

# In-line Flow Controls

## One-Way Flow Controls, M 5 to G 3/4

### Flow Control Valve, Adjustable

Type GR-...-B



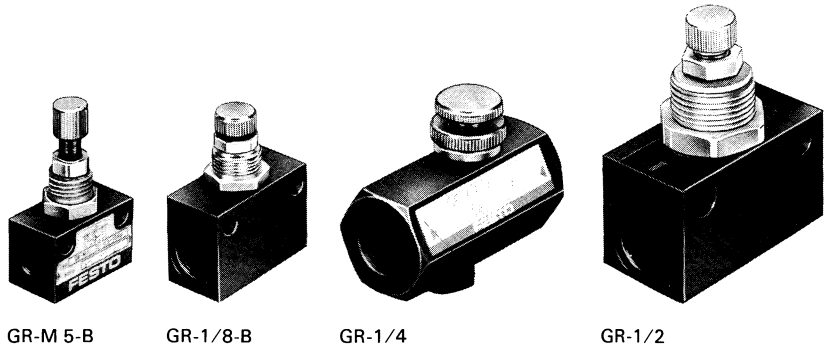
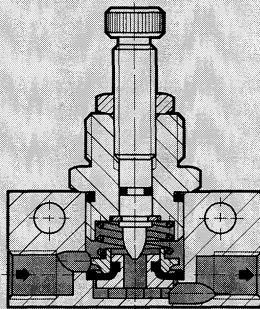
Accessories:  
 Protective cap, Type GRK-... to prevent tampering  
 For GR-M 5-B:  
 Order No. 6436 GRK-M 5  
 For GR-1/8-B:  
 Order No. 2105 GRK-1/8  
 GRA-1/4-B, GR-3/8-B:  
 Order No. 6309 GRK-3/8-B  
 Material: Plastic



Hex nut, Type GRM-...  
 for front-panel mounting  
 For GR-M 5-B:  
 Order No. 6444 GRM-M 5-B  
 For GR-1/8-B:  
 Order No. 2107 GRM-1/8  
 For GRA-1/4-B, GR-3/8-B:  
 Order No. 204596 GRM-3/8  
 Material: Steel

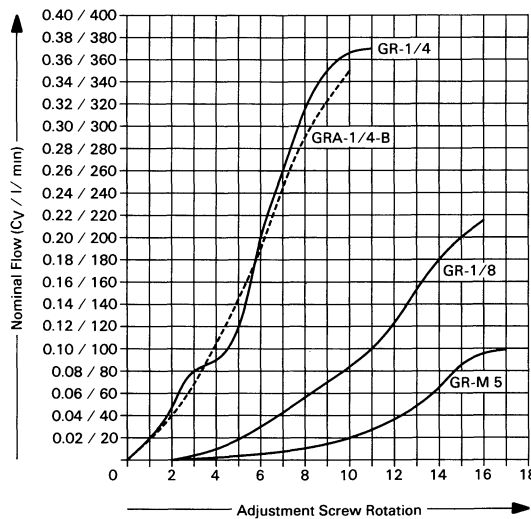


Example: Type GR-3/8-B



These valves are used for regulating flow. (For example, to control the piston speed of a single-acting or double-acting cylinder or as needle valves for back pressure sensing nozzles.) An adjustment screw allows setting the flow of air in one direction. Air is allowed to flow freely in the opposite direction through the open check valve. The adjustment screw regulates flow in the direction shown on the housing.

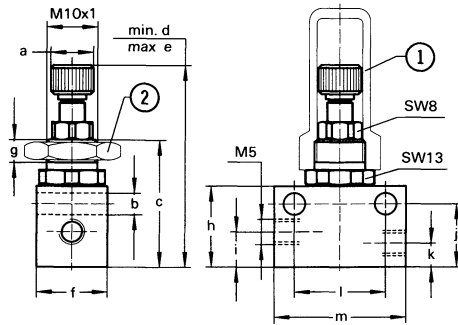
Flow versus Adjustment Screw Rotation



For other dimensions and curves, see page 842

Order Number	Part No./Type	151213 GR-M 5-B	151215 GR-1/8-B	2101 GR-1/4	6509 GRA-1/4-B	6308 GR-3/8-B	3720 GR-1/2	2103 GR-3/4
Medium		Compressed air (filtered, lubricated or unlubricated)						
Mounting		Two holes through housing (not Type GR-1/4), or in-line						
		Front panel mounting		—	Front panel mounting		—	
Connection		M 5	G 1/8 ISO	G 1/4 ISO	G 1/4 ISO	G 3/8 ISO	G 1/2 ISO	G 3/4 ISO
Orifice Size	Controlled Flow	0.06 in / 1.5 mm	0.08 in / 2 mm	0.18 in / 4.5 mm	0.18 in / 4.5 mm	0.28 in / 7 mm	0.35 in / 9 mm	0.71 in / 18 mm
	Free Flow	0.08 in / 2 mm	0.12 in / 3 mm	0.18 in / 4.5 mm	0.23 in / 5.8 mm	0.35 in / 9 mm	0.47 in / 12 mm	0.71 in / 18 mm
Standard Nominal Flow Rate	Controlled Flow	0-0.10 C <sub>V</sub> / 0-96 l/min	0-0.22 C <sub>V</sub> / 0-217 l/min	0-0.37 C <sub>V</sub> / 0-370 l/min	0-0.35 C <sub>V</sub> / 0-350 l/min	0-1.00 C <sub>V</sub> / 0-1000 l/min	0-1.62 C <sub>V</sub> / 0-1620 l/min	0-3.30 C <sub>V</sub> / 0-3300 l/min
	Free Flow	0.11 C <sub>V</sub> / 114 l/min	0.25 C <sub>V</sub> / 247 l/min	0.15 C <sub>V</sub> / 150 l/min	0.78 C <sub>V</sub> / 780 l/min	1.15 C <sub>V</sub> / 1150 l/min	2.70 C <sub>V</sub> / 2750 l/min	4.80 C <sub>V</sub> / 4800 l/min
Pressure Range		7.5 to 150 psi / 0.5 to 10 bar			1.5 to 150 psi / 0.1 to 10 bar			4.5 to 225 psi / 0.3 to 15 bar
Temperature Range		-4° to +167°F / -20° to +75°C						
Design		Needle valve with check valve						
Materials	Housing	Aluminum brass		Aluminum, steel	Diecast Zinc, Aluminum, brass			Aluminum, brass
	Seals	Buna N						
Weight		0.044 lb / 0.020 kg	0.077 lb / 0.035 kg	0.187 lb / 0.085 kg	0.397 lb / 0.180 kg	0.529 lb / 0.240 kg	1.234 lb / 0.560 kg	2.468 lb / 1.120 kg

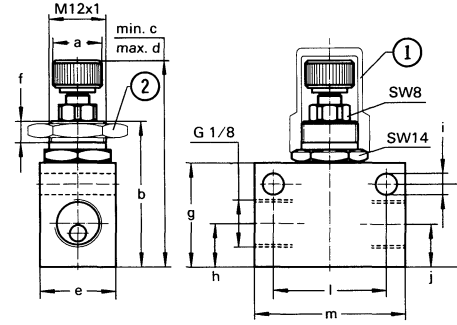
### Type GR-M 5-B



#### Dimensions

a	0.33 in / 8.4 mm
b	0.17 in / 4.3 mm
c	0.99 in / 25.2 mm
d	1.42 in / 36 mm
e	1.57 in / 40 mm
f	0.55 in / 14 mm
g	0.18 in / 4.5 mm
h	0.63 in / 16 mm
i	0.28 in / 7 mm
j	0.49 in / 12.5 mm
k	0.19 in / 4.7 mm
l	0.71 in / 18 mm
m	1.02 in / 26 mm

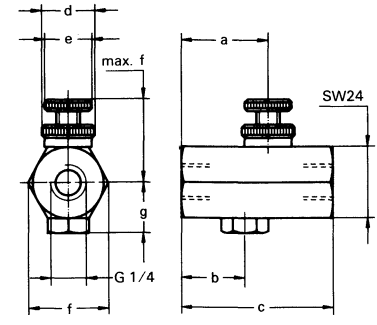
### Type GR-1/8-B



#### Dimensions

a	0.41 in / 10.4 mm
b	1.21 in / 30.8 mm
c	1.61 in / 41 mm
d	1.77 in / 45 mm
e	0.63 in / 16 mm
f	0.16 in / 4.1 mm
g	0.87 in / 22 mm
h	0.36 in / 9.2 mm
i	0.17 in / 4.3 mm
j	0.35 in / 9 mm
k	0.69 in / 17.5 mm
l	0.94 in / 24 mm
m	1.26 in / 32 mm

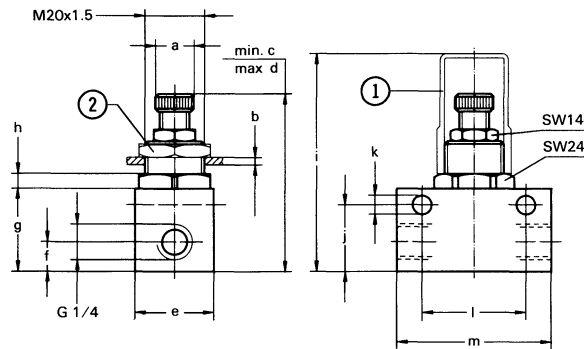
### Type GR-1/4



#### Dimensions

a	1.18 in / 30 mm
b	0.87 in / 22 mm
c	2.05 in / 52 mm
d	0.71 in / 18 mm
e	0.63 in / 16 mm
f	1.10 in / 28 mm
g	0.67 in / 17 mm

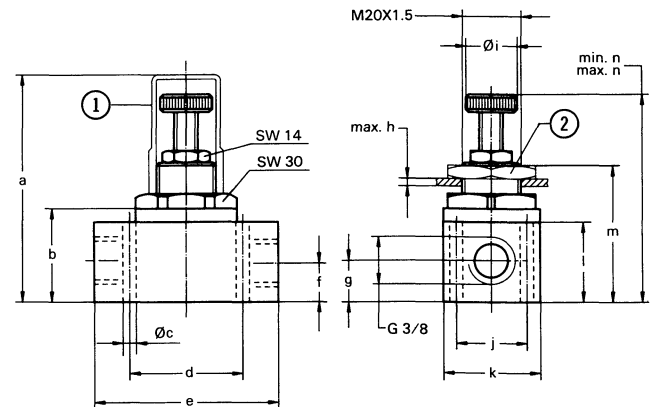
### Type GRA-1/4-B



#### Dimensions

a	0.51 in / 13 mm
b	0.10 in / 2.5 mm
c	2.20 in / 56 mm
d	2.44 in / 62 mm
e	1.00 in / 26.5 mm
f	0.39 in / 10 mm
g	1.10 in / 28 mm
h	0.20 in / 5 mm
i	2.89 in / 73.5 mm
j	0.89 in / 22.5 mm
k	0.25 in / 6.4 mm
l	1.38 in / 35 mm
m	2.05 in / 52 mm

### Type GR-3/8-B



#### Dimensions

a	3.01 in / 76.5 mm
b	1.24 in / 31.5 mm
c	0.18 in / 4.5 mm
d	1.50 in / 38 mm
e	2.44 in / 62 mm
f	0.51 in / 13 mm
g	0.55 in / 14 mm
h	0.14 in / 3.5 mm
i	0.69 in / 17.5 mm
j	0.94 in / 24 mm
k	1.30 in / 33 mm
l	1.06 in / 27 mm
m	1.81 in / 46 mm
n	2.46-2.91 in / 62.5-74 mm

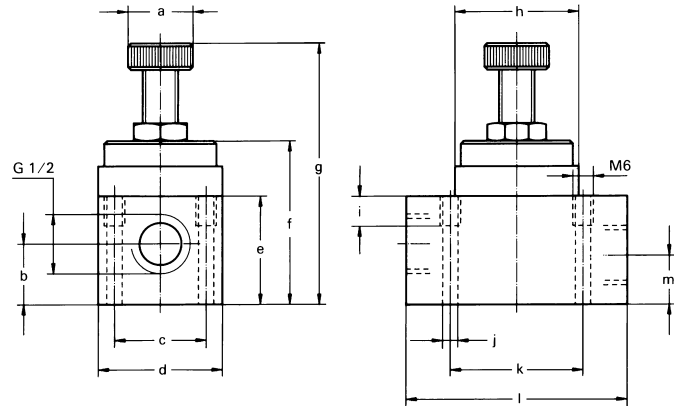
SW = Wrench size (mm)

① Protective cap (order separately)  
 ② Hex nut (order separately)

# In-line Flow Controls

## Dimensions, Flow Characteristics

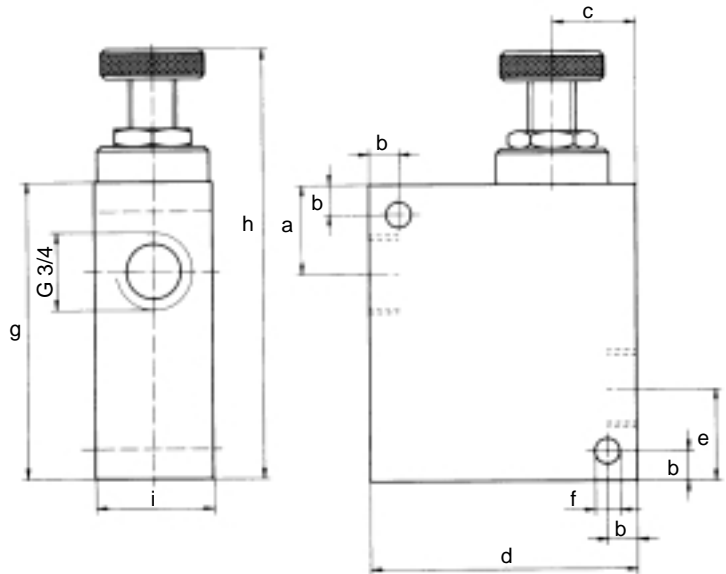
Type GR-1/2



Dimensions

a	0.87 in / 22 mm	h	1.65 in / 42 mm
b	0.81 in / 20.5 mm	i	0.39 in / 10 mm
c	1.22 in / 31 mm	j	0.20 in / 5.2 mm
d	1.65 in / 42 mm	k	1.77 in / 45 mm
e	1.56 in / 39.5 mm	l	2.95 in / 75 mm
f	2.17 in / 55 mm	m	0.65 in / 16.5 mm
g	3.46 in / 88 mm		

Type GR-3/4



Dimensions

a	1.18 in / 30 mm	f	0.33 in / 8.5 mm
b	0.39 in / 10 mm	g	3.94 in / 100 mm
c	1.10 in / 28 mm	h	5.71 in / 145 mm
d	3.54 in / 90 mm	i	1.57 in / 40 mm
e	1.22 in / 31 mm		

Flow versus Adjustment Screw Rotations

