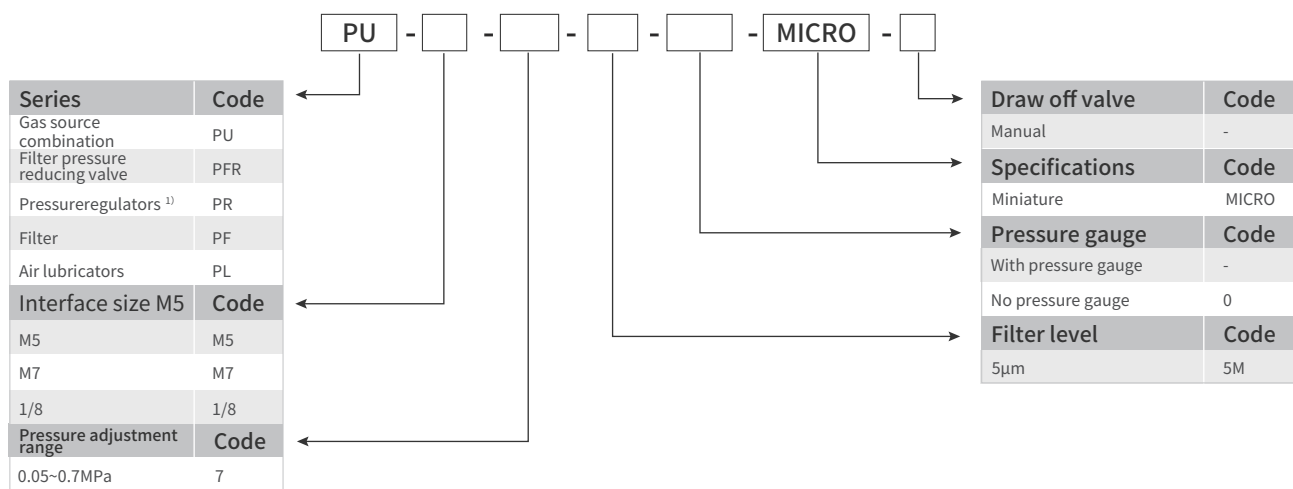


Micro air source processing

MICRO Series



► Selection Table



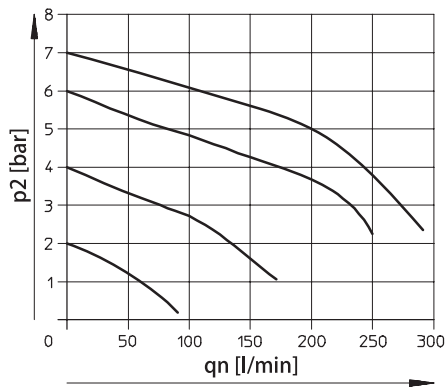
Note¹⁾: Pressure relief valves are classified into over flow type and non-overflow type. For details, please consult PLIEM.

Technical Parameter

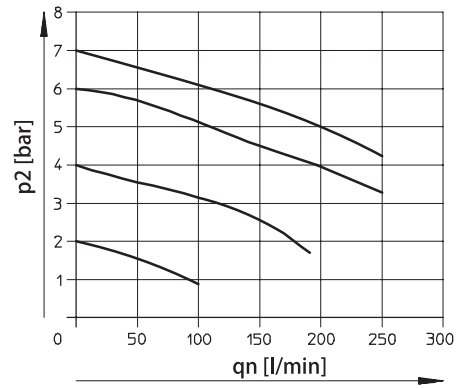
Specifications		MICRO			
Service Substance		Compressed Air			
Design feature		Direct-acting diaphragm pressure reducing valve with no internal air consumption or input pressure compensation;Sintered filter equipped with condensate separator; Automatic variable throttle oil mister			
Waytoin stall		Pipe mounting / support mounting			
Installation site		Vertical direction +5°			
Size for connection		Air interface,internal thread		Connecting plate	
		M5	M7	M7	1/8
Standard rated flow rate (l/min)	PU	90	130	170	140
	PFR	120	280	300	410
	PR	120	300	320	450
	PF	170	280	280	290
	PL	200	430	380	410
Input pressure (MPa)		0~1			
Working pressure (MPa)		0.05~0.7			
Minimum fogging flow rate (l/min)		3			
Filtering precision (μm)		5			
Maximum coagulation capacity (ml)		6.5			
Temperature range		0~60°C			
Material		Shell:refined aluminum alloy;Filter cupand oil cup:PC;Sealing: nitrile rubber;Pressure adjustment handwheel:POM			

► Relationship between standard rated flow rate q_n and output pressure p_2

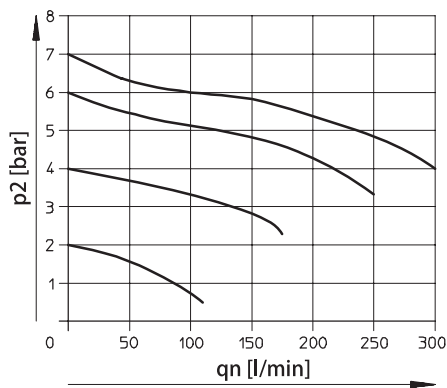
PU-M5-7-5M-MICRO



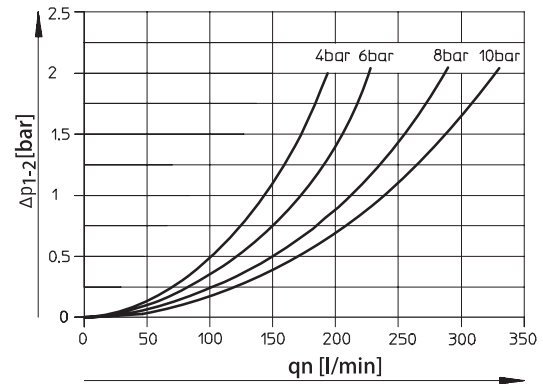
PFR-M5-7-5M-MICRO



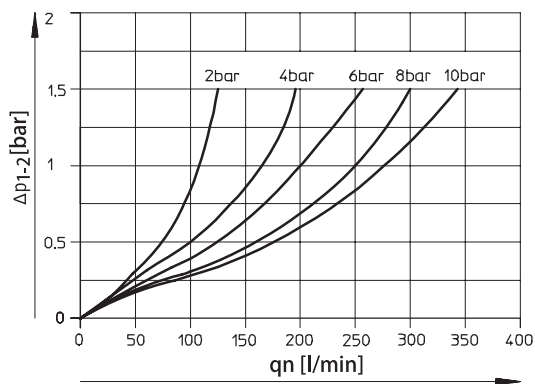
PR-M5-7-MICRO



PF-M5-5M-MICRO



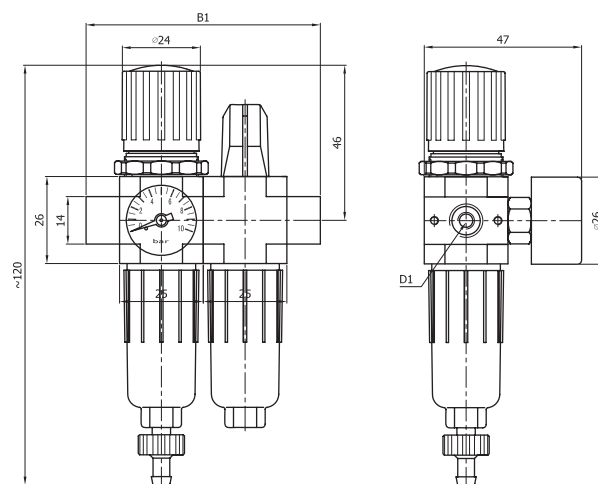
PL-M5-MICRO



► Dimensional Drawin

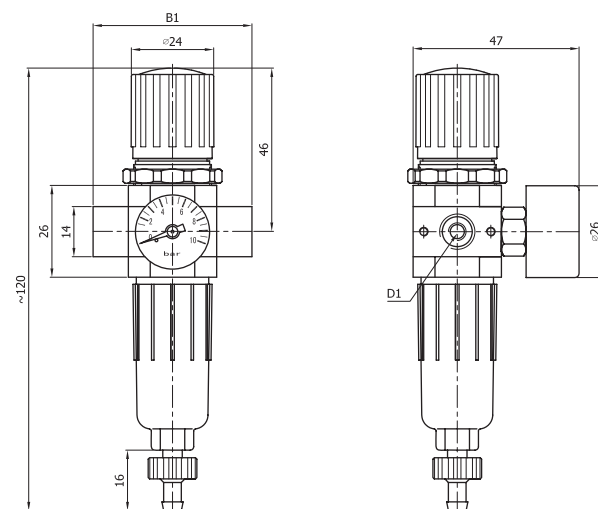
PU-MICRO

Model	B1	D1
PU-M5-MICRO	50	M5
PU-M7-MICRO	50	M7
PU-M7-MICRO	70	M7
PU-1/8-MICRO	70	1/8



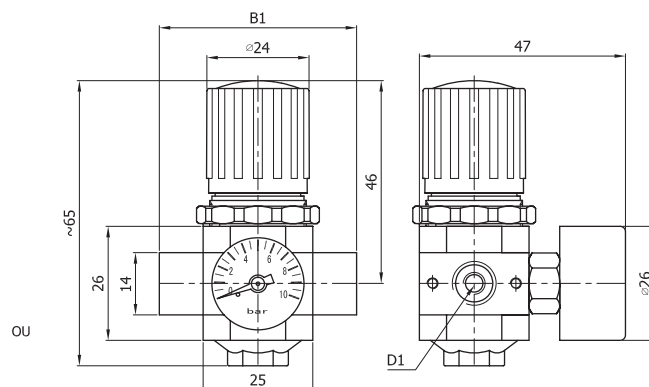
PFR-MICRO

Model	B1	D1
PFR-M5-MICRO	25	M5
PFR-M7-MICRO	25	M7
PFR-M7-MICRO	45	M7
PFR-1/8-MICRO	45	1/8



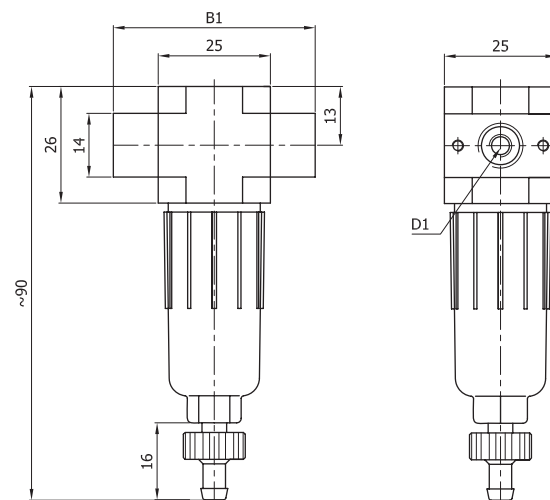
PR-MICRO

Model	B1	D1
PR-M5-MICRO	25	M5
PR-M7-MICRO	25	M7
PR-M7-MICRO	45	M7
PR-1/8-MICRO	45	1/8



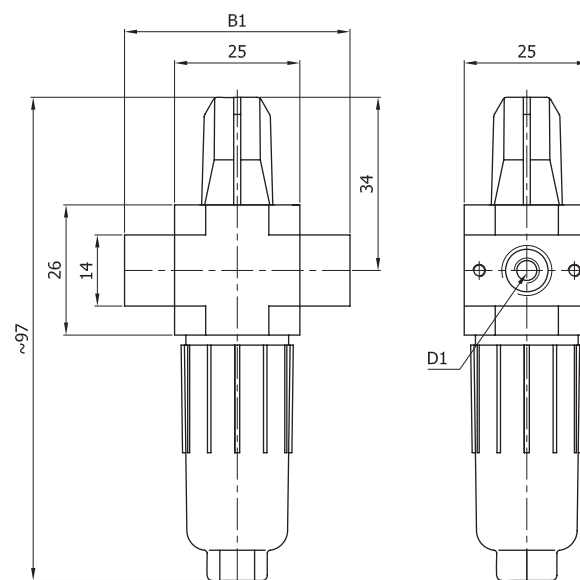
PF-MICRO

Model	B1	D1
PF-M5-MICRO	25	M5
PF-M7-MICRO	25	M7
PF-M7-MICRO	45	M7
PF-1/8-MICRO	45	1/8



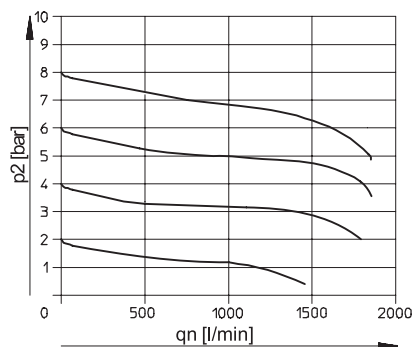
PL-MICRO

Model	B1	D1
PL-M5-MICRO	25	M5
PL-M7-MICRO	25	M7
PL-M7-MICRO	45	M7
PL-1/8-MICRO	45	1/8

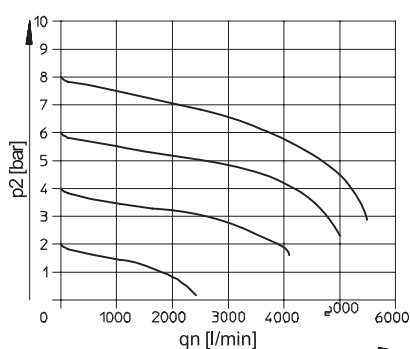


► Relationship between standard rated flow rate q_n and output pressure p_2

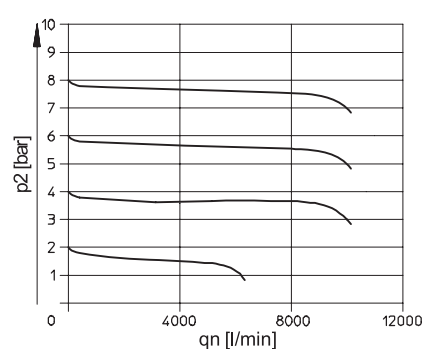
PU-1/4-MINI



PU-1/2-MIDI



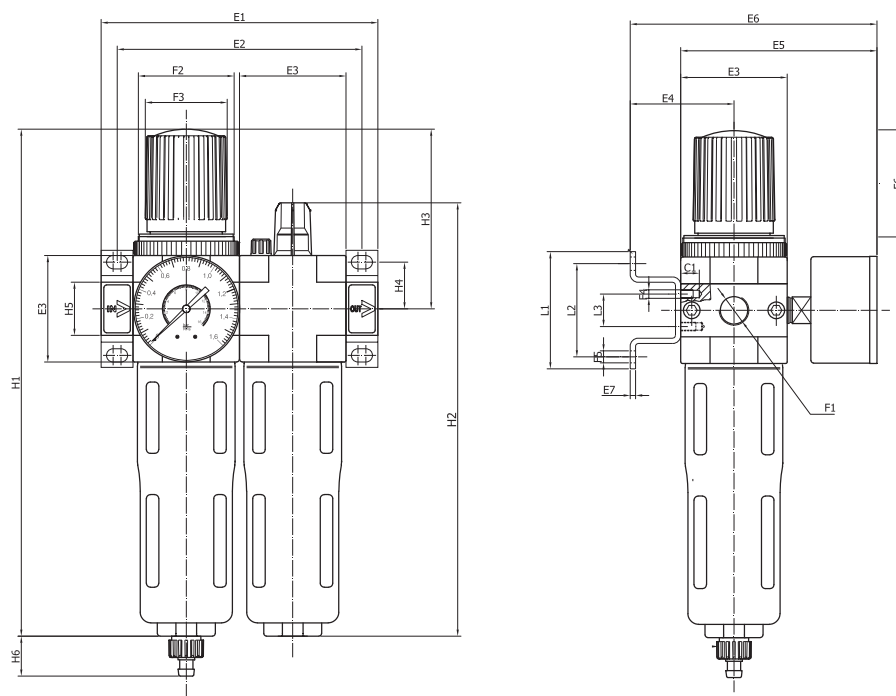
PU-1-MAXI



 Technical Parameter

Specifications		MINI			MIDI			MAXI	
Service substance		Compressed air							
Design feature		Sintered filter with water separation separator; MINI/MIDI: Diaphragm-type pressure reducing valve; MAXI: Piston-type pressure reducing valve;Oil mist type automatic variable throttle type							
Way to install		Pipe mounting/support mounting							
Installation site		Vertical direction +5°							
Size for connection		G1/8	G1/4	G3/8	G3/8	G1/2	G3/4	G3/4	G1
Standard rated flow rate (l/min)	PU-...(-A)	700	1000	1200	2000	2600	2600	8300	8500
	PU-...-7-(-A)	800	1300	1500	2000	2800	2800	8500	8700
	PU-...-5M-(-A)	600	850	1050	1700	1800	2100	7000	7200
Working pressure (MPa)		0.05~1.2 / 0.05~0.7							
Input pressure (MPa)	Manual drain valve	0.1~1.6							
	Automatic drain valve	0.15~1.2							
Minimum fogging flow rate (l/min)		3			6			10	
Filtering precision (μm)		40 / 5							
Maximum coagulation capacity (ml)		22			43			80	
Temperature range		0~60℃							
Material		Shell: Die-cast zinc; Filter cup and oil cup: PC; Metal protective cover: Aluminum alloy; Sealing: Nitrile rubber; Pressure adjustment handwheel: POM							

► Dimensional draw



Model	E1	E2	E3	E4	E5	E6	E7	F1	F2	F3Ø	F4
PU-...-MINI	104	92	40	39	76	95	2	G1/8,G1/4,G3/8	M36*1.5	31	M4
PU-...-MIDI	140	125	55	47	93	112	3	G1/8,G1/2,G3/4	M52*1.5	50	M5
PU-...-MAXI	162,182	146,157	66	53	104	124	3	G3/4,G1	M36*1.5	31	M5

Model	F5Ø	F6Ø	L1	L2	L3	H1	H2	H3	H4	H5	H6
PU-...-MINI	4.5	40	44	35	11	194	169	69	17.5	20	15
PU-...-MIDI	5.5	52	71	60	22	250	206	97	24.5	32	15
PU-...-MAXI	5.5	63	71	60	22	252	223	80	24.5	32,40	15

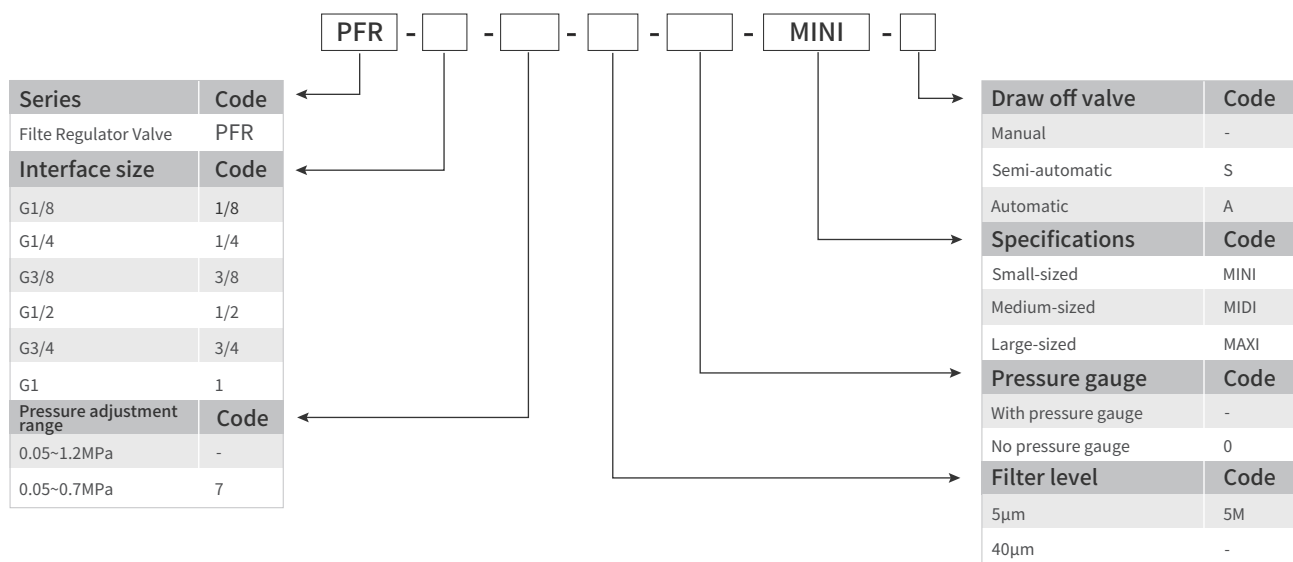
Filte Regulator Valve

PFR Series

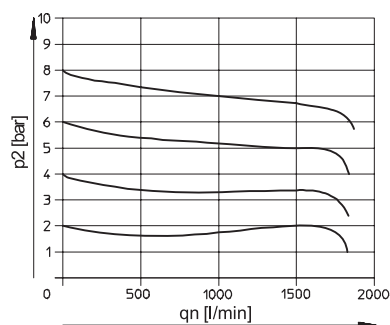


The filter and pressure reducing valve form a standalone unit designed to remove liquid oil, condensate water, and impurities from compressed air. For specialized applications, 5µm filter cartridges can be easily replaced with standard 40µm filters. Even when system fluctuations occur due to input pressure variations or compressed air consumption, the pressure reducing valve maintains highly stable operating pressure at its preset level.

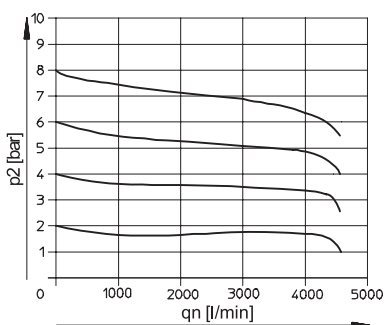
▶ Selection Table



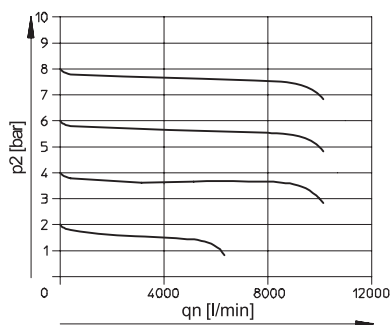
PFR-1/4-MINI



PFR-1/2-MIDI

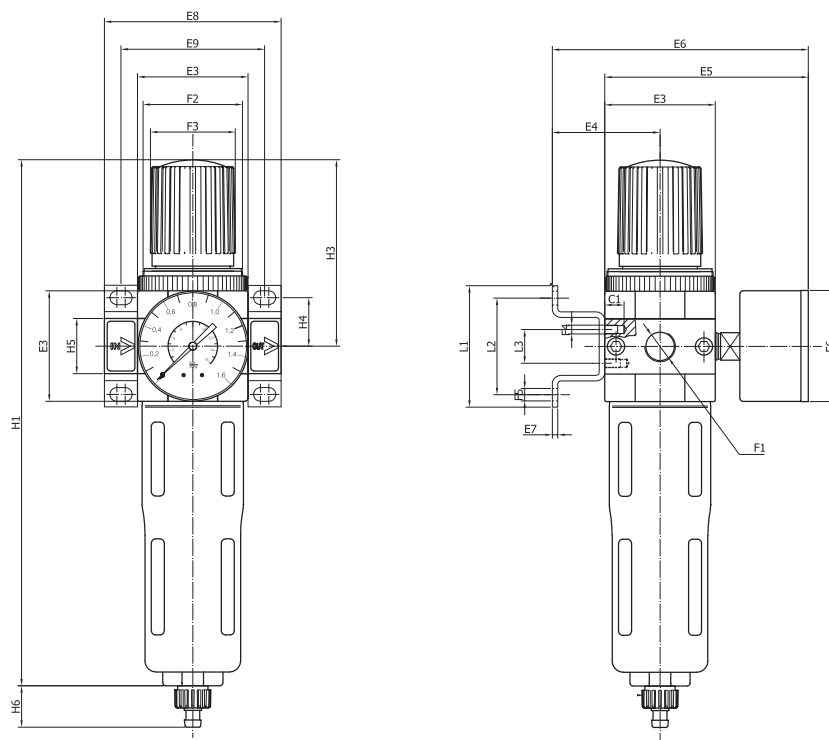


PFR-1-MAXI



Specifications		MINI			MIDI			MAXI	
Service substance		Compressed air							
Design feature		Sintered filter with water separation separator; MINI/MIDI: Diaphragm-type pressure reducing valve; MAXI: Piston-type pressure reducing valve;Oil mist type automatic variable throttle type							
Way to install		Pipe mounting/support mounting							
Installation site		Vertical direction +5°							
Size for connection		G1/8	G1/4	G3/8	G3/8	G1/2	G3/4	G3/4	G1
Standard rated flow rate (l/min)	PFR-...(-A)	750	1400	1600	3100	3400	3400	9600	10000
	PFR-...-7-(-A)	900	1500	1700	3400	3900	4000	10000	11000
	PFR-...-5M-(-A)	650	1200	1350	2400	2500	2600	7600	8000
Working pressure (MPa)		0.05~1.2 / 0.05~0.7							
Input pressure (MPa)	Manual drain valve	0.1~1.6							
	Manual drain valve	0.15~1.2							
Filtering precision(μm)		40 / 5							
Maximum coagulation capacity(ml)		22			43			80	
Temperature range		0~60℃							
Materia		Shell: Die-cast zinc; Filter cup and oil cup: PC; Metal protective cover: Aluminum alloy; Sealing: Nitrile rubber; Pressure adjustment handwheel: POM							

► Dimensional draw



Model	E3	E4	E5	E6	E8	E9	F1	F2	F3Ø	F4	F5Ø	F6Ø	L1	L2	L3	H1	H3	H4	H5	H6
PFR-...-MINI	40	39	76	95	64	52	G1/8,G1/4,G3/8	M36*1.5	31	M4	4.5	40	44	35	11	194	69	17.5	20	15
PFR-...-MIDI	55	47	93	112	85	70	G1/8,G1/2,G3/4	M52*1.5	50	M5	5.5	52	71	60	22	250	98	24.5	32	15
PFR-...-MAXI	66	53	104	124	96,116	80,91	G3/4,G1	M36*1.5	31	M5	5.5	63	71	60	22	252	80	24.5	32,40	15

Pressure Regulator Valve

PR Series

Even when system fluctuations occur due to input pressure variations and compressed air consumption, the pressure reducing valve maintains highly stable operating pressure at its set point.



Selection Table

PR

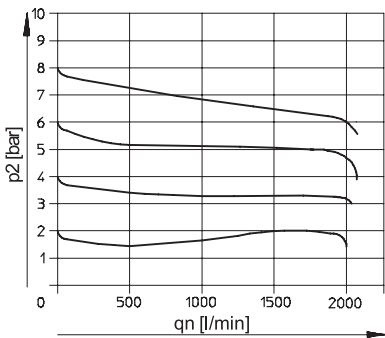
MINI

Series	Code
pressure reducing valve	PR
Interface size	Code
G1/8	1/8
G1/4	1/4
G3/8	3/8
G1/2	1/2
G3/4	3/4
G1	1
Pressure adjustment range	Code
0.05~1.2MPa	-
0.05~0.7MPa	7

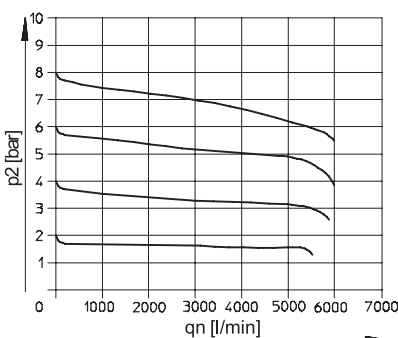
Specifications	Code
Small-sized	MINI
Medium-sized	MIDI
Large-sized	MAXI
Pressure gauge	Code
With pressure gauge	-
No pressure gauge	0
Overflow	Code
With Overflow	I
No Overflow	-

Relationship between standard rated flow rate qn and output pressure p2

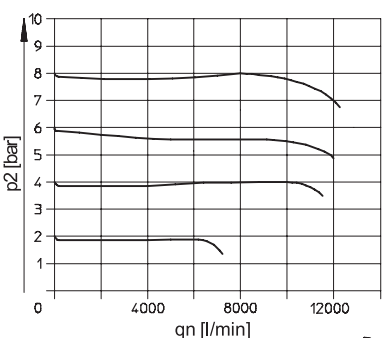
PR-1/4-MINI



PR-1/2-MIDI



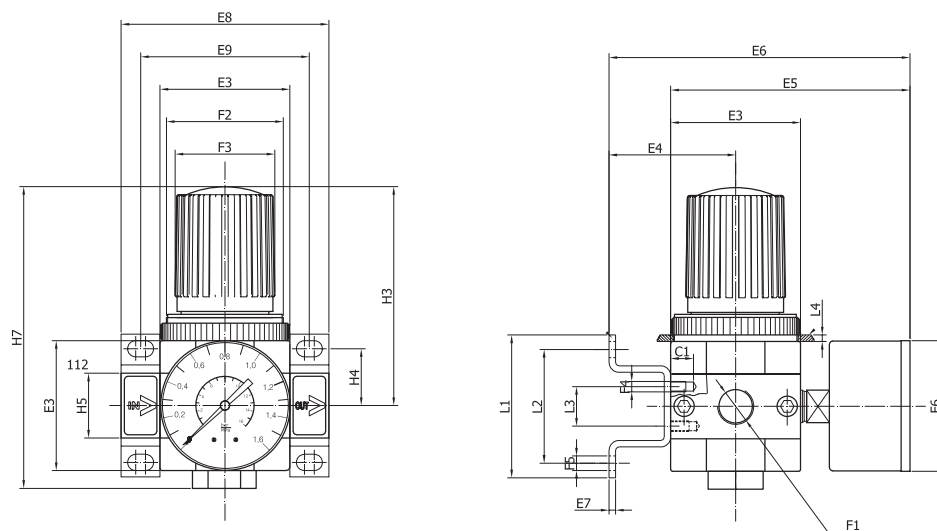
PR-1-MAXI



Technical Parameter

Specifications		MINI			MIDI			MAXI	
Service substance		Compressed air							
Design feature		MINI/MIDI: Diaphragm-type pressure reducing valve; MAXI: Piston-type pressure reducing valve							
Way to install		Tube-type installation / Bracket-type installation / Panel-type installation							
Installation site		Wantonly							
Size for connection		G1/8	G1/4	G3/8	G3/8	G1/2	G3/4	G3/4	G1
Standard rated flow rate (l/min)	PR-...(-A)	800	1500	1700	3200	3500	3500	11000	11500
	PR-...-7(-A)	1000	1600	1800	3300	4000	4500	12000	12500
Working pressure (MPa)		0.05~1.2 / 0.05~0.7							
nput pressure (MPa)		0.1~1.6							
Temperature range		0~60℃							
Material		Shell: Die-cast zinc; Sealing: Nitrile rubber; Pressure adjustment handwheel: POM							

Dimensional draw



Model	E3	E4	E5	E6	E8	E9	F1	F2	F3Ø	F4	F5Ø	F6Ø	L1	L2	L3	L4	H3	H4	H7
PR-...-MINI	40	39	76	95	64	52	G1/8,G1/4,G3/8	M36*1.5	31	M4	4.5	40	44	35	11	MAX.3	69	17.5	96
PR-...-MIDI	55	47	93	112	85	70	G1/8,G1/2,G3/4	M52*1.5	50	M5	5.5	52	71	60	22	MAX.5	98	24.5	96
PR-...-MAXI	66	53	104	124	96,116	80,91	G3/4,G1	M36*1.5	31	M5	5.5	63	71	60	22	MAX.4	80	24.5	96

Air Lubricators

PL Series

The automatic variable throttle oil mist generator ensures uniform oil mist distribution into compressed air. A precision regulator maintains proportional oil mist output relative to compressed air flow rate. As compressed air passes through the nozzle, pressure drop forces oil from the reservoir into the oil sight glass, where it enters the inlet port while being atomized along with the airflow. This design enables continuous oil replenishment without air interruption during operation. Oil droplet quantity can be adjusted via control screws, with a standard dosage of 1-12 drops per 1,000 liters of compressed air typically sufficient for optimal performance.



► Selection Table

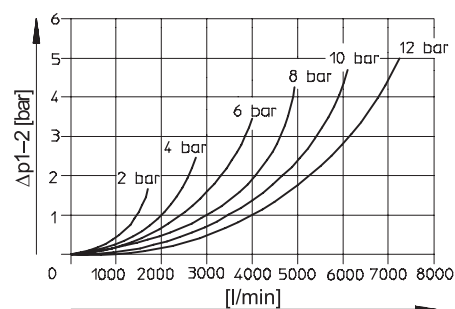
		PL	-		-	MINI		
Series	Code						Specifications	Code
Air Lubricators	PL						Small-sized	MINI
Interface size	Code						Medium-sized	MIDI
G1/8	1/8						Large-sized	MAXI
G1/4	1/4							
G3/8	3/8							
G1/2	1/2							
G3/4	3/4							
G1	1							

► Technical Parameter

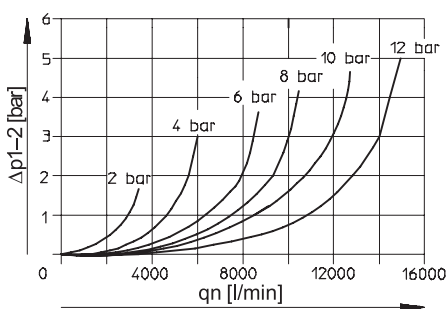
Specifications	MINI			MIDI			MAXI		
Service substance	Compressed air								
Design feature	Oil mist type automatic variable throttle type								
Way to instal	Pipe mounting/support mounting								
Installation site	Vertical direction +5°								
Size for connection	G1/8	G1/4	G3/8	G3/8	G1/2	G3/4	G3/4	G1	
Standard rated flow rate (l/min)	1300	2300	2700	5500	6100	6300	8400	9000	
Maximum working pressure (MPa)	1.6								
Minimum fogging flow rate (l/min)	3			6			10		
Maximum coagulation capacity (ml)	22			43			80		
Temperature range	0~60°C								
Material	Shell: Die-cast zinc; Oil cup and sight glass: PC; Metal protective cover: Aluminum alloy; Sealing: Nitrile rubber								
Recommended oil	ISO VG 32 or equivalent oil								

► Relationship between standard rated flow rate qn and output pressure p2

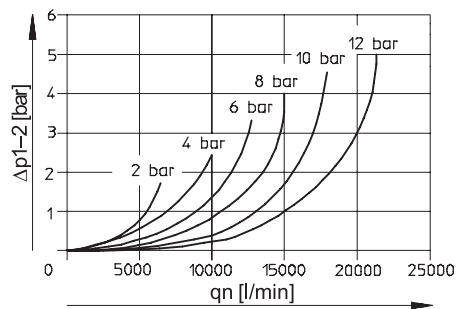
PL-1/4-MINI



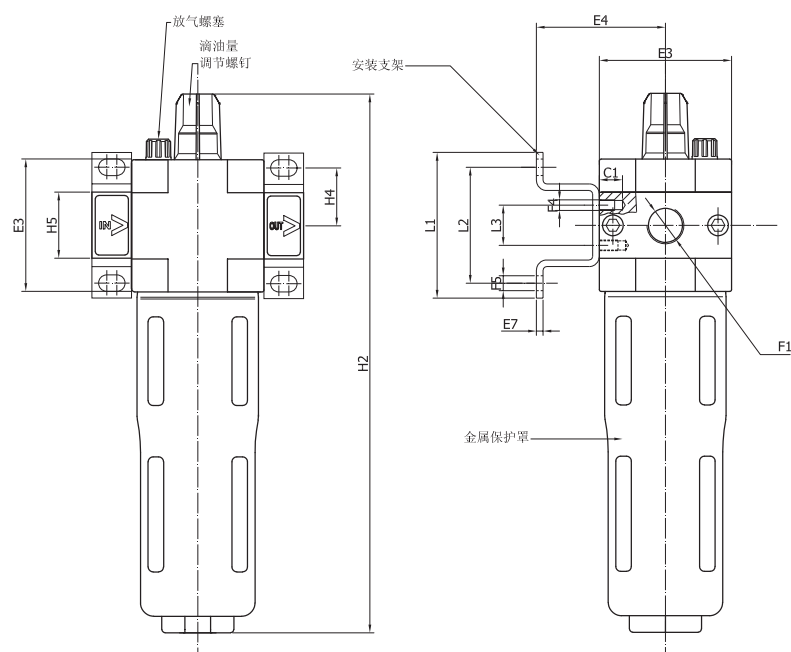
PL1/2-MIDI



PL-1-MAXI



► Dimensional draw



Model	E3	E4	E7	F1	F4	F5Ø	L1	L2	L3	H4	H5
PL-...-MINI	40	39	2	G1/8,G1/4,G3/8	M4	4.5	44	35	11	17.5	20
PL-...-MIDI	55	47	3	G1/8,G1/2,G3/4	M5	5.5	71	60	22	24.5	32
PL-...-MAXI	66	53	3	G3/4,G1	M5	5.5	71	60	22	24.5	32,40

Filter

PF Series



The water divider filter can filter liquid oil, condensate water and impurities in the air. For special applications, the 5 μ m filter element can be easily replaced with the standard 40 μ m filter element.

► Selection Table

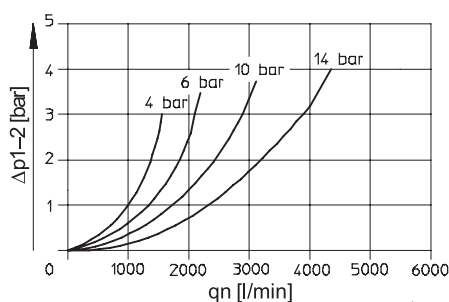
Series	Code
filter	PF
Interface size	Code
G1/8	1/8
G1/4	1/4
G3/8	3/8
G1/2	1/2
G3/4	3/4
G1	1

PF - [] - [] - MINI - []

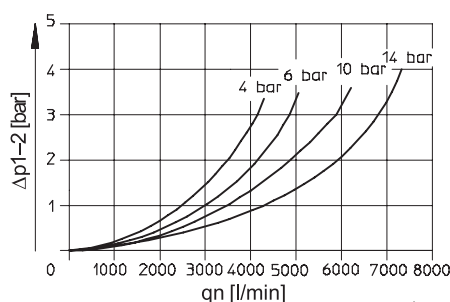
Draw off valve	Code
manual	-
semi-automatic	S
automatic	A
Specifications	Code
Small-sized	MINI
Medium-sized	MIDI
Large-sized	MAXI
Filtration grade	Code
5 μ m	5M
40 μ m	-

► Relationship between standard rated flow rate qn and output pressure p2

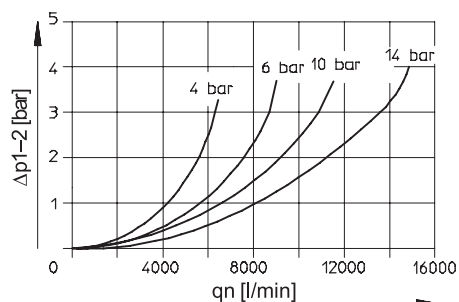
PR-1/4-MINI



PR-1/2-MIDI



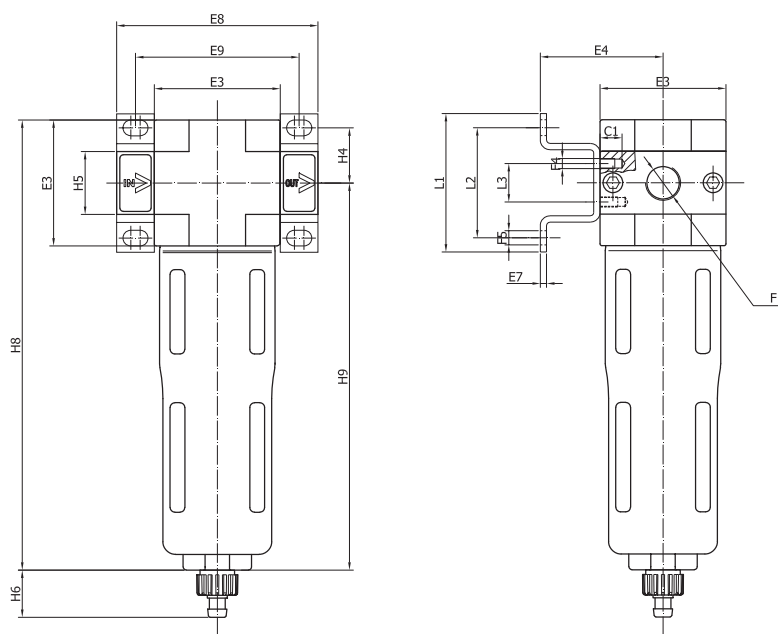
PR-1-MAXI



► Technical Parameter

Specifications		MINI			MIDI			MAXI	
Service substance		Compressed air							
Design feature		Sintered Filter with Water Separation Separator							
Way to install		Pipe mounting/support mounting							
Installation site		Vertical direction +5°							
Size for connection		G1/8	G1/4	G3/8	G3/8	G1/2	G3/4	G3/4	G1
Standard rated flow rate	PFR-...(-A)	1000	1200	1400	2700	3000	3000	5000	5300
	PFR-...-5M-(-A)	600	950	1100	1800	2000	2000	3600	3800
Working pressure (MPa)		0.05~1.2							
Input pressure (MPa)	Manual drain valve	Maximum 1.6							
	Automatic drain valve	0.15~1.2							
Filtering precision(μm)		40 / 5							
Maximum coagulation capacity(ml)		22			43			80	
Temperature range		0~60°C							
Material		Shell: Die-cast zinc; Filter cup: PC; Metal protective cover: Aluminum alloy; Sealing: Nitrile rubber							

► Dimensional draw



Model	E3	E4	E7	E8	E9	F1	F4	F5Ø	L1	L2	L3	H4	H5	H6	H8	H9
PF-...-MINI	40	39	2	64	52	G1/8,G1/4,G3/8	M4	4.5	44	35	11	17.5	20	15	144	129
PF-...-MIDI	55	47	3	85	70	G1/8,G1/2,G3/4	M5	5.5	71	60	22	24.5	32	15	179	156
PF-...-MAXI	66	53	3	96,116	80,91	G3/4,G1	M5	5.5	71	60	22	24.5	32,40	15	203	175

Pressure Reducing Valve Assembly

PRB Series



▶ Selection Table

The diagram illustrates the code structure for the PRB-MINI series. The code is composed of several segments: PRB, followed by five empty boxes, and MINI. Arrows indicate the mapping from these segments to specific specifications:

- PRB** maps to **Dimension of pressure relief**.
- The first empty box maps to **Valve assembly interface**.
- The second empty box maps to **Pressure adjustment range**.
- The third empty box maps to **Filter level**.
- The fourth empty box maps to **Pressure gauge**.
- The fifth empty box maps to **Pressure gauge**.
- MINI** maps to the **MINI** series.

The specifications and their corresponding codes are as follows:

Series	Code
Dimension of pressure relief	PRB
Valve assembly interface	Code
G1/4	1/4
G3/8	3/8
G1/2	1/2
Pressure adjustment range	Code
0.05~1.2MPa	-
0.05~0.7MPa	7

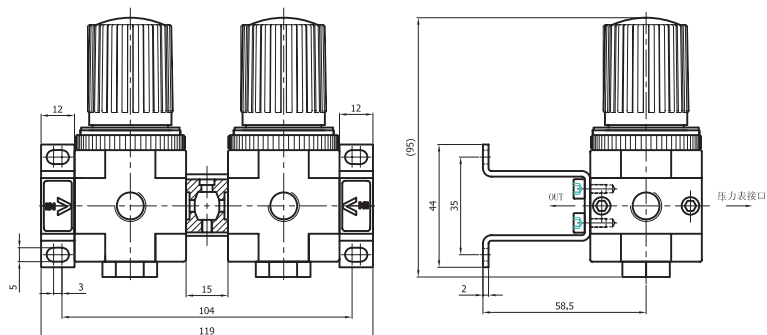
Specifications	Code
Small-sized	MINI
Medium-sized	MIDI
Large-sized	MAXI
Filter level	Code
Equipped with 2 pressure relief valves	K2
Equipped with 3 pressure relief valves	K3
Equipped with 4 pressure relief valves	K4
Equipped with 5 pressure relief valves	K5
Pressure gauge	Code
With pressure gauge	-
No pressure gauge	0

▶ Technical Parameter

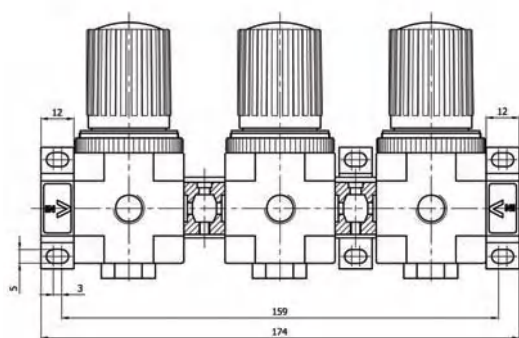
Specifications		MINI	MIDI
Service substance		Compressed air	
Design feature		Primary pressure regulating diaphragm-type pressure reducing valve, equipped with secondary exhaust port and lockable rotating handle or button-type lock, directly driven	
Way to install		Set swinging	
Installation site		Wantonly	
Size for connection		G1/8	G1/4
		G1/4	G3/8
Working pressure (MPa)		0.05~0.7/ 0.05~1.2	
Input pressure (MPa)		0.1~1.6	
Standard rated flow rate (l/min)	0.05~0.7 MPa	1800	3800
	0.05~1.2 MPa	1600	3200

► Dimensional draw

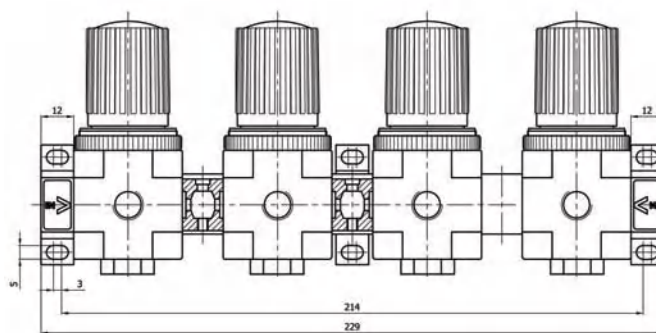
PRB-...-K2 Basic Dimension Diagram



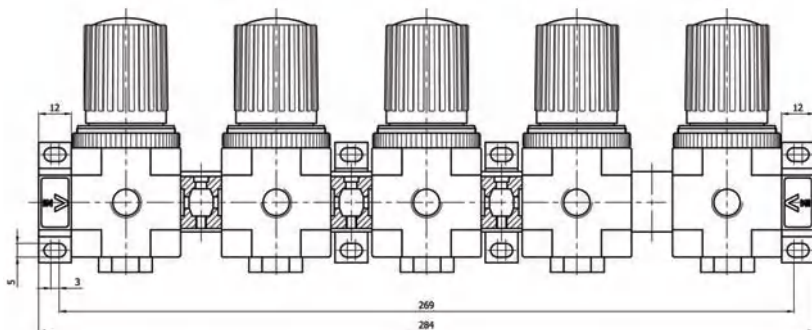
PRB-...-K3 Basic Dimension Diagram



PRB-...-K4 Basic Dimension Diagram

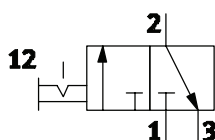


PRB-...-K5 Basic Dimension Diagram



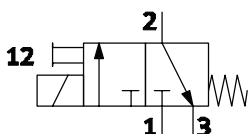
Switch valve

PHE Series



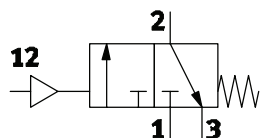
Switching valve-PHE

Two three-way manual control switch valves; exhaust during closure; tubular exhaust achievable via threaded interfaces; switch positions identifiable in real time.



Switching valve-PHEE

Electronically controlled switch valve for pressurization and exhaust; push-type or button-type manual tool pneumatic device (for manual tools; equipped with electromagnetic coil but without socket; available in three voltage ranges; the electromagnetic coil head can be repositioned at 4X90 degrees.)



Switching valve-PHEP

Pneumatic control switch valve, used for pressurization and exhaust in pneumatic devices; this valve can be used as a standalone unit or combined with other series modules; this model of valve is particularly suitable for applications in explosion-proof environments.

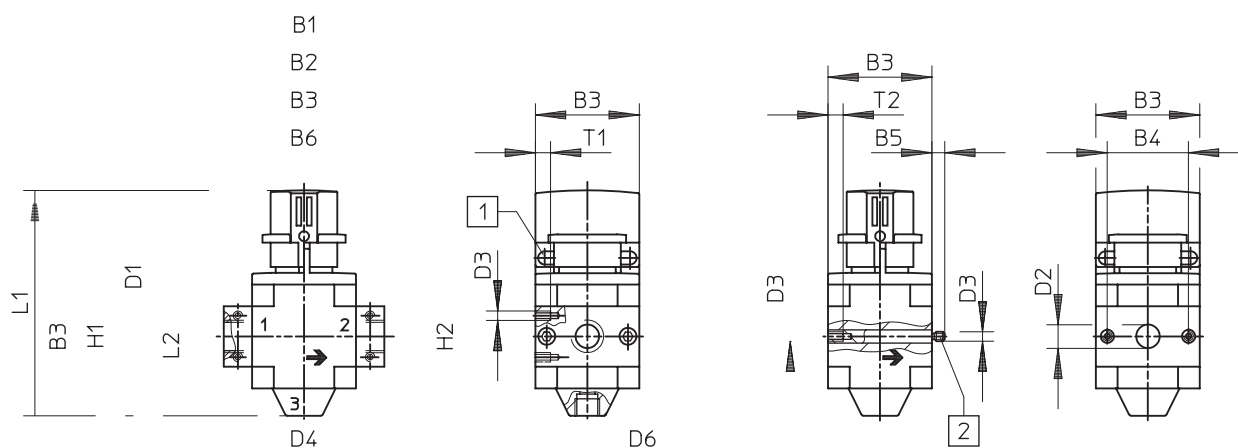
▶ 技术参数

Specifications	MINI			MIDI			MAXI	
Service substance	Compressed air							
Design feature	Pistonslide valve							
Way to install	Pipe mounting/support mounting							
Installation site	Wantonly							
Size for connection	G1/8	G1/4	G3/8	G3/8	G1/2	G3/4	G3/4	G1
Standard rated flow rate (l/min)	1000	1500	1600	3200	3600	3800	6000	6500
Temperature range	-10~60℃							
Working pressure (MPa)	0.25~1.6							
Action form	Spring reset							
Material	Metal protective cover: Aluminum alloy; Sealing: Nitrile rubber							

► Technical Parameter

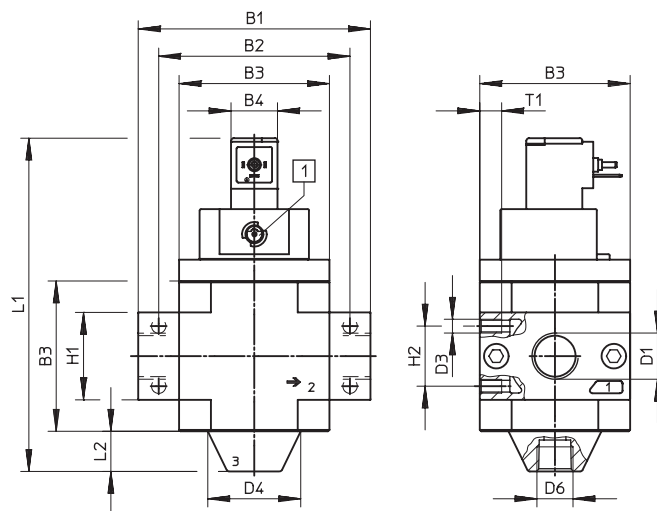
		PHE - [] - [] - MINI			
Series	Code	←	→	Specifications	Code
switch valve manual	PHE			Small-sized	MINI
switch valve electric control	PHEE			Medium-sized	MIDI
switch valve pneumatic control	PHEP			Large-sized	MAXI
Valve assembly interface	Code	←	→	Voltage	Code
G1/8	1/8			24V DC	24
G1/4	1/4			110V AC	110
G3/8	3/8			230V AC	230
G1/2	1/2				
G3/4	3/4				
G1	1				

► Dimensional draw-PHE



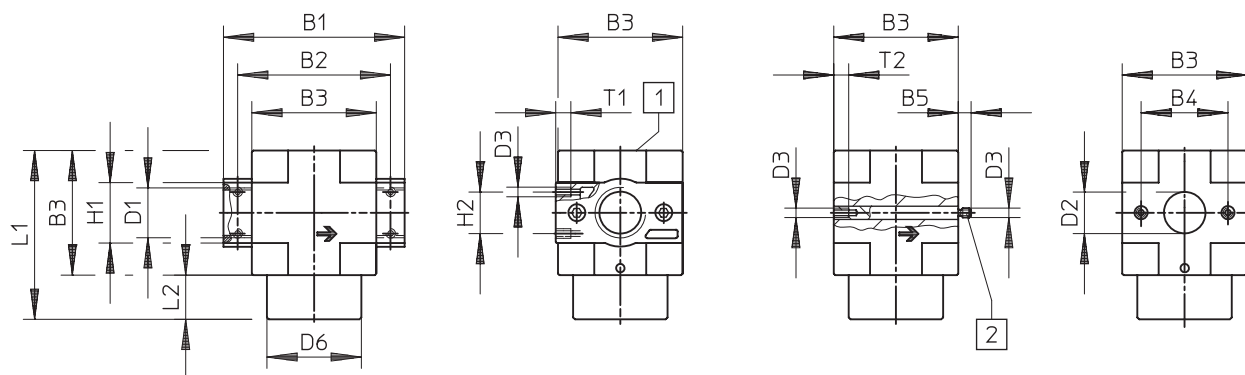
Model	B3	B4	B5	B6	D2 Ø	D3	D4 Ø	D6	L1	L2	T1	T2
PHE-...-MINI	40	30	5,8	32	11	M4	24	G1/8	100	11	7	10
PHE-...-MIDI	55	43	6,8	44	24	M5	34	G1/4	121	14	8	11
PHE-...-MAXI	66	46	6,8	44	30	M5	38	G3/8	134	16	8	11

► Dimensional draw-PHEE



Model	B3	B4	B5	B6	D2 Ø	D3	D4 Ø	L1	L2	T1
PHEE-...-MINI	40	17	30	5,8	11	M4	24	104	11	10
PHEE-...-MIDI	55	17	43	6,8	24	M5	34	122	14	11
PHEE-...-MAXI	66	17	46	6,8	30	M5	38	135	16	11

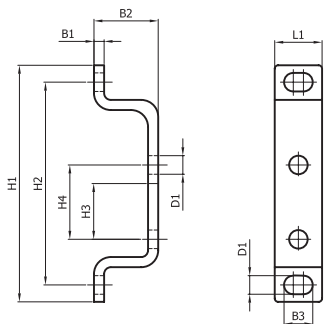
► Dimensional draw-PHEP



Model	B3	B4	B5	D2 Ø	D3	D6	L1	L2	T1	T2
PHEP-...-MINI	40	30	5,8	11	M4	30	56	16	7	10
PHEP-...-MIDI	55	43	6,8	24	M5	50	77	22	8	11
PHEP-...-MAXI	66	46	6,8	30	M5	50	89	23	8	11

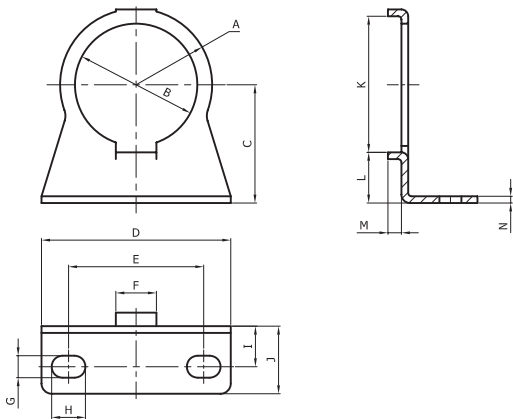
Air Source Accessories

► Mounting bracket PHC



Model	B1	B2	B3	D1	H1	H2	H3	H4	L1
PHC-MINI	2	19	7.3	4.3	43	35	5.5	11	12
PHC-MIDI/MAXI	3	19	8.3	5.3	70	60	16.5	22	14

► Mounting bracket PHO



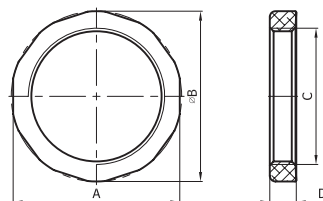
Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N
PHO-MINI	22.5	36.5	35	56	40	12	6.5	10	12	20	40.4	15	4	2
PHO-MIDI/MAXI	30	52.5	48	70	53	12	8.5	10.5	17.5	27	55.5	20	4	2

► Pressure gauges PMA



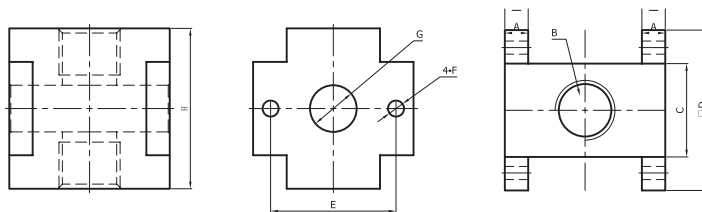
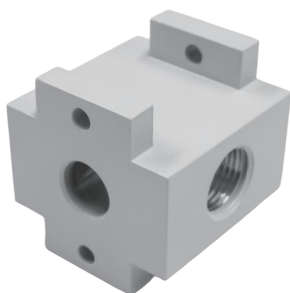
Model	Outline dimension	Interface size	Indication range
PMA-40-10-1/8	40	G1/8	0-1MPa
PMA-40-16-1/8	40	G1/8	0-1.6MPa
PMA-50-10-1/4	50	G1/4	0-1MPa
PMA-50-16-1/4	50	G1/4	0-1.6MPa

► Spring nut PMR



Model	A	C	C	D
PMR-MINI/MAXI	44	45	M36*1.5	7
PMR-MIDI	60	62	M52*1.5	8

► Pressure gauges PMA



Model	A	B	C	D	E	F	G	H
PRM-MINI	6	G1/8,G1/4,G3/8	22	40	30	4.3	11.5	40
PRM-MIDI	8	G3/8,G1/2,G3/4	32	55	43	5.5	16	55



Pressure sensor PDP



Model	Parameter
PDP2-000-07	R1/8+M5 end-tapped nickel-plated brass
PDP2-000-02	G1/8+M5 external thread POM, internal thread copper