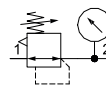


SERIES
651/652/653

REGULATOR

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



Performance Data				
Series	651	652	653	
Port Size	1/8, 1/4	1/4, 3/8, 1/2	1/2, 3/4, 1	
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)	SCFM (L/min ANR)			
	1/8	28.1 (800)	-	-
	1/4	72.6 (2060)	144.2 (4120)	-
	3/8	-	228.6 (6530)	-
	1/2	-	245.0 (7000)	245.0 (7000)
	3/4	-	-	353.1 (10000)
	1	-	-	406.1 (11500)
Maximum Inlet Pressure PSIG (bar) P1	232 (16)		290 (20)	
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)			
	-	-	7 to 232 (0.5 to 16)*	
Pilot Operated Regulator Input-to-Output Pressure Ratio	-	1:1	-	
Ambient Temperature Range °F (°C)	-4 to 122 (-20 to 50)			
Fluid Temperature Range °F (°C)	-4 to 122 (-20 to 50)			
Fluid	Air or Inert Gas			
Weight lbs. (kg)	0.47 (0.215)	0.95 (0.431)	2.43 (1.102)/2.85 (1.293)*	

* High pressure assisted version

Materials in Contact with Fluid	
Body	Aluminum
Seals	NBR/FKM
Springs	Stainless Steel
Poppet	Brass
Stem	PA

How to Order - Regulator

8 651 A R 0 0 2 F A00 G 0

Port Type

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

Product Series

- 651
- 652
- 653

Revision

- A

Product Type

- K = Regulator with Internal Flow Check (652 only)
- ²R = Regulator
- 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 or 653)
- 5 = 3/4 (Series 653)
- 6 = 1 (Series 653)

Pressure Range

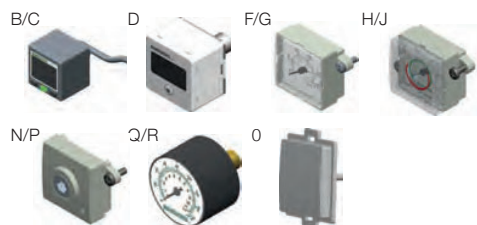
- D = 3–45 PSIG/0.2–3 bar
- E = 3–60 PSIG/0.2–4 bar
- G = 7–125 PSIG/0.5–8 bar
- H = 7–145 PSIG/0.5–10 bar
- N = 7–232 PSIG/0.5–16 bar (653 only)

³ Options

- A00 = No Options
- 101 = Side Mounting Brackets
- 102 = Panel Nut (651 and 652 only)
- 103 = Tamper Resistant
- 104 = Key Lockable
- 105 = High Temperature (80 °C/176 °F)
- ⁴106 = Low Temperature (-40 °C/-40 °F)
- 109 = FKM Seals
- 113 = Stainless Steel Fasteners
- 114 = Provision for Key Lockable Option
- 117 = ATEX Zones 1–21 ⚠
- 119 = Panel Bracket with Panel Nut (651 and 652 only)
- 121 = Non-relieving
- 122 = Bottom Oriented Pressure Adjustment
- 123 = Gauge Type Mounted for Right-to-Left Flow
- 202 = 105 + 109
- 2A9 = 105 + 106

Gauge Type

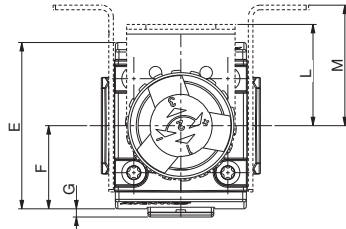
- B = Digital Pressure Switch - PNP
(Rated Pressure - 0-145 PSIG/0-10 bar)
- C = Digital Pressure Switch - NPN
(Rated Pressure - 0-145 PSIG/0-10 bar)
- D = Digital Gauge
(Rated Pressure - 0-145 PSIG/0-10 bar)
- F/G = Low Profile Gauge PSI/bar
- H = Low Profile Gauge bar/PSI
- H/J = Low Profile Gauge 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



- 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 online CAD configurator on the website to generate the part number (www.emerson.com), or consult factory
- 4 Compressed air must be dry enough so no ice formation is present on the product

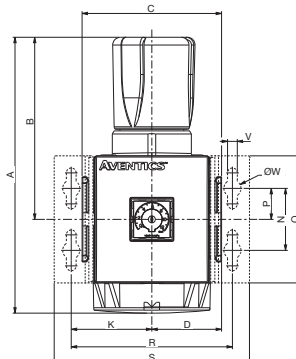
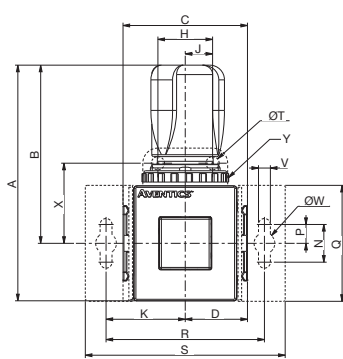
SERIES
651/652/653

Dimensions: mm (inches) Series 651/652/653 Regulator



Series 651/652

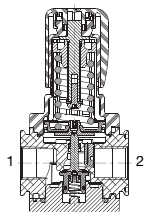
Series 653



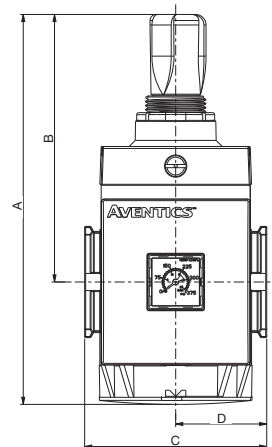
	A	B	C	D	E	F	G	H	J	K	L	M
651	103 (4.06)	77.5 (3.05)	50 (1.97)	25 (0.98)	58 (2.28)	29 (1.14)	3.4 (0.13)	29 (1.14)	14.5 (0.57)	35 (1.38)	42 (1.65)	44.5 (1.75)
652	125 (4.92)	94.5 (3.72)	66 (2.60)	33 (1.30)	69 (2.72)	34.5 (1.36)	2.5 (0.10)	29 (1.14)	14.5 (0.57)	41.75 (1.64)	42 (1.65)	50 (1.97)
653	178.4 (7.02)	117.5 (4.63)	90 (3.54)	45 (1.77)	93 (3.66)	46.5 (1.83)	3 (0.12)	-	-	52 (2.05)	-	62 (2.44)

	N	P	Q	R	S	ØT	V	ØW	X	Y
651	20 (0.79)	10 (0.39)	50 (1.97)	70 (2.76)	92 (3.62)	7 (0.28)	6.3 (0.25)	11 (0.43)	39.1 (1.54)	M30 x 2
652	20 (0.79)	10 (0.39)	61.5 (2.42)	84 (3.31)	106 (4.17)	7 (0.28)	6.3 (0.25)	11 (0.43)	43.5 (1.71)	M37 x 2
653	40 (1.57)	20 (0.79)	82 (3.23)	104 (4.09)	126 (4.96)	-	6.3 (0.25)	11 (0.43)	-	-

Cross Section -
Series 651/652/653 Regulator

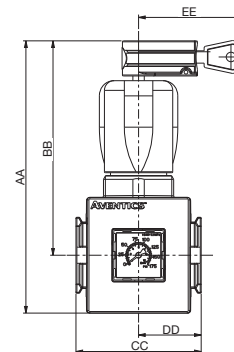


Series 653 High Pressure
Regulator - 232 PSIG (16 bar)



	A	B	C	D	E	F	G
653 High Pressure	193 (7.60)	132 (6.20)	90 (3.54)	45 (1.77)	93 (3.66)	46.5 (1.83)	3 (0.12)

Series 651/652/653



	AA	BB	CC	DD	EE
651	121.5 (4.78)	96 (3.78)	50 (1.97)	25 (0.98)	55 (2.17)
652	151 (5.94)	120 (4.72)	66 (2.60)	33 (1.30)	55 (2.17)
653	192 (7.56)	137 (5.39)	90 (3.54)	45 (1.77)	55 (2.17)

Regulator Flow Charts

