



超高精度壓力比例閥

Ultra High Resolution Proportional Pressure Regulator

QKL-B1TR · QKL-B4HR



產品特色 Features

- ◆ 輕巧易安裝
Compact
- ◆ 高精度
High Precision
- ◆ 高靈敏度
High Sensitivity
- ◆ 廣泛壓力範圍
Wide Pressure Range

產業應用 Applications

- ◆ 低壓洩漏測試
Leak Testing At Low Pressure
- ◆ 微流控流量控制
Microfluidics Flow Control
- ◆ 點膠設備
Dispensing
- ◆ 多段壓力控制
Multi-Stage Pressure Control

QKL-B1TR/QKL-B4HR 為一款超高解析度電控壓力比例閥，可提供±0.005%的移動精度，該比例閥適合針對隨時需要精準調控壓力變化與監控壓力值的產業。

此系列為一個閉環迴路設計，由兩個電磁閥、壓力感測器以及電子迴路控制所組成，且配有極小的 0.1mm 排氣孔(1/8"PT 牙孔)。根據輸入訊號，兩個電磁閥一個作為入氣控制，另一個作排氣控制及恆定的出氣，以保持精確的壓力輸出。該系列具有高速、高解析度的壓力變化；壓力輸出由內部壓力感測器測量，該感測器再向電子控制器提供回饋訊號。

我們的比例閥輸入信號及監控訊號皆提供了 0-10VDC(電壓) 與 4-20mA(電流) 及 RS485 ModBus 通訊可選擇。所有的產品皆有 CE、SGS、RoHS 及 ISO13485 品質認證。

QKL-B1TR/QKL-B4HR is ultra high resolution electro-pneumatic proportional pressure control valves provides a step control of ±0.005% F.S. , ideal for very sensitive applications.

This series is a complete closed loop servo system consisting of two solenoid valves, an internal pressure transducer, and electronic controls.

A bleed orifice of 0.1mm (M5 exhaust) comes with this series. Based on input signal, the pressure is controlled by two solenoid valves and the bleed to maintain precise pressure; one valve functions as inlet control, the other as exhaust, and a constant bleed. This series features fast and high resolution pressure change. The pressure output is measured by an internal feedback pressure transducer that provides a feedback signal to the electronic controls. There are 3 selections of input signal and monitor signal: 0-10VDC, 4-20mA or RS485 ModBus.

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

型號選擇 Ordering Code

QKL - [] - [] - [] - [] - [] - []

Type

B1TR	Internal Feedback	1/8"PT
B4HR	Feedback	

Input Signal

*E	0 - 10 V
A	4 - 20 mA
R	RS485 Modbus

Monitor Output

C	*0 - 10 V
A	4 - 20 mA
R	RS485 Modbus

Output Pressure

P2	2 bar
P5	5 bar
P10	10 bar

Display Unit

S	psi
U	bar

Mounting Bracket

M	M type
L	L type

*若控制訊號選擇 0-10V，請留意最小的驅動電流為 3mA。
For Command Signal type 0-10V, the minimum driving current is 3mA.



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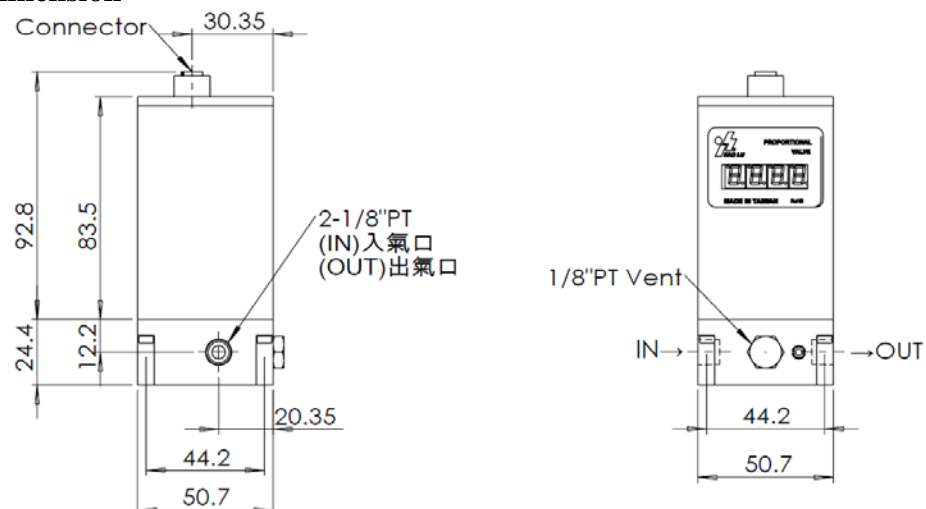
QKL-B1TR · QKL-B4HR

產品規格 Specifications

系列 Type	QKL-B1TR			QKL-B4HR		
輸出壓力 Output Range	2 bar (29psi)	5 bar (72psi)	10 bar (145psi)	2 bar (29psi)	5 bar (72psi)	10 bar (145psi)
最大入氣壓力 Supply Pressure Max.	4 bar (58psi)	7 bar (101.5psi)	12 bar (174psi)	3 bar (43.5psi)	10 bar (145psi)	12 bar (174psi)
輸入訊號 Input Signal	0-10V / 4-20mA / RS485					
監控信號 Monitor Output	0-10V / 4-20mA / RS485					
工作電源 Power Supply	DC24V (≤3W)			DC24V (≤5W)		
介質 Medium	Clean compressed air or with 5 μm filter					
重複精度 Repeatability	±0.02% F.S.			±0.05% F.S.		
解析度 Resolution(max.)	±0.005% F.S.			±0.01% F.S.		
綜合精度 Accuracy	±0.1% F.S.			±0.1% F.S.		
遲滯 Hysteresis	±0.1% F.S.			±0.1% F.S.		
流量 Flow Rate	2.5L/min @ 1bar (orifice: 0.45mm)			3L/min @ 1bar(orifice: 0.5mm) 120L/min@1bar(orifice: 3.0mm)		
使用溫度範圍 Temp. Range(Operating)	0 ~ 70 °C (32 ~ 158 °F)					
口徑 Port Size	1/8" PT					
底座材質 Manifold Material	鋁合金 Aluminum					
接液材質 Wetted Materials	鋁合金、不銹鋼、銅、氟橡膠 Aluminum, Stainless steel, Brass, FKM					
電器連接 Electrical Connection	M12電氣端子(2米) M12 Connector(2m)					
防護等級 Ingress Protection	IP 65					

外觀尺寸 Overall Dimension

QKL-B1TR





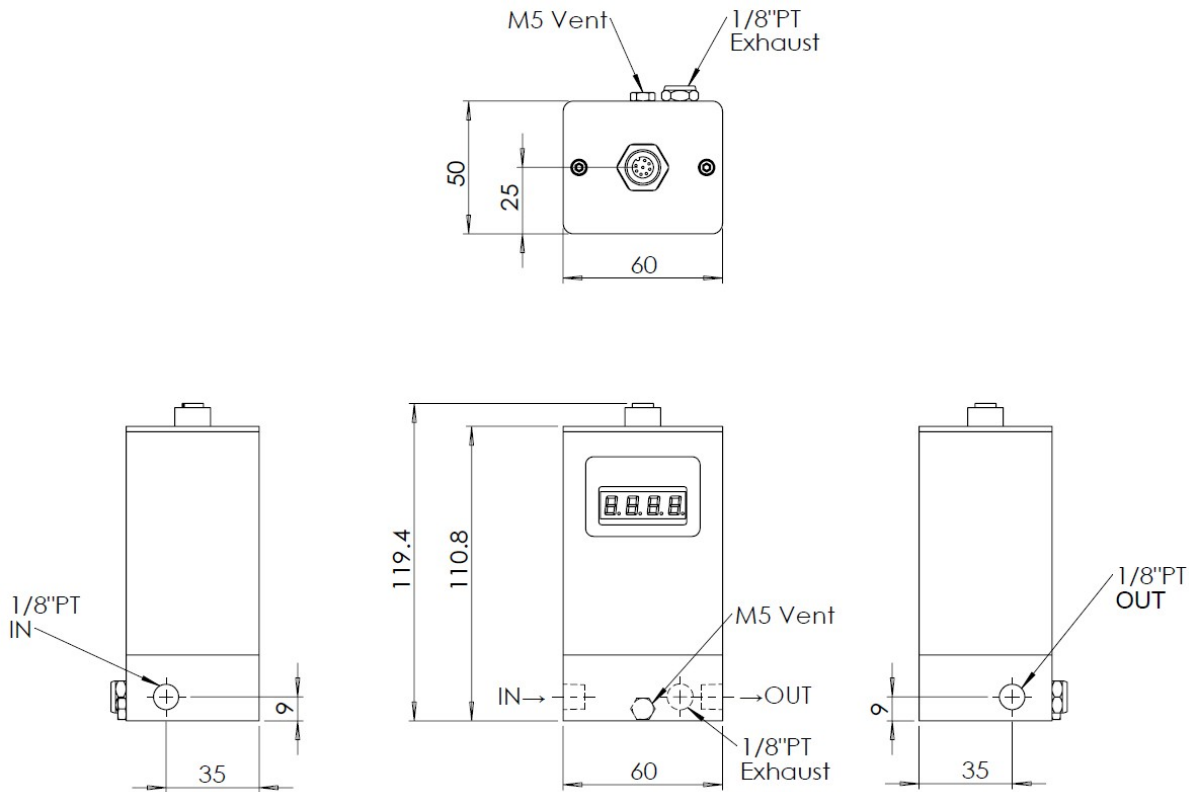
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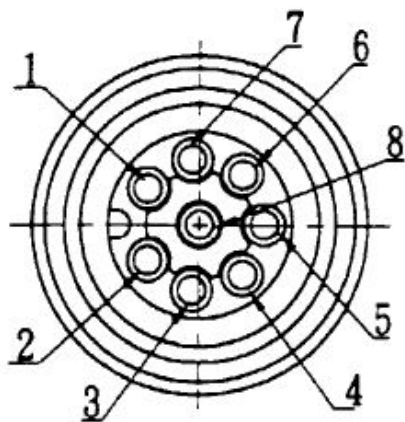
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外觀尺寸 Overall Dimension

QKL-B4HR



接線方式 Wiring Description



※此接線圖為線材公座俯視圖
The wiring diagram shows from top view.

編號 No.	顏色 Color	功能 Function
1	藍色 Blue	電源(-) 24V DC Power (-)
2	棕色 Brown	電源(+) 24V DC Power (+)
3	黑色 Black	監控輸出(+) Monitor output (+)
4	白色 White	模擬訊號(+) 0-10 V Command (+) 4-20 mA Command (+)
5	灰色 Gray	RS485(D-)
6	-	-
7	紫色 purple	模擬訊號(-) Command (-) 監控輸出(-) Monitor output (-)
8	紅色 Red	RS485(D+)

警告: 當安置完成信號線後,切勿旋轉拉扯插頭,以避免內部感測器受到損害,造成產品功能異常或故障。

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