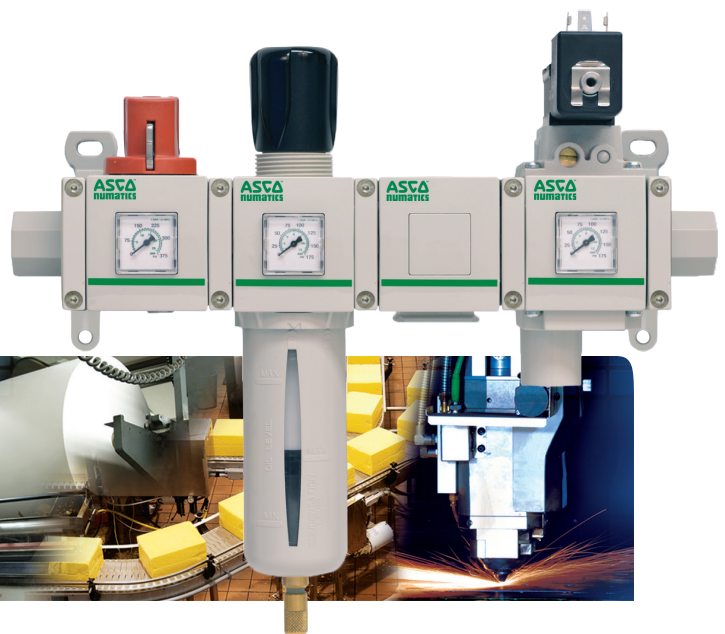




Air Preparation Products

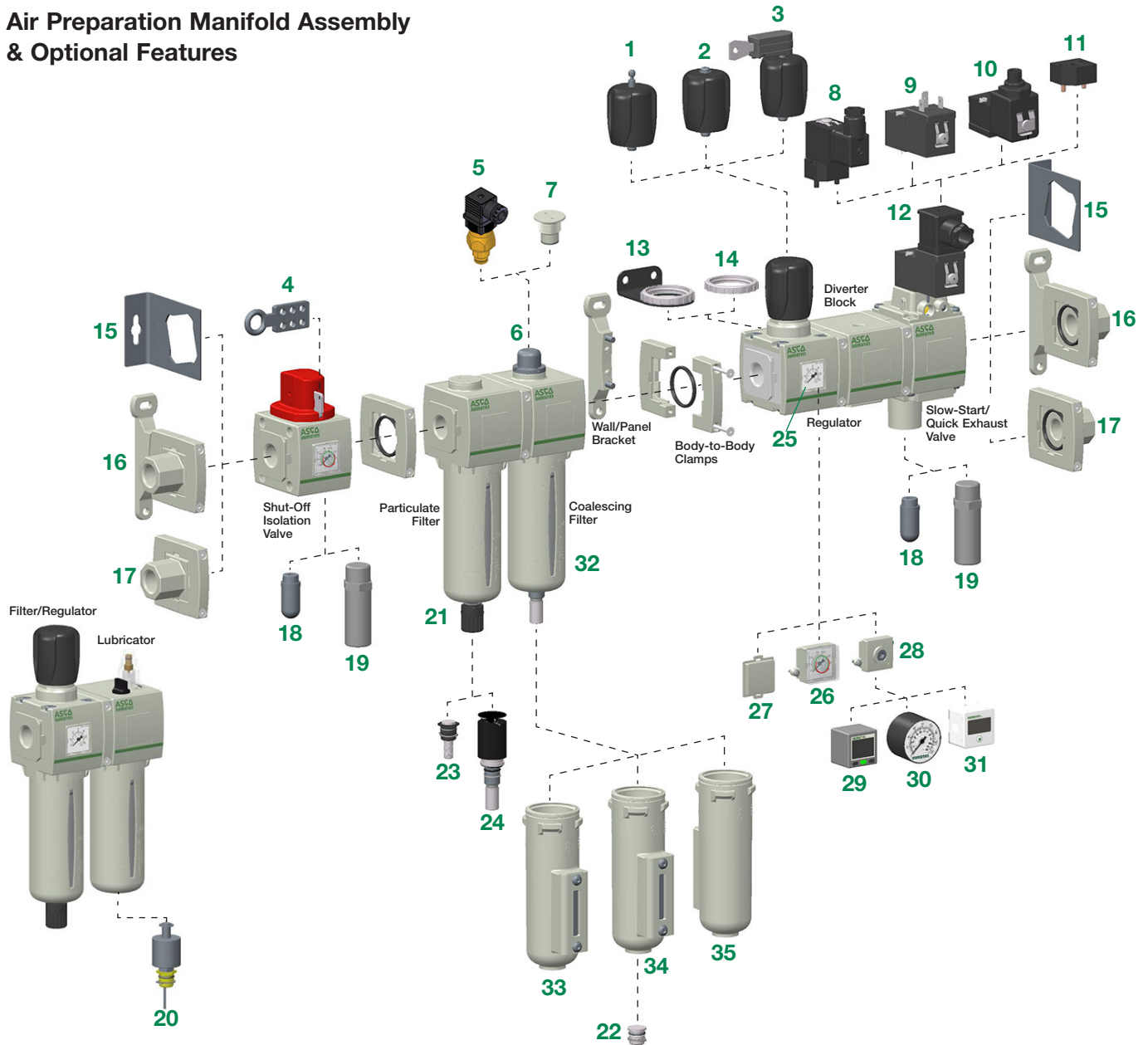
652 Series | Filter Regulator Lubricator (FRL)



652 Series

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652 Series - Product Overview
Air Preparation Manifold Assembly
& Optional Features



- | | | |
|--|---|--|
| 1) Provision for Key Lockable (Regulator & F/R*) | 12) Horizontal Solenoid (DIN Connector with & w/o LED) | 24) Automatic Drain – Normally Open – Brass |
| 2) Tamper Resistant (Regulator & F/R*) | 13) Panel Nut/Panel Bracket (Regulator & F/R*) | 25) Low Profile Gauge |
| 3) Key Lockable (Regulator & F/R*) | 14) Panel Nut (Regulator & F/R) | 26) Low Profile Gauge with Pressure Range Indicators |
| 4) Scissor Lock | 15) Side Mounting Brackets | 27) No Gauge Port |
| 5) Electric Differential Pressure Indicator (Coalescing Filter) | 16) End Plates, Body-to-Body Clamps & Wall/Panel Brackets | 28) Port Plate |
| 6) Differential Pressure Visual Pop-Up Indicator (Coalescing Filter) | 17) End Plates & Body-to-Body Clamps | 29) Digital Pressure Switch – DPS 280 Series |
| 7) No Differential Pressure Indicator | 18) Polyethylene Muffler | 30) Round Gauge |
| 8) Vertical Solenoid (DIN Connector with & w/o LED) | 19) Metal Muffler | 31) Digital Gauge |
| 9) Horizontal Solenoid without DIN Spade Coil without Connector | 20) Electronic Liquid Level Indicator | 32) Polycarbonate Bowl & Guard |
| 10) Horizontal Solenoid with 3 Pin M12 Connection | 21) Semi-Automatic/Manual Drain | 33) Metal Bowl with Polyamide Sight Gauge |
| 11) Pilot Air Operated | 22) No Drain | 34) Metal Bowl with Borosilicate (Glass) Sight Gauge |
| | 23) Manual Drain – Stainless Steel | 35) Metal Bowl without Sight Gauge |

*F/R = Filter/Regulator

652 Series Modular Assembly Mounting Features

Body-to-Body Assembly Clamp

(Kit# P652AT502466001 - NBR Seal)

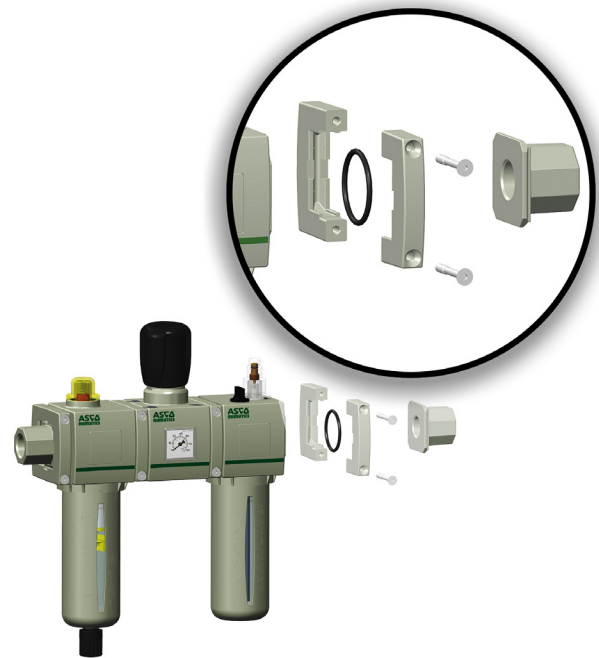
Easy to assemble Body-to-Body clamp, with captive screws. Available with NBR or FKM Seal. Products are easily assembled in seconds.



End Plates with Body-to-Body Assembly Clamp

(Kit# T652AT502468001 - NPTF/NBR Seal)

The "End Plate" feature allows the user to easily remove the 652 series air prep assembly without having to remove the piping. Simply loosen the screws on the Body-to-Body assembly clamps, and the manifold is easily removed in seconds. The kit includes Inlet/Outlet plates, Body-to-Body clamps and o-rings. Available with 1/2 NPTF, ISO228/1-G & ISO 7/1-Rc (NBR or FKM).



Wall/Panel Bracket (Kit# P699AT502467001)

The Wall/Panel Bracket feature is the primary mounting feature for the 652 series air prep assemblies. The user can attach one bracket at each end of the manifold or can attach as many as desired for each station. These brackets easily attach to the back of the Body-to-Body assembly clamps using two screws. In addition, this bracket can be used as a support bracket in between any station on the manifold.

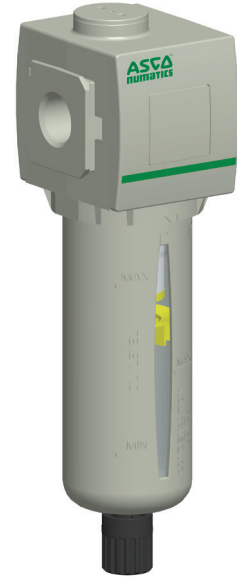


Side Mounting Brackets (Kit# P652AT503860002)

The "Side Mounting Brackets" are typically used to mount single units, but could also be used to mount multiple units. Note: All ports are threaded as standard.



- Large selection of filtering capacities to remove particulate and water droplets from compressed air or inert gas
- Sintered polyethylene elements, with centrifugal separator, include 5, 25 and 40 Microns
- Optional extended temperature range of -40°F to 176°F (-40°C to 80°C)
- Innovative two position plastic drain with manual and semi-automatic functions. Additional drains include an automatic style (brass) and manual (stainless steel)
- Polycarbonate and Aluminum bowls with a selection of sight gauge materials that meet industry and application requirements
- Threaded ports allow for individual or modular mounting
- Air purity class according to ISO 8573-1: 2010



Performance Data				
Port Sizes		1/4, 3/8, 1/2		
Thread Type		NPTF, G & Rc		
Nominal Flow - Per ISO 6358 P1 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)	1/4	Micron Rating	SCFM (L/min ANR)	
		5 μm	70.8 (2024)	
		25 μm	89.3 (2550)	
	3/8	40 μm	92.4 (2640)	
		5 μm	76.5 (2185)	
		25 μm	118.7 (3390)	
	1/2	40 μm	135.5 (3870)	
		5 μm	80.2 (2290)	
		25 μm	129.5 (3700)	
	Maximum Inlet Pressure PSIG (bar)	Polycarbonate Bowl	232 (16)	
		Aluminum Bowl	232 (16)	
	Ambient Temperature Range °F (°C)		-4 to 122 (-20 to 50)	
Fluid Temperature Range °F (°C)		-4 to 122 (-20 to 50)		
Fluid		Air or Inert Gas		
Weight lbs. (kg)	Polycarbonate Bowl	0.94 (0.426)		
	Aluminum Bowl	1.22 (0.553)		

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Filter Element	Sintered Polyethylene
Bowl	Polycarbonate or Aluminum

Air Purity Class - ISO 8573-1: 2010*	
5 μm	(5:8:4)
25 μm	(6:8:4)
40 μm	(7:8:4)

* Maximum flow at 91.4 PSI (6.3 bar) inlet pressure to maintain air purity class is 20.0 SCFM (566 L/min)

How to Order

Particulate Filter

8 652 A B B P 4 J A00 0 N

Port Type

- 8 = NPTF
- G = ISO 228/1-G*
- J = ISO 7/1 Rc

Product Series

652

Revision

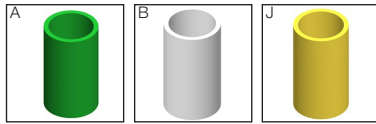
A

Product Type

- B = Filter - Particulate

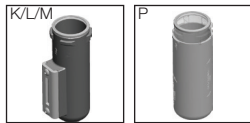
Elements

- A = 40 Micron
- B = 5 Micron
- J = 25 Micron



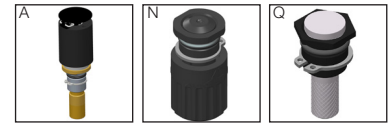
Bowl Type

- K = Metal Bowl without Sight Gauge
- L = Metal Bowl with Sight Gauge (Glass)
- M = Metal Bowl with Sight Gauge (Polyamide)
- P = Polycarbonate Bowl with Bowl Guard



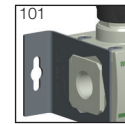
Drain Type

- 0 = No Drain
- A = Auto Drain Normally Open
- N = Manual - Semi-Automatic Drain
- Q = Manual Drain - Stainless Steel



Options***

- A00 = No Options
- 101 = Side Mounting Brackets
- 105 = High Temperature (80°C/176°F)
- 106 = Low Temperature (-40°C/-40°F)**
- 109 = FKM Seals
- 113 = Stainless Steel Fasteners
- 117 = ATEX Zones 1-21
- 202 = 105 + 109
- 2A9 = 105 + 106



Port Size

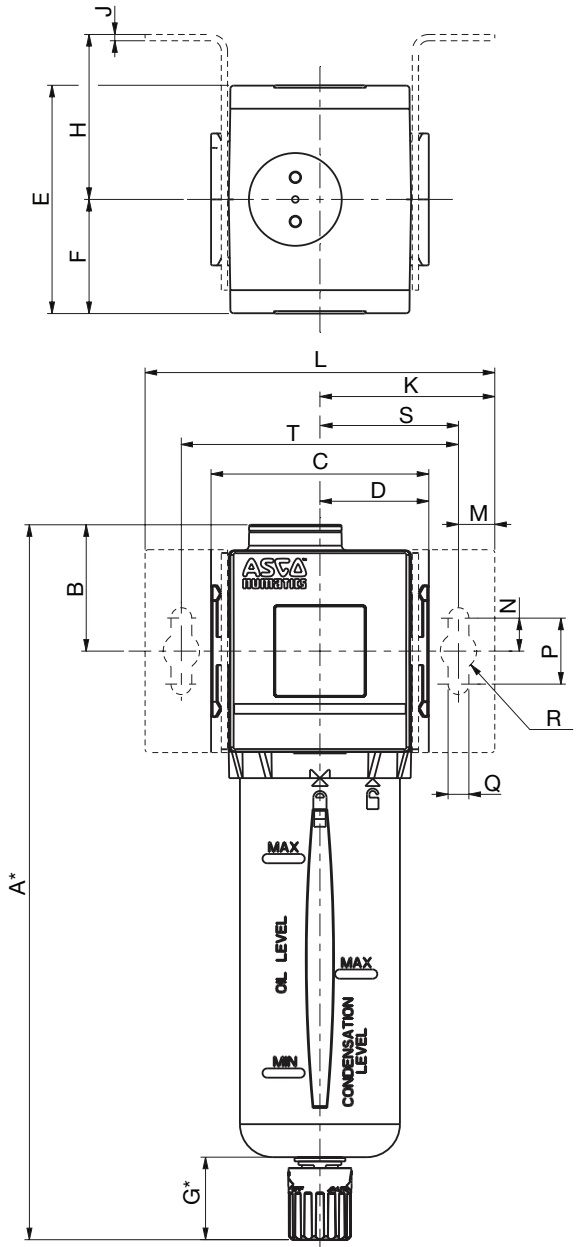
- 2 = 1/4
- 3 = 3/8
- 4 = 1/2

* Conforms to ISO standards 1179-1

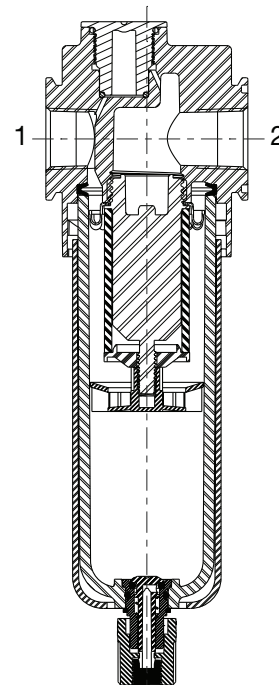
** Compressed air must be dry enough so no ice formation is present on the product. All bowls should be emptied prior to ambient temperatures dropping below 32°F (0°C)

*** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

Dimensions: mm (Inches)
Dimensional Drawing - 652 Series Particulate Filter



Cross Section - 652 Series Particulate Filter

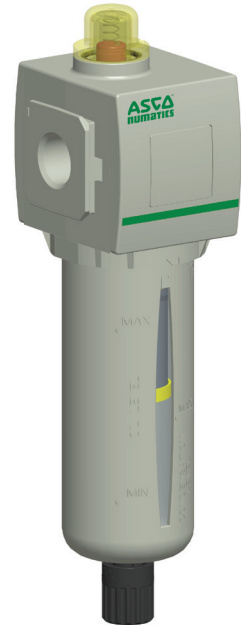
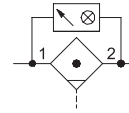


A	B	C	D	E	F	G	H	J
217	38.3	66	33	69	34.5	25	50	1.9
(8.54)	(1.51)	(2.60)	(1.30)	(2.72)	(1.36)	(0.98)	(1.97)	(0.07)
K	L	M	N	P	Q	R	S	T
53	106	11	10	20	6.3	5.5	42	84
(2.09)	(4.17)	(0.43)	(0.39)	(0.39)	(0.25)	(0.22)	(1.65)	(3.30)

* Variable dimension based on type of drain that is specified; If an Automatic Drain is specified, add another 5 mm to "G" dimension, which also adds 5 mm to the "A" dimension.

To remove bowl allow 75 mm (2.95in) from the bottom of the bowl drain.

- Extensive range of coalescing filter elements to remove oil and sub-micron particles down to 0.01 microns. Air purity class according to ISO 8573-1: 2010
- Optional 3 micron pre-filter integrated in the coalescing element eliminates the need for a separate particulate element. Coalescing filter elements include 0.3 and 0.01 microns
- Adsorber filter (activated carbon) for removal of odors and hydrocarbon vapor
- Innovative two position plastic drain with manual and semi-automatic functions. Additional drains include an automatic style (brass) and manual (stainless steel)
- Polycarbonate and Aluminum bowls with a selection of sight gauge materials that meet industry and application requirements
- Optional extended temperature range of 176°F (80°C)
- Visual or electrical differential pressure Indicators for condition monitoring of filter element



Performance Data			
Port Sizes		1/4, 3/8, 1/2	
Thread Type		NPTF, G & Rc	
		Micron Rating	SCFM (L/min ANR)
Nominal Flow - Per ISO 6358 P1 = 91.4 PSI (6.3 bar) ΔP = 5 PSI (0.35 bar)	1/4	0.3 μm	28.0 (801)
		0.01 μm	25.0 (714)
	3/8	0.3 μm	28.6 (817)
		0.01 μm	27.5 (785)
	1/2	0.3 μm	30.5 (870)
		0.01 μm	29.1 (831)
Maximum Inlet Pressure PSIG (bar)		Polycarbonate	232 (16)
		Aluminum	232 (16)
Ambient Temperature Range °F (°C)		35 to 122 (1.7 to 50)	
Fluid Temperature Range °F (°C)		35 to 122 (1.7 to 50)	
Fluid		Air or Inert Gas	
Weight lbs. (kg)		Polycarbonate Bowl	0.98 (0.442)
		Aluminum Bowl	1.25 (0.569)

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Coalescing Filter Element	Borosilicate Microfiber & Polyester
Filter Element End Cap	Polypropylene
Adsorber	Activated Carbon
Bowl	Polycarbonate or Aluminum

Air Purity Class - ISO 8573-1: 2010*	
0.3 μm	(3:7:3)
0.01 μm	(2:7:2)

* Maximum flow at 91.4 PSIG (6.3 bar) inlet pressure to maintain stated air purity class is 10.6 SCFM (303 L/min)

How to Order

Coalescing Filter

8 652 A F D P 4 H A00 0 N

Port Type

- 8 = NPTF
- G = ISO 228/1-G*
- J = ISO 7/1 Rc

Product Series

652

Revision

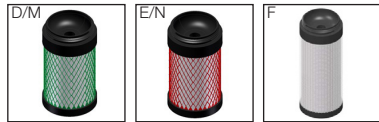
A

Product Type

- A = Adsorber - Activated Carbon
- F = Filter - Coalescing

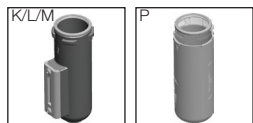
Elements

- D = 0.3 Micron - Coalescer
- E = 0.01 Micron - Coalescer
- F = Adsorber - Activated Carbon
- M = 0.3 Micron Coalescer with 3 Micron Prefilter
- N = 0.01 Micron Coalescer with 3 Micron Prefilter



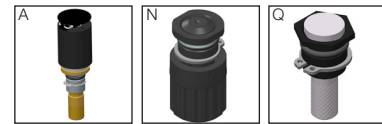
Bowl Type

- K = Metal Bowl without Sight Gauge
- L = Metal Bowl with Sight Gauge (Glass)
- M = Metal Bowl with Sight Gauge (Polyamide)
- P = Polycarbonate Bowl with Bowl Guard



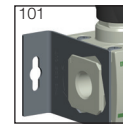
Drain Type

- 0 = No Drain
- A = Auto Drain Normally Open
- N = Manual - Semi-Automatic Drain
- Q = Manual Drain - Stainless Steel



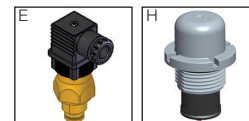
Options**

- A00 = No Options
- 101 = Side Mounting Brackets
- 105 = High Temperature (80°C/176°F)
- 109 = FKM Seals
- 113 = Stainless Steel Fasteners
- 117 = ATEX Zones 1-21
- 202 = 105 + 109



Indication Type

- E = Electric Differential Pressure Indicator
- H = Differential Pressure Visual Pop-Up Indicator
- J = No Differential Pressure Indicator



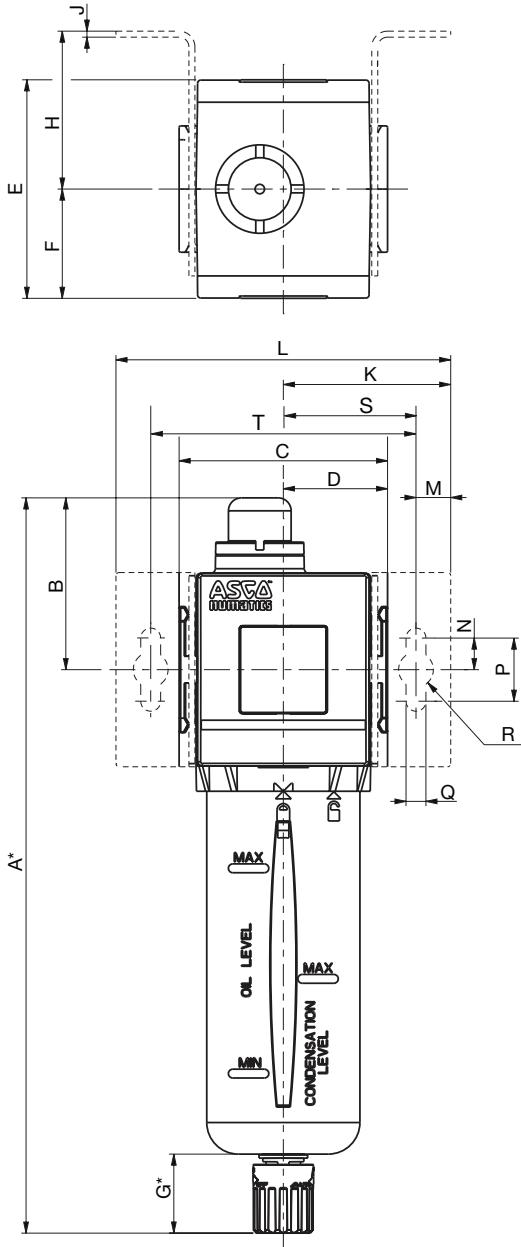
Port Size

- 2 = 1/4
- 3 = 3/8
- 4 = 1/2

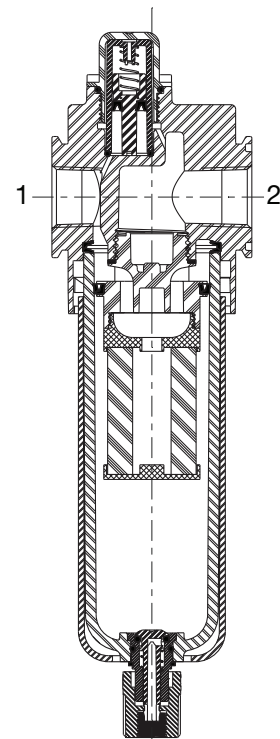
* Conforms to ISO standards 1179-1

** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

Dimensions: mm (Inches)
Dimensional Drawing - 652 Series Coalescing Filter and Adsorber Filter



**Cross Section - 652 Series
Coalescing Filter**

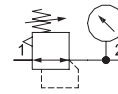


A	B	C	D	E	F	G	H	J
233	54.4	66	33	69	34.5	25	50	1.9
(9.17)	(2.14)	(2.60)	(1.30)	(2.72)	(1.36)	(0.98)	(1.97)	(0.07)
K	L	M	N	P	Q	R	S	T
53	106	11	10	20	6.3	5.5	42	84
(2.09)	(4.17)	(0.43)	(0.39)	(0.79)	(0.25)	(0.22)	(1.65)	(3.30)

*Variable dimension based on type of drain that is specified; If an Automatic Drain is specified, add another 5 mm to "G" dimension, which also adds 5 mm to the "A" dimension.

To remove bowl allow 88 mm (3.14in) from the bottom of the bowl drain.

- High flow with a wide range of adjustable output pressure ranges
- Flows in excess of 245 SCFM (7000 L/Min ANR)
- Available with relieving, non-relieving and internal flow check options
- Optional low profile gauge, round gauge, digital gauge or digital pressure switch
- Optional extended temperature range of -40°F to 176°F (-40°C to 80°C)
- Threaded ports allow for individual or modular mounting
- Key lockable and tamper proof options



Performance Data		
Port Size	1/4, 3/8, 1/2	
Thread Type	NPTF, G & Rc	
Nominal Flow - Per ISO 6358	SCFM (L/min ANR)	
P1 = 145 PSI (10 bar) P1 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)	1/4	144.2 (4120)
	3/8	228.6 (6530)
	1/2	245.0 (7000)
Maximum Inlet Pressure PSIG (bar) P1	232 (16)	
Adjustable Pressure Ranges PSIG (bar) P2	3 to 45 (0.2 to 3)	
	3 to 60 (0.2 to 4)	
	7 to 125 (0.5 to 8)	
	7 to 145 (0.5 to 10)	
Ambient Temperature Range °F (°C)	-4 to 122 (-20 to 50)	
Fluid Temperature Range °F (°C)	-4 to 122 (-20 to 50)	
Fluid	Air or Inert Gas	
Weight lbs. (kg)	0.95 (0.431)	

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Springs	Stainless Steel

How to Order

Regulator

8 652 A R 0 0 4 F A00 G 0

Port Type

- 8 = NPTF
- G = ISO 228/1-G*
- J = ISO 7/1 Rc

Product Series

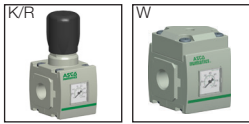
652

Revision

A

Product Type

- K = Regulator with Internal Flow Check
- R = Regulator**
- W = Pilot Operated Regulator

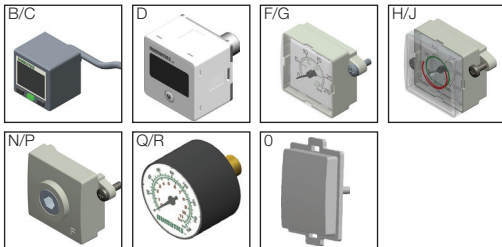


Port Size

- 2 = 1/4
- 3 = 3/8
- 4 = 1/2

Gauge Type

- B = Digital Pressure Switch - PNP
- C = Digital Pressure Switch - NPN
- D = Digital Gauge
- F = Low Profile Gauge PSI/bar
- G = Low Profile Gauge bar/PSI
- H = Low Profile Gauge PSI/bar with Pressure Range Indicator
- J = Low Profile Gauge bar/PSI with Pressure Range Indicator
- N = No Gauge with Port Plate (1/8 NPTF)
- P = No Gauge with Port Plate (1/8 ISO 7/1 Rc)
- Q = Round Gauge bar/PSI
- R = Round Gauge PSI/bar
- 0 = No Gauge Port



Pressure Range

- D = 3-45 PSIG / 0.2-3 bar
- E = 3-60 PSIG / 0.2-4 bar
- G = 7-125 PSIG / 0.5-8 bar
- H = 7-145 PSIG / 0.5-10 bar

Options****

- A00 = No Options
- 101 = Side Mounting Brackets
- 102 = Panel Nut
- 103 = Tamper Resistant
- 104 = Key Lockable
- 105 = High Temperature (80°C/176°F)
- 106 = Low Temperature (-40°C/-40°F)***
- 109 = FKM Seals
- 113 = Stainless Steel Fasteners
- 114 = Provision for Key Lockable Option
- 117 = ATEX Zones 1-21 ⚠
- 119 = Panel Bracket with Panel Nut
- 121 = Non-Relieving
- 122 = Bottom Oriented Pressure Adjustment
- 123 = Gauge Type Mounted for Right-to-Left Flow
- 202 = 105 + 109
- 2A9 = 105 + 106



* Conforms to ISO standards 1179-1

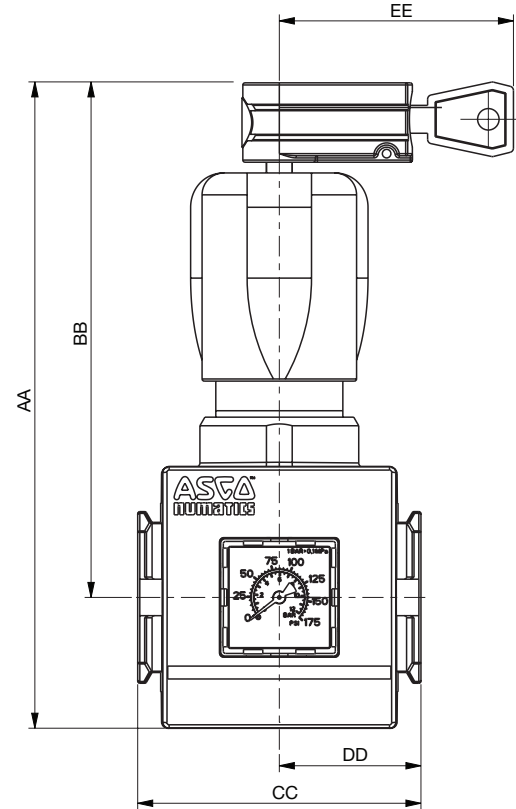
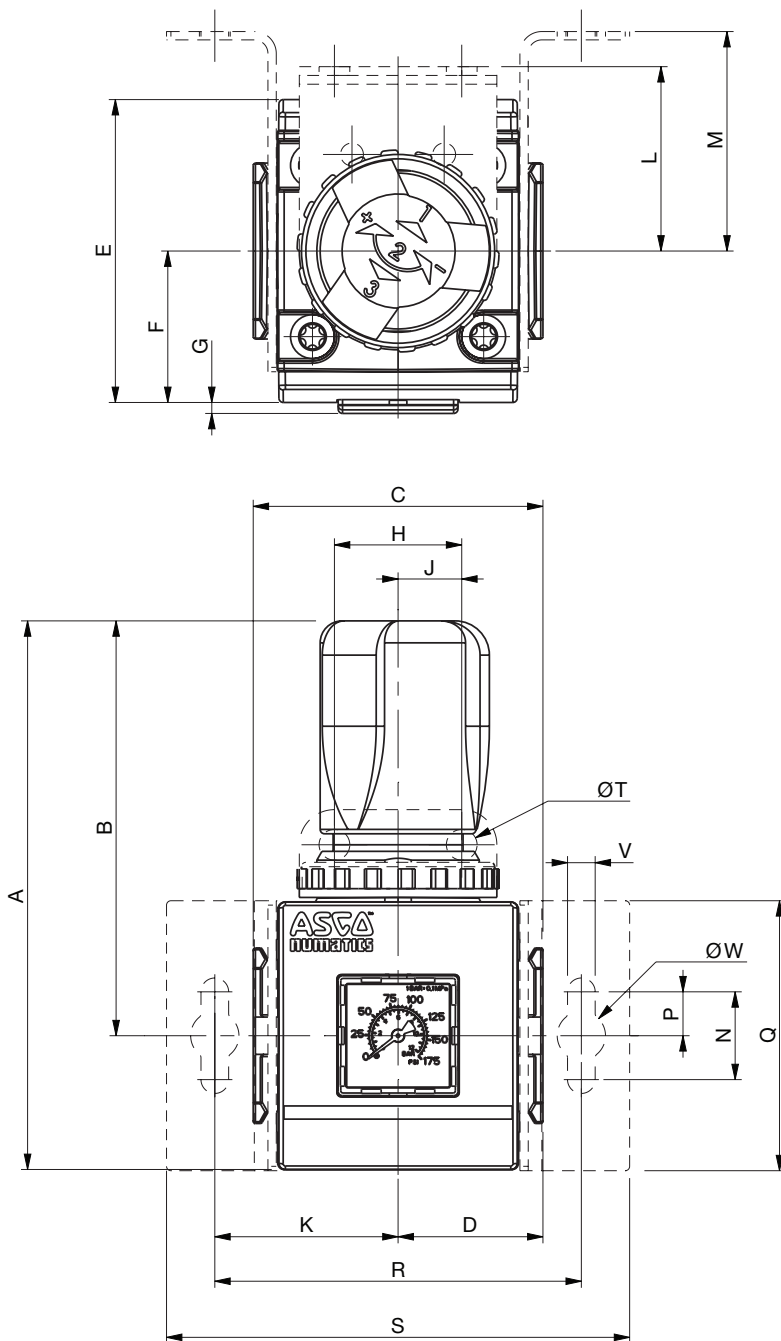
** Relieving Standard; use option 121 for Non-Relieving

*** Compressed air must be dry enough so no ice formation is present on the product.

**** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

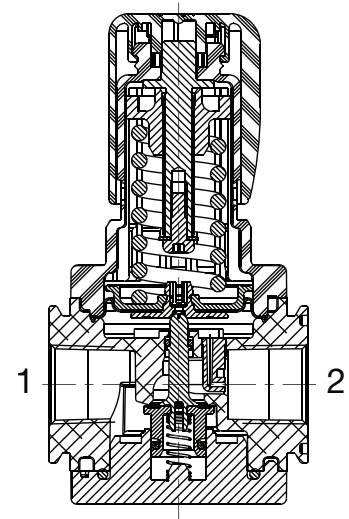
Dimensions: mm (Inches)

Dimensional Drawing - 652 Series Regulator



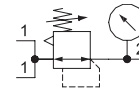
AA	BB	CC	DD	EE
151	120	66	33	55
(5.94)	(4.72)	(2.60)	(1.30)	(2.17)

Cross Section - 652 Series Regulator



A	B	C	D	E	F	G	H	J	K
125	94.5	66	33	69	34.5	2.5	29	14.5	41.75
(4.92)	(3.72)	(2.60)	(1.30)	(2.72)	(1.36)	(0.10)	(1.41)	(.61)	(1.64)
L	M	N	P	Q	R	S	ØT	V	ØW
42	50	20	10	61.5	84	106	7	6.3	11
(1.65)	(1.97)	(0.79)	(0.39)	(2.42)	(3.30)	(4.17)	(0.28)	(0.25)	(0.43)

- High flow with a wide range of adjustable output pressure ranges
- Flows of 280 SCFM (8000 L/Min ANR)
- Allows for a common inlet supply pressure within the regulator manifold, while maintaining several adjustable output pressures
- Standard output adjustment range is 7 to 125 PSIG (0.5 to 8 bar)
- Optional low profile gauge, round gauge, digital gauge and digital pressure switch
- Optional extended temperature range of -40°F to 176°F (-40°C to 80°C)
- Key lockable and tamper proof options



Performance Data	
Port Sizes	P1 (Inlet) 1/2
	P2 (Outlet) 3/8
Thread Type	NPTF, G & Rc
Nominal Flow - Per ISO 6358 P1 = 145 PSI (10 bar) P1 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)	SCFM (L/min ANR)
	280 (8000)
Maximum Pressure PSIG (bar) P1	232 (16)
Adjustable Pressure Ranges - PSI (bar) P2	3 to 45 (0.2 to 3)
	3 to 60 (0.2 to 4)
	7 to 125 (0.5 to 8)
	7 to 145 (0.5 to 10)
Ambient Temperature Range °F (°C)	-4 to 122 (-20 to 50)
Fluid Temperature Range °F (°C)	-4 to 122 (-20 to 50)
Fluid	Air or Inert Gas
Weight lbs. (kg)	0.93 (0.422)

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Springs	Stainless Steel

How to Order

Manifold Regulator

8 652 A R 0 0 4 F A00 G 0

Port Type

- 8 = NPTF
- G = ISO 228/1-G*
- J = ISO 7/1 Rc

Product Series

652

Revision

A

Product Type

M = Manifold Regulator**

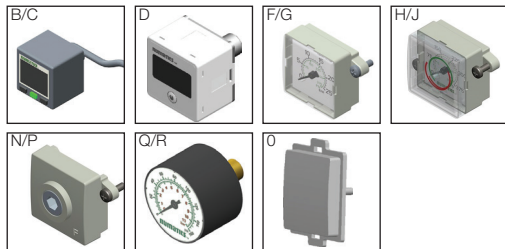


Port Size

4 = 1/2 In (3/8 Out)

Gauge Type

- B = Digital Pressure Switch - PNP
- C = Digital Pressure Switch - NPN
- D = Digital Gauge
- F = Low Profile Gauge PSI/bar
- G = Low Profile Gauge bar/PSI
- H = Low Profile Gauge PSI/bar with Pressure Range Indicator
- J = Low Profile Gauge bar/PSI with Pressure Range Indicator
- N = No Gauge with Port Plate (1/8 NPTF)
- P = No Gauge with Port Plate (1/8 ISO 7/1 Rc)
- Q = Round Gauge bar/PSI
- R = Round Gauge PSI/bar
- O = No Gauge Port



Pressure Range

- D = 3-45 PSIG / 0.2-3 bar
- E = 3-60 PSIG / 0.2-4 bar
- G = 7-125 PSIG / 0.5-8 bar
- H = 7-145 PSIG / 0.5-10 bar

Options****

- A00 = No Options
- 101 = Side Mounting Brackets
- 102 = Panel Nut
- 103 = Tamper Resistant
- 104 = Key Lockable
- 105 = High Temperature (80°C/176°F)
- 106 = Low Temperature (-40°C/-40°F)***
- 109 = FKM Seals
- 113 = Stainless Steel Fasteners
- 114 = Provision for Key Lockable Option
- 117 = ATEX Zones 1-21 ⚠
- 119 = Panel Bracket with Panel Nut
- 121 = Non-Relieving
- 122 = Bottom Oriented Pressure Adjustment
- 123 = Gauge Type Mounted for Right-to-Left Flow
- 202 = 105 + 109
- 2A9 = 105 + 106



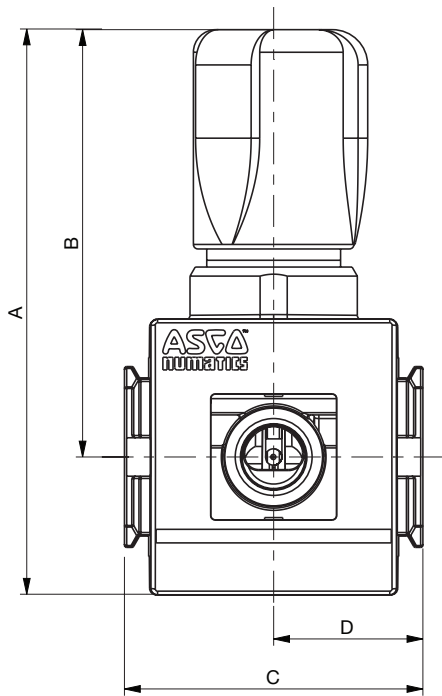
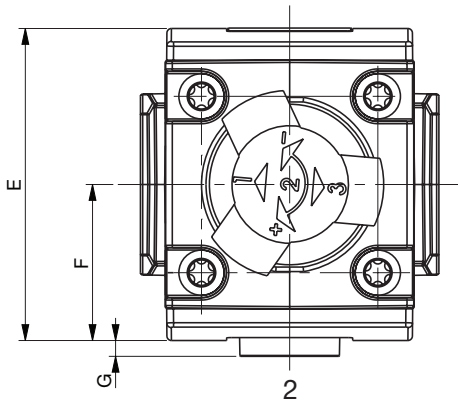
* Conforms to ISO standards 1179-1

** Relieving Standard; use option 121 for Non-Relieving

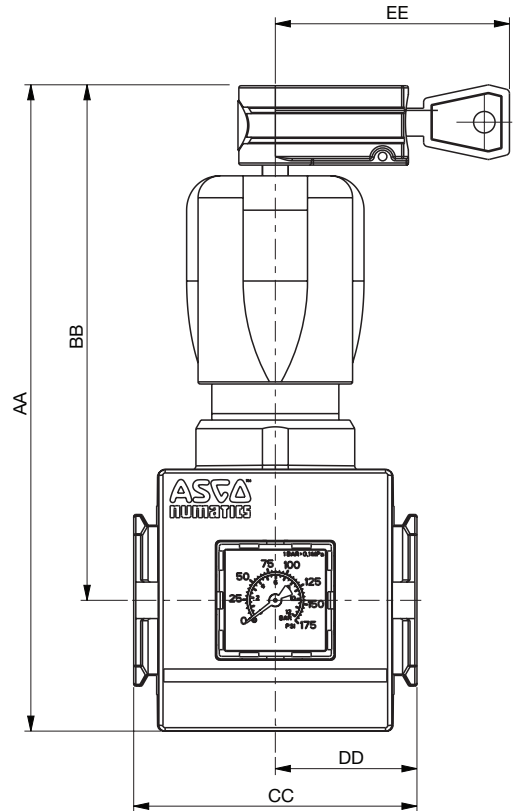
*** Compressed air must be dry enough so no ice formation is present on the product.

**** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

Dimensions: mm (Inches)
Dimensional Drawing - 652 Series Manifold Regulator

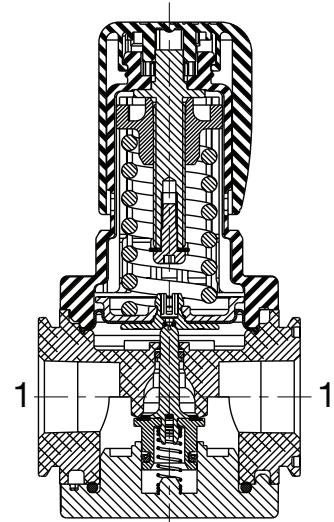


A	B	C	D	E	F	G
125	94.5	66	33	69	34.5	3.5
(4.92)	(3.72)	(2.60)	(1.30)	(2.72)	(1.36)	(0.14)

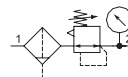


A	B	C	D	E
151	120	66	33	55
(5.94)	(4.72)	(2.60)	(1.30)	(2.17)

**Cross Section - 652 Series
Manifold Regulator**



- High flow with a wide range of adjustable output pressure ranges
- Optional low profile gauge, round gauge, digital gauge or digital pressure switch
- Optional extended temperature range of -40°F to 176°F (-40°C to 80°C)
- Sintered polyethylene elements, with centrifugal separator, include 5, 25 and 40 Microns
- Threaded ports allow for individual or modular mounting
- Innovative two position plastic drain with manual and semi-automatic functions. Additional drains include an automatic style (brass) and manual (stainless steel)
- Polycarbonate and Aluminum bowls with a selection of sight gauge materials that meet industry and application requirements
- Key lockable and tamper proof models
- Air purity class according to ISO 8573-1: 2010



Performance Data				
Port Sizes		1/4, 3/8, 1/2		
Thread Type		NPTF, G & Rc		
Nominal Flow - Per ISO 6358 P1 = 145 PSI (10 bar) P1 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)	1/4	Micron Rating	SCFM (L/min ANR)	
		5 μm	133.0 (3800)	
		25 μm	144.2 (4120)	
	3/8	40 μm	150.5 (4300)	
		5 μm	155.8 (4450)	
		25 μm	189.7 (5420)	
	1/2	40 μm	196 (5590)	
		5 μm	157.2 (4490)	
		25 μm	192.5 (5500)	
	Maximum Inlet Pressure PSIG (bar)	Polycarbonate Bowl	232 (16)	
		Aluminum Bowl	232 (16)	
	Adjustable Pressure Ranges PSIG (bar)	3 to 45 (0.2 to 3)		
3 to 60 (0.2 to 4)				
7 to 125 (0.5 to 8)				
7 to 145 (0.5 to 10)				
Ambient Temperature Range °F (°C)	-4 to 122 (-20 to 50)			
Fluid Temperature Range °F (°C)	-4 to 122 (-20 to 50)			
Fluid	Air or Inert Gas			
Weight lbs. (kg)	Polycarbonate Bowl	1.20 (0.546)		
	Aluminum Bowl	1.52 (0.688)		

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Springs	Stainless Steel
Filter Element	Sintered Polyethylene
Bowl	Polycarbonate or Aluminum

Air Purity Class - ISO 8573-1: 2010*	
5 μm	(5:8:4)
25 μm	(6:8:4)
40 μm	(7:8:4)

* Maximum flow at 91.4 PSI (6.3 bar) inlet pressure to maintain air purity class is 20.0 SCFM (566 L/min)

How to Order

Particulate Filter/Regulator

8 652 A P B P 4 F A00 G N

Port Type

- 8 = NPTF
- G = ISO 228/1-G*
- J = ISO 7/1 Rc

Product Series

652

Revision

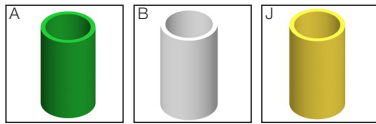
A

Product Type

- P = Filter/Regulator - Particulate

Elements

- A = 40 Micron
- B = 5 Micron
- J = 25 Micron



Bowl Type

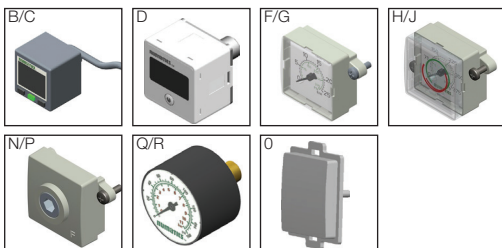
- K = Metal Bowl without Sight Gauge
- L = Metal Bowl with Sight Gauge (Glass)
- M = Metal Bowl with Sight Gauge (Polyamide)
- P = Polycarbonate Bowl with Bowl Guard

Port Size

- 2 = 1/4
- 3 = 3/8
- 4 = 1/2

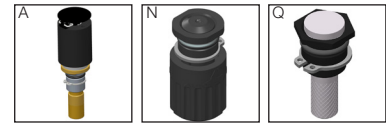
Gauge Type

- B = Digital Pressure Switch - PNP
- C = Digital Pressure Switch - NPN
- D = Digital Gauge
- F = Low Profile Gauge PSI/bar
- G = Low Profile Gauge bar/PSI
- H = Low Profile Gauge PSI/bar with Pressure Range Indicator
- J = Low Profile Gauge bar/PSI with Pressure Range Indicator
- N = No Gauge with Port Plate (1/8 NPTF)
- P = No Gauge with Port Plate (1/8 ISO 7/1 Rc)
- Q = Round Gauge bar/PSI
- R = Round Gauge PSI/bar
- 0 = No Gauge Port



Drain Type

- 0 = No Drain
- A = Auto Drain Normally Open
- N = Manual - Semi-Automatic Drain
- Q = Manual Drain - Stainless Steel



Pressure Range

- D = 3-45 PSIG / 0.2-3 bar
- E = 3-60 PSIG / 0.2-4 bar
- G = 7-125 PSIG / 0.5-8 bar
- H = 7-145 PSIG / 0.5-10 bar

Options***

- A00 = No Options
- 101 = Side Mounting Brackets
- 102 = Panel Nut
- 103 = Tamper Resistant
- 104 = Key Lockable
- 105 = High Temperature (80°C/176°F)
- 106 = Low Temperature (-40°C/-40°F)***
- 109 = FKM Seals
- 113 = Stainless Steel Fasteners
- 114 = Provision for Key Lockable Option
- 117 = ATEX Zones 1-21 ⚠
- 119 = Panel Bracket with Panel Nut
- 121 = Non-Relieving
- 123 = Gauge Type Mounted for Right-to-Left Flow
- 202 = 105 + 109
- 2A9 = 105 + 106



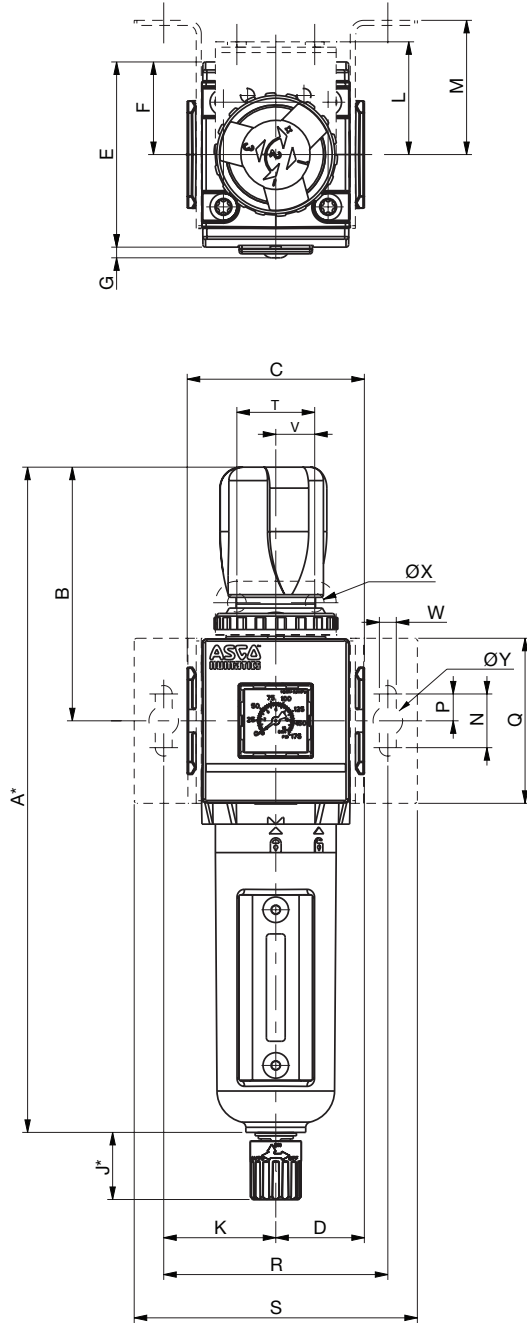
* Conforms to ISO standards 1179-1

** Compressed air must be dry enough so no ice formation is present on the product. All bowls should be emptied prior to ambient temperatures dropping below 32°F (0°C)

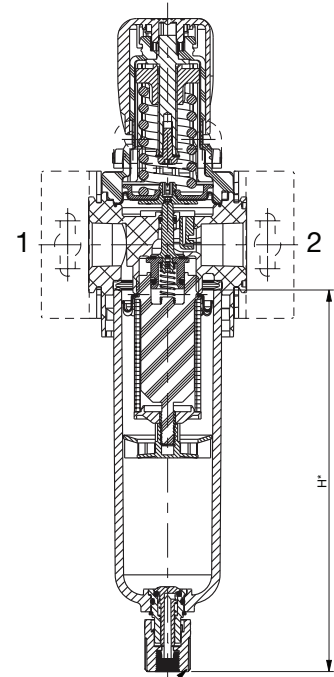
*** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

Dimensions: mm (Inches)

Dimensional Drawing - 652 Series Particulate Filter/Regulator



Cross Section - 652 Series Particulate Filter/Regulator

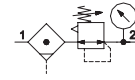


To remove bowl allow 75 mm (2.95in) from the bottom of the bowl drain.

A	B	C	D	E	F	G	H	J	K	L
248	94.5	66	33	69	30.5	4	160	25	41.75	42
(9.76)	(3.72)	(2.60)	(1.30)	(2.72)	(1.20)	(0.16)	(6.30)	(0.98)	(1.64)	(1.65)
M	N	P	Q	R	S	T	V	W	ØX	ØY
50	20	10	61.5	84	105.5	29	14.5	6.3	7	11
(1.97)	(0.79)	(0.39)	(2.42)	(3.30)	(4.15)	(1.14)	(0.57)	(0.25)	(0.28)	(0.43)

* Variable dimension based on type of drain that is specified; If an Automatic Drain is specified, add another 5 mm to "J" dimension, which also adds 5 mm to the "A" dimension.

- Extensive range of coalescing filter elements to remove oil and sub-micron particles down to 0.01 microns. Air purity class according to ISO 8573-1: 2010
- Optional 3 micron pre-filter integrated in the coalescing element eliminates the need for a separate particulate element.
- Optional low profile gauge, round gauge, digital gauge or digital pressure switch
- Optional extended temperature range up to 176°F (80°C)
- Threaded ports allow for individual or modular mounting
- Innovative two position plastic drain with manual and semi-automatic functions
Additional drains include an automatic style (brass) and manual (stainless steel)
- Polycarbonate and Aluminum bowls with a selection of sight gauge materials that meet industry and application requirements
- Key lockable and tamper proof models



Performance Data				
Port Sizes		1/4, 3/8, 1/2		
Thread Type		NPTF, G & Rc		
Nominal Flow - Per ISO 6358 P1 = 91.4 PSI (6.3 bar) ΔP = 5 PSI (0.35 bar)	1/4	Micron Rating	SCFM (L/min ANR)	
		0.3 μm	40.3 (1150)	
	3/8	0.01 μm	36.8 (1050)	
		0.3 μm	40.5 (1155)	
	1/2	0.01 μm	36.9 (1055)	
		0.3 μm	420 (1200)	
	Maximum /Inlet Pressure PSIG (bar) P1		Polycarbonate Bowl	232 (16)
			Aluminum Bowl	232 (16)
Adjustable Pressure Ranges PSIG (bar)	3 to 45 (0.2 to 3)			
	3 to 60 (0.2 to 4)			
	7 to 125 (0.5 to 8)			
	7 to 145 (0.5 to 10)			
Ambient Temperature Range °F (°C)	35 to 122 (1.7 to 50)			
Fluid Temperature Range °F (°C)	35 to 122 (1.7 to 50)			
Fluid	Air or Inert Gas			
Weight lbs. (kg)	Polycarbonate Bowl		1.24 (0.564)	
	Aluminum Bowl		1.55 (0.705)	

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Springs	Stainless Steel
Filter Element	Borosilicate Microfiber & Polyester
Filter Element End Cap	Polypropylene
Bowl	Polycarbonate or Aluminum

Air Purity Class - ISO 8573-1: 2010*	
0.3 μm	(3:7:3)
0.01 μm	(2:7:2)

* Maximum flow at 91.4 PSI (6.3 bar) inlet pressure to maintain stated air purity class is 10.6 SCFM (303 L/min)

How to Order

Coalescing Filter/Regulator

8 652 A C D P 4 F A00 G N

Port Type

- 8 = NPTF
- G = ISO 228/1-G*
- J = ISO 7/1 Rc

Product Series

652

Revision

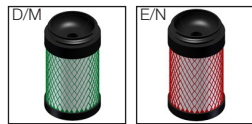
A

Product Type

- C = Filter/Regulator - Coalescing

Elements

- D = 0.3 Micron - Coalescer
- E = 0.01 Micron - Coalescer
- M = 0.3 Micron Coalescer with 3 Micron Prefilter
- N = 0.01 Micron Coalescer with 3 Micron Prefilter



Bowl Type

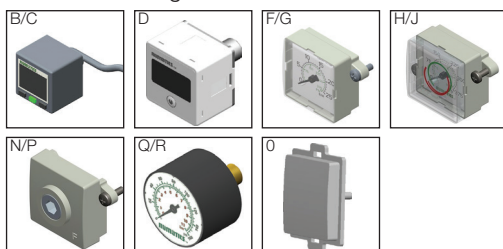
- K = Metal Bowl without Sight Gauge
- L = Metal Bowl with Sight Gauge (Glass)
- M = Metal Bowl with Sight Gauge (Polyamide)
- P = Polycarbonate Bowl with Bowl Guard

Port Size

- 2 = 1/4
- 3 = 3/8
- 4 = 1/2

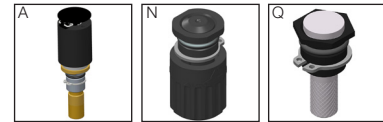
Gauge Type

- B = Digital Pressure Switch - PNP
- C = Digital Pressure Switch - NPN
- D = Digital Gauge
- F = Low Profile Gauge PSI/bar
- G = Low Profile Gauge bar/PSI
- H = Low Profile Gauge PSI/bar with Pressure Range Indicator
- J = Low Profile Gauge bar/PSI with Pressure Range Indicator
- N = No Gauge with Port Plate (1/8 NPTF)
- P = No Gauge with Port Plate (1/8 ISO 7/1 Rc)
- Q = Round Gauge bar/PSI
- R = Round Gauge PSI/bar
- 0 = No Gauge Port



Drain Type

- 0 = No Drain
- A = Auto Drain Normally Open
- N = Manual - Semi-Automatic Drain
- Q = Manual Drain - Stainless Steel



Pressure Range

- D = 3-45 PSIG / 0.2-3 bar
- E = 3-60 PSIG / 0.2-4 bar
- G = 7-125 PSIG / 0.5-8 bar
- H = 7-145 PSIG / 0.5-10 bar

Options**

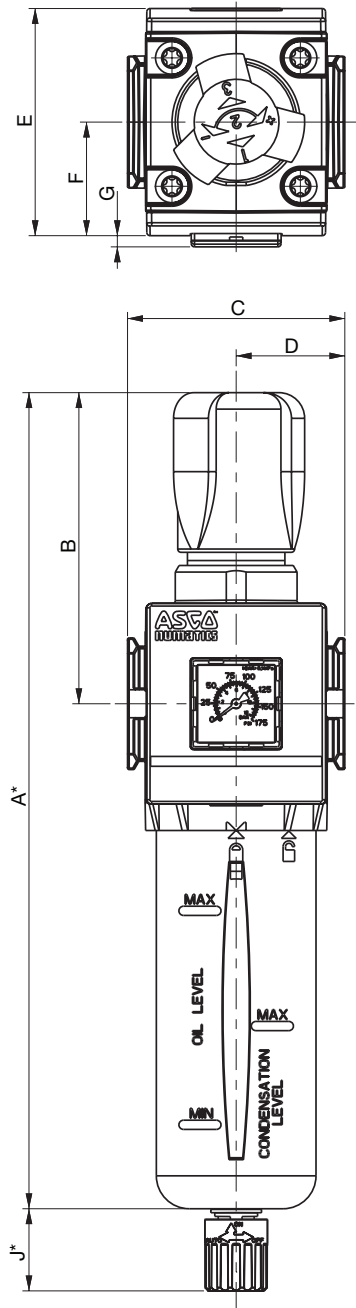
- A00 = No Options
- 101 = Side Mounting Brackets
- 102 = Panel Nut
- 103 = Tamper Resistant
- 104 = Key Lockable
- 105 = High Temperature (80°C/176°F)
- 109 = FKM Seals
- 113 = Stainless Steel Fasteners
- 114 = Provision for Key Lockable Option
- 117 = ATEX Zones 1-21
- 119 = Panel Bracket with Panel Nut
- 121 = Non-Relieving
- 123 = Gauge Type Mounted for Right-to-Left Flow
- 202 = 105 + 109



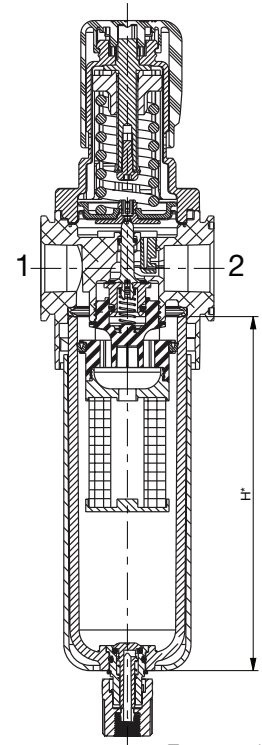
* Conforms to ISO standards 1179-1

** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

Dimensions: mm (Inches)
Dimensional Drawing - 652 Series Coalescing Filter/Regulator



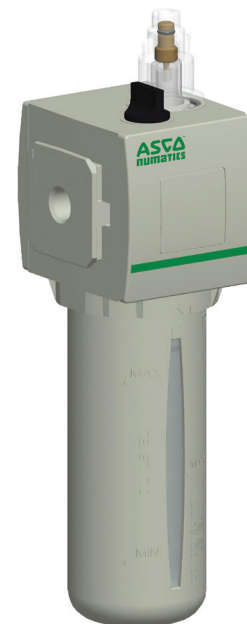
**Cross Section - 652 Series
Coalescing Filter/Regulator**



A	B	C	D	E	F	G	H	J
248	94.5	66	33	69	30.5	2.5	135	25
(9.76)	(3.72)	(2.60)	(1.30)	(2.72)	(1.20)	(0.10)	(5.31)	(0.98)

*Variable dimension based on type of drain that is specified; If an Automatic Drain is specified, add another 5 mm to "J" dimension, which also adds 5 mm to the "A" dimension.

- Provides consistent reliable lubrication to the system
- Uses venturi type technology to distribute the lubrication into the compressed air line
- Lubrication begins at 0.7 SCFM (20 L/Min ANR)
- Optional electronic liquid level indicator provides condition monitoring
- Polycarbonate and Aluminum bowls with a selection of sight gauge materials that meet industry and application requirements
- Recommended oil type: Non-detergent type and without aggressive additives (VG32 - ISO3448)
- Threaded ports allow for individual or modular mounting
- Oil capacity (bowl): 4.39 in³ (72 cm³)



Performance Data		
Port Sizes	1/4, 3/8, 1/2	
Thread Type	NPTF, G & Rc	
Nominal Flow - Per ISO 6358 P1 = 91.4 PSI (6.3 bar) ΔP = 11.6 PSI (0.8 bar)	SCFM (L/min ANR)	
	1/4	97.3 (2780)
	3/8	175.0 (5000)
	1/2	178.5 (5100)
Maximum Pressure PSIG (bar)	Polycarbonate Bowl	145 (10)
	Aluminum Bowl	145 (10)
Minimum Flow for Lubrication - SCFM (L/min)	0.7 (20)	
Ambient Temperature Range °F (°C)	41 to 122 (5 to 50)	
Fluid Temperature Range °F (°C)	41 to 122 (5 to 50)	
Fluid	Air or Inert Gas	
Weight lbs. (kg)	Polycarbonate Bowl	1.16 (0.526)
	Aluminum Bowl	1.47 (0.667)

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM

How to Order

Lubricator

8 652 A L 0 P 4 0 A00 0 0

Port Type

- 8 = NPTF
- G = ISO 228/1-G*
- J = ISO 7/1 Rc

Product Series

652

Revision

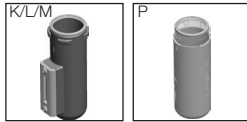
A

Product Type

- L = Lubricator

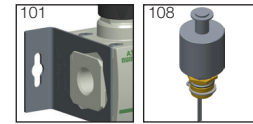
Bowl Type

- K = Metal Bowl without Sight Gauge
- L = Metal Bowl with Sight Gauge (Glass)
- M = Metal Bowl with Sight Gauge (Polyamide)
- P = Polycarbonate Bowl with Bowl Guard



Options**

- A00 = No Options
- 101 = Side Mounting Brackets
- 108 = Liquid Level Indicator - Electronic
- 109 = FKM Seals
- 113 = Stainless Steel Fasteners
- 117 = ATEX Zones 1-21



Port Size

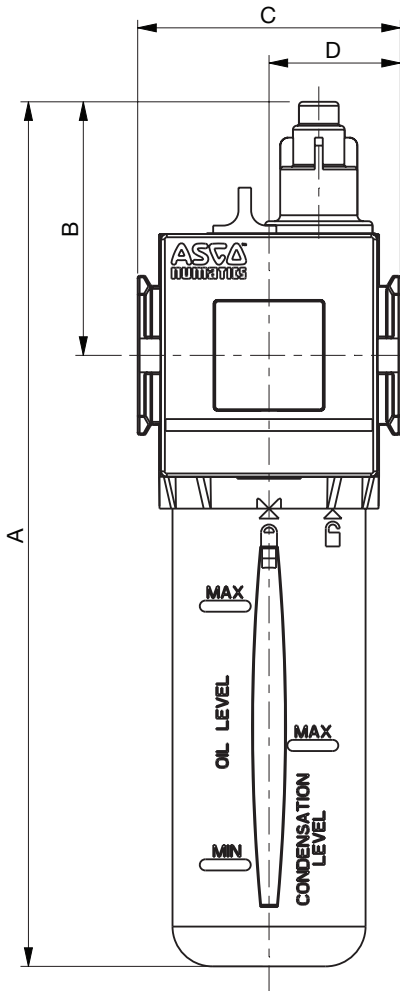
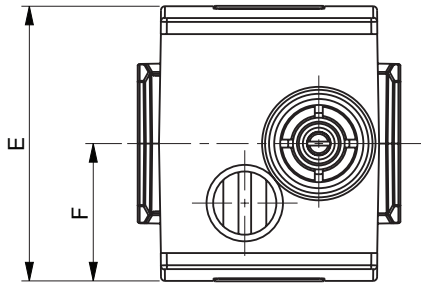
- 2 = 1/4
- 3 = 3/8
- 4 = 1/2

* Conforms to ISO standards 1179-1

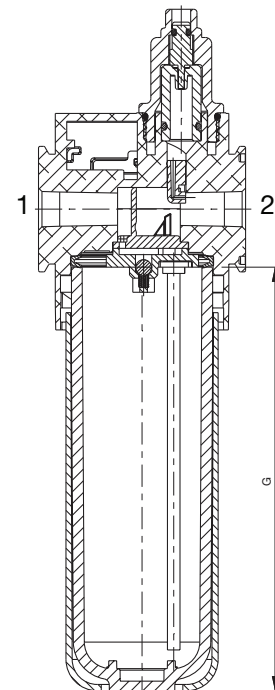
** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

Dimensions: mm (Inches)

Dimensional Drawing - 652 Series Lubricator



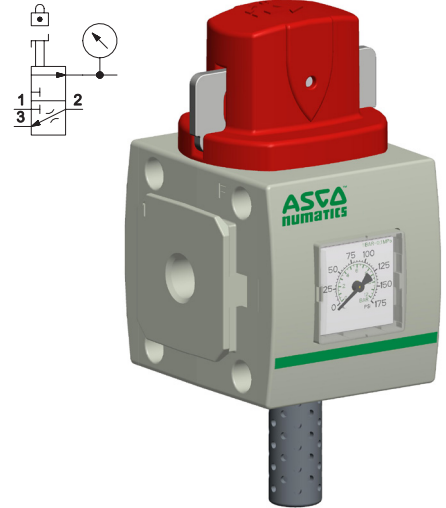
Cross Section - 652 Series Lubricator



A	B	C	D	E	F	G
217	64	66	33	69	30.5	135
(8.54)	(2.52)	(2.60)	(1.30)	(2.72)	(1.20)	(5.30)

To remove bowl allow 25 mm (1.0in) from the bottom of the bowl.

- Robust and easy-to-operate shut-off valve, with lockout (front or back) on handle
- Provides shut-off to downstream machinery
- Optional low profile gauge provides clear indication of the downstream pressure, and when the downstream components can be safely removed when pressure (P2) is at zero
- Available as 3/2 or 2/2 construction
- Threaded ports allow for individual or modular mounting



Performance Data			
Port Sizes	1/4, 3/8, 1/2		
Thread Type	NPTF, G & Rc		
Nominal Flow - Per ISO 6358 P1 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)	SCFM (L/min ANR)		
		1 → 2	2 → 3
	1/4	151 (4300)	8.05 (230)
	3/8	308 (8800)	8.05 (230)
1/2	400 (11400)	8.05 (230)	
Maximum Inlet Pressure PSIG (bar)	232 (16)		
Ambient Temperature Range °F (°C)	14 to 122 (-10 to 50)		
Fluid Temperature Range °F (°C)	14 to 122 (-10 to 50)		
Fluid	Air or Inert Gas		
Weight lbs. (kg)	0.97 (0.438)		

Materials in Contact with Fluid	
Body	Aluminum
Ball	Zinc Plated Steel
Seat	PTFE
Seals	NBR/FKM

How to Order

Shut-Off Isolation Valve

8 652 A 3 M 0 4 F A00 00

Port Type

- 8 = NPTF
- G = ISO 228/1-G*
- J = ISO 7/1 Rc

Product Series

652

Revision

A

Product Type

- 2 = 2/2 - Shut Off Valve
- 3 = 3/2 - Shut Off Valve

Valve Type

- M = Manually Operated Ball Valve with Lockout

Pilot Valve/Electrical Connection

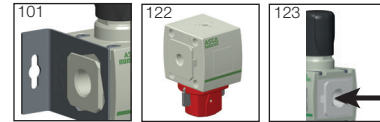
- 0 = No Electrical Connection

Port Size

- 2 = 1/4
- 3 = 3/8
- 4 = 1/2

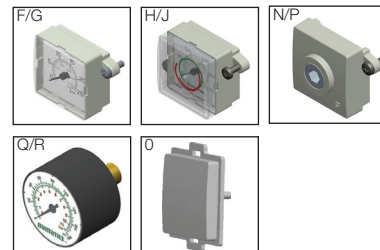
Options**

- A00 = No Options
- 101 = Side Mounting Brackets
- 109 = FKM Seals
- 111 = Metal Muffler
- 112 = Polyethylene Muffler
- 113 = Stainless Steel Fasteners
- 115 = Scissor Lock
- 117 = ATEX Zones 1-21
- 122 = Bottom Oriented Pressure Adjustment
- 123 = Gauge Type Mounted for Right-to-Left Flow
- 2B9 = 111 + 115



Gauge Type

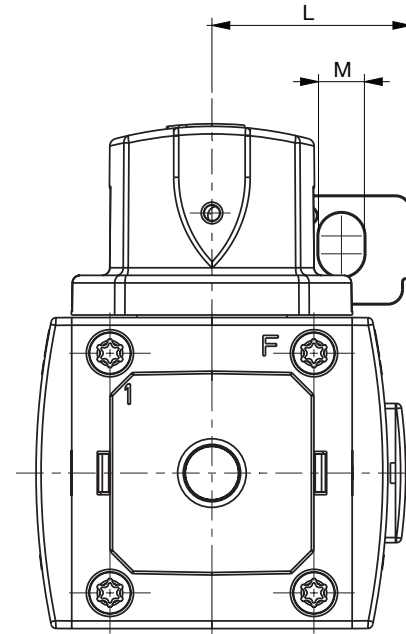
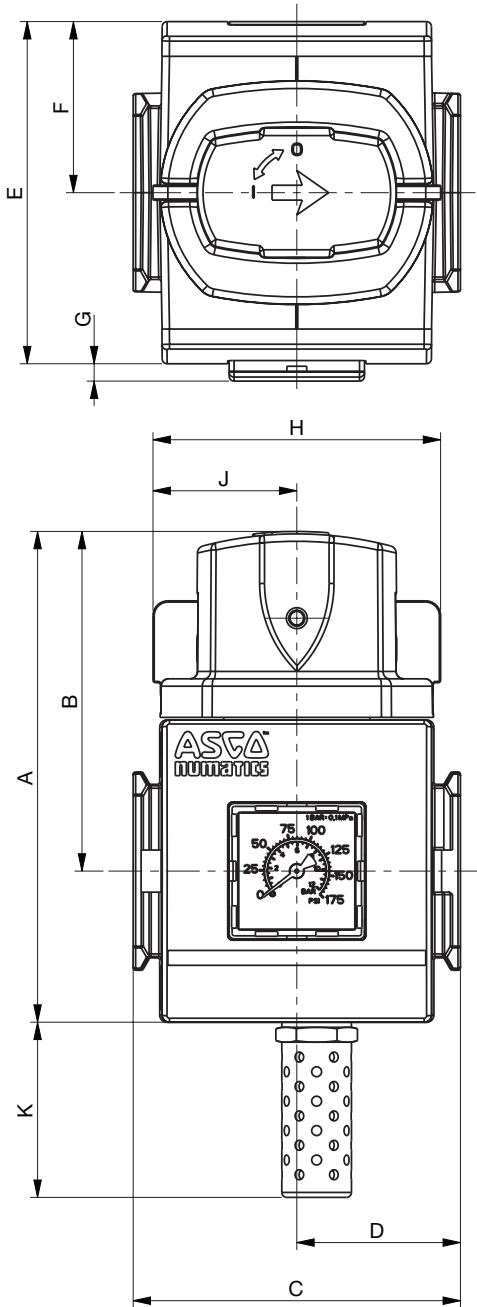
- F = Low Profile Gauge PSI/bar
- G = Low Profile Gauge bar/PSI
- H = Low Profile Gauge PSI/bar with Pressure Range Indicator
- J = Low Profile Gauge bar/PSI with Pressure Range Indicator
- N = No Gauge with Port Plate (1/8 NPTF)
- P = No Gauge with Port Plate (1/8 ISO 7/1 Rc)
- Q = Round Gauge bar/PSI
- R = Round Gauge PSI/bar
- 0 = No Gauge Port



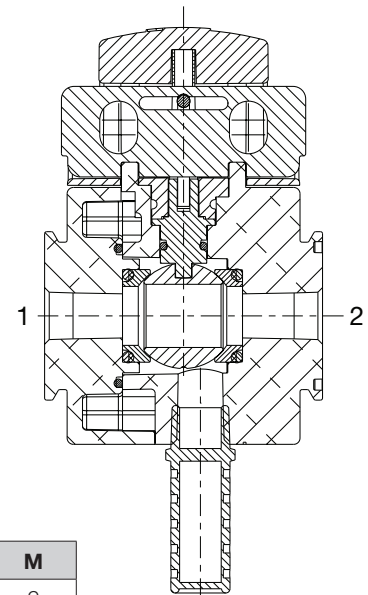
* Conforms to ISO standards 1179-1

** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

**Dimensions: mm (Inches)
Dimensional Drawing - 652 Series Shut-Off Isolation Valve**

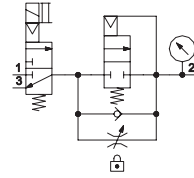


**Cross Section - 652 Series
Shut-Off Isolation Valve**



A	B	C	D	E	F	G	H	J	K	L	M
99	68	66	33	69	34.5	2.5	58	29	35	39	9
(3.90)	(2.68)	(2.60)	(1.30)	(2.72)	(1.36)	(0.10)	(2.28)	(1.14)	(1.38)	(1.54)	(0.35)

- High exhaust capacity for quick depletion of downstream pressure
- Slow Starts provide gradual increase of downstream pressure and full flow once 70% of inlet pressure is reached
- Threaded ports allow for individual or modular mounting
- Manual override (momentary-pulse type) is standard when using the horizontal solenoid operator
- Optional extended temperature range of -40°F to 176°F (-40°C to 80°C); for air piloted models only (excludes solenoid operators)
- Constructions includes: 3/2 Quick Exhaust, 3/2 Slow-Start/Quick-Exhaust, and 2/2 Slow Start
- Electrical connections: Coil with DIN terminals; DIN Plug, DIN Plug with LED, and coil with built-in M12 3 Pin male connection (24 VDC)
- Voltages: 24 VDC, 115-50/60 VAC, 230-50/60 VAC, 24-50/60 VAC



Performance Data			
Port Sizes		1/4, 3/8, 1/2	
Thread Type		NPTF, G & Rc	
		SCFM (L/min ANR)	
Nominal Flow – Per ISO 6358		1 → 2	2 → 3
P1 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)	1/4	53 (1500)	74 (2100)
	3/8	132 (3750)	151 (4300)
	1/2	164 (4650)	176 (5000)
Minimum Operating Pressure PSIG (bar)		40 (2.75)	
Maximum Operating Pressure PSIG (bar)		145 (10)	
Ambient Temperature Range °F (°C)		14 to 122 (-10 to 50)	
Fluid Temperature Range °F (°C)		14 to 122 (-10 to 50)	
Fluid		Air or Inert Gas	
Weight lbs. (kg)		1.46 (0.661)	

Operating Data				
	24/DC	120/60	240/60	24/60
Power	—	9 VA	9 VA	9 VA
Holding	3.0 Watts	4 VA (3.0 Watts)		

Response Time (ms)	Energized	De-Energized	Voltage
	17	40	24/DC
	11	34	24, 115 & 230-50/60 VAC

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Springs	Stainless Steel

How to Order

Slow-Start/Quick Exhaust Valve

8 652 A 6 S 6 4 F A00 F1

Port Type
 8 = NPTF
 G = ISO 228/1-G*
 J = ISO 7/1 Rc

Product Series
 652

Revision
 A

Product Type
 4 = 2/2 - Slow Start
 5 = 3/2 - Quick Exhaust
 6 = 3/2 - Slow Start/Quick Exhaust


Valve Type
 E = External Air Pilot
 P = Internal Air Pilot (Available on 2/2 Slow Start only)
 S = Solenoid Pilot



Pilot Valve/Electrical Connection
 0 = No Electrical Connection
 1 = Vertical Solenoid, without DIN Connector (must order with option 110)
 2 = Vertical Solenoid, DIN Connector with LED (must order with option 110)
 3 = Vertical Solenoid, DIN Connector w/o LED (must order with option 110)
 4 = Vertical Solenoid, 3 Pin M12 Connection** (must order with option 110)
 5 = Horizontal Solenoid, without DIN Connector
 6 = Horizontal Solenoid, DIN Connector with LED
 7 = Horizontal Solenoid, DIN Connector without LED
 8 = Horizontal Solenoid with 3 Pin M12 Connection**
 9 = Without Pilot Operator

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

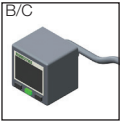
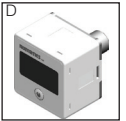
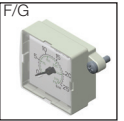
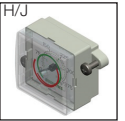
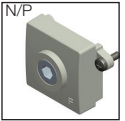
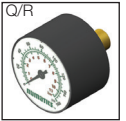
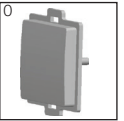
* Conforms to ISO standards 1179-1
 ** Available for 24 VDC voltage only
 *** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.
 **** Option 117 (ATEX 1-21) is available with Valve Type "E" or "P". For Valve Type "S" (Solenoid Pilot), please select "9" under the "Pilot Valve/Electrical Connection. Consult factory for further information.

Voltage
 F0 = 115 50/60 VAC
 F1 = 24 VDC
 F4 = 24 50/60 VAC
 F6 = 230 50/60 VAC
 00 = No Voltage

Options***
 A00 = No Options
 101 = Side Mounting Brackets
 109 = FKM Seals
 110 = Without Manual Override
 111 = Metal Muffler
 112 = Polyethylene Muffler
 113 = Stainless Steel Fasteners
 117 = ATEX Zones 1-21 ****
 123 = Gauge Type Mounted for Right-to-Left Flow
 201 = 110 + 111

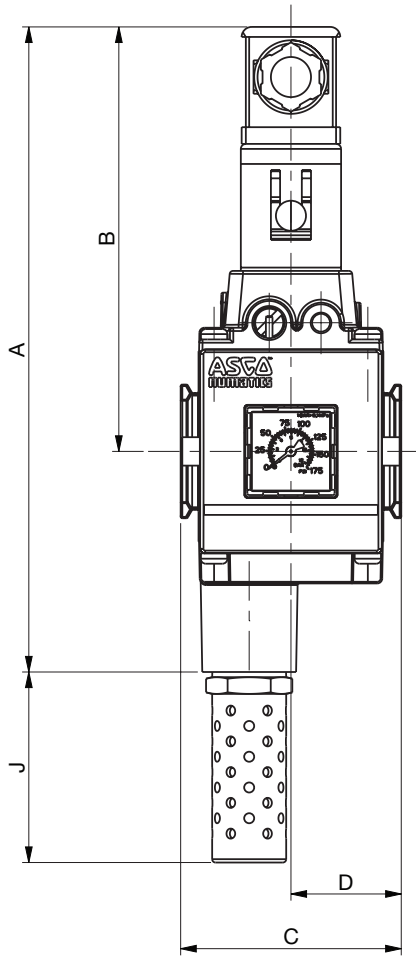
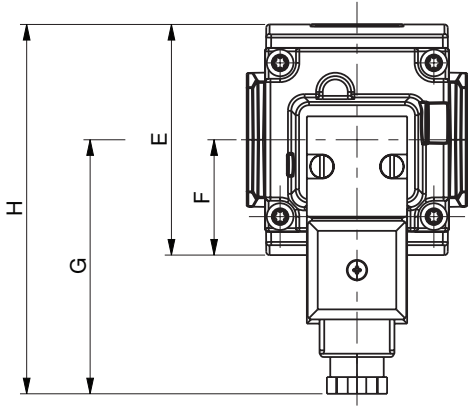



Gauge Type
 B = Digital Pressure Switch - PNP
 C = Digital Pressure Switch - NPN
 D = Digital Gauge
 F = Low Profile Gauge PSI/bar
 G = Low Profile Gauge bar/PSI
 H = Low Profile Gauge PSI/bar with Pressure Range Indicator
 J = Low Profile Gauge bar/PSI with Pressure Range Indicator
 N = No Gauge with Port Plate (1/8 NPTF)
 P = No Gauge with Port Plate (1/8 ISO 7/1 Rc)
 Q = Round Gauge bar/PSI
 R = Round Gauge PSI/bar
 0 = No Gauge Port

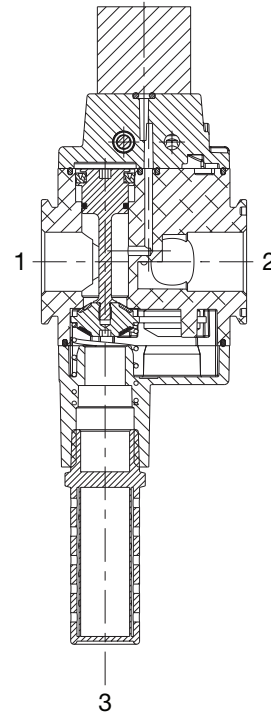








Dimensions: mm (Inches)

Dimensional Drawing - 652 Series Slow-Start/Quick Exhaust Valve

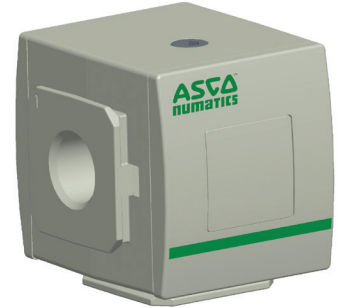


**Cross Section - 652 Series
Slow-Start/Quick
Exhaust Valve**



A	B	C	D	E	F	G	H	J
193	127	66	33	69	30.5	76	110.5	57
(7.60)	(5.00)	(2.60)	(1.30)	(2.72)	(1.20)	(3.00)	(4.35)	(2.24)

- Ideal for branching off primary 652 series air prep manifold to add additional products, such as adding another regulator or dividing lubricated and un-lubricated compressed air lines
- 1/8 or pad mount interface ports on top of product for adding pressure switches/sensors or other condition monitoring devices
- 3/8 ports on the front and back provide additional flexibility to attach or branch off the main manifold. It can also be used to feed auxiliary air to air prep assemblies that require additional air capacity, such as a bank of manifold regulators



Performance Data		
Port Sizes	Left, Right & Bottom	1/2 & Flanged
	Front & Back	3/8
Thread Type	NPTF, G & Rc	
Top Port (for Pressure Switch/Pressure Sensor)	1/8 NPTF	
Maximum Pressure PSIG (bar)	232 (16)	
Fluid	Air or Inert Gas	
Weight lbs. (kg)	0.73 (0.331)	

Materials in Contact with Fluid	
Body	Aluminum

How to Order

Diverter Block

8 652 A D 0 0 4 T A00 0 0

Port Type

8 = NPTF
G = ISO 228/1-G*
J = ISO 7/1 Rc

Product Series

652

Revision

A

Product Type

D = Diverter Block

Options**

A00 = No Options
101 = Side Mounting Brackets
117 = ATEX Zones 1-21

Pressure Switch Interface

C = Pad Mount (Europe only)
T = 1/8 (US only)

Port Size

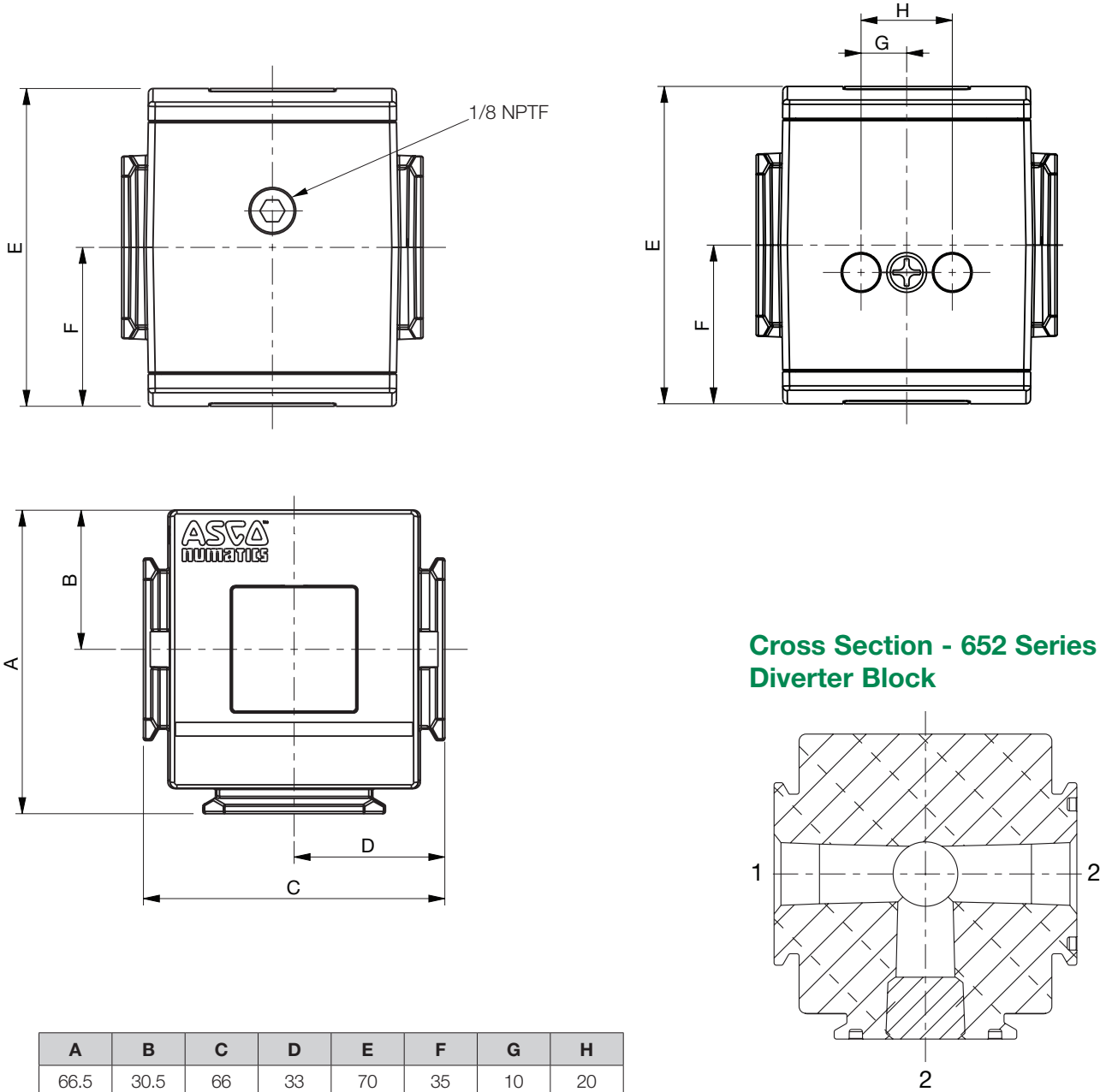
4 = 1/2

* Conforms to ISO standards 1179-1

** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

Dimensions: mm (Inches)

Dimensional Drawing - 652 Series Diverter Block



Cross Section - 652 Series Diverter Block

A	B	C	D	E	F	G	H
66.5	30.5	66	33	70	35	10	20
(2.62)	(1.20)	(2.60)	(1.30)	(2.76)	(1.38)	(0.39)	(0.79)

- Modular assembly to 652 series manifold using common 652 series body-to-body clamps
- Provides high exhaust capacity of downstream pressure
- Available as full-flow start or slow-start
- Slow-start feature allows operator to turn knob counter clock wise to “On” position, gradually ramping up downstream pressure
- Bright yellow body with red knob is easily identified as an emergency shut-off device
- Typically located as the final component in an Air Preparation assembly

Performance Data			
Port Sizes*		1/2	
Nominal Flow		1 → 2	2 → 3
	SCFM (L/min ANR)	116 (5905)	116 (5905)
Ambient Temperature Range °F (°C)		40 to 120 (4 to 50)	
Fluid Temperature Range °F (°C)		40 to 120 (4 to 50)	
Maximum Pressure PSIG (bar)		150 (10.3)	
Fluid		Air or Inert Gas	
Weight lbs. (kg)	Standard	2.7 (1.23)	
	Slow Start	3.1 (1.39)	

*Ports are not threaded (grey flanges). Easily connect to 652 Series Manifold. When connecting to pipe, use end-plate kits #T652AT502468001

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR
Spool	Aluminum

3/2 Lockout Valve with Slow Start Feature

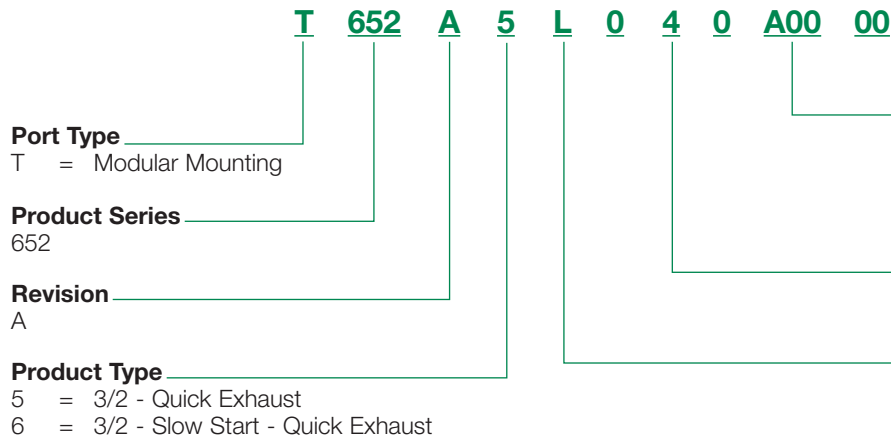


3/2 Lockout Valve



How to Order

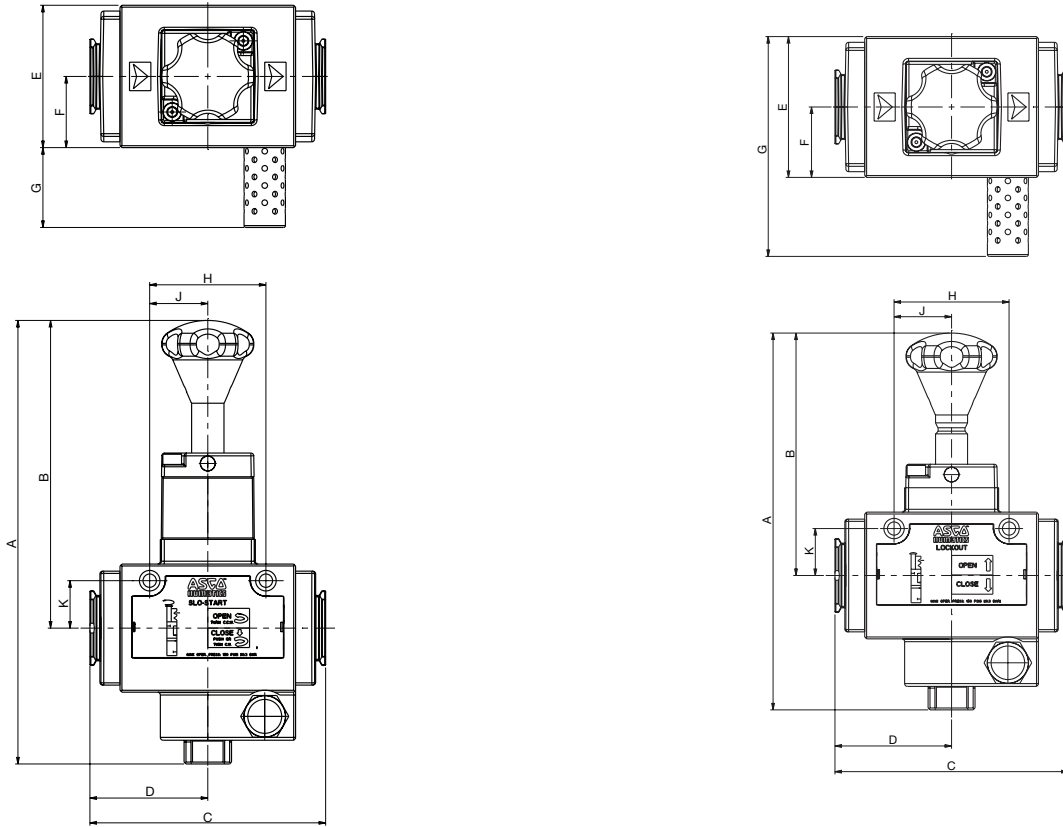
Lockout Valve



* If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

Dimensions: mm (Inches)

Dimensional Drawing - 652 Series Lockout Valve



Note: When the knob is pushed down (Closed position), the lockout shaft extends out of the bottom by 12.2 mm (0.48 inches). The lockout hole diameter in the shaft is 11.2 mm (0.44 inches). These measurements are the same for the standard Lockout and the Slow-Start version.

3/2 Lockout Valve with Slow Start Feature

A	B	C	D	E
237.5	164.9	126.2	63.1	76.2
(9.35)	(6.49)	(4.96)	(2.48)	(3.00)

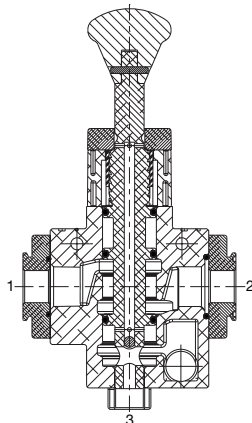
F	G	H	J	K
38.1	42.7	62.2	31.1	25.4
(1.50)	(1.68)	(2.44)	(1.22)	(1.00)

3/2 Lockout Valve

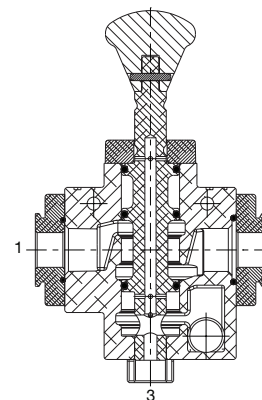
A	B	C	D	E
204	131.3	126.2	63.1	76.2
(8.03)	(5.17)	(4.96)	(2.48)	(3.00)

F	G	H	J	K
38.1	119	62.2	31.1	25.4
(1.50)	(4.68)	(2.44)	(1.22)	(1.00)

3/2 Lockout Valve with Slow Start Feature Cross Section



3/2 Lockout Valve Cross Section



How to Order

Air Preparation Manifold Assemblies

8 652 A S L D 4 C 0 0 A00

Port Type
 8 = NPTF
 G = ISO 228/1-G*
 J = ISO 7/1 Rc

Product Series
 652

Revision
 A

Product Type
 S = FRL Assembly

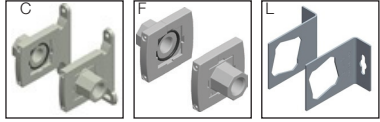
Air Flow Direction
 L = Configure Air Flow P(1) Left - P(2) Right
 R = Configure Air Flow P(1) Right - P(2) Left

Number of Stations

A = 1	K = 11
B = 2	L = 12
C = 3	M = 13
D = 4	N = 14
E = 5	O = 15
F = 6	P = 16
G = 7	Q = 17
H = 8	R = 18
I = 9	S = 19
J = 10	T = 20

Options
 A00 = No Options
 117 = ATEX Zones 1-21 ⚠

Mounting Type
 0 = No Mounting
 C = End Plates, Body-to-Body Assembly
 Clamps & Wall/Panel Brackets
 F = End Plates and Body-to-Body
 Assembly Clamps
 L = Side Mounting Brackets



End Plate Port Size
 0 = None
 4 = 1/2

* Conforms to ISO standards 1179-1

All manifolds come assembled and fully tested to your configuration.

If additional support is required in the middle of a manifold. Please specify kit number P699AT502467001. This kit contains one Wall/Panel Bracket (also referred to as support bracket or mounting bracket). This bracket can be installed at the factory or ordered separately as a kit. This kit contains two screws, which allows customers to easily attach the bracket to the back of any of the body-to-body clamps in the manifold assembly.

After selecting the top level assembly part number, please refer to each of the How-to-Order charts within this catalog to determine the specific product that is required in the manifold assembly. The How-to-Order charts are located on the following pages:

Particulate Filter: Page 5

Coalescing Filter: Page 8

Regulator: Page 11

Manifold Regulator: Page 14

Particulate Filter/Regulator: Page 17

Coalescing Filter/Regulator: Page 20

Lubricator: Page 23

Shut-Off Isolation Valve: Page 26

Slow Start/Quick Exhaust Valve: Page 29

Diverter Block: Page 31

Lockout Valve: Page 33

How-to-order 652 Series Air Preparation Manifold Assemblies (Examples)

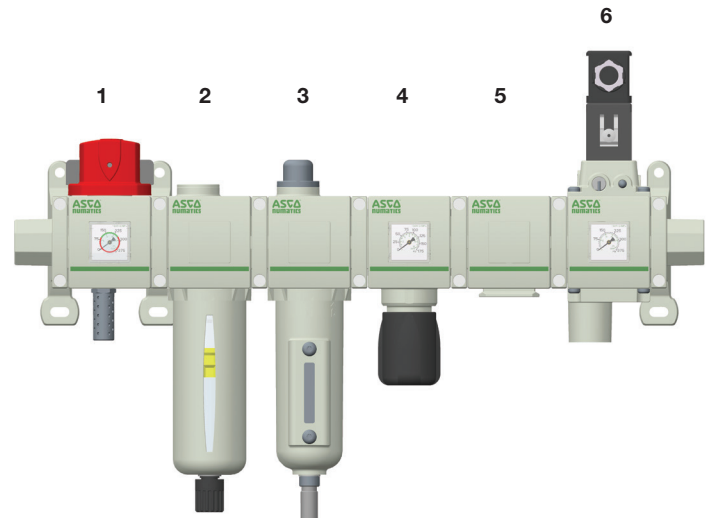
Example #1

The following example assembly includes six stations of the 652 series products, manifold end plates with mounting brackets and an additional support bracket between station 1 and 2. The manifold air flow is from Left-to-Right. Port type is NPTF. Port size is 1/2.

The regulator is configured for a bottom oriented pressure adjustment (option 122). The Shut-Off Isolation Valve is configured with a low profile gauge, with pressure range indicators.

Example Order

Assembly	8652ASLF4C00A00	652 Series Air Prep Assembly
Station 1	8652A3M04H11100	652 Series Shut Off Isolation Valve
	P699AT502467001	Support Bracket
Station 2	8652ABBP4JA000N	652 Series Particulate Filter
Station 3	8652AFDM4FA000A	652 Series Coalescing Filter
Station 4	8652AR004F122G0	652 Series Regulator
Station 5	8652AD004TA0000	652 Series Diverter Block
Station 6	8652A6S74FA00F1	652 Series Slow-Start/Quick Exhaust Solenoid Valve



Assembled

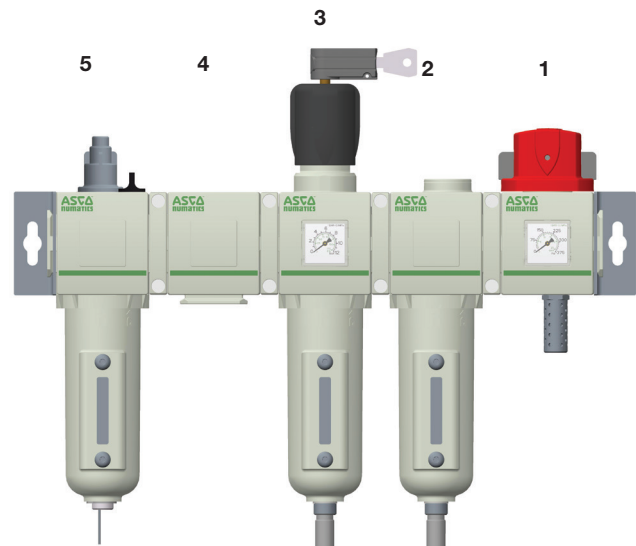
Example #2

The following example assembly includes five stations of the 652 series products and side mounting brackets. The manifold air flow is from Right-to-Left. Port type is ISO 228/1-G. Port size is 3/8.

The Lubricator is configured with an Electronic Liquid Level Indicator (option 108). The Shut-off Isolation Valve uses a combination option (270), which is configured when you use a Metal Muffler (111) and a low profile gauge that requires a right-to-left flow (123). The Coalescing Filter/Regulator also uses a combination option. In this case a combination option (243) includes a Key Lockable Handle (104) and a low provide gauge that requires right-to-left flow (123).

Example Order

Assembly	G652ASRE0L00A00	652 Series Air Prep Assembly
Station 5	G652ALOM3010800	652 Series Lubricator
Station 4	G652AD004TA0000	652 Series Diverter Block
Station 3	G652ACDM3F243GA	652 Series Coalescing Filter-Regulator
Station 2	G652ABBM3JA000A	652 Series Particulate Filter
Station 1	G652A3M03F27000	652 Series Shut Off Isolation Valve



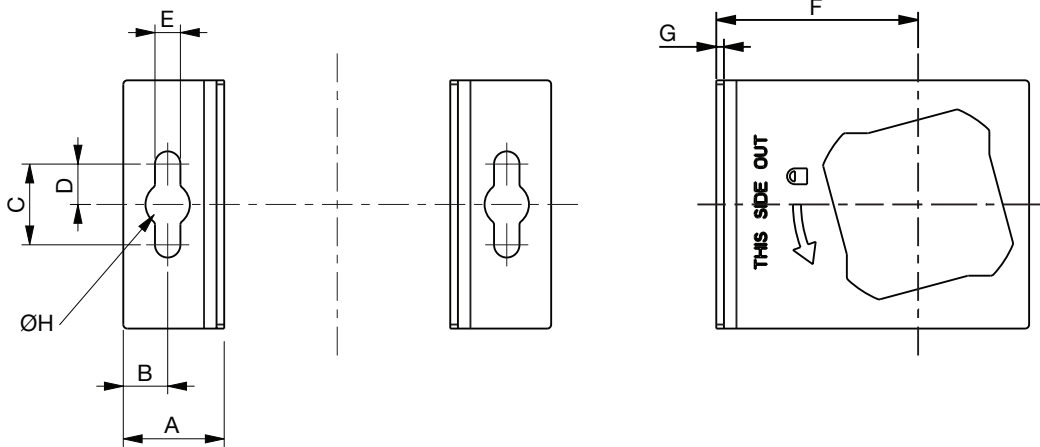
Assembled

If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.numatics.com), or consult factory.

Dimensions: mm (Inches)

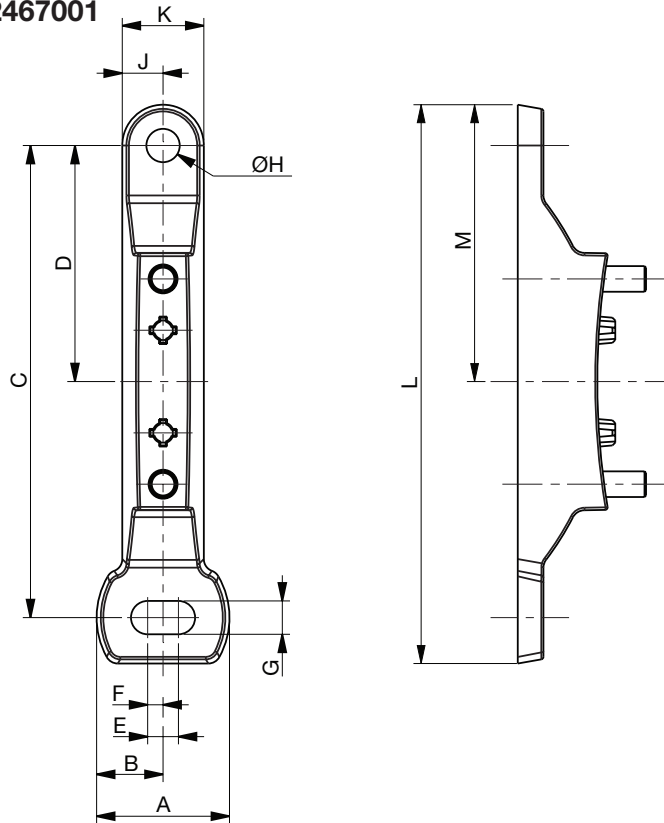
Dimensional Drawings - Mounting Options

Side Mounting Brackets Kit#: P652AT50386002



A	B	C	D	E	F	G	ØH
25 (0.98)	11 (0.43)	20 (0.79)	10 (0.39)	6.3 (0.25)	50 (1.97)	1.9 (0.075)	11 (0.43)

Wall/Panel Bracket Kit#: P699AT502467001



A	B	C	D
26 (1.02)	13 (0.51)	92 (3.62)	46 (1.81)

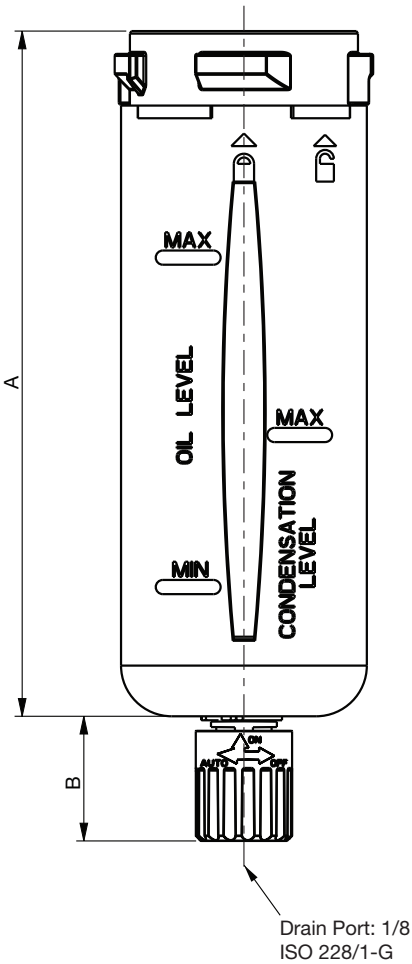
E	F	G	ØH
6 (0.24)	3 (0.12)	6.5 (0.26)	6.5 (0.26)

J	K	L	M
8 (0.31)	18 (0.71)	109 (4.29)	44.5 (1.75)

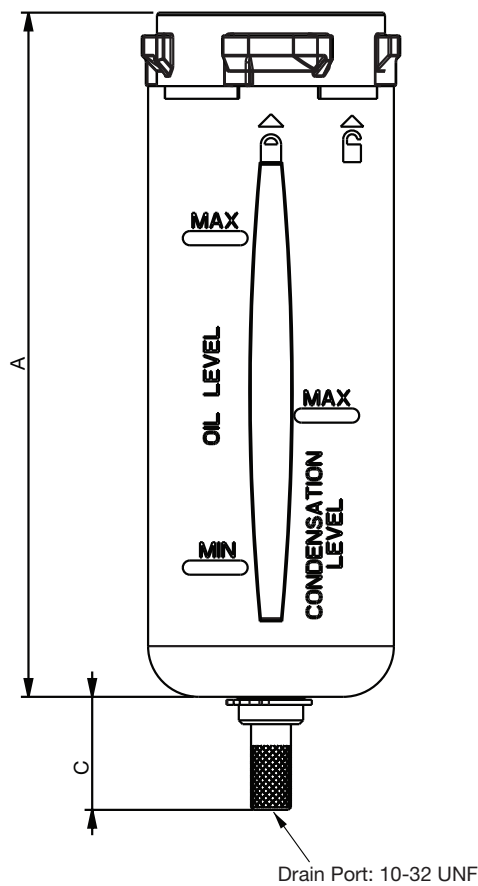
Dimensions: mm (Inches)

Dimensional Drawings - Bowl and Drain Options

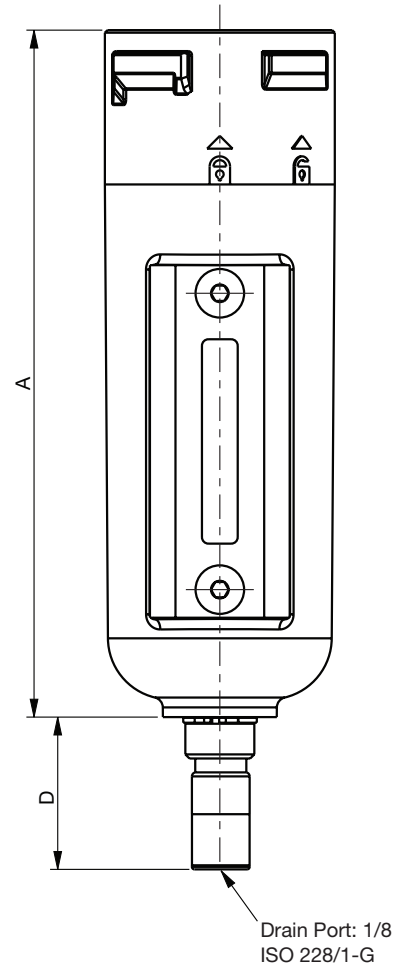
Polycarbonate Bowl/Guard with Semi-Automatic/Manual Drain



Polycarbonate Bowl/Guard with Stainless Steel Manual Drain



Metal Bowl with Automatic Drain

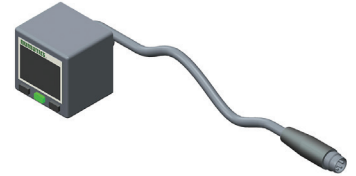


A	B	C	D
135 (5.3)	25 (0.98)	22.3 (0.88)	30 (1.18)

Note: For Filters and Filter-Regulators, allow for at least 85 mm (3.3 inches) clearance for removal of bowl (if using an automatics drain). For Lubricators (without the Electronic Liquid Level Indicator), allow for 25 mm (1.0 inches).

280 Series Digital Pressure Switch

Performance Data	
Port Size/Thread Type	1/8 NPTF Male x 10/32 UNF Female
	1/8 ISO 7/1 Rc Male x M5-0.8 Female
Ambient Temperature Range °F (°C)	32 to 122 (0 to 50)
Rated Pressure Range PSIG (bar)	0 to 145 (0 to 10)
Maximum Pressure PSIG (bar)	217.5 (15)
Fluid	Air or Inert Gas
Set Pressure Resolution	kPa 1
	kgf/cm ² 0.01
	bar 0.01
	PSI 0.1
LCD Display	7 Segment; Red/Green Color
Sampling Rate	5 times per second
Repeatability	≤ +/- 0.2% F.S. +/- 1 Digit
Hysteresis (window comparator mode)	Adjustable
Electrical Ratings	
Power Supply Voltage	12 to 24 VDC +/- 10% Ripple (P-P) 10% or Less
Current Consumption	≤ 45 mA (with no load)
Switch Output	PNP Open Collector / NPN Open Collector
Max. Load Current	125 mA 125 mA
Max Supply Voltage	24 VDC 30 VDC
Residual Voltage	≤ 1.5 V ≤ 1.5 V
Load Current	125 mA 125 mA
Enclosure Rating	IP40
Materials in Contact with Fluid	
Enclosure Case	PBT + 30 GF
Port	Nickel Plated Brass
Seals	NBR



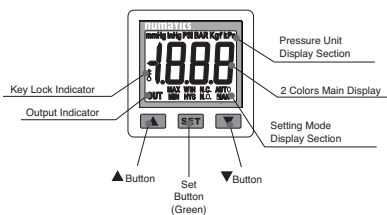
How to Order

Model Numbers

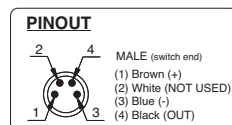
DPS280PNQ8 1/8 NPTF (PNP) DPS280PRQ8 1/8 ISO 7/1 Rc (PNP)
 DPS280NNQ8 1/8 NPTF (NPN) DPS280NRQ8 1/8 ISO 7/1 Rc (NPN)

Note: All part numbers include an 8 mm Pico 4 Pin connector and 2 meter cable (4 mm O.D. x 26 AWG)

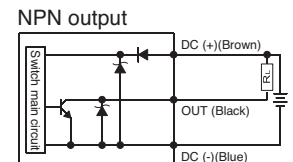
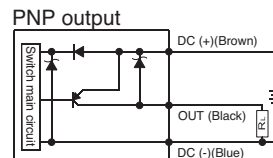
Display Panel Instructions



Switch Wiring



Output Circuit Wiring



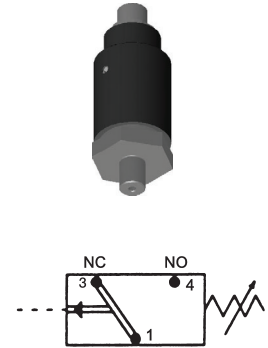
Accessory Numbers

Model	Accessory Description
DPS280-8-4-ST-2	Mating Cable 8 mm 4 Pin 2 Meter
DPS280-8-4-ST-5	Mating Cable 8 mm 4 Pin 5 Meter
PC0402MEETA03000	Patch Cable M8 4 Pin X M12 3 Pin 2 Meter

Model	Accessory Description
PMK280-C	Panel Mount Kit with Cover

PS182 Series Pressure Switch

Performance Data	
Port Size/Thread Type	1/8 NPTF or 1/8 ISO 228/1-G (BSPP)
Ambient Temperature Range °F (°C)	-40 to 250 (-40 to 121)
Set Point Adjustment Ranges PSI (bar)	2-10 (.14 to .69), 6-30 (.41 to 2.07), 20-130 (1.38 to 8.96)
Set Point Tolerance	+ 1 PSI or 5%
Maximum Pressure PSIG (bar)	600 (41.4)
Fluid	Air or Inert Gas
Maximum Cycle Rate per Minute	200
Hysteresis Adjustment	10%
Electrical Ratings	
Switch Contact Rating	4 Amp (Gold Plated Contacts)
Voltage Range	12 VDC to 250 VDC
Enclosure Rating	IP 65
Electrical Connection	3 Pin M12
Materials in Contact with Fluid	
Enclosure Case	Anodized Aluminum
Body	Brass
Seals	NBR



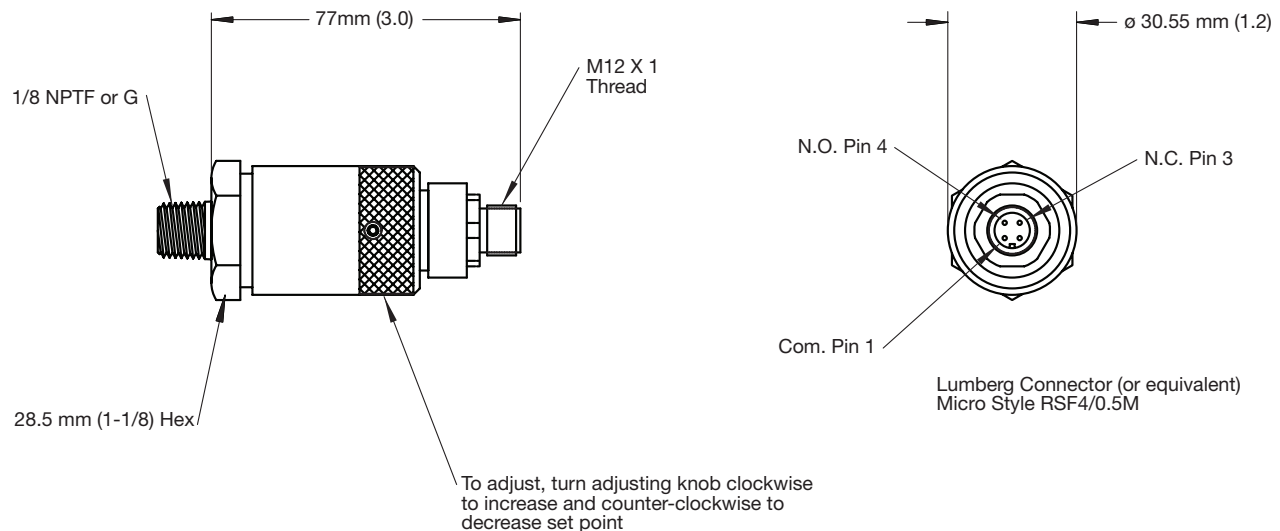
How to Order

Model Numbers

PS182CAN01	1/8 NPTF
PS182CAG01	1/8 ISO 228/1-G (BSPP)

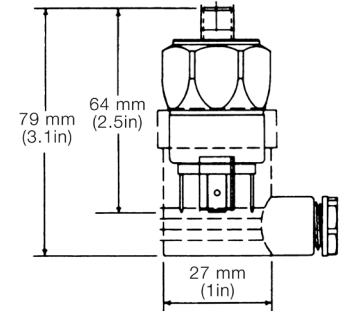
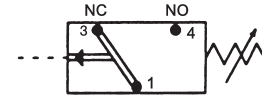
Dimensions: mm (Inches)

Dimensional Drawings - PS182 Pressure Switch



PS180 Series Pressure Switch

Performance Data	
Port Size/Thread Type	1/8 NPTF & ISO 228/1-G (BSPP)
Ambient Temperature Range °F (°C)	0 to 190 (-15 to 85)
Set Point Adjustment Ranges PSI (bar)	4-20 (.28 to 1.38), 14-150 (.97 to 10.34)
Maximum Pressure PSIG (bar)	300 (20.7)
Fluid	Air or Inert Gas
Maximum Cycle Rate per Minute	200
Hysteresis Adjustment	15%
Electrical Ratings	
Switch Contact Rating	4 Amp
Maximum Voltage	250 VAC (200 VDC)
Enclosure Rating	IP 65
Materials in Contact with Fluid	
Connector Housing	Polyamide
Port	Zinc Plated Steel
Seals	NBR



How to Order

Model Numbers

PS180CAN01	1/8 NPTF
PS180CAG01	1/8 ISO 228/1-G

Digital Pressure Gauge

Performance Data	
Port Size/Thread Type	1/8 (NPTF or ISO 7/1 Rc)
Ambient Temperature Range °F (°C)	32 to 122 (0 to 50)
Rated Pressure Range PSIG (bar)	0 to 145 (0 to 10)
Maximum Pressure PSIG (bar)	217.5 (15)
Fluid	Air or Inert Gas
Display (Unit Measurement)	PSI, bar, Mpa, kgf/cm ²
LCD Display	7 Segment 3-1/2 Digit
Sampling Rate	2 times per second
Repeatability	< + 0.2% + 1 Digit
Electrical Ratings	
Battery	CR 2032 Lithium (Replaceable)
Battery Life	3 Year (display turned on 5 times per day)
Battery Power Saving Mode	Display turns off after 30 seconds
Enclosure Rating	IP65
Materials in Contact with Fluid	
Enclosure - Front Case	ABS
Enclosure - Back Case	Zinc
Seals	NBR



How to Order

Model Numbers

M699AG50465001	1/8 NPTF
M699AG50465002	1/8 ISO 7/1 Rc

349 Series Pressure Switch

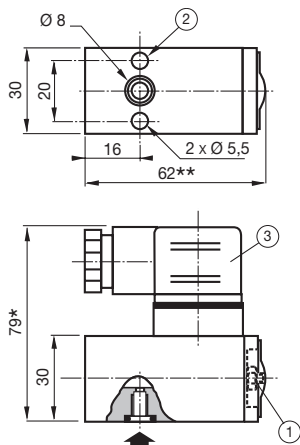
Performance Data		
	Without Protection	With Protection
Port Size/Thread Type	Pad Mounted	
Fluid	Air or Inert Gas	
Pressure Setting	0.2 to 6, 0.5 to 10, 0.5 to 16 bar	
Hysteresis	0.4 bar at the beginning of adjustment range 1 bar at the end of adjustment range	
Operating Temperature (°C)	-10 to +60	0 to +60
Max Voltage	250V - AC/DC	24 VDC
Current Breaking Capacity	5A - 250V resistive	2A - 24Vcc Resistive
Protection Degree	IP65	
Max Speed	60 cycles per minute	
Material in contact with fluid		
Body	High Performance Polymer(PA61/XT) / Aluminium for 16 bar version	
Seals	NBR	

How to Order

	0.2 - 6 bar	0.5 - 10 bar	0.5 - 16 bar
With Protection	34900028	34900031	34900034
Without Protection	34900027	34900030	34900033

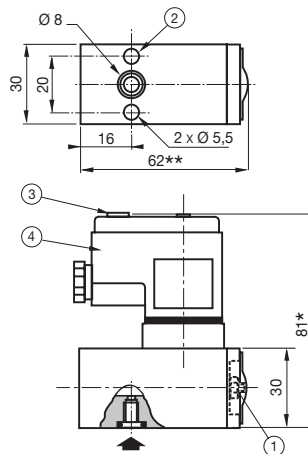
Dimensional Drawings

Without Protection



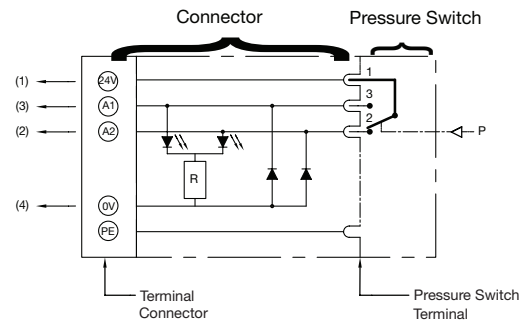
- ① Pressure set screw (spanner for hexagon nuts: 3 mm)
- ② 2 holes Ø 5,5 for mounting
- ③ ISO4400 size 30 connector, 4 terminals, rotatable by 90°

With Protection



- ① Pressure set screw (spanner for hexagon nuts: 3 mm)
- ② 2 holes Ø 5,5 for mounting
- ③ Identification label holder
- ④ Pg9P connector, non rotatable*

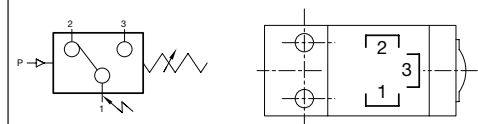
With Protection Electrical Diagram



Status indicated by two diodes:

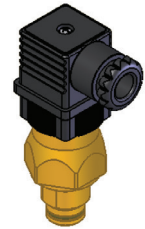
- at rest: contact 1-2 made: orange diode lights
 - at work: contact 1-3 made: red diode lights
- Terminal connection for 1,5 mm² wire integrated interference blinking

Electrical Connection With and Without Protection



Electric Differential Pressure Indicator

Performance Data	
Ambient Temperature Range °F (°C)	-13 to 212 (-25 to 100)
Maximum Pressure PSIG (bar)	290 (20)
Delta P Setting +PSIG (bar)	10.2 (0.7)
Electrical Ratings	
Switching Contact	SPDT
14 VDC/5 A; 30 VDC/4 A; 125 VAC/5 A; 250 VAC/5 A	
Minimum Load	5 VDC / 160 mA
Enclosure Rating	IP65 (DIN Connector 43650)
Materials in Contact with Fluid	
Body	Brass
Seals	NBR



How to Order

Model Numbers

M699AG439851003

Electronic Liquid Level Indicator (for Lubricator)

Performance Data	
Actuation Point	25 mL (Nominal)*
Switch Contact is open when fluid drops below 25 mL	
Connection	1/8-27 NPT External Thread
Electrical Ratings	
Switching Contact	SPST
Switch Type	50 Watt Reed Switch
Wire Size / Length	22 AWG / 24 Inches (610 mm)
Materials in Contact with Fluid	
Body	Brass
Float	Nylon













How to Order

Model Numbers









M699AG506837001

Repair Kits and Service Parts

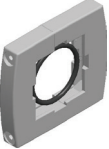
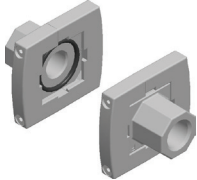

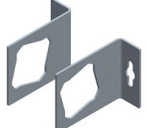


652 Series - Spare Parts Kits			
		Description	Kit Number
Bowls*		Polycarbonate Bowl & Bowl Guard - Includes NBR Bowl Seal for Filters, Filter-Regulators and Lubricators (Electronic Liquid Level Indicator only)	M652AU440511001
		Polycarbonate Bowl & Bowl Guard - Includes NBR Bowl Seal for Lubricators.	M652AU440511008
		Metal bowl without sight gauge. Includes NBR Bowl Seal.	M652AU440511002
		Metal bowl without sight gauge. Includes FKM Bowl Seal.	M652AU440511011
		Metal bowl with polyamide sight gauge. Includes NBR Bowl Seal.	M652AU440511003
		Metal bowl with polyamide sight gauge. Includes FKM Bowl Seal.	M652AU440511013
		Metal bowl with borosilicate (glass) sight gauge. Includes NBR Bowl Seal.	M652AU440511004
		Metal bowl with borosilicate (glass) sight gauge. Includes FKM Bowl Seal	M652AU440511015
Drains		Drain Plug Assembly. Provides an option to customers that do not want to use a bowl drain. Includes NBR seal.	M699AQ440512001
		Semi-Automatic/Manual Drain Assembly - with NBR seals. This normally open drain can be used as a manual drain or set to semi-automatic, which will drain the bowl upon a loss of system pressure. Drain material is plastic.	M699AQ440512002
		Semi-Automatic/Manual Drain Assembly - with FKM seals. This normally open drain can be used as a manual drain or set to semi-automatic, which will drain the bowl upon a loss of system pressure. Drain material is plastic.	M699AQ440512007
		Manual Stainless Steel Drain Assembly - with NBR seals. Provides the user with an alternative to the plastic semi-automatic drain.	M699AQ440512003
		Manual Stainless Steel Drain Assembly - with FKM seals. Provides the user with an alternative to the plastic semi-automatic drain.	M699AQ440512008
	Automatic Drain Assembly - with NBR seals. This drain uses a float that initiates the bowl to drain when the liquid rises. In addition, all fluid will drain when the pressure drops below 22 PSI. Drain material is brass. This drain can also be operated manually.	M699AQ501862001	
Bowl & Drain Assembly		Bowl and Drain Assembly - Includes Polycarbonate Bowl/Guard and Semi-Automatic Drain Assembly (NBR Seals).	M652AU513311001

* For lubricator replacement metal bowls, please also order bowl plug p/n M699AQ440512001. This is not required if the Electronic Liquid Level Indicator is used.


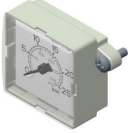
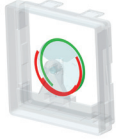
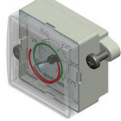

Repair Kits and Service Parts

652 Series - Spare Parts Kits				
		Description	Kit Number	Color
Filter Elements		5 Micron Particulate Filter Element	M652AE433582001	White
		25 Micron Particulate Filter Element	M652AE433582002	Yellow
		40 Micron Particulate Filter Element	M652AE433582003	Green
		0.3 Micron Coalescing Filter Element	EKF22D	Green
		0.01 Micron Coalescing Filter Element	EKF22E	Red
		0.3 Micron Coalescing Filter Element - with 3 Micron pre-filter	EKF22DD	Green
		0.01 Micron Coalescing Filter Element - with 3 Micron pre-filter	EKF22ED	Red
		Adsorber (Activated Carbon) Filter	EKF22F	White/Clear

Assembly and Mounting Kits

652 Series - Air Prep Assembly and Mounting Kits		
	Description	Kit Number
	Body-to-Body Assembly Clamps (Includes NBR O-Ring) Clamp material is aluminum	P652AT502466001
	Body-to-Body Assembly Clamps (Include FKM O-Ring) Clamp material is aluminum	P652AT502466003
	End Plate Kit (1/2 NPTF): Includes two end plates and body-to-body assembly clamps & NBR O-Ring. End plate material is aluminum	T652AT502468001
	End Plate Kit (1/2 NPTF): Includes two end plates and body-to-body assembly clamps & FKM O-Ring. End plate material is aluminum	T652AT502468007
	End Plate Kit (1/2 ISO228/1-G): Includes two end plates and body-to-body assembly clamps & NBR O-Ring. End plate material is aluminum	T652AT502468002
	End Plate Kit (1/2 ISO228/1-G): Includes two end plates and body-to-body assembly clamps & FKM O-Ring. End plate material is aluminum	T652AT502468008
	End Plate Kit (1/2 ISO 7/1 Rc): Includes two end plates and body-to-body assembly clamps & NBR O-Ring. End plate material is aluminum	T652AT502468003
	Wall/Panel Bracket Kit includes one bracket and two screws for attaching bracket to body clamp. Two brackets are required for mounting three or more products. One bracket is suitable for mounting two products. Material is aluminum.	P699AT502467001
	Side Mounting Brackets (Includes two brackets): Designed for mounting single products to wall or panel, but is capable of handling up to 3 stations. Material is stainless steel.	P652AT503860002
	Panel Nut: Used for Regulators and Filter-Regulators where adjustment knob is fed through a panel and the panel nut is then used to secure the product to the panel. Material is polyamide.	P652AT513177001
	Panel Nut & Bracket: The panel nut and bracket are used to mount a Regulator or Filter-Regulator to a wall or panel. Materials are stainless steel and polyamide.	P652AT503861002

Repair Kits and Service Parts

652 Series - Spare Parts Kits			
		Description	Kit Number
No Gauge		No Gauge Cover Kit - NBR Seal. Includes gauge cover, screw and o-ring	M699AG503396001
		No Gauge Cover Kit - FKM Seal. Includes gauge cover, screw and o-ring	M699AG503396002
Low Profile Gauges*		Low Profile Gauge - 651/652/653 Series: 0-90 PSI Scale with NBR seals	M699AG438047005
		Low Profile Gauge - 651/652/653 Series: 0-90 PSI Scale with FKM seals	M699AG438047017
		Low Profile Gauge - 651/652/653 Series: 0-175 PSI Scale with NBR seals	M699AG438047004
		Low Profile Gauge - 651/652/653 Series: 0-175 PSI Scale with FKM seals	M699AG438047016
		Low Profile Gauge - 653 Series: 0-375 PSI Scale with NBR seals	M699AG438047006
		Low Profile Gauge - 653 Series: 0-375 PSI Scale with FKM seals	M699AG438047018
		Low Profile Gauge - 651/652/653 Series: 0-6 bar Scale with NBR seals	M699AG438047002
		Low Profile Gauge - 651/652/653 Series: 0-6 bar Scale with FKM seals	M699AG438047014
		Low Profile Gauge - 651/652/653 Series: 0-12 bar Scale with NBR seals	M699AG438047001
		Low Profile Gauge - 651/652/653 Series: 0-12 bar Scale with FKM seals	M699AG438047013
		Low Profile Gauge - 653 Series and SOV for 651/652/653: 0-25 bar Scale with NBR seals	M699AG438047003
		Low Profile Gauge - 653 Series and SOV for 651/652/653: 0-25 bar Scale with FKM seals	M699AG438047015
		Pressure Range Indicators (Red/Green) for Low Profile Gauges. Desired range can be easily set in the field. This kit allows customers to add the pressure range indicator to existing low profile gauges in the field.	M699AG500179001
		Low Profile Gauge with Pressure Range Indicator - 651/652/653 Series: 0-90 PSI Scale with NBR seals	M699AG438047011
		Low Profile Gauge with Pressure Range Indicator - 651/652/653 Series: 0-175 PSI Scale with NBR seals	M699AG438047010
Low Profile Gauge with Pressure Range Indicator - 653 Series: 0-375 PSI Scale with NBR seals		M699AG438047012	
Low Profile Gauge with Pressure Range Indicator - 651/652/653 Series: 0-6 bar Scale with NBR seals		M699AG438047008	
Low Profile Gauge with Pressure Range Indicator - 651/652/653 Series: 0-12 bar Scale with NBR seals		M699AG438047007	
Low Profile Gauge with Pressure Range Indicator - 653 Series and SOV for 651/652/653: 0-25 bar Scale with NBR seals		M699AG438047009	
Digital Gauge		Digital Pressure Gauge - 651/652/653 Series: 0-145 PSI Scale (User can change units; bar, MPa, Kg/cm ²) 1/8" NPTF	M699AG504650001
		Digital Pressure Gauge - 651/652/653 Series: 0-145 PSI Scale (User can change units; bar, MPa, Kg/cm ²) 1/8" ISO 7/1 Rc	M699AG504650002




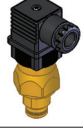

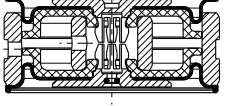


Repair Kits and Service Parts

652 Series - Spare Parts Kits			
		Description	Kit Number
Round Gauges*		Round Gauge - 0-60 PSI Series 1/8 NPTF and 1.5" Face Diameter	214-116
		Round Gauge - 0-160 PSI Series 1/8 NPTF and 1.5" Face Diameter	214-103
		Round Gauge - 0-300 PSI 1/8 NPTF and 1.5" Face Diameter	214-118
		Round Gauge - 0-60 PSI 1/8 ISO 7/1 Rc and 1.5" Face Diameter	RA060
		Round Gauge - 0-160 PSI 1/8 ISO 7/1 Rc and 1.5" Face Diameter	214-153
		Round Gauge - 0-300 PSI 1/8 ISO 7/1 Rc and 1.5" Face Diameter	RA300A
		Round Gauge - 0-4 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter (Europe)	34200061
		Round Gauge - 0-12 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter (Europe)	34200062
		Round Gauge - 0-16 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter (Europe)	34200997
Port Plates		Gauge Port Plate Assembly - 1/8 NPTF	M699AG440510001
		Gauge Port Plate Assembly - 1/8 ISO 7/1 Rc	M699AG440510002
Pressure Switch/Sensor		DPS280 Pressure Switch/Sensor - NPN M8 with Cable 1/8 ISO 7/1 Rc	DPS280NRQ8
		DPS280 Pressure Switch/Sensor - PNP M8 with Cable 1/8 ISO 7/1 Rc	DPS280PRQ8
		DPS280 Pressure Switch/Sensor - NPN M8 with Cable 1/8 NPTF	DPS280NNQ8
		DPS280 Pressure Switch/Sensor - PNP M8 with Cable 1/8 NPTF	DPS280PNQ8
		Pressure Switch: 1/8 NPTF, 20-130 PSI (1.4 to 9 bar) range, Brass/NBR 3 PIN M12 connection (12mm); IP65	PS182CAN01
		Pressure Switch: 1/8 BSPP, 20-130 PSI (1.4 to 9 bar) range, Brass/NBR 3 PIN M12 connection (12mm); IP65	PS182CAG01
		Pressure Switch: 1/8 NPTF, 14 - 150 PSI (1 to 10 bar) range, Zinc Plated Steel/NBR Polyamide Connector Material, 4 PIN DIN Connector; IP65	PS180CAN01
		Connector/Cord-set for PS182 - 90° Elbow: 5 Meter cable	PS182-5-90
	Connector/Cord-set for PS182 - Straight: 5 Meter cable	PS182-5-ST	
Lubricator Repair Kits		Lubricator dome repair kit - NBR seals. Includes dome cover, screw and o-rings.	M699AY506842001
		Lubricator dome repair kit - FKM seals. Includes dome cover, screw and o-rings.	M699AY506842002
		Lubricator Level Switch assembly kit. Includes level switch, stainless steel retainer ring, o-ring and bushing.	M699AG506837001
		Lubricator Bowl Plug assembly: Includes Lubricator bowl plug, stainless steel retainer ring and NBR o-ring.	M699AQ440512001



* * Each of the Low Profile and Round Gauges are dual scale; consult factory for further information. The scale that is listed in the description has the units located near the outside of the scale. The other units would be on the inside.

Note: For all pressure switches & round gauges that are added to the 652 series products in the field, a port plate is required. The port plate can be added at the time of order entry or as a kit.



Repair Kits and Service Parts

652 Series - Spare Parts Kits			
	Description	Kit Number	
Filter Kits		Particulate Filter Repair Kit - Includes the filter retainer, head baffle, lower end cap and bowl baffle.	M652AY506833001
		Differential Pressure Pop-Up Indicator (NBR Seals) This is used for the Coalescing Filters to provide visual indication when the filter element needs to be replaced.	M699AG439851001
		Differential Pressure Pop-Up Indicator (FKM Seals) This is used for the Coalescing Filters to provide visual indication when the filter element needs to be replaced.	M699AG439851004
		DPI Plug (NBR Seals) This is used to plug the top port on the filter when a Differential Pressure Indicator is not used.	M699AG439851002
		DPI Plug (FKM Seals) This is used to plug the top port on the filter when a Differential Pressure Indicator is not used.	M699AG439851005
	Electric Differential Pressure Indicator (NBR Seals) This is used for the Coalescing Filter only. It provides a contact that will actuate when the filter element needs to be replaced.	M699AG439851003	
Regulator & Filter Regulator Kits		Adjusting Screw Repair Kit - Includes adjusting screw, nut, washer and screw	M652AY506952001
		Key Lockable Adjusting Screw Repair Kit - Includes adjusting screw, adjusting nut, flat washer and screw	M652AY506952002
		Tamper proof Repair Kit - Includes adjusting screw, adjusting nut, flat washers and screws	M652AY506952003
		Diaphragm Assembly Repair Kit (Pilot Operated Regulator NBR Seals)	M652AH435268001
		Diaphragm Assembly Repair Kit (Pilot Operated Regulator FKM Seals)	M652AH435268002
		Poppet Repair Kit (NBR Seals): Includes poppet, stem & seals.	M652AY506863001
		Poppet Repair Kit (FKM Seals): Includes poppet, stem & seals.	M652AY506863002
		Diaphragm Assembly Repair Kit (Relieving Regulator NBR Seals)	M652AH434213001
		Diaphragm Assembly Repair Kit (Relieving Regulator FKM Seals)	M652AH434213002
		Diaphragm Assembly Repair Kit (Non-Relieving Regulator NBR Seals)	M652AH434213003
		Diaphragm Assembly Repair Kit (Non-Relieving Regulator - FKM Seals)	M652AH434213004
		Main Spring (45 PSIG / 3 bar)	M652AY513313001
		Main Spring (60 PSI / 4 bar)	M652AY438708001
Main Spring (125 PSI / 8 bar)		M652AY438709001	
Main Spring (145 PSI / 10 bar)		M652AY513314001	
Bowl Seal Kits		U-Cup Seal Kit (NBR Seals) Kit contains 10 U-Cup seals. This seal is used for all 652 series bowls	M652AH507085001
		U-Cup Seal Kit (FKM Seals) Kit contains 10 U-Cup seals. This seal is used for all 652 series bowls	M652AH507085002

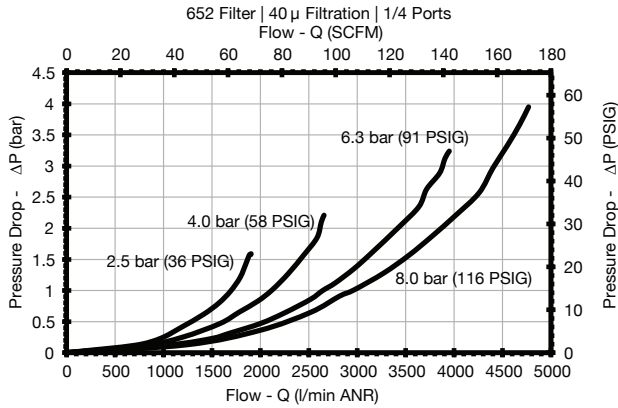
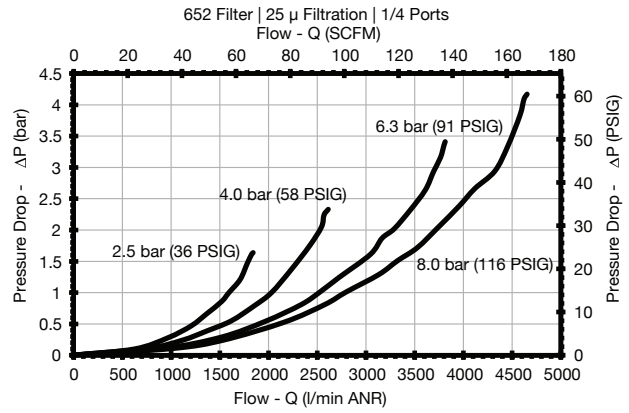
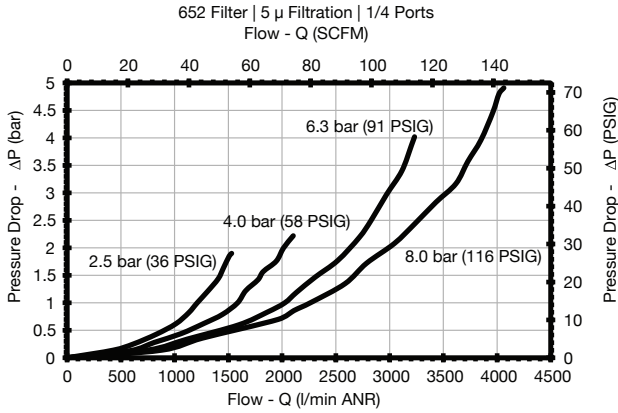
Repair Kits and Service Parts

652 Series - Spare Parts Kits			
		Description	Part/Kit Number
3/2 Slow Start - Quick Exhaust Valve Kits		Horizontal Solenoid Operator (190) - With Manual Override	19090017
		Horizontal Solenoid Operator (190) - Without Manual Override	19090005
		24 VDC coil with 3 Pin M12 Connection, for Horizontal Solenoid Operator	43005525
		24 VDC coil with DIN Spade connection for Horizontal Solenoid Operator	43004473
		120 VAC coil with DIN Spade connection for Horizontal Solenoid Operator	43004471
		24 VAC coil with DIN Spade connection for Horizontal Solenoid Operator	43004469
		240 VAC coil with DIN Spade connection for Horizontal Solenoid Operator	43004472
		DIN Connector, without LED - Horizontal Solenoid Operator	88122602
		DIN Connector, with LED, for 24 VAC/DC coil - Horizontal Solenoid Operator	88122603
		DIN Connector, with LED, for 120 VAC coil - Horizontal Solenoid Operator	88122605
	DIN Connector, with LED, for 240 VAC coil - Horizontal Solenoid Operator	88122608	
		Vertical Solenoid Operator (189) - Without Manual Override	18990007
		24 VDC coil with 3 Pin M12 Connection, for Vertical Solenoid Operator	43005523
		24 VDC coil with DIN Spade connection for Vertical Solenoid Operator	43004166
		120 VAC coil with DIN Spade connection for Vertical Solenoid Operator	43004419
		24 VAC coil with DIN Spade connection for Vertical Solenoid Operator	43004416
		240 VAC coil with DIN Spade connection for Vertical Solenoid Operator	43004422
		DIN Connector, without LED - Vertical Solenoid Operator	88122404
		DIN Connector, with LED, for 24 VAC/DC coil - Vertical Solenoid Operator	88122405
		DIN Connector, with LED, for 120 VAC coil - Vertical Solenoid Operator	88122407
DIN Connector, with LED, for 240 VAC coil - Vertical Solenoid Operator		88122410	
		Jumper Plate Kit: For Air Operated Internally Piloted 3/2 Slow Start - QE Valve	M699AY513316001
		Pilot Port Plate: For Air Operated Externally Piloted 3/2 Slow Start - QE Valve	M699AY513318001
		Pilot Port Plate: For Air Operated Externally Piloted 3/2 Slow Start - QE Valve, 1/8 NPTF	M699AY513318002

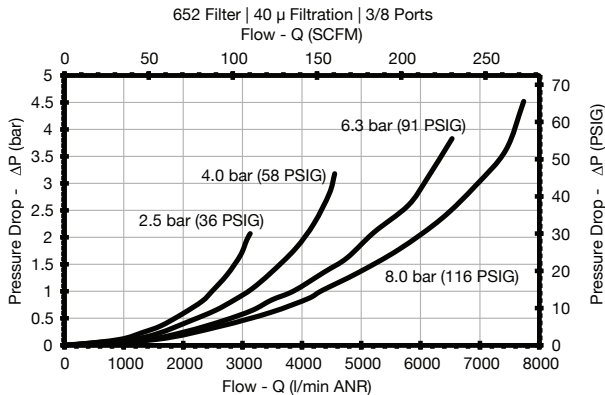
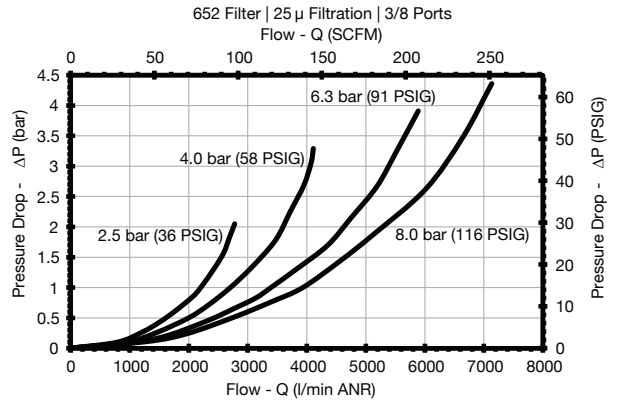
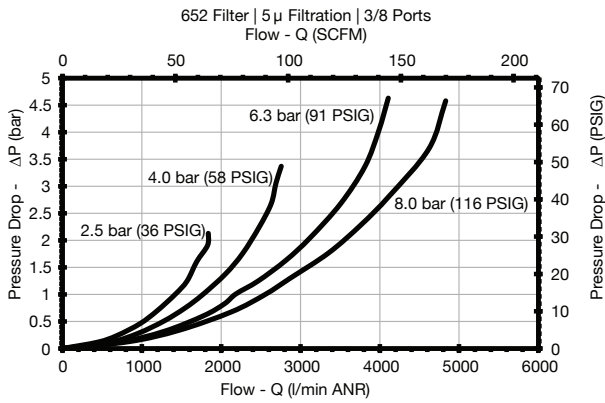
Accessories

652 Series - Accessories			
		Description	Part Number
Scissor Lock		Scissor Lock for Shut-Off Isolation Valve & Lockout Valve	VB-1
Mufflers/Silencers		Metal Muffler – 1/4 NPTF (Shut-Off Isolation Valves)	M2MN
		Polyethylene Muffler – 1/4 NPTF (Shut-Off Isolation Valves)	E2MN
		Metal Muffler – 1/2 NPTF (Slow-Start/Quick Exhaust & Lockouts)	M4MN
		Polyethylene Muffler – 1/2 NPTF (Slow-Start/Quick Exhaust & Lockouts)	E4MN

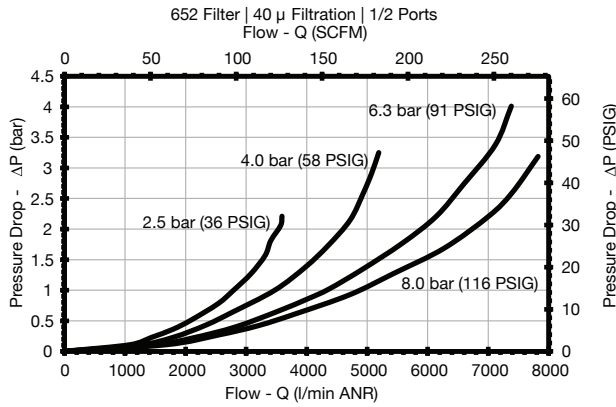
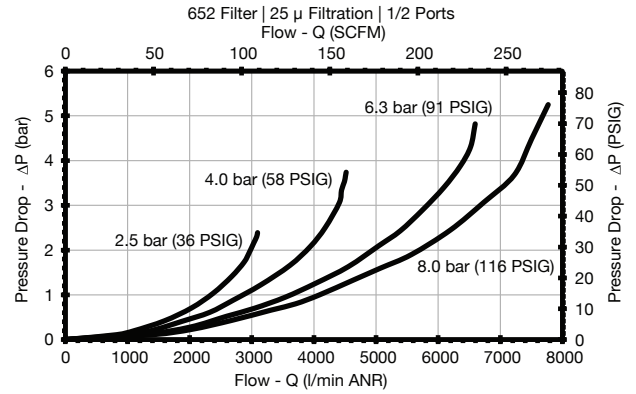
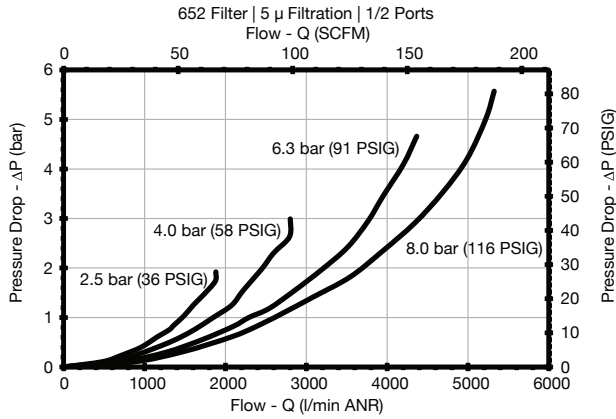
Particulate Filter Flow Charts - Particulate Filter 1/4



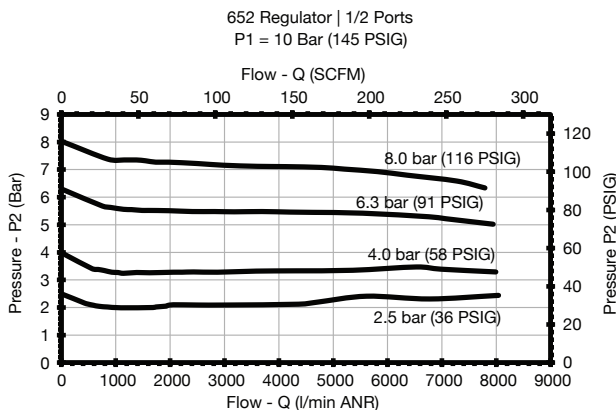
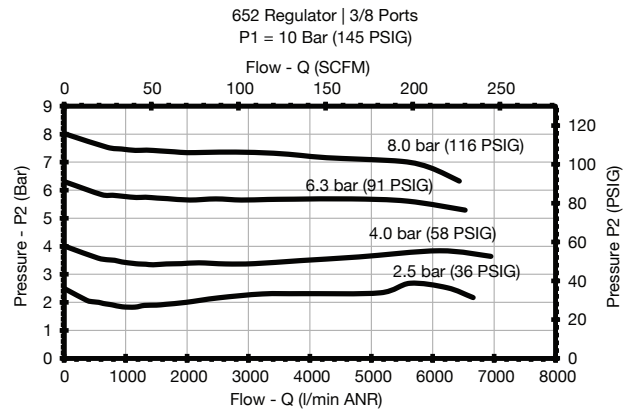
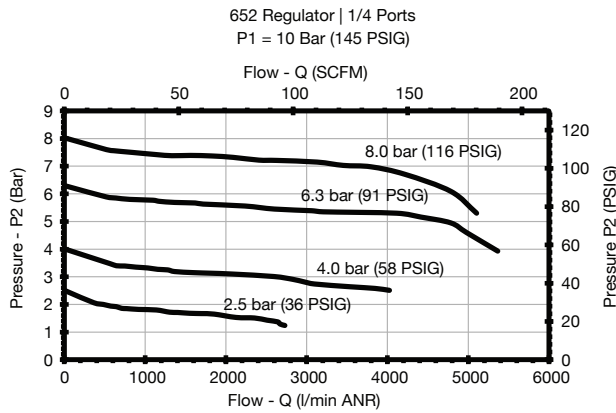
Particulate Filter 3/8



Particulate Filter Flow Charts - Particulate Filter 1/2

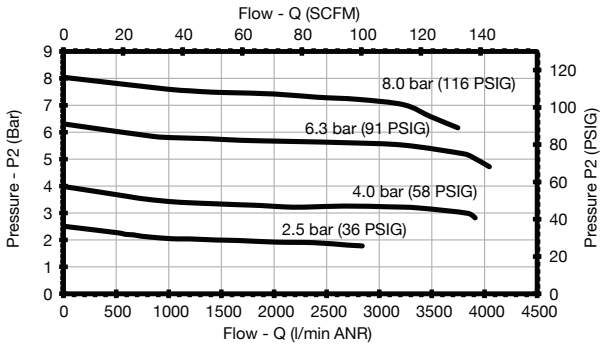


Regulator Flow Charts

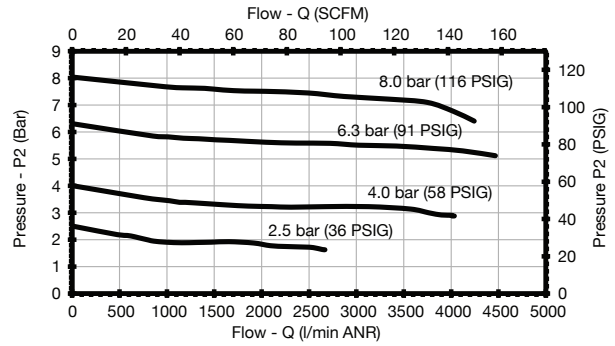


Particulate Filter/Regulator Flow Charts - Particulate Filter/Regulator Filter 1/4

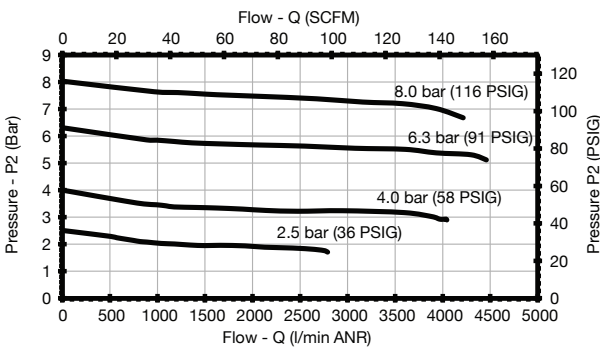
652 Filter-Regulator | 5 μ Filtration | 1/4 Ports
P1 = 10 Bar (145 PSIG) | Δ P = 1 Bar (14.5 PSIG)



652 Filter-Regulator | 25 μ Filtration | 1/4 Ports
P1 = 10 Bar (145 PSIG) | Δ P = 1 Bar (14.5 PSIG)

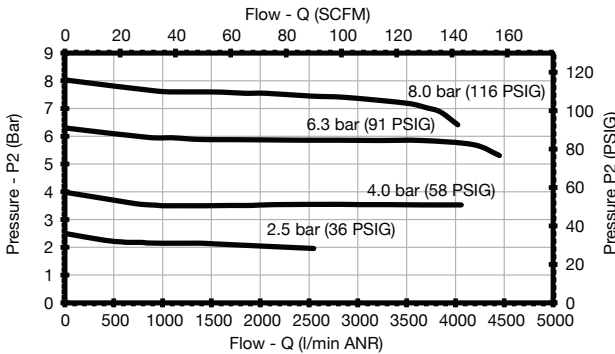


652 Filter-Regulator | 40 μ Filtration | 1/4 Ports
P1 = 10 Bar (145 PSIG) | Δ P = 1 Bar (14.5 PSIG)

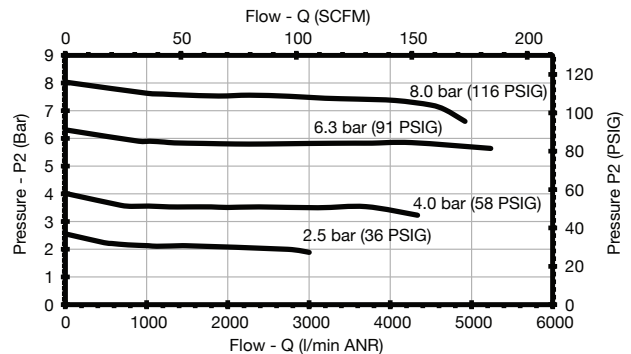


Particulate Filter/Regulator Flow Charts - Particulate Filter/Regulator Filter 3/8

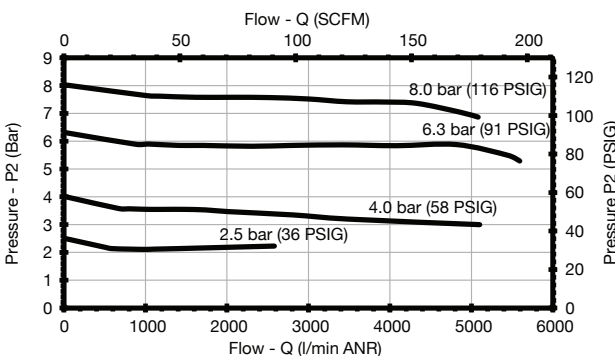
652 Filter-Regulator | 5 μ Filtration | 3/8 Ports
P1 = 10 Bar (145 PSIG) | Δ P = 1 Bar (14.5 PSIG)



652 Filter-Regulator | 25 μ Filtration | 3/8 Ports
P1 = 10 Bar (145 PSIG) | Δ P = 1 Bar (14.5 PSIG)

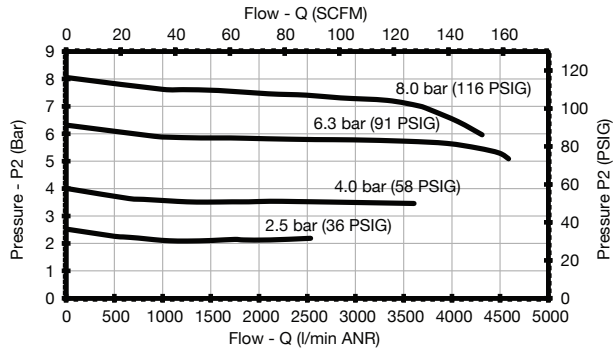


652 Filter-Regulator | 40 μ Filtration | 3/8 Ports
P1 = 10 Bar (145 PSIG) | Δ P = 1 Bar (14.5 PSIG)

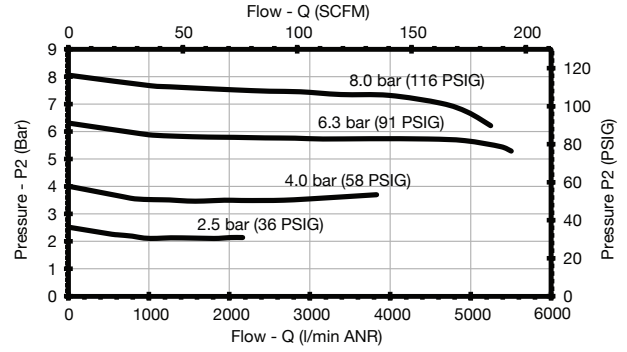


Particulate Filter/Regulator Filter 1/2

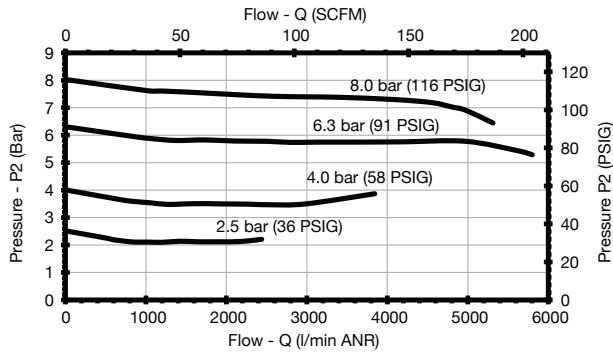
652 Filter-Regulator | 5 μ Filtration | 1/2 Ports
P1 = 10 Bar (145 PSIG) | ΔP = 1 Bar (14.5 PSIG)



652 Filter-Regulator | 25 μ Filtration | 1/2 Ports
P1 = 10 Bar (145 PSIG) | ΔP = 1 Bar (14.5 PSIG)



652 Filter-Regulator | 40 μ Filtration | 1/2 Ports
P1 = 10 Bar (145 PSIG) | ΔP = 1 Bar (14.5 PSIG)



A blue-tinted world map showing the continents of North and South America, with a grid of latitude and longitude lines.

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