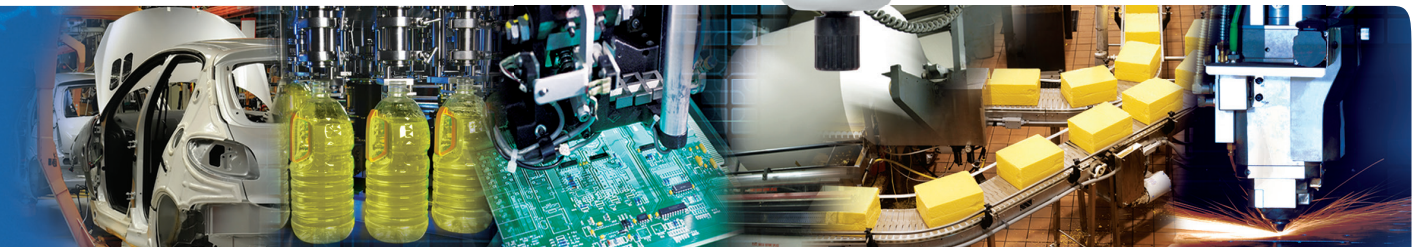
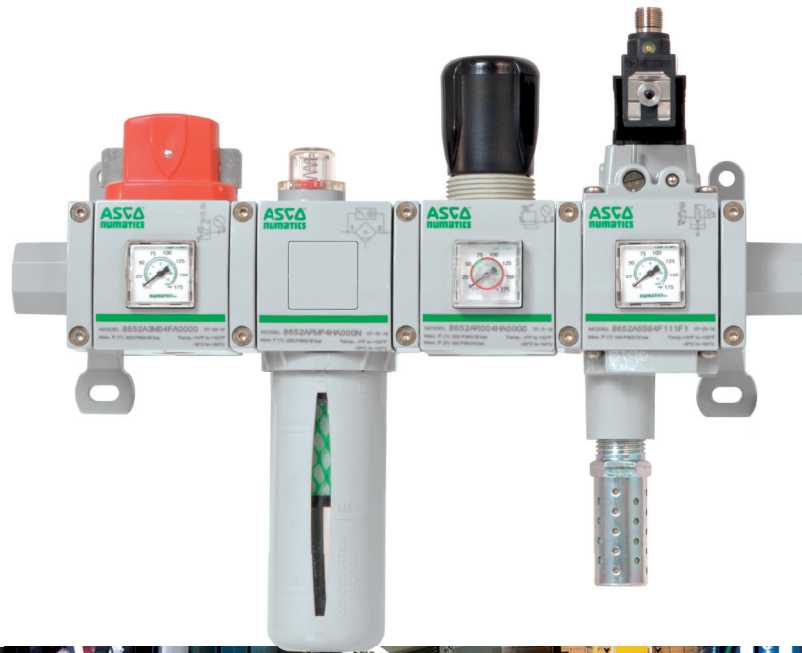


# ASCO<sup>TM</sup> NUMATICS

## Air Preparation Products

651/652 Series | Filter Regulator Lubricator (FRL)





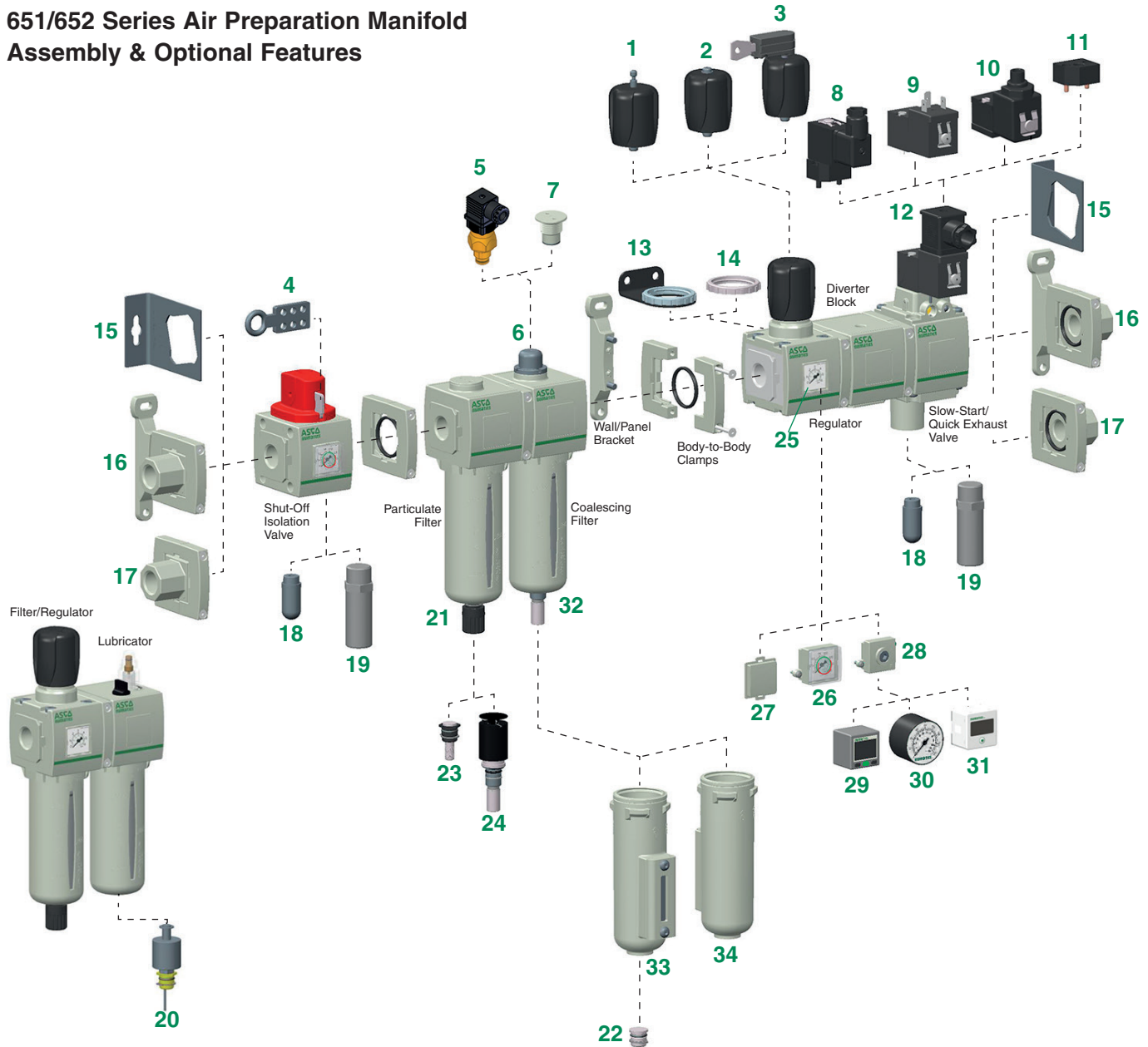
# Table of Contents

## 651/652 Series

Product Overview	2
Particulate Filter	4
Coalescing Filter	8
Adsorber - Activated Carbon	8
Regulator	12
Manifold Regulator	16
Particulate Filter/Regulator	19
Coalescing Filter/Regulator	23
Lubricator	27
Shut-Off Isolation Valve	30
Slow Start-Quick Exhaust Valve	33
Diverter Block	36
Lockout Valve	38
Air Preparation FR + L Manifold Assemblies	40
Mounting Bracket Dimensional Drawings	42
Bowl and Drain Features	43
280 Series Digital Pressure Switch	44
PS180 Series Pressure Switch	45
Digital Pressure Gauge	45
349 Series Pressure Switch	46
Electric Differential Pressure Indicator (DPI)	47
Electronic Liquid Level Indicator	47
Kits and Service Parts	48

## Series 651/652 - Product Overview

### 651/652 Series Air Preparation Manifold Assembly & Optional Features



- |  |   |  |
|--|---|--|
| 1) Provision for Key Lockable (Regulator & F/R*)                     | 15) Side Mounting Brackets                                      | 30) Round Gauge                                      |
| 2) Tamper Resistant (Regulator & F/R*)                               | 16) End Plates, Body-to-Body Clamps & Wall/Panel Brackets       | 31) Digital Gauge                                    |
| 3) Key Lockable (Regulator & F/R*)                                   | 17) End Plates & Body-to-Body Clamps                            | 32) Polycarbonate Bowl & Guard                       |
| 4) Scissor Lock  | 18) Polyethylene Muffler  | 33) Metal Bowl with Borosilicate (Glass) Sight Gauge |
| 5) Electric Differential Pressure Indicator (Coalescing Filter)      | 19) Metal Muffler   | 34) Metal Bowl without Sight Gauge                   |
| 6) Differential Pressure Visual Pop-Up Indicator (Coalescing Filter) | 20) Electronic Liquid Level Indicator                           |  |
| 7) No Differential Pressure Indicator                                | 21) Semi-Automatic/Manual Drain                                 |  |
| 8) 189 Series Vertical Solenoid                                      | 22) Plug for No Drain   |  |
| 9) 190 Series Horizontal Solenoid                                    | 23) Manual Drain - Stainless Steel                              |  |
| 10) 190 Series Horizontal Solenoid with 4Pin M12 Connection          | 24) Automatic Drain - Normally Open - Brass                     |  |
| 11) Pilot Air Operated   | 25) Low profile integrated gauge                                |  |
| 12) Horizontal Solenoid  | 26) Low profile integrated gauge with Pressure Range Indicators |  |
| 13) Panel Nut/Panel Bracket (Regulator & F/R*)                       | 27) No Gauge Port   |  |
| 14) Panel Nut (Regulator & F/R)                                      | 28) Port Plate  |  |
|  | 29) Digital Pressure Switch - DPS 280 Series                    |  |

\*F/R = Filter/Regulator

All leaflets are available on: [www.asco.com](http://www.asco.com)

## 2 - Air Preparation

## 651/652 Series Modular Assembly Mounting Features

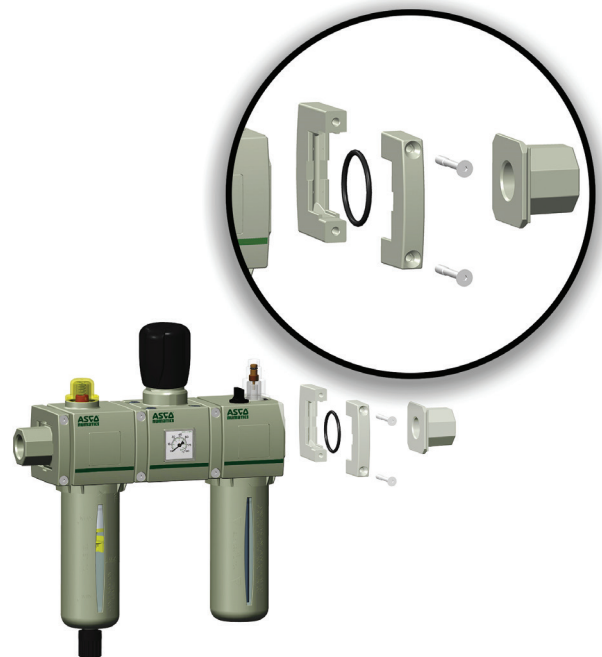
### Body-to-Body Assembly Clamp

Easy to assemble Body-to-Body clamp, with captive screws. Products are easily assembled in seconds.



### End Plates with Body-to-Body Assembly Clamp

The "End Plate" feature allows the user to easily remove the 651/652 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.



### Wall/Panel Bracket

The Wall/Panel Bracket feature is the primary mounting feature for the 651/652 series air prep assemblies. 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.

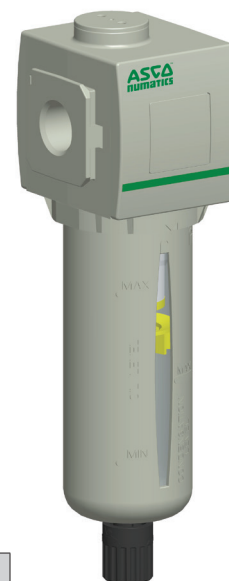


### Side Mounting Brackets

Side mounting brackets are a quick, effective solution for single elements or light assemblies of few components. (except Lockout Valve)



- Large selection of filtering capacities to remove particulate and water droplets from compressed air or inert gas
- Sintered polyethylene elements include 5 and 25 Microns
- Optional extended temperature range of -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 Aluminium bowls with or without glass gauge, to meet industry all application requirements
- Threaded ports allow for individual or modular mounting
- Air Purity Class according to ISO 8573-1: 2010



Performance Data				
Series	651		652	
Port sizes	1/8, 1/4		1/4, 3/8, 1/2	
Thread type	G (NPTF in option)			
Nominal flow - ISO 6358 P1 = 6,3 bar ΔP = 1 bar	1/8	Micron Rating	l/min (ANR)	l/min (ANR)
		5 μm	885	-
	25 μm	920	-	
	1/4	5 μm	1250	2020
		25 μm	1410	2250
	3/8	5 μm	-	2190
		25 μm	-	3390
	1/2	5 μm	-	2290
		25 μm	-	3700
	Maximum inlet pressure (bar)	Polycarbonate bowl		16
Aluminium bowl		16		
Ambient temperature range (°C)	-20 to +50			
Fluid temperature range (°C)	-20 to +50			
Fluid	air or inert gas			
Weight (kg)	w/Polycarbonate bowl	0,238	0,426	
	w/Aluminium bowl	0,382	0,553	

Materials in contact with fluid	
Body	Aluminium
Body covers	Polyamide
Seals	NBR
Filter element	Sintered polyethylene
Bowl	Polycarbonate or aluminium

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

## HOW TO ORDER

### Particulate Filter

**G 651 A B B P 2 J A00 0 N**

[2D/3D CAD models](#) - In 3D

#### Thread connection

- G = ISO 228/1-G\*
- 8 = NPTF

#### Product series

- 651
- 652

#### Revision letter

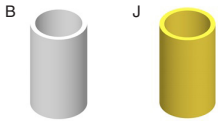
- A

#### Product type

- B = Filter - Particulate

#### Elements

- B = 5 µm (White)
- J = 25 µm (Yellow)



#### Bowl type

- K = Metal bowl without sight gauge
- L = Metal bowl with sight gauge (glass)
- P = Polycarbonate bowl with bowl guard



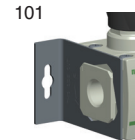
#### Drain type

- 0 = Without
- A = Auto drain normally open
- N = Manual/Semi-automatic drain
- Q = Manual drain - Stainless steel



#### Options\*\*\*

- A00 = Without
- 101 = Side Mounting Brackets
- 105 = High temperature (+80°C)
- 106 = Low temperature (-40°C)\*\*
- 109 = FPM seals
- 117 = ATEX zones 1-21
- 202 = 105 + 109
- 2A9 = 105 + 106



#### Port size

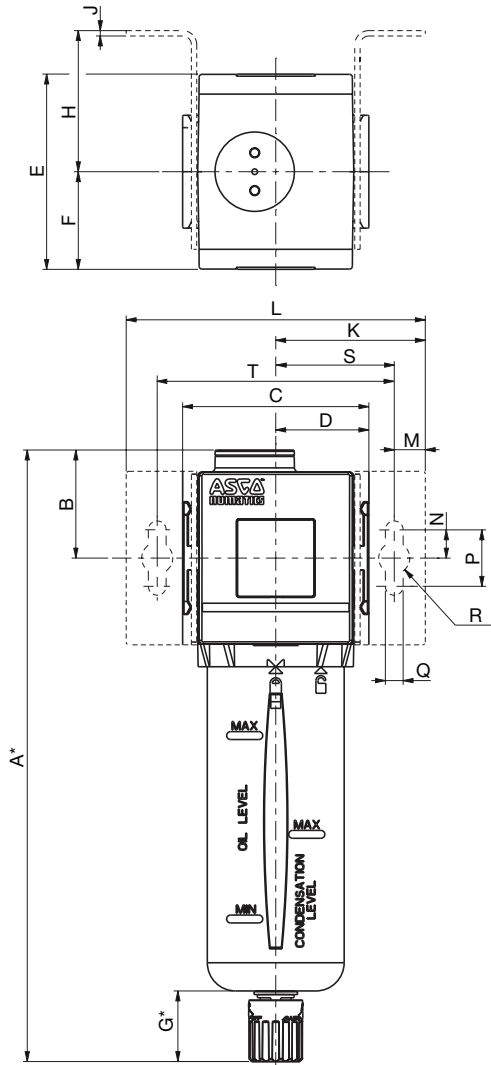
- 1 = 1/8 (651 Series)
- 2 = 1/4 (651 or 652 Series)
- 3 = 3/8 (652 Series)
- 4 = 1/2 (652 Series)

\* Conforms to ISO standards 1179-1

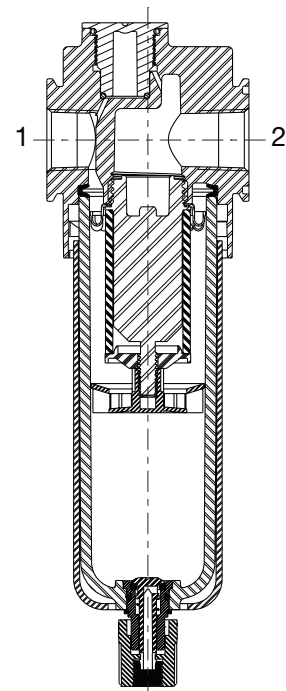
\*\* Compressed air must be dry enough so no ice formation is present on the product.  
All bowls should be emptied prior to ambient temperatures dropping below 0°C.

\*\*\* [If multiple options are required, please use the on-line CAD configurator on the website to generate the part number \(www.asco.com\).](#)

**Dimensions: mm**  
**Dimensional Drawing - 651/652 Series Particulate Filter** 2D/3D CAD models - In 3D



**Cross Section - 651/652 Series Particulate Filter**



To remove bowl allow:  
651 - 44 mm  
652 - 75 mm  
from the bottom  
of the bowl drain.

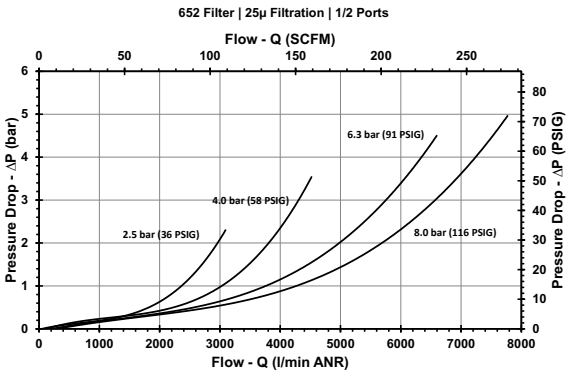
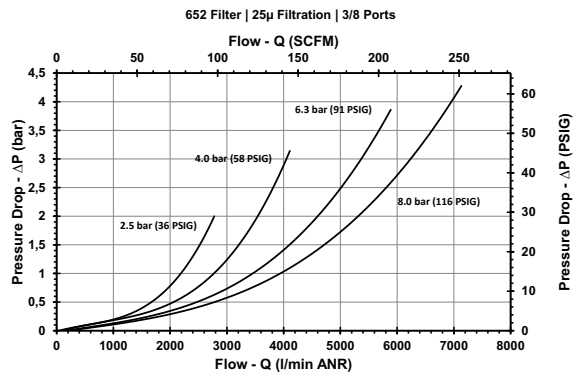
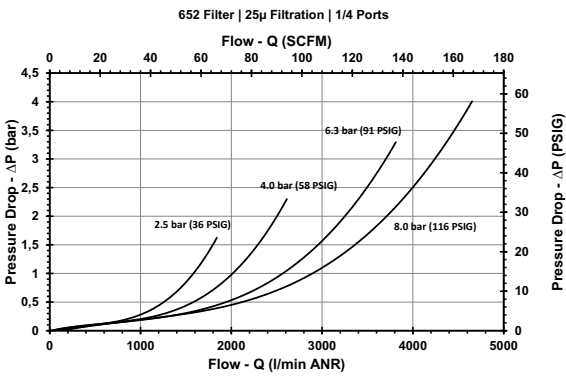
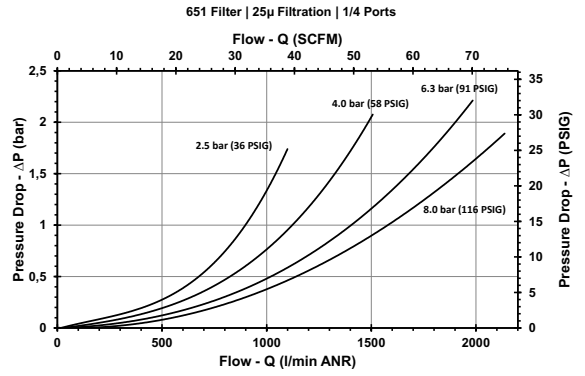
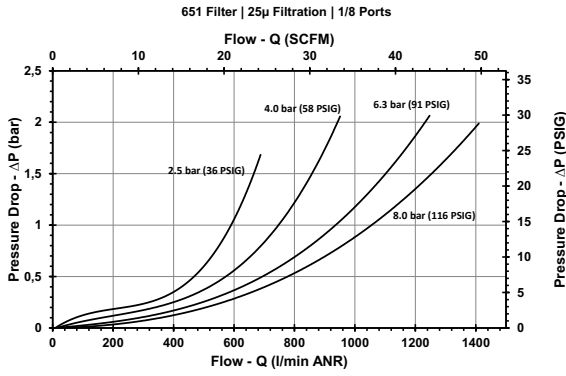
Series	A	B	C	D	E	F	G	H	J
651	197	33,8	50	25	58	29	25	44,5	1,27
652	217	38,3	66	33	69	34,5	25	50	1,9

Series	K	L	M	N	P	Q	ØR	S	T
651	46	92	11	10	20	6,3	11	35	70
652	53	106	11	10	20	6,3	11	42	84

\* 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.



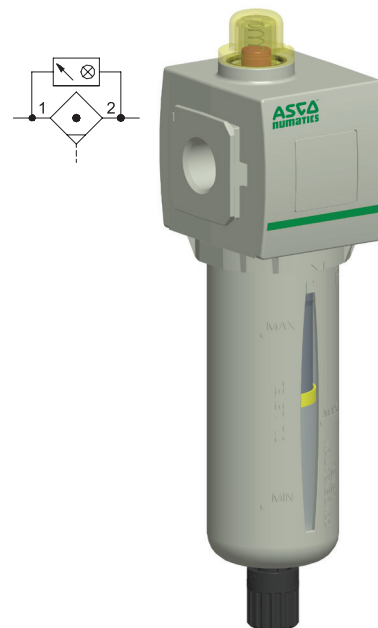
**Particulate Filter Flow Charts**



01801GB-2016/R01  
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# COALESCING FILTER & ADSORBER

- Extensive range of coalescing filter elements to remove oil and sub-micron particles down to 0,01 microns
- 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 Aluminium bowls with or without glass gauge, to meet industry all a pplication requirements
- Visual or electrical differential pressure Indicators for condition monitoring of filter element
- Air Purity Class according to ISO 8573-1: 2010
- Optional extended temperature range of +80°C



Performance Data					
Series	651		652		
Port sizes	1/8, 1/4		1/4, 3/8, 1/2		
Thread type	G (NPTF in option)				
Nominal flow - ISO 6358 P1 = 6,3 bar ΔP = 0,35 bar	1/8	Micron Rating	l/min (ANR)	l/min (ANR)	
		0,3 µm	430	-	
	1/4	0,01 µm	310	-	
		0,3 µm	480	800	
	3/8	0,01 µm	350	710	
		0,3 µm	-	820	
	1/2	0,01 µm	-	790	
		0,3 µm	-	870	
	Maximum inlet pressure (bar)	Polycarbonate	16		
		Aluminium	16		
Ambient temperature range (°C)	+1,7 to +50				
Fluid temperature range (°C)	+1,7 to +50				
Fluid	air or inert gas				
Weight (kg)	w/Polycarbonate bowl	0,245	0,442		
	w/Aluminium bowl	0,390	0,569		

Materials in contact with fluid	
Body	Aluminium
Body covers	Polyamide
Seals	NBR
Coalescing filter element	Borosilicate Microfiber & Polyester
Filter element end cap	Polypropylene
Adsorber	Activated carbon
Bowl	Polycarbonate or aluminium

Air Purity Class - ISO 8573-1: 2010*	
0,3 µm	(3:7:3)
0,01 µm	(2:7:2)

\* 651 Series maximum flow at 6,3 bar inlet pressure to maintain air purity class is 100 l/min.

\* 652 Series maximum flow at 6,3 bar inlet pressure to maintain air purity class is 300 l/min.

**HOW TO ORDER**

**Coalescing Filter**

**G 651 A F D P 2 H A00 0 N**

[2D/3D CAD models](#) - In 3D

**Thread connection**

- G = ISO 228/1-G\*
- 8 = NPTF

**Product series**

- 651
- 652

**Revision letter**

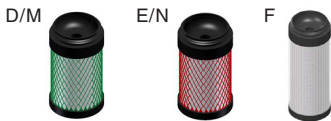
- A

**Product type**

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

**Elements**

- D = 0,3 micron - Coalescer (Green)
- E = 0,01 micron - Coalescer (Red)
- F = Adsorber - Activated carbon (Grey)
- M = 0,3 micron coalescer with 3 micron prefilter (Green)
- N = 0,01 micron coalescer with 3 micron prefilter (Red)



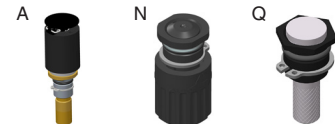
**Bowl type**

- K = Metal bowl without sight gauge
- L = Metal bowl with sight gauge (glass)
- P = Polycarbonate bowl with bowl guard



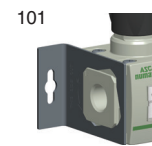
**Drain type**

- 0 = Without
- A = Auto drain normally open
- N = Manual/Semi-automatic drain
- Q = Manual drain - Stainless steel



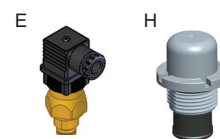
**Options\*\***

- A00 = Without
- 101 = Side Mounting Brackets
- 105 = High temperature (+80°C)
- 109 = FPM seals
- 117 = ATEX zones 1-21
- 202 = 105 + 109



**Indication type**

- E = Electrical differential pressure indicator
- H = Differential pressure visual pop-up indicator
- J = No differential pressure indicator



**Port size**

- 1 = 1/8 (651 Series)
- 2 = 1/4 (651 or 652 Series)
- 3 = 3/8 (652 Series)
- 4 = 1/2 (652 Series)

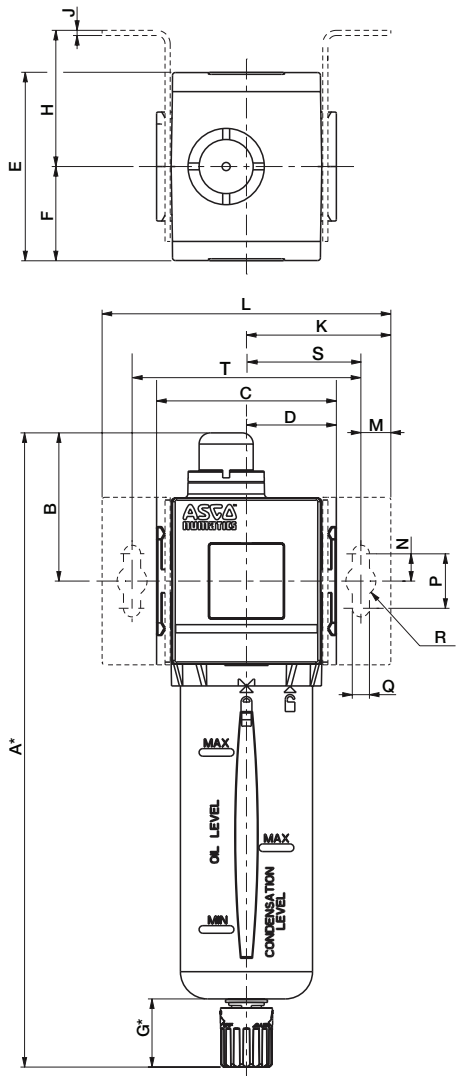
\* Conforms to ISO standards 1179-1.

\*\* If multiple options are required, please use the on-line CAD configurator on the [website to generate the part number \(www.asco.com\)](http://www.asco.com).

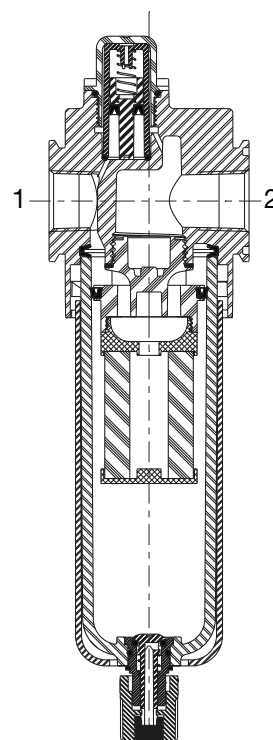
Dimensions: mm

Dimensional Drawing - 651/652 Series Coalescing Filter and Adsorber Filter

[2D/3D CAD models - In 3D](#)



Cross Section - 651/652 Series Coalescing Filter



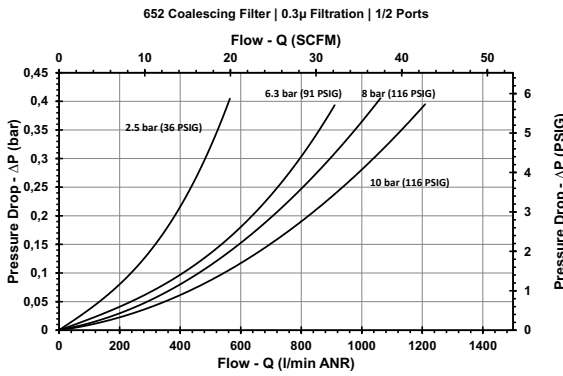
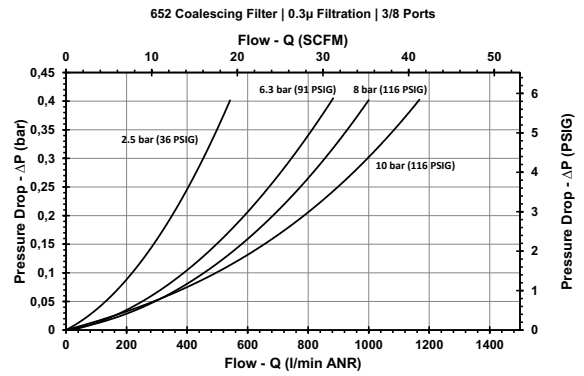
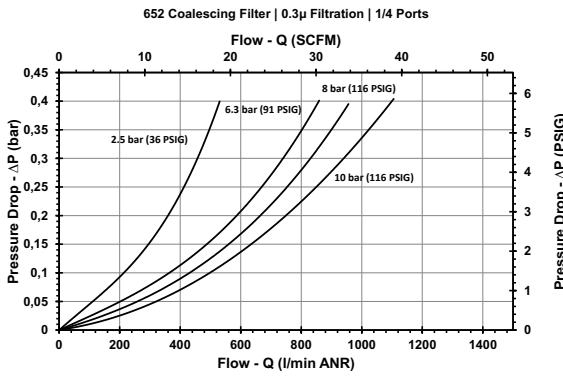
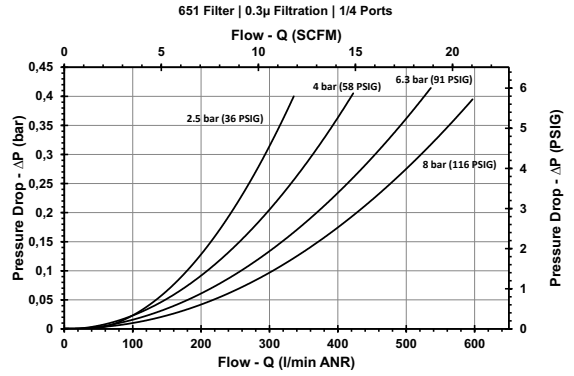
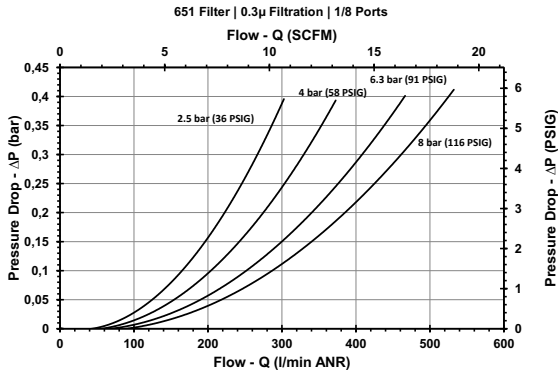
To remove bowl allow:  
651 - 60 mm  
652 - 80 mm  
from the bottom  
of the bowl drain.

Series	A	B	C	D	E	F	G	H	J
651	213	50	50	25	58	29	25	44,5	1,27
652	233	54,4	66	33	69	34,5	25	50	1,9

Series	K	L	M	N	P	Q	R	S	T
651	46	92	11	10	20	6,3	11	35	70
652	53	106	11	10	20	6,3	11	42	84

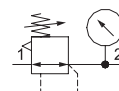
\* Variable dimension based on type of drain that is specified. If an Automatic Drain is specified, add another 5 mm to "G" dimension, which also adds 5 mm to the "A" dimension.

**Coalescing Filter Flow Charts**



01802GB-2016/R01  
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- High flow with a wide range of adjustable output pressure ranges
- Flows in excess of 7000 l/min
- Maintains constant downstream pressure even during fluctuations in upstream pressure
- Optional extended temperature range of -40°C to +80°C
- Optional low profile integrated gauge, round gauge, digital gauge or digital pressure switch
- Key lockable and tamper resistant options
- Threaded ports allow for individual or modular mounting



Performance Data			
Series		<b>651</b>	<b>652</b>
Port sizes		1/8, 1/4	1/4, 3/8, 1/2
Thread type		G (NPTF in option)	
		l/min (ANR)	
Nominal flow - ISO 6358 P1 = 10 bar Setpoint P2 = 6,3 bar $\Delta P = 1$ bar	1/8	800	-
	1/4	2060	4120
	3/8	-	6530
	1/2	-	7000
Maximum inlet pressure (bar) P1		16	
Adjustable pressure ranges (bar) P2		0,2 to 3	
		0,5 to 10	
Hysteresis (bar)		0,3	0,2
Ambient temperature range (°C)		-20 to +50	
Fluid temperature range (°C)		-20 to +50	
Fluid		air or inert gas	
Weight (kg)		0,215	0,431

Materials in contact with fluid	
Body	Aluminium
Body covers	Polyamide
Seals	NBR
Springs	Stainless steel

**HOW TO ORDER**

**Regulator**

**G 651 A R 0 0 2 G A00 H 0**

[2D/3D CAD models - In 3D](#)

**Thread connection**  
G = ISO 228/1-G\*  
8 = NPTF

**Product series**  
651  
652

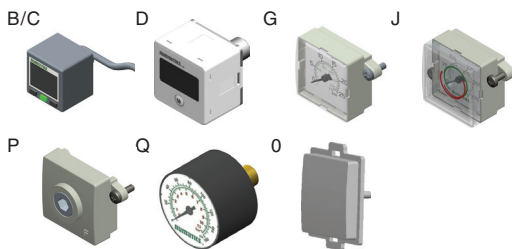
**Revision letter**  
A

**Product type**  
K = Regulator "Quick Relief Option"  
R = Regulator\*\*  
W = Pilot Operated Regulator



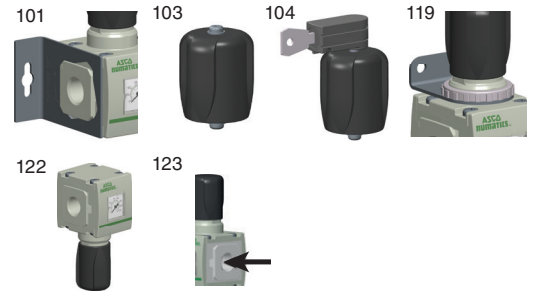
**Port size**  
1 = 1/8 (651 Series)  
2 = 1/4 (651 or 652 Series)  
3 = 3/8 (652 Series)  
4 = 1/2 (652 Series)

**Gauge type**  
B = Digital pressure switch - PNP  
C = Digital pressure switch - NPN  
D = Digital gauge  
G = Low profile integrated gauge bar/PSI  
J = Low profile integrated gauge bar/PSI with pressure range indicators  
Q = Round gauge bar/PSI  
0 = No gauge port  
P = Port Plate Rc 1/8



**Pressure range**  
D = 0,2..3 bar  
H = 0,5..10 bar

**Options\*\*\*\***  
A00 = Without option  
101 = Side Mounting Brackets  
102 = Panel Nut  
103 = Tamper resistant  
104 = Key lockable  
105 = High temperature (+80°C)  
106 = Low temperature (-40°C)\*\*\*  
109 = FPM seals  
113 = Stainless steel fasteners  
114 = Provision for key lock  
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



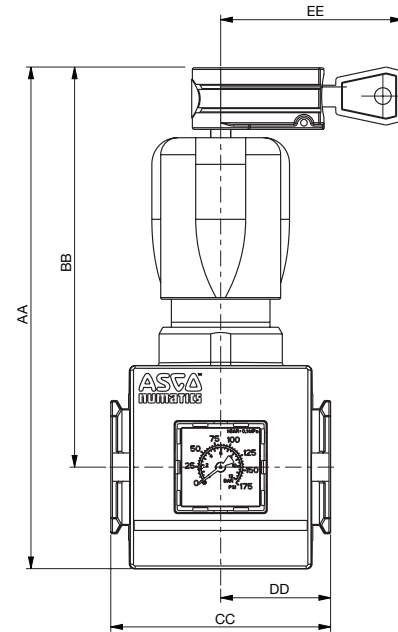
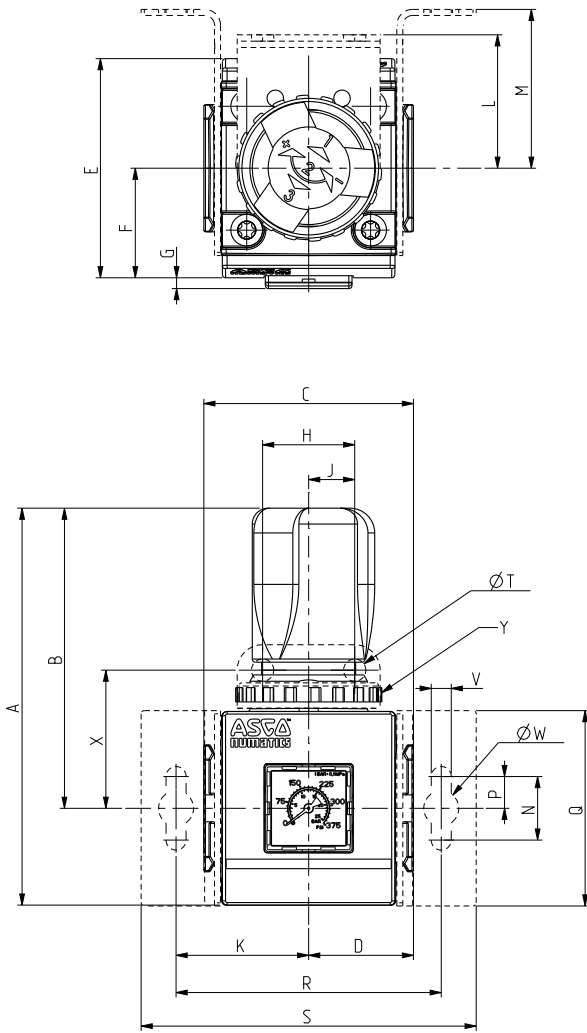
01803GB-2016/R01  
Availability, design and specifications are subject to change without notice. All rights reserved.

\* 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 \(www.asco.com\).](#)

Dimensions: mm

Dimensional Drawing - 651/652 Series Regulator

2D/3D CAD models - In 3D



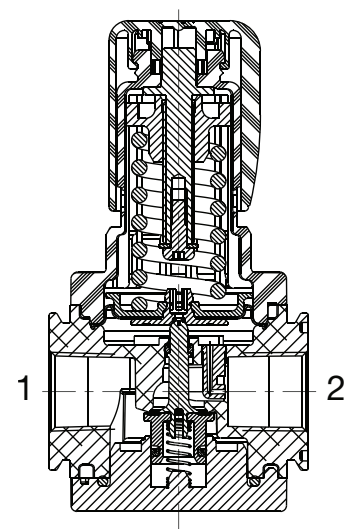
Series	AA	BB	CC	DD	EE
651	121,5	96	50	25	54,6
652	151	120	66	33	55

Cross Section - 651/652 Series Regulator

Series	A	B	C	D	E	F	G	H	J	K	L
651	103	77,5	50	25	58	29	3,4	29	14,5	35	42
652	125	94,5	66	33	69	34,5	2,5	29	14,5	41,75	42

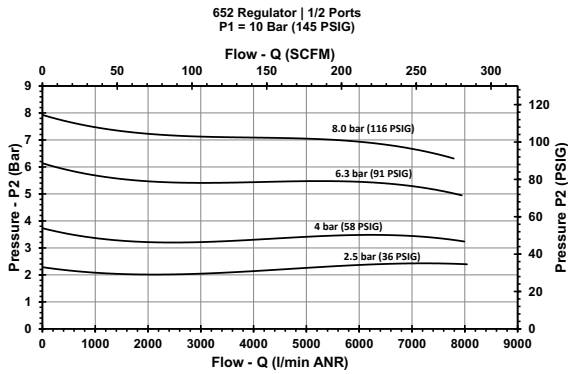
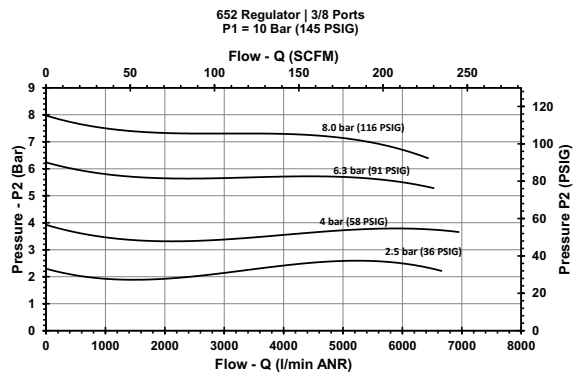
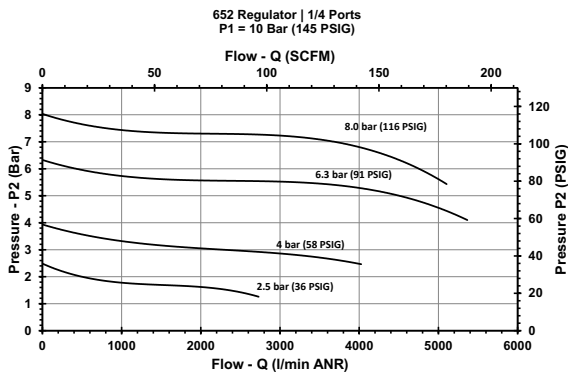
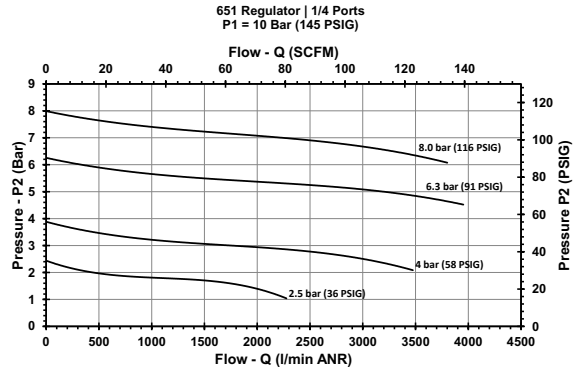
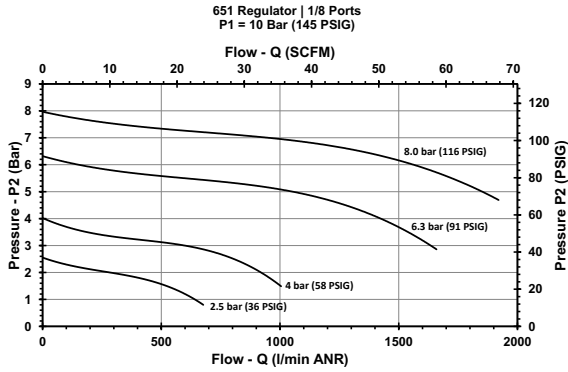
  

Series	M	N	P	Q	R	S	ØT	V	ØW	X	Y
651	44,5	20	10	50	70	92	7	6,3	11	39,1	M30 x 2
652	50	20	10	61,5	83,5	105,5	7	6,3	11	43,5	M37 x 2



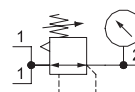


**Regulator Flow Charts**



01803GB-2016/R01  
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- High flow with a wide range of adjustable output pressure ranges
- Flows in excess of 8000 l/min
- Allows for a common inlet supply pressure within the regulator manifold, while maintaining several adjustable output pressures
- Optional low profile integrated gauge, round gauge, digital gauge or digital pressure switch
- Optional extended temperature range of -40°C to +80°C
- Key lockable and tamperproof options



Performance Data			
		651	652
Port sizes	P1 (Inlet)	1/4	1/2
	P2 (Outlet)	1/8	3/8
Thread type		G (NPTF in option)	
Nominal flow - ISO 6358		l/min (ANR)	
P1 = 10 bar Setpoint P2 = 6,3 bar $\Delta P = 1$ bar		840	8000
Maximum inlet pressure (bar) P1		16	
Adjustable pressure ranges (bar) P2		0,2 to 3	
		0,5 to 10	
Hysteresis (bar)		0,3	0,5
Ambient temperature range (°C)		-20 to +50	
Fluid temperature range (°C)		-20 to +50	
Fluid		air or inert gas	
Weight (kg)		0,215	0,422

Materials in contact with fluid	
Body	Aluminium
Body covers	Polyamide
Seals	NBR
Springs	Stainless steel

**HOW TO ORDER**

**Manifold Regulator**

**G 651 A M 0 0 2 G A00 H 0**

[2D/3D CAD models - In 3D](#)

**Thread connection**  
G = ISO 228/1-G\*  
8 = NPTF

**Pressure range**  
D = 0,2..3 bar  
H = 0,5..10 bar

**Product series**  
651  
652


**Revision letter**  
A

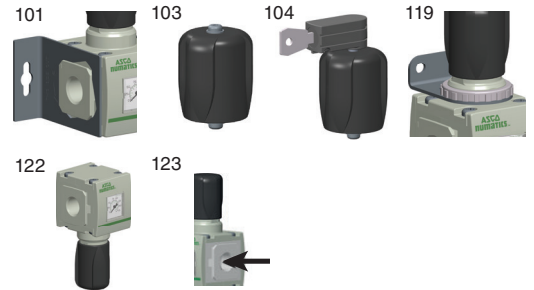
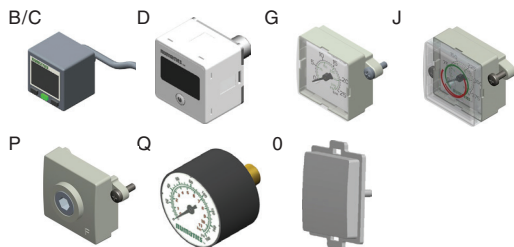
**Product type**  
M = Manifold Regulator\*\*  
M



**Port size**  
2 = 1/4 Inlet (1/8 Outlet) (651 Series)  
4 = 1/2 Inlet (3/8 Outlet) (652 Series)

**Gauge type**  
B = Digital pressure switch - PNP  
C = Digital pressure switch - NPN  
D = Digital gauge  
G = Low profile integrated gauge bar/PSI  
J = Low profile integrated gauge bar/PSI with pressure range indicators  
Q = Round gauge bar/PSI  
0 = No gauge port  
P = Port Plate Rc 1/8

**Options\*\*\*\***  
A00 = Without option  
101 = Side Mounting Brackets  
102 = Panel Nut  
103 = Tamper resistant  
104 = Key lockable  
105 = High temperature (+80°C)  
106 = Low temperature (-40°C)\*\*  
109 = FPM seals  
113 = Stainless steel fasteners  
114 = Provision for key lock  
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

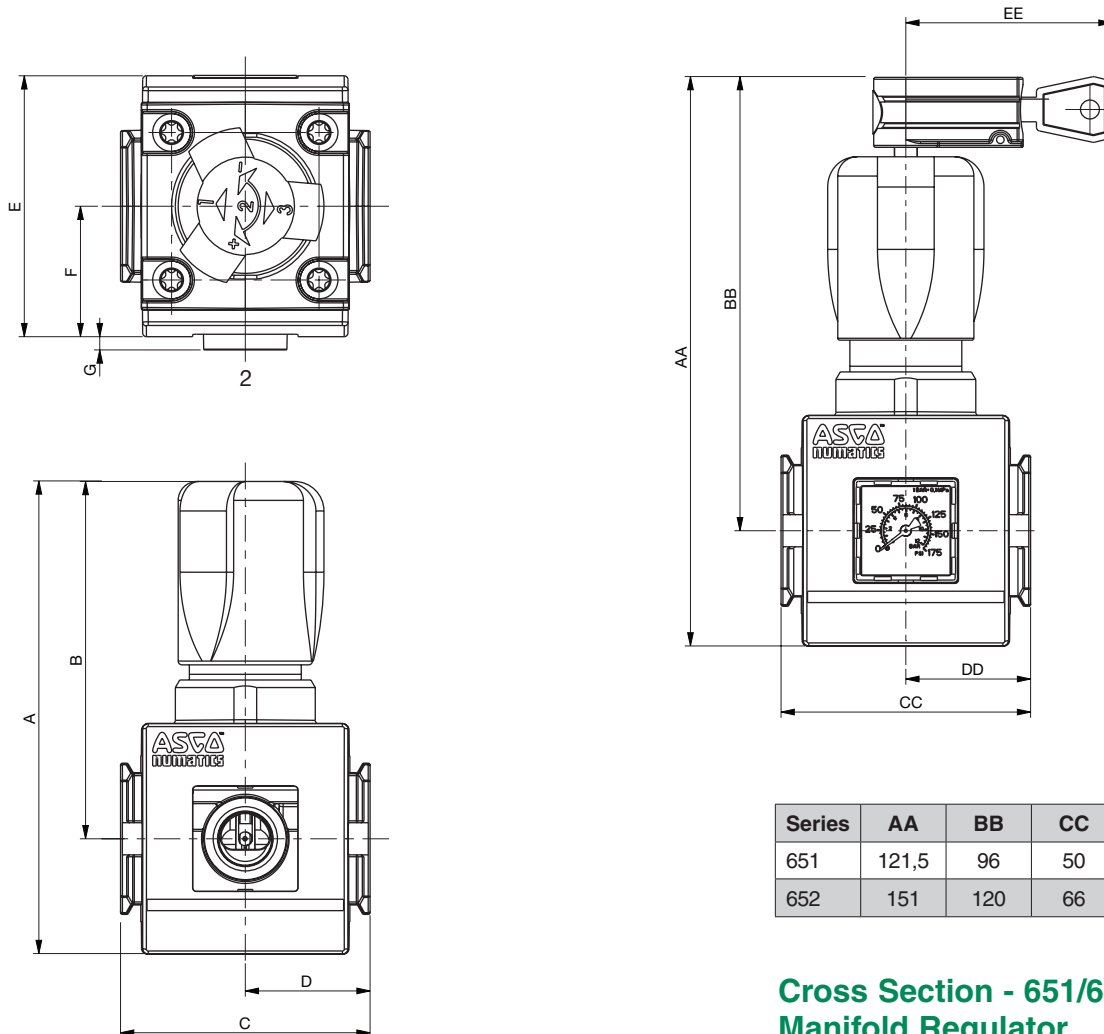
\*\*\* Compressed air must be dry enough so no ice formation is present on the product.

\*\*\*\* [If multiple options are required, please use the on-line CAD configurator on the website to generate the part number \(www.asco.com\).](#)

**Dimensions: mm**

**Dimensional Drawing - 651/652 Series Manifold Regulator**

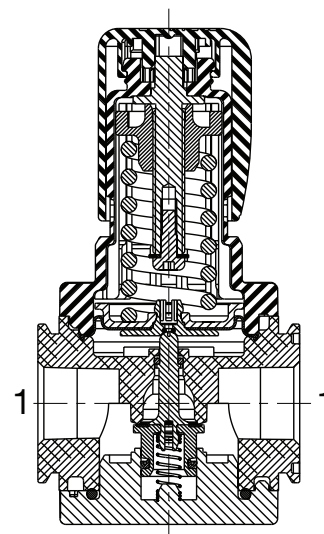
[2D/3D CAD models](#) - In 3D



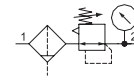
Series	AA	BB	CC	DD	EE
651	121,5	96	50	25	54,6
652	151	120	66	33	55

Series	A	B	C	D	E	F	G
651	103	77,5	50	25	58	29	0,3
652	125	94,5	66	33	69	34,5	3,5

**Cross Section - 651/652 Series Manifold Regulator**



- High flow with a wide range of adjustable output pressure ranges
- Optional low profile integrated gauge, round gauge, digital gauge or digital pressure switch
- Optional extended temperature range of -40°C to +80°C
- Threaded ports allow for individual or modular mounting
- Sintered polyethylene elements include 5 and 25 Microns
- Innovative two position plastic drain with manual and semi-automatic functions. Additional drains include an automatic style (brass) and manual (stainless steel)
- Polycarbonate and Aluminium bowls with or without glass gauge, to meet industry all application requirements
- Key lockable and tamper resistant models
- Air Purity Class according to ISO 8573-1: 2010



Performance Data				
Series		651		652
Port sizes		1/8, 1/4		1/4, 3/8, 1/2
Thread type		G (NPTF in option)		
Nominal flow - ISO 6358 P1 = 10 bar Setpoint P2 = 6,3 bar ΔP = 1 bar	1/8	Micron Rating	l/min (ANR)	l/min (ANR)
		5 μm	710	-
	1/4	25 μm	730	-
		5 μm	2240	3800
	3/8	25 μm	2360	4120
		5 μm	-	4450
	1/2	25 μm	-	5420
		5 μm	-	4490
	Maximum inlet pressure (bar)	Polycarbonate bowl	16	
		Aluminium bowl	16	
Adjustable pressure ranges (bar)		0,2 to 3		
		0,5 to 10		
Hysteresis (bar)		0,3	0,5	
Ambient temperature range (°C)		-20 to +50		
Fluid temperature range (°C)		-20 to +50		
Fluid		air or inert gas		
Weight (kg)	w/Polycarbonate bowl	0,304	0,546	
	w/Aluminium bowl	0,449	0,688	

Materials in contact with fluid	
Body	Aluminium
Body covers	Polyamide
Seals	NBR
Springs	Stainless steel
Filter element	Sintered polyethylene
Bowl	Polycarbonate or aluminium

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

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## HOW TO ORDER

### Particulate Filter/Regulator

**G 651 A P B P 2 G A00 H N**

[2D/3D CAD models - In 3D](#)

#### Thread connection

- G = ISO 228/1-G\*
- 8 = NPTF

#### Product series

- 651
- 652

#### Revision letter

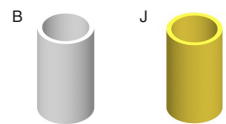
- A

#### Product type

- P = Filter/Regulator - Particulate

#### Elements

- B = 5 µm (White)
- J = 25 µm (Yellow)



#### Bowl type

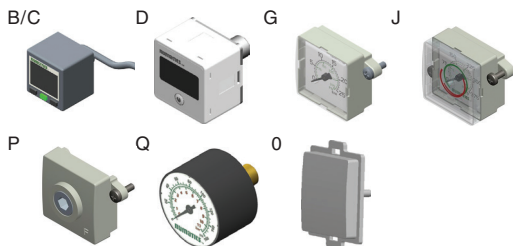
- K = Metal bowl without sight gauge
- L = Metal bowl with sight gauge (glass)
- P = Polycarbonate bowl with bowl guard

#### Port size

- 1 = 1/8 (651 Series)
- 2 = 1/4 (651 or 652 Series)
- 3 = 3/8 (652 Series)
- 4 = 1/2 (652 Series)

#### Gauge type

- B = Digital pressure switch - PNP
- C = Digital pressure switch - NPN
- D = Digital gauge
- G = Low profile integrated gauge bar/PSI
- J = Low profile integrated gauge bar/PSI with pressure range indicators
- Q = Round gauge bar/PSI
- 0 = No gauge port
- P = Port Plate Rc 1/8



#### Drain type

- 0 = Without
- A = Auto drain normally open
- N = Manual/Semi-automatic drain
- Q = Manual drain - Stainless steel

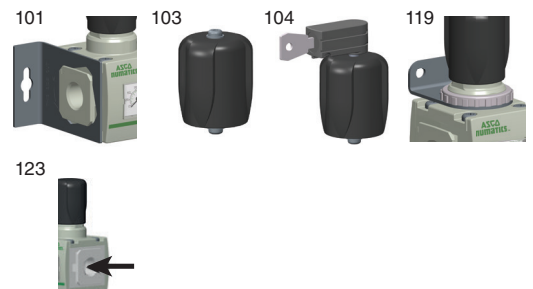


#### Pressure range

- D = 0,2..3 bar
- H = 0,5..10 bar

#### Options\*\*\*

- A00 = Without option
- 101 = Side Mounting Brackets
- 102 = Panel Nut
- 103 = Tamper resistant
- 104 = Key lockable
- 105 = High temperature (+80°C)
- 106 = Low temperature (-40°C)\*\*
- 109 = FPM seals
- 113 = Stainless steel fasteners
- 114 = Provision for key lock
- 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.

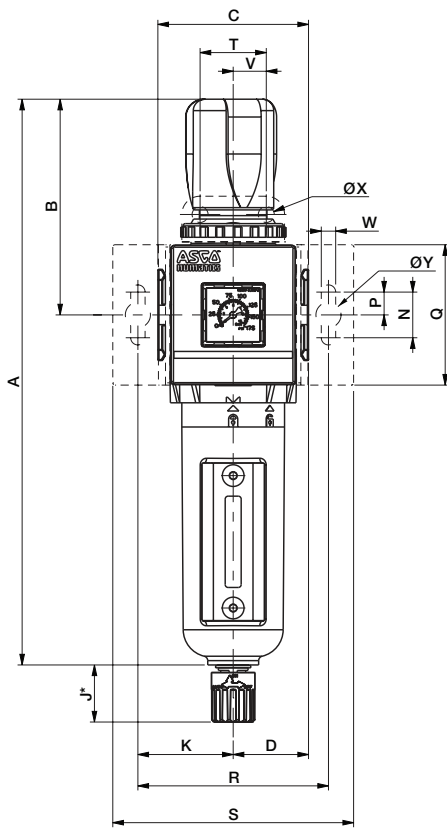
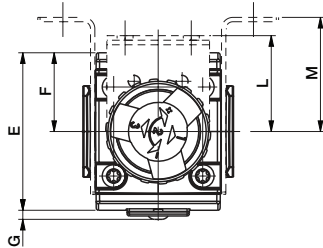
\*\* Compressed air must be dry enough so no ice formation is present on the product. All bowls should be emptied prior to ambient temperatures dropping below 0°C.

\*\*\* [If multiple options are required, please use the on-line CAD configurator on the website to generate the part number \(www.asco.com\).](#)

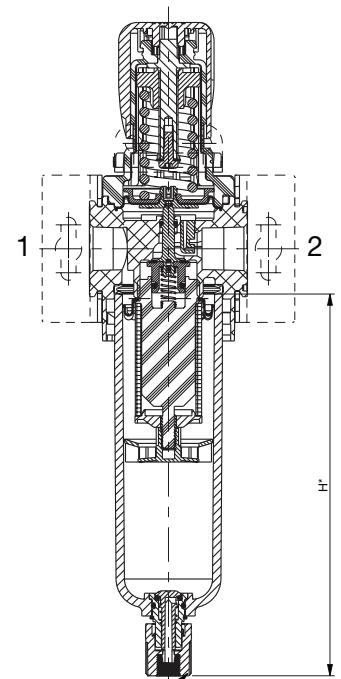
Dimensions: mm

**Dimensional Drawing - 651/652 Series Particulate Filter/Regulator**

2D/3D CAD models - In 3D



**Cross Section - 651/652 Series Particulate Filter/Regulator**



To remove bowl allow:  
651 - 44 mm  
652 - 75 mm  
from the bottom  
of the bowl drain.

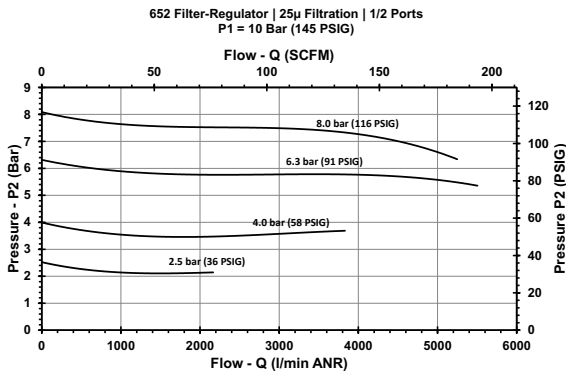
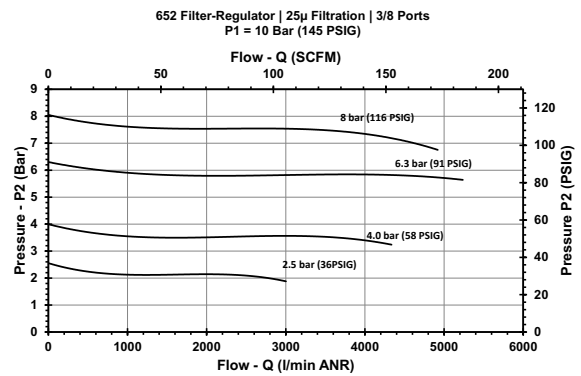
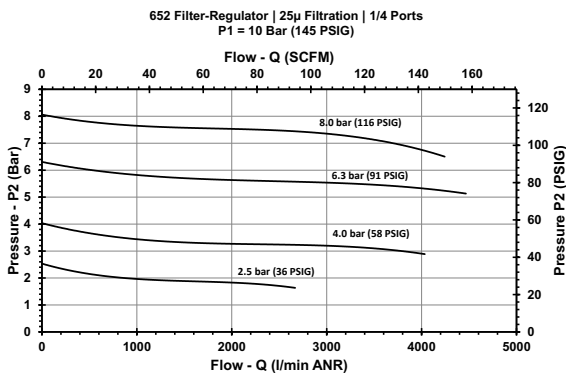
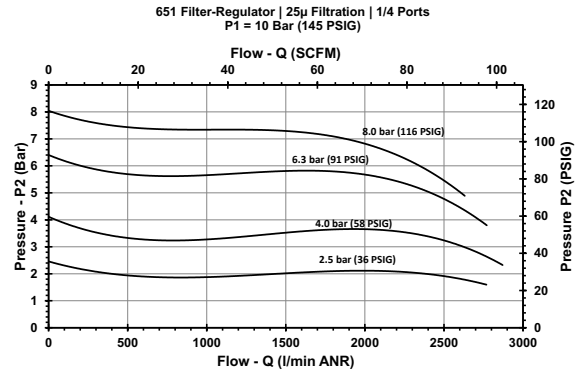
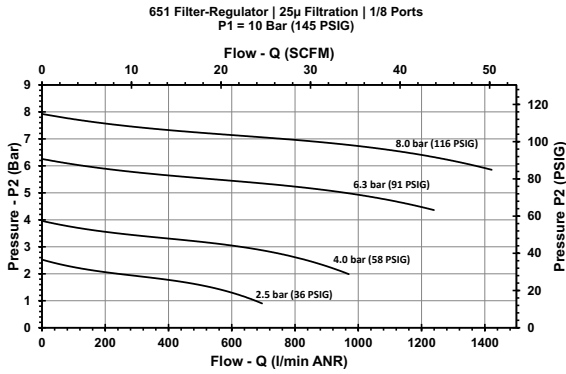
Series	A	B	C	D	E	F	G	H	J	K	L
651	215,5	77,5	50	25	58	29	3,4	116	25	35	42
652	248	94,5	66	33	69	30,5	4	160	25	41,75	42

Series	M	N	P	Q	R	S	T	V	W	ØX	ØY
651	44,5	20	10	50	70	92	29	14,5	6,3	7	11
652	50	20	10	61,5	84	105,5	29	14,5	6,3	7	11

\* Variable dimension based on type of drain that is specified. If an Automatic Drain is specified, add another 5 mm to "J" dimension.

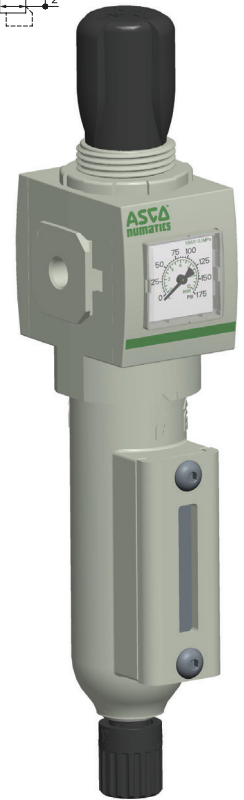
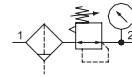
01805GB-2016/R01  
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## Particulate Filter/Regulator Flow Charts





- Extensive range of coalescing filter elements to remove oil and sub-micron particles down to 0,01 microns
- 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
- Optional low profile integrated gauge, round gauge, digital gauge or digital pressure switch
- Optional extended temperature range of +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 Aluminium bowls with or without glass gauge, to meet industry all application requirements



Performance Data					
		651		652	
Port sizes		1/8, 1/4		1/4, 3/8, 1/2	
Thread type		G (NPTF in option)			
Nominal flow - ISO 6358 P1 = 10 bar Setpoint P2 = 6,3 bar ΔP = 0,35 bar	1/8	Micron Rating	l/min (ANR)	l/min (ANR)	
		0,3 μm	240	-	
	1/4	0,01 μm	170	-	
		0,3 μm	290	320	
	3/8	0,01 μm	200	290	
		0,3 μm	-	580	
	1/2	0,01 μm	-	540	
		0,3 μm	-	590	
	Maximum inlet pressure (bar) P1	Polycarbonate bowl		16	
		Aluminium bowl		16	
Adjustable pressure ranges (bar)		0,2 to 3			
		0,5 to 10			
Hysteresis (bar)		0,3		0,5	
Ambient temperature range (°C)		+1,7 to +50			
Fluid temperature range (°C)		+1,7 to +50			
Fluid		air or inert gas			
Weight (kg)	w/Polycarbonate bowl		0,308	0,564	
	w/Aluminium bowl		0,453	0,705	

Materials in contact with fluid	
Body	Aluminium
Body covers	Polyamide
Seals	NBR
Springs	Stainless steel
Filter element	Borosilicate Microfiber & Polyester
Filter element end cap	Polypropylene
Bowl	Polycarbonate or aluminium

Air Purity Class - ISO 8573-1: 2010*	
0,3 μm	(3:7:3)
0,01 μm	(2:7:2)

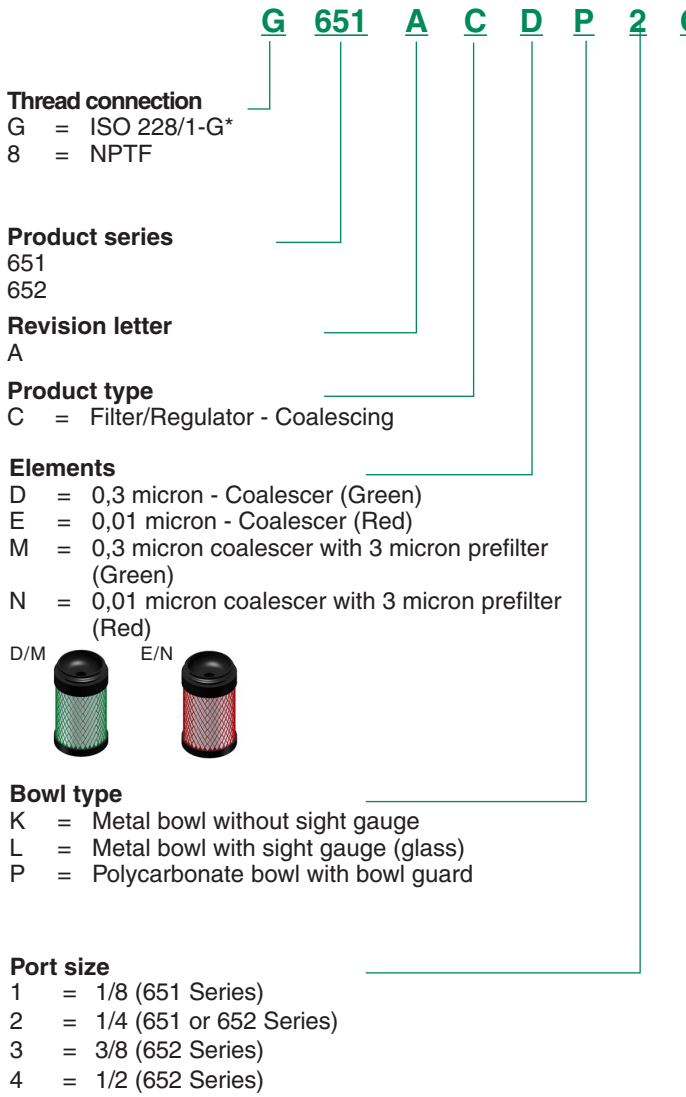
\* 651 Series maximum flow at 6,3 bar inlet pressure to maintain air purity class is 100 l/min.

\* 652 Series maximum flow at 6,3 bar inlet pressure to maintain air purity class is 300 l/min.

## HOW TO ORDER

### Coalescing Filter/Regulator

[2D/3D CAD models](#) - In 3D



#### Drain type


- 0 = Without
- A = Auto drain normally open
- N = Manual/Semi-automatic drain
- Q = Manual drain - Stainless steel

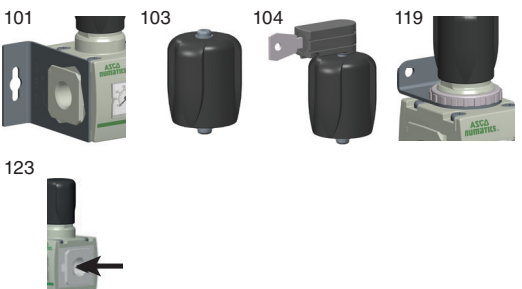


#### Pressure range

- D = 0,2..3 bar
- H = 0,5..10 bar

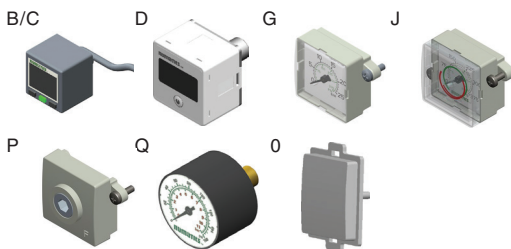
#### Options\*\*

- A00 = Without option
- 101 = Side Mounting Brackets
- 102 = Panel Nut
- 103 = Tamper resistant
- 104 = Key lockable
- 105 = High temperature (+80°C)
- 109 = FPM seals
- 113 = Stainless steel fasteners (652 only)
- 114 = Provision for key lock
- 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



#### Gauge type

- B = Digital pressure switch - PNP
- C = Digital pressure switch - NPN
- D = Digital gauge
- G = Low profile integrated gauge bar/PSI
- J = Low profile integrated gauge bar/PSI with pressure range indicators
- Q = Round gauge bar/PSI
- 0 = No gauge port
- P = Port Plate Rc 1/8



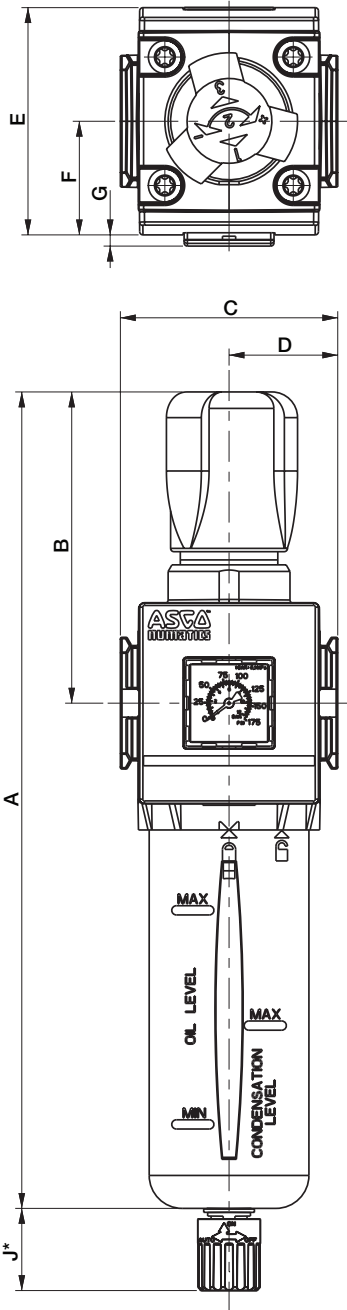
\* Conforms to ISO standards 1179-1.

\*\* If multiple options are required, please use the on-line CAD configurator on the website to generate the part number ([www.asco.com](http://www.asco.com)).

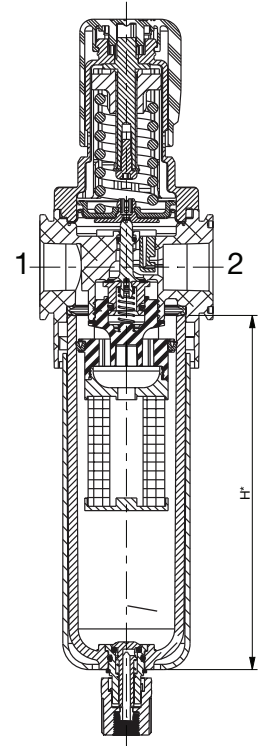
Dimensions: mm

**Dimensional Drawing - 651/652 Series Coalescing Filter/Regulator**

[2D/3D CAD models](#) - In 3D



**Cross Section - 651/652 Series Coalescing Filter/Regulator**



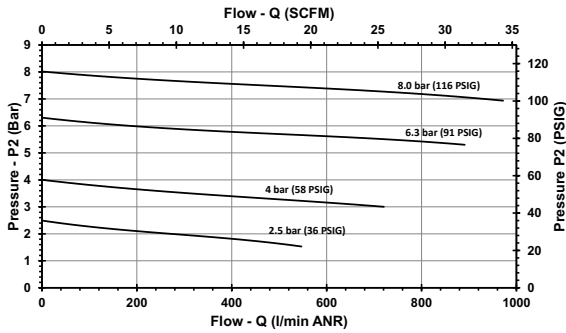
To remove bowl allow:  
651 - 60 mm  
652 - 80 mm  
from the bottom  
of the bowl drain.

Series	A	B	C	D	E	F	G	H	J
651	215,5	77,5	50	25	58	29	3,4	116	25
652	248	94,5	66	33	69	30,5	2,5	135	25

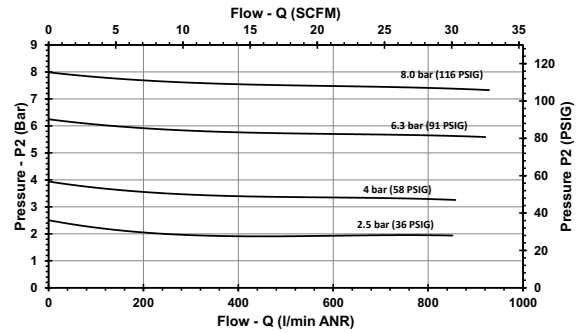
\* Variable dimension based on type of drain that is specified. If an Automatic Drain is specified, add another 5 mm to "J" dimension.

## Coalescing Filter/Regulator Flow Charts

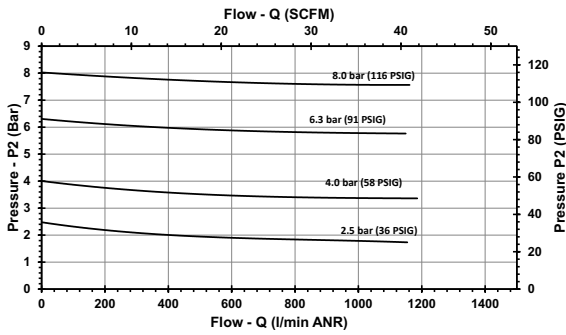
651 Filter-Regulator | 0.3µ Filtration | 1/8 Ports  
P1 = 10 Bar (145 PSIG)



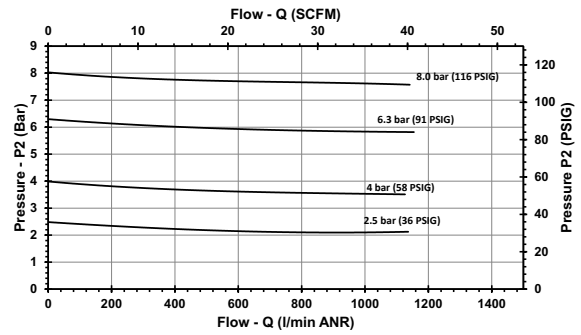
651 Filter-Regulator | 0.3µ Filtration | 1/4 Ports  
P1 = 10 Bar (145 PSIG)



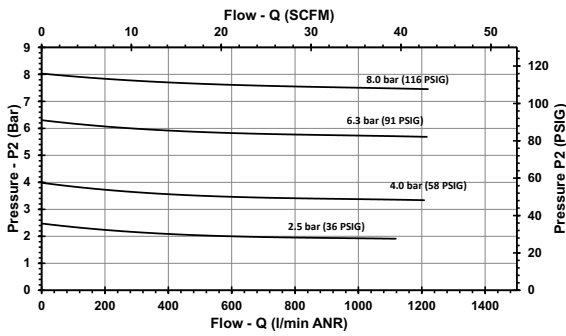
652 Filter-Regulator | 0.3µ Filtration | 1/4 Ports  
P1 = 10 Bar (145 PSIG)



652 Filter-Regulator | 0.3µ Filtration | 3/8 Ports  
P1 = 10 Bar (145 PSIG)



652 Filter-Regulator | 0.3µ Filtration | 1/2 Ports  
P1 = 10 Bar (145 PSIG)



- Provides consistent reliable lubrication to the system
- Uses venture type technology to distribute the lubrication into the compressed air line
- Low flow is required to start lubrication
- Optional electronic liquid level indicator provides condition monitoring
- Allows fill while under pressure from fill port or bowl by removing the fill plug
- Recommended oil type: Non-detergent type and without aggressive additives (VG32 - ISO 3448)



Performance Data			
Series	651		652
Port sizes	1/8, 1/4		1/4, 3/8, 1/2
Thread type	G (NPTF in option)		
Nominal flow - ISO 6358 P1 = 6,3 bar ΔP = 0,8 bar		l/min (ANR)	l/min (ANR)
	1/8	900	-
	1/4	1940	2780
	3/8	-	5000
	1/2	-	5100
Maximum pressure (bar)	Polycarbonate bowl	10	
	Aluminium bowl	10	
Minimum flow for lubrication - (l/min)	4,5		20
Ambient temperature range (°C)	+5 to +50		
Fluid temperature range (°C)	+5 to +50		
Fluid	air or inert gas		
Bowl Capacity (cm³)		42	72
Fill Level Volume (ml)		45	80
Weight (kg)	w/Polycarbonate bowl	0,240	0,526
	w/Aluminium bowl	0,334	0,667

Materials in contact with fluid	
Body	Aluminium
Body covers	Polyamide
Seals	NBR

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## HOW TO ORDER

### Lubricator

**G 651 A L 0 P 2 0 A00 0 0**

[2D/3D CAD models - In 3D](#)

**Thread connection**

- G = ISO 228/1-G\*
- 8 = NPTF

**Product series**

- 651
- 652

**Revision letter**

- A

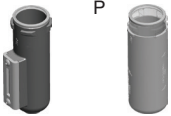
**Product type**

- L = Lubricator

**Bowl Type**

- K = Metal Bowl without Sight Gauge
- L = Metal bowl with sight gauge (glass)
- P = Polycarbonate bowl with bowl guard

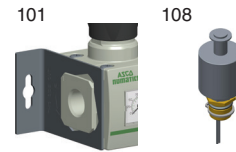
K/L



P

**Options\*\***

- A00 = Without option
- 101 = Side Mounting Brackets
- 108 = Liquid Level Indicator - Electronic
- 109 = FPM seals
- 117 = ATEX zones 1-21



**Port size**

- 1 = 1/8 (651 Series)
- 2 = 1/4 (651 or 652 Series)
- 3 = 3/8 (652 Series)
- 4 = 1/2 (652 Series)

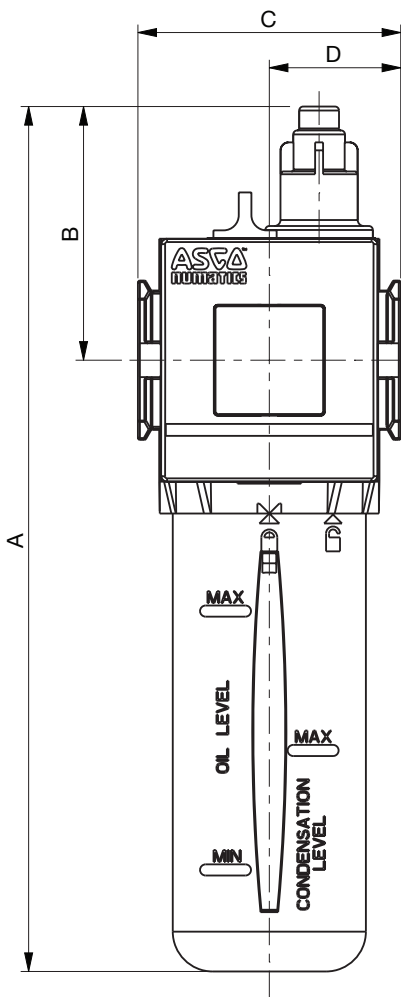
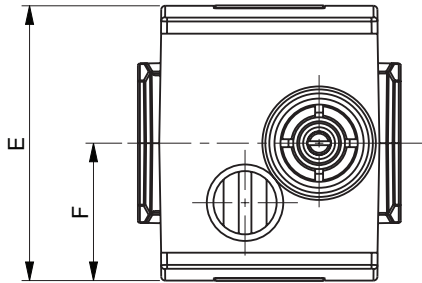
\* Conforms to ISO standards 1179-1.

\*\* If multiple options are required, please use the on-line CAD configurator on the website to generate the part number ([www.asco.com](http://www.asco.com)).

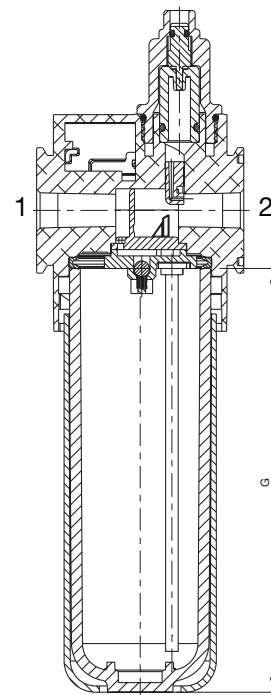
Dimensions: mm

Dimensional Drawing - 651/652 Series Lubricator

[2D/3D CAD models](#) - In 3D



Cross Section - 651/652 Series Lubricator

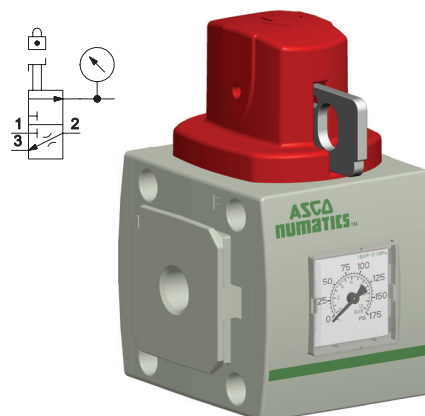


To remove bowl allow:  
651 Series - 20 mm  
652 Series - 25 mm  
from the bottom of the bowl.

Series	A	B	C	D	E	F	G
651	198	58	50	25	58	29	116
652	217	64	66	33	69	30,5	135

# SHUT-OFF ISOLATION VALVE

- Robust and easy-to-operate shut-off valve, with lockout on handle
- Provides shut-off to downstream machinery
- Optional low profile integrated 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



Performance Data					
Series	651		652		
Port sizes	1/8, 1/4		1/4, 3/8, 1/2		
Thread type	G (NPTF in option)				
Nominal flow - ISO 6358 P1 = 6,3 bar ΔP = 1 bar	l/min (ANR)		l/min (ANR)		
	1 → 2	2 → 3	1 → 2	2 → 3	
	1/8	1440	250	-	-
	1/4	4720	250	4300	230
	3/8	-	-	8800	230
1/2	-	-	11400	230	
Maximum inlet pressure (bar)	16				
Ambient temperature range (°C)	-10 to +50				
Fluid temperature range (°C)	-10 to +50				
Fluid	air or inert gas				
Weight (kg)	0,260		0,438		

Materials in contact with fluid	
Body	Aluminium
Body covers	Polyamide
Ball	Zinc plated steel
Seat	PTFE
Seals	NBR



## HOW TO ORDER

### Shut-Off Isolation Valve

**G 651 A 3 M 0 2 G A00 00**

[2D/3D CAD models - In 3D](#)

**Thread connection**  
G = ISO 228/1-G\*  
8 = NPTF

**Product series**  
651  
652

**Revision letter**  
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**  
1 = 1/8 (651 Series)  
2 = 1/4 (651 or 652 Series)  
3 = 3/8 (652 Series)  
4 = 1/2 (652 Series)

\* 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 \(www.asco.com\).](#)

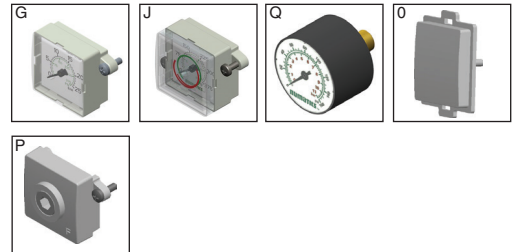
#### Options\*\*

- A00 = Without option
- 101 = Side Mounting Brackets
- 109 = FPM 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

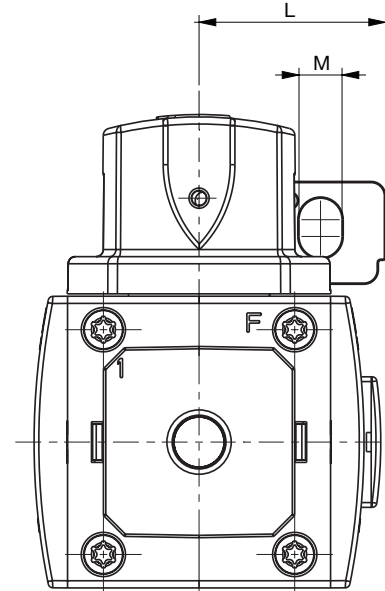
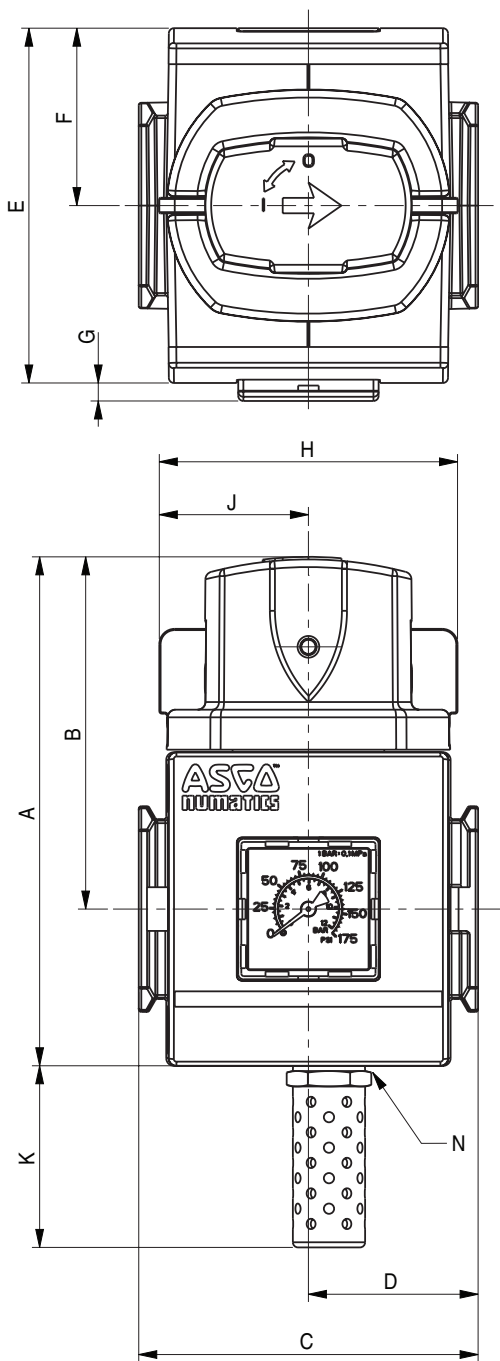
- G = Low profile integrated gauge bar/PSI
- J = Low profile integrated gauge bar/PSI with pressure range indicators
- Q = Round gauge bar/PSI
- 0 = No gauge port
- P = Port Plate Rc 1/8



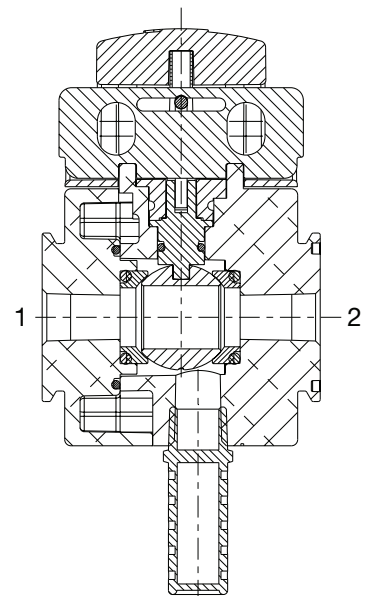
**Dimensions: mm**

**Dimensional Drawing - 651/652 Series Shut-Off Isolation Valve**

[2D/3D CAD models - In 3D](#)

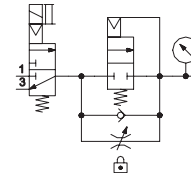
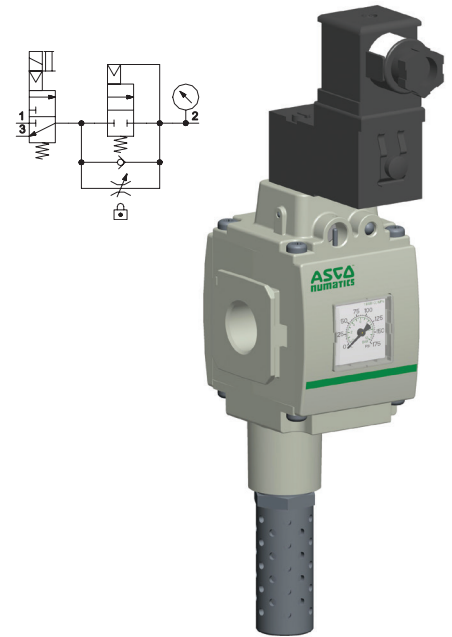


**Cross Section - 651/652 Series Shut-Off Isolation Valve**



Series	A	B	C	D	E	F	G	H	J	K	L	M	N
651	90,5	65,5	50	25	58	29	4,4	57,8	28,9	35,5	38	9	G1/4
652	99	68	66	33	69	34,5	2,5	58	29	35	39	9	G1/4

- This unit provides two main functions:
  - Pneumatic system venting
  - Gradual pressurisation after an outage leading to venting of the system
- This product allows for machines and installations to conform to the European Directives
- High exhaust capacity for quick depletion of downstream pressure
- Optional low profile integrated gauge, round gauge, digital gauge or digital pressure switch
- 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)

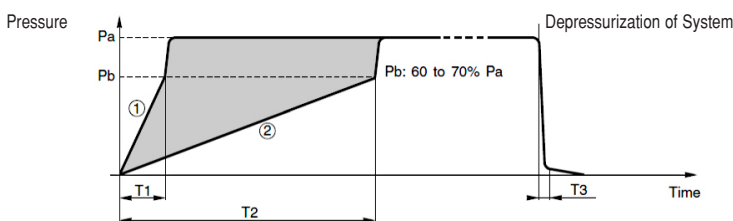


Performance Data					
Series	651		652		
Port sizes	1/8, 1/4		1/4, 3/8, 1/2		
Thread type	G (NPTF in option)				
Nominal flow - ISO 6358 P1 = 6,3 bar $\Delta P = 1$ bar		l/min (ANR)		l/min (ANR)	
		1 → 2	2 → 3	1 → 2	2 → 3
	1/8	780	1040	-	-
	1/4	1000	1120	1500	2100
	3/8	-	-	3750	4300
	1/2	-	-	4650	5000
Minimum operating pressure (bar)	2,75				
Maximum operating pressure (bar)	10				
Ambient temperature range (°C)	-10 to +50				
Fluid temperature range (°C)	-10 to +50				
Fluid	air or inert gas				
Weight (kg)	0,387		0,438		

Materials in contact with fluid	
Body	Aluminium
Seals	NBR/FKM
Springs	Stainless steel

Operating Data				
	24/DC	115/50	230/50	24/50
Power	—	9 VA	9 VA	9 VA
Holding	3 W	4 VA (3 W)		

## System Pressurization and Depressurization Curves (with Automatic Soft-Start Device)



The adjustment range for the pressurization time lies between curves (1) and (2).

The transition to full flow takes place automatically as soon as the downstream pressure reaches 60 to 70% of the upstream pressure.

Filling and venting times (seconds)		
	651 Series	652 Series
T1 (with screw loosened by 7 turns)	8	3
T2 (with screw loosened by 1 turn)	112	23
T3 (venting time)	5	1

These times correspond to a supply pressure (Pa) of 6.3 bar, a transition pressure (Pb) of 60 to 70% Pa (not adjustable) and a downstream system volume of 10 liters.

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## HOW TO ORDER

### Slow Start-Quick Exhaust Valve

**G 651 A 6 S 6 2 G A00 F1**

[2D/3D CAD models](#) - *In 3D*

**Thread connection**

- G = ISO 228/1-G\*
- 8 = NPTF

**Product series**

- 651
- 652

**Revision letter**

- 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 air pilot

**Pilot valve/Electrical connection**

- 0 = No Electrical Connection
- 1 = 189 Series Vertical Solenoid Pilot, without DIN Connector (must order with option 110)
- 2 = 189 Series Vertical Solenoid Pilot, DIN Connector with LED (must order with option 110)
- 3 = 189 Series Vertical Solenoid Pilot, DIN Connector w/o LED (must order with option 110)
- 4 = 189 Series Vertical Solenoid Pilot, 3 Pin M12 Connection\*\* (must order with option 110)
- 5 = 190 Series Horizontal Solenoid Pilot, without DIN Connector
- 6 = 190 Series Horizontal Solenoid Pilot, DIN Connector with LED
- 7 = 190 Series Horizontal Solenoid Pilot, DIN Connector without LED
- 8 = 190 Series Horizontal Solenoid Pilot with 3 Pin M12 Connection\*\*
- 9 = Without pilot operator

**Port size**

- 1 = 1/8 (651 Series)
- 2 = 1/4 (651 or 652 Series)
- 3 = 3/8 (652 Series)
- 4 = 1/2 (652 Series)

\* Conforms to ISO standards 1179-1.

\*\* Available for DC voltage only.

\*\*\* [If multiple options are required, please use the on-line CAD configurator on the website to generate the part number \(www.asco.com\).](#)

\*\*\*\* 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. Contact us for further information.

**Voltage**

- EW = 115 50/60 VAC
- F1 = 24 VDC
- FQ = 24 50/60 VAC
- FH = 230 50/60 VAC
- 00 = No voltage

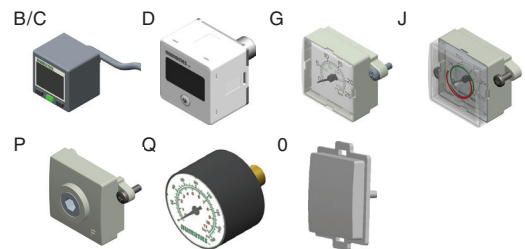
**Options\*\*\***

- A00 = Without option
- 101 = Side Mounting Brackets
- 109 = FPM seals
- 110 = Without manual operator
- 111 = Metal Muffler
- 112 = Polyethylene Muffler
- 113 = Stainless steel fasteners
- 117 = ATEX zones 1/21 \*\*\*\*
- 122 = Inverter Mounting
- 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
- G = Low profile integrated gauge bar/PSI
- J = Low profile integrated gauge bar/PSI with pressure range indicators
- Q = Round gauge bar/PSI
- 0 = No gauge port
- P = Port Plate Rc 1/8

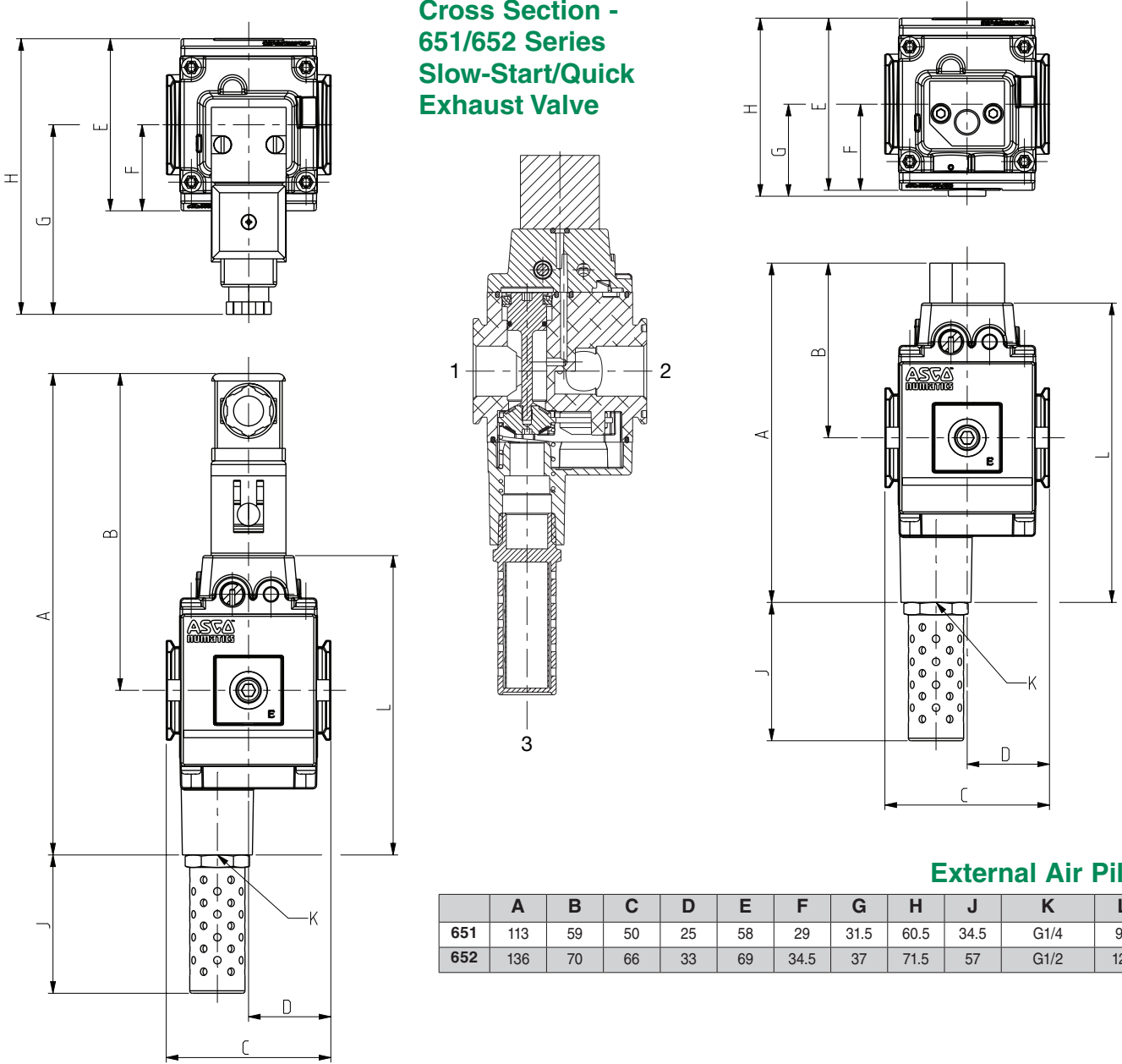


Dimensions: mm

Dimensional Drawing - 651/652 Series Slow-Start/Quick Exhaust Valve

2D/3D CAD models - In 3D

Cross Section -  
651/652 Series  
Slow-Start/Quick  
Exhaust Valve



External Air Pilot

	A	B	C	D	E	F	G	H	J	K	L
651	113	59	50	25	58	29	31.5	60.5	34.5	G1/4	97
652	136	70	66	33	69	34.5	37	71.5	57	G1/2	120

Solenoid Pilot

Series	A	B	C	D	E	F	G	H	J	K
651	170	116	50	25	58	29	72	101	34,5	G1/4
652	193	127	66	33	69	34,5	76	110,5	57	G1/2

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- Ideal for branching off primary 651/652 series air prep manifold to add additional products
- 1/4 G (651) or 3/8 G (652) 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			
		651	652
Port sizes	Left, Right & Bottom	1/4 & flange	1/2 & flange
	Front & Back	1/4	3/8
Thread type		G (NPTF in option)	
Top Port (for Pressure Switch/Pressure Sensor)		pad mount	
Maximum pressure (bar)		16	
Fluid		air or inert gas	
Weight (kg)		0,188	0,331

Materials in contact with fluid	
Body	Aluminium
Body covers	Polyamide

## HOW TO ORDER

### Diverter Block

**G 651 A D 0 0 2 C A00 0 0**

[2D/3D CAD models - In 3D](#)

#### Thread connection

G = ISO 228/1-G\*  
8 = NPTF

#### Product series

651  
652

#### Revision letter

A

#### Product type

D = Diverter Block

#### Options\*

A00 = Without option  
101 = Side Mounting Brackets  
117 = ATEX zones 1-21

#### Pressure switch interface

C = Provisioned for 349 pressure switch pad mount

#### Port size

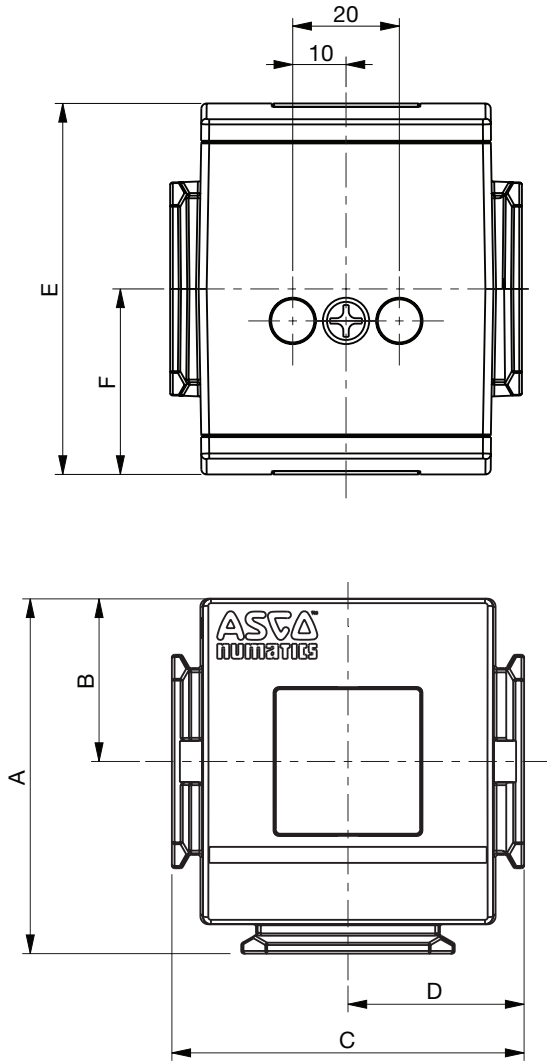
2 = 1/4 (651 Series)  
4 = 1/2 (652 Series)

\* If multiple options are required, please use the on-line CAD configurator on the website to generate the part number ([www.asco.com](http://www.asco.com)).

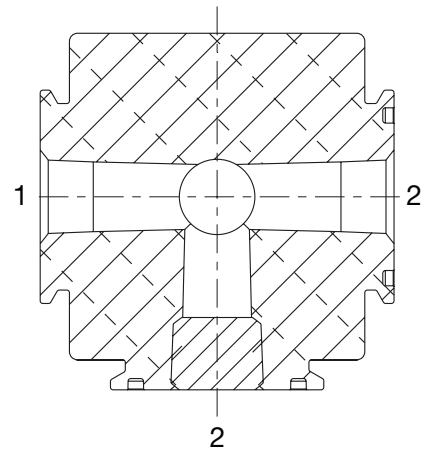
Dimensions: mm

Dimensional Drawing - 651/652 Series Diverter Block

[2D/3D CAD models](#) - In 3D



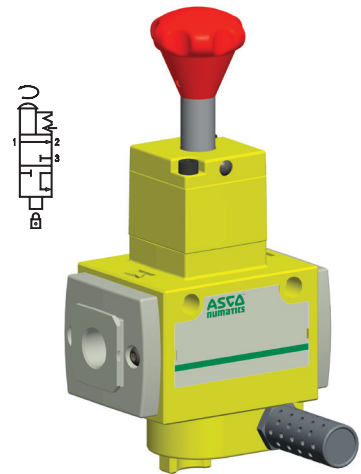
Cross Section - 651/652 Series Diverter Block



Series	A	B	C	D	E	F	G	H
651	54,4	25	50	25	58	29	10	20
652	66.5	30,5	66	33	70	35	10	20

- Modular assembly to 652 series manifold using common 652 series 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 FRL manifold

### 3/2 Lockout Valve with Slow Start Feature



### 3/2 Lockout Valve



Performance Data		
Port sizes*	1/2	
Nominal flow		1 → 2
	l/min (ANR)	5910
		2 → 3
		5910
Ambient temperature range (°C)	+4 to +50	
Fluid temperature range (°C)	+4 to +50	
Maximum pressure (bar)	10,3	
Fluid	air or inert gas	
Weight (kg)	Standard	1,23
	Slow Start	1,39

\*Ports are not threaded (grey Flanges). Easily connect to 652 Series Manifold. When connecting to pipe, use end-plate kits #T652AT502468002

Materials in contact with fluid	
Body	Aluminium
Seals	NBR
Spool	Aluminium

## HOW TO ORDER

### Lockout Valve

**T 652 A 5 L 0 4 0 A00 00**

**Thread connection**  
T = Modular Mounting

**Product series**  
652

**Revision letter**  
A

**Product type**  
5 = 3/2 - Quick Exhaust  
6 = 3/2 - Slow Start - Quick Exhaust

[2D/3D CAD models - In 3D](#)

**Options\***  
A00 = Without option  
111 = Metal Muffler  
115 = Scissor Lock  
2B9 = 111 + 115

**Port size**  
1/2

**Valve Type**  
L = Manually Operated Lockout

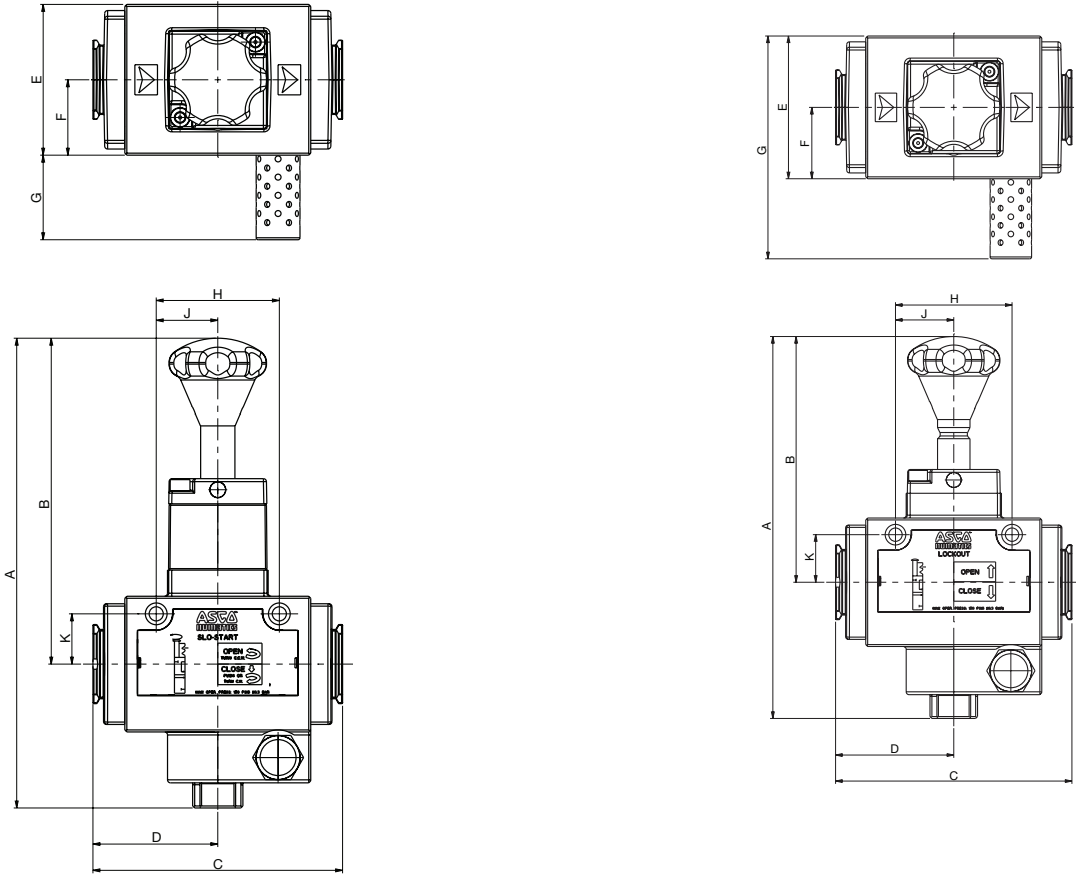
\* If multiple options are required, please use the on-line CAD configurator on the website to generate the part number ([www.asco.com](http://www.asco.com)).



Dimensions: mm

**Dimensional Drawing - 652 Series Lockout Valve**

[2D/3D CAD models](#) - In 3D



Note: When the knob is pushed down (Closed position), the lockout shaft extends out of the bottom by 12,2 mm. The lockout hole diameter in the shaft is 11,2 mm. These measurements are the same for the standard Lockout and the Slow-Start version.

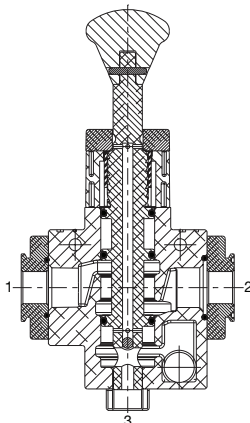
**3/2 Lockout Valve with Slow Start Feature**

A	B	C	D	E
237,5	164,9	126,2	63,1	76,2
F	G	H	J	K
38,1	42,7	62,2	31,1	25,4

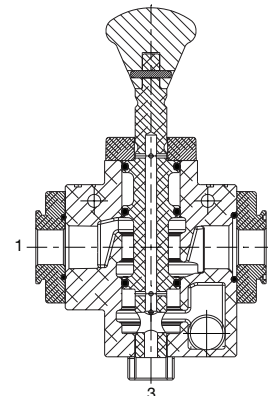
**3/2 Lockout Valve**

A	B	C	D	E
204	131,3	126,2	63,1	76,2
F	G	H	J	K
38,1	119	62,2	31,1	25,4

**3/2 Lockout Valve with Slow Start Feature Cross Section**



**3/2 Lockout Valve Cross Section**



# FR + L AIR PREPARATION MANIFOLD ASSEMBLIES

- Assembly of Filter/Regulator + Lubricator to meet most frequent configurations
- Filter/Regulator with low profile integrated gauge
- Polycarbonate bowls with bowl guard
- Delivered mounted and tested, saves time and logistic costs



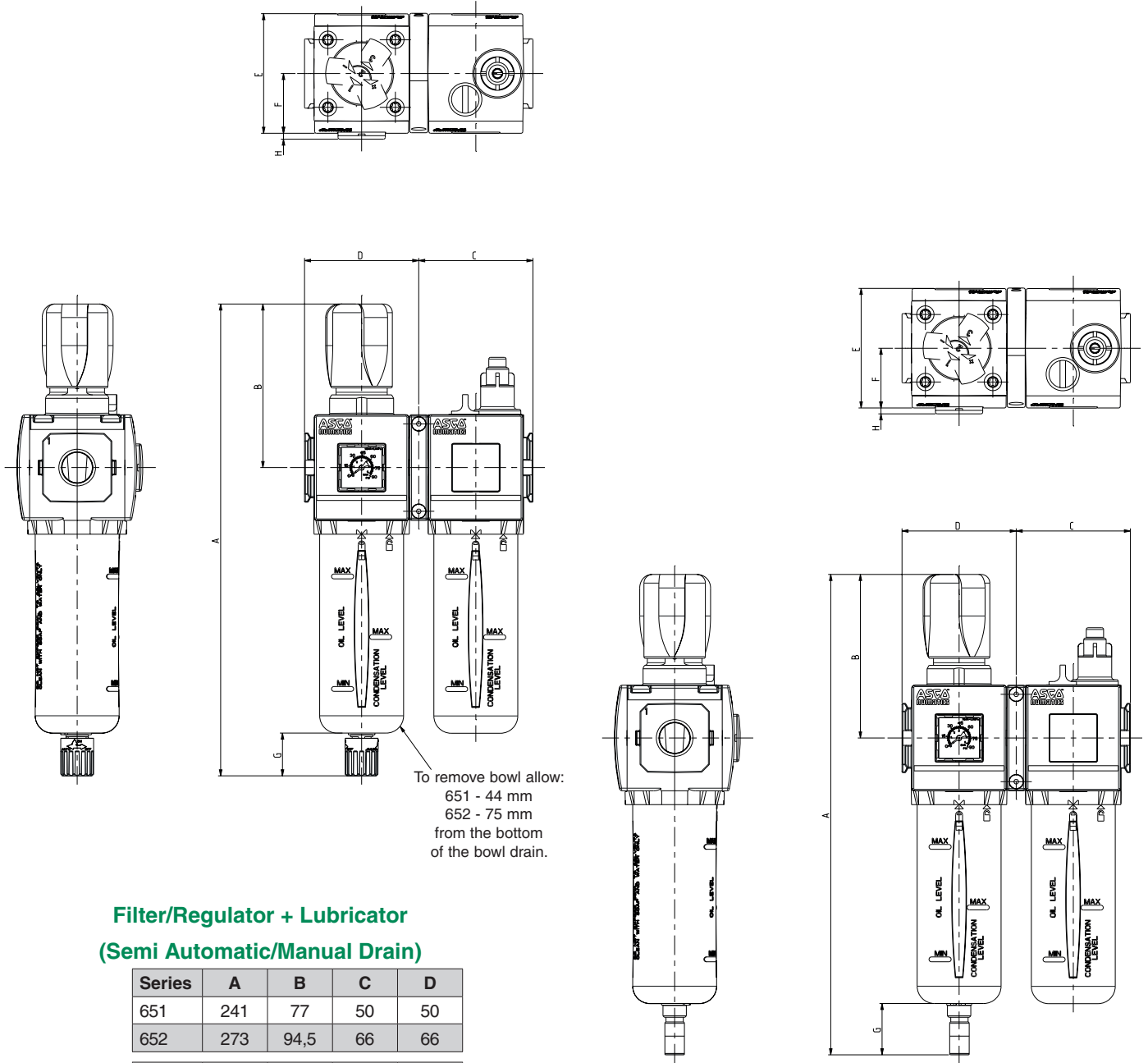
[2D/3D CAD models](#) - In 3D

Performance Data				
		Series		
Port sizes*		651	1/4	
		652	1/2	
Thread type			G (NPTF in option)	
Micron Rating			25 µm	5 µm
			Part Number	Part Number
<b>Semi-Automatic &amp; Manual Drain:</b>				
<b>Adjustable Pressure: 0,2-10 bar</b>				
	1/8	651	A651A0000000400	A651A0000000408
	1/4	651	A651A0000000401	A651A0000000409
		652	A652A0000000001	A652A0000000013
	3/8	652	A652A0000000002	A652A0000000014
	1/2	652	A652A0000000003	A652A0000000015
<b>Adjustable Pressure: 0,2-3 bar</b>				
	1/8	651	A651A0000000402	A651A0000000410
	1/4	651	A651A0000000403	A651A0000000411
		652	A652A0000000004	A652A0000000016
	3/8	652	A652A0000000005	A652A0000000017
	1/2	652	A652A0000000006	A652A0000000018
<b>Automatic Drain:</b>				
<b>Adjustable Pressure: 0,2-10 bar</b>				
	1/8	651	A651A0000000404	A651A0000000412
	1/4	651	A651A0000000405	A651A0000000413
		652	A652A0000000007	A652A0000000019
	3/8	652	A652A0000000008	A652A0000000020
	1/2	652	A652A0000000009	A652A0000000021
<b>Adjustable Pressure: 0,2-3 bar</b>				
	1/8	651	A651A0000000406	A651A0000000414
	1/4	651	A651A0000000407	A651A0000000415
		652	A652A0000000010	A652A0000000022
	3/8	652	A652A0000000011	A652A0000000023
	1/2	652	A652A0000000012	A652A0000000024

Dimensions: mm

Dimensional Drawing - 651/652 Series Filter/Regulator + Lubricator

[2D/3D CAD models - In 3D](#)



**Filter/Regulator + Lubricator  
(Semi Automatic/Manual Drain)**

Series	A	B	C	D
651	241	77	50	50
652	273	94,5	66	66

Series	E	F	G	H
651	56	29	25	3,5
652	69	34,5	25	3,4

**Filter/Regulator + Lubricator  
(Automatic Drain)**

Series	A	B	C	D
651	246	77	50	50
652	277,5	94,5	66	66

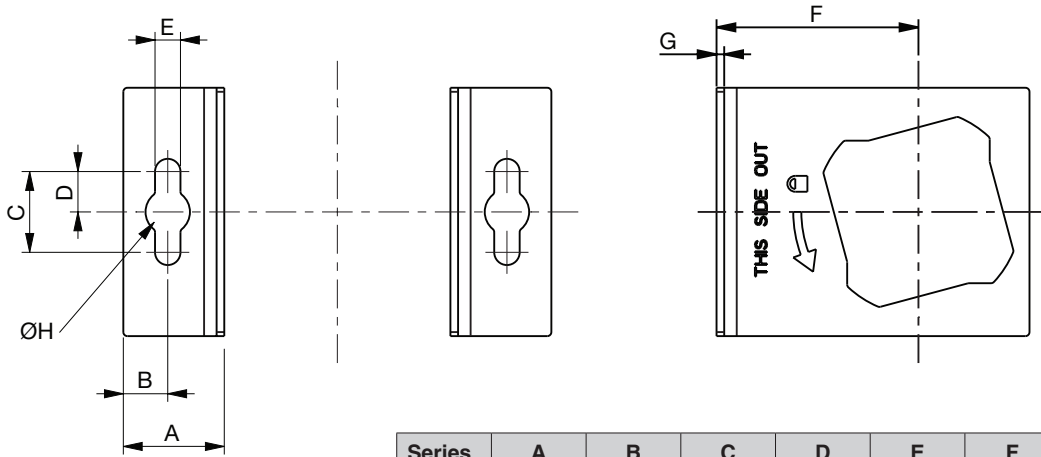
Series	E	F	G	H
651	56	29	30	3,5
652	69	34,5	29,5	3,4

**Dimensions: mm**

## Dimensional Drawing - Mounting Options

651 Series Side Mounting Brackets Kit: P651AT503860001

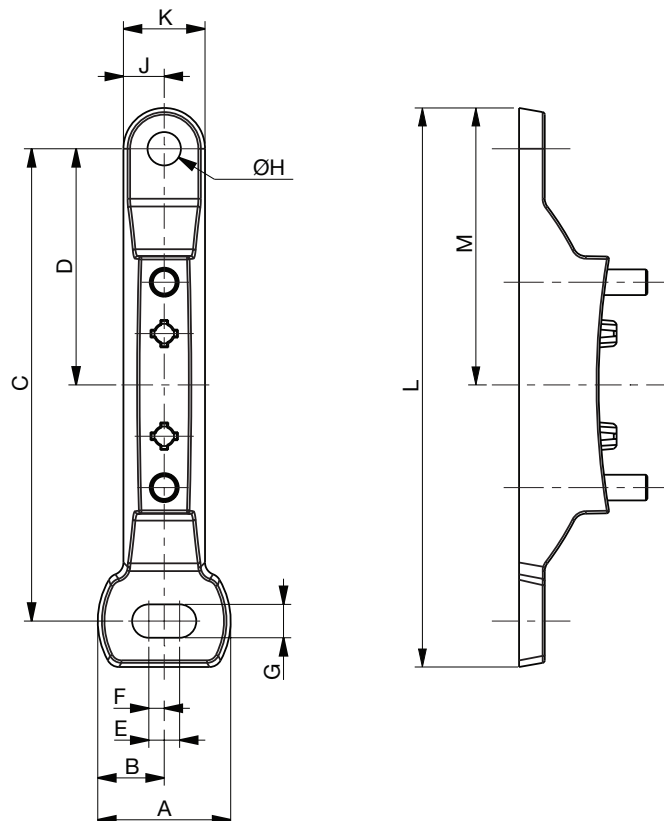
652 Series Side Mounting Brackets Kit: P652AT503860002



Series	A	B	C	D	E	F	G	ØH
651	25	11	20	10	6,3	44,5	1,27	11
652	25	11	20	10	6,3	50	1,9	11

## Wall/Panel Bracket Kit: P699AT502467001 (651/652)

A	B	C	D
26	13	92	46
E	F	G	ØH
6	3	6,5	6,5
J	K	L	M
8	18	109	44,5



**BOWLS**

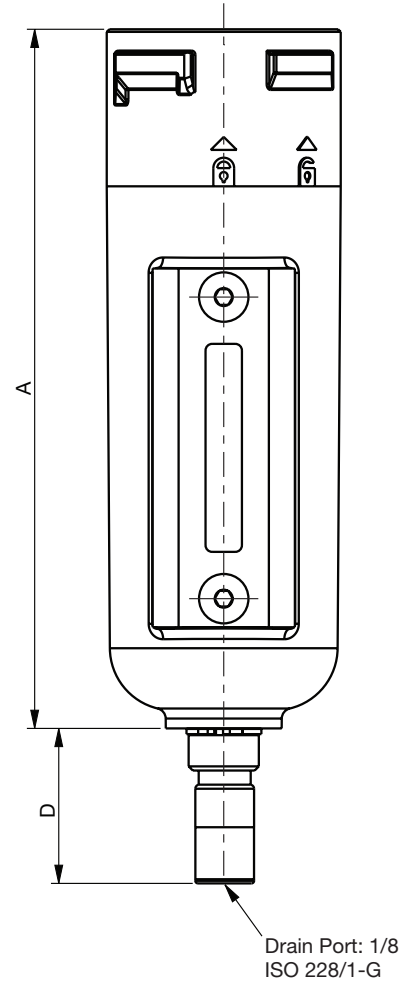
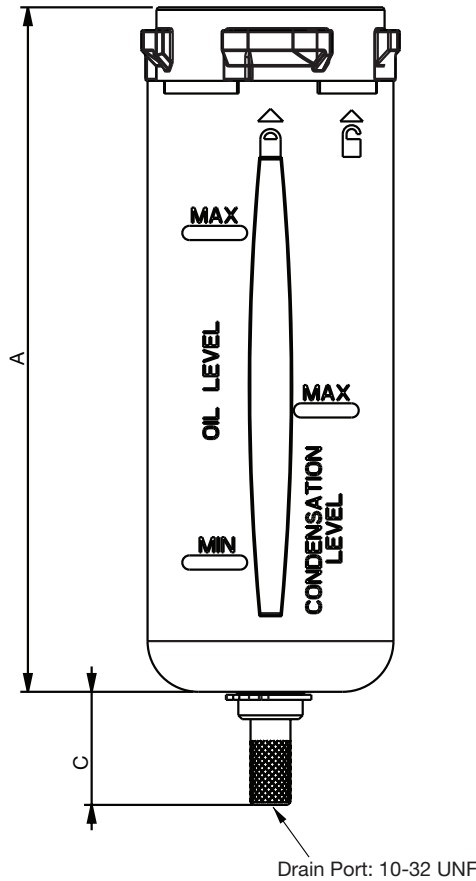
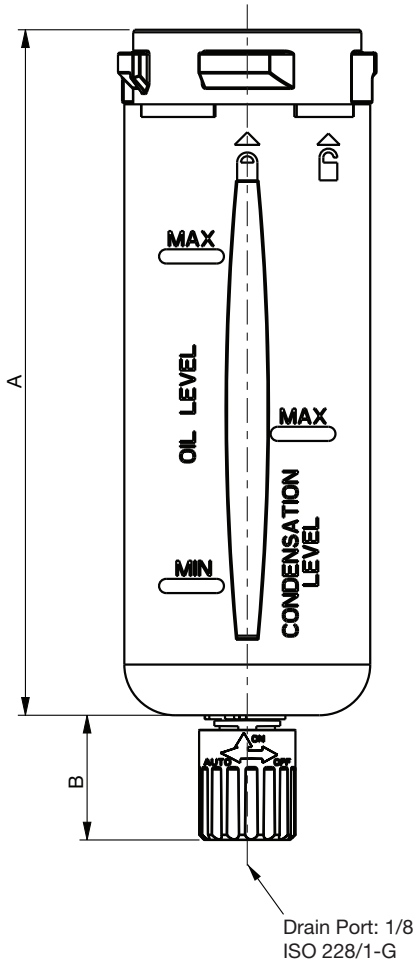
Dimensions: mm

**Dimensional Drawings - Bowl Drain Options**

**Polycarbonate Bowl/Guard with Semi-Automatic/Manual Drain**

**Polycarbonate Bowl/Guard with Stainless Steel Manual Drain**

**Metal Bowl with Automatic Drain**



Please allow the following mm clearance for bowl removal:

Series	A	B	C	D
651	116	25	22,5	30
652	135	25	22,3	30

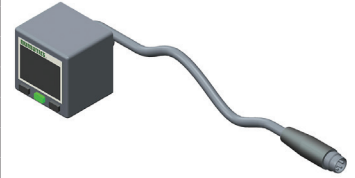
	651	652
Particulate Filter or Filter/Reg (from bottom of drain)	44	75
Coalescing Filter or Filter/Reg (from bottom of drain)	60	80
Lubricator (from bottom of bowl)	20	25

Bowl Type	Series	Filter - Max Condensate Level (ml)				Lubricator - Max Oil Level (ml)	
		Semi/Manual	Manual	Automatic	No Drain	No Option	w/Liquid Level Indicator
Polycarbonate	651	30	30	15	30	45	35
	652	50	50	35	50	90	80
Aluminium	651	30	30	15	30	45	35
	652	50	50	35	50	90	80

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## 280 Series Digital Pressure Switch

Performance Data	
Port Size/Thread Type	1/8 ISO 7/1 Rc Male x M5-0,8 Female
	1/8 NPTF Male x 10/32 UNF Female
Ambient Temperature Range (°C)	0 to +50
Rated Pressure Range (bar)	0 to 10
Maximum pressure (bar)	15
Fluid	air or inert gas
Set Pressure Resolution	kPa 1
	kgf/cm <sup>2</sup> 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



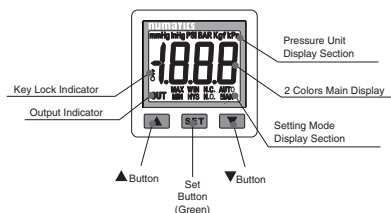
## How to Order

### Model Numbers

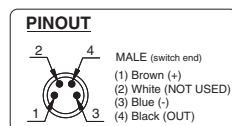
DPS280PRQ8 1/8 ISO 7/1 Rc (PNP)    DPS280PNQ8 1/8 NPTF (PNP)  
 DPS280NRQ8 1/8 ISO 7/1 Rc (NPN)    DPS280NNQ8 1/8 NPTF (NPN)

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

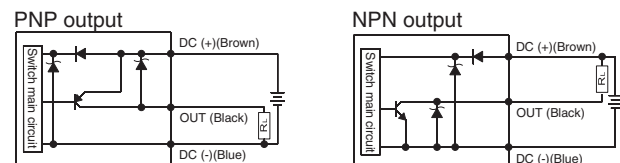
### Display Panel Instructions



### 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

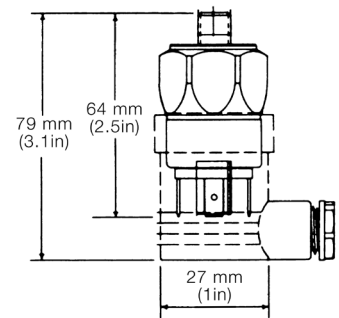
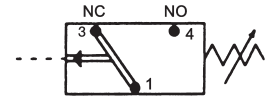
Model	Accessory Description
PMK280-C	Panel Mount Kit with Cover

## PS180 Series Pressure Switch

Performance Data	
Port Size/Thread Type	ISO 228/1-G (BSPP) & 1/8 NPTF
Ambient temperature range (°C)	-15 to +85
Set Point Adjustment Ranges (bar)	0,28 to 1,38; 0,97 to 10,34
Maximum pressure (bar)	20,7
Fluid	air or inert gas
Maximum Cycle Rate per Minute	200
Hysteresis Adjustment	15%
Electrical Ratings	
Switch Contact Rating	4 A
Maximum Voltage	250 VAC (200 VDC)
Enclosure Rating	IP65
Materials in Contact with Fluid	
Connector Housing	Polyamide
Port	Zinc plated steel
Seals	NBR

## How to Order

<b>Model Numbers</b>	
PS180CAG01	1/8 ISO 228/1-G
PS180CAN01	1/8 NPTF



## Digital Pressure Gauge

Performance Data	
Port Size/Thread Type	1/8 (ISO 7/1 Rc or NPTF)
Ambient temperature range (°C)	0 to +50
Rated Pressure Range (bar)	0 to 10
Maximum pressure (bar)	15
Fluid	air or inert gas
Display (Unit Measurement)	PSI, bar, Mpa, kgf/cm <sup>2</sup>
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

<b>Model Numbers</b>	
M699AG504650002	1/8 ISO 7/1
M699AG504650001	1/8 NPTF

## 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 Breacking Capacity	5A - 250V Resistive	2A - 24VDC 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	

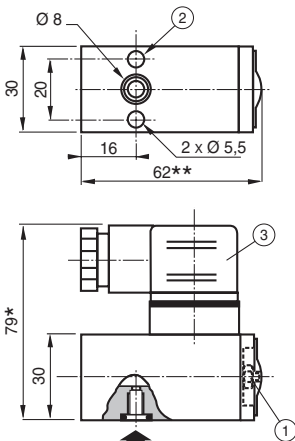


## How to Order

	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

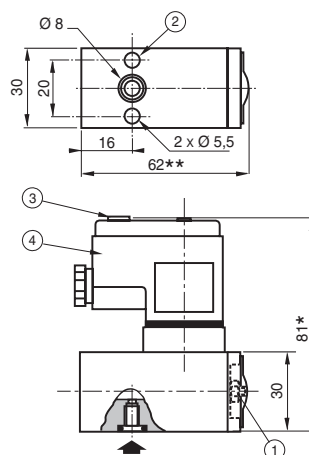


- ① Pressure set screw (spanner for hexagon nuts: 3 mm)
- ② 2 holes Ø 5,5 for mounting
- ③ ISO4400 size 30 connector, 4 terminals, rotatable by 90°

\* +15 mm for connector clearance

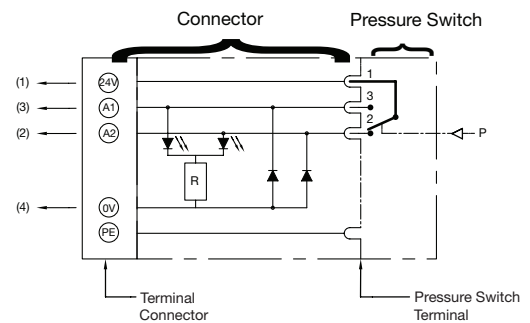
\*\* +2 mm for 0,5-16 bar version

### 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
- \* +15 mm for connector clearance
- \*\* +2 mm for 0,5-16 bar version

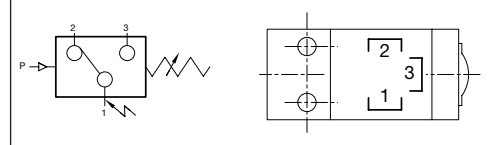
## With Protection Electrical Diagram



### 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 mm<sup>2</sup> wire integrated interference blinking

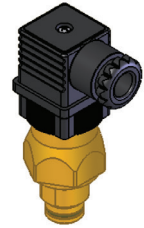
## Electrical Connection With and Without Protection





## Electric Differential Pressure Indicator

Performance Data	
Ambient temperature range (°C)	-25 to +100
Maximum pressure (bar)	20
Delta P Setting (bar)	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 / 610 mm
Materials in Contact with Fluid	
Body	Brass
Float	Nylon



## How to Order

### Model Numbers

M699AG506837001






## Repair Kits and Service Parts

### 651/652 Series - Spare Parts Kits

		Description	Series	Kit Number
Bowls*		Polycarbonate Bowl & Bowl Guard - Includes NBR Bowl Seal for Filters, Filter-Regulators and Lubricators (Electronic Liquid Level Indicator only)	651	M651AU434133001
			652	M652AU440511001
		Polycarbonate Bowl & Bowl Guard - Includes NBR Bowl Seal for Lubricators.	651	M651AU434133008
			652	M652AU440511008
		Metal bowl without sight gauge. Includes NBR Bowl Seal.	651	M651AU434133002
			652	M652AU440511002
		Metal bowl without sight gauge. Includes FKM Bowl Seal.	651	M651AU434133011
			652	M652AU440511011
		Metal bowl with borosilicate (glass) sight gauge. Includes NBR Bowl Seal.	651	M651AU434133004
			652	M652AU440511004
	Metal bowl with borosilicate (glass) sight gauge. Includes FKM Bowl Seal.	651	M651AU434133015	
		652	M652AU440511015	
Drains		Drain Plug Assembly. Provides an option to customers that do not want to use a bowl drain. Includes NBR seal.	651 652	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.	651 652	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.	651 652	M699AQ440512007
		Manual Stainless Steel Drain Assembly - with NBR seals. Provides the user with an alternative to the plastic semi-automatic drain.	651 652	M699AQ440512003
		Manual Stainless Steel Drain Assembly - with FKM seals. Provides the user with an alternative to the plastic semi-automatic drain.	651 652	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.	651 652	M699AQ501862001	
Bowl & Drain Assembly		Bowl and Drain Assembly - Includes Polycarbonate Bowl/Guard and Semi-Automatic Drain Assembly (NBR Seals).	651	M651AU514009001
			652	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**  
**651/652 Series - Spare Parts Kits**


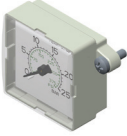

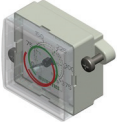
		Description	Series	Kit Number	Color
Filter Elements		5 Micron Particulate Filter Element	651	M651AE434063001	White
			652	M652AE433582001	
		25 Micron Particulate Filter Element	651	M651AE434063002	Yellow
			652	M652AE433582002	
		0,3 Micron Coalescing Filter Element	651	EKF12D	Green
			652	EKF22D	
		0,01 Micron Coalescing Filter Element	651	EKF12E	Red
			652	EKF22E	
		0,3 Micron Coalescing Filter Element - with 3 Micron pre-filter	651	EKF12DD	Green
			652	EKF22DD	
		0,01 Micron Coalescing Filter Element - with 3 Micron pre-filter	651	EKF12ED	Red
			652	EKF22ED	
		Adsorber (Activated Carbon) Filter	651	EKF12F	Grey
			652	EKF22F	

## Repair Kits and Service Parts

### 651/652 Series - Air Prep Assembly and Mounting Kits

	Description	Series	Kit Number		
	Body-to-Body Assembly Clamps (Includes NBR O-Ring). Clamp material is aluminum.	651	P651AT504958001		
		652	P652AT502466001		
	Body-to-Body Assembly Clamps (Include FKM O-Ring). Clamp material is aluminum.	651	P651AT504958003		
		652	P652AT502466003		
	End Plate Kit: Includes two end plates and body-to-body assembly clamps & O-Ring. End plate material is aluminum.	NBR O-Ring	1/4 ISO228/1-G	651	T651AT504959002
			1/2 ISO228/1-G	652	T652AT502468002
		FKM O-Ring	1/4 ISO228/1-G	651	T651AT504959008
			1/2 ISO228/1-G	652	T652AT502468008
	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.	651 652	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. Recommended only for static applications (without vibration).	651	P651AT503860001		
		652	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.	651	P651AT513928001		
		652	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.	651	P651AT503861001		
		652	P652AT503861002		
	651 to 652 Series Transition Kit: Includes one 651 body clamp, one 652 body clamp, transition plate and required O-rings to transition from a 651 to a 652 Series component within a manifold configuration.	NBR O-Ring	651 652	T651AT519193001	
		FKM O-Ring	651 652	T651AT519193002	
	652 to 651 Series Transition Kit: Includes one 652 body clamp, one 651 body clamp, transition plate and required o-rings to transition from a 652 to a 651 Series component within a manifold configuration.	NBR O-Ring	651 652	T652AT519193003	
		FKM O-Ring	651 652	T652AT519193004	

**Repair Kits and Service Parts**  
**651/652 Series - Spare Parts Kits**

		Description	Series	Kit Number
No Gauge		No Gauge Cover Kit - NBR Seal. Includes gauge cover, screw and o-ring	651 652	M699AG503396001
		No Gauge Cover Kit - FPM Seal. Includes gauge cover, screw and o-ring	651 652	M699AG503396002
Integrated gauges*		Integrated Gauge - 651/652/653 Series: 0-6 bar Scale with NBR seals	651 652	M699AG438047002
		Integrated Gauge - 651/652/653 Series: 0-6 bar Scale with FPM seals	651 652	M699AG438047014
		Integrated Gauge - 651/652/653 Series: 0-12 bar Scale with NBR seals	651 652	M699AG438047001
		Integrated Gauge - 651/652/653 Series: 0-12 bar Scale with FPM seals	651 652	M699AG438047013
		Integrated Gauge - 653 Series and SOV: 0-25 bar Scale with NBR seals	651 652	M699AG438047003
		Integrated Gauge - 653 Series and SOV: 0-25 bar Scale with FPM seals	651 652	M699AG438047015
		Pressure Range Indicators (Red/Green) for low profile integrated gauges. Desired range can be easily set in the field. This kit allows customers to add the pressure range indicator to existing low profile integrated gauges in the field.	651 652	M699AG500179001
		Integrated Gauge with Pressure Range Indicators - 651/652/653 Series: 0-6 bar Scale with NBR seals	651 652	M699AG438047008
		Integrated Gauge with Pressure Range Indicators - 651/652/653 Series: 0-12 bar Scale with NBR seals	651 652	M699AG438047007
Integrated Gauge with Pressure Range Indicators - 653 Series and Shut-off Isolation Valves: 0-25 bar Scale with NBR seals		651 652	M699AG438047009	

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## Repair Kits and Service Parts







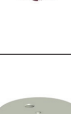



### 651/652 Series - Spare Parts Kits

		Description	Series	Kit Number
<b>Digital Gauge</b>		Digital Pressure Gauge - 651/652/653 Series: 0-145 PSI Scale (User can change units; bar,MPa, Kg/cm <sup>2</sup> ) 1/8" ISO 7/1 Rc	651 652	M699AG504650002
<b>Round Gauges*</b>		Round Gauge - 0-4 bar 1/8 ISO 7/1 Rc and 40 mm Face Diameter	651	34300015
		Round Gauge - 0-10 bar 1/8 ISO 7/1 Rc and 40 mm Face Diameter	651	34300014
		Round Gauge - 0-12 bar 1/8 ISO 7/1 Rc and 40 mm Face Diameter	651	34300041
		Round Gauge - 0-25 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter	651 652	34200063
		Round Gauge - 0-4 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter	652	34200061
		Round Gauge - 0-12 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter	652	34200062
		Stainless Steel Round Gauge - 0-12 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter	651 652	34303242
<b>Port Plates</b>		Gauge Port Plate Assembly - 1/8 ISO 7/1 Rc	651 652	M699AG440510002
<b>Pressure Switch/Sensor</b>		DPS280 Pressure Switch/Sensor - NPN M8 with Cable 1/8 ISO 7/1 Rc	651 652	DPS280NRQ8
		DPS280 Pressure Switch/Sensor - PNP M8 with Cable 1/8 ISO 7/1 Rc	651 652	DPS280PRQ8

\* Each of the Integrated and Round Gauges are dual scale. 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**  
**651/652 Series - Spare Parts Kits**

		Description	Series	Kit Number
Lubricator Repair Kits		Lubricator dome repair kit - NBR seals. Includes dome cover, screw and o-rings.	651 652	M699AY506842001
		Lubricator dome repair kit - FKM seals. Includes dome cover, screw and o-rings.	651 652	M699AY506842002
		Lubricator Level Switch assembly kit. Includes level switch, stainless steel retainer ring, o-ring and bushing.	651 652	M699AG506837001
		Lubricator Bowl Plug assembly: Includes Lubricator bowl plug, stainless steel retainer ring and NBR o-ring.	651 652	M699AQ440512001
		Particulate Filter Repair Kit - Includes the filter retainer, head baffle, lower end cap and bowl baffle.	651 652	M651AY570170001 M652AY506833001
Filter Kits		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.	651 652	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.	651 652	M699AG439851004
		DPI Plug (NBR Seals). This is used to plug the top port on the filter when a Differential Pressure Indicator is not used.	651 652	M699AG439851002
		DPI Plug (FKM Seals). This is used to plug the top port on the filter when a Differential Pressure Indicator is not used.	651 652	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.	651 652	M699AG439851003

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## Repair Kits and Service Parts

### 651/652 Series - Spare Parts Kits

		Description	Series	Kit Number
Regulator & Filter Regulator Kits		Adjusting Screw Repair Kit - Includes adjusting screw, nut, washer and screw.	651	M651AY514012001
			652	M652AY506952001
		Key Lockable Adjusting Screw Repair Kit - Includes adjusting screw, adjusting nut, flat washer and screw.	651	M651AY514012002
			652	M652AY506952002
		Tamperproof Repair Kit - Includes adjusting screw, adjusting nut, flat washers and screws.	651	M651AY514012003
			652	M652AY506952003
		Replacement knob for regulator or filter-regulators.	651	M651AY519042001
			652	M652AY519042003
		Replacement knob for the tamper resistant or key lockable regulator or filter-regulators	651	M651AY519042002
			652	M652AY519042004
		Poppet Repair Kit (NBR Seals): Includes poppet, stem & seals.	651	M651AY507175001
			652	M652AY506863001
		Poppet Repair Kit (FKM Seals): Includes poppet, stem & seals.	651	M651AY507175002
			652	M652AY506863002
		Diaphragm Assembly Repair Kit (Pilot Operated Regulator NBR Seals).	652	M652AH435268001
		Diaphragm Assembly Repair Kit (Pilot Operated Regulator FKM Seals).	652	M652AH435268002
		Diaphragm Assembly Repair Kit (Relieving Regulator NBR Seals)	651	M651AH504954001
			652	M652AH434213001
		Diaphragm Assembly Repair Kit (Relieving Regulator FKM Seals)	651	M651AH504954002
			652	M652AH434213002
	Diaphragm Assembly Repair Kit (Non-Relieving Regulator NBR Seals)	651	M651AH504954003	
		652	M652AH434213003	
	Diaphragm Assembly Repair Kit (Non-Relieving Regulator - FKM Seals)	651	M651AH504954004	
		652	M652AH434213004	
	Main Spring (3 bar)	651	M651AY514010001	
		652	M652AY513313001	
	Main Spring (10 bar)	651	M651AY514011001	
		652	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.	651	M651AH507403001
			652	M652AH507085001
		U-Cup Seal Kit (FKM Seals). Kit contains 10 U-Cup seals. This seal is used for all 652 series bowls.	651	M651AH507403002
			652	M652AH507085002

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**Repair Kits and Service Parts**  
**651/652 Series - Spare Parts Kits**

		Description	Part/Kit Number 651/652
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 4 Pin M12 Connection, for 190 Pilot Horizontal Solenoid Operator	43005525
		24 VDC coil with DIN Spade connection for 190 Pilot Horizontal Solenoid Operator	43004473
		120 VAC coil with DIN Spade connection for 190 Pilot Horizontal Solenoid Operator	43004471
		24 VAC coil with DIN Spade connection for 190 Pilot Horizontal Solenoid Operator	43004469
		240 VAC coil with DIN Spade connection for 190 Pilot Horizontal Solenoid Operator	43004472
		DIN Connector, without LED - 190 Pilot Horizontal Solenoid Operator	88122602
		DIN Connector, with LED, for 24 VAC/DC coil - 190 Pilot Horizontal Solenoid Operator	88122603
		DIN Connector, with LED, for 120 VAC coil - 190 Pilot Horizontal Solenoid Operator	88122605
		DIN Connector, with LED, for 240 VAC coil - 190 Pilot Horizontal Solenoid Operator	88122608
		Vertical Solenoid Operator (189) - Without Manual Override	18990007
		24 VDC coil with 4 Pin M12 Connection, for 189 Pilot Vertical Solenoid Operator	43005523
		24 VDC coil with DIN Spade connection for 189 Pilot Vertical Solenoid Operator	43004166
		120 VAC coil with DIN Spade connection for 189 Pilot Vertical Solenoid Operator	43004419
		24 VAC coil with DIN Spade connection for 189 Pilot Vertical Solenoid Operator	43004416
		240 VAC coil with DIN Spade connection for 189 Pilot Vertical Solenoid Operator	43004422
		DIN Connector, without LED - 189 Pilot Vertical Solenoid Operator	88122404
		DIN Connector, with LED, for 24 VAC/DC coil - 189 Pilot Vertical Solenoid Operator	88122405
DIN Connector, with LED, for 120 VAC coil - 189 Pilot Vertical Solenoid Operator		88122407	
DIN Connector, with LED, for 240 VAC coil - 189 Pilot 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, 1/8 ISO 7/1 Rc	M699AY513318001
		Pilot Port Plate: For Air Operated Externally Piloted 3/2 Slow Start-QE Valve, 1/8 NPTF	M699AY513318002

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**Repair Kits and Service Parts**  
**651/652 Series - Accessories**

		Description	Series	Part Number
<b>Scissor Lock</b>		Scissor Lock for Shut-Off Isolation Valve & Lockout Valve	651 652	VB-1
<b>Mufflers/Silencers</b>		Metal Muffler – G 1/4 (Shut-Off Isolation Valves)	651 652	M2MB
		Metal Muffler – G 1/2 (Slow-Start/Quick Exhaust & Lockouts)	652	M4MB
		Polyethylene Muffler – G 1/4 (652 - Shut-Off Isolation Valve / 651 - Slow-Start/Quick Exhaust Valves)	651 652	34600407
		Polyethylene Muffler – G 1/2 (Slow-Start/Quick Exhaust & Lockouts)	652	34600409
<b>Key Locking Device</b>		Key Locking Device for regulator (Lock supplied separately with 2 keys)	651 652	M699AY438663001



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