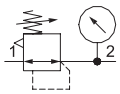
REGULATOR

- High flow with a wide range of adjustable output pressure ranges
- Flows in excess of 11500 l/min
- Maintains constant downstream pressure even during fluctuations in upstream pressure
- 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
- Key lockable and tamper resistant options





Performance Data				
Series		**651**	**652**	**653**
Port sizes		1/8, 1/4	1/4, 3/8, 1/2	3/4, 1
Thread type		G (NPTF in option)		
Nominal flow - ISO 6358 P1 = 10 bar Setpoint P2 = 6.3 bar ΔP = 1 bar		l/min (ANR)		
	1/8	800	-	-
	1/4	2060	4120	-
	3/8	-	6530	-
	1/2	-	7000	-
	3/4	-	-	10000
	1	-	-	11500
Maximum inlet pressure (bar) P1		16		20
Adjustable pressure ranges (bar) P2		0.2 to 3		
		0.5 to 10		
		-	-	0.5 to 16 *
Hysteresis (bar)		0.3	0.2	0.4
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	1.102 / 1.293 *

* High pressure assisted version.

Materials in contact with fluid	
Body	Aluminium
Seals	NBR/FPM
Springs	Stainless steel
Poppet	Brass
Cover / Stem	PA (Polyamide)

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How to Order - Regulator

G 651 A R 0 0 2 G A00 H 0

Configurator - CAD Files

Thread connection
G = ISO 228/1-G [1]
8 = NPTF

Product series
651
652
653

Revision letter
A

Product type
K = Regulator "Quick Relief Option" (652 only)
R = Regulator [2]
W = Pilot Operated Regulator (652 only)

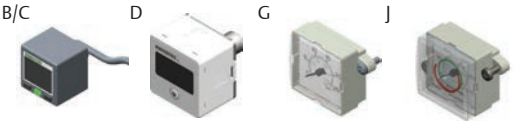
K/R W



Port size
1 = 1/8 (Series 651)
2 = 1/4 (Series 651 or 652)
3 = 3/8 (Series 652)
4 = 1/2 (Series 652)
5 = 3/4 (Series 653)
6 = 1 (Series 653)

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

B/C D G J



P Q 0



Pressure range
D = 0.2..3 bar
H = 0.5..10 bar
N = 0.5..16 bar (653 only)

Options [3]
A00 = No option
101 = Side Mounting Brackets
102 = Panel Nut (651 or 652)
103 = Tamper resistant
104 = Key lockable
105 = High temperature (+80°C)
106 = Low temperature (-40°C) [4]
109 = FPM seals
113 = Stainless steel fasteners
114 = Provision for key lock
117 = ATEX zones 1-21
119 = Panel Bracket with Panel Nut (651 or 652)
121 = Non-relieving
122 = Bottom oriented pressure adjustment
123 = Gauge type mounted for right-to-left flow
124 = CUTR Certification (EAC)
125 = CUTR Ex
202 = 105 + 109
2A9 = 105 + 106

101 103 104 119



122 123



[1] Conforms to ISO standards 1179-1.
[2] Relieving standard; use option 121 for non-relieving
[3] If multiple options are required, please use the on-line CAD configurator on the website to generate the part number (www.emerson.com).
[4] Compressed air must be dry enough so no ice formation is present on the product.

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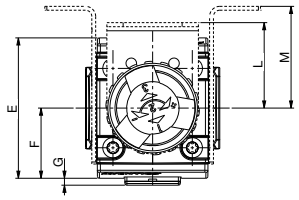
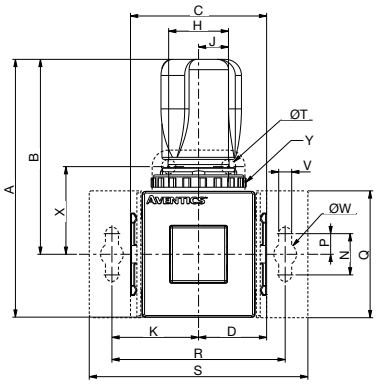
Dimensions : mm - Series 651/652/653 Regulator

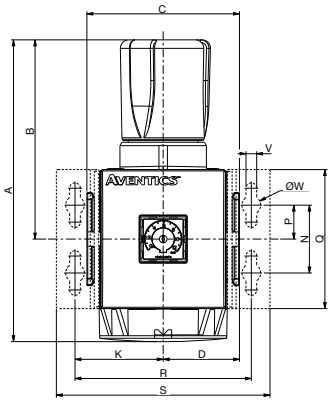
Configurator - CAD Files



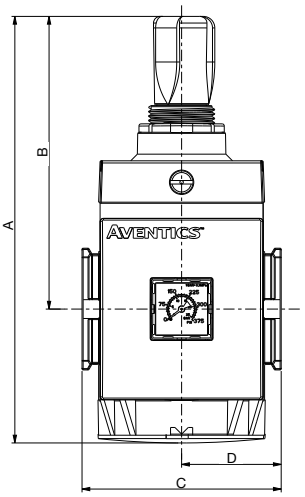
651/652 Series



653 Series



Series 653 High Pressure Regulator (16 bar)

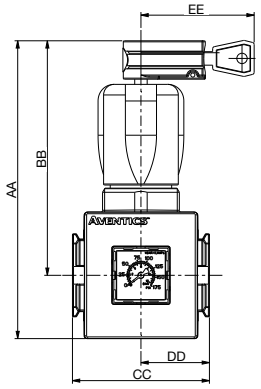


	A	B	C	D	E	F	G	H	J	K	L	M
651	103	77.5	50	25	58	29	3.4	29	14.5	35	42	44.5
652	125	94.5	66	33	69	34.5	2.5	29	14.5	41.75	42	50
653	178.4	117.5	90	45	93	46.5	3	-	-	52	-	62

	N	P	Q	R	S	ØT	V	ØW	X	Y
651	20	10	50	70	92	7	6.3	11	39.1	M30 x 2
652	20	10	61.5	84	106	7	6.3	11	43.5	M37 x 2
653	40	20	82	104	126	-	6.3	11	-	-

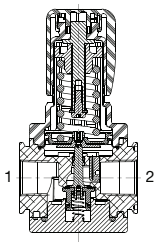
	A	B	C	D	E	F	G
653 High Pressure	193	132	90	45	93	46.5	3

Series 651/652/653



	AA	BB	CC	DD	EE
651	121.5	96	50	25	55
652	151	120	66	33	55
653	192	137	90	45	55

Cross Section - Series 651/652/653 Regulator



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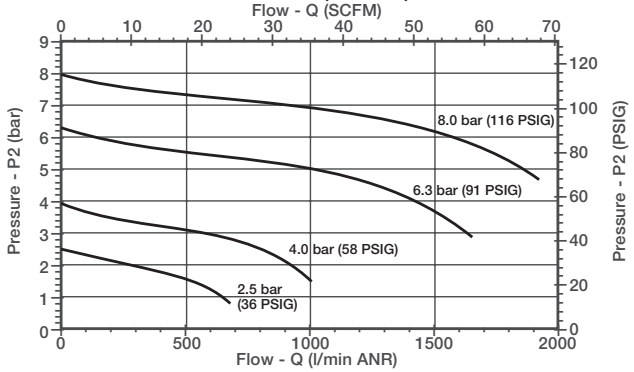
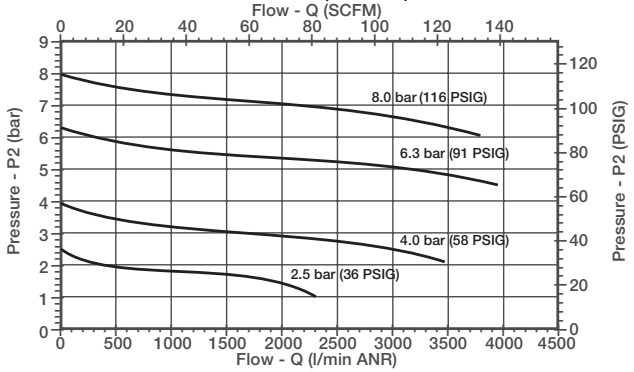
Regulator Flow Charts

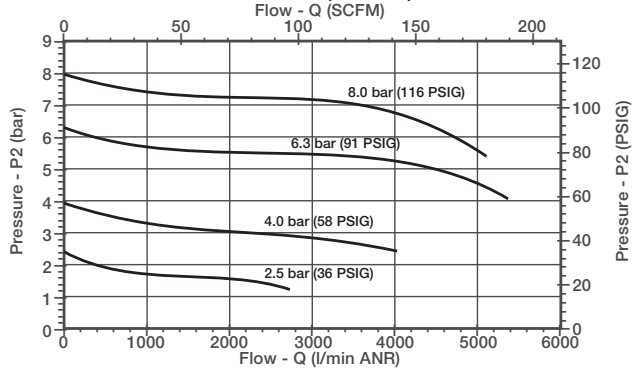
651 Regulator | 1/8 Ports
P1 = 10 bar (145 PSIG)



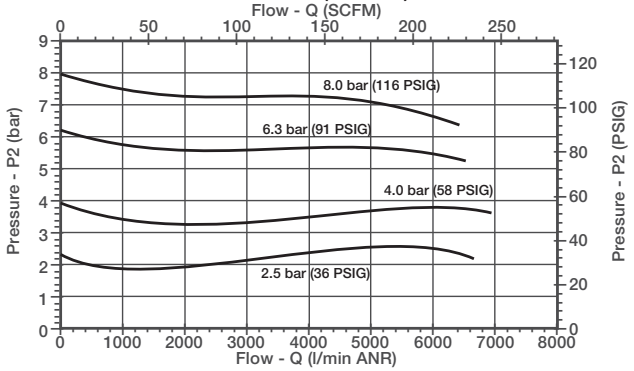
651 Regulator | 1/4 Ports
P1 = 10 bar (145 PSIG)



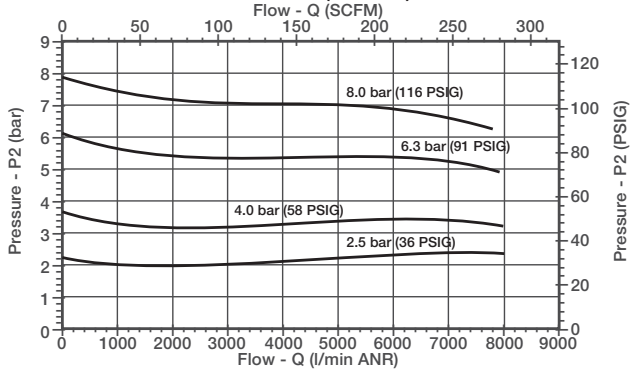
652 Regulator | 1/4 Ports
P1 = 10 bar (145 PSIG)



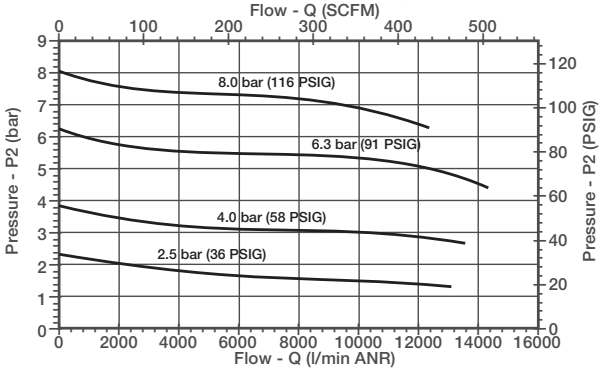
652 Regulator | 3/8 Ports
P1 = 10 bar (145 PSIG)



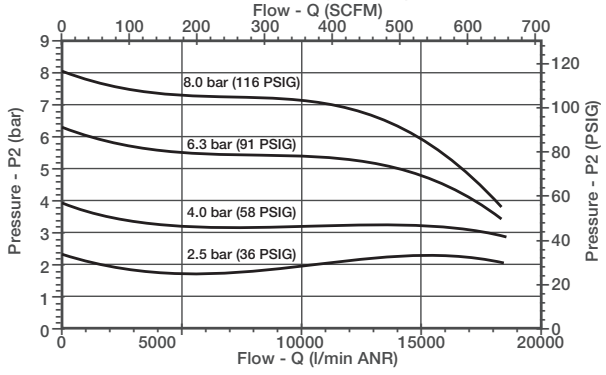
652 Regulator | 1/2 Ports
P1 = 10 bar (145 PSIG)



653 Regulator | 3/4 Ports
P1 = 10 bar (145 PSIG)



653 Regulator | 1" Ports
P1 = 10 bar (145 PSIG)



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