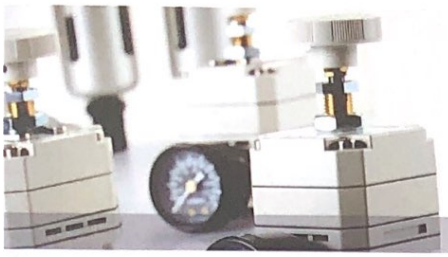


精密型調壓閥
Precision Air Pressure Regulator

PIR系列-精密型調壓閥/PIR Series-Precision Regulator

訂購代號/Order No.

PIR 3020 - 02 - HR - ☐

① ② ③ ④ ⑤

① 型式/Order No.

PIR:白色本體/Body color:White
PIRB:黑色本體/Body color:Black

② 設定壓力範圍/Regulating Pressure Range

型式(Type)	設定壓力範圍(Regulating Pressure Range)	
	Bar	psi
3000	0.13-2.7	2-40
3010	0.13-4.1	2-60
3020	0.13-8.2	2-120

③ 管接續口徑/Port Size

	PF直牙(G牙) Bspp Thread	
編號(Code)	02	03
尺寸(Size)	G1/4	G3/8

④ HR:大排氣量/High Relief Regulator

* 此型式只適用於PIR(B)3020
* The type is model PIR(B)3020 only.

⑤ 附屬品(選配)/Accessory (Option)

無記號(Nil)	無(None)
B640	附安裝架 (With bracket)
K40210	附10 Bar 壓力錶 (With pressure gauge:10Bar)
K40204	附4 Bar 壓力錶 (With pressure gauge:4Bar)

規格/Specifications

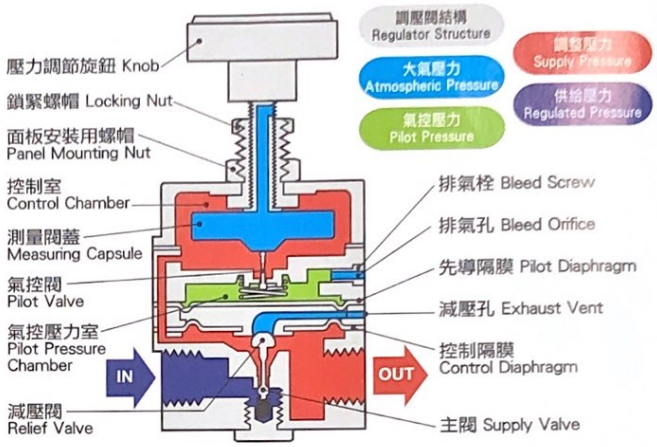
項目/Term \ 型式/Type	PIR3000 PIRB3000	PIR3010 PIRB3010	PIR3020 PIRB3020	PIR3020-HR PIRB3020-HR
使用流體/Working Fluid	壓縮清潔空氣 Clean Compressed Air			
壓力設定範圍/Set Pressure Range	2~40psi	2~60psi	2~120psi	
一次側壓力範圍/Supply Pressure Range	10 Bar			
① 反覆再現性/Repeatability	±0.1以內% F.S. / Within ±0.1%F.S.			
① 靈敏度/Pressure Sensitivity	0.1以內% F.S. / Within 0.1%F.S.			
減壓最低壓力/Relief Sensitivity	0.03 kPa (理論計算值/Theoretical)			
② 減壓流量/Relief Flow Rate	130ℓ/mm(正常/Normal)			260ℓ/mm (正常/Normal)
③ 空氣消耗量/Air Consumption	3.7ℓ/mm(正常/Normal)			
使用溫度範圍/Operating Temperature	5~60℃			
配管連接口徑/Pipe Port	G1/4 , G3/8			
壓力計連接口徑/Gauge Port	G1/4 (2處/Two Ports)			
重量/Weight	460g			

① 精度表示法 / F.S.=Full Scale

② 設定壓力為0.2Mpa時的減壓流量
At Set pressure 0.2Mpa

③ 因為是時常排氣型，始終會向大氣排放空氣
Because of air bleed servo control action, a small amount of air escapes normally into atmosphere.

內部構造/Explanatory Construction



工作原理/Principle Of Operation

★ PIR系列的主閥和減壓閥利用通過氣控閥的開關來進行操作的伺服平衡機構，氣控閥則利用通過測量閥蓋伸縮進行開關。

★ 2次壓力通往控制室用作為測量閥蓋的外壓。在正常狀態下，微量空氣時常通過氣控閥流入控制室，通過排氣孔向大氣排放，以保持控制室內的壓力穩定。

★ 即使2次壓力略有變化，測量閥蓋便伸縮，使氣控閥產生動作，氣控壓力室內壓力產生相對變化。

★ 由於該變化而使隔膜組件的力失去平衡，主閥或者減壓閥進行適量動作，修正2次壓力所產生的任何微量誤差。最後，測量閥蓋和氣控閥恢復原先的平衡狀態。

★ 通過手動調整旋鈕，能夠靈敏地控制2次壓力。

★ Series PIR utilize a servo balanced system in which Supply -and Relief- valves are operated by a pilot valve The pilot valve is opened or closed by expansion or contraction of a sensitive Measuring capsule.

★ The regulated pressure is conducted into Control chamber and surrounds Capsule, the "heart" of the regulator. Measuring capsule offers extreme stability of movement under all operating conditions.

★ A small amount of air flows normally through Pilot valve into Pilot pressure chamber and out through Bleed orifice to atmosphere, assuring the stable pilot pressure.

★ A small change in output pressure will cause Capsule to flex slightly and thus move Pilot valve, resulting in a substantial change in the Pilot pressure.

★ In turn, this change upsets the force balance of Diaphragm assembly, which causes an appropriate movement of either Supply or Relief valve, thus correcting any small error in output pressure. Eventually, Capsule and Pilot valve return to their initial equilibrium positions respectively.

★ The primary reason for the ultra high accuracy is the face that the movement of Pilot valve, required to effect substantial changes in Supply valve position is extremely small. The high gain of this servomechanism permits desired output pressure to be maintained with exceptional accuracy and repeatability.

★ Manual adjustment of Control knob provides sensitive setting of output pressure.

特 色/Features

★ 高精度控制
能夠進行靈敏度為0.1%F.S. ，反覆再現性為±0.1%F.S.的高精度氣壓控制。

★ 優越的特性
具有優越的減壓特性、壓力特性、流量特性。特別是減壓的最低壓力(減壓靈敏度)可達0.03kPa (理論計算值)的優越特性，最適用於張力控制、氣動平衡。

★ 優越的啟動穩定性
即使在長時間不作動，亦不必進行壓力再調整。

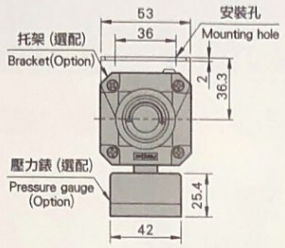
★ Ultra Accurate and Stable Pressure Regulation
Sensitivity ≤% F.S. Repeatability ≤ ± 0.1 % F.S.

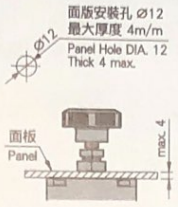
★ Extremely Excellent Characteristics
In Relief-, Pressure-,and Flow- sensitivities. Particularly, minimum relief pressure as low as 0.03 kPa (theoretical Relief sensitivity) finds best applications in Web tension controls and Air balancers, etc.

★ Excellent Start-up Stability
No readjustment or regulated pressure required even after long "down – time".

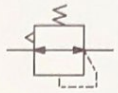
PIR(B)3000/3010/3020 尺寸圖/Dimensions

3D CAD 2D CAD 單位(Unit): m/m

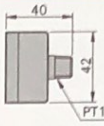


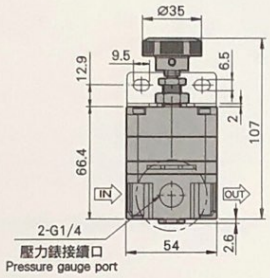


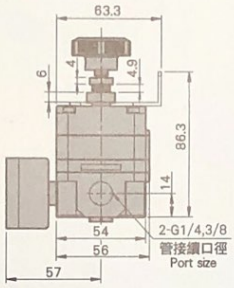
JIS符號/JIS Symbol
PIR系列 (內部引導式)



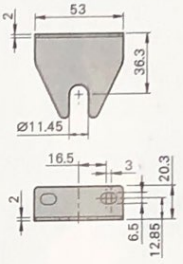
壓力錶/Pressure gauge K40210=10 Bar K40204=4 Bar





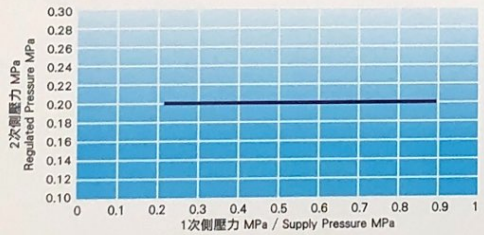


安裝架/L type bracket B640



壓力、流量及減壓特性/Pressure、Flow And Relief Characteristic

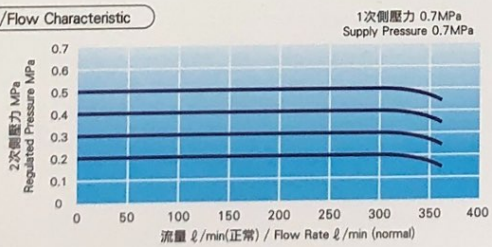
壓力特性/Pressure Characteristic



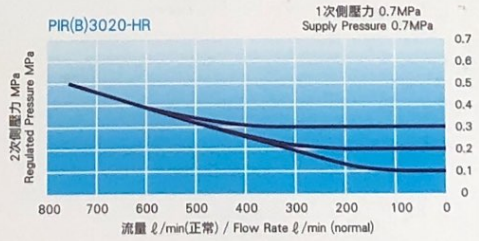
減壓特性/Relief Characteristic

PIR(B)3000/3010/3020

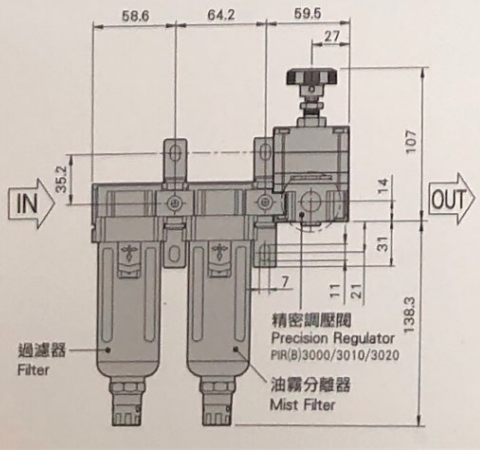
流量特性/Flow Characteristic

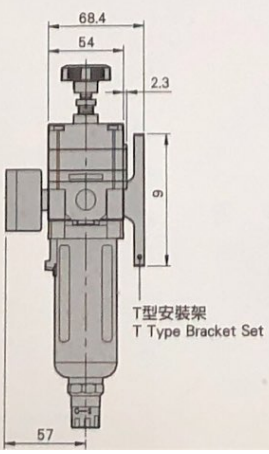


PIR(B)3020-HR



精密壓力控制系統組合範例/Example Of Precise Pressure Cantrol System





型 號/Model	型 式/Applicable Model
過濾器/Filter	PF3000
油霧分離器/Mist Filter	PFM3000
精密調壓閥/ Precision Regulator	PIR(B)3000/3010/3020
T型安裝架/ T Type Bracket Set	B310T-S