



Ultra High Resolution Proportional Pressure Regulator

QKL-B1HF



Features

- ◆ Micro Flow Control
- ◆ High Precision
- ◆ High Sensitivity

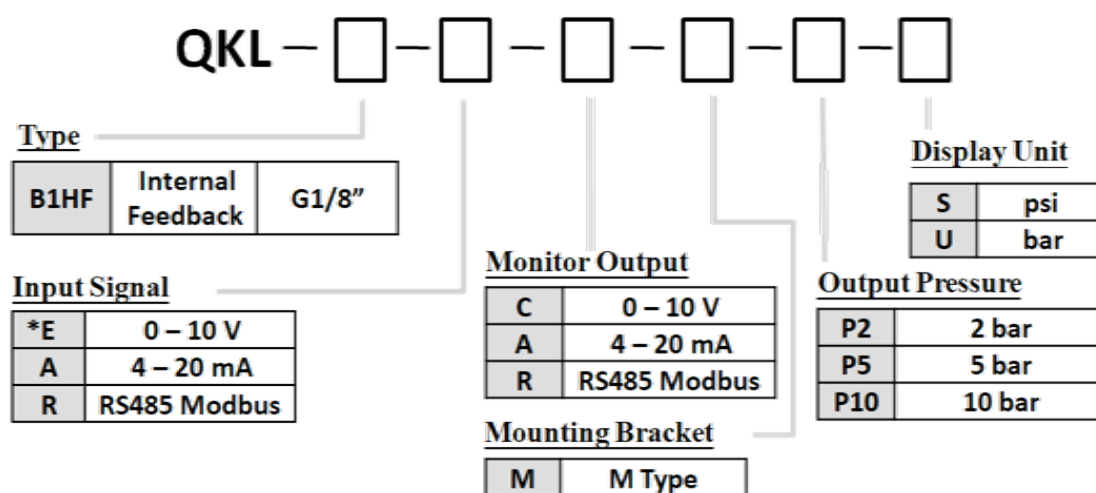
Applications

- ◆ High resolution pressure control
- ◆ Dynamic proportional pressure control
- ◆ High resolution flow rate control

The QKL-B1HF is an ultra-high resolution proportional control valve. This series is an electronically controlled closed loop pressure regulator. The device converts a command signal to customers' specified pressure range. The QKL-B1HF consists of a control circuit board, one solenoid valve, an integral electronic pressure sensor. The control board compares the command signal to the integral pressure sensor, then drives the solenoid valve so that desired pressure is maintained even if the required flow rate varies. Two types of pressure regulator can be selected: pressure controller with built-in bleed, or pressure controller without built-in bleed. With built-in bleed version, the application does not consume any gas. The valve acts as pressure regulator with small exhaust capacity. Without built-in bleed version, the application consumes gas or the gas is flammable. There is also a selection of different venting orifice made from ruby, converting this pressure regulator to a high accuracy and high resolution gas flow rate controller. Please consult us for suitable orifice.

All our products have CE, SGS, RoHS certification with ISO13485 quality system.

Ordering Code



*For Command Signal type 0-10V, the minimum driving current is 3mA.



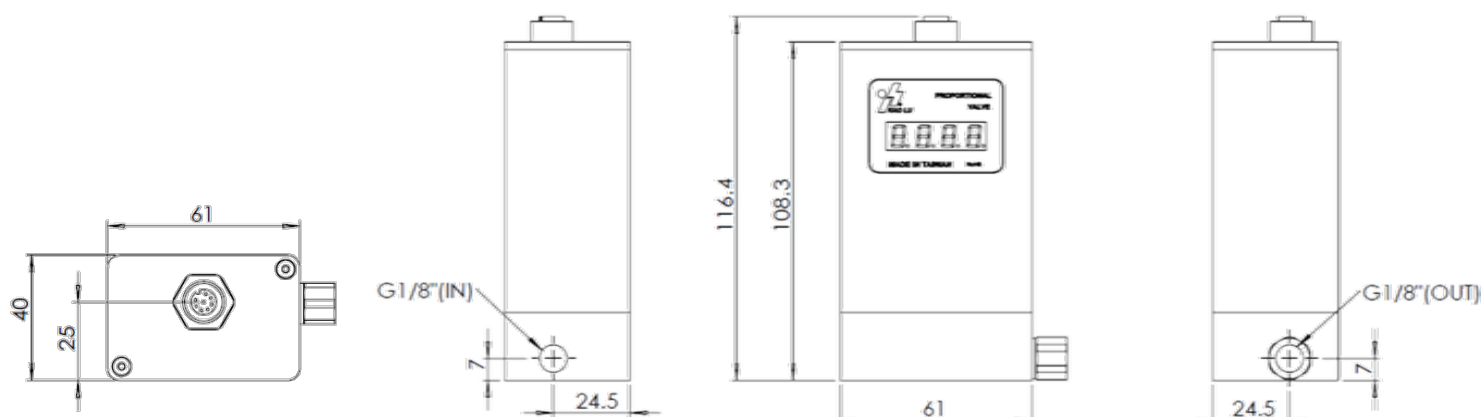
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Specifications

Type	QKL-B1HF		
Output Range	2 bar(29psi)	5 bar(72psi)	10 bar(145psi)
Supply Pressure Max	3 bar(43.5psi)	10 bar(145psi)	20 bar(290psi)
Input Signal	0-10V / 4-20mA / RS485		
Monitor Output	0-10V / 4-20mA / RS485		
Power Supply	DC24V ($\leq 5W$)		
Medium	Clean compressed air or with 5 μm filter		
Repeatability	$\pm 0.05\%$ F.S.		
Resolution(max)	$\pm 0.03\%$ F.S.		
Accuracy	$\pm 0.1\%$ F.S.		
Hysteresis	$\pm 0.1\%$ F.S.		
Flow Rate	3L/min @ 1bar (orifice: 0.5mm) 60L/min@1bar(orifice: 3.0mm)		
Temp. Range(Operating)	0 ~ 70 $^{\circ}C$ (32 ~ 158 $^{\circ}F$)		
Port Size	G1/8"		
Manifold Material	Aluminum		
Wetted Materials	Aluminum, Stainless steel, Brass, FKM		
Electrical Connection	M12 Connector(2m)		
Ruby orifice selection (without built-in bleed)	0.2 / 0.3 / 0.4 / 0.5 / 0.6 mm		

Overall Dimension





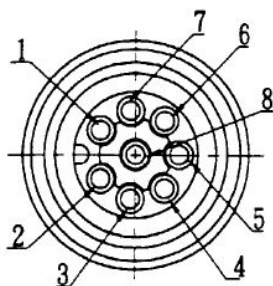
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Flow capability with various orifice size

Orifice(mm)	Inlet pressure(Bar)	Min. starting flow(ml/min)	Max. flow(ml/min)	Resolution(ml/min)
0.05	2	2.1	51	0.8
	5	3.3	103	1.3
	10	4.7	193	1.8
0.1	2	8	205	3.2
	5	13	413	5.1
	10	18.5	772	7.2
0.2	2	33.6	820	12.8
	5	53	166	21
	10	74	3,090	29
0.3	2	75.6	1,850	29
	5	118	3,710	45.6
	10	167	6,954	64.5
0.4	2	134	3,290	51.2
	5	210	6,602	81
	10	296	12,360	115
0.5	2	210	5,140	80
	5	327	10,310	127
	10	463	19,310	179
0.6	2	300	7,400	115
	5	471	14,850	183
	10	666	27,817	258
1	2	840	20,550	320
	5	1,310	41,250	507
	10	1,850	77,270	715

Wiring Description



※The wiring diagram shows from top view.

No.	Color	Function
1	Blue	24V DC Power (-)
2	Brown	24V DC Power (+)
3	Black	Monitor output (+)
4	White	0-10 V Command (+) 4-20 mA Command (+)
5	Gray	RS485(D-)
6	-	-
7	purple	Command (-) Monitor output (-)
8	Red	RS485(D+)



Warning: Do not rotate the connection socket when connected, to avoid damage to the internal sensor.