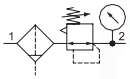
PARTICULATE FILTER/REGULATOR



- 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 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			NPTF, G & Rc	
Nominal Flow - Per ISO 6358 P1 = 145 PSI (10 bar) Setpoint P2 = 91.4 PSI (6.3 bar) ΔP = 14.5 PSI (1 bar)		Micron Rating	SCFM (L/min ANR)	
	1/8	5µ	25.1 (710)	-
		25µ	25.8 (730)	-
		40µ	28.5 (800)	-
	1/4	5µ	79.1 (2240)	133.0 (3800)
		25µ	83.4 (2360)	144.2 (4120)
		40µ	100.1 (2840)	150.5 (4300)
	3/8	5µ	-	155.8 (4450)
		25µ	-	189.7 (5420)
		40µ	-	196 (5590)
	1/2	5µ	-	157.2 (4490)
		25µ	-	192.5 (5500)
		40µ	-	203.0 (5800)
Maximum Inlet Pressure PSIG (bar) P1		Polycarbonate Bowl	232 (16)	
		Aluminum Bowl	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)		w/Polycarbonate Bowl	0.617 (0.304)	1.20 (0.546)
		w/Aluminum Bowl	0.989 (0.449)	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*	
5µ	(5:8:4)
25µ	(6:8:4)
40µ	(7:8:4)

How to Order

Particulate Filter/Regulator

8 651 A P B P 2 F A00 G N

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

Product Series
651
652

Revision
A

Product Type
P = Filter/Regulator - Particulate

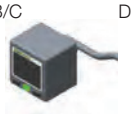
Elements
A = 40 Micron (Green)
B = 5 Micron (White)
J = 25 Micron (Yellow)

A  B  J 

Bowl Type
K = Metal Bowl without Sight Gauge
L = Metal Bowl with Sight Gauge (Glass)
M = Metal Bowl with Sight Gauge (Polyamide)
N = Polycarbonate Bowl without Bowl Guard (651 only)
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
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

B/C  D  F/G  H/J 

N/P  Q/R  0 

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

A  N  Q 

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 (652 only)
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

101  103  104  119 

123 

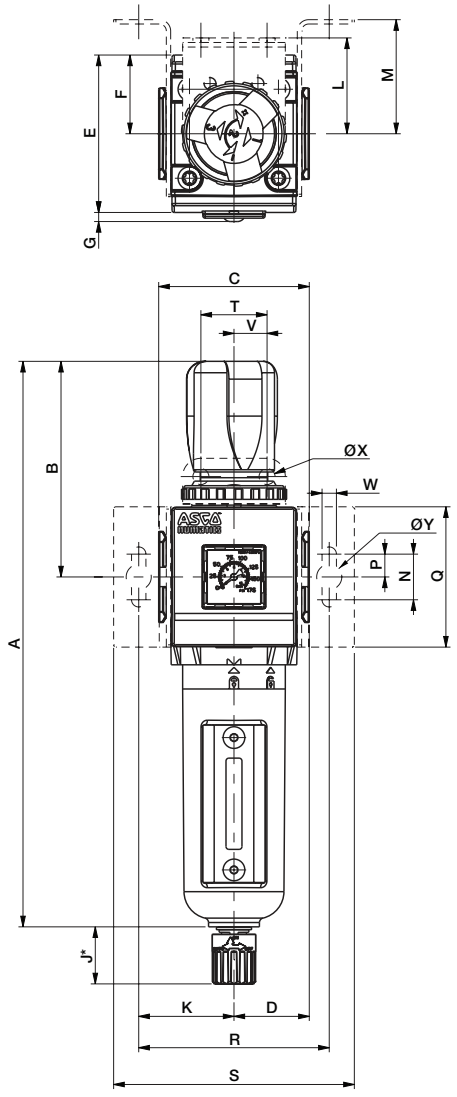
* Conforms to ISO standards 1179-1

** 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)

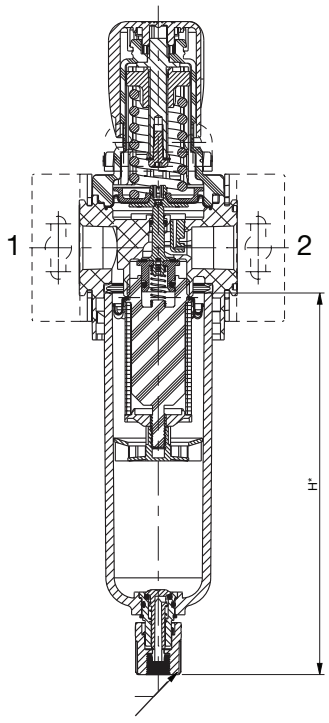
*** If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.asco.com), or consult factory.

Dimensions: mm (inches)

Dimensional Drawing - 651/652 Series Particulate Filter/Regulator



Cross Section - 651/652 Series Particulate Filter/Regulator



To remove bowl allow:
651 - 44mm (1.8in)
652 - 75mm (3.0in)
from the bottom of
the bowl drain.

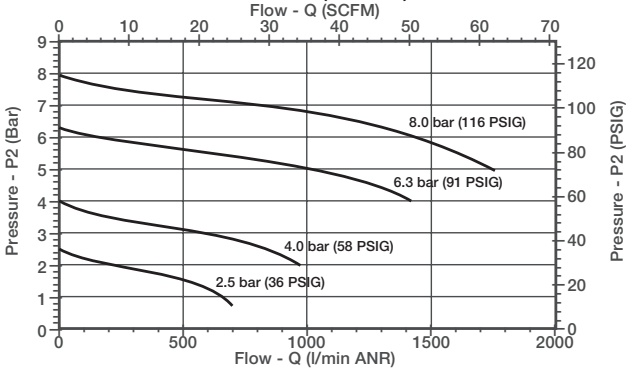
	A	B	C	D	E	F	G	H	J	K	L
651	215.5	77.5	50	25	58	29	3.4	116	25	35	42
	(8.48)	(3.05)	(1.97)	(0.98)	(2.28)	(1.14)	(0.13)	(4.57)	(0.98)	(1.38)	(1.65)
652	248	94.5	66	33	69	30.5	4	160	25	41.75	42
	(9.76)	(3.72)	(2.60)	(1.30)	(2.72)	(1.20)	(0.16)	(6.30)	(0.98)	(1.64)	(1.65)

	M	N	P	Q	R	S	T	V	W	ØX	ØY
651	44.5	20	10	50	70	92	29	14.5	6.3	7	11
	(1.75)	(0.79)	(0.39)	(1.97)	(2.76)	(3.62)	(1.14)	(0.57)	(0.25)	(0.28)	(0.43)
652	50	20	10	61.5	84	105.5	29	14.5	6.3	7	11
	(1.97)	(0.79)	(0.39)	(2.42)	(3.31)	(4.15)	(1.14)	(0.57)	(0.25)	(0.28)	(0.43)

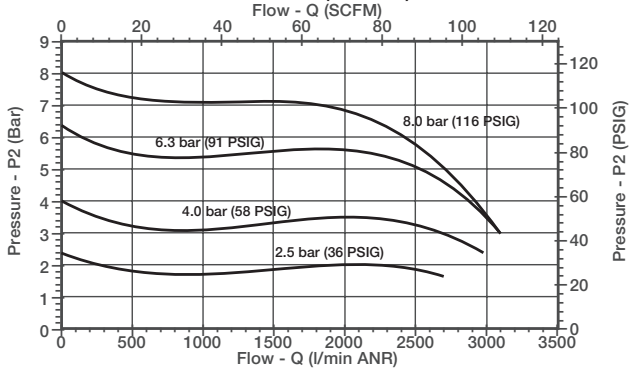
* Variable dimension based on type of drain that is specified; If an Automatic Drain is specified, add another 5mm to "J" dimension.

Particulate Filter/Regulator Flow Charts

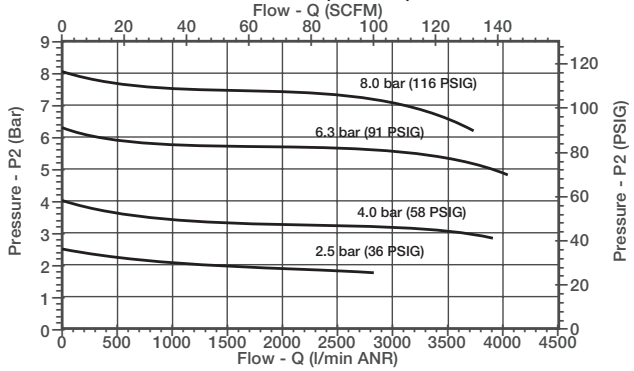
651 Filter-Regulator | 5µ Filtration | 1/8 Ports
P1 = 10 Bar (145 PSIG)



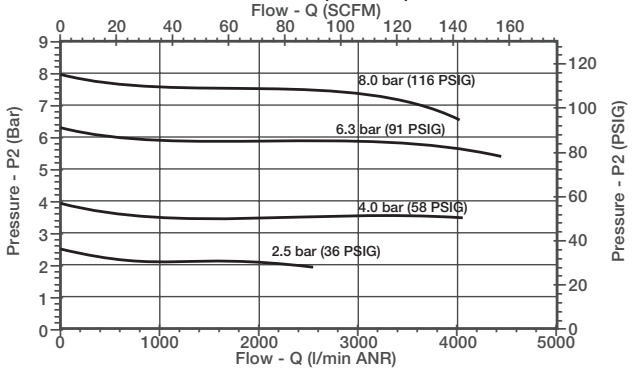
651 Filter-Regulator | 5µ Filtration | 1/4 Ports
P1 = 10 Bar (145 PSIG)



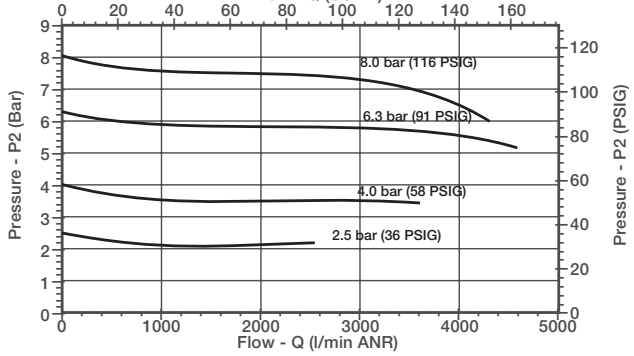
652 Filter-Regulator | 5µ Filtration | 1/4 Ports
P1 = 10 Bar (145 PSIG)



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



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



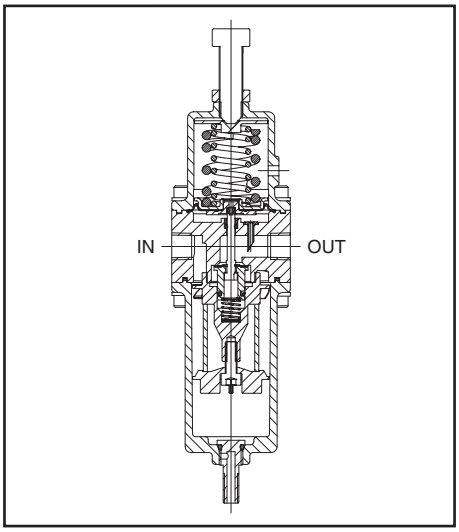
FILTER, REGULATOR AND FILTER/REGULATOR

stainless steel 316L
compact 1/4, high flow 1/4 - 1/2

FEATURES

- *Stainless Steel Filter, Regulator and Filter Regulator intended for corrosive environment and suitable for use in potentially explosive atmosphere caused by gases, vapours, mists and / or dust according to new **ATEX** directive **2014/34/EU**.*
  SAFETY CODE:
  II 2GD IIC T100°C (T5), with 90°C ambient temperature
  II 2GD IIC T85°C (T6), with 75°C ambient temperature
  ***(ZONE 1-21)** Explosion group IIC*
- *CU-TR certified for potentially explosive atmospheres*
- *Functional Safety: IEC 61508, SIL certified*
- *Comply with the European Essential Health and Safety Requirements **(EN13643-1)***
- *All internal metal parts made of 316 / 316L stainless steel*
- *Built-in overpressure relieving function, non-relieving option available*
- *316L Stainless Steel body, bonnet and bowl*
- *Internal springs made of INCONEL® to suit sour gas environment complying to NACE MR0175 / ISO 15156 (1)*

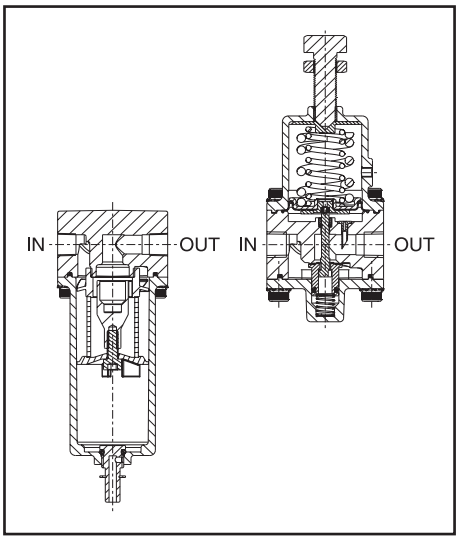
(1) Only available for High Flow SS FR as an option
INCONEL® is trademark of the Special Metals Corporation group of companies



BENEFITS

- *Precise tuning and regulation - using dual spring design (2)*
- *Improved regulation accuracy - with pitot tube feedback (2)*
- *Effective moisture removal - using fin diverters to create centrifugal action (2)*
- *Long lasting product labelling - laser etched marking on stainless steel bowl (3)*

(2) Only available for High Flow SS FR
(3) Only available for Compact SS FR



CHARACTERISTICS

	Compact	High Flow
Fluids	Compressed air, neutral gas, natural gas	Compressed air, neutral gas, natural gas & sour natural gas
Compliance to NACE for sour Gas environment	No	Yes (as an option)
Ports	1/4	1/4 & 1/2
Threads	NPT G as an option	
Pressure range (inlet)	0 - 20 bar (Manual Drain) 2,5 - 11 bar (Auto Drain)	
Regulating pressure (outlet)	0,5 - 10 bar	
Regulation	By hexagonal head screw with nut	
Hysteresis	< 0,32 bar	< 0,2 bar
Filtering capacity	25 µm & 5 µm	
Operating temperature (4)	-40°C to +90°C	
Low temperature option	-50°C	-60°C
Condensate Drain	Manual & Automatic	

(4) Operating temperature for Automatic Drain: +0°C to +60°C

CONSTRUCTION

	Compact	High Flow
Body, bonnet & bowl	AISI 316L SS	
	Bowl capacity = 25 cm^3	Bowl capacity = 75 cm^3
Filtering element	AISI 316 SS	
Diaphragm	LT FPM	LT FPM / HNBR
Elastomers	FPM	

80435GB-2017/R01

PRODUCT CODE

342 A 8 0 0 1 AD

Product series
342

Revision letter
A = Initial release

F/R/FR type
8 = SS Filter Regulator (FR)
9 = Filter (F) (1)
A = Regulator (R) (1)

Pressure relief / vent hole
0 = Non relief diaphragm type (2)
2 = Ø M5 thread
4 = Ø 1/8 NPT

Certifications & approvals
0 = ATEX 1/21
1 = ATEX 1/21 + CUTR
2 = ATEX 1/21 + NACE (1)
3 = ATEX 1/21 + NACE + CUTR (1)

(1) *Not available for Compact version*
(2) *Bonnet with Ø 1/8 NPT thread*

Options
AD = Automatic Drain
AN = Automatic Drain with 1/8 NPT connection
D = Right-to-left flow sense
G = 316 SS pressure gauge
LT = Low Temperature (3)
MB = 316L SS Mounting Brackets (4)

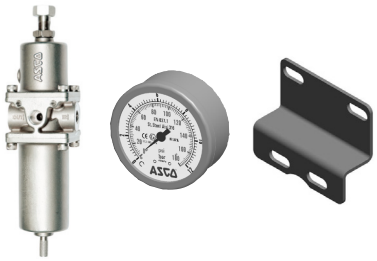
(3) *A special low temperature 316 SS pressure gauge will be delivered.*
(4) *Not mounted onto the product*

Filtration/port size
1 = High Flow 1/4 NPT 25 µm or Regulator only
2 = High Flow 1/4 G 25 µm or Regulator only
3 = High Flow 1/2 NPT 25 µm or Regulator only
4 = High Flow 1/2 G 25 µm or Regulator only
5 = High Flow 1/4 NPT 5 µm
6 = High Flow 1/4 G 5 µm
7 = High Flow 1/2 NPT 5 µm
8 = High Flow 1/2 G 5 µm
9 = Compact 1/4 NPT 25 µm
A = Compact 1/4 G 25 µm
B = Compact 1/4 NPT 5 µm
C = Compact 1/4 G 5 µm

NOTE: Please refer to our online configurator for option combinations availability

ORDERING EXAMPLE

1. High-Flow stainless steel Filter Regulator (1/4" NPT, 25 µm filtration) with Auto Drain, pressure gauge & mounting bracket
   • Product Code: 342A8201ADGMB
2. Compact low temperature stainless steel Filter Regulator (1/4" NPT, 25 µm filtration)with low temperature pressure gauge & mounting bracket
   • Product Code: 342A8209GLTMB



MAXIMUM FLOW VALUES

Construction Type	Maximum Flow Values Following ISO Standards 5782, 6358 and 6953	Compact		High Flow			
		l/min (ANR)					
		1/4		1/4		1/2	
		5 µm	25 µm	5 µm	25 µm	5 µm	25 µm
Filter	Inlet pressure = 6.3 bar and ΔP = 1 bar	-	-	1780	2600	1800	3300
Regulator	Inlet pressure = 10 bar, setpoint = 6.3 bar and ΔP = 1 bar	-	-	3120		7800	
Filter Regulator	Inlet pressure = 10 bar, setpoint = 6.3 bar and ΔP = 1 bar	1280	1400	2380	2450	3920	4430

80435GB-2017/R01

AUTO DRAIN	
	
	HIGH FLOW & COMPACT SS FR
Maximum inlet pressure	11 bar
Operating pressure	2.5 - 10 bar
Operating temperature	0°C to +60°C
Metal parts	316L SS
Elastomers	FPM
Float material	Thermoplastic polymer
Adaptor (316 SS) for 1/8 NPT conversion “AN” as option	

PRESSURE GAUGE		
		
	HIGH FLOW SS FR	**COMPACT SS FR**
Pressure	0 - 12 bar	0 - 10 bar
Diameter	Ø 63 mm	Ø 50 mm
Gauge port size	1/4" NPT	1/8" NPT
Material	316 Stainless Steel	
Protection	IP65; Safety glass; Fixed crimped case to avoid accidental dismounting	
Part number	C325316	C325937
Part number Low Temp. option	C325667	C325938

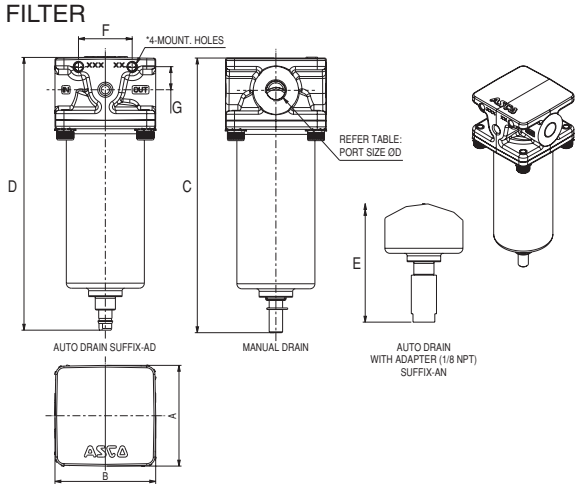
MOUNTING BRACKET		
		
	HIGH FLOW SS FR	**COMPACT SS FR**
Material	316L Stainless Steel	
Part number	C117813	C117877

INSTALLATION

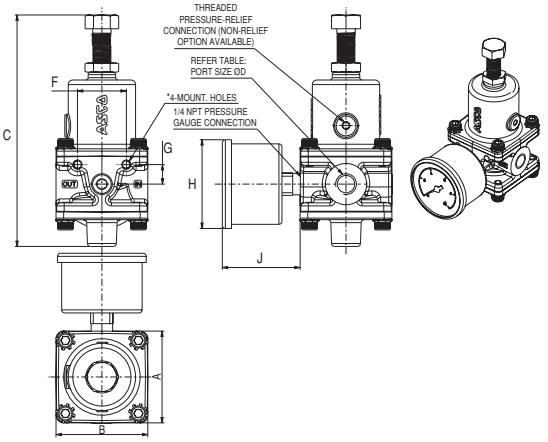
- Installation/Maintenance instructions are included with each Filter/Regulator
- Air flow direction indicated by IN/OUT as well as inlet & outlet indicators
- Pipe connection has standard thread according to NPT (ANSI 1.20.3)

DIMENSIONS(mm), WEIGHT(kg)

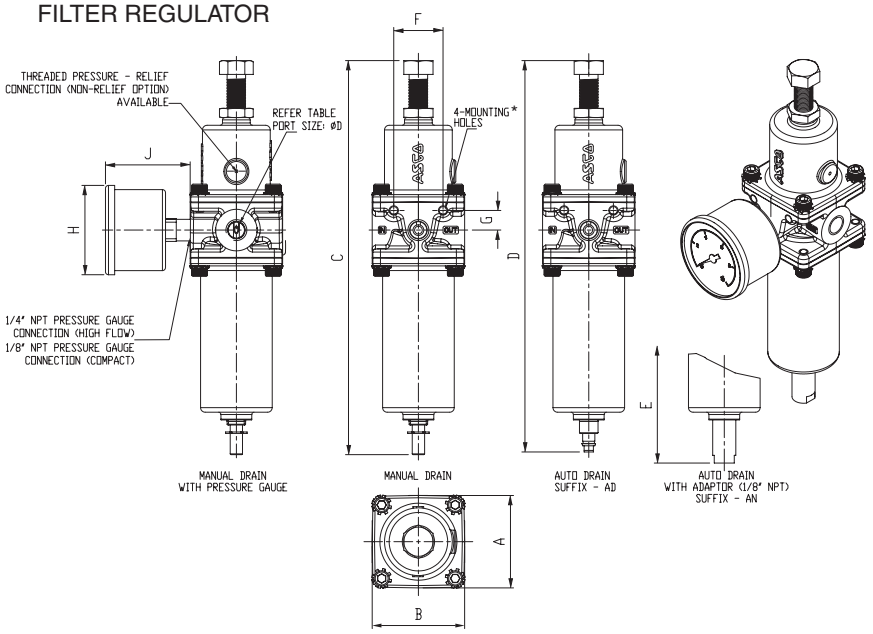
FILTER



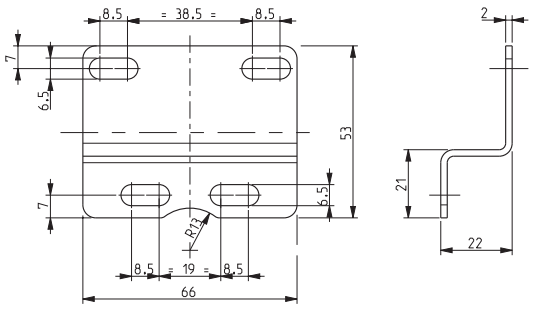
REGULATOR



FILTER REGULATOR



MOUNTING BRACKET



** Note: Mounting hole size M6 for Hi-Flow SS FR and mounting hole size M5 for Compact SS FR*

DIMENSIONS(mm), WEIGHT(kg)

	Type	ØD / NPT	Weight (kg)	A	B	C	D	E	F	G	H	J
HIGH FLOW	Filter	1/4	0,730	60	60	163,6	162,5	170,5	32	13,75	Ø67	51
		1/2			65							
	Regulator	1/4	1,232		60	151,3	-	-	32	12,75	Ø67	51
		1/2			65							
	Filter Regulator	1/4	1,980		60	256	254	261	32	12,75	Ø67	51
		1/2			65							
COMPACT	Filter Regulator	1/4	1,0	45	45	195	223	233	20	10	Ø53,5	48

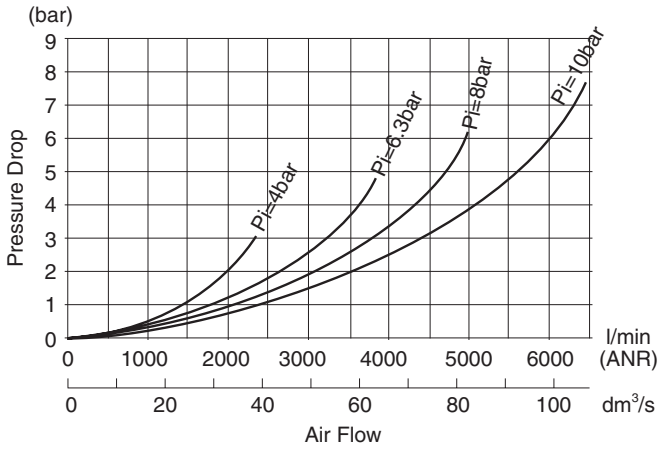
SPARE PARTS KITS

	Type	Filtering Capacity	Spare Parts Kit Number Standard	Spare Parts Kit Number Low Temp
HIGH FLOW	Filter	25 µm	C325309	
		5 µm	C325310	
	Regulator	-	C325311	C325993
	Filter Regulator	25 µm	C325305	C325994
		5 µm	C325307	C325995
COMPACT	Filter Regulator	25 µm	C325921	C325996
		5 µm	C325922	C325997

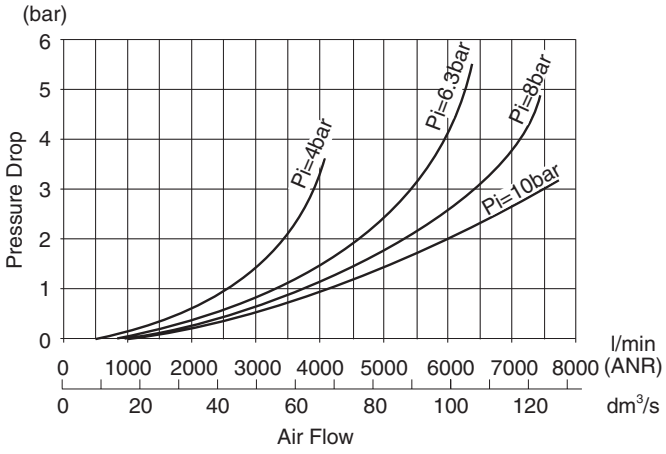
Option	Weight (kg)
Auto Drain	0,015
Adapter for Auto Drain	0,020
Pressure Gauge	0,164
Mounting Bracket	0,079

PRESSURE DROP vs. AIR FLOW CURVES

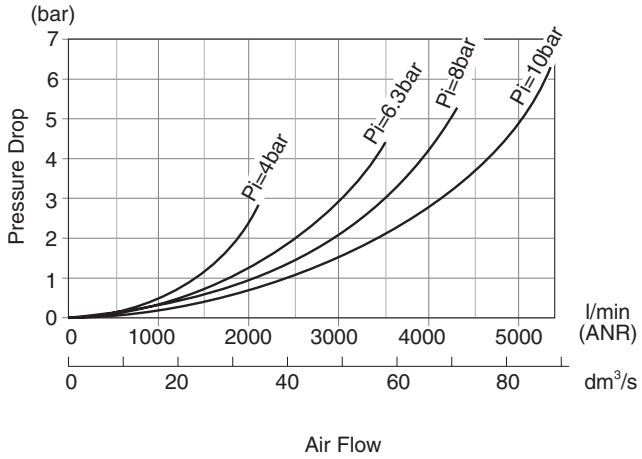
St. steel Filter 1/2 NPT Ref. : 342A9007
Filtration 5 µm with P inlet 4 - 6,3 - 8 - 10 bar



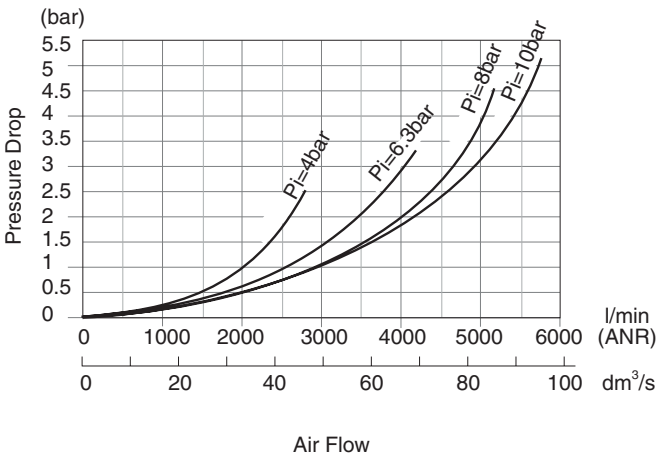
St. steel Filter 1/2 NPT Ref. : 342A9003
Filtration 25 µm with P inlet 4 - 6,3 - 8 - 10 bar



St. steel Filter 1/4 NPT Ref. : 342A9005
Filtration 5 µm with P inlet 4 - 6,3 - 8 - 10 bar



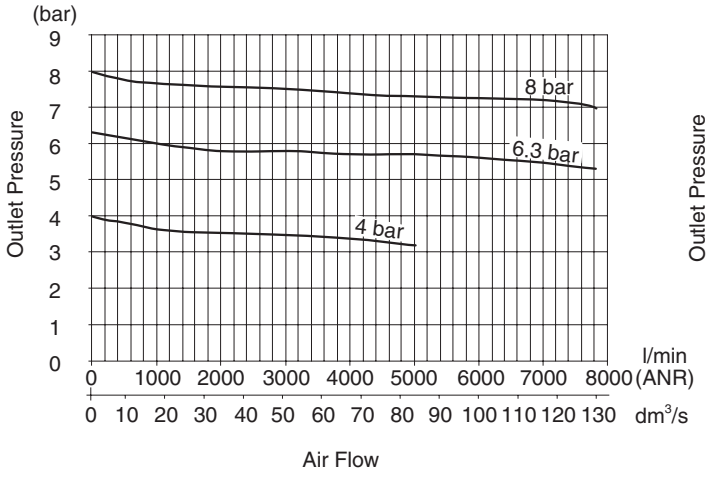
St. steel Filter 1/4 NPT Ref. : 342A9001
Filtration 25 µm with P inlet 4 - 6,3 - 8 - 10 bar



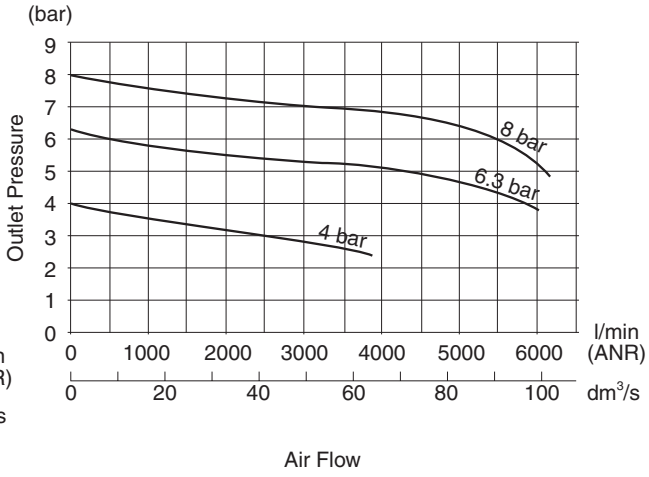
80435GB-2017/R01

PRESSURE DROP vs. AIR FLOW CURVES

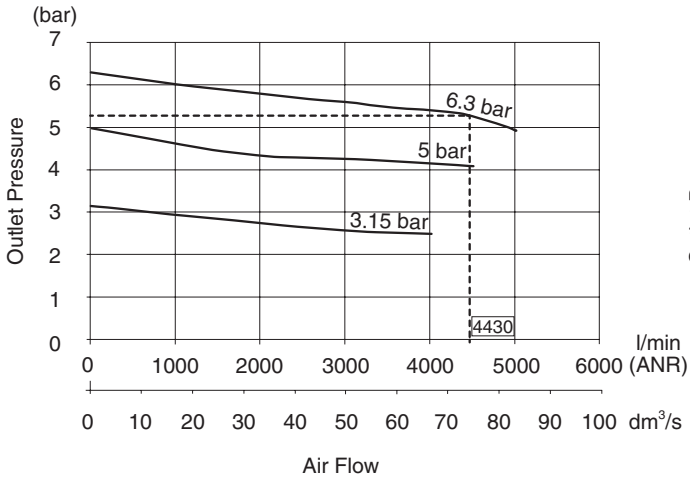
St. steel Regulator 1/2 NPT Ref. : 342AA403
P inlet 10 b - setpoint 4 - 6,3 - 8 bar



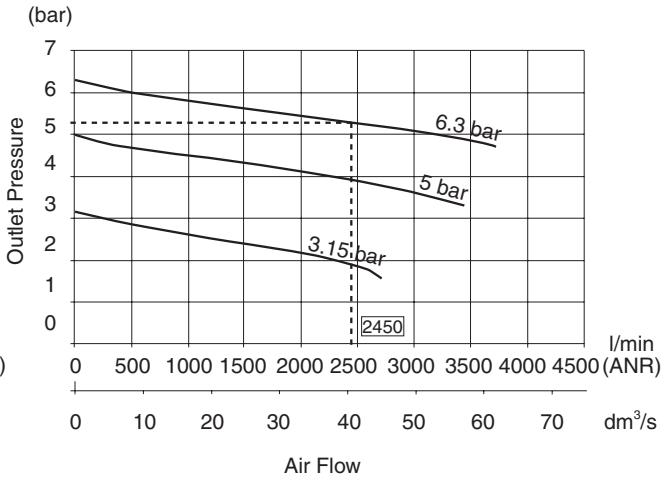
St. steel Regulator 1/4 NPT Ref. : 342AA401
P inlet 10 b - setpoint 4 - 6,3 - 8 bar



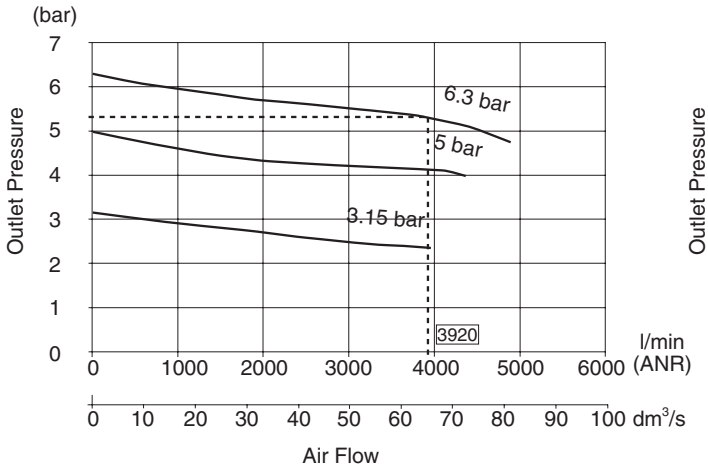
St. steel Filter Regulator 1/2 NPT Ref : 342A8203
Filtration 25 µm with P inlet 10 b - setpoint 3,15 - 5 - 6,3 bar



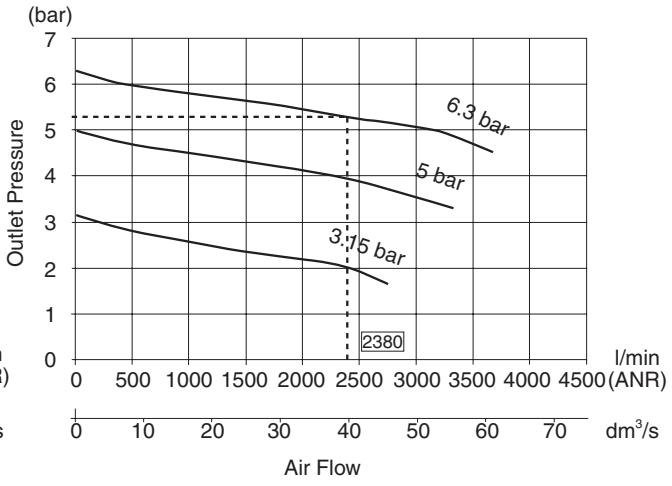
St. steel Filter Regulator 1/4 NPT Ref. : 342A8201
Filtration 25 µm with P inlet 10 b - setpoint 3,15 - 5 - 6,3 bar



St. steel Filter Regulator 1/2 NPT Ref : 342A8207
Filtration 5 µm with P inlet 10 b - setpoint 3,15 - 5 - 6,3 bar

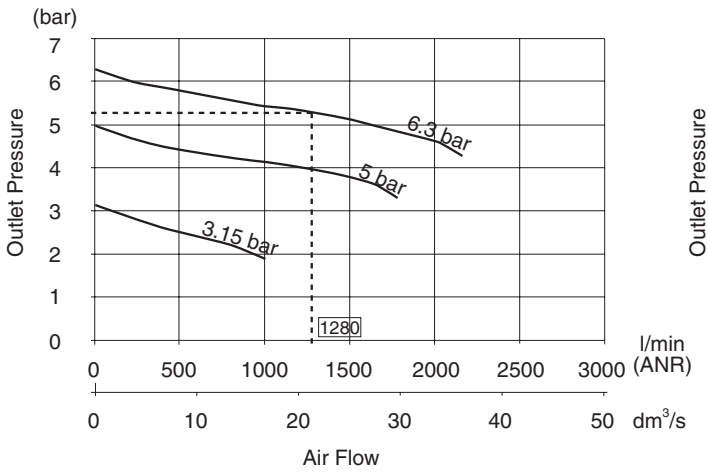


St. steel Filter Regulator 1/4 NPT Ref. : 342A8205
Filtration 5 µm with P inlet 10 b - setpoint 3,15 - 5 - 6,3 bar



PRESSURE DROP vs. AIR FLOW CURVES

St. steel Filter Regulator 1/4 NPT Ref : 342A820B
Filtration 5 µm with P inlet 10 b - setpoint 3.15 - 5 - 6.3 bar



St. steel Filter Regulator 1/4 NPT Ref. : 342A8209
Filtration 25 µm with P inlet 10 b - setpoint 3.15 - 5 - 6.3 bar