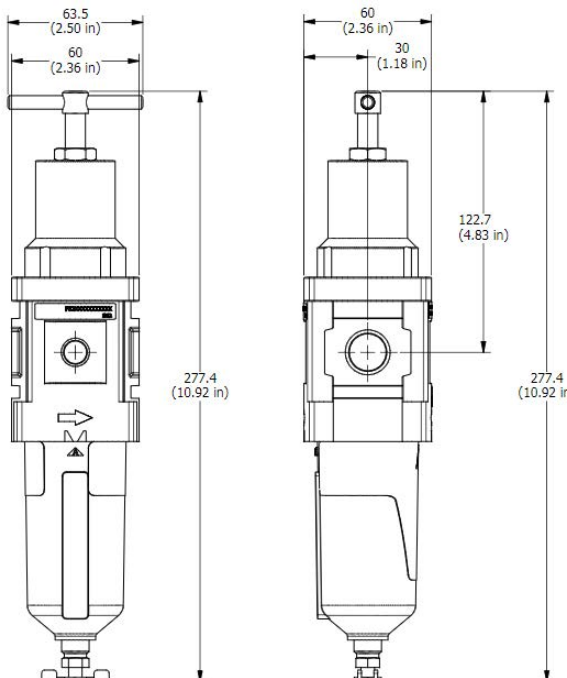


P32 Filter / Regulators – Compact

- 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)	Part number
1/4"	0-125psi, 5 micron metal bonnet, T handle, metal bowl no sight glass, draincock	P32EB92EMDBMNM
3/8"	0-125psi, 5 micron metal bonnet, T handle, metal bowl no sight glass, draincock	P32EB93EMDBMNM
1/2"	0-125psi, 5 micron metal bonnet, T handle, metal bowl no sight glass, draincock	P32EB94EMDBMNM



CRN: 0H19559



Operating information

CRN Registered Max Working Pressure:	250 psi (17.2 bar)
Flow capacity*:	1/4 148 scfm (70 dm3/s, ANR) 3/8 158 scfm (75 dm3/s, ANR) 1/2 164 scfm (77 dm3/s, ANR)
Operating temperature:	Metal bowl -13°F to 150°F (-25°C to 65.5°C)
Supply pressure (max):	Metal bowl 250 psig (17 bar)
Standard filtration:	5 micron
Useful retention†:	1.7 US oz. (51 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:	1.17 lb (0.53 kg)

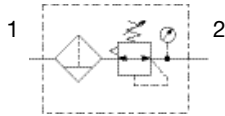
* Inlet pressure 145 psig (10 bar). Secondary pressure 91.3 psig (6.3 bar) and 14.5 psig (1 bar) pressure drop.

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

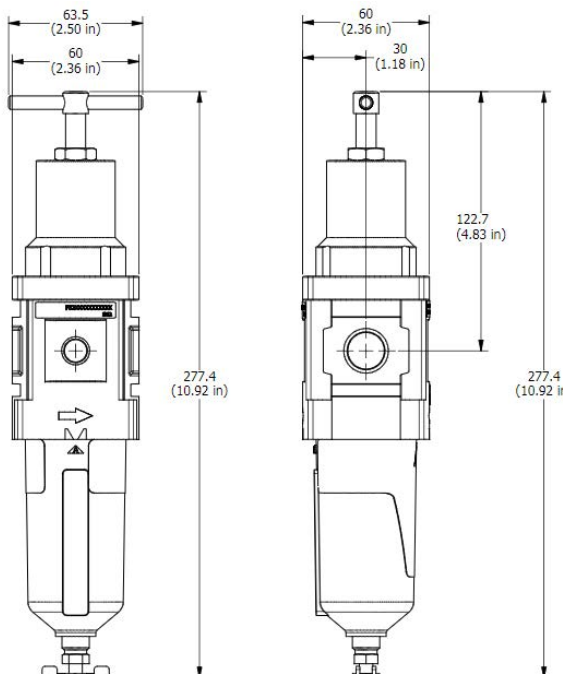
Air quality: Within ISO 8573-1: 1991 Class 3 (Particulates)
Within ISO 8573-1: 2001 Class 6 (Particulates)

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"	5-125psi, 5 micron, metal bonnet, no sigh glass, draincock	Metal	P33EA94EMDBMNM
3/4"	5-125psi, 5 micron, metal bonnet, no sigh glass, draincock	Metal	P33EA96EMDBMNM



CRN: 0H19559



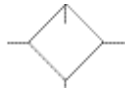
Operating information

CRN Registered Max Working Pressure:	250 psi (17.2 bar)
Flow capacity*: 1/2	200 scfm (94 dm³/s, ANR)
3/4	235 scfm (109 dm³/s, ANR)
Operating temperature: Metal bowl	-13°F to 150°F (-25°C to 65.5°C)
Supply pressure (max): Metal bowl	250 psig (17 bar) 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)

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



Lubricator with drain

CRN: 0H19559



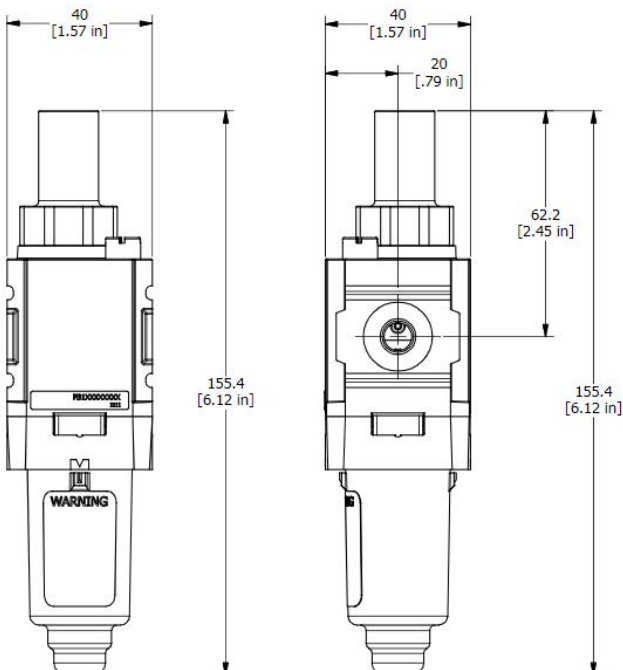
Port size	Description †	Part number
1/4"	Metal bowl no drain, metal fill top	P31LB92MMNN

Operating information

CRN Registered Max Working Pressure:	250 psi (17.2 bar)
Flow capacity*:	52 scfm (25 dm³/s, ANR)
Operating temperature:	14°F to 150°F (-10°C to 65.5°C)
Metal bowl	
Supply pressure (max):	250 psig (17 bar)
Metal bowl	
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).	

Suggested LubricantF442 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.)



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

CRN: 0H19559



Port size	Description †	Part number
1/4"	Metal bowl no drain, metal fill top	P32LB92CMNN
3/8"	Metal bowl no drain, metal fill top	P32LB93CMNN
1/2"	Metal bowl no drain, metal fill top	P32LB94CMNN

Operating information

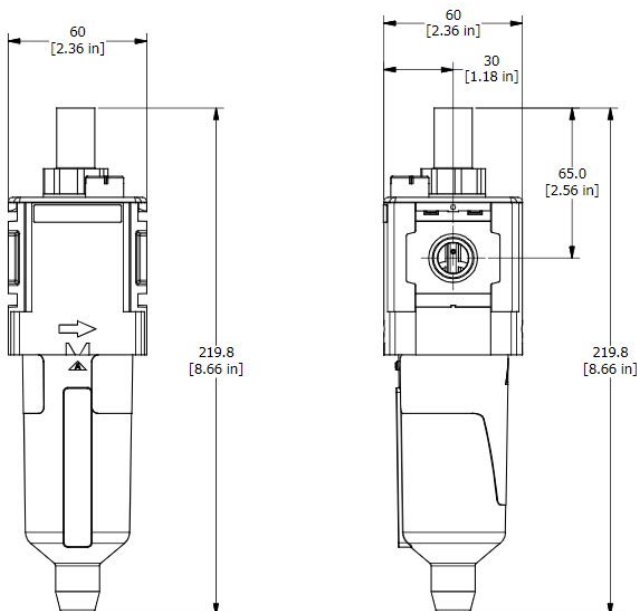
CRN Registered Max Working Pressure:	250 psi (17.2 bar)
Flow capacity*:	
1/4	38 scfm (17 dm³/s, ANR)
3/8	70 scfm (33 dm³/s, ANR)
1/2	90 scfm (42 dm³/s, ANR)
Operating temperature:	
Metal bowl	14°F to 150°F (-10°C to 65.5°C)
Supply pressure (max):	
Metal bowl	250 psig (17 bar)
Bowl capacity:	4.09 US oz. (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).

Suggested LubricantF442 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.)



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



Lubricator
with drain

CRN: 0H19559



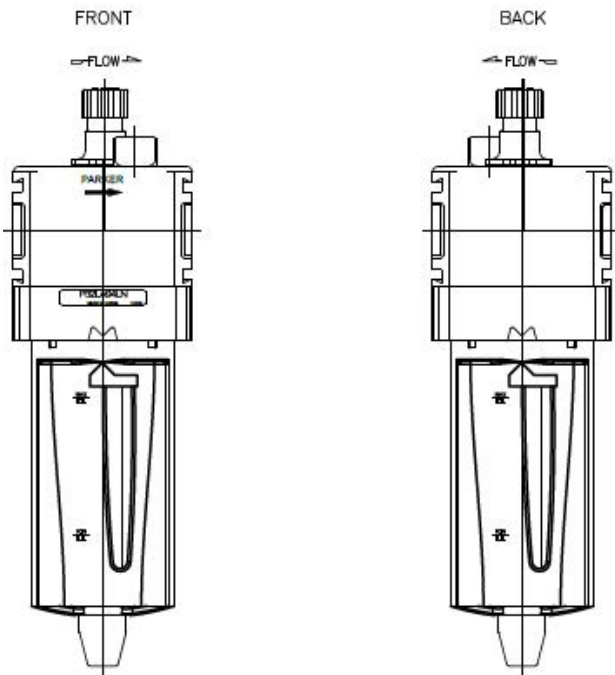
Port size	Description †	Part number
1/2"	Metal bowl no drain, metal fill top	P33LA94CMNN
3/4"	Metal bowl no drain, metal fill top	P33LA96CMNN

Operating information

CRN Registered Max Working Pressure:	250 psi (17.2 bar)
Flow capacity*:	
1/2	110 scfm (52 dm³/s, ANR)
3/4	150 scfm (71 dm³/s, ANR)
Operating temperature:	
Metal bowl	14°F to 150°F (-10°C to 65.5°C)
Supply pressure (max):	
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).	

Suggested LubricantF442 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.)



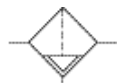
P3Y Particulate Filter

- Integral 3/4" or 1" ports (NPT & BSPP)
- High efficiency particulate element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- Low temperature -40°C (-40°F) with combined manual / semi-auto drain as standard

CRN: 0E19132



Manual drain



Auto drain

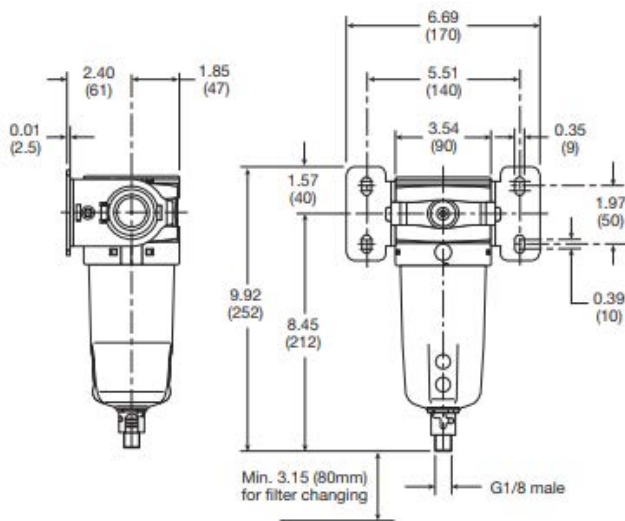
Port size	Description	Part number
3/4"	Combined manual /semi-auto drain	P3YFA96ESCN
3/4"	Auto drain	P3YFA96ESAN
1"	Combined manual /semi auto drain	P3YFA98ESCN
1"	Auto drain	P3YFA98ESAN

Operating information

CRN Registered Max Working Pressure:	160 psi (11 bar)
Supply pressure (max)*:	254 psig (17.5 bar)
Operating temperature:	
Auto drain	14°F to 140°F (-10°C to 60°C)
Combined drain	-40°F to 140°F (-40°C to 60°C)
Standard filtration	5 micron
Manual / semi-auto drain:	Closed at 11.6 psig (0.8 bar) G1/8 thread male
Auto drain bowl pressure:	Closed at 11.6 psig (0.8 bar)
Bowl capacity:	4.4 US oz. (130 cm³)
Standard filtration:	5 micron
Flow capacity†:	3/4" 170 scfm (80.2 dm³/s, ANR) 1" 170 scfm (80.2 dm³/s, ANR)
Fluid:	Compressed air
Weight:	1.98 lb (0.9 kg)

† Inlet pressure 91.4 psig (6.3 bar) inlet pressure and 7.3 psig (0.5 bar) pressure drop.

* Air supply must be dry enough to avoid ice formation at temperatures below 35.6°F (2°C).



Inches (mm)

P3Y Coalescing Filter

- Extended high efficiency filter element provides greater filtration surface area.
- Integral 3/4" or 1" ports (BSPP & NPT)
- Removes liquid aerosols and sub micron particles
- Oil free air for critical applications, such as air gauging, pneumatic instrumentation and control
- Adsorber activated carbon element removes oil vapors and most hydrocarbons
- Robust but lightweight aluminum construction

Notes: To optimize the life of the coalescing element, it is advisable to install a P3YFA pre-filter with a 5 micron element upstream of the coalescing filter.

To optimize the life of the adsorber element, it is advisable to install a P3Y coalescing 0.01 micron filter upstream of the adsorber filter.

CRN: 0E19132



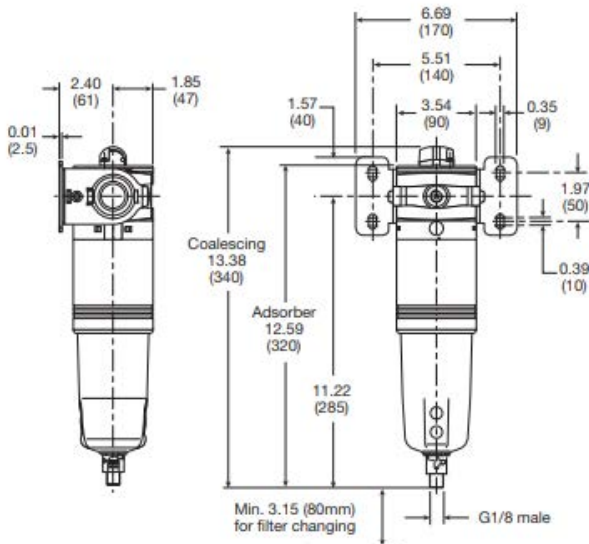
Port size	Description	Part number
3/4"	Coalescing filter 0.01 micron, combined manual / semi-auto drain	P3YFA96DSCN
3/4"	Coalescing filter 0.01 micron, auto drain	P3YFA96DSAN
1"	Coalescing filter 0.01 micron, combined manual / semi-auto drain	P3YFA98DSCN
1"	Coalescing filter 0.01 micron, auto drain	P3YFA98DSAN

Operating information

CRN Registered Max Working Pressure:	160 psi (11 bar)
Supply pressure (max)*:	254 psig (17.5 bar)
Operating temperature:	14°F to 140°F (-10°C to 60°C)
Manual / auto drain:	Closed at 11.6 psig (0.8 bar) G1/8 thread male
Media specifications:	
Adsorber, max oil carryover	0.008 mg/m ³ (PPM w/w)
Bowl capacity:	4.4 US oz. (130 cm ³)
Standard filtration:	0.01 micron
Flow capacity†:	3/4" 275 scfm (176.9 dm ³ /s, ANR) 1" 307 scfm (144.8 dm ³ /s, ANR)
Fluid:	Compressed air
Weight:	3.5 lb (1.6 kg)

† Inlet pressure 91.4 psig (6.3 bar) inlet pressure and 7.3 psig (0.5 bar) pressure.

* Air supply must be dry enough to avoid ice formation at temperatures below 35.6°F (2°C).

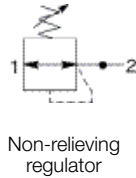
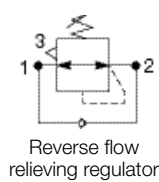
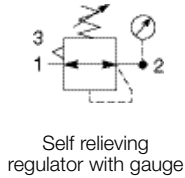


Inches (mm)

P3Y Regulators

CRN: 0C20362

- Integral 3/4" or 1" ports (BSPP and NPT)
- Robust but lightweight aluminium construction
- Secondary pressure ranges 12 and 16 bar
- Rolling diaphragm for extended life
- Secondary aspiration plus rolling diaphragm provides quick response and accurate pressure regulation
- Optional tamperproof regulator padlock
- Reverse flow / relieving option
- Low temperature -40°C (-40°F)



Operating information

Supply pressure (max)*:	160 psig (11 bar)
Operating temperature:	-40°F to 140°F (-40°C to 60°C)
Flow capacity†:	3/4" 380 scfm (179.3 dm³/s, ANR)
	1" 550 scfm (259.6 dm³/s, ANR)
Fluid:	Compressed air
Gauge port (x2):	1/4"
Weight:	2.4 lb (1.08 kg)

† Inlet pressure 145 psig (10 bar) inlet pressure, 91.4 psig (6.3 bar) set pressure and 7.3 psig (0.5 bar) pressure drop.

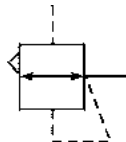
* Air supply must be dry enough to avoid ice formation at temperatures below 35.6°F (2°C).

Port size	Description	Part number
3/4"	174 psig relieving	P3YRA96BNEN
1"	174 psig relieving	P3YRA98BNFN

P3Y Pilot Operated Regulator

CRN: 0C20362

- Integral 3/4" or 1" ports (BSPP & NPT)
- Pilot controlled regulators can be mounted "out of reach" with pilot regulator installed in a convenient location
- Constant pilot bleed control for accurate pressure control
- Balanced poppet provides quick response
- High flow

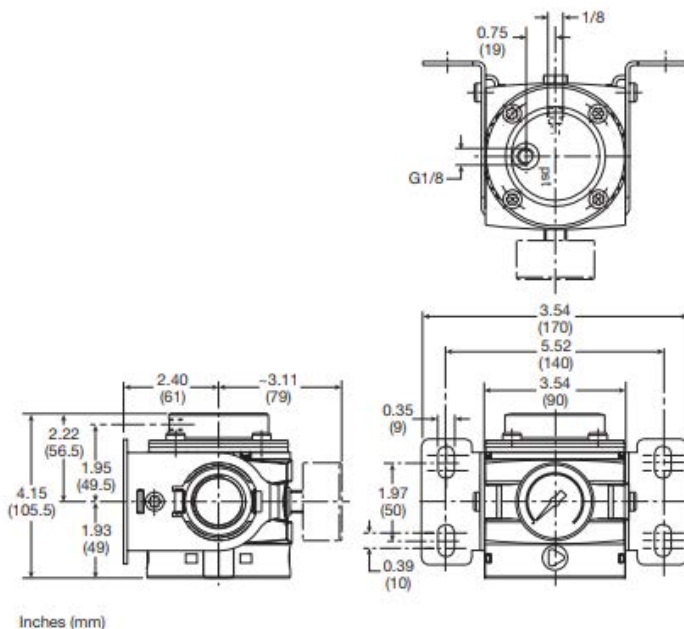


Port size	Description	Part number
3/4"	Pilot operated regulator	P3YRA96BPPN
1"	Pilot operated regulator	P3YRA98BPPN

Operating information

Supply pressure (max):	254 psig (17.5 bar)
Operating temperature:	-40°F to 140°F (-40°C to 60°C)
Flow capacity†:	3/4" 550 scfm (259.6 dm³/s, ANR)
	1" 550 scfm (259.6 dm³/s, ANR)
Fluid:	Compressed air
Weight:	2.6 lb (1.2 kg)

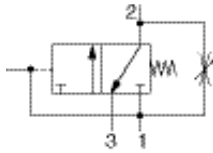
† Inlet pressure 145 psig (10 bar) inlet pressure, 91.4 psig (6.3 bar) set pressure and 7.3 psig (0.5 bar) pressure drop.



P3Y Combined Soft Start / Dump Valve

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

CRN: 0C20362



Port size	Description	Part number
3/4"	Air pilot operated	P3YTA96PPN
3/4"	24VDC 30mm coil	P3YTA96SCNA2CN
1"	Air pilot operated	P3YTA98PPN
1"	24VDC 30mm coil	P3YTA98SCNA2CN

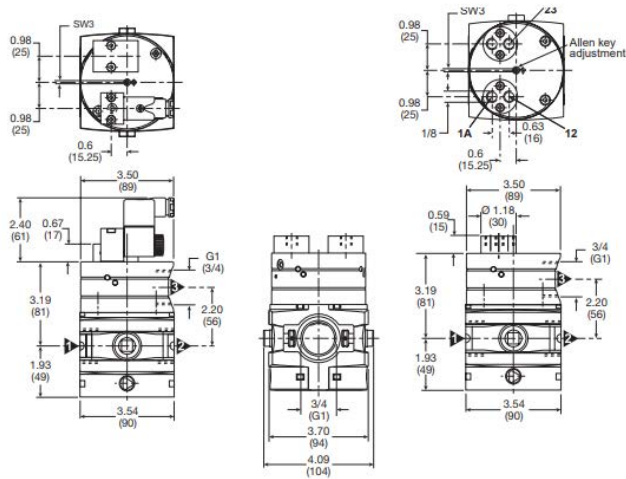
Operating information

Operating pressure (max):	
30mm coil	232 psig (16 bar)
Operating pressure (min):	2.9 psig (0.2 bar)
Operating temperature*:	
Solenoid operated	14°F to 140°F (-10°C to 60°C)
Air pilot operated	14°F to 140°F (-10°C to 60°C)
Air pilot port:	1/8"
Exhaust port:	1"
Gauge port:	1/4"
Flow capacity†:	
3/4"	371 scfm (175.1 dm³/s, ANR)
1"	424 scfm (200.1 dm³/s, ANR)
Fluid:	Compressed air
Weight:	
Air pilot	3.1 lb (1.4 kg)
30mm coil	3.5 lb (1.6 kg)

† Inlet pressure 91.4 psig (6.3 bar) inlet pressure and 7.3 psig (0.5 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.

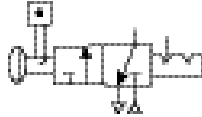


Inches (mm)

P3Y Modular Ball Valve

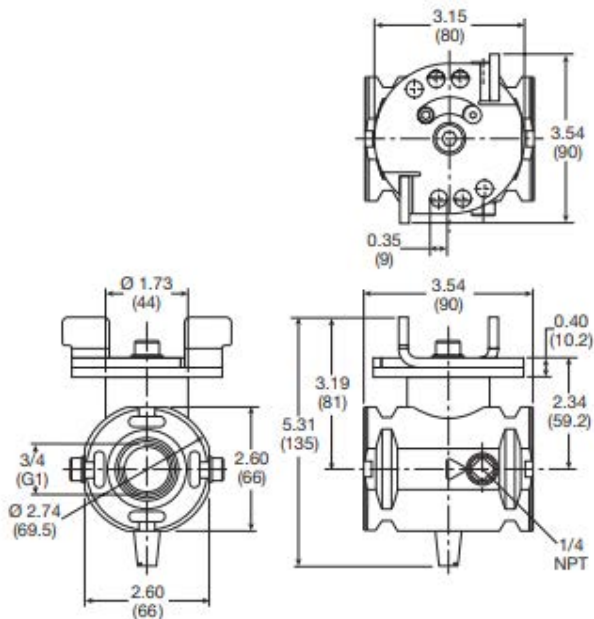
- Positive bubble tight shut-off
- 90° turn handle to prevent unauthorized adjustment
- Pad lockable (up to 6 times)
- When the inlet pressure is turned off the downstream vents through the exhaust port

CRN:0C20362



Operating information

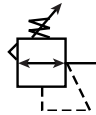
Operating pressure (max):	254 psig (17.5 bar)
Operating pressure (min):	29 psig (2 bar)
Operating temperature:	14°F to 140°F (-10°C to 60°C)
Flow capacity ¹ :	3/4" 705.6 scfm (333 dm ³ /s, ANR)
	1" 705.6 scfm (333 dm ³ /s, ANR)
Weight:	3/4" 2.4 lb (1.1 kg)
	1" 2.4 lb (1.1 kg)



Inches (mm)

R119 Regulators – Standard

- High flow performance featuring rugged design for the most demanding applications
- Ideal for those installations calling for constant pressure with wide variation in flow
- Diaphragm operated design with balanced poppet design for quick and accurate regulation
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Heavy duty tee handle adjustment
- Panel mount version available
- 1/4", 3/8", 1/2", 3/4", 1", 1-1/2" ports (NPT, BSPP)



Port size	Description (0-125 psig reduced pressure)	Part number
1/4"	Without gauge, relieving, NPT	R119-02CX7
3/8"	Without gauge, relieving, NPT	R119-03CX7
1/2"	Without gauge, relieving, NPT	R119-04CX7
3/4"	Without gauge, relieving, NPT	R119-06CX7
1"	Without gauge, relieving, NPT	R119-08CX7
1-1/2"	Without gauge, relieving, NPT	R119-12CX7

CRN: 0C18449

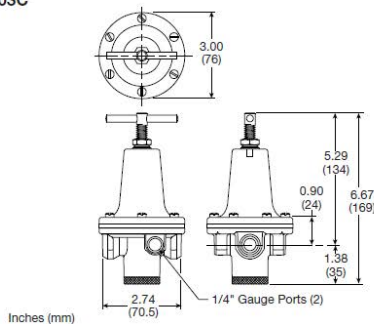


Operating information

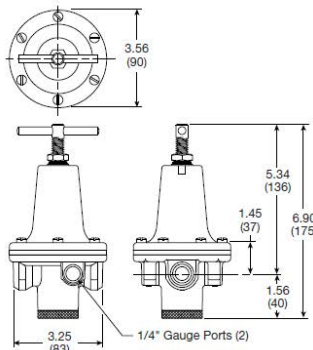
Supply pressure (max):	300 psig (0 to 20.7 bar)
Reduced pressure range:	2 to 125 psig (0.15 to 8.5 bar)
CRN Registered	
Maximum working pressure:	125 psig (8.6 bar)
Operating temperature:	40°F to 125°F (4.4°C to 52°C)
Flow capacity†:	
High flow	
1/4"	100 scfm (47.2 dm³/s, ANR)
3/8"	110 scfm (51.9 dm³/s, ANR)
1/2"	150 scfm (70.8 dm³/s, ANR)
3/4"	300 scfm (141.6 dm³/s, ANR)
1"	400 scfm (188.8 dm³/s, ANR)
1-1/2"	500 scfm (236 dm³/s, ANR)
Gauge ports (2):	1/4 inch
Weight:	
1/4"	1.8 lb (0.82 kg)
3/8"	1.8 lb (0.82 kg)
1/2"	3.2 lb (1.45 kg)
3/4"	6.2 lb (2.81 kg)
1"	6.2 lb (2.81 kg)
1-1/2"	7.2 lb (3.27 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet, 75 psig no flow secondary
 Ⓢ setting and 20 psig pressure drop.

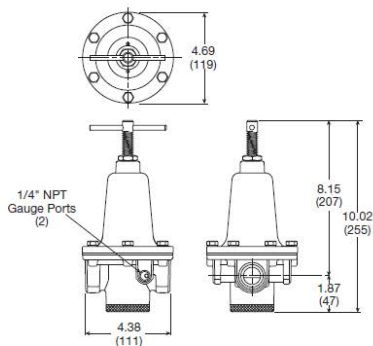
R119-02C,
R119-03C



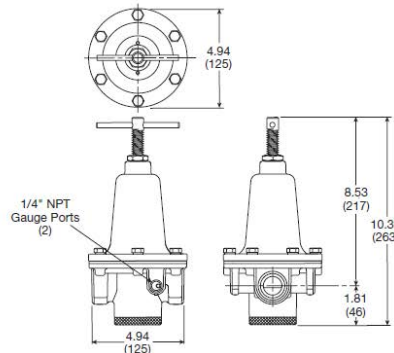
R119-04C



R119-06C,
R119-08C

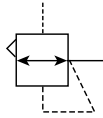


R119-12C



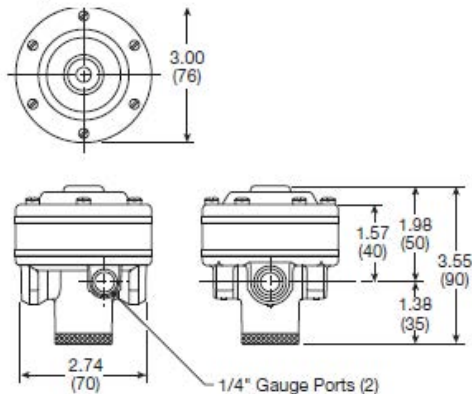
R119 – Pilot Operated Regulators

- Adapted for control by a remote or distant small pilot regulator. Ideal for maximum capacity requirements in applications where units are not readily accessible
- High flow performance featuring rugged design for the most demanding applications
- Ideal for those installations calling for constant pressure with wide variation in flow
- Diaphragm operated design with balanced poppet and constant bleed pilot for quick and accurate regulation.
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- 1/4", 3/8", 1/2" ports (NPT, BSPP)

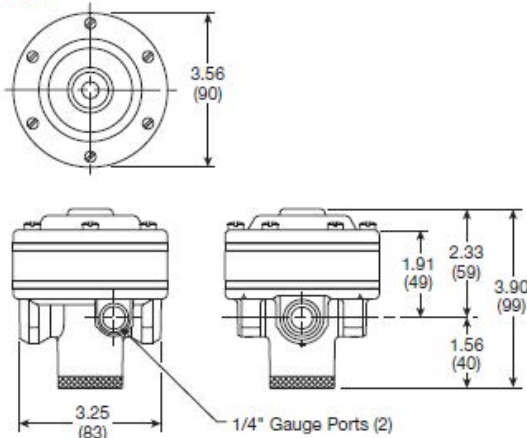


Port size	Description (0-125 psig reduced pressure)	Part number
1/4"	Without gauge, relieving, NPT	R119-02JX7
3/8"	Without gauge, relieving, NPT	R119-03JX7
1/2"	Without gauge, relieving, NPT	R119-04JX7

R119-02J, R119-03J



R119-04J



Inches (mm)

CRN: 0C18449



Operating information

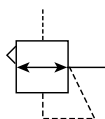
Supply pressure (max):	300 psig (0 to 20.7 bar)
Air consumption:	Constant bleed from air pilot chamber: approx. 0.17 scfm (10 scfh)
Operating temperature:	40°F to 125°F (4.4°C to 52°C)
Pilot pressure:	1/4", 3/8" thread - 1/8" 1/2" thread - 1/4"
Reduced pressure range:	Adjustable to within 5 to 7 psig (0.34 to 0.48 bar) of supply pressure
Flow capacity†:	
High flow	1/4" 100 scfm (47.2 dm³/s, ANR) 3/8" 110 scfm (51.9 dm³/s, ANR) 1/2" 150 scfm (70.8 dm³/s, ANR)
Gauge ports (2):	1/4 inch
Weight:	1/4" 1.6 lb (0.73 kg) 3/8" 1.6 lb (0.73 kg) 1/2" 2.6 lb (1.18 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet, 75 psig no flow secondary setting and 20 psig pressure drop.

R119 Pilot Operated Regulators - Hi-Flow

- Adapted for control by a remote or distant small pilot regulator. Ideal for maximum capacity requirements in applications where units are not readily accessible
- High flow performance featuring rugged design for the most demanding applications
- Ideal for those installations calling for constant pressure with wide variation in flow
- Piston operated design with balanced poppet and dual constant bleed for quick and accurate regulation
- 2", 2-1/2" ports (NPT, BSPP)

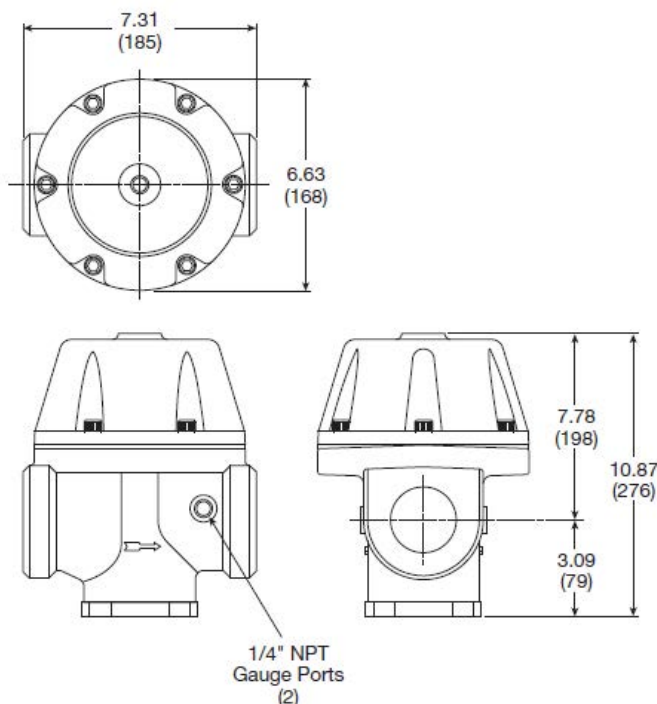
CRN: 0C18449



Port size	Description (0-125 psig reduced pressure)	Part number
1/4"	Without gauge, relieving, NPT	R119-02JX7
3/8"	Without gauge, relieving, NPT	R119-03JX7
1/2"	Without gauge, relieving, NPT	R119-04JX7
3/4"	Without gauge, relieving, NPT	R119-06JX7
1"	Without gauge, relieving, NPT	R119-08JX7
1-1/2"	Without gauge, relieving, NPT	R119-12JX7
2"	Without gauge, relieving, NPT	R119-16JX7
2-1/2"	Without gauge, relieving, NPT	R119-20JX7

NOTE: Non-relieving not available.

R119-16J, R119-20J



Inches (mm)

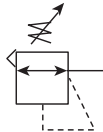
Operating information

Supply pressure (max):	300 psig (0 to 20.7 bar)
Air consumption:	
Constant bleed from	Air pilot chamber: approx. 0.17 scfm (10 scfh) Reduced pressure: approx. 0.17 scfm (10 scfh)
Operating temperature:	40°F to 120°F (4.4°C to 48.9°C)
Reduced pressure range:	Adjustable to within 5 to 7 psig (0.34 to 0.48 bar) of supply pressure
Flow capacity†:	
High flow	2" 1800 scfm (850 dm³/s, ANR) 2-1/2" 1800 scfm (850 dm³/s, ANR)
Gauge ports (2):	
Can be used for full flow	1/4 inch
High pressure outlet for pilot	1/4 inch
Weight:	15 lb (6.8 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet, 75 psig no flow secondary setting and 20 psig pressure drop.

52R Regulators – Relieving

- Balanced poppet design
- Non-rising, pressure-adjusting dial
- High-relief flow (3/16" relief orifice)
- Two 1/4" gauge ports
- Constant bleed, piston operated
- 1/4", 3/8", 1/2", 3/4" ports (NPT, BSPP)



Port size	Description	Part number
1/4"	Standard pressure 5 to 160 psig (0.34 to 11 bar)	52R126XA
3/8"	Standard pressure 5 to 160 psig (0.34 to 11 bar)	52R226XA
1/2"	Standard pressure 5 to 160 psig (0.34 to 11 bar)	52R326XA
3/4"	Standard pressure 5 to 160 psig (0.34 to 11 bar)	52R426XA

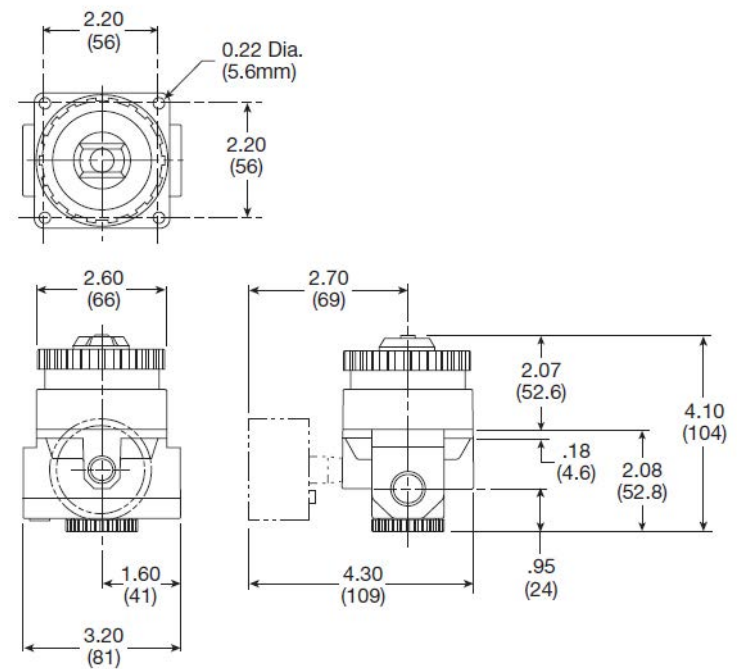
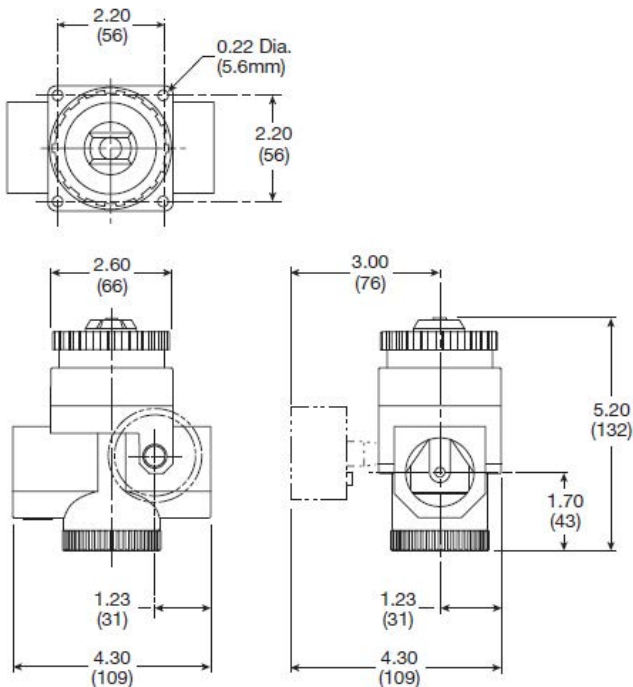
CRN: 0C19078



Operating information

Adjusting pressure range:	5 to 160 psig (0 to 11.0 bar)
Canadian registration:	200 psi (13.8 bar)
max working pressure	
Bleed rate:	0.05 scfm (0.02 dm³/s, ANR)
Operating temperature (max):	32°F to 150°F (0°C to 65.6°C)
Supply pressure (max):	300 psig (20.7)
Flow capacity†:	1/4" 117 scfm (55.2 dm³/s, ANR)
	3/8" 180 scfm (85 dm³/s, ANR)
	1/2" 195 scfm (92 dm³/s, ANR)
	3/4" 220 scfm (103.8 dm³/s, ANR)
Gauge ports:	Two ports 1/4" (can be used as additional high flow 1/4 inch outlet ports)
Weight:	2.3 lb (1.04 kg)

† scfm = Inlet pressure 100 psig (6.9 bar) inlet. Secondary pressure 90 psig (6.2 bar).

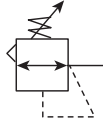


Inches (mm)

Inches (mm)

53R Regulators – Relieving

- Balanced poppet design
- Non-rising, pressure-adjusting dial
- High-relief flow (3/16" relief orifice)
- Two 1/4" gauge ports
- Constant bleed, piston operated
- 3/4", 1", 1-1/4" ports (NPT, BSPP)



CRN: 0C19078



Port size	Description	Part number
3/4"	Standard pressure 5 to 160 psig (0.34 to 11 bar)	53R426XA
3/4"	Low pressure 2 to 40 psig (0.14 to 3 bar)	53R425XA
1"	Standard pressure 5 to 160 psig (0.34 to 11 bar)	53R526XA
1"	Low pressure 2 to 40 psig (0.14 to 3 bar)	53R525XA
1-1/4"	Standard pressure 5 to 160 psig (0.34 to 11 bar)	53R626XA
1-1/4"	Low pressure 2 to 40 psig (0.14 to 3 bar)	53R625XA

Operating information

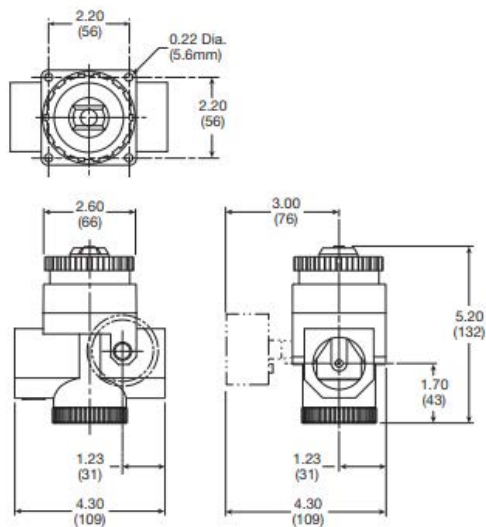
Adjusting pressure range:	5 to 160 psig (0 to 11.0 bar)
CRN Registered Max.	
Working Pressure	200 psig
Bleed Rate:	0.05 scfm (0.02 dm³/s, ANR)
Operating temperature (max):	32°F to 150°F (0°C to 65.6°C)
Supply pressure (max):	300 psig (20.7)
Flow capacity†:	3/4" 400 scfm (188.8 dm³/s, ANR)
	1" 650 scfm (306.8 dm³/s, ANR)
	1-1/4" 700 scfm (330.4 dm³/s, ANR)

Gauge ports: Two ports 1/4"
(can be used as additional high flow 1/4 inch outlet ports)

Weight: 2.3 lb (1.04 kg)

† scfm = Inlet pressure 100 psig (6.9 bar) inlet. Secondary pressure 80 psig (5.5 bar).

Note: Metal bottom plug is standard



Inches (mm)

35F / 43F Particulate Filters – Hi-Flow

- Heavy-duty cast aluminum housings to withstand operating pressures up to 250 psig*
- 1-1/2" & 2" (35F), 3" (43F) ports, NPT & BSPP

CRN: 0E19063



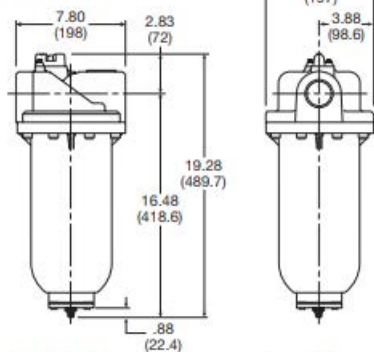
Port size	Description	Part number
1-1/2"	Metal bowl	35F7MBAC
2"	Metal bowl	35F8MBAC
3"	Metal bowl	43F

Operating information

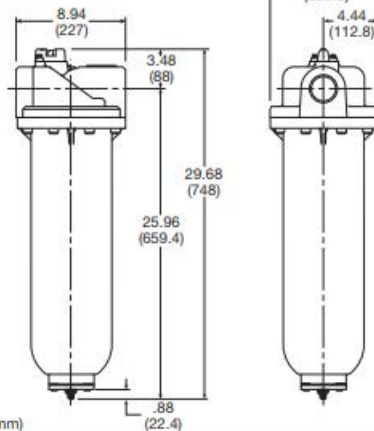
CRN Registered Max Working Pressure:	250 psi (17.2 bar)
Supply pressure (max): With pressure gauge without DPI*	250 psig (17.2 bar)
Operating temperature:	32°F to 150°F (0°C to 65.6°C)
Flow capacity†:	
High flow	1-1/2" 1280 scfm (604.1 dm³/s, ANR)
	2" 1400 scfm (660.7 dm³/s, ANR)
	3" 2900 scfm (1368.6 dm³/s, ANR)
Bowl capacity:	35F 13.9 oz.
	43F 17.2 oz.
Standard Filtration:	5 micron
Weight:	35F 19.3 lb (8.7 kg)
	43F 32.8 lb (14.9 kg)

† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.
* Without differential pressure indicator, max supply pressure is 250 psig (17.2 bar).

35F Particulate Filter



43F Particulate Filter



Inches (mm)

35F / 43F Coalescing Filters – Hi-Flow

- Heavy-duty cast aluminum housings to withstand operating pressures up to 250 psig*
- High-flow filter elements: coalescing, 1 micron and 0.01 micron
- 1-1/2", 2", 3" ports (NPT, BSPP)

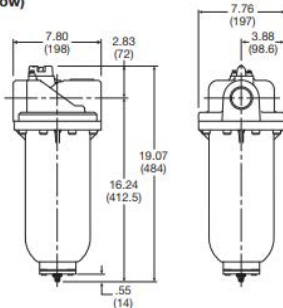
CRN: 0E19132



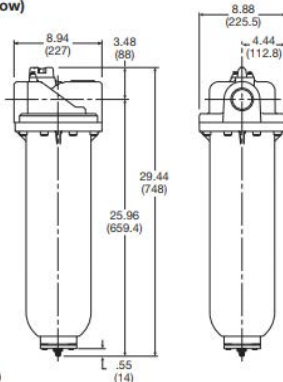
* Without Differential Pressure Indicator – Max. supply pressure is 250 psig (20.1 bar).

Port size	Description	Part number
1-1/2"	0.01 micron / auto float	35F77EAP
1-1/2"	1.0 micron / auto float	35F77HAP
2"	0.01 micron / auto float	35F87EAP
2"	1.0 micron / auto float	35F87HAP
3"	0.01 micron / auto float	43FN7EAP
3"	1.0 micron / auto float	43FN7HAP

35F (Hi-Flow)



43F (Hi-Flow)



Inches (mm)

Operating information

CRN Registered Max Working Pressure:	250 psi (17.2 bar)
Supply pressure (max): With pressure gauge without DPI*	250 psig (17.2 bar)
Operating temperature:	32°F to 150°F (0°C to 65.6°C)
Flow capacity†:	
High flow	(35F) 1-1/2" 710 scfm (335 dm³/s, ANR) (35F) 2" 710 scfm (335 dm³/s, ANR) (43F) 3" 1770 scfm (835 dm³/s, ANR)
Bowl capacity:	35F 13.9 oz. 43F 17.2 oz.
Standard Filtration:	0.01 & 1 micron
Weight:	35F 19.3 lb (8.7 kg) 43F 32.8 lb (14.9 kg)

† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.
* Filtration temperature of 70°F (21°C) @ 100 psig (6.9 bar) with typical compressor lubricating oil and protected by 0.01 micron filter.

Viking Extreme Series

The Viking Xtreme valve range is robust, versatile and combines high performance with compact installation dimensions. Large flow capacity, short change-over times and low change-over pressure are important characteristics of this valve range.

CRN: 0C19076

Ports

- P2LAX: 1/8 inch NPT & BSPP
- P2LBX: 1/4 inch NPT & BSPP
- P2LCX: 3/8 inch NPT & BSPP
- P2LDX: 1/2 inch NPT & BSPP

Mounting

- Inline
- IEM aluminum bar

Solenoids

1.2 watts to 7.3 watts

- 22mm (Type B) & 30mm 3-pin (DIN 43650)
- 15mm 3-pin (EN 17530-803)
- M12, 4-pin, surge suppression
- Grommet, surge suppression
- Conduit
- Deutsche Connectors, surge suppression

12VDC to 240VAC

Certification / approval

- IP65 Rated, RoHS, CE
- cCSAus Approved to 145 PSIG (10 bar)
- Canada Registration Number available (CRN)
- ATEX option available

Mobile applications

- Viking Xtreme tested to +5g shock and vibration
- Solenoids operate with wide voltage tolerance bands
- Corrosion resistant design
- Passed 500 hour salt spray test



Operating information

CRN Registered Max. 174 psi (12.0 bar)

Working Pressure:

Operating pressure:

Normal: Vacuum to 145 PSIG (Vacuum to 10 bar)

Xtreme: (P2LAX & P2LBX) Vacuum to 232 PSIG (Vacuum to 16 bar)

(P2LCX & P2LDX) Vacuum to 174 PSIG (Vacuum to 12 bar)

Minimum: See chart

Operating temperature:

Normal: 14°F to 122°F (-10°C to 50°C)

Xtreme: -40°F to 158°F (-40°C to 70°C)

Material specifications

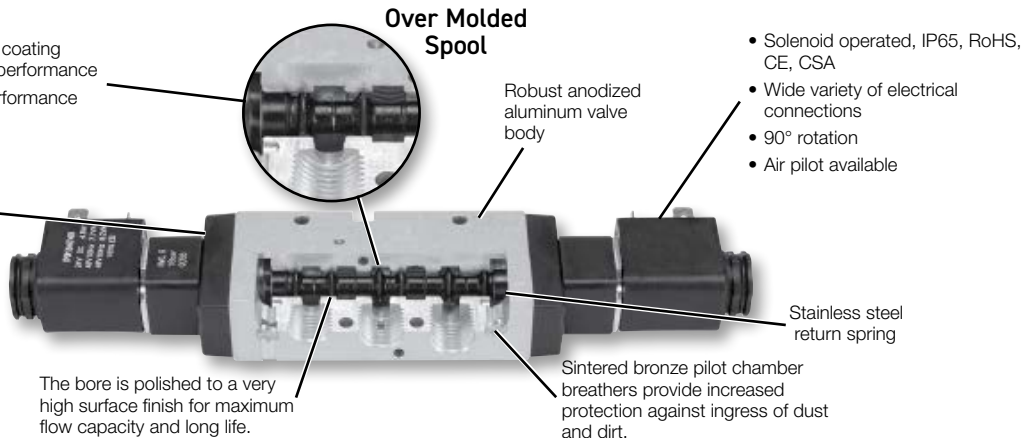
Body	Anodized aluminum
End caps	Anodized aluminum
Coils	Thermoplastic
Fasteners	Stainless steel
Spool	Aluminum and nitrile rubber
Springs	Stainless steel

Features

Over Molded Spool

- Aluminum spool with nitrile rubber coating ground to exact size for optimum performance
- Precision ground for maximum performance
- Wide operating temperature range
 - Low temperature to -40°

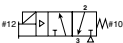
Diecast end covers with stainless steel screws to resist aggressive environments.



- Solenoid operated, IP65, RoHS, CE, CSA
- Wide variety of electrical connections
- 90° rotation
- Air pilot available

Viking Xtreme Series - P2LAX

Single Solenoid, 3-way, 2-position, Normal Operating Pressure / Temperature, Non-locking Manual Override

	Solenoid	Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number
  P2LAX 22mm DIN Shown	22mm DIN	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC 120VAC	P2LAX391ESNDDDB49 P2LAX391ESNDDDB53
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC 120VAC	P2LBX392ESNDDDB49 P2LBX392ESNDDDB53
		3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC 120VAC	P2LCX393ESNDDDB49 P2LCX393ESNDDDB53
		1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC 120VAC	P2LDX394ESNDDDB49 P2LDX394ESNDDDB53
		1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC 120VAC	P2LAX391ESNDDG49 P2LAX391ESNDDG53
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC 120VAC	P2LBX392ESNDDG49 P2LBX392ESNDDG53
		3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC 120VAC	P2LCX393ESNDDG49 P2LCX393ESNDDG53
		1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC 120VAC	P2LDX394ESNDDG49 P2LDX394ESNDDG53
 P2LAX 18" Grommet Shown	18" Grommet	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC	P2LAX391ESNDD7B9
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX392ESNDD7B9
		3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC	P2LCX393ESNDD7B9
		1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC	P2LDX394ESNDD7B9
 P2LAX M12 Coil Shown	M12 Coil with LED	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC	P2LAX391ESNDB549
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX392ESNDB549
		3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC	P2LCX393ESNDB549
		1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC	P2LDX394ESNDB549
 P2LAX 15mm DIN Shown	15mm DIN	1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC 120VAC	P2LAX391ESNDB553
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC 120VAC	P2LBX392ESNDB553
		3/8"	2.5	P2LCX	25 / 75	1.72 (0.78)	24VDC 120VAC	P2LCX393ESNDB553
		1/2"	2.7	P2LDX	25 / 75	1.72 (0.78)	24VDC 120VAC	P2LDX394ESNDB553
		1/8"	0.7	P2LAX	18 / 40	0.84 (0.38)	24VDC	P2LAX391ESNDB553

Notes: Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.
 Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Viking Xtreme Series - P2LBX

Single Solenoid, 4-way, 2-position, Normal Operating Pressure / Temperature, Non-locking Manual Override

Solenoid		Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number
 P2LBX 22mm DIN Shown	22mm DIN	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC	P2LAX591ESNDDDB49
							120VAC	P2LAX591ESNDDDB53
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX592ESNDDDB49
							120VAC	P2LBX592ESNDDDB53
		3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC	P2LCX593ESNDDDB49
							120VAC	P2LCX593ESNDDDB53
		1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC	P2LDX594ESNDDDB49
							120VAC	P2LDX594ESNDDDB53
 P2LAX 18" Grommet Shown	18" Grommet	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC	P2LAX591ESNDDG49
							120VAC	P2LAX591ESNDDG53
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX592ESNDDG49
							120VAC	P2LBX592ESNDDG53
		3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC	P2LCX593ESNDDG49
							120VAC	P2LCX593ESNDDG53
		1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC	P2LDX594ESNDDG49
							120VAC	P2LDX594ESNDDG53
 P2LAX M12 Coil Shown	M12 Coil with LED	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC	P2LAX591ESNDD7B9
							24VDC	P2LBX592ESNDD7B9
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX592ESNDD7B9
							24VDC	P2LCX593ESNDD7B9
		3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC	P2LCX593ESNDD7B9
							24VDC	P2LDX594ESNDD7B9
		1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC	P2LDX594ESNDD7B9
							24VDC	P2LDX594ESNDD7B9
 P2LAX 15mm DIN Shown	15mm DIN	1/8"	0.7	P2LAX	15 / 35	0.49 (0.22)	24VDC	P2LAX591ESNXB549
							120VAC	P2LAX591ESNXB553
		1/4"	1.3	P2LBX	18 / 45	0.84 (0.38)	24VDC	P2LBX592ESNXB549
							120VAC	P2LBX592ESNXB553
		3/8"	2.5	P2LCX	27 / 75	1.68 (0.76)	24VDC	P2LCX593ESNXB549
							120VAC	P2LCX593ESNXB553
		1/2"	2.7	P2LDX	25 / 75	1.68 (0.76)	24VDC	P2LDX594ESNXB549
							120VAC	P2LDX594ESNXB553

Notes: Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.
 Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Viking Xtreme Series

Double Solenoid, 4-way, 2-position, Normal Operating Pressure / Temperature, Non-locking Manual Override

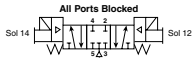
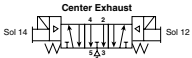
Solenoid		Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number
  22mm DIN	P2LBX 22mm DIN Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	P2LAX591EENDDB49 P2LAX591EENDDB53
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	P2LBX592EENDDB49 P2LBX592EENDDB53
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LCX593EENDDB49 P2LCX593EENDDB53
		1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LDX594EENDDB49 P2LDX594EENDDB53
		1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	P2LAX591EENDDG49 P2LAX591EENDDG53
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	P2LBX592EENDDG49 P2LBX592EENDDG53
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LCX593EENDDG49 P2LCX593EENDDG53
		1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LDX594EENDDG49 P2LDX594EENDDG53
 18" Grommet	P2LAX 18" Grommet Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	P2LAX591EENDD7B9
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC	P2LBX592EENDD7B9
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC	P2LCX593EENDD7B9
		1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC	P2LDX594EENDD7B9
 M12 Coil with LED	P2LBX M12 Coil Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	P2LAX591EENXB549 P2LAX591EENXB553
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	P2LBX592EENXB549 P2LBX592EENXB553
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LCX593EENXB549 P2LCX593EENXB553
		1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LDX594EENXB549 P2LDX594EENXB553
 15mm DIN	P2LAX 15mm DIN Shown	1/8"	0.7	P2LAX	10 / 10	0.60 (0.27)	24VDC 120VAC	P2LAX591EENXB549 P2LAX591EENXB553
		1/4"	1.3	P2LBX	12 / 12	0.93 (0.42)	24VDC 120VAC	P2LBX592EENXB549 P2LBX592EENXB553
		3/8"	2.5	P2LCX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LCX593EENXB549 P2LCX593EENXB553
		1/2"	2.7	P2LDX	17 / 17	1.78 (0.81)	24VDC 120VAC	P2LDX594EENXB549 P2LDX594EENXB553

Notes: Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.

Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Viking Xtreme Series

**Double Solenoid, 4-way, 3-position All Ports Blocked, 3-position Center Exhaust,
Normal Operating Pressure / Temperature, Non-locking Manual Override**

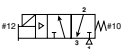
							Part number	
Solenoid	Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	 	
							All ports blocked	Center exhaust
 22mm DIN P2LBX 22mm DIN Shown	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC 120VAC	P2LAX691EENDDDB49 P2LAX691EENDDDB53	P2LAX891EENDDDB49 P2LAX891EENDDDB53
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC 120VAC	P2LBX692EENDDDB49 P2LBX692EENDDDB53	P2LBX892EENDDDB49 P2LBX892EENDDDB53
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LCX693EENDDDB49 P2LCX693EENDDDB53	P2LCX893EENDDDB49 P2LCX893EENDDDB53
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LDX694EENDDDB49 P2LDX694EENDDDB53	P2LDX894EENDDDB49 P2LDX894EENDDDB53
	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC 120VAC	P2LAX691EENDDDG49 P2LAX691EENDDDG53	P2LAX891EENDDDG49 P2LAX891EENDDDG53
 18" Grommet P2LBX 18" Grommet Shown	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC 120VAC	P2LBX692EENDDDG49 P2LBX692EENDDDG53	P2LBX892EENDDDG49 P2LBX892EENDDDG53
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LCX693EENDDDG49 P2LCX693EENDDDG53	P2LCX893EENDDDG49 P2LCX893EENDDDG53
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LDX694EENDDDG49 P2LDX694EENDDDG53	P2LDX894EENDDDG49 P2LDX894EENDDDG53
	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC	P2LAX691EENDD7B9	P2LAX891EENDD7B9
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC	P2LBX692EENDD7B9	P2LBX892EENDD7B9
 M12 Coil with LED P2LBX M12 Coil Shown	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC	P2LCX693EENDD7B9	P2LCX893EENDD7B9
	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC	P2LDX694EENDD7B9	P2LDX894EENDD7B9
	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	24VDC 120VAC	P2LAX691EENXB549 P2LAX691EENXB553	P2LAX891EENXB549 P2LAX891EENXB553
	1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	24VDC 120VAC	P2LBX692EENXB549 P2LBX692EENXB553	P2LBX892EENXB549 P2LBX892EENXB553
	3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LCX693EENXB549 P2LCX693EENXB553	P2LCX893EENXB549 P2LCX893EENXB553
 15mm DIN P2LBX 15mm DIN Shown	1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	24VDC 120VAC	P2LDX694EENXB549 P2LDX694EENXB553	P2LDX894EENXB549 P2LDX894EENXB553

Notes: Above valves are rated for an operating temperature from 14°F to 122°F (-10°C to 50°C). See model code matrix for additional options.

Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Viking Xtreme Series

Single Solenoid, 3-way, 2-position, Xtreme Operating Pressure / Temperature, Non-locking Manual Override

	Solenoid	Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number
  P2LBX 22mm DIN Shown	22mm DIN	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	P2LAX391ESHDDDB47
							24VDC	P2LAX391ESHDDDB48
		1/4"	1.3	P2LBX	25 / 65	0.84 (0.38)	12VDC	P2LBX392ESHDDDB47
							24VDC	P2LBX392ESHDDDB48
		3/8"	2.5	P2LCX	25 / 85	1.01 (0.46)	12VDC	P2LCX393ESHDDDB47
							24VDC	P2LCX393ESHDDDB48
		1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	P2LDX394ESHDDDB47
							24VDC	P2LDX394ESHDDDB48
  P2LBX 18" Grommet Shown	18" Grommet	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	P2LAX391ESHDDG47
							24VDC	P2LAX391ESHDDG48
		1/4"	1.3	P2LBX	25 / 65	0.84 (0.38)	12VDC	P2LBX392ESHDDG47
							24VDC	P2LBX392ESHDDG48
		3/8"	2.5	P2LCX	25 / 85	1.01 (0.46)	12VDC	P2LCX393ESHDDG47
							24VDC	P2LCX393ESHDDG48
		1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	P2LDX394ESHDDG47
							24VDC	P2LDX394ESHDDG48

Notes: Above valves have Mobile Rated Coils and are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C).

See model code matrix for additional options.

Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Single Solenoid, 4-way, 2-position, Xtreme Operating Pressure / Temperature Non-locking Manual Override

	Solenoid	Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number
  P2LBX 22mm DIN Shown	22mm DIN	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	P2LAX591ESHDDDB47
							24VDC	P2LAX591ESHDDDB48
		1/4"	1.3	P2LBX	20 / 55	0.84 (0.38)	12VDC	P2LBX592ESHDDDB47
							24VDC	P2LBX592ESHDDDB48
		3/8"	2.5	P2LCX	25 / 85	1.01 (0.46)	12VDC	P2LCX593ESHDDDB47
							24VDC	P2LCX593ESHDDDB48
		1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	P2LDX594ESHDDDB47
							24VDC	P2LDX594ESHDDDB48
  P2LAX 18" Grommet Shown	18" Grommet	1/8"	0.7	P2LAX	15 / 45	0.84 (0.38)	12VDC	P2LAX591ESHDDG47
							24VDC	P2LAX591ESHDDG48
		1/4"	1.3	P2LBX	25 / 65	0.84 (0.38)	12VDC	P2LBX592ESHDDG47
							24VDC	P2LBX592ESHDDG48
		3/8"	2.5	P2LCX	28 / 85	1.01 (0.46)	12VDC	P2LCX593ESHDDG47
							24VDC	P2LCX593ESHDDG48
		1/2"	2.7	P2LDX	25 / 85	1.01 (0.46)	12VDC	P2LDX594ESHDDG47
							24VDC	P2LDX594ESHDDG48

Notes: Above valves have Mobile Rated Coils and are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C).

See model code matrix for additional options.

Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Viking Xtreme Series

Double Solenoid, 4-way, 2-position, Xtreme Operating Pressure / Temperature, Non-locking Manual Override

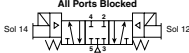
Solenoid		Port size (NPT)	Cv	Valve type	Response time (msec)	Weight lb (kg)	Voltage	Part number
  22mm DIN P2LBX 22mm DIN Shown		1/8"	0.7	P2LAX	11 / 11	0.60 (0.27)	12VDC 24VDC	P2LAX591EEHDDDB47 P2LAX591EEHDDDB48
		1/4"	1.3	P2LBX	13 / 13	0.93 (0.42)	12VDC 24VDC	P2LBX592EEHDDDB47 P2LBX592EEHDDDB48
		3/8"	2.5	P2LCX	18 / 18	1.06 (0.48)	12VDC 24VDC	P2LCX593EEHDDDB47 P2LCX593EEHDDDB48
		1/2"	2.7	P2LDX	18 / 18	1.06 (0.48)	12VDC 24VDC	P2LDX594EEHDDDB47 P2LDX594EEHDDDB48
	 18" Grommet P2LAX 18" Grommet Shown	1/8"	0.7	P2LAX	11 / 11	0.60 (0.27)	12VDC 24VDC	P2LAX591EEHDDG47 P2LAX591EEHDDG48
		1/4"	1.3	P2LBX	13 / 13	0.93 (0.42)	12VDC 24VDC	P2LBX592EEHDDG47 P2LBX592EEHDDG48
		3/8"	2.5	P2LCX	18 / 18	1.06 (0.48)	12VDC 24VDC	P2LCX593EEHDDG47 P2LCX593EEHDDG48
		1/2"	2.7	P2LDX	18 / 18	1.06 (0.48)	12VDC 24VDC	P2LDX594EEHDDG47 P2LDX594EEHDDG48

Notes: Above valves have Mobile Rated Coils and are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C).

See model code matrix for additional options.

Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Double Solenoid, 4-way, 3-position All Ports Blocked, 3-position Center Exhaust, Xtreme Operating Pressure / Temperature Non-locking Manual Override

							Part number	
Solenoid		Port size	Cv	Valve type (NPT)	Response time (msec)	Weight lb (kg)	Voltage	
  22mm DIN P2LBX 22mm DIN Shown		1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	12VDC 24VDC	P2LAX691EEHDDDB47 P2LAX691EEHDDDB48
		1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	12VDC 24VDC	P2LBX692EEHDDDB47 P2LBX692EEHDDDB48
		3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	12VDC 24VDC	P2LCX693EEHDDDB47 P2LCX693EEHDDDB48
		1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	12VDC 24VDC	P2LDX694EEHDDDB47 P2LDX694EEHDDDB48
	 18" Grommet P2LBX 18" Grommet Shown	1/8"	0.5	P2LAX	18 / 40	0.62 (0.28)	12VDC 24VDC	P2LAX691EEHDDG47 P2LAX691EEHDDG48
		1/4"	0.9	P2LBX	22 / 55	0.97 (0.44)	12VDC 24VDC	P2LBX692EEHDDG47 P2LBX692EEHDDG48
		3/8"	1.8	P2LCX	30 / 90	2.45 (1.11)	12VDC 24VDC	P2LCX693EEHDDG47 P2LCX693EEHDDG48
		1/2"	1.9	P2LDX	30 / 90	2.45 (1.11)	12VDC 24VDC	P2LDX694EEHDDG47 P2LDX694EEHDDG48

Notes: Above valves have Mobile Rated Coils and are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C).

See model code matrix for additional options.

Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Viking Xtreme Series

Viking Xtreme Single & Double Solenoid Operated Valves

P2L A X 5 91 ES H D D G 49

Valve size	
1/8"	A
1/4"	B
3/8"	C
1/2"	D

Series	
Viking Xtreme	X

Valve type / function	
<i>Internal pilot supply to solenoid*</i>	
3/2 NC - 2-position	3
5/2 2-position	5
5/3 3-position, APB	6
5/3 3-position, PC	7
5/3 3-position, CE	8
<i>External pilot supply to the solenoids through ports #12 & #14</i>	
3/2 NC - 2-position	L
5/2 2-position	N
5/3 3-position, APB	P
5/3 3-position, PC	Q
5/3 3-position, CE	R

* Size A & B solenoid valves can be field converted from internal to external pilot. See page C25 for details.

Main port thread	
G1/8 (P2LA)	11
G1/4 (P2LB)	12
G1/4 (P2LB) NAMUR Mount	1N*
G3/8 (P2LC)	13
G1/2 (P2LD)	14
1/8" NPT (P2LA)	91
1/4" NPT (P2LB)	92
1/4" NPT (P2LB) NAMUR Mount	9N*
3/8" NPT (P2LC)	93
1/2" NPT (P2LD)	94

* NAMUR mount available for 5/2, 2-position only.

Operator return	
Double solenoid	EE
Single solenoid, spring return	ES*

* Not available with 3-position valves.

Valve type / operating pressure and temperature	
Normal, vacuum to 145 PSIG (10 bar), 14°F to 122°F (-10°C to 50°C), CSA Approved	N
Xtreme, vacuum to 145 PSIG (10 bar), -40°F to 140°F (-40°C to 70°C), CSA Approved	K
Xtreme, vacuum to 232 PSIG (16 bar), -40°F to 140°F (-40°C to 70°C)	H*

* P2LC and P2LD solenoid operated valves have a maximum pressure rating of 175 PSIG (12 bar)

Voltage	
B9†	24 VDC w/ surge suppression & LED
42	24VAC
45	12VDC
46†	12VDC mobile with surge suppression
47*	12 VDC mobile
48*	24 VDC mobile
49	24VDC
53	120VAC
57	240VAC
Blank	Valve less coil

* Only available with enclosures "A", "B", "G" & "5".

‡ Enclosure "7" only

† Enclosure "G", "T", "V" only.

Enclosures / lead length	
5†	15mm, 3-pin DIN 43650C, 8mm pin spacing
7§	M12 4-pin coil with surge suppression & LED
A	30mm square 3-pin – ISO 4400 Form A (male only)
B	22mm rectangular 3-pin – type B industrial (male only)
E*	Intrinsically safe, FM / CSA
F‡	Hazardous duty 1/2" NPT, FM / CSA
G	Grommet - 18" leads
H	1/2" NPT conduit - 18" leads
N**	Valve less "A - V, 7" enclosure
T#	Grommet, single solenoid, 2-pin deutsche connector, surge suppression
V#	Grommet, double solenoid, 4-pin deutsche connector, surge suppression
X†	Valve less 15mm solenoid

* Only available with voltage code "49" & override option "A", valve type "N" only. Solenoid coil only CSA approved.

** Solenoid pilot type "D" & "N" only.

Voltage code "46" only.

‡ Valve type "N" only. Solenoid coil only CSA approved.

† Solenoid pilot type "X" only.

§ Voltage code "B9" only. Valve type "N" only.

Solenoid pilot type	
D**	Vented pilot exhaust
N**	Tapped pilot exhaust
X*	15mm solenoid vented pilot exhaust

* Available enclosure "5", "X" and valve type "N" only.

** Not available on enclosure "5" & "X".

Overrides	
A**	No override
B†	Flush - Non-locking
C*	Flush - locking
D	Extended non-locking
E†	Extended - locking
X†	Valve less 15mm solenoid

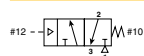
* Override for valve type "N" only.

** Not available on enclosure "5", 15mm solenoid. Available solenoid pilot type "D" & "N" only.

† Available solenoid pilot type "X" only.

Viking Xtreme Series

Single Remote Pilot, 3-way, 2-position, Xtreme Operating Pressure / Temperature, Non-locking Manual Override

 P2LAX Shown	Port size (NPT)	Cv	Response time (msec)	Weight lb (kg)	Valve type	Part number
	1/8"	0.7	15 / 45	0.68 (0.31)	P2LAX	P2LAX391PS
	1/4"	1.3	25 / 65	0.68 (0.31)	P2LBX	P2LBX392PS
	3/8"	2.5	25 / 65	0.88 (0.40)	P2LCX	P2LCX393PS
	1/2"	2.7	25 / 65	0.88 (0.40)	P2LDX	P2LDX394PS

Single Remote Pilot, 4-way, 2-position, Xtreme Operating Pressure / Temperature, Non-locking Manual Override

 P2LAX Shown	Port size (NPT)	Cv	Response time (msec)	Weight lb (kg)	Valve type	Part number
	1/8"	0.7	15 / 45	0.33 (0.15)	P2LAX	P2LAX591PS
	1/4"	1.3	20 / 55	0.68 (0.31)	P2LBX	P2LBX592PS
	3/8"	2.5	25 / 85	0.90 (0.41)	P2LCX	P2LCX593PS
	1/2"	2.7	25 / 85	0.90 (0.41)	P2LDX	P2LDX594PS

Double Remote Pilot, 4-way, 2-position, Xtreme Operating Pressure / Temperature, Non-locking Manual Override

 P2LBX Shown	Port size (NPT)	Cv	Response time (msec)	Weight lb (kg)	Valve type	Part number
	1/8"	0.7	11 / 11	0.33 (0.15)	P2LAX	P2LAX591PP
	1/4"	1.3	13 / 13	0.68 (0.31)	P2LBX	P2LBX592PP
	3/8"	2.5	18 / 18	0.90 (0.41)	P2LCX	P2LCX593PP
	1/2"	2.7	18 / 18	0.90 (0.41)	P2LDX	P2LDX594PP

Double Remote Pilot, 4-way, 3-position All Ports Blocked, 3-position Center Exhaust, Xtreme Operating Pressure / Temperature, Non-locking Manual Override

Port size (NPT)	Cv	Response time (msec)	Weight lb (kg)	Valve type	Part number	
					All ports blocked	Center exhaust
1/8"	0.5	18 / 50	0.31 (0.14)	P2LAX	P2LAX691PP	P2LAX891PP
1/4"	0.9	25 / 65	0.73 (0.33)	P2LBX	P2LBX692PP	P2LBX892PP
3/8"	1.8	30 / 90	0.93 (0.42)	P2LCX	P2LCX693PP	P2LCX893PP
1/2"	1.9	30 / 90	0.93 (0.42)	P2LDX	P2LDX694PP	P2LDX894PP

Notes: Above valves are rated for an operating temperature from -40°F to 158°F (-40°C to 70°C). See model code matrix for additional options.
Response time: Actuate to 90% pressure / return to exhaust to 10% of supply pressure. 93 PSIG (6.3 bar) / temperature 68°F (20°C).

Viking Xtreme Remote Air Pilot Operated Valves

Operating information

Operating pressure:
(P2LAX & P2LBX)
Vacuum to 232 PSIG (Vacuum to 16 bar)
(P2LCX & P2LDX)
Vacuum to 174 PSIG (Vacuum to 12 bar)

Operating temperature:
-40°F to 158°F (-40°C to 70°C)

P2 A X 5 91 PS

Valve size	
1/8"	A
1/4"	B
3/8"	C*
1/2"	D*

* P2LCX and P2LDX manual & remote air pilot valves have a maximum pressure rating of 175 PSIG (12 bar).

Valve type / function	
<i>Internal pilot supply to solenoid</i>	
3/2 NC - 2-position	3
5/2 2-position	5
5/3 3-position, APB	6
5/3 3-position, PC	7
5/3 3-position, CE	8

Operators / return	
PP	Double remote pilot
PS*	Single remote pilot, spring return

* Not available with 3-position valves.

Main port thread	
11	G1/8 (P2LA)
12	G1/4 (P2LB)
1N*	G1/4 NPT (P2LB) NAMUR mount
13	G3/8 (P2LC)
14	G1/2 (P2LD)
91	1/8" NPT (P2LA)
92	1/4" NPT (P2LB)
9N*	1/4 NPT (P2LB) NAMUR mount
93	3/8" NPT (P2LC)
94	1/2" NPT (P2LD)

* 5/2, 2-position valve only.

Viking Xtreme Series

ATEX Certified Single & Double Solenoid Operated Valves

Viking ATEX valves meet ATEX directive 94/9/EC with the following classification : CE Ex II 2GD c 135oc. This directive lays down minimum safety requirements for products intended for use in potentially explosive atmospheres. The Directive is commonly referred to as the 'ATEX' Directive ('ATmospheres EXplosibles'), but may also be called the ATEX Equipment Directive or ATEX 95. Both ATEX certified solenoid, remote pilot and manual operated valves, as well as complete solenoid pilot assemblies are available.



ATEX classification details:

CE Ex: fulfils the ATEX directive

II : Group II Equipment Area

2GD : Equipment Category 2. Gas Zone 1,2 and Dust Zone 21,22

c : Safe Design (EN13463-5)

135°C : Real temperature of the surface of product for test

Temperature Class of Solenoid : T4 135°C, ATEX 8-22T

Operating information

Operating pressure: Vacuum to 145 PSIG (vacuum to 10 bar)

Operating temperature: 14°F to 122°F (-10°C to 50°C)

Valve size	
1/8"	A
1/4"	B
3/8"	C
1/2"	D

Valve type / function	
Internal Pilot Supply to Solenoid	
2-position valve	5
3-position valve APB	6
3-position valve PC	7
3-position valve CE	8
External Pilot Supply to Solenoids through Ports #12 & #14	
2-position valve	N
3-position valve APB	P
3-position valve PC	Q
3-position valve CE	R

Main port thread	
G1/8 (P2LA)	11
G1/4 (P2LB)	12
G3/8 (P2LC)	13
G1/2 (P2LD)	14
1/8" NPT (P2LA)	91
1/4" NPT (P2LB)	92
3/8" NPT (P2LC)	93
1/2" NPT (P2LD)	94

Voltage	
49	24VDC

Enclosures	
M	ATEX 8-22T EExm T4 135°C

Overrides	
D	Extended non-locking

Solenoid pilot type	
D	Vented pilot exhaust
N	Tapped pilot exhaust (M5)

Operator return	
EE	Double solenoid
ES*	Single solenoid, spring return

* Not available with 3-position valves.

NOTE:

1. ATEX Valve includes a coil with sealed 3 meter cable.
2. Replacement solenoid kit P2FS13A3DM49 includes coil with sealed 3 meter cable, valve armature, solenoid, solenoid nut, screws and o-rings.

These products are designed for utilization in applications falling under the scope of ATEX Directive 94/9/EC. This coverage could only be referred to as long as operations required for the installation and the maintenance of these products are complying with related standards.

Viking Xtreme Series

Solenoids with Deutsche Connections : Environmentally-Sealed Transportation Connectors

Viking valves with solenoid options “T” & “V” include a grommet lead wire solenoid with internal surge suppression connected to Deutsche DTP Series male connectors. Heat shrunk cover holds the grommet lead wires together between the solenoid and deutsche connector. An environmentally-sealed connector designed specifically for cable to cable applications in harsh environments such as on the engine or transmission, under the hood, on the chassis or in the cab applications. On signal

level circuits where even a small degradation in connection may be critical, these connectors will provide the reliability and performance when properly connected to DTP female connector assemblies. Thermoplastic housings with silicone seals are used to allow the connector to withstand conditions of extreme temperature and moisture. Properly wired and mated connection will withstand immersion under three feet of water without loss of electronic qualities or leakage.

Deutsche Connector & Solenoid Information

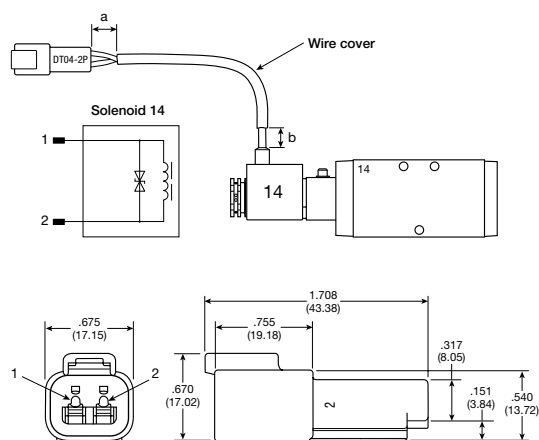
		“T” Single Solenoid Option	“V” Double Solenoid Option
Solenoid Kit		P2FCT446	P2FCV446
Connector Information	Housing material	Thermoplastic	Thermoplastic
	Grommet seal material	Silicone	Silicone
	Connector housing / seal number	DT04-2P*	DT04-4P*
	Contact material	Copper alloy	Copper alloy
	Contact number	0460-202-16141*	0460-202-16141*
	Sealing plug (Wedge) material	Thermoplastic	Thermoplastic
	Wedge number	W2P*	W4P*
	Temperature rating of connector	-67°F (-55°C) to +257°F (+125°C)	-67°F (-55°C) to +257°F (+125°C)
Solenoid	Voltage	12VDC +10%, -30% mobile with bi-directional surge suppression	12VDC +10%, -30% mobile with bi-directional surge suppression
	Number of solenoids	1	2
	Connector pin out	pin 1 & 2	12 solenoid : pin 1 & 2 14 solenoid : pin 3 & 4
	Wire length (Connector to solenoid)	19" (483mm)	12 Solenoid : 19" (482mm) 14 Solenoid : 7.75" (196.5mm)
	Exposed insulated wire (a)	0.25" (6.4mm) - 0.5" (12.7mm)	0.25" (6.4mm) - 0.5" (12.7mm)
	Exposed insulated wire (b)	0.75" (19.1mm) - 1.5" (38.1mm)	0.75" (19.1mm) - 1.5" (38.1mm)
	Wire cover material	Heat shrunk PVC	Heat shrunk PVC

* Deutsche Industrial reference numbers. Male connections provided, mating female components and assemblies can be sourced from qualified Deutsche connector distributors.

Enclosure / Lead Length - Option “T”



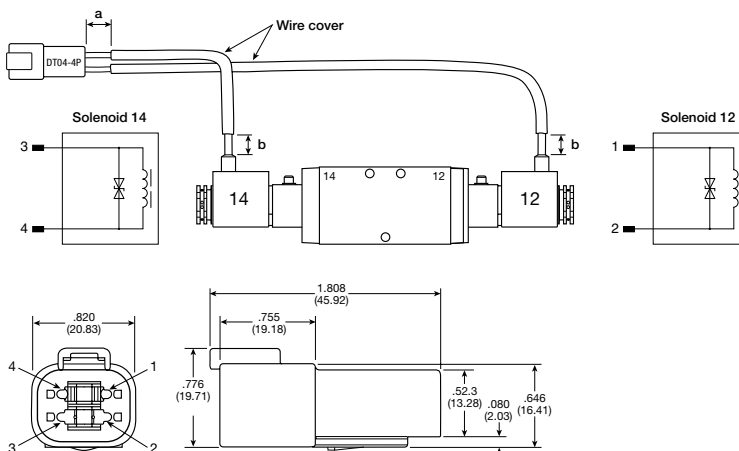
Solenoid Kit P2FCT446 shown



Enclosure / Lead Length - Option “V”



Solenoid Kit P2FCV446 shown



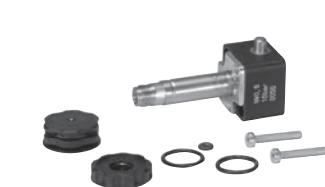
Viking Xtreme Series

Pilot Operator Kits

P2FP13		N	4	C
Type	Pilot operator kit			
Pressure / temperature				
145 PSIG (10 bar) 14°F to 122°F (-10°C to 50°C)		N		
232 PSIG (16 bar) -40°F to 158°F (-40°C to 70°C)			H	

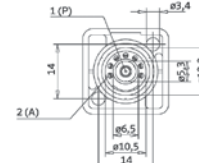
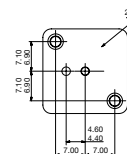
Overrides	
A	No override
C*	Locking (bistable) flush - plastic
D	Non-locking (monostable) extended - brass

* Only available with "N" Pressure / Temperature option.



Kit includes:
Armature valve (1), solenoid nuts (2), screws (2), o-rings (3)

Operator mounting pattern (mm)



Solenoid Pilot Operators & Coils

Solenoid pilot options

The P2FP13*4* (NC) 3/2 solenoid pilot operators are designed for piloting pneumatic control valves with compressed air or other inert gases.

The P2FP operator is available for Normal operating pressures up to 10 bar or the Xtreme maximum operating pressure of 16 bar and wide band voltage tolerances required for mobile applications.

Corrosion resistant design

The pilot valve body is manufactured in thermoplastic PA6 material and the core tube brass / stainless steel. The plunger / core is made from stainless steel and the valve seats from FKM.

Solenoid pilot exhaust

These operators all exhaust out of the top of the core tube which is tapped M5. The standard solenoid nut (Solenoid pilot type "D") fitted to the core tube is a diffuser nut which allows the exhaust to escape to atmosphere. This nut also minimizes ingress of dirt into the valve through this port. The alternative plastic knurled nut (Solenoid pilot type "N") can be specified (refer to part number system) if the exhaust air needs captured and piped away using the M5 tapped port.

Mobile applications

Viking Xtreme valves are tested to +5g shock and vibration. Solenoid operated valves are designed to operate with wide voltage tolerance bands within the ambient temperature ranges stated in the technical section.

Coils

Coils are wound with enameled copper wire, having a temperature index of 180°C with class F insulation (155°C) and are encapsulated in Thermoplastic resin. When fitted with suitable connector and correct gasket, they give protection to IP65.

Manual override options

The pilot operators can be supplied with locking or non-locking manual override. The standard manual override is the monostable (spring return) extended brass override. Alternatively the bistable (locking) override can be specified as an alternative for the Normal duty 10 bar option.

Spares

Solenoid operators are available as spares complete with mounting screws and seals. Coils and connectors should be ordered separately unless ATEX certified and intrinsically safe is needed. ATEX certified operators and coils must be ordered together.

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 with LEDs include this type of circuit protection.

Materials

Pilot Valve	
Body	Polyamide
Armature tube:	
Normal pilot operator	Brass
Xtreme pilot operator.....	Stainless steel
Plunger & core.....	Corrosion resistant CR-NI steel
Seals	FKM
Screws	Stainless steel
Coil	
Encapsulation material.....	Thermoplastic

Viking Xtreme Series

Solenoid Kits

P2FC		B		4		49	
Type						Voltage	
Solenoid Kit		C				B9 ‡	
						42	
						45	
						46 †	
						47*	
						48*	
						49	
						53	
						57	

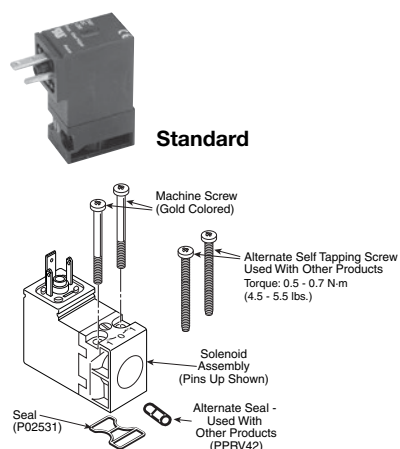
Enclosures / lead length	
M12 4-pin coil with surge suppression & LED	7 §
30mm square 3-pin – ISO 4400 Form A (male only)	A
22mm rectangular 3-pin – Type B Industrial (male only)	B
Hazardous duty, FM / CSA	F*
Grommet - 18" leads	G
1/2" NPT conduit - 18" leads	H
Grommet, single solenoid, 2-pin deutsche connector, surge suppression	T #
Grommet, double solenoid, 4-pin deutsche connector, surge suppression	V #
Grommet 72" leads	Q
1/2" conduit 72" leads	R

* Only available with voltage codes "45", "49", "53" & "57". Not for use with the Xtreme version (-40°C to 70°C).

Voltage code 46 only.

§ Voltage code B9 only.

Solenoid Kits – 3-Pin, EN175301-803 (Former DIN 43650C), 15mm, 8mm



PS2982*##P – Enclosure '5'

★	## Voltage						
	42	45	47 †	48 †	49	53	57
Override							
B	O	O	S	S	S	S	O
C	O	O	S	S	S	S	O
D	O	O	O	O	O	O	O
E	O	O	O	O	O	O	O

S - Standard; O - Option

† Mobile voltage

Kit includes: Solenoid, (2) machine screws, (2) self threading screws, (1) gasket, (1) 3-cell gasket.

Solenoid Enclosures



Option 7
M12, 4-Pin Coil with Surge Suppression



Option A
30mm Square, 3-Pin ISO 4400, DIN 43650A



Option B
22mm Rectangular, 3-Pin DIN, Type B Industrial



Option G & Q
Grommet, 18" or 72" Leads



Option H & R
1/2" Conduit, 18" or 72" Leads

Solenoid Information (Solenoids are rated for continuous duty.)

Voltage				Enclosure "5"		Enclosure "A"		Enclosure "7", "B" to "R"	
Code	AC		DC	Power consumption	Holding (Amps)	Power consumption	Holding (amps)	Power consumption	Holding (amps)
	60Hz	50Hz							
B9†	w	—	24	—	—	—	—	4.8W	.20
42	24	22	—	1.6VA	.065	3.9VA	.14	7.3VA	.31
45	—	—	12	1.2W	.098	2.6W	.21	4.6W	.37
46*†	—	—	12	—	—	—	—	5.5W	.46
47*	—	—	12	0.91W	.074	6.2W	.52	5.5W	.46
48*	—	—	24	0.91W	.033	6.8W	.29	6.0W	.25
49	—	—	24	1.2W	.049	2.7W	.11	4.8W	.20
53	120	110	—	1.6W	.013	4.1VA	.04	6.3VA	.05
57	240	230	—	1.6W	.007	3.7VA	.02	6.4VA	.03

* Mobile voltages. † Surge suppression.

Viking Xtreme Series

Intrinsically safe solenoid valves ("E" option)

Hazardous location class:

Class I; Groups A, B, C & D

Class II; Groups E, F, & G

Class III; Div. I

For use in low voltage (24VDC) Intrinsically Safe applications.
NO OTHER VOLTAGE IS APPROVED.

Comes standard with non-lighted solenoid connector.

36mm Coil width.

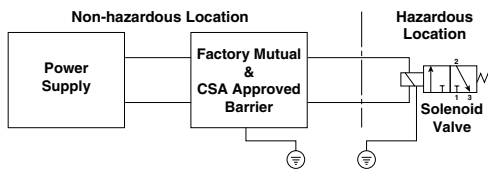
Must be connected to an FM approved Barrier.

For dimensions, reference standard solenoid models.

Maximum internally piloted valve pressure is 115 PSIG.

Pressures to 145 PSIG can be used when external pilot is utilized and pilot pressure is limited to 115 PSIG.

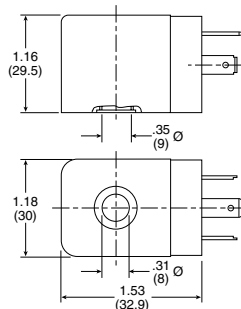
The intrinsically safe coil width (30mm) is wider than the body width of valve type A & B valves. If mounted on a manifold, the valves need to be staggered to fit and must be single solenoid valves only.



Intrinsically safe solenoid pilot assembly kits

Description	Part number
24VDC	P2FS13N1AE49

Kit includes: coil, armature, connector, o-ring & screws



Hazardous duty solenoid valves ("F" option)

Hazardous location class:

Class I; Zone I EX, M, II & T4

Class I; Div. I, Groups A, B, C, & D

Class II & III; Div. I, Groups E, F, & G

Comes standard with 1/2" conduit connection.

Voltage range = $\pm 10\%$

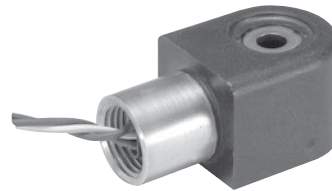
Ambient temperature range = -20°C (-4°F) to 60°C (140°F)

Duty factor = 100%

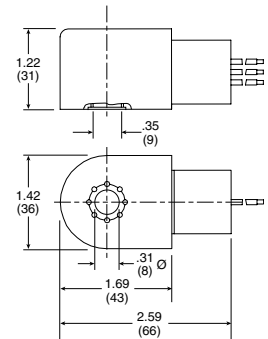
IP65 Rated (with connected conduit connector)

Notes:

1. Maximum non-hazardous location voltage not to exceed 250V RMS.
2. Factory Mutual requires connections per ISA RP 12.6 instructions.
3. CSA requires "Installation to be in accordance with the Canadian Electrical Code. Part I."
4. The hazardous duty coil width (36mm) is wider than the body width of valve type A, B, C & D valves. Valves can not be mounted to IEM manifolds without installing a blanking plate between valves.



Option F
Hazardous Duty FM / CSA



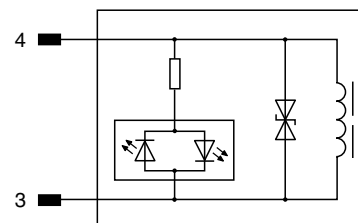
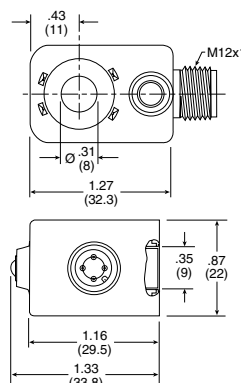
M12, 24VDC solenoid coil ("7" option)

Connection type: M12, metal thread, M12 x 1

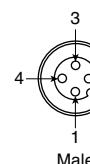
DIN EN 60947-5-2 appendix D

LED color: yellow

Bi-directional surge suppression



1. Not Used
2. Not Used
3. +/- (blue)
4. +/- (black)

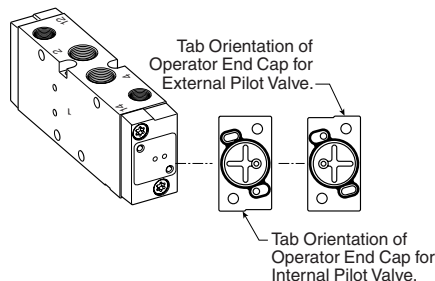


4-Pin Female Wiring Diagram
(only Pins 4 & 3 are used)
Per ISO 20401

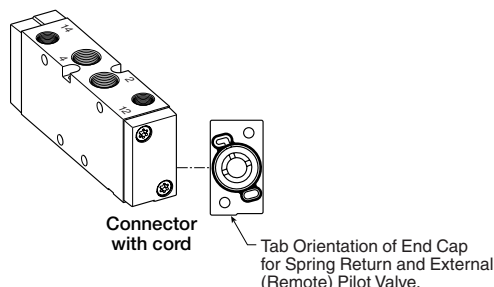
Viking Xtreme Series

Internal to external pilot conversion (size A & B only)

To convert from Internal to External Pilot Valve, simply remove the (2) fasteners that attach the end cap to the valve body. Rotate the end cap 180° and attach back to the valve body. For single solenoid valves, only the 14-End needs to be rotated. For double solenoid valves, both ends must be converted for proper function.



The 12 & 14-Ports are always tapped no matter what Valve Type / Function is selected. For Internal Pilot Function, ports do NOT need to be plugged.



22mm Rectangular 3-Pin – Type B Industrial (Use with Enclosure “B”)

	Description	Connector with 6' (2m) cord	Connector
	Unlighted	PS2429JBP	PS2429BP
	Light – 24V60Hz, 24VDC	PS2430J79BP*	PS243079BP
	Light – 120V/60Hz	PS2430J83BP*	PS243083BP
	Light – 240V/60Hz	N/A	PS243087BP

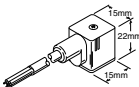
* LED with surge suppression.

Note: Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

Engineering Data:

Conductors: 2 Poles Plus Ground; Cable Range (Connector Only): 6 to 8mm (0.24 to 0.31 Inch); Contact Spacing: 11mm

15mm 3-Pin DIN 43650C (Use with Enclosure “5”)

			Connector only
	Cord length	Connector	Connector with cord
Unlighted	18 Inches	PS2932BP	PS2932HBP
Unlighted	6 Feet	PS2932BP	PS2932JBP
Light – 12VAC or DC	6 Feet	PS294675BP	PS2946J75BP*
Light – 24VAC or DC	6 Feet	PS294679BP	PS2946J79BP*
Light – 110/120VAC	6 Feet	PS294683BP	PS2946J83BP*
Light – 240/230VAC		PS294687BP	N/A

* LED with surge suppression.

Note: Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

Engineering data:

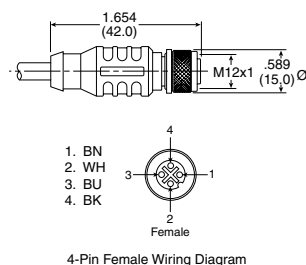
Conductors: 2 poles plus ground Cable range (connector only): 4 to 6mm (0.16 to 0.24 Inch) Contact spacing: 8mm

M12 A-code Cables

Description	Part number
4-Pin female to flying lead cable, PVC, 2m	RKC 4.4T-2

RKC Female Sockets

* Only pins 3 and 4 are used with solenoids Option “7”.



4-Pin Female Wiring Diagram

30mm Square 3-Pin – ISO 4400, DIN 43650A (Use with Enclosure “A”)

	Description	Connector with 6' (2m) cord	Connector
	Unlighted	PS2028JCP	PS2028BP
	Light – 6-48V, 50/60Hz, 6-48VDC	PS2032J79CP*	PS203279BP
	Light – 120V/60Hz	PS2032J83CP*	PS203283BP
	Light – 240V/60Hz	N/A	PS203283BP

* LED with surge suppression.

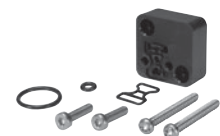
Note: Max ø6.5mm cable size required for connector w/o 6' (2m) cord. IP65 rated when properly installed.

Engineering data:

Conductors: 2 poles plus ground; cable range (connector only): 8 to 10mm (0.31 To 0.39 Inch); contact spacing: 18mm

15mm Solenoid Mount

Description	Part number
15mm solenoid mount	P2FA22-15



Kit includes: adapter (1), O-rings (2), gasket (1), screws (4)

Replacement Solenoid Nut

Description	Part number	Description	Part number
Solenoid diffuser nut	PS1556	Solenoid vented nut	PS2892P

Viking Xtreme Series

It is the users responsibility to verify product performance when applied at maximum tolerance ranges of multiple technical specifications simultaneously.

Operating temperature

- **Normal**.....14°F to 122°F (-10°C to 50°C)
- **Xtreme**..... -40°F to 158°F (-40°C to 70°C)

Flow Rating

Valve size	Port size	2-position	3-position
P2LAX	1/8"	0.7	0.5
P2LBX	1/4"	1.3	0.9
P2LCX	3/8"	2.5	1.8
P2LDX	1/2"	2.7	1.9

Operating pressure*

Maximum: Normal.....145 PSIG (10 bar)

Xtreme.....232 PSIG (16 bar)

Minimum:

Valve type - internal pilot	Minimum PSIG (bar)			
	P2LAX	P2LBX	P2LCX	P2LDX
Single solenoid - spring return	46 (3.2)	51 (3.5)	51 (3.5)	51 (3.5)
Single remote pilot - spring return	46 (3.2)	51 (3.5)	51 (3.5)	51 (3.5)
Double solenoid - 2-position	22 (1.5)	22 (1.5)	22 (1.5)	22 (1.5)
Double remote pilot - 2-position	22 (1.5)	22 (1.5)	22 (1.5)	22 (1.5)
Double solenoid - 3-position (APB, PC, CE)	51 (3.5)	51 (3.5)	51 (3.5)	51 (3.5)
Double remote pilot - 3-position (APB, PC, CE)	51 (3.5)	51 (3.5)	51 (3.5)	51 (3.5)

Valve type - External pilot	P2LAX	P2LBX	P2LCX	P2LDX
All Viking series	Vacuum			

* P2LC and P2LD solenoid operated valves have a maximum pressure rating of 175 PSIG (12 bar).

Size A and B solenoid valves can be field converted from internal pilot to external pilot and visa versa. See previous page for information.

Solenoid voltage characteristics

Non-Mobile Coil -

Voltage Code 42, 45, 49, 53, 57

15mm, DIN 43650C (Enclosure: 5)

+10%, -15%

Mobile Coil -

Voltage Code 47, 48

15mm, Din 43650C (Enclosure: 5)

+25%, -30%

Voltage Code 46

(Enclosure G,T,V)

+10%, -30%

Solenoid voltage characteristics

Non-mobile coils -

Voltage code B9, 42, 45, 49, 53, 57

Enclosure (7, A, B, E, F, G, H)

+10%, -10%

Mobile coils - (valve type N)

22mm 12 & 24VDC - Mobile (47 & 48 voltage code)

Minimum inlet pressure (bar)	Operating temperature		
	-10°C	+10°C	+50°C
3	+30 / -25% VDC	+30 / -20% VDC	+25 / -15% VDC
6	+30 / -30% VDC	+30 / -25% VDC	+25 / -20% VDC
8	+30 / -30% VDC	+30 / -30% VDC	+25 / -25% VDC
10	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC

30mm 12 & 24VDC - Mobile (47 & 48 voltage code)

Minimum inlet pressure (bar)	Operating temperature		
	-10°C	+10°C	+50°C
3	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC
6	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC
8	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC
10	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC

Mobile coils - (valve type K & H)

22mm 12 & 24VDC - Mobile (47 & 48 voltage code)

Minimum inlet pressure (bar)	Operating temperature			
	-40°C	+10°C	+50°C	+70°C
4	+30 / -25% VDC	+30 / -25% VDC	+30 / -10% VDC	+20 / -10% VDC
8	+30 / -30% VDC	+30 / -25% VDC	+30 / -15% VDC	+20 / -15% VDC
12	+30 / -30% VDC	+30 / -30% VDC	+30 / -15% VDC	+20 / -15% VDC
16	+30 / -30% VDC	+30 / -30% VDC	+30 / -20% VDC	+20 / -20% VDC

30mm 12 & 24VDC - Mobile (47 & 48 voltage code)

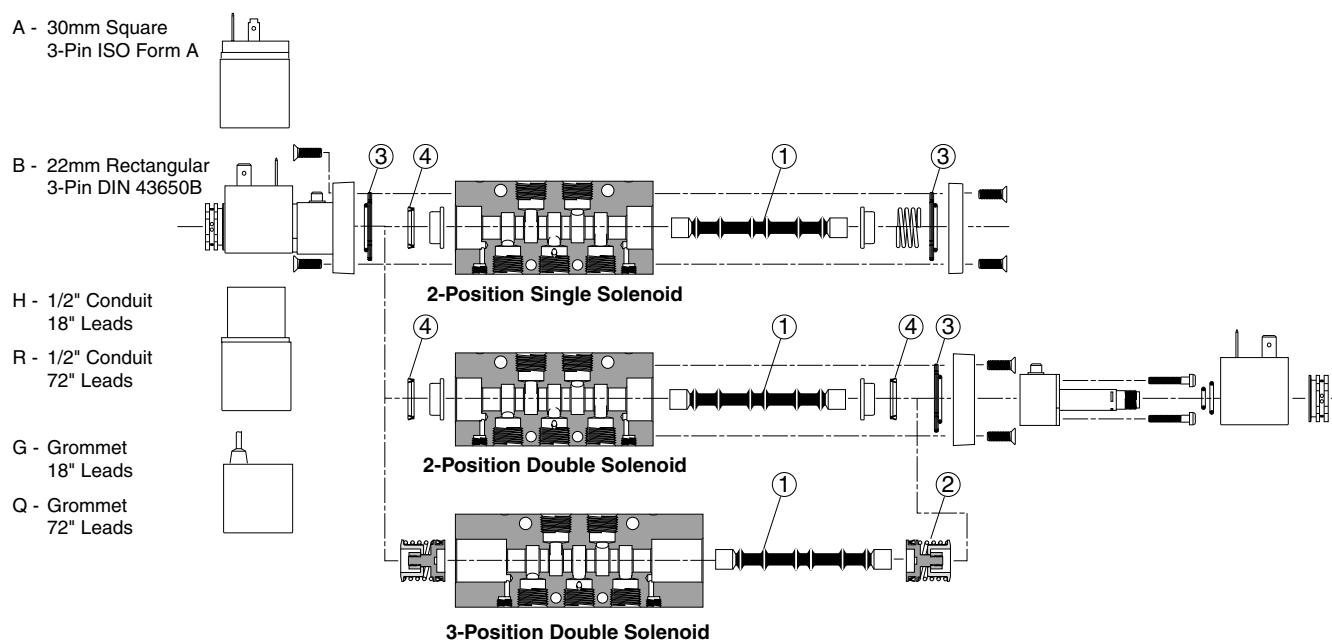
Minimum inlet pressure (bar)	Operating temperature			
	-40°C	+10°C	+50°C	+70°C
4	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC	+15 / -30% VDC
8	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC	+15 / -30% VDC
12	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC	+15 / -30% VDC
16	+30 / -30% VDC	+30 / -30% VDC	+25 / -30% VDC	+15 / -30% VDC

Note: All table ratings are based on 100% continuous duty and 5G shock vibration. At 50% continuous duty all ratings are +30% / -30% for all Temperatures and Pressures.

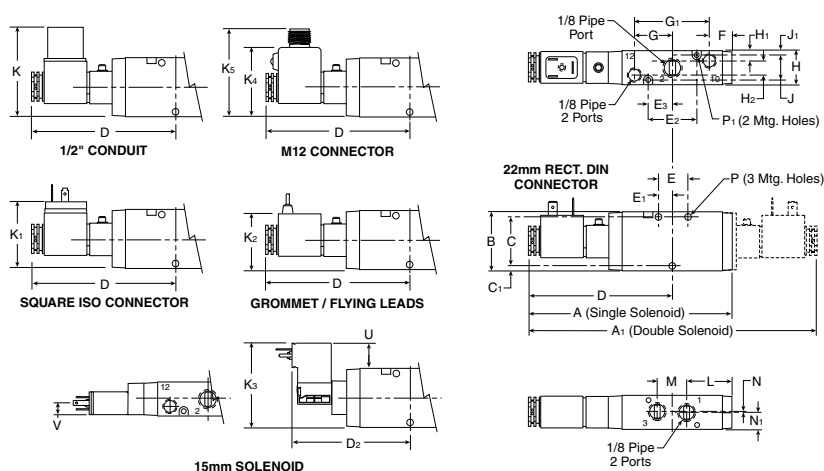
Viking Xtreme Series

Spool Service Kits

Description	Includes items (qty.)	Part number
Size A, 4-way, 2-position, solenoid & air pilot valves	1 (1), 3 (2), 4 (2)	P2LAXSK1
Size A, 4-way, 3-position, solenoid & air pilot valves	1 (1), 2 (2), 3 (2), 4 (2)	P2LAXSK2
Size A & Size B, 3-way, 2-position, solenoid & air pilot valves	1 (1), 3 (2), 4 (2)	P2LAXBXSK1
Size B, 4-way, 2 & 3-position valves	1 (1), 3 (2), 4 (2)	P2LBXSK1
Size C & Size D, 3-way, 2-position valves	1 (1), 3 (2), 4 (2)	P2LCXDXSK1
Size C & Size D, 4-way, 2 & 3-position valves	1 (1), 3 (2), 4 (2)	P2LCXDXSK1



P2LAX 3/2 Single & Double Operators – Solenoid

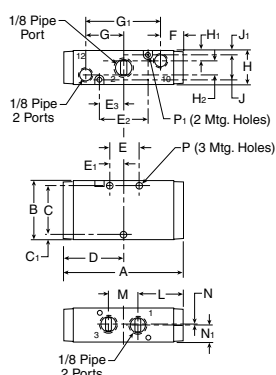


P2LAX 3/2 (solenoid)

A	A ₁	B	C	C ₁	D
5.35 (136)	7.60 (193)	1.57 (40)	1.26 (32)	.16 (4)	3.80 (97)
D ₂	E	E ₁	E ₂	E ₃	F
3.00 (76.8)	.79 (20)	.39 (10)	1.26 (32)	.63 (16)	.55 (14)
G	G ₁	H	H ₁	H ₂	J
.98 (25)	1.97 (50)	.87 (22)	.26 (6.6)	.35 (9)	.65 (16.5)
J ₁	K	K ₁	K ₂	K ₃	K ₄
.11 (2.9)	2.36 (60)	1.61 (41)	1.50 (38)	2.24 (57)	1.70 (43.3)
K ₅	L	M	N	N ₁	P
2.10 (53.3)	1.14 (29)	.79 (20)	.02 (0.5)	.42 (11)	Ø .17 Ø (4.3)
P ₁	U	V			
Ø .12 Ø (3.1)	0.81 (20.5)	0.29 (7.5)			

Inches (mm)

P2LAX 3/2 Single & Double Operators – Remote Air Pilot

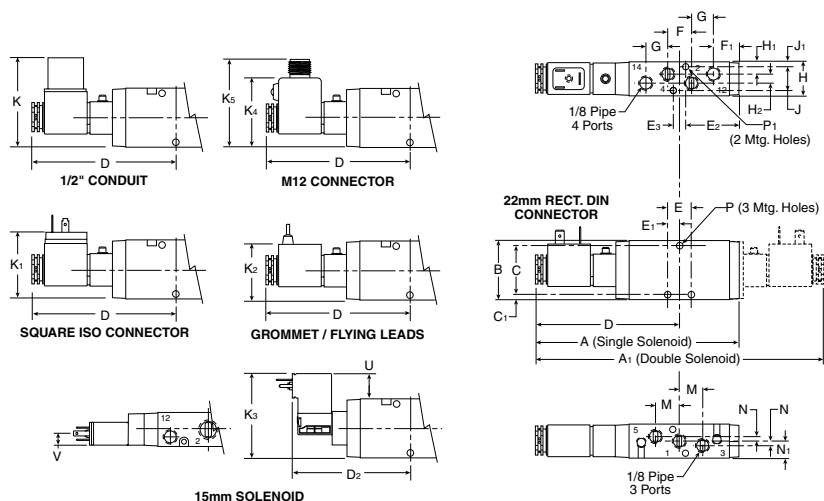


P2LAX 3/2 (remote air pilot)

A	B	C	C ₁	D	E
3.07 (78)	1.57 (40)	1.26 (32)	.16 (4)	1.54 (39)	.79 (20)
E ₁	E ₂	E ₃	F	G	G ₁
.39 (10)	1.26 (32)	.63 (16)	.55 (14)	.98 (25)	1.97 (50)
H	H ₁	H ₂	J	J ₁	L
.87 (22)	.26 (6.6)	.35 (9)	.65 (16.5)	.11 (2.9)	1.14 (29)
M	N	N ₁	P	P ₁	
.79 (20)	.02 (0.5)	.42 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)	

Inches (mm)

P2LAX 5/2 & 5/3 Single & Double Operators, 4-way



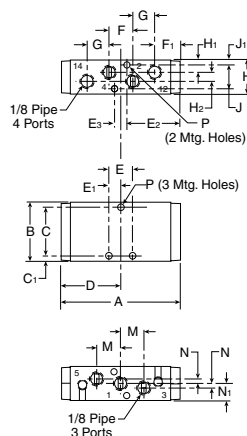
P2LAX 5/2 & 5/3 (solenoid)

A	A ₁	B	C	C ₁	D
5.47 (139)	7.72 (196)	1.57 (40)	1.30 (33)	.14 (3.5)	3.86 (98)
D ₂	E	E ₁	E ₂	E ₃	F
3.48 (88.3)	.63 (16)	.31 (8)	1.42 (36)	.33 (8.5)	.63 (16)
F ₁	G	H	H ₁	H ₂	J
.67 (17)	.59 (15)	.87 (22)	.31 (8)	.24 (6)	.63 (16)
J ₁	K	K ₁	K ₂	K ₃	K ₄
.12 (39)	2.36 (60)	1.61 (41)	1.50 (38)	2.24 (57)	1.63 (41.3)
K ₅	M	N	N ₁	P	P ₁
2.10 (53.3)	.63 (16)	.12 (3)	.43 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)
U	V				
0.81 (20.5)	0.29 (7.5)				

Inches (mm)

Viking Xtreme Series

P2LAX 5/2 & 5/3 Single & Double Operators – Remote Pilot

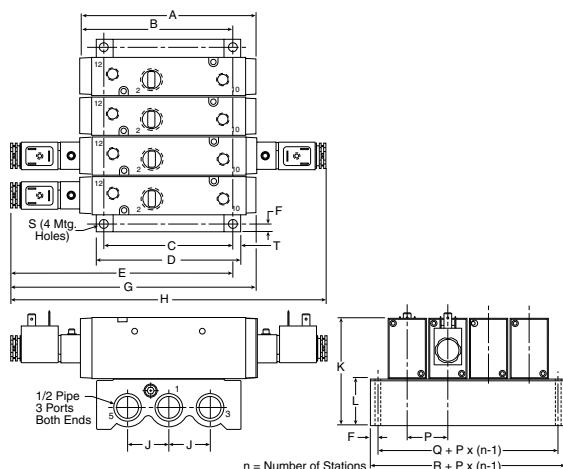


P2LAX 5/2 & 5/3 (remote)

A	B	C	C ₁	D
3.19 (81)	1.57 (40)	1.30 (33)	.14 (3.5)	1.59 (40.5)
E	E ₁	E ₂	E ₃	F
1.47 (16)	.31 (8)	1.42 (36)	.33 (8.5)	.63 (16)
F ₁	G	H	H ₁	H ₂
.67 (17)	.59 (15)	.87 (22)	.31 (8)	.24 (6)
J	J ₁	M	N	N ₁
.63 (16)	.12 (3)	.63 (16)	.12 (3)	.43 (11)
P	P ₁			
Ø .17 Ø (4.3)	Ø .12 Ø (3.1)			

Inches (mm)

P2LAX 3/2 Single & Double Operators – IEM Aluminum Bar Manifold



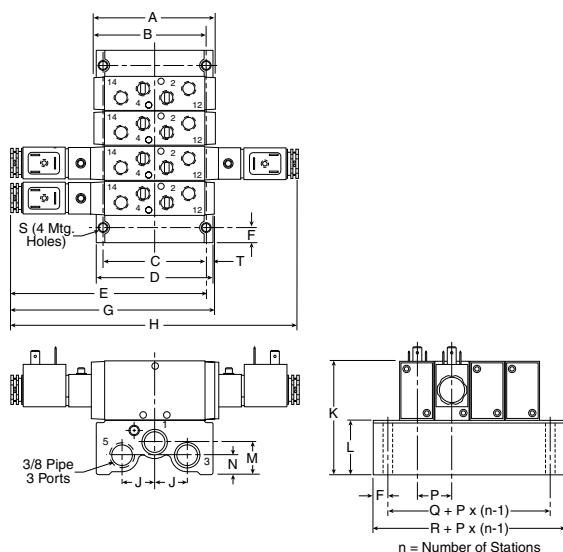
P2LAX 3/2

IEM Aluminum bar manifold

A	B	C	D	E
3.07 (78)	2.83 (72)	2.76 (70)	3.12 (79)	5.18 (132)
F	G	H	J	K
41 (10.5)	5.35 (136)	7.72 (193)	.87 (22)	3.11 (79)
L	M	N	P	Q
1.54 (39)	.87 (22)	.52 (13.2)	.93 (23.5)	1.56 (39.5)
R	S	T		
2.36 (60)	Ø .22 Ø (5.5)	.18 (4.5)		

Inches (mm)

P2LAX 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold



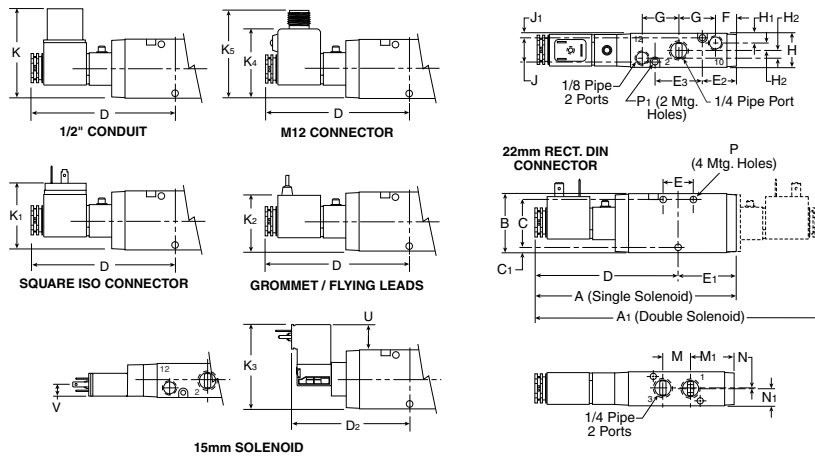
P2LAX 5/2 & 5/3

IEM Aluminum bar manifold

A	B	C	D	E
3.19 (81)	2.97 (76)	2.76 (70)	3.12 (79)	5.26 (134)
F	G	H	J	K
41 (10.5)	5.47 (139)	7.72 (196)	.87 (22)	3.11 (79)
L	M	N	P	Q
1.54 (39)	.87 (22)	.52 (13.2)	.93 (23.5)	1.56 (39.5)
R	S	T		
2.36 (60)	Ø .22 Ø (5.5)	.18 (4.5)		

Inches (mm)

P2LBX 3/2 Single & Double Operators – Solenoid

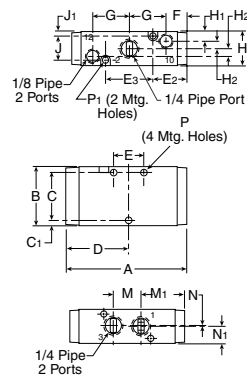


P2LBX 3/2 (solenoid)

A	A1	B	C	C1	D
5.35 (136)	7.60 (193)	1.57 (40)	1.26 (32)	.16 (4)	3.80 (96.5)
D2	E	E1	E2	E3	F
3.02 (76.8)	.79 (20)	1.54 (39)	.51 (13)	1.26 (32)	.55 (14)
G	H	H1	H2	J	J1
.98 (25)	.87 (22)	.26 (6.6)	.18 (4.5)	.65 (16.5)	.11 (2.9)
K	K1	K2	K3	K4	K5
2.36 (60)	1.61 (41)	1.50 (38)	2.24 (57)	1.63 (41.3)	2.10 (53.3)
M	M1	N	N1	P	P1
.79 (20)	1.14 (29)	.02 (0.5)	.42 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)
U	V				
0.81 (20.5)	0.29 (7.5)				

Inches (mm)

P2LBX 3/2 Single & Double Operators – Remote Air Pilot

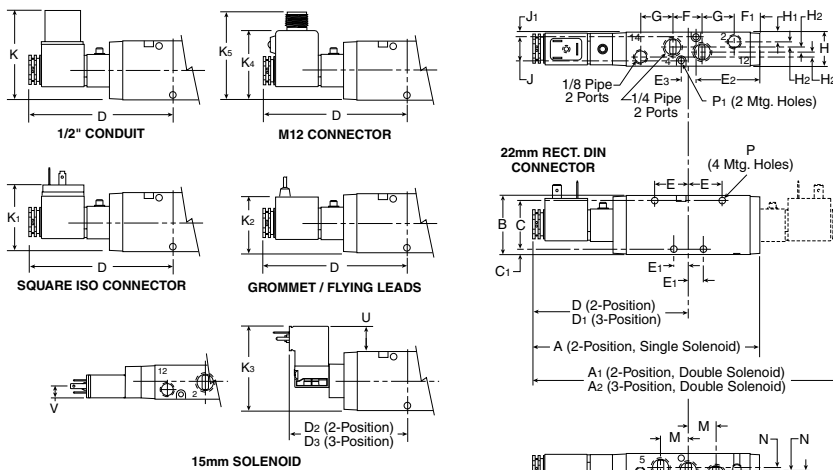


P2LBX 3/2 (remote air pilot)

A	B	C	C1	D	E
3.08 (78)	1.57 (40)	1.26 (32)	.16 (4)	1.54 (39)	.79 (20)
E2	E3	F	G	H	H1
.51 (13)	1.26 (32)	.55 (14)	.98 (25)	.87 (22)	.26 (6.6)
H2	J	J1	M	M1	N
.18 (4.5)	.65 (16.5)	.11 (2.9)	.79 (20)	1.14 (29)	.02 (0.5)
N1	P	P1			
.42 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)			

Inches (mm)

P2LBX 5/2 & 5/3 Single & Double Operators – Solenoid



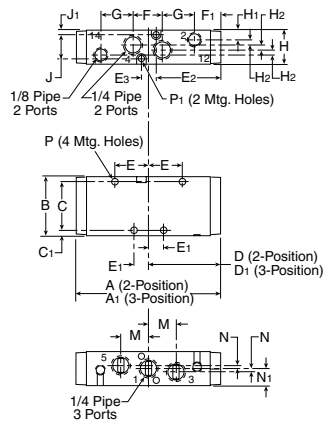
P2LBX 5/2 & 5/3 (solenoid)

A	A1	A2	B	C	C1
6.14 (156)	8.39 (213)	9.23 (235)	1.57 (40)	1.26 (32)	.16 (4)
D	D1	D2	D3	E	E1
4.21 (107)	4.64 (118)	3.48 (88.3)	3.92 (99.6)	.91 (23)	.39 (10)
E2	E3	F	F1	G	H
1.73 (44)	.39 (10)	.79 (20)	.67 (17)	.87 (22)	.87 (22)
H1	H2	J	J1	K	K1
.26 (6.6)	.12 (3)	.65 (16.5)	.12 (3)	2.36 (60)	1.61 (41)
K2	K3	K4	K5	M	N
1.50 (38)	2.24 (57)	1.70 (43.3)	2.10 (53.3)	.79 (20)	.08 (2)
N1	P	P1	U	V	
.43 (11)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)	0.81 (20.5)	0.29 (7.5)	

Inches (mm)

Viking Xtreme Series

P2LBX 5/2 & 5/3 Single & Double Operators – Remote Air Pilot

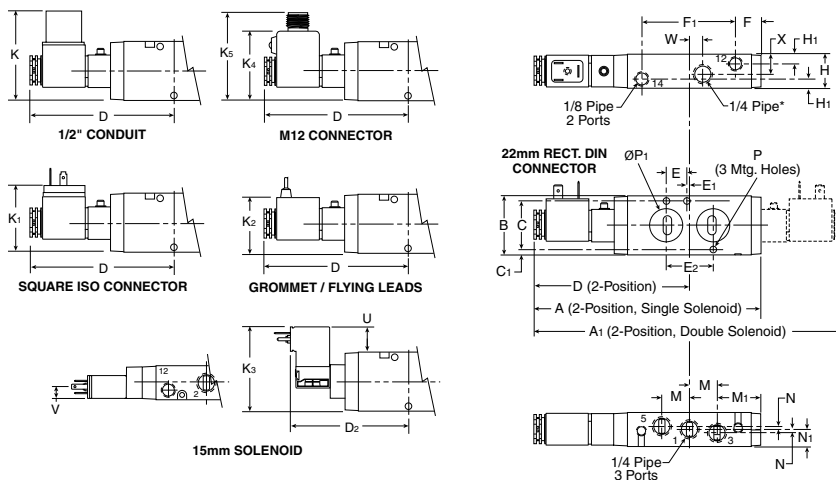


P2LBX 5/2 & 5/3 (remote air pilot)

A	A1	B	C	C1	D
3.95 (100)	4.61 (117)	1.57 (40)	1.26 (32)	.16 (4)	1.93 (49)
D1	E	E1	E2	E3	F
2.28 (58)	.91 (23)	.39 (10)	1.73 (44)	.39 (10)	.79 (20)
F1	G	H	H1	H2	J
.67 (17)	.87 (22)	.8 (22)	.26 (6.6)	.12 (3)	.65 (16.5)
J1	K	M	N	N1	P
.11 (2.8)	2.90 (74)	.79 (20)	.08 (2)	.43 (11)	Ø .17 Ø (4.3)
P1					
Ø .12 Ø (3.1)					

Inches (mm)

P2LBX 5/2 Single & Double Operators – Solenoid NAMUR

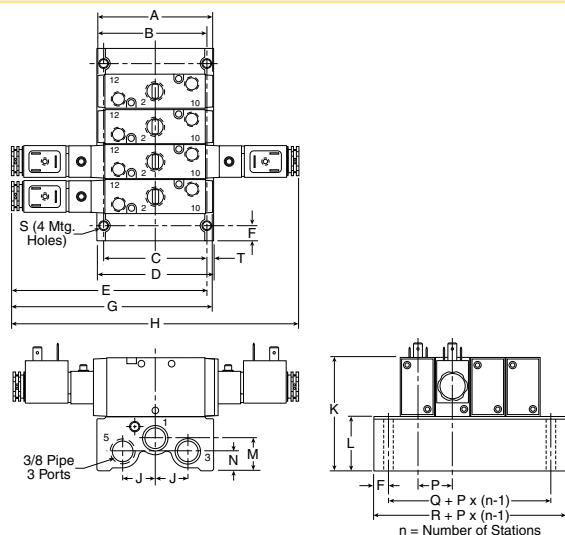


P2LBX 5/2 (NAMUR)

A	A1	B	C	C1	D
6.15 (156)	8.39 (213)	1.57 (40)	1.26 (32)	.16 (4)	4.21 (107)
D2	E	E1	E2	F	F1
3.48 (88.3)	.47 (12)	.08 (2)	.94 (24)	.67 (17)	2.52 (64)
K	K1	K2	K3	K4	K5
2.36 (60)	1.61 (41)	1.50 (38)	2.24 (57)	1.70 (43.3)	2.10 (53.3)
H	H1	M	M1	N	N1
.87 (22)	.26 (6.6)	.79 (20)	1.14 (29)	.08 (2)	.43 (11)
P	P1	U	V	W	X
Ø .22 Ø (5.5)	Ø .76 Ø (19.4)	0.81 (20.5)	0.29 (7.5)	0.39 (10)	0.50 (12.6)

Inches (mm)

* Valve includes 1/4 pipe plug, o-rings and mounting bolts.

Viking Xtreme Series**P2LBX 3/2 Single & Double Operators – IEM Aluminum Bar Manifold****P2LBX 3/2****IEM Aluminum bar manifold**

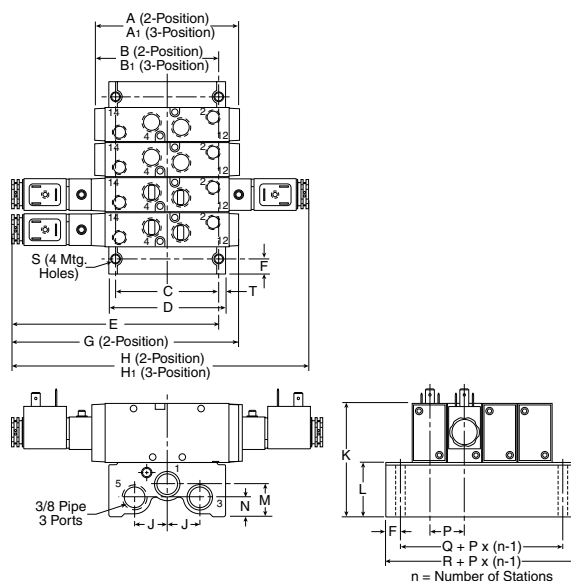
A	B	C	D	E
3.86 (78)	2.91 (74)	2.76 (70)	3.12 (79)	5.17 (131)

F	G	H	J	K
.40 (10.2)	5.33 (136)	7.6 (193)	.87 (22)	3.11 (79)

L	M	N	P	Q
1.47 (37)	.87 (22)	.52 (13.2)	.93 (23.5)	1.56 (39.6)

R	S	T
2.36 (60)	Ø .22 Ø (5.5)	.18 (4.6)

Inches (mm)

P2LBX 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold**P2LBX 5/2 & 5/3****IEM Aluminum bar manifold**

A	A ₁	B	B ₁	C
3.86 (98)	4.70 (120)	3.42 (84)	3.73 (95)	2.76 (70)

D	E	F	G	H
3.12 (79)	5.59 (142)	.40 (10.2)	6.14 (156)	8.39 (213)

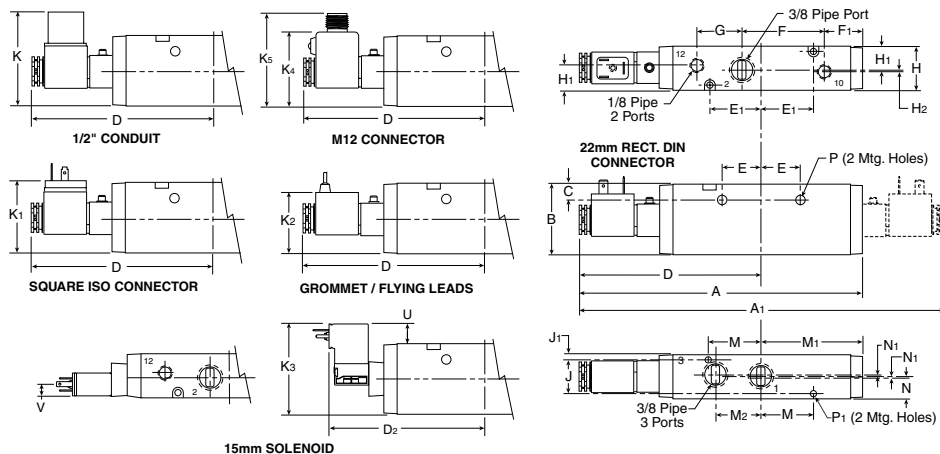
H ₁	J	K	L	M
9.23 (235)	.87 (22)	3.11 (79)	1.47 (37)	.87 (22)

N	P	Q	R	S
.52 (13.2)	.93 (23.5)	1.56 (39.6)	2.36 (60)	Ø .22 Ø (5.5)

T
.18
(4.6)
Inches (mm)

Viking Xtreme Series

P2LCX 3/2 Single & Double Operators – Solenoid

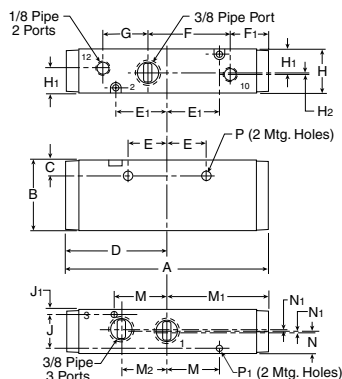


P2LCX 3/2 (solenoid)

A	A ₁	B	C	D
7.66 (194.5)	9.80 (249)	1.89 (48)	.43 (11)	4.90 (124.5)
D ₂	E	E ₁	F	F ₁
4.17 (105.8)	1.04 (26.5)	1.40 (35.5)	2.24 (57)	1.02 (26)
G	H	H ₁	H ₂	J
1.22 (31)	1.18 (30)	.67 (17)	.02 (0.5)	.91 (23)
J ₁	K	K ₁	K ₂	K ₃
.14 (3.5)	2.52 (64)	1.77 (45)	1.65 (42)	2.41 (61.3)
K ₄	K ₅	M	M ₁	M ₂
1.78 (45.3)	2.26 (57.3)	1.40 (35.5)	2.76 (70)	1.18 (30)
N	N ₁	P	P ₁	U
.55 (14)	.04 (1)	Ø .27 Ø (6.9)	Ø .17 Ø (4.4)	0.52 (13.3)
V				
0.65 (7.5)				

Inches (mm)

P2LCX 3/2 Single & Double Operators – Remote Air Pilot



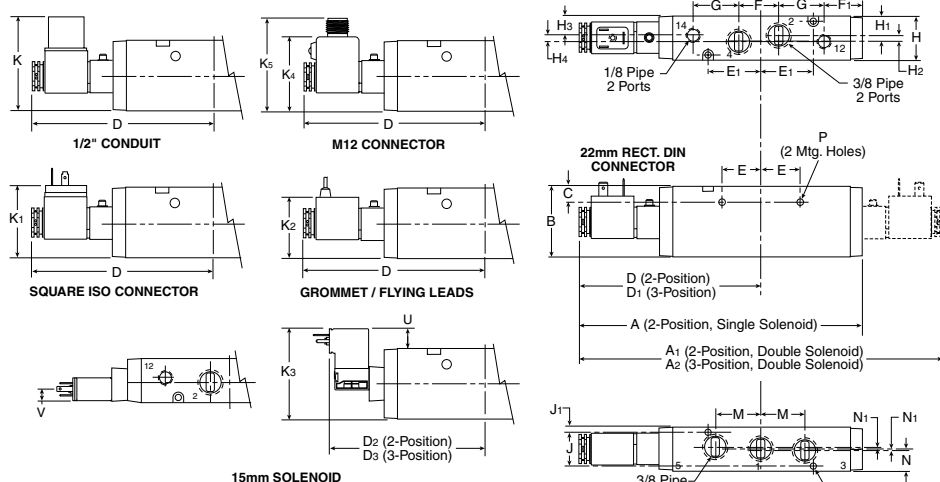
P2LCX 3/2 (remote air pilot)

A	B	C	D	E
5.51 (140)	1.89 (48)	.43 (11)	2.76 (70)	1.04 (26.5)
E ₁	F	F ₁	G	H
1.40 (35.5)	2.24 (57)	1.02 (26)	1.22 (31)	1.18 (30)
H ₁	H ₂	J	J ₁	M
.67 (17)	.02 (0.5)	.91 (23)	.14 (3.5)	1.40 (35.5)
M ₁	M ₂	N	N ₁	P
2.76 (70)	1.18 (30)	.55 (14)	.04 (1)	Ø .27 Ø (6.9)
P₁				
Ø .17 Ø (4.4)				

Inches (mm)

Viking Xtreme Series

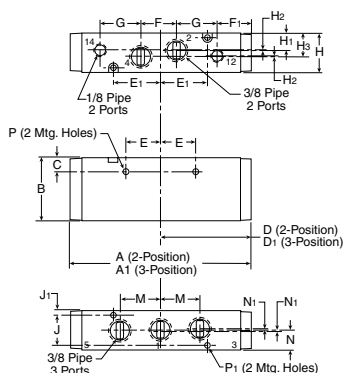
P2LCX 5/2 & 5/3 Single & Double Operators – Solenoid


P2LCX 5/2 & 5/3 (solenoid)

A	A ₁	A ₂	B	C
7.68 (195)	9.84 (250)	10.71 (272)	1.89 (48)	.43 (11)
D	D ₁	D ₂	D ₃	E
4.92 (125)	5.35 (136)	4.17 (105.8)	4.61 (117.2)	1.04 (26.5)
E ₁	F	F ₁	G	H
1.40 (35.5)	1.06 (27)	1.02 (26)	1.22 (31)	1.18 (30)
H ₁	H ₂	H ₃	H ₄	J
.53 (13.5)	.12 (3)	.51 (13)	.16 (4)	.91 (23)
J ₁	K	K ₁	K ₂	K ₃
.14 (3.5)	2.52 (64)	1.77 (45)	1.65 (42)	2.41 (61.3)
K ₄	K ₅	M	N	N ₁
1.78 (45.3)	2.26 (57.3)	1.18 (30)	.55 (14)	.04 (1)
P	P ₁	U	V	
Ø .27 (6.9)	Ø .17 (4.4)	0.52 (13.3)	0.29 (7.5)	

Inches (mm)

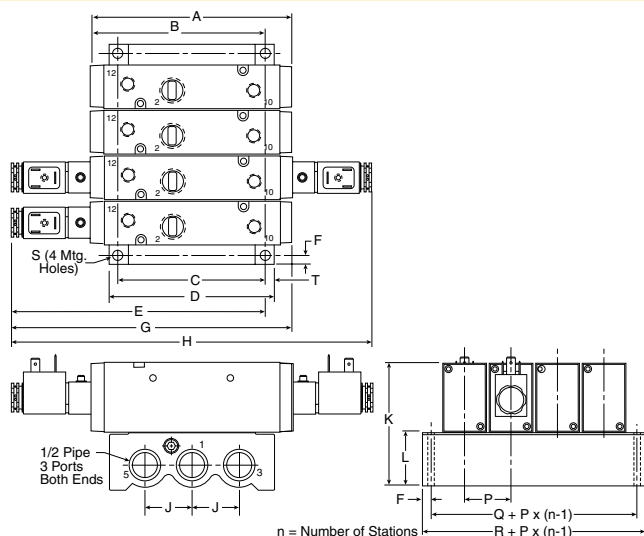
P2LCX 5/2 & 5/3 Single & Double Operators – Remote Air Pilot


P2LCX 5/2 & 5/3 (remote air pilot)

A	A ₁	B	C	D	D ₁
5.51 (140)	6.38 (162)	1.89 (48)	.43 (11)	2.76 (70)	3.18 (81)
E	E ₁	F	F ₁	G	H
1.04 (26.5)	1.40 (35.5)	1.06 (27)	1.02 (26)	1.22 (31)	1.18 (30)
H ₁	H ₂	H ₃	J	J ₁	M
.51 (13)	.02 (0.5)	.12 (3)	.91 (23)	.14 (3.5)	1.18 (30)
N	N ₁	P	P ₁		
.55 (14)	.04 (1)	Ø .27 (6.9)	Ø .17 (4.4)		

Inches (mm)

P2LCX 3/2 Single & Double Operators – IEM Aluminum Bar Manifold

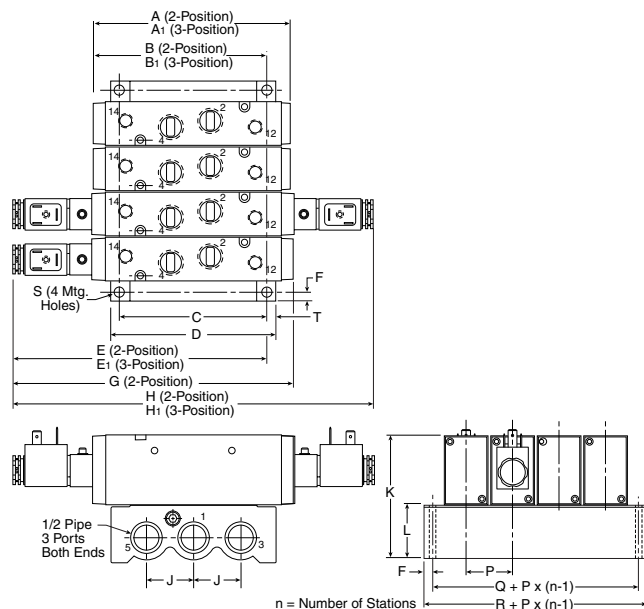

P2LCX 3/2
IEM Aluminum bar manifold

A	B	C	D	E	F
5.51 (140)	4.96 (126)	3.94 (100)	4.41 (112)	7.11 (180.5)	.24 (6)
G	H	J	K	L	P
7.66 (194.5)	9.80 (249)	1.26 (32)	3.43 (87)	1.54 (39)	1.24 (31.5)
Q	R	S	T		
1.77 (45)	2.24 (57)	Ø .26 (6.5)	.24 (6)		

Inches (mm)

Viking Xtreme Series

P2LCX 5/2 & 5/3 Single & Double Operators – IEM Aluminum Bar Manifold



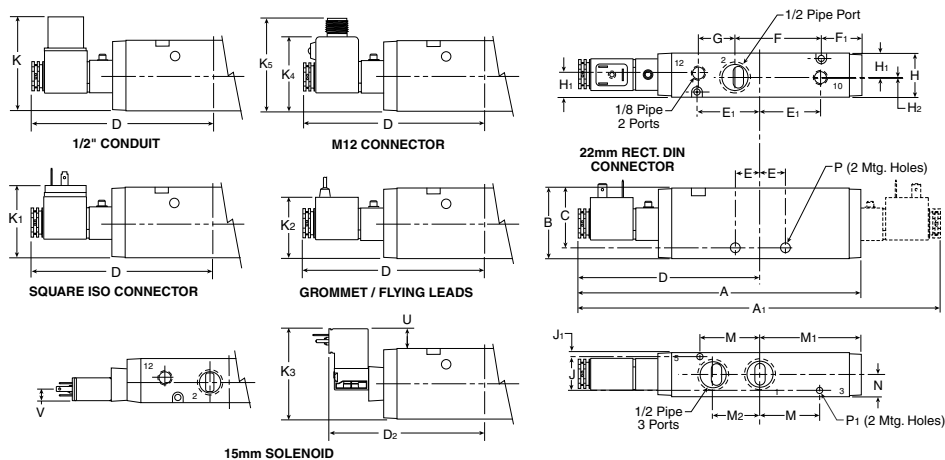
P2PCX 5/2 & 5/3

IEM Aluminum bar manifold

A	A ₁	B	B ₁	C
5.51 (140)	6.38 (162)	4.72 (120)	5.16 (131)	3.94 (100)
D	E	E ₁	F	G
4.41 (112)	6.89 (170)	7.13 (181)	.24 (6)	7.68 (195)
H	H ₁	J	K	L
9.84 (250)	10.71 (272)	1.26 (32)	3.43 (87)	1.54 (39)
P	Q	R	S	T
1.24 (31.5)	1.77 (45)	2.24 (57)	Ø .26 (6.5)	.24 (6)

Inches (mm)

P2LDX 3/2 Single & Double Operators – Solenoid

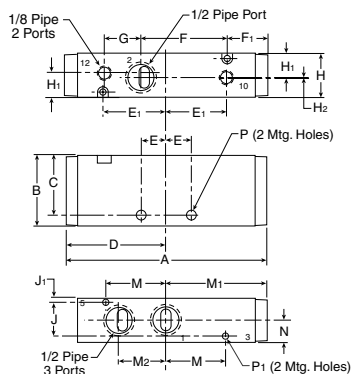


P2LDX 3/2 (solenoid)

A	A ₁	B	C	D
7.66 (194.5)	9.80 (249)	1.89 (48)	1.59 (40.5)	4.90 (124.5)
D ₂	E	E ₁	F	F ₁
4.17 (105.8)	.67 (17)	1.65 (42)	2.36 (60)	1.08 (27.5)
G	H	H ₁	H ₂	J
.98 (25)	1.18 (30)	.67 (17)	.02 (0.5)	.91 (23)
J ₁	K	K ₁	K ₂	K ₃
.14 (3.5)	2.52 (64)	1.77 (45)	1.65 (42)	2.41 (61.3)
K ₄	K ₅	M	M ₁	M ₂
1.78 (45.3)	2.26 (57.3)	1.65 (42)	2.76 (70)	1.30 (33)
N	P	P ₁	U	V
.59 (15)	Ø .26 (6.6)	Ø .17 (4.4)	0.65 (16.5)	0.29 (7.5)

Inches (mm)

P2LDX 3/2 Single & Double Operators – Remote Air Pilot

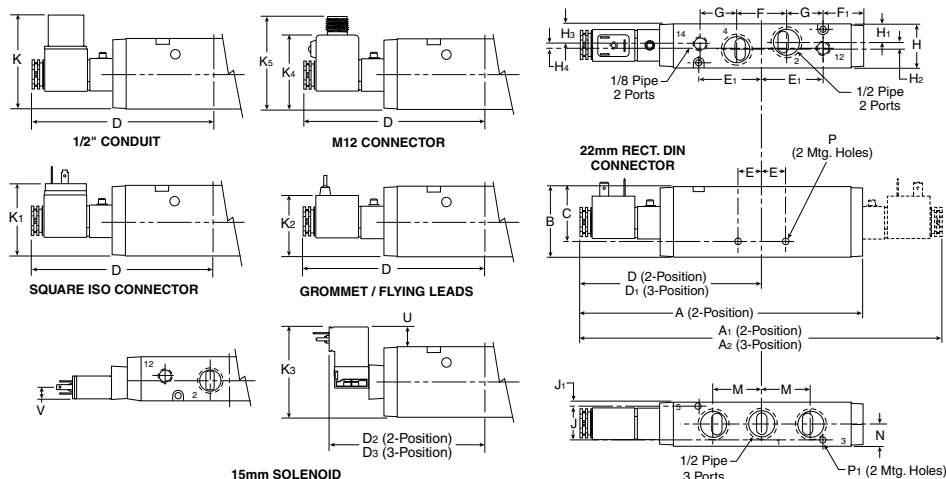


P2LDX 3/2 (remote air pilot)

A	B	C	D	E
5.51 (140)	1.89 (48)	1.59 (40.5)	2.76 (70)	.67 (17)
E1	F	F1	G	H
1.65 (42)	2.36 (60)	1.08 (27.5)	.98 (25)	1.18 (30)
H1	H2	J	J1	M
.67 (17)	.02 (0.5)	.91 (23)	.14 (3.5)	1.65 (42)
M1	M2	N	P	P1
2.76 (70)	1.30 (33)	.59 (15)	Ø .26 Ø (6.6)	Ø .17 Ø (4.4)

Inches (mm)

P2LDX 5/2 & 5/3 Single & Double Operators – Solenoid

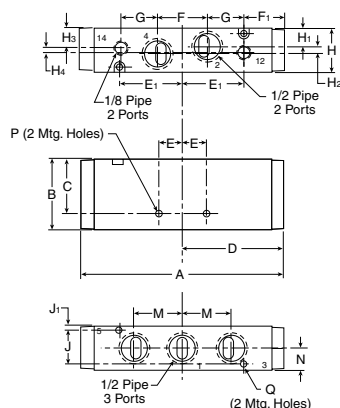


P2LDX 5/2 & 5/3 (solenoid)

A	A1	A2	B	C
7.67 (195)	9.84 (250)	10.7 (272)	1.89 (48)	1.59 (40.5)
D	D1	D2	D3	E
4.92 (125)	5.79 (147)	4.17 (105.3)	4.61 (117.2)	.67 (17)
E1	F	F1	G	H
1.65 (42)	1.34 (34)	1.10 (28)	.98 (25)	1.18 (30)
H1	H2	H3	H4	J
.49 (12.5)	.20 (5)	.51 (13)	.16 (4)	.91 (23)
J1	K	K1	K2	K3
.14 (3.5)	2.52 (64)	1.77 (45)	1.65 (42)	2.41 (61.3)
K4	K5	M	N	P
1.78 (45.3)	2.26 (57.3)	1.30 (33)	.59 (15)	Ø .26 Ø (6.6)
P1	U	V		
Ø .17 Ø (4.4)	0.52 (13.3)	0.29 (7.5)		

Inches (mm)

P2LDX 5/2 & 5/3 Single & Double Operators – Remote Pilot



P2LDX 5/2 & 5/3 (remote)

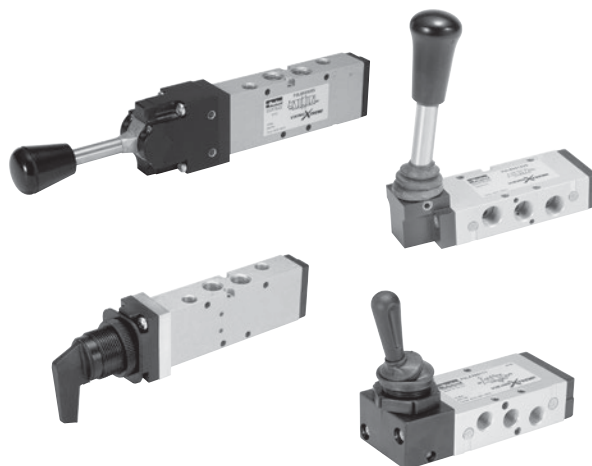
A	B	C	D	E
5.47 (139)	1.89 (48)	1.59 (40.5)	2.63 (67)	.67 (17)
E1	F	F1	G	H
1.65 (42)	1.34 (34)	1.08 (27.5)	.98 (25)	1.18 (30)
H1	H2	H3	H4	J
.49 (12.5)	.20 (5)	.51 (13)	.16 (4)	.91 (23)
J1	P	M	N	Q
.14 (3.5)	Ø .26 Ø (6.6)	1.29 (32.7)	.59 (15)	Ø .17 Ø (4.4)

Inches (mm)

Viking Xtreme Manual Series

The Viking Xtreme Manual valve range is robust, versatile and combines high performance with compact installation dimensions. The valves rugged lever actuator has been specifically designed for gloved hands to suit mobile applications in the most arduous of environments. Available in 3/2, 5/2 and 5/3 functions with either spring return or detented lever. The lever actuated versions are available across the entire range from 1/8 to 1/2 port sizes.

- **Heavy duty lever**
- **Inline valve**
 - 1/8", 1/4", 3/8", 1/2" NPT & BSPP
- **2-position models**
 - 4-way & 3-way
- **3-position models**
 - all ports blocked
 - pressure center
 - center exhaust
- **Approval**
 - Canada Registration Number available (CRN)
- **Over-moulded single piece aluminium spool**
 - Reduced product complexity
 - Increased flow
 - Wide operating temperature range
 - Stable seal performance even with high flow / pressure drop across spool.



Operating information

Operating pressure: Type A & B: Vacuum to 232 PSIG
(Vacuum to 16 bar Max.)

Type C & D: Vacuum to 174 PSIG
(Vacuum to 12 bar Max.)

Temperature range: Xtreme: -40°F to 140°F (-40°C to 60°C)

Material specifications

End covers	Anodized aluminum
Lever	Reinforced polyamide plastic
Lever housing	Acetal plastic
Piston	Acetal plastic / anodized aluminum
Seals	Nitrile rubber
Screws	Stainless steel
Spool	Aluminum & nitrile rubber
Springs	Stainless steel
Valve body	Anodized aluminum

Lever Handle – 1/8" valve size, 5/2 & 5/3 only



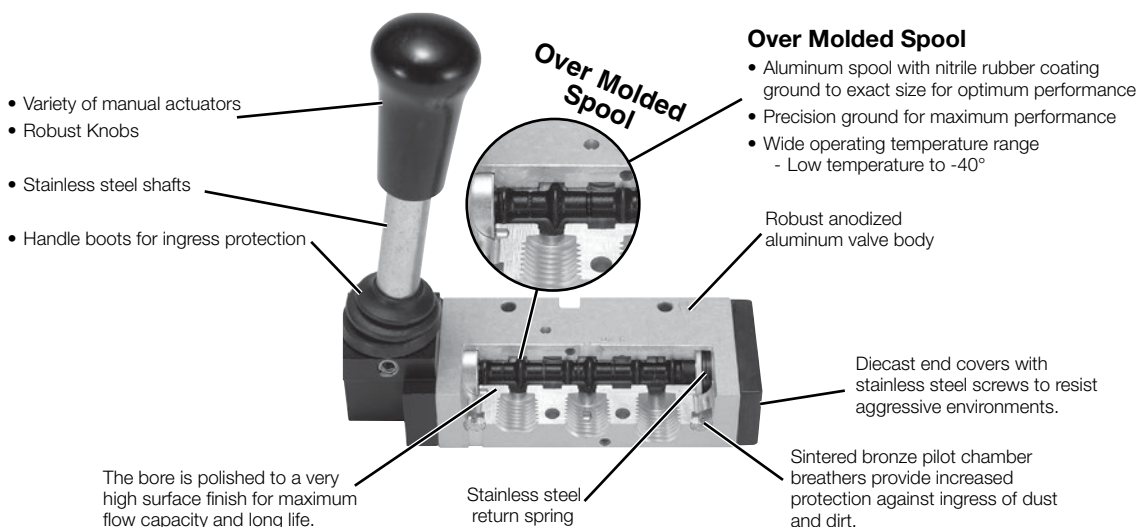
Twist Handle – 1/4" valve sizes



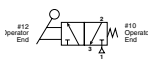
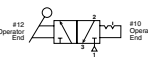
Lever Handle – All other valve sizes

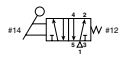
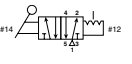


Features

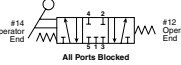
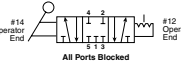


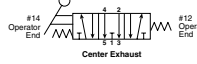
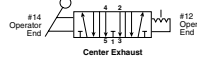
Viking Xtreme Manual Series

3/2 - 2-position *	Symbol	Valve type	Port size	Cv	Weight lb (kg)	Part number NPT	Part number BSPP
		Lever spring return	1/8	0.6	0.73 (0.33)	P2LAX391VS	P2LAX311VS
			1/4	1.5	0.73 (0.33)	P2LBX392VS	P2LBX312VS
			3/8	2.5	0.88 (0.40)	P2LCX393VS	P2LCX313VS
			1/2	2.7	1.32 (0.60)	P2LDX394VS	P2LDX314VS
		Lever detent	1/8	0.7	0.73 (0.33)	P2LAX391VV	P2LAX311VV
			1/4	1.3	0.73 (0.33)	P2LBX392VV	P2LBX312VV
			3/8	2.5	0.88 (0.40)	P2LCX393VV	P2LCX313VV
			1/2	2.7	1.32 (0.60)	P2LDX394VV	P2LDX314VV

5/2 - 2-position *	Symbol	Valve type	Port size	Cv	Weight lb (kg)	Part number NPT	Part number BSPP
		Lever spring return	1/8	0.6	0.40 (0.18)	P2LAX591VS	P2LAX511VS
			1/4	1.5	0.73 (0.33)	P2LBX592VS	P2LBX512VS
			3/8	2.5	0.88 (0.40)	P2LCX593VS	P2LCX513VS
			1/2	2.7	1.32 (0.60)	P2LDX594VS	P2LDX514VS
		Lever detent	1/8	0.7	0.40 (0.18)	P2LAX591VV	P2LAX511VV
			1/4	1.3	0.73 (0.33)	P2LBX592VV	P2LBX512VV
			3/8	2.5	0.88 (0.40)	P2LCX593VV	P2LCX513VV
			1/2	2.7	1.32 (0.60)	P2LDX594VV	P2LDX514VV

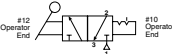
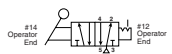
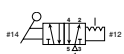
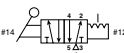
Size P2LAX Shown

5/3 - 3-position,* all ports blocked	Symbol	Valve type	Port size	Cv	Weight lb (kg)	Part number NPT	Part number BSPP
		Lever spring center	1/8	0.6	0.40 (0.18)	P2LAX69111	P2LAX61111
			1/4	1.5	0.73 (0.33)	P2LBX69211	P2LBX61211
			3/8	2.5	1.56 (0.71)	P2LCX69311	P2LCX61311
			1/2	2.7	1.61 (0.73)	P2LDX69411	P2LDX61411
		Lever detent	1/8	0.7	0.40 (0.18)	P2LAX69122	P2LAX61122
			1/4	1.3	0.73 (0.33)	P2LBX69222	P2LBX61222
			3/8	2.5	1.56 (0.71)	P2LCX69322	P2LCX61322
			1/2	2.7	1.61 (0.73)	P2LDX69422	P2LDX61422

5/3 - 3-position,* center exhaust	Symbol	Valve type	Port size	Cv	Weight lb (kg)	Part number NPT	Part number BSPP
		Lever spring center	1/8	0.6	0.40 (0.18)	P2LAX89111	P2LAX81111
			1/4	1.5	0.73 (0.33)	P2LBX89211	P2LBX81211
			3/8	2.5	1.56 (0.71)	P2LCX89311	P2LCX81311
			1/2	2.7	1.61 (0.73)	P2LDX89411	P2LDX81411
		Lever detent	1/8	0.7	0.40 (0.18)	P2LAX89122	P2LAX81122
			1/4	1.3	0.73 (0.33)	P2LBX89222	P2LBX81222
			3/8	2.5	1.56 (0.71)	P2LCX89322	P2LCX81322
			1/2	2.7	1.61 (0.73)	P2LDX89422	P2LDX81422

* Valve lever movement 90° to ports.

Viking Xtreme Manual Series

3/2 - 2-position	Symbol	Valve type	Port size	Cv		Part number NPT	Part number BSPP
		Twist handle detent	1/4	1.3	0.73 (0.33)	P2LBX392JJ	P2LBX312JJ
5/2 - 2-position	Symbol	Valve type	Port size	Cv		Part number NPT	Part number BSPP
		Twist handle detent	1/4	1.3	0.73 (0.33)	P2LBX592JJ	P2LBX512JJ
5/2 - 2-position *	Symbol	Valve type	Port size	Cv		Part number NPT	Part number BSPP
		Lever spring return	1/4	1.3	0.73 (0.33)	P2LBX592ZS	P2LBX512ZS
		Lever detent	1/4	1.3	0.73 (0.33)	P2LBX592ZZ	P2LBX512ZZ

* Valve lever movement inline to ports.

Viking Xtreme Manual Operated Valves

Vacuum to 232 PSIG (Vacuum to 16 bar) -40°F to 140°F (-40°C to 60°C)

Valve size		Valve type / function		Actuator / position / lever		Main port thread	
1/8"	A	3/2 NC - 2-position	3	JJ*	Twist handle detent, 2-position	11	G1/8 (P2LA)
1/4"	B	5/2 2-position	5	VS	Spring return lever, 2-position, 90° to ports	12	G1/4 (P2LB)
3/8"	C	5/3 3-position, APB	6	WV	Lever, detent, 2-position, 90° to ports	1N*	G1/4 (P2LB) NAMUR mount
1/2"	D	5/3 3-position, PC	7	ZS**	Spring return lever, 2-position, inline to ports	13	G3/8 (P2LC)
		5/3 3-position, CE	8	ZZ**	Lever detent, 2-position, inline to ports	14	G1/2 (P2LD)
				11	Spring centered lever, 3-position, 90° to ports	91	1/8" NPT (P2LA)
				22	Lever, detent, 3-position, 90° to ports	92	1/4" NPT (P2LB)
				55**	Spring return lever, 3-position, inline to ports	9N*	1/4 NPT (P2LB) NAMUR mount
				66**	Lever detent, 3-position, inline to ports	93	3/8" NPT (P2LC)
						94	1/2" NPT (P2LD)

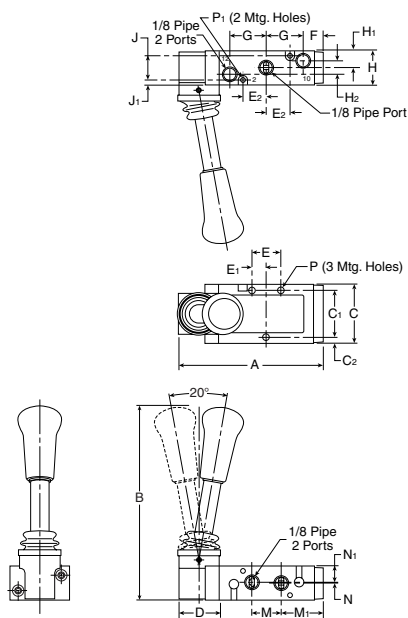
* Not available with 3-position valves. Available Size B only.

** Size B valve only.

* 5/2, 2-position valve only.

Viking Xtreme Manual Series

P2LAX 3/2 Hand Lever Operated Lever operation 90° to ports movement

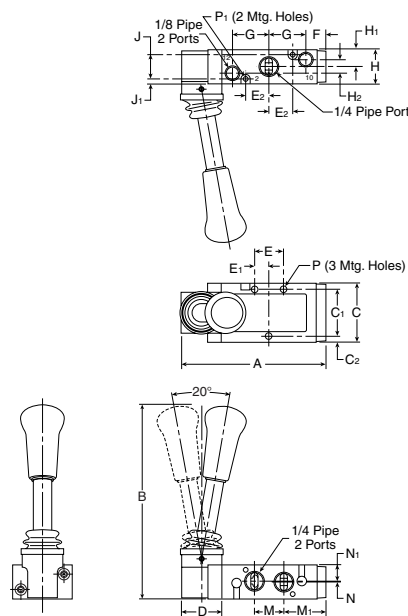


P2LAX 3/2

A	B	C
3.88 (99)	5.23 (133)	1.57 (40)
C ₁	C ₂	D
1.26 (32)	.16 (4)	1.06 (27)
E	E ₁	E ₂
.79 (20)	.39 (10)	.63 (16)
F	G	H
.55 (14)	.98 (25)	.87 (22)
H ₁	H ₂	J
.42 (10.6)	.02 (0.5)	.65 (16.5)
J ₁	M	M ₁
.11 (2.9)	.79 (20)	1.14 (29)
N	N ₁	P
.18 (4.5)	.26 (6.6)	Ø .17 Ø (4.3)
P ₁		
Ø .12 Ø (3.1)		

Inches (mm)

P2LBX 3/2 Hand Lever Operated Lever operation 90° to ports movement

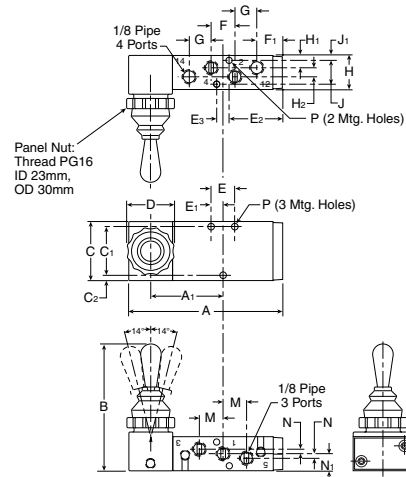


P2LBX 3/2

A	B	C
3.88 (99)	5.23 (133)	1.57 (40)
C ₁	C ₂	D
1.26 (32)	.16 (4)	1.06 (27)
E	E ₁	E ₂
.79 (20)	.39 (10)	.63 (16)
F	G	H
.55 (14)	.98 (25)	.87 (22)
H ₁	H ₂	J
.42 (10.6)	.02 (0.5)	.65 (16.5)
J ₁	M	M ₁
.11 (2.9)	.79 (20)	1.14 (29)
N	N ₁	P
.18 (4.5)	.26 (6.6)	Ø .17 Ø (4.3)
P ₁		
Ø .12 Ø (3.1)		

Inches (mm)

P2LAX 5/2 & 5/3 Hand Lever Operated Lever operation 90° to ports movement

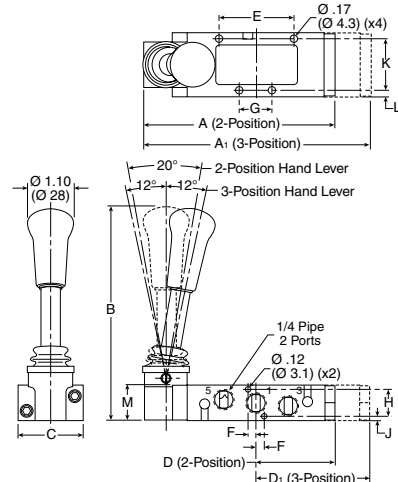


P2LAX 5/2 & 5/3

A	A ₁	B
4.02 (102)	1.89 (48)	3.23 (82)
C	C ₁	C ₂
1.57 (40)	1.30 (33)	.14 (3.5)
D	E ₂	E ₃
1.18 (30)	1.42 (36)	.33 (8.5)
F	F ₁	G
.63 (16)	.67 (17)	.59 (15)
H	H ₁	H ₂
.87 (22)	.31 (8)	.24 (6)
J	J ₁	M
.63 (16)	.12 (3)	.63 (16)
N	N ₁	P
.12 (3)	.43 (11)	Ø .16 Ø (4.1)

Inches (mm)

P2LBX 5/2 & 5/3 Hand Lever Operated Lever operation 90° to ports movement



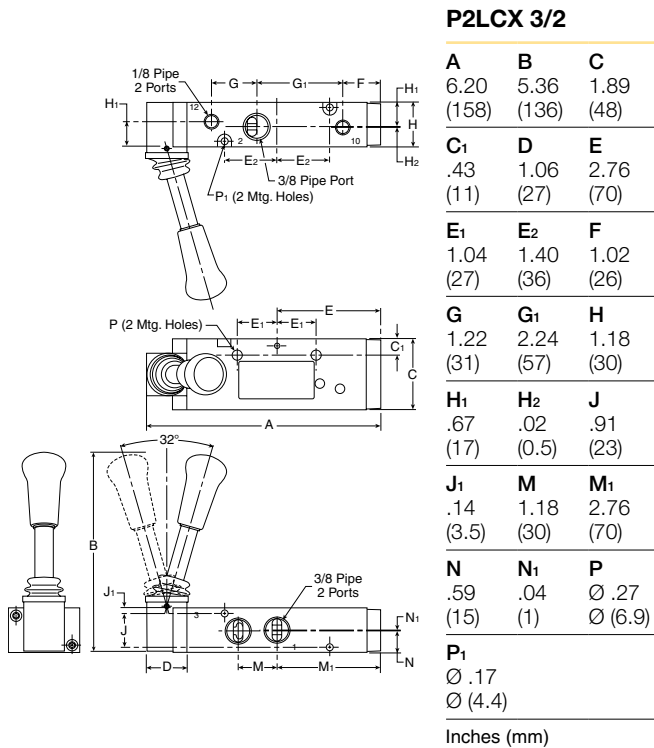
P2LBX 5/2 & 5/3

A	A ₁	B
4.67 (118.5)	5.51 (140)	5.19 (131.8)
C	D	D ₁
1.57 (40)	1.93 (49)	2.35 (59.8)
E	F	G
1.81 (46)	.20 (5)	.79 (20)
H	J	K
.65 (16.5)	.11 (2.85)	1.26 (32)
L	M	
.16 (4)	.87 (22.2)	
Inches (mm)		

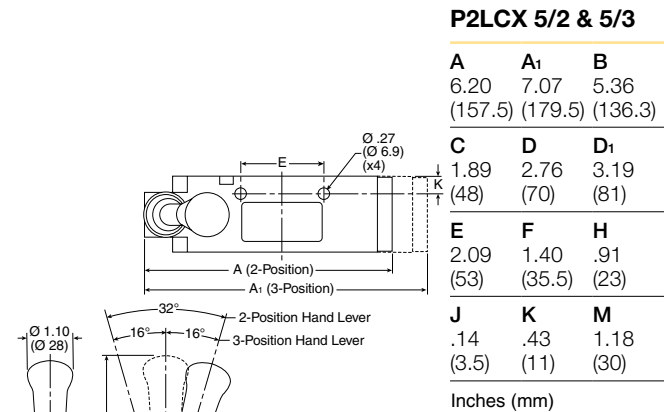
Inches (mm)

Viking Xtreme Manual Series

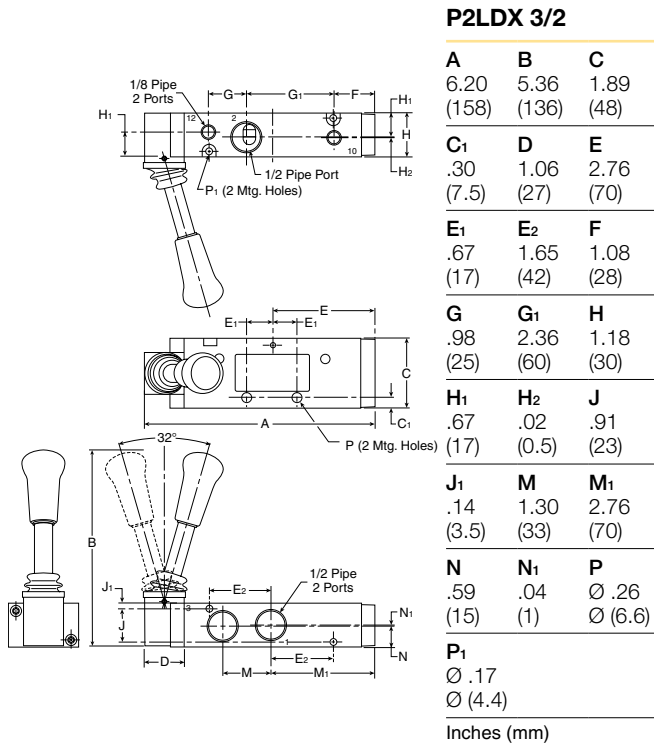
P2LCX 3/2 Hand Lever Operated Lever operation 90° to ports movement



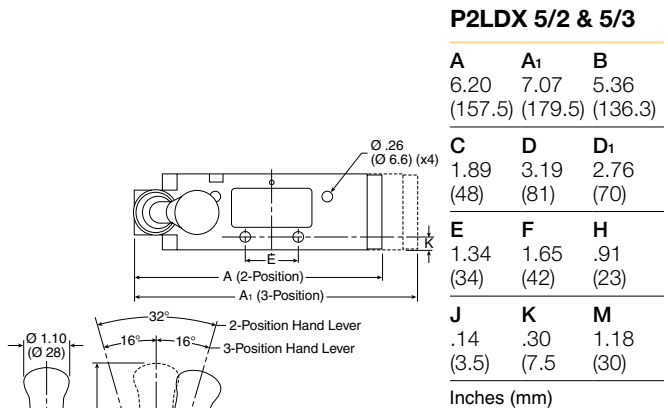
P2LCX 5/2 & 5/3 Hand Lever Operated Lever operation 90° to ports movement



P2LDX 3/2 Hand Lever Operated Lever operation 90° to ports movement

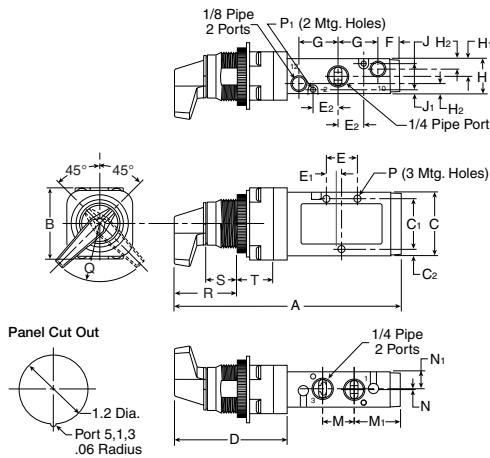


P2LDX 5/2 & 5/3 Hand Lever Operated Lever operation 90° to ports movement



Viking Xtreme Manual Series

P2LBX 3/2 Twist Lever Operated

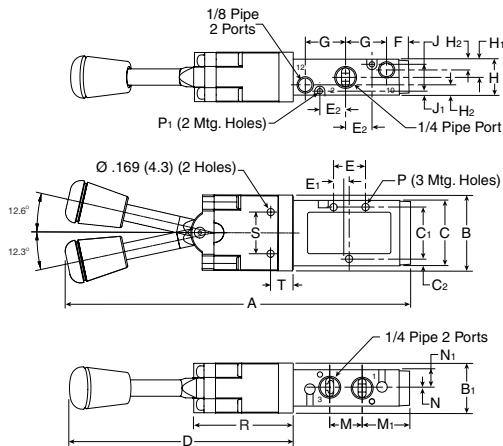


P2LBX 3/2

A	B	C	C ₁	C ₂	D	E	E ₁	E ₂
5.67 (144)	1.79 (45.5)	1.57 (40)	1.26 (32)	.16 (4)	2.87 (73)	.79 (20)	.39 (10)	.63 (16)
F	G	H	H ₁	H ₂	J	J ₁	M	M ₁
.55 (14)	.98 (25)	.87 (22.2)	.44 (11.1)	.26 (6.6)	.65 (16.5)	.11 (2.9)	.79 (20)	1.14 (29)
N	N ₁	P	P ₁	Q	R	S	T	
.02 (0.5)	.42 (10.6)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)	1.5R (38.1)R	1.85 (47)	1.10 (28)	.67 (17)	

Inches (mm)

P2LBX 3/2 Knob Lever Operated Lever operation inline with ports

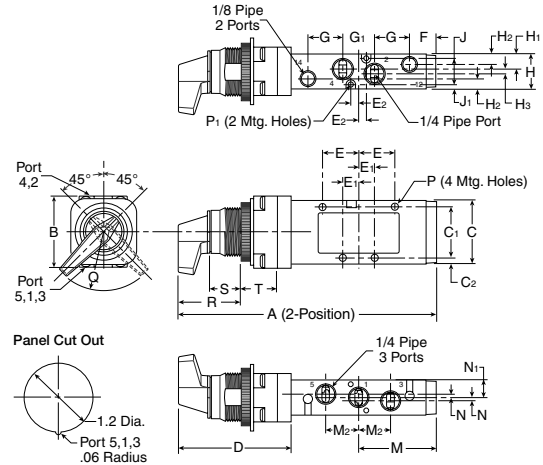


P2LBX 3/2

A	B	B ₁	C	C ₁	C ₂	D	E	E ₁
8.19 (208)	1.79 (45.5)	1.2 (30.5)	1.57 (40)	1.26 (32)	.16 (4)	5.39 (137)	.79 (20)	.39 (10)
E ₂	F	G	H	H ₁	H ₂	J	J ₁	M
.63 (16)	.55 (14)	.98 (25)	.87 (22.2)	.44 (11.1)	.26 (6.6)	.65 (16.5)	.11 (2.9)	.79 (20)
M ₁	N	N ₁	P	P ₁	R	S	T	
1.14 (29)	.02 (0.5)	.42 (10.6)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)	2.38 (60.5)	.98 (25.0)	.52 (13.2)	

Inches (mm)

P2LBX 5/2 Twist Lever Operated

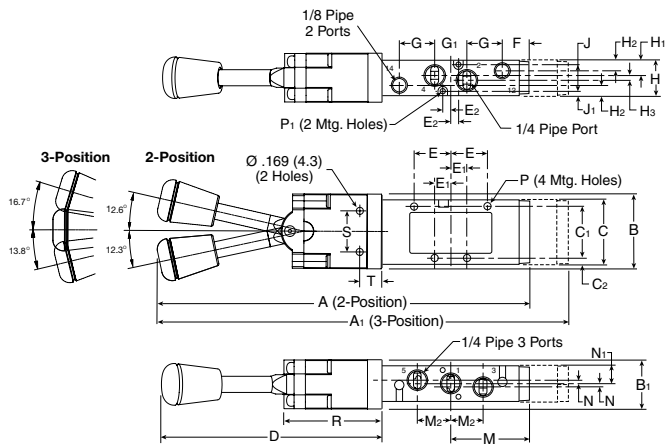


P2LBX 5/2

A	B	C	C ₁	C ₂	D	E	E ₁	E ₂	F
6.46 (164)	1.79 (45.5)	1.57 (40)	1.26 (32)	.15 (4)	2.87 (73)	.91 (23)	.39 (10)	.20 (5)	.67 (17)
G	G ₁	H	H ₁	H ₂	H ₃	J	J ₁	M	M ₂
.87 (22)	.79 (20)	.87 (22.2)	.44 (11.1)	.26 (6.6)	.12 (3)	.65 (16.5)	.11 (2.9)	1.93 (49)	.79 (20)
N	N ₁	P	P ₁	Q	R	S	T		
.08 (0.2)	.44 (11.1)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)	1.5R (38.1)R	1.85 (47)	1.10 (28)	.67 (17)		

Inches (mm)

P2LBX 5/2 & 5/3 Knob Lever Operated Lever operation inline with ports



P2LBX 5/2 & 5/3

A	A ₁	B	B ₁	C	C ₁	C ₂	D	E	E ₁
8.97 (228)	9.84 (250)	1.79 (45.5)	1.2 (30.5)	1.57 (40)	1.26 (32)	.15 (4)	5.39 (137)	.91 (23)	.39 (10)
E ₂	F	G	G ₁	H	H ₁	H ₂	H ₃	J	J ₁
.20 (5)	.67 (17)	.87 (22)	.79 (20)	.87 (22.2)	.44 (11.1)	.26 (6.6)	.12 (3)	.65 (16.5)	.11 (2.9)
M	M ₂	N	N ₁	P	P ₁	R	S	T	
1.93 (49)	.79 (20)	.08 (0.2)	.44 (11.1)	Ø .17 Ø (4.3)	Ø .12 Ø (3.1)	2.38 (60.5)	.98 (25.0)	.52 (13.2)	

Inches (mm)

EZ Series

The EZ series meets all the same standards as the LV series with the added feature of a soft start when opened. There are still 2 detented positions for the handle (push close, pull to open), but when pulled open, an adjustable needle valve controls the rate of pressure build-up. This can protect equipment during start up after maintenance. The EZ is distinguishable from the LV series by the blue dot on the label.

Features

- Combines lockout and soft-start functions in a single unit
- Used in systems for compliance with OSHA standard 29 CFR part 1910
- 3/8 Inch to 1-1/4 inch pipe sizes
- Cv's from 3.7 to 13.7
- 3/4 and 1-1/4 inch: exhaust ports available
- Exhaust port threaded for installation of silencer or line for remote exhausting
- Inline or surface mountable
- Yellow cast aluminum body with red handle. Blue dot on body indicates EZ Series valve
- Fluorocarbon slipper seals for easy shifting, even after long periods of inactivity

Material specifications

Description	
Body:	Cast aluminum alloy
Handle:	Plastic
Spool:	Aluminum
Seals:	Carboxylated nitrile
Detent spring:	Stainless steel
Grease:	Magnalube G [†]

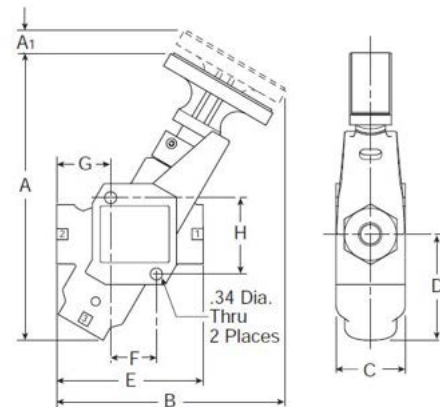
[†] Trademark Magnalube

CRN: 0C19618

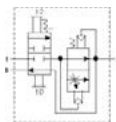


Operating information

CRN Registered Max. Working Pressure:	290 psi (20.0 bar)
Operating pressure: Standard	15 to 300 PSIG
Operating temperature:	40°F to 175°F
Operating media:	Clean, dry, compressed air (5 micron)



EZ Series



Port in/out	Port exhaust	SCFM in/out	SCFM exhaust	Wt (lb)	Part number *
3/8	3/4	136.4	181	2.1	EZ03NB6-CRN
1/2	3/4	161.4	189	2.1	EZ04NB6-CRN
3/4	3/4	181.9	216	2.1	EZ06NB6-CRN
3/4	1-1/4	272.7	248	3.2	EZ06NBA-CRN
1	1-1/4	311.4	273	3.2	EZ08NBA-CRN
1-1/4	1-1/4	368.2	291	3.2	EZ0ANBA-CRN

NOTE: Exhaust flow rates calculated using inlet pressure 100 psig (6.7 bar), pressure drop 5 psi (0.34 bar), air temp 68°F (20°C), and 36% relative humidity.

* For BSPP ports, change 5th digit from "N" to "B"

LV Series

Lockout valves are installed in pneumatic drop legs, or individual pneumatic control lines. In accordance with OSHA procedures, lockout valves are used during maintenance and service procedures of pneumatically (air) operated equipment.

- Used for compliance with OSHA 29 CFR part 1910
- 1/4" to 2" pipe sizes. NPT or BSPP
- Yellow cast aluminum body with red handle or stainless steel (NACE MR0175 / ISO 15156)
- Inline or surface mountable
- Built in port for pressure verification to meet ANSI B11 and PMMI B155 requirements
- Fluorocarbon slipper seals for easy shifting, even after long periods of inactivity

CRN: 0C19618



Material specifications

Description	LV
Body:	Cast aluminum alloy
Handle:	Plastic
Spool:	Aluminum
Seals:	Carboxylated nitrile
Detent spring:	Stainless steel
Grease:	Magnalube G [†]

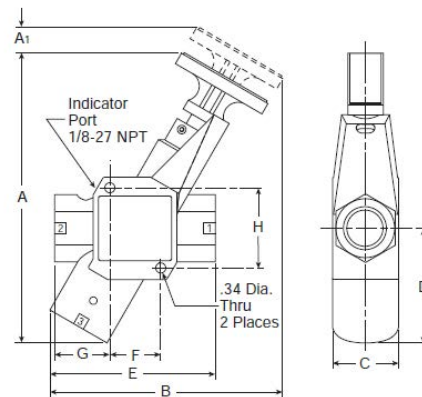
[†] Trademark Magnalube

Operating information

CRN Registered Max. 290 psi (20.0 bar)
Working Pressure:

Operating pressure:	LV
Compact	15 to 145 PSIG
Standard	15 to 300 PSIG
High flow	15 to 300 PSIG

Operating temperature: 40°F to 175°F 30°F to 175°F
Operating media: Clean, dry, compressed air (5 micron)



Standard



Port in/out	Port exhaust	SCFM in/out	SCFM exhaust	Wt (lb)	Part number *
3/8	3/4	107.7	81.1	2.0	LV3N6B-CRN
1/2	3/4	161.4	90.9	2.0	LV4N6B-CRN
3/4	3/4	187.7	93.2	2.0	LV6N6B-CRN
3/4	1-1/4	297.7	204	3.2	LV6NAB-CRN
1	1-1/4	375	216	3.2	LV8NAB-CRN
1-1/4	1-1/4	436.4	221	3.2	LVANAB-CRN

NOTE: Exhaust flow rates calculated using inlet pressure 100 psig (6.7 bar), pressure drop 5 psi (0.34 bar), air temp 68°F (20°C), and 36% relative humidity.

* For BSPP ports, change 4th digit from "N" to "B"

ADDITIONAL RESOURCES

CANADIAN REGISTRATION NUMBER LOCATOR

CRN



In order to legally install and operate a variety of pressure retaining systems in Canada, a CRN may be required on parts being used. Parker Canada wants to ensure your purchase upholds a high standard of safety and quality.

Locate the accompanying CRN for purchased Parker parts. Look for products that have an existing CRN; parker.com/crn.



OTHER RESOURCES



Express Programs offer quicker lead times on common configurations across multiple technologies.

See if your products qualify to get parts faster; parker.com/express



Parker Canada Division is sharing a collection of the most useful online resources. Whether you need a product configurator, competitive crossover, or CRN declaration, find what you need on eTools.

Find all the tools you need; parker.com/etools



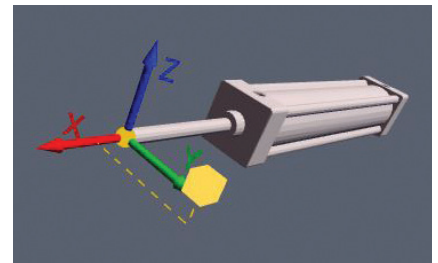
FACTORY AUTOMATION



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Parker Canada Division

Milton (905) 693-3000
Montreal (514) 684-3000
Calgary (403) 291-9100

pcdmktg@parker.com

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