4.4

Fine throttle valve

Type F

Sizes 5 and 10
Up to 210bar
Up to 80 L/min

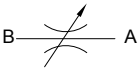
Contents

Features

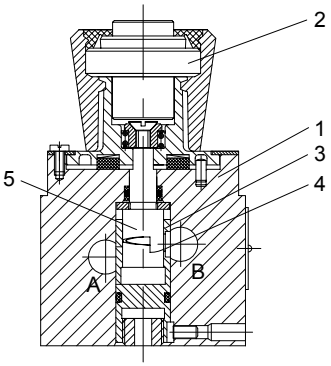
- Sub-plate mounting
- Threaded connections
- Manifold mounting
- Lockable rotary knob

Function and configuration

Flow control valves, type F are fine throttle valves with orifice . They are basically comprised of housing (1), adjustment element (2) and thin-blade orifice (3). Throttling flow is almost independent of temperature variations.
Throttling flow from A to B is carried out at orifice aperture (4). The throttle opening is adjusted by rotating cylindrical spool (5). The low dependence on temperature is due to an thin-blade orifice.



Flow direction:A→B



Ordering code

F | | | 3 — ⁄ | | | ★

Fine throttle valve

Nominal size 5 = 5
Nominal size 10 = 10

For manifold mounting = K
For threaded connection = G
For sub-plate mounting = P

L20 to L29 Series (version K) =L2X
(L20 to L29: unchanged installation and connection dimensions)
L30 to L39 Series (versions G and P) =L3X
(L30 to L39: unchanged installation and connection dimensions)

Further details in clear text

No code = NBR seals
V = FKM seals

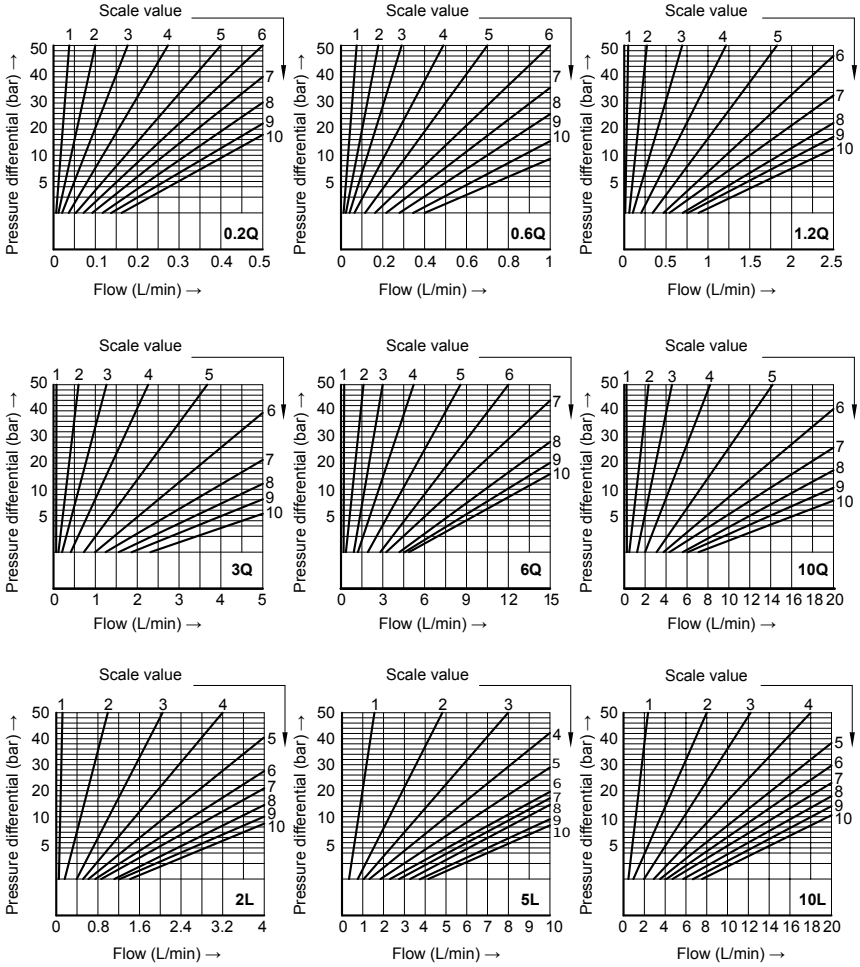
Threaded connection
No code= Inch
2 = Metric

Size 5	Size 10	
Non-linear	Non-linear	Linear
Orifice 0.2=0.2Q		Orifice 2=2L
Orifice 0.6=0.6Q	Orifice 5=5Q	Orifice 5=5L
Orifice 1.2=1.2Q	Orifice 10=10Q	Orifice 10=10L
Orifice 3=3Q	Orifice 16=16Q	Orifice 16=16L
Orifice 6=6Q	Orifice 25=25Q	Orifice 25=25L
Orifice 10=10Q		Orifice 50=50L

Technical data

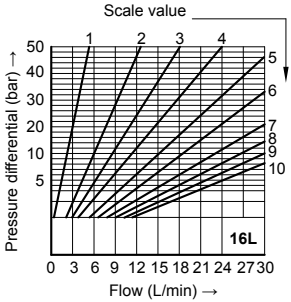
Installation position			Optional
Weight	– Manifold mounting	kg	1
	– Theaded connection	kg	1.6
	– Sub-plate mounting	kg	1.8
Fluid			Mineral oil suitable for NBR and FKM seal
			Phosphate ester for FKM seal
Degree of contamination			Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406
Fluid temperature range		°C	-30 to +80 (NBR seal)
			-20 to +80 (FKM seal)
Viscosity range		mm^2/s	2.8 to 380
Max.operating pressure		bar	210
Max. flow-rate		L/min	80
Adjustment angle		°	300
Operating torque	– at 100bar	Nm	1.1
	– at 200bar	Nm	1.8

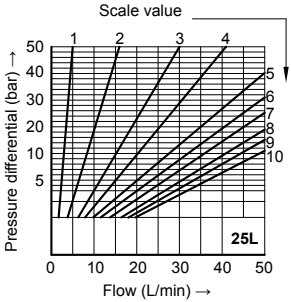
Characteristic curves (Measured at ϑ_{oil}=40°C ±5°C , using HLP46)

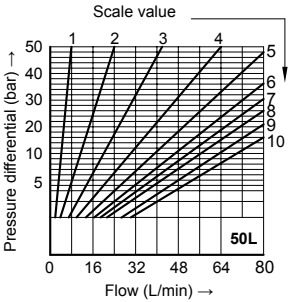


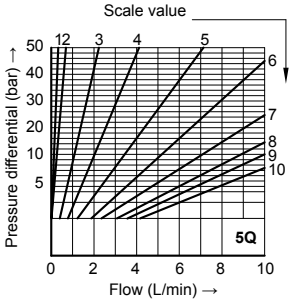
Characteristic curves

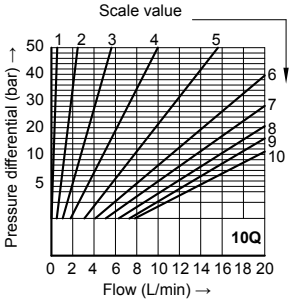
(Measured at ϑ_{oil}=40°C ±5°C , using HLP46)

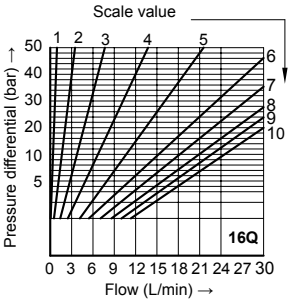


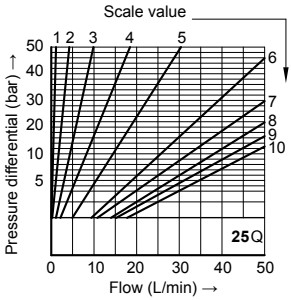








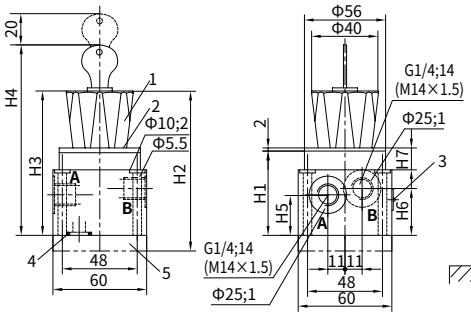




Unit dimensions

(Dimensions in mm)

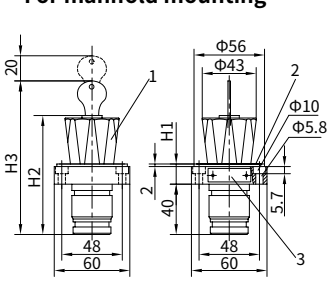
· For thread connection and sub-plate mounting

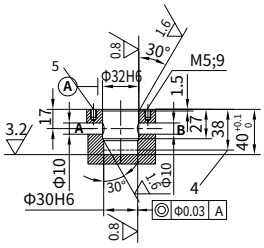


1 Rotary knob safety lock (lock in any position) Rotates through 300° =10 scale divisions
2 Scale disc
3 Nameplate
4 O-ring 12×2.5
5 Cover plate (only available in threaded connection)

Size	5	10
H1	56	58
H2	105	107
H3	95	97
H4	122	124
H5	26	22
H6	30	27
H7	12	14

· For manifold mounting

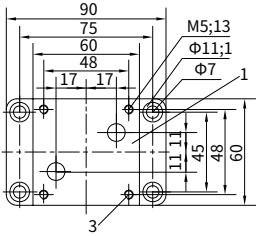


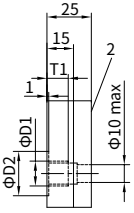


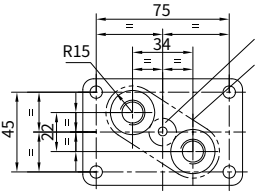
1 Rotary knob safety lock (lock in any position) Rotates through 300° =10 scale divisions
2 Scale disc 3 Nameplate
4 Fit depth
5 4 pcs screws: GB/T70.1-M5×16-10.9, tightening torque M_A =6.1Nm

Size	5	10
H1	16	18
H2	93	95
H3	120	122

· Sub-plate







1 Valve mounting surface
2 Surface ground
3 Valve mounting holes
4 Ø20 keep free for valve function
5 Front panel cut-out

Ordering type	Weight	D1	D2	T1	Valve mounting screw	M_A
G44/01(02)	0.9kg	G1/4(M14×1.5)	25	12	4 cylinderical screws	6.1Nm
G45/01(02)		G1/2(M22×1.5)	32	14	M5×50(GB/T70.1-10.9)	