

9400 Series

0 to 3,000 psig Miniature Shutoff Valves



Features

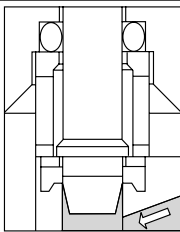
- Leak-proof shutoff
- No stem leakage
- Minimum pressure drop
- Color-coded handles
- Effortless opening & closing
- Knob or toggle handle
- Panel mount
- Metering stem
- Compact size
- Pipe and instrument tube fittings

Technical Data

Body Construction Materials	Brass or 316 stainless steel
Seat Materials	Buna N, Neoprene, Teflon® or Viton®
Operating Pressure	0 to 3,000 psig (207 BAR)
Proof Pressure	0 to 4,500 psig (310 BAR)
Burst Pressure	Over 12,000 psig (828 BAR)
Temperature Range	-80° F to +350° F (-62° C to +177° C) <i>Based on o-ring material, see "How to Order".</i>
Connection Sizes	1/8"–3/8"

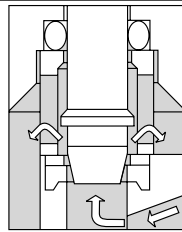
Note: Proper filtration is recommended to prevent damage to sealing surfaces.

How it Works



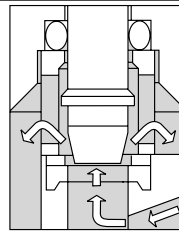
Closed

Leakproof sealing is achieved by engaging a precision-machined stem into a captive nylon seat. The seat cannot be damaged by back pressure. The shoulder, on a stainless steel stem, seats on a metal washer, which in turn is forced against a resilient, non-galling nylon seat to affect a leak-tight seal against the stem.



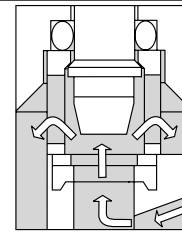
Fine Flow Control

No flow occurs during the first fractional turn of the handle. Precise flow control begins as the stem is withdrawn and continues across the 2° tapered portion of the stem until the handle has been rotated approximately two turns in the opening direction.



Non-critical Flow Control

As the stem is withdrawn further, flow continues across the 10° taper of the stem until full opening is reached.



Full Open

Stem travel past full open position is prevented by a solid, positive metal stop. The handle cannot inadvertently be unscrewed. The o-ring surrounding the stem prevents external leakage. Stem threads are isolated from the flow path to permit lifetime lubrication and to avoid contamination of the fluid.

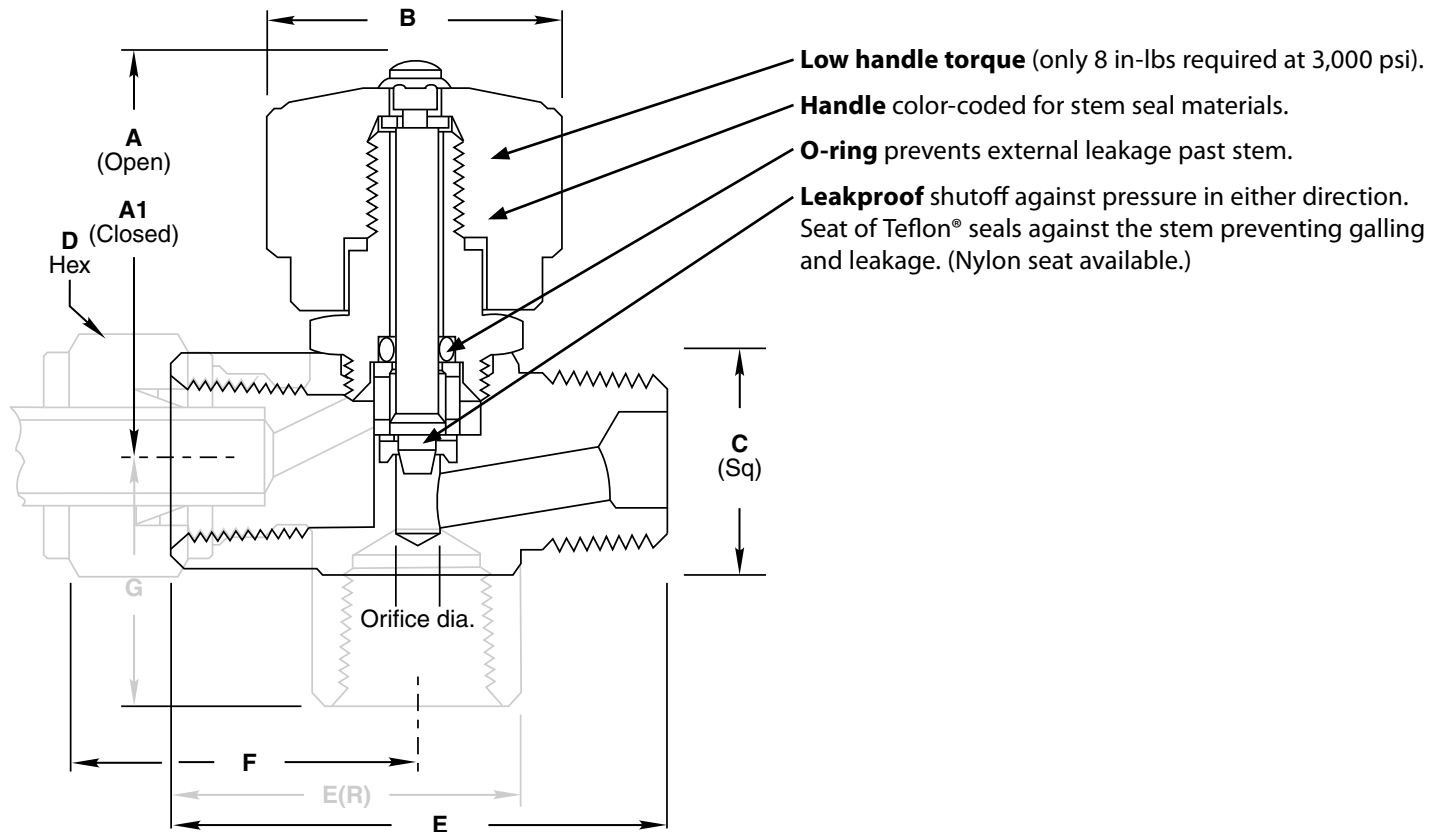
Circle Seal Controls

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 www.circle-seal.com

Shutoff valves

9400 Series

9400/R9400 Series Dimensions & Performance Data



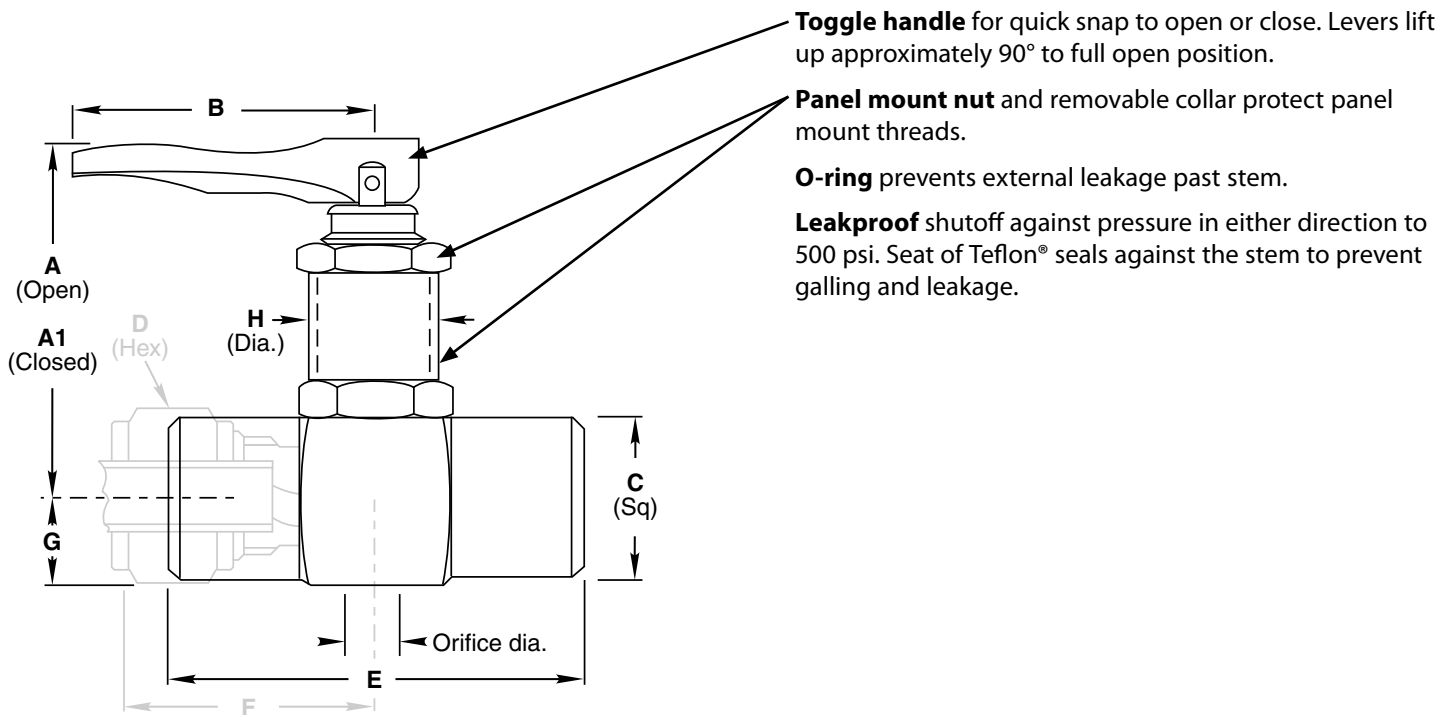
9400/R9400 Series Dimensions (inches)

Dash No.	Size	Connections	Orifice Dia.	Cv	A	A1	B	C	EE(R)	D	F	G
9400 Series												
2MM	¼"	Male pipe	.156	.32	1.610	1.400	1.00	.75	1.68	—	—	—
2MP	¼"	Male/Female pipe	.156	.32	1.675	1.465	1.00	.88	1.68	—	—	—
2PP	¼"	Female pipe	.156	.32	1.675	1.465	1.00	.88	1.86	—	—	—
2CC	⅛"	Tube fittings	.156	.32	1.613	1.303	1.00	.75	—	.437	1.010	—
4CC	¼"	Tube fittings	.156	.32	1.675	1.465	1.00	.88	—	.562	1.040	—
6CC	⅜"	Tube fittings	.156	.32	1.675	1.465	1.00	.88	—	.687	1.125	—
R9400 Series												
2MP	¼"	Male/Female pipe	.156	.32	1.590	1.380	1.00	.75	1.25	—	—	.88
2PP	¼"	Female pipe	.156	.32	1.590	1.380	1.00	.75	1.25	—	—	.88

Operating pressure	<ul style="list-style-type: none"> 9400, R9400 Series, Teflon® seat: 0–2,200 psig (152 BAR) N9400 Series, nylon seat: 0–3,000 psig (207 BAR)
Proof Pressure	<ul style="list-style-type: none"> 9400, R9400 Series, Teflon® seat: 3,300 psig (228 BAR) N9400 Series, nylon seat: 4,500 psig (310 BAR)
Burst Pressure	12,000 psig (828 BAR) minimum
Leakage	Zero—internal and external

9400 Series

T9400 Series Dimensions & Performance Data



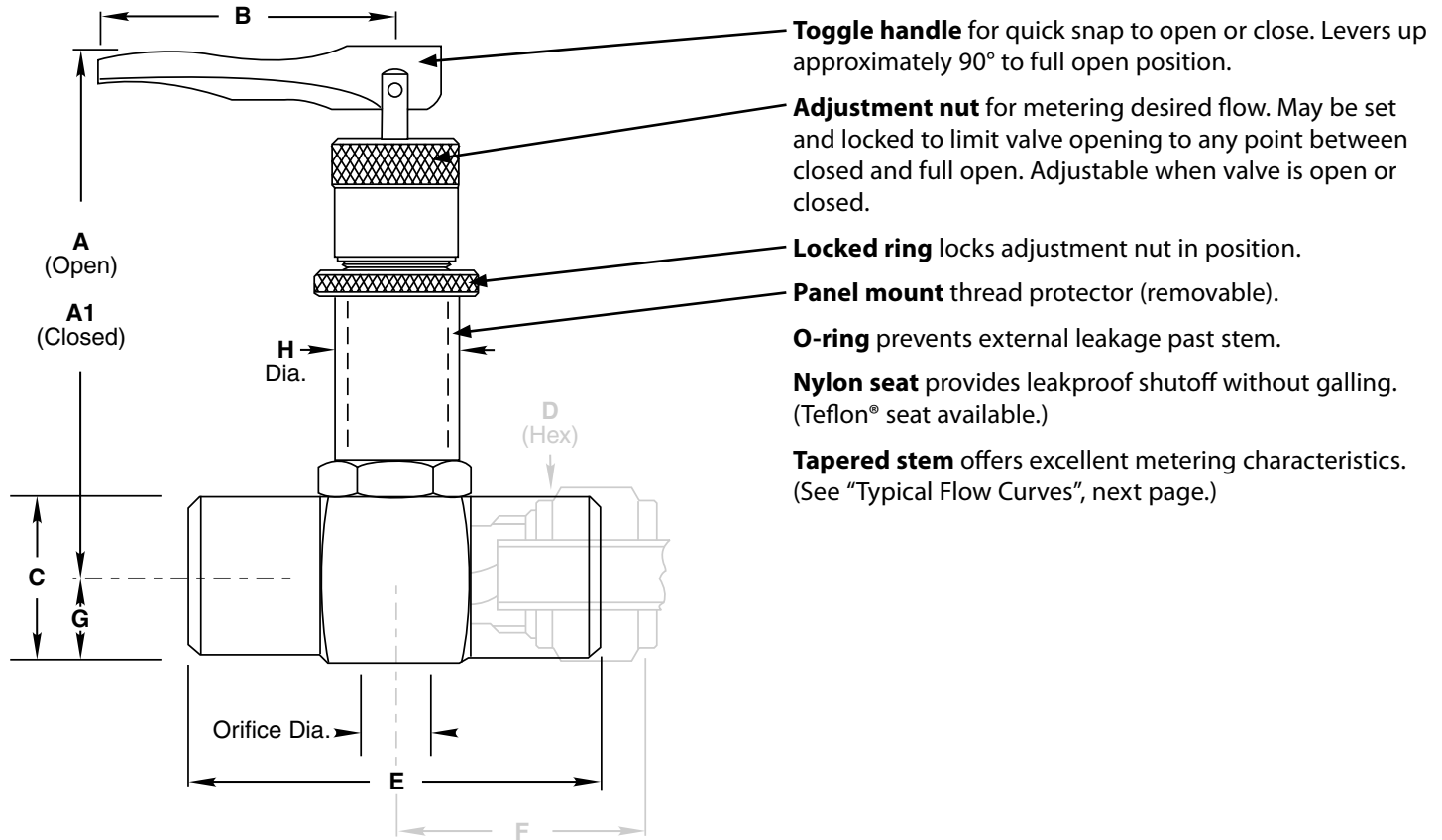
T9400 Series Dimensions (inches)

Dash No.	Size	Connections	Orifice Dia.	Cv	A	A1	B	C	D	E	F	G	H
2MM	¼"	Male pipe	0.156	0.32	2.90	.62	1.39	.75	—	1.68	—	.375	.438
2PP	¼"	Female pipe	0.156	0.32	2.96	1.68	1.39	.88	—	1.86	—	.438	.438
2CC	⅛"	Tube fittings	0.156	0.32	2.84	1.62	1.39	.75	.437	—	1.010	.375	.438
4CC	¼"	Tube fittings	0.156	0.32	3.46	1.67	1.39	.88	.562	—	1.040	.438	.438
6CC	⅜"	Tube fittings	0.156	0.32	3.46	1.67	1.39	.88	.687	—	1.125	.438	.438

Operating pressure	0–500 psig (34 BAR)
Proof Pressure	750 psig (52 BAR)
Burst Pressure	2,000 psig (138 BAR) minimum
Leakage	Zero—internal and external
Operating Temperature	250° F maximum (plastic handle limitation)

9400 Series

TM9400 Series Dimensions & Performance Data



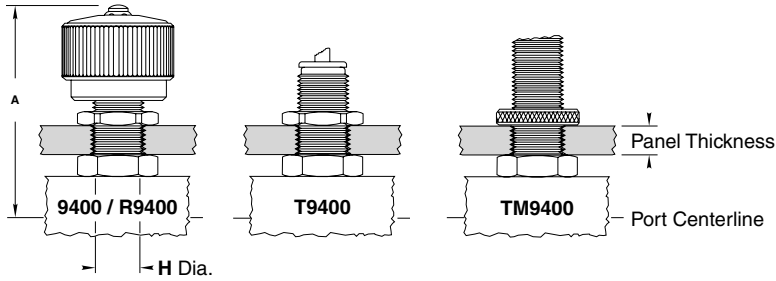
TM9400 Series Dimensions (inches)

Dash No.	Size	Connections	Orifice Dia.	Cv	A	A1	B	C	D	E	F	G	H
2MM	¼"	Male pipe	0.156	0.32	4.00	2.67	1.39	.75	—	1.68	—	.375	.563
2PP	¼"	Female pipe	0.156	0.32	4.06	2.73	1.39	.88	—	1.86	—	.438	.563
2CC	⅛"	Tube fittings	0.156	0.32	3.45	2.61	1.39	.75	.437	—	1.035	.375	.563
4CC	¼"	Tube fittings	0.156	0.32	4.00	2.67	1.39	.88	.562	—	1.040	.438	.563
6CC	⅜"	Tube fittings	0.156	0.32	4.00	2.67	1.39	.88	.687	—	1.045	.438	.563

Operating pressure	<ul style="list-style-type: none"> Nylon seal: vacuum to 3,000 psig (207 BAR) Teflon® seal: vacuum to 1,000 psig (69 BAR)
Proof Pressure	<ul style="list-style-type: none"> Nylon seal: 4,500 psig (310 BAR) Teflon® seal: 1,500 psig (103 BAR)
Burst Pressure	<ul style="list-style-type: none"> Nylon seal: 12,000 psig (828 BAR) minimum Teflon® seal: 4,000 psig (276 BAR) minimum
Leakage	Zero—internal and external
Operating Temperature	250° F maximum (plastic handle limitation)

9400 Series

9400 Series Panel Mounted



Dimensions (inches)

9400 Series

Type	A		H
	Open	Closed	
2MM	2.07	1.86	.438
2PP	2.13	1.92	.438
2MP	2.13	1.92	.438
2CC	2.07	1.86	.438
4CC	2.13	1.92	.438
6CC	2.13	1.92	.438

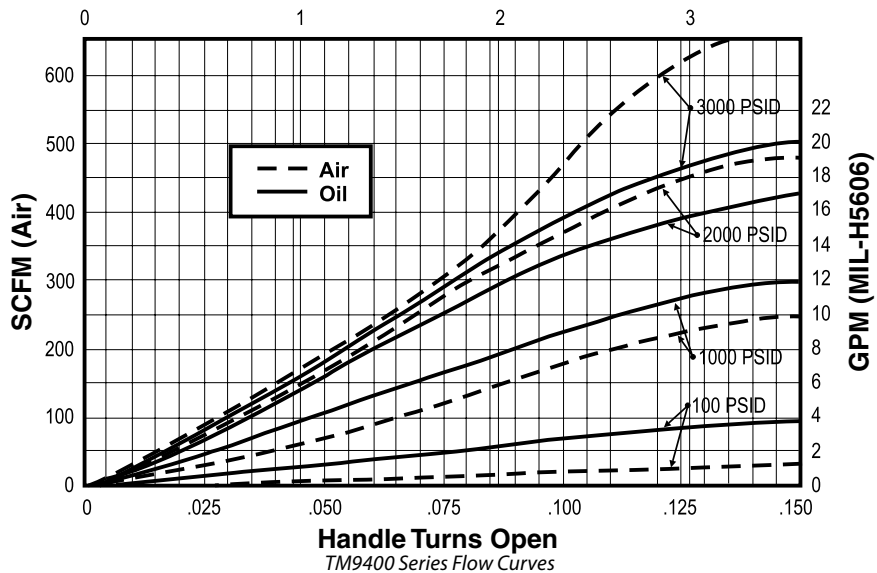
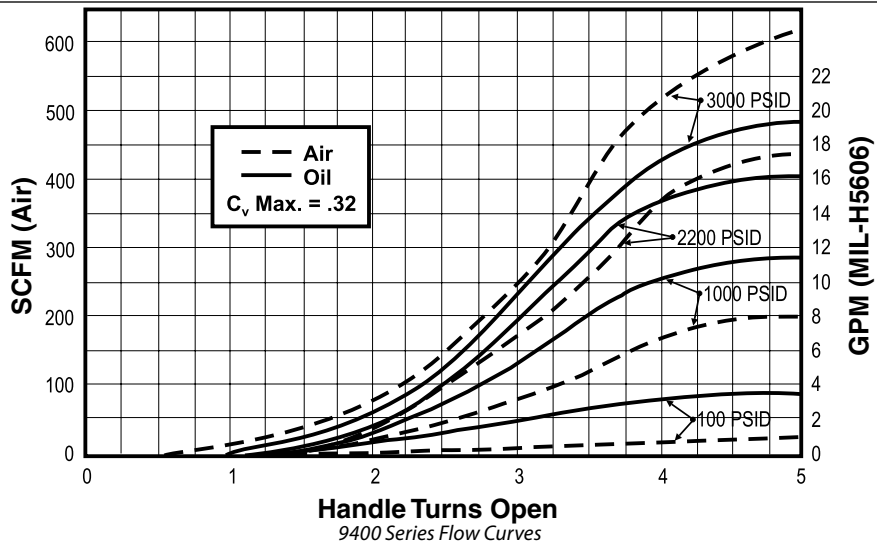
R9400 Series

Type	A		H
	Open	Closed	
2MP	2.05	1.84	.438
2PP	2.05	1.84	.438

Panel thickness (inches)

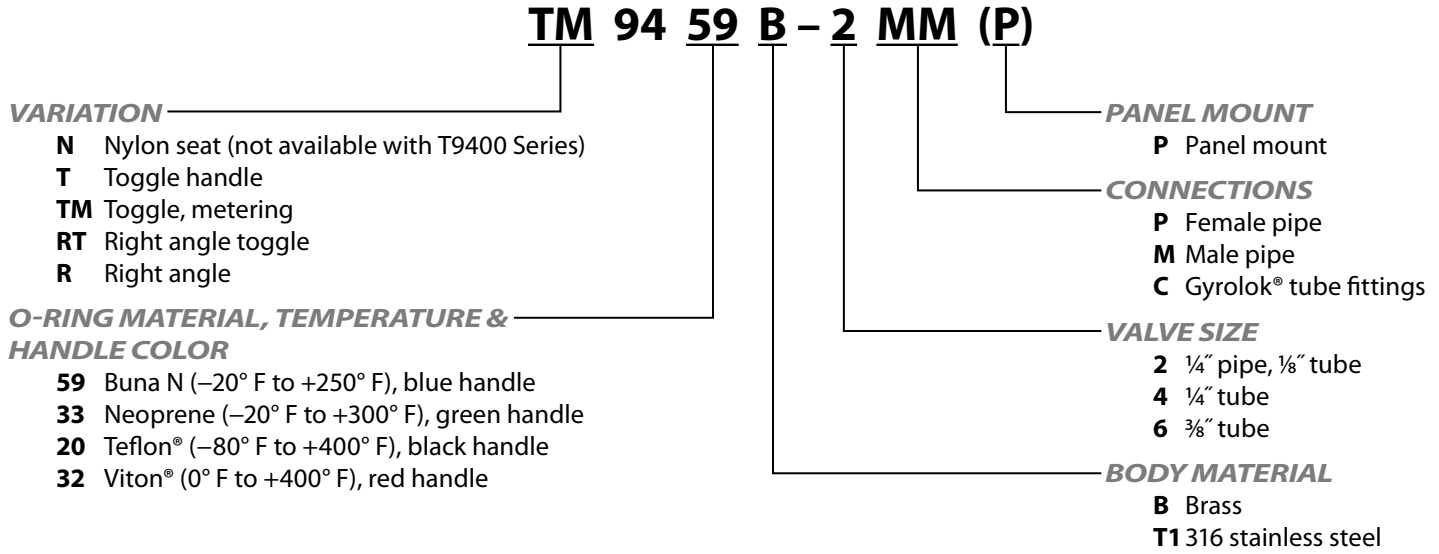
9400, R9400 Series	0.060 to 0.340
9400-CC Series	0.100 to 0.340
T9400 Series	0.060 to 0.530
T9400-CC Series	0.060 to 0.440
TM9400 Series	0.060 to 0.810

Typical Flow Curves



9400 Series

How to Order



Please consult your Circle Seal Controls distributor or our factory for information on special connections, materials, larger sizes, o-rings, operating pressures and temperature ranges.

Repair Kits

In normal service, the only part(s) which may require replacement is(are) the seal(s). A repair kit may be ordered by placing a "K/" in front of the complete part number (i.e. K/9459B-2MM).

For Your Safety

It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.