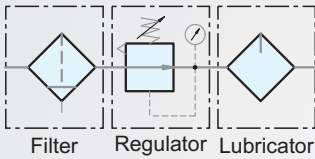


FRL COMBINATIONS



Symbol



Features

- * Remove water and particle effectively.
- * 40 μ m and 5 μ m filter element are easily interchangeable and replaceable.
- * Accurate and easy pressure setting.
- * Lubricator oil can be replenished without stopping air supply.
- * Oil spray in mist ensures good lubrication for machines.
- * Anti-acid & alkali bowl and aluminum bowl provide excellent protection in organic chemistry working environments. (Please contact our sales for more enquires.)



How to order

UFRL	-	02	N	C	D	A	SB				
F.R.L combination	Port size	Thread		Filtration		Drain		Bowl		Spacer block	
Filter+Regulator +Lubricator	02	1/4"	Blank	PS	Blank	5 μ m	Blank	Semi-auto drain	Blank	Standard bowl	
	03	3/8"	N	NPT	C	40 μ m	H	Manual drain	A	Anti-acid & alkali bowl	
	04	1/2"					D	Auto drain	AL	Aluminum bowl (1/4"~1/2")	
	06	3/4"									
	08	1"									

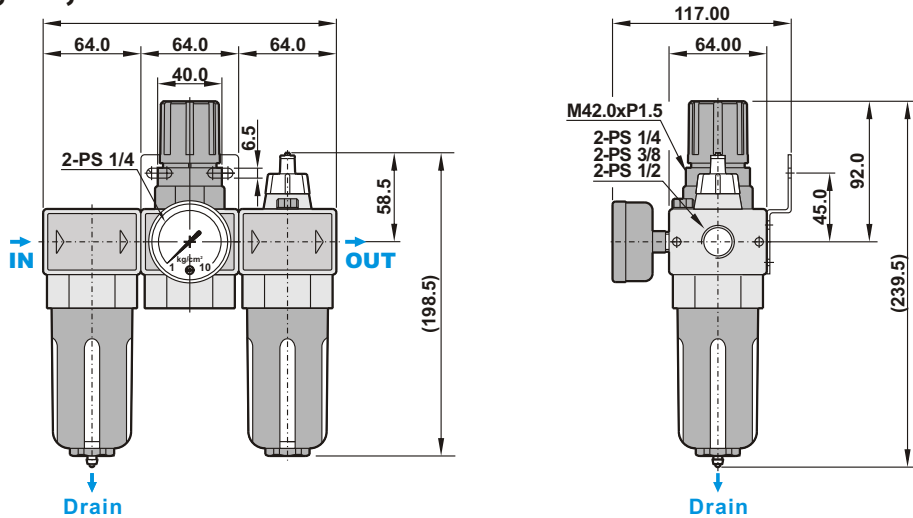
Specifications

※Note: Please see page 1-51 for ordering spacer block separately.

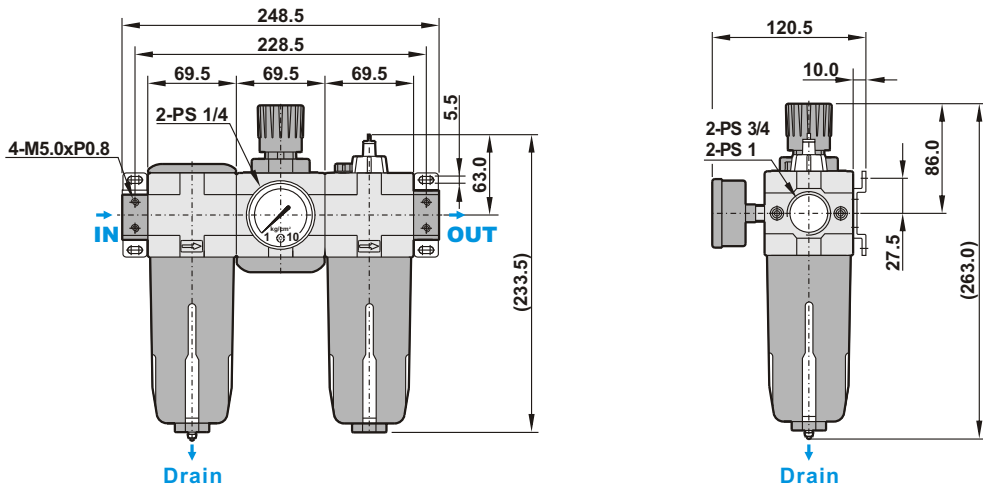
Model	UFRL-02	UFRL-03	UFRL-04	UFRL-06	UFRL-08
Port size	1/4"	3/8"	1/2"	3/4"	1"
Fluid	Compressed air				
Regulator construction	Piston				
Body material	Aluminum die-cast				
Bowl material	Polycarbonate (Standard), Anti-acid & alkali bowl (Option), Aluminum bowl (Option)				
Filtration	5 μ m (Standard) · 40 μ m (Option)				
Operating pressure range	0.5 ~ 10 kgf/cm ²				
Max. operating pressure (Standard bowl)	15 kgf/cm ²				
Max. flow rate l/min (6kgf/cm ²)	2080	2100	2600	7940	8200
Ambient temperature	-10°C ~ 60°C				
Lubricator oil (Recommended)	ISO-VG32				
Filter bowl capacity	105cc			210cc	
Lubricator bowl capacity	125cc			235cc	
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)				
Net weight	1800g (AL Aluminum bowl 2100g)			2650g	
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 4				

Dimensions

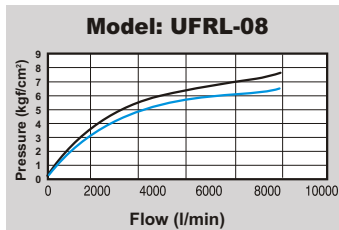
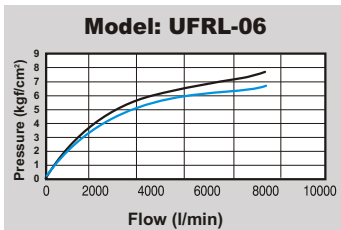
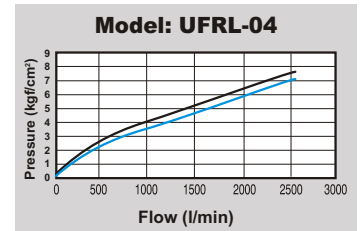
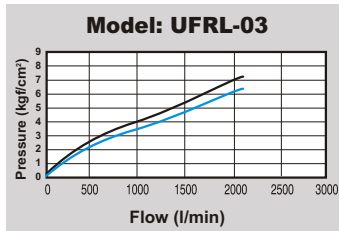
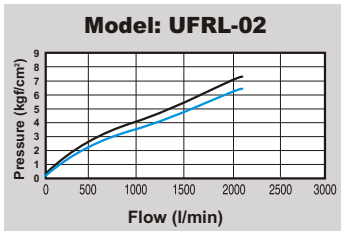
UFRL-02, 03, 04



UFRL-06, 08



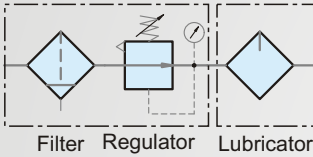
Flow chart



Note:

X axis: Flow
 Y axis: Pressure
 Blue line (P0) = Outlet pressure
 Black line (P1) = Inlet pressure
 P1-P0 = Pressure range

Symbol



Features

- * Remove water and particle effectively.
- * 40 μm and 5 μm filter element are easily interchangeable and replaceable.
- * Accurate and easy pressure setting.
- * Lubricator oil can be replenished without stopping air supply.
- * Oil spray in mist ensures good lubrication for machines.
- * Anti-acid & alkali bowl and aluminum bowl provide excellent protection in organic chemistry working environments. (Please contact our sales for more enquires.)



How to order

UFR/L	-	02	N	C	D	A	SB			
F.R.L combination	Port size	Thread		Filtration		Drain		Bowl	Spacer block	
Filter Regulator +Lubricator	02	1/4"	Blank	PS	Blank	5 μm	Blank	Standard bowl		
	03	3/8"	N	NPT	C	40 μm	Semi-auto drain	A		Anti-acid & alkali bowl
	04	1/2"					Manual drain			
	06	3/4"					Auto drain	AL		Aluminum bowl (1/4"~1/2")
	08	1"								

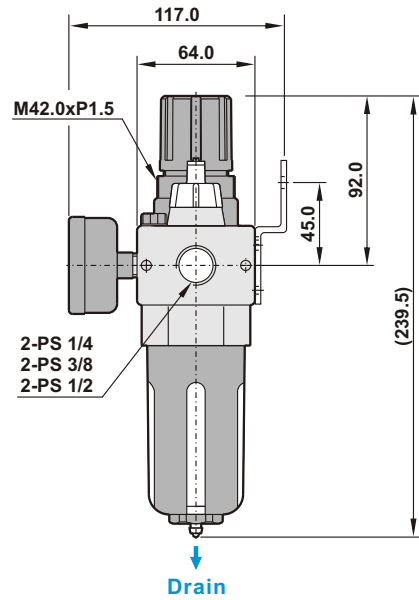
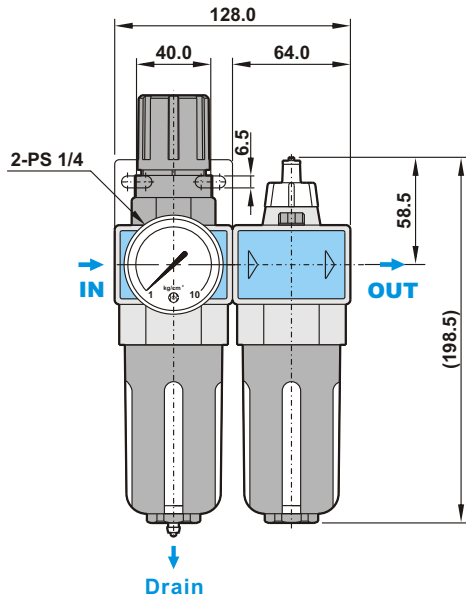
Specifications

* Note: Please see page 1-51 for ordering spacer block separately.

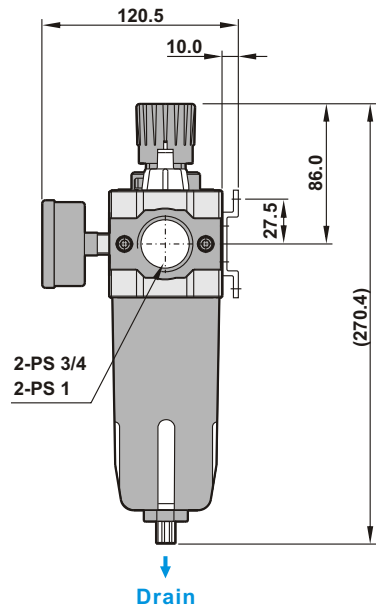
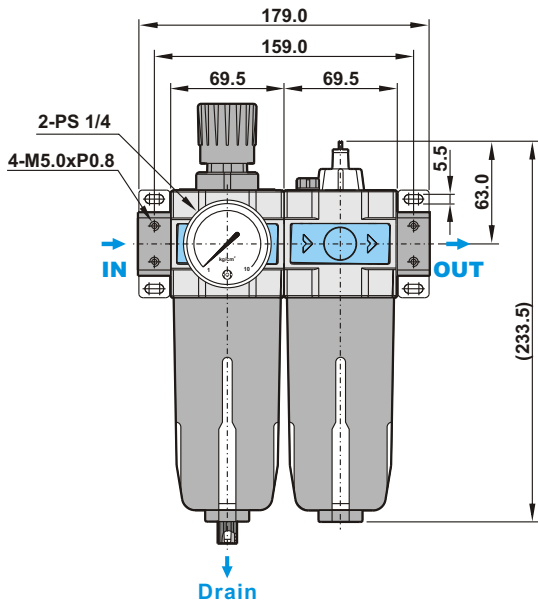
Model	UFR/L-02	UFR/L-03	UFR/L-04	UFR/L-06	UFR/L-08
Port size	1/4"	3/8"	1/2"	3/4"	1"
Fluid	Compressed air				
Regulator construction	Piston				
Body material	Aluminum die-cast				
Bowl material	Polycarbonate (Standard), Anti-acid & alkali bowl (Option), Aluminum bowl (Option)				
Filtration	5 μm (Standard) · 40 μm (Option)				
Operating pressure range	0.5 ~ 10 kgf/cm ²				
Max. operating pressure (Standard bowl)	15 kgf/cm ²				
Max. flow rate l/min (6kgf/cm ²)	2080	2100	2600	7940	8200
Ambient temperature	-10°C ~ 60°C				
Lubricator oil (Recommended)	ISO-VG32				
Filter bowl capacity	105cc			210cc	
Lubricator bowl capacity	125cc			235cc	
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)				
Net weight	1480g (AL Aluminum bowl 1780g)			2145g	
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 4				

— Dimensions

● UFR/L-02, 03, 04

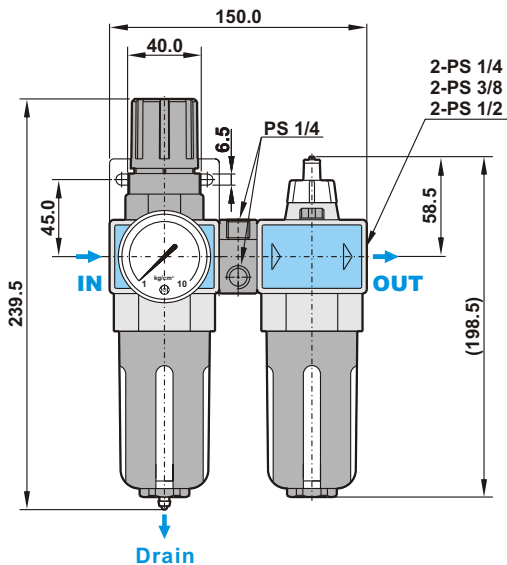


● UFR/L-06, 08

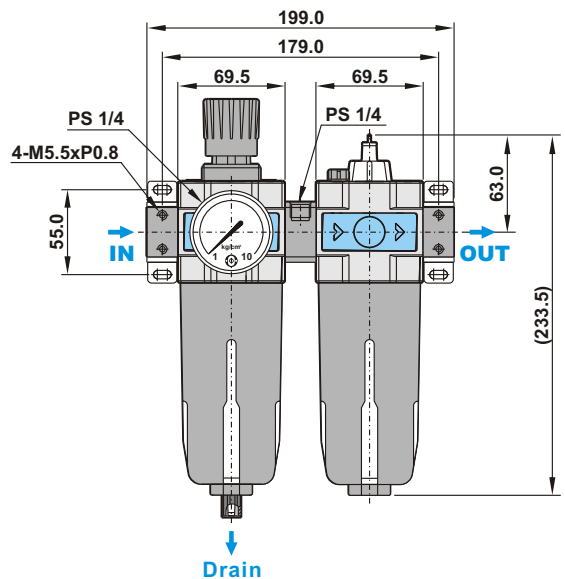


Dimensions

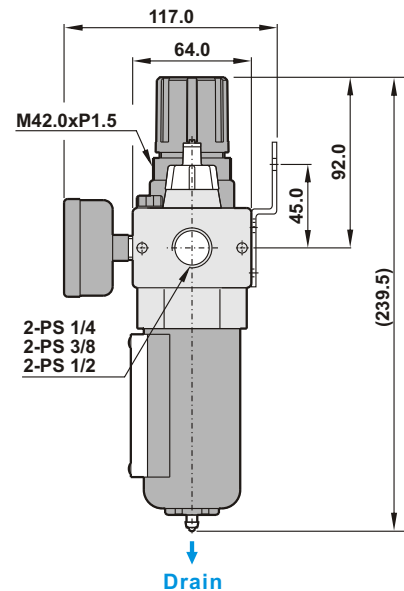
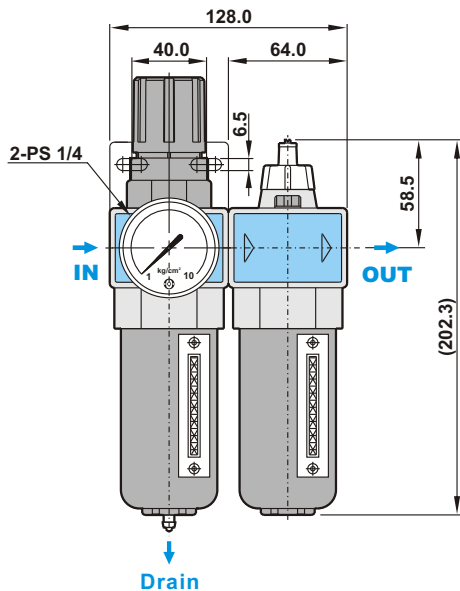
UFR/L-02, 03, 04SB (Spacer block)



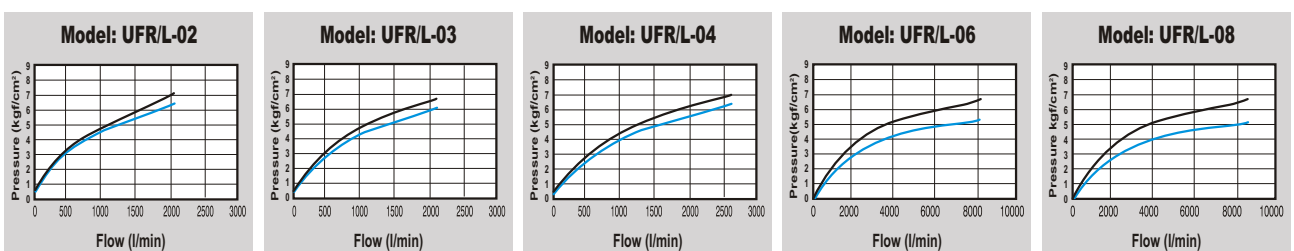
UFR/L-06, 08SB (Spacer block)



UFR/L-02AL, 03AL, 04AL (Aluminum bowl)



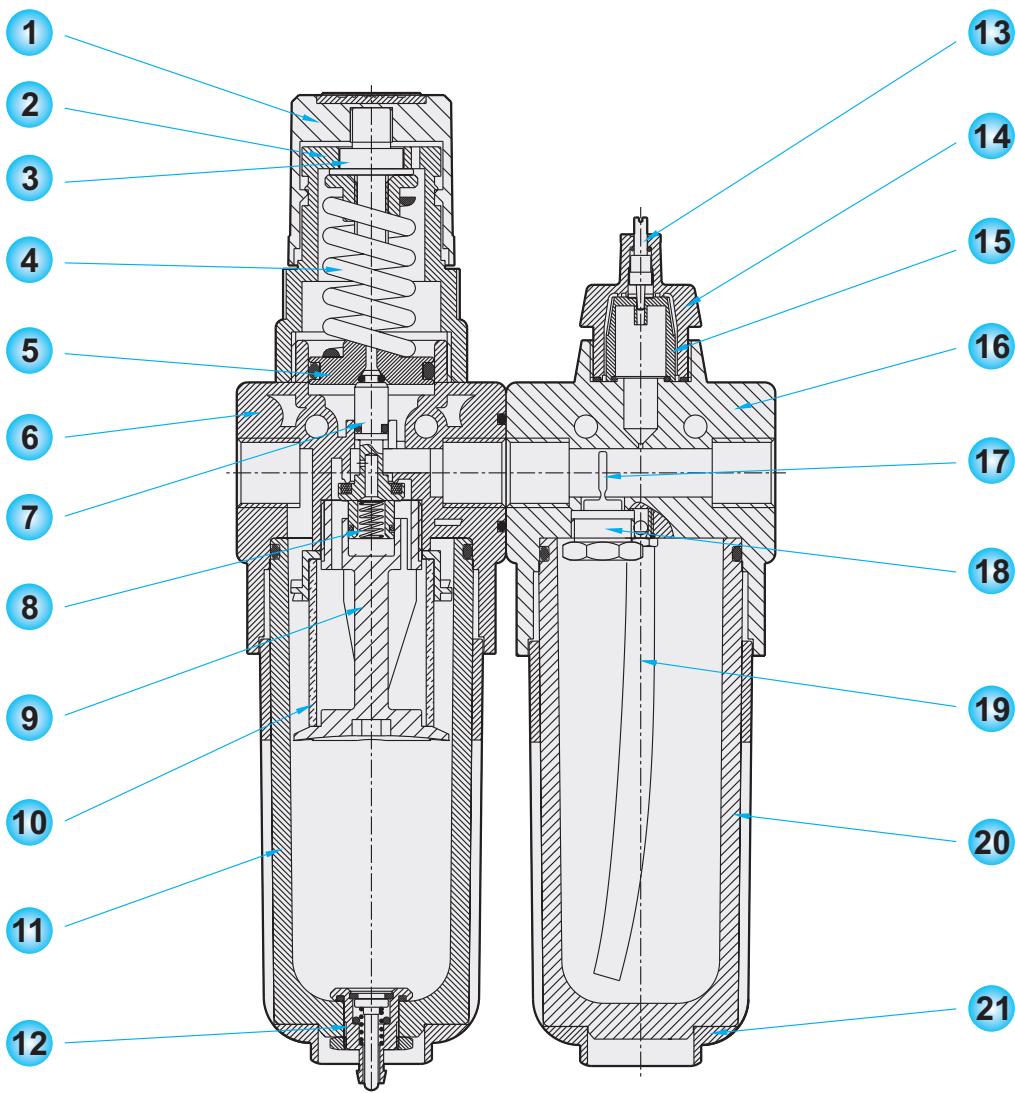
Flow chart



Note: X axis: Flow, Y axis: Pressure, Blue line (P0) = Outlet pressure, Black line (P1) = Inlet pressure, P1-P0=Pressure range

Construction

UFR/L-02, 03, 04

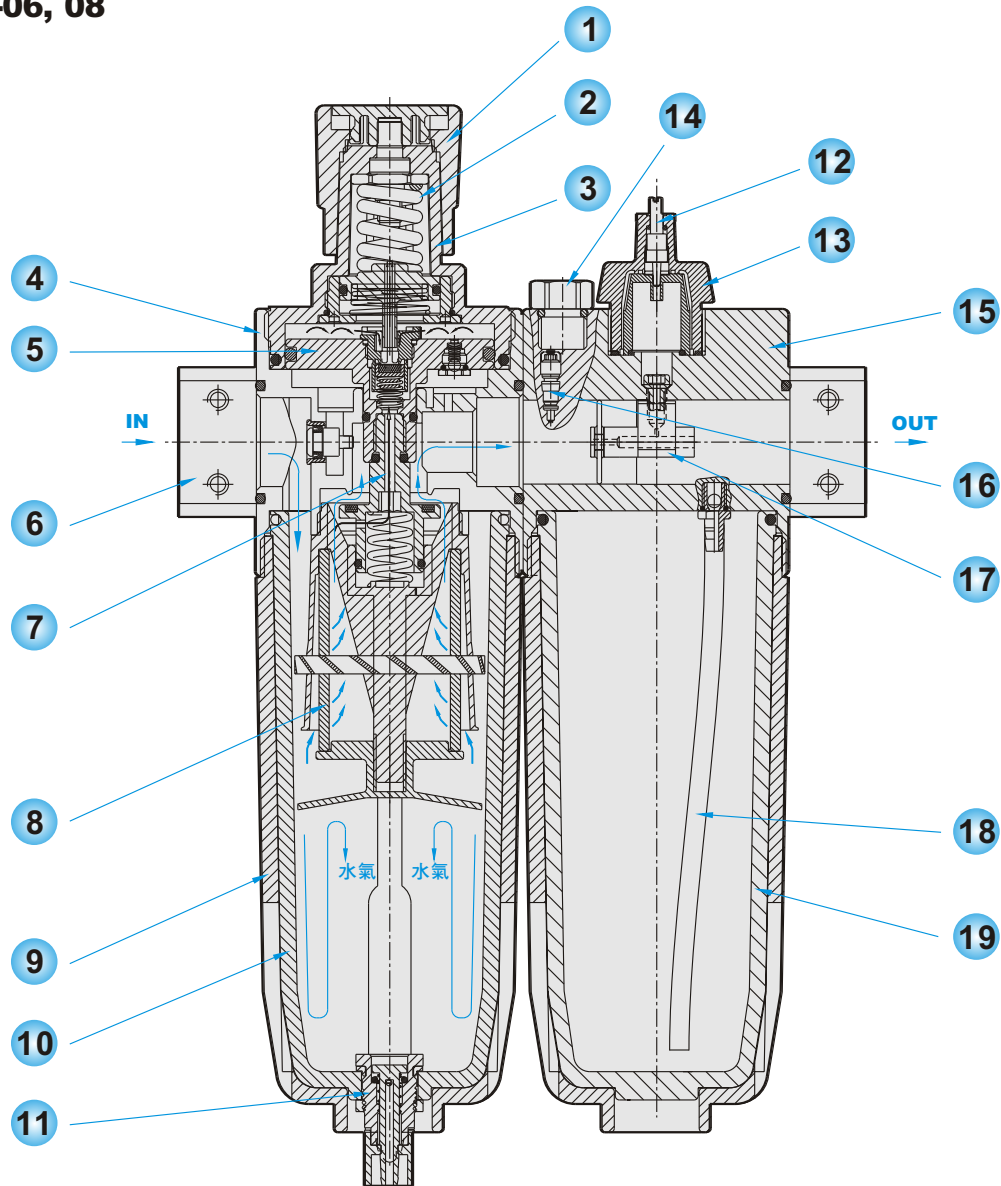


No.	Description	Material
1	Pressure regulating knob	NY
2	Regulator base	NY+GF
3	Pressure regulating screw	Fe+Ni
4	Pressure regulating spring	Spring steel+Ni
5	Piston	Cu+Ni
6	Regulator body	ADC12
7	Regulating needle	Cu+NBR
8	Spring	SUS304
9	Filter element holder	NY
10	Filter element	Cu
11	Filter bowl	PC

No.	Description	Material
12	Semi-auto drain	Cu+Ni
13	Oil adjusting screw	Cu+Ni
14	Oil viewer	GV4H
15	Oil dropping orifice	PC
16	Lubricator body	ADC12
17	Damper	PU
18	Plug	Cu
19	Oil pipe	PU
20	Lubricator bowl	PC
21	Bowl guard	NY

Construction

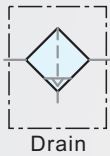
UFR/L-06, 08



No.	Description	Material
1	Pressure regulating knob	NY
2	Spring	Spring steel+Ni
3	Regulator base	NY+GF
4	Regulator body	ADC12
5	Piston	AL
6	Adaptor	ADC12
7	Pressure regulating needle	Cu+NBR
8	Filter element	Cu
9	Bowl guard	NY+GF
10	Filter bowl	PC

No.	Description	Material
11	Semi-auto drain	POM
12	Oil adjusting screw	Cu+Ni
13	Oil viewer	GV4H
14	Oil filling plug	Cu+Ni
15	Lubricator body	ADC12
16	Check valve	Cu
17	Oil dropping orifice	Cu
18	Oil pipe	PU
19	Lubricator bowl	PC

Symbol



Features

- * AD940 series effectively and quickly drains water.
- * Special internal construction prevents vacuum occurred.



How to order

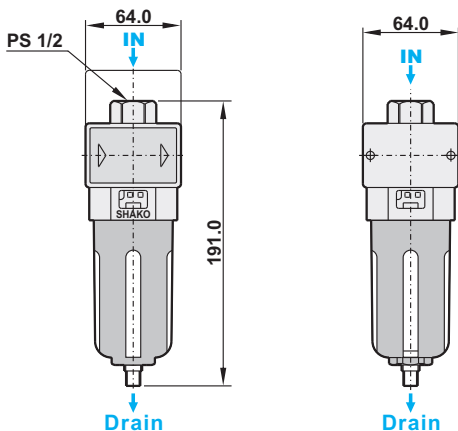
AD940	—	O4	N	AL
Automatic drain		Port size	Thread	Bowl
		04 1/2"	Blank PS	Blank Standard bowl
		06 3/4"	N NPT	AL Aluminum bowl (only for 1/2")
		08 1"		

Specifications

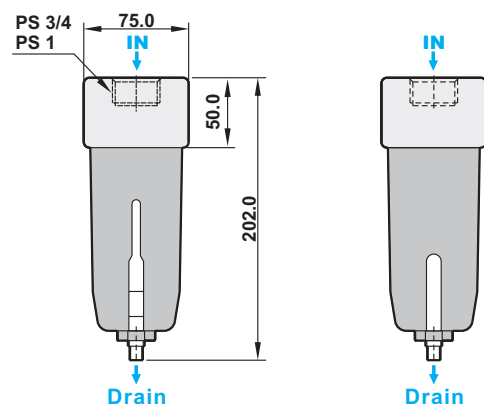
Model	AD940-04	AD940-06	AD940-08
Port size	1/2"	3/4"	1"
Fluid	Compressed air		
Body material	Aluminum die-cast		
Bowl material	Polycarbonate (Standard), Aluminum bowl (Option)		
Operating pressure range	0.5 ~ 10 kgf/cm ²		
Max. inlet pressure	12 kgf/cm ²		
Ambient temperature	-10°C ~ 60°C		
Filter bowl capacity	105cc		210cc
Net weight	500g		400g

Dimensions

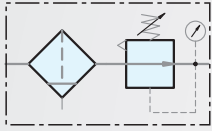
AD940-04



AD940-06, 08



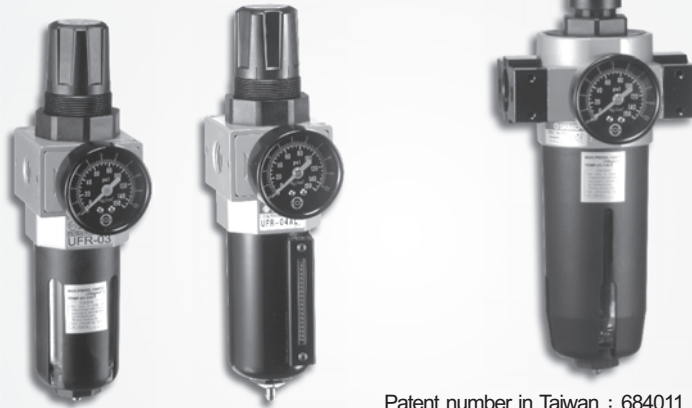
Symbol



Filter Regulator

Features

- * Remove water and particle effectively.
- * 40 μm and 5 μm filter element are easily interchangeable and replaceable.
- * Accurate and easy pressure setting.



Patent number in Taiwan : 684011
 Patent number in China : ZL200420019530. 2
 Patent category : Pressure regulating constructions

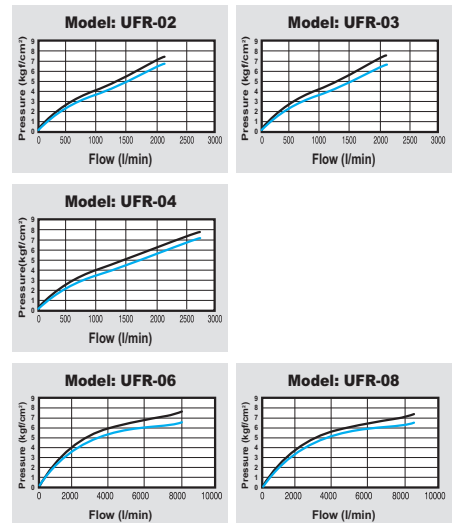
How to order

UFR	—	02	N	C	D	A
Filter Regulator		Port size	Thread	Filtration	Drain	Bowl
		02 1/4"	Blank PS	Blank 5 μm	Blank Semi-auto drain	Blank Standard bowl
		03 3/8"	N NPT	C 40 μm	H Manual drain	A Anti-acid & alkali bowl
		04 1/2"			D Auto drain	AL Aluminum bowl (1/4"~1/2")
		06 3/4"				
		08 1"				

Specifications

Model	UFR-02	UFR-03	UFR-04	UFR-06	UFR-08
Port size	1/4"	3/8"	1/2"	3/4"	1"
Fluid	Compressed air				
Regulator construction	Piston				
Body material	Aluminum die-cast				
Bowl material	Polycarbonate (Standard), Anti-acid & alkali bowl (Option), Aluminum bowl (Option)				
Filtration	5 μm (Standard) 、 40 μm (Option)				
Operating pressure range	0.5 ~ 10 kgf/cm ²				
Max. operating pressure (Standard bowl)	15 kgf/cm ²				
Max. flow rate l/min (6kgf/cm ²)	2080	2100	2600	7940	8200
Ambient temperature	-10°C ~ 60°C				
Lubricator oil (Recommended)	ISO-VG32				
Filter bowl capacity	105cc			210cc	
Lubricator bowl capacity	125cc			235cc	
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)				
Net weight	930g (W/I Aluminum bowl, 1230g)			1360g	
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 4				

Flow chart

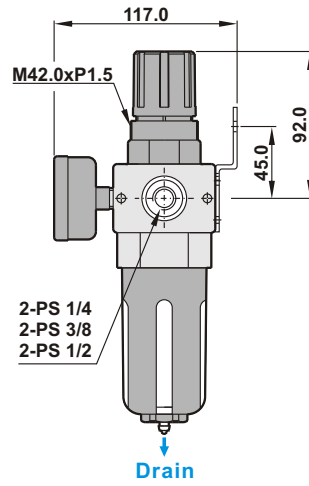
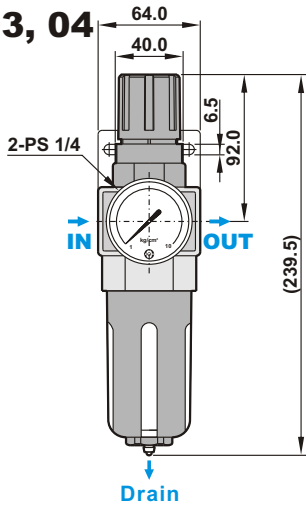


Note:

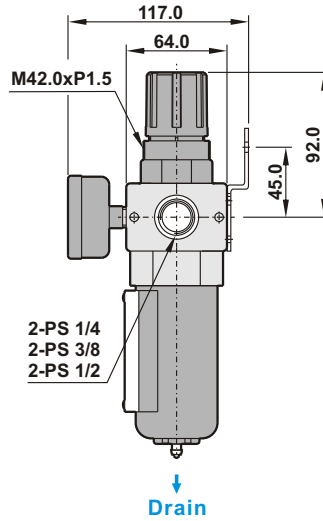
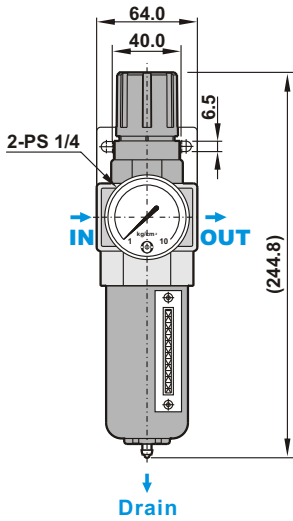
X axis: Flow
 Y axis: Pressure
 Blue line (P0) = Outlet pressure
 Black line (P1) = Inlet pressure
 P1-P0 = Pressure range

Dimensions

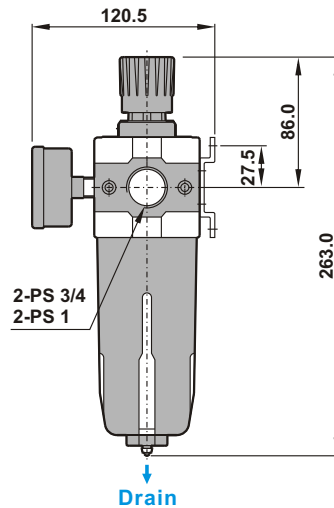
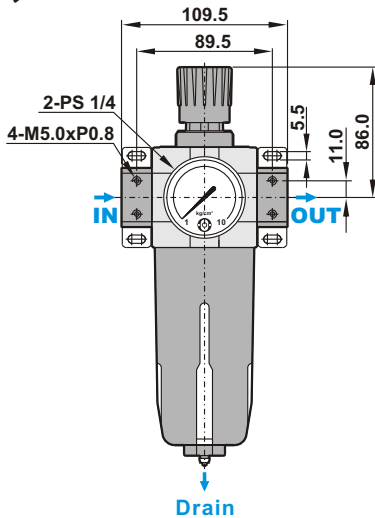
UFR-02, 03, 04



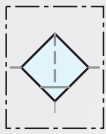
UFR-02AL, 03AL, 04AL (Aluminum bowl)



UFR-06, 08



Symbol



Filter

Features

- * Remove water and particle effectively.
- * 40 μm and 5 μm filter element are easily interchangeable and replaceable.



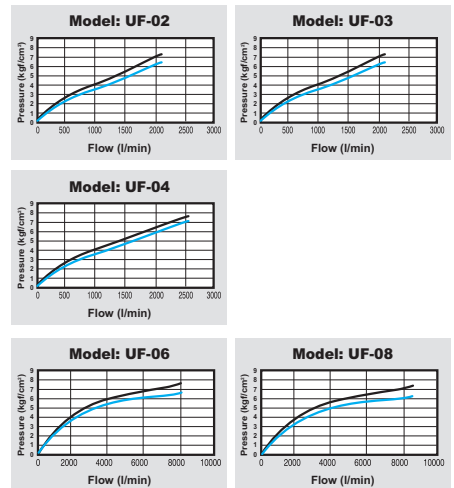
How to order

UF	-	O2	N	C	D	B	A				
Filter	Port size	Thread		Filtration		Drain		Mounting		Bowl	
02	1/4"	Blank	PS	Blank	5 μm	Blank	Semi-auto drain	Blank	W/O bracket	Blank	Standard bowl
03	3/8"	N	NPT	C	40 μm	H	Manual drain	B	W/I bracket	A	Anti-acid & alkali bowl
04	1/2"					D	Auto drain			AL	Aluminum bowl (1/4"~1/2")
06	3/4"										
08	1"										

Specifications

Model	UF-02	UF-03	UF-04	UF-06	UF-08
Port size	1/4"	3/8"	1/2"	3/4"	1"
Fluid	Compressed air				
Body material	Aluminum die-cast				
Bowl material	Polycarbonate (Standard), Anti-acid & alkali bowl (Option), Aluminum bowl (Option)				
Filtration	5 μm (Standard) · 40 μm (Option)				
Operating pressure range	0.5 ~ 10 kgf/cm ²				
Max. operating pressure (Standard bowl)	15 kgf/cm ²				
Max. flow rate l/min (6kgf/cm ²)	2440	2450	3030	8250	8860
Ambient temperature	-10°C ~ 60°C				
Filter bowl capacity	105cc		210cc		
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)				
Net weight	530g (W/I Aluminum bowl 830g)			1250g	

Flow chart

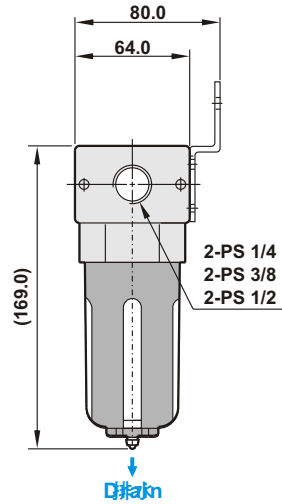
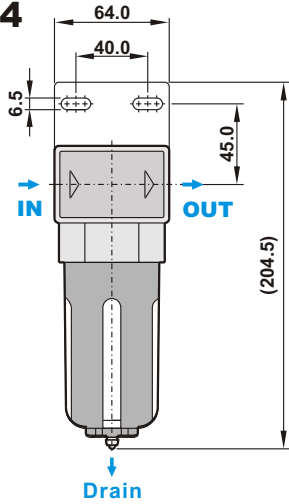


Note:

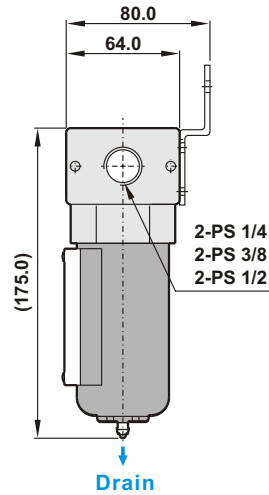
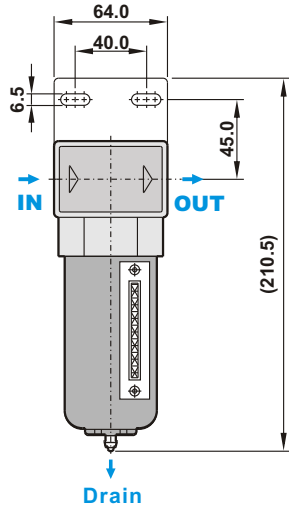
X axis: Flow
 Y axis: Pressure
 Blue line (P0) = Outlet pressure
 Black line (P1) = Inlet pressure
 P1-P0 = Pressure range

— Dimensions

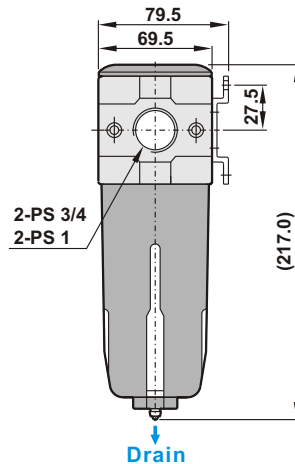
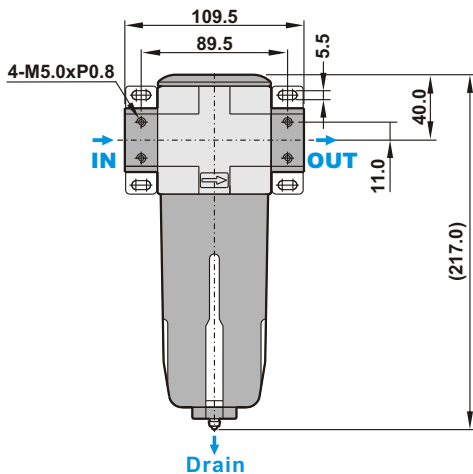
● UF-02, 03, 04



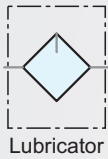
● UF-02AL, 03AL, 04AL (Aluminum bowl)



● UF-06, 08



Symbol



Features

- * Lubricator oil can be replenished without stopping air supply.
- * Oil spray in mist ensures good lubrication for machines.



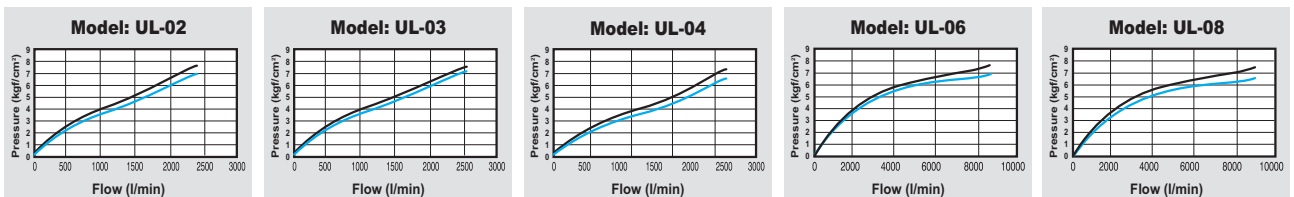
How to order

UL	—	O2	N	B	A																								
Lubricator		Port size	Thread	Mounting	Bowl																								
		<table border="1"> <tr><td>O2</td><td>1/4"</td></tr> <tr><td>O3</td><td>3/8"</td></tr> <tr><td>O4</td><td>1/2"</td></tr> <tr><td>O6</td><td>3/4"</td></tr> <tr><td>O8</td><td>1"</td></tr> </table>	O2	1/4"	O3	3/8"	O4	1/2"	O6	3/4"	O8	1"	<table border="1"> <tr><td>Blank</td><td>PS</td></tr> <tr><td>N</td><td>NPT</td></tr> </table>	Blank	PS	N	NPT	<table border="1"> <tr><td>Blank</td><td>W/O bracket</td></tr> <tr><td>B</td><td>W/I bracket</td></tr> </table>	Blank	W/O bracket	B	W/I bracket	<table border="1"> <tr><td>Blank</td><td>Standard bowl</td></tr> <tr><td>A</td><td>Anti-acid & alkali bowl</td></tr> <tr><td>AL</td><td>Aluminum bowl (1/4"~1/2")</td></tr> </table>	Blank	Standard bowl	A	Anti-acid & alkali bowl	AL	Aluminum bowl (1/4"~1/2")
O2	1/4"																												
O3	3/8"																												
O4	1/2"																												
O6	3/4"																												
O8	1"																												
Blank	PS																												
N	NPT																												
Blank	W/O bracket																												
B	W/I bracket																												
Blank	Standard bowl																												
A	Anti-acid & alkali bowl																												
AL	Aluminum bowl (1/4"~1/2")																												

Specifications

Model	UL-02	UL-03	UL-04	UL-06	UL-08
Port size	1/4"	3/8"	1/2"	3/4"	1"
Fluid	Compressed air				
Body material	Aluminum die-cast				
Bowl material	Polycarbonate (Standard), Anti-acid & alkali bowl (Option), Aluminum bowl (Option)				
Operating pressure range	0.5 ~ 10 kgf/cm ²				
Max. operating pressure (Standard bowl)	15 kgf/cm ²				
Max. flow rate l/min (6kgf/cm ²)	2490	2525	4310	8400	9000
Ambient temperature	-10°C ~ 60°C				
Lubricator oil (Recommended)	ISO-VG32				
Lubricator bowl capacity	125cc			235cc	
Net weight	500g (W/I Aluminum bowl 800g)			1095g	

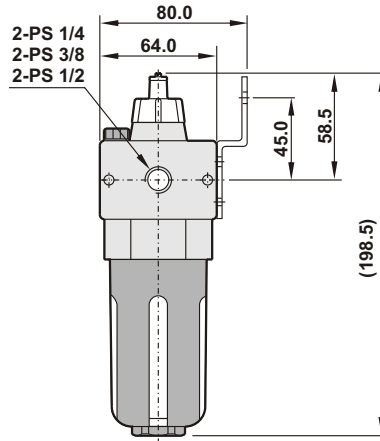
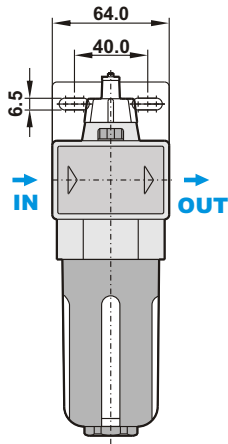
Flow chart



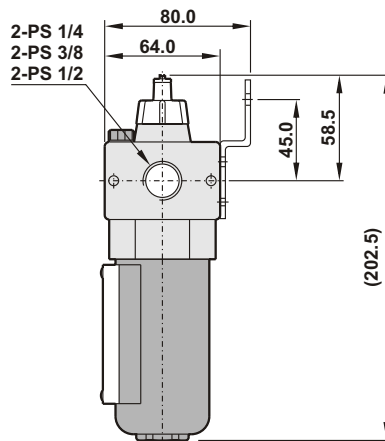
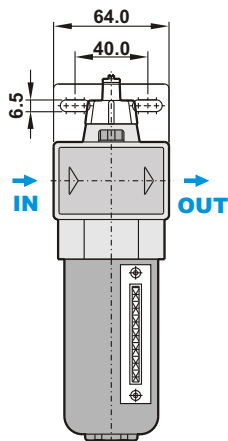
Note: X axis: Flow, Y axis: Pressure, Blue line (P0) = Outlet pressure, Black line (P1) = Inlet pressure, P1-P0 = Pressure range

Dimensions

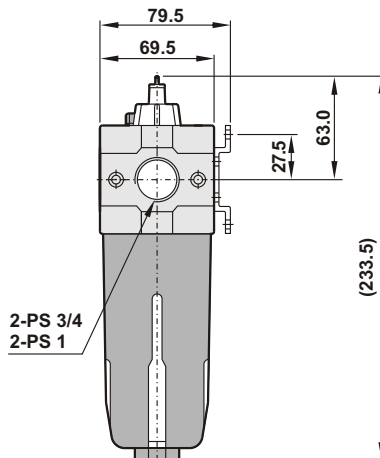
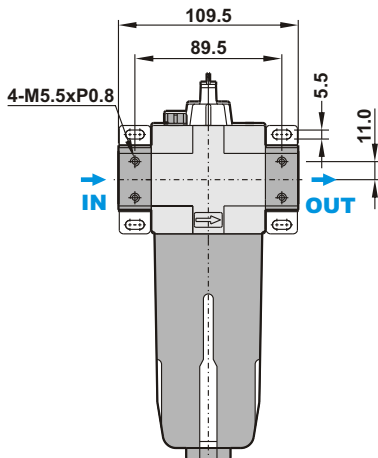
UL-02, 03, 04



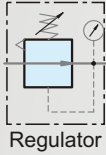
UL-02AL, 03AL, 04AL (Aluminum bowl)



UL-06, 08



Symbol



Features

- * Accurate and easy pressure setting.
- * Panel mounting is available.

How to order

UR

02

N

Regulator

Port size

Thread

02	1/4"	06	3/4"
03	3/8"	08	1"
04	1/2"		

Blank	PS
N	NPT

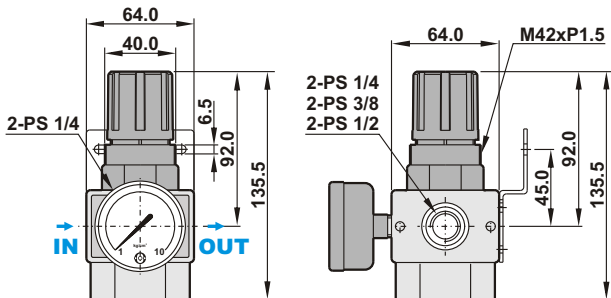


Specifications

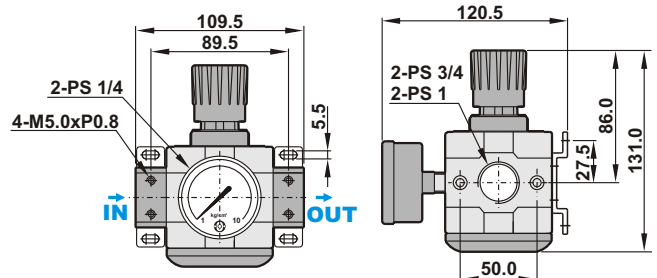
Model	UR-02	UR-03	UR-04	UR-06	UR-08
Port size	1/4"	3/8"	1/2"	3/4"	1"
Fluid	Compressed air				
Regulator construction	Piston				
Body material	Aluminum die-cast				
Operating pressure range	0.5 ~ 10 kgf/cm ²				
Max. inlet pressure	15 kgf/cm ²				
Max. flow rate l/min (6kgf/cm ²)	2100	2130	2750	8000	8500
Ambient temperature	-10°C ~ 60°C				
Net weight	740g	730g	720g	1250g	1240g
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 4				

Dimensions

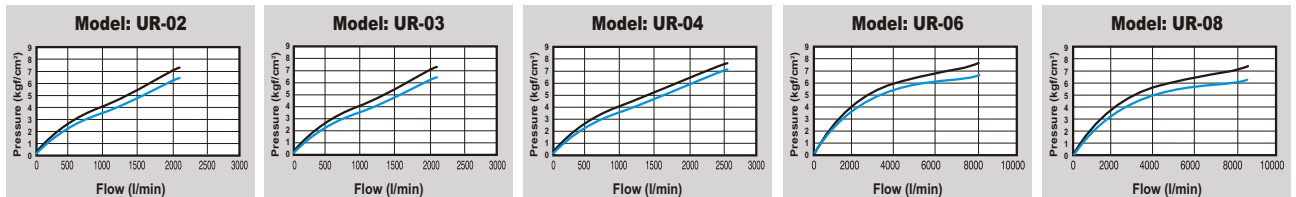
UR-02, 03, 04



UR-06, 08



Flow chart

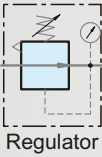


Note: X axis: Flow, Y axis: Pressure, Blue line (P0) = Outlet pressure, Black line (P1) = Inlet pressure, P1-P0 = Pressure range

SHAKO 1-1/2", 2" REGULATOR

FRL COMBINATIONS

Symbol



Features

- * Large flow rate (Max. 30000 l/min)
- * Aluminum alloy body, light weight.
- * Pilot regulator is available for remote control.

How to order

UR

20

N

UR	Regulator
UAR	Pilot regulator

Port size	
14	1 1/2"
20	2"

Thread	
Blank	PS
N	NPT

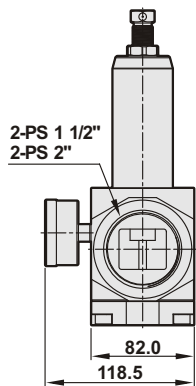
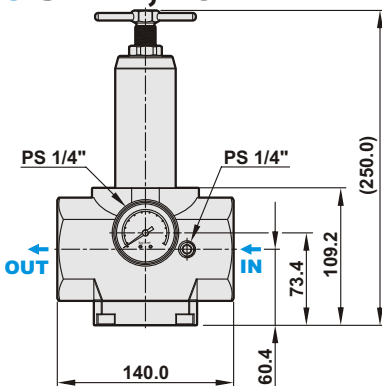


Specifications

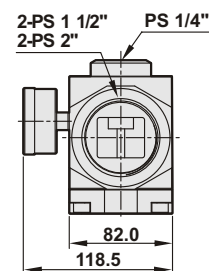
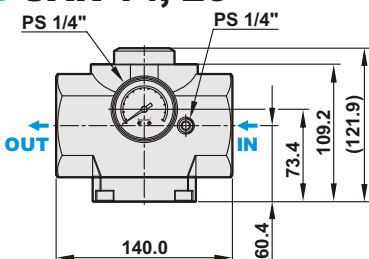
Model	UR-14	UR-20	UAR-14	UAR-20
Port size	1 1/2"	2"	1 1/2"	2"
Fluid	Compressed air			
Regulator construction	Piston			
Operating pressure range	0 ~ 8 kgf/cm ²			
Max. operating pressure	15 kgf/cm ²			
Max. flow rate l/min (6kgf/cm ²)	30000 l/min (input 7 kgf/cm ² output 6 kgf/cm ²)			
Ambient temperature	-10°C ~ 60°C			
Net weight	2.8 kg	2.5 kg	2.2 kg	2.0 kg
Accessories	Pressure gauge, plug			

Dimensions

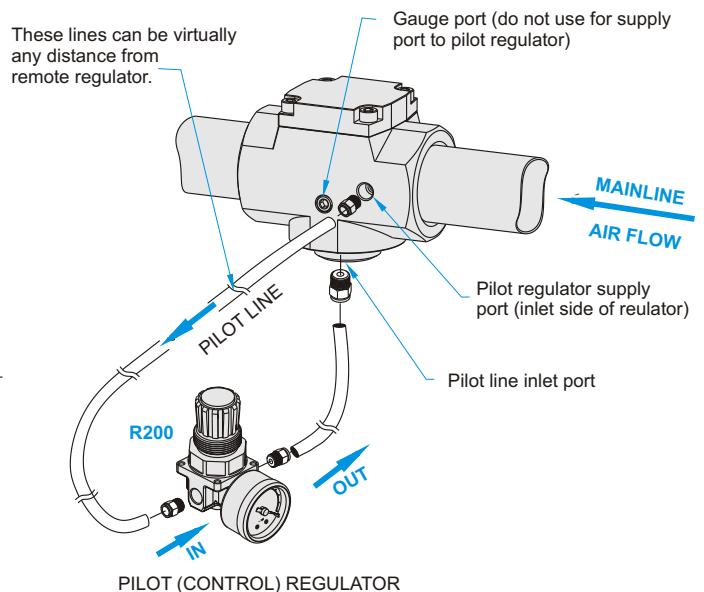
UR-14, 20



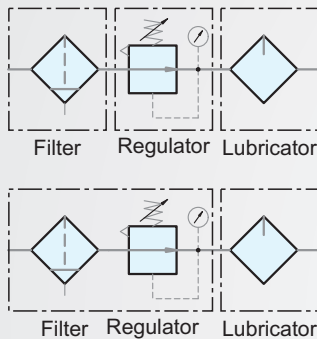
UAR-14, 20



Installation



Symbol



Features

- * Remove water and particle effectively.
- * Compact size with effective air service.
- * 40 μm and 5 μm filter element are easily interchangeable and replaceable.
- * Accurate and easy pressure setting.
- * Oil spray in mist ensures good lubrication for machines.

How to order

FRL700B — 02 N C H K

FRL700B	Miniature Filter+Regulator+Lubricator
FRL600B	Miniature Filter Regulator+Lubricator

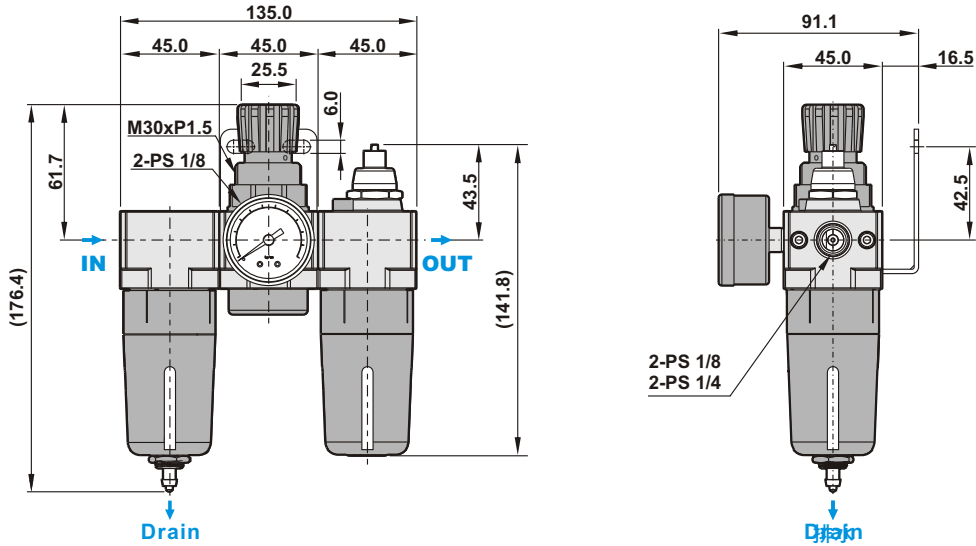
Port size		Thread		Filtration		Drain		Bowl guard	
01	1/8" Option	Blank	PS	Blank	5 μm	Blank	Semi-auto drain	Blank	W/O guard
		N	NPT	C	40 μm	H	Manual drain	K	W/I guard
02	1/4" Standard								

Specifications

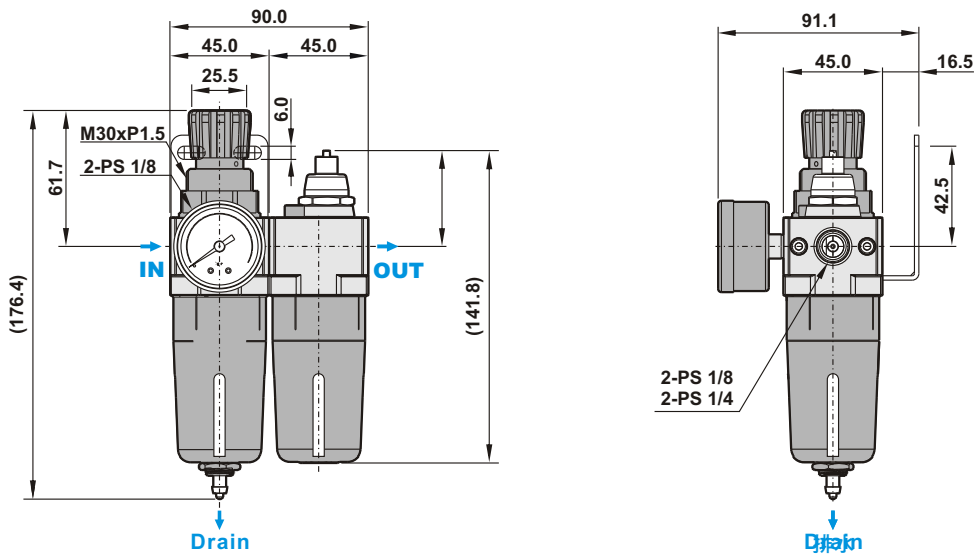
Model	FRL700B-01	FRL700B-02	FRL600B-01	FRL600B-02
Port size	1/8" (Option)	1/4" (Standard)	1/8" (Option)	1/4" (Standard)
Fluid	Compressed air			
Regulator construction	Piston			
Body material	Aluminum die-cast			
Bowl material	Polycarbonate (Standard)			
Filtration	5 μm (Standard) · 40 μm (Option)			
Operating pressure range	0.5 ~ 10 kgf/cm ²			
Max. inlet pressure (Standard bowl)	12 kgf/cm ²			
Max. flow rate l/min (6kgf/cm ²)	1875		1750	1850
Ambient temperature	-10°C ~ 60°C			
Lubricator oil (Recommended)	ISO-VG32			
Filter bowl capacity	40cc			
Lubricator bowl capacity	50cc			
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)			
Net weight	765g		560g	
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2			

Dimensions

FRL700B-01, 02

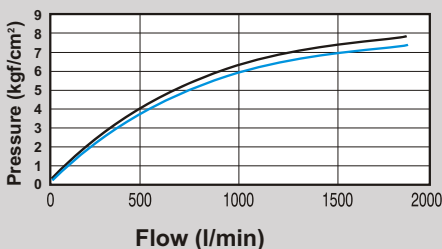


FRL600B-01, 02

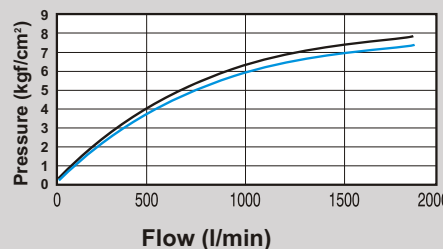


Flow chart

Model: FRL700B



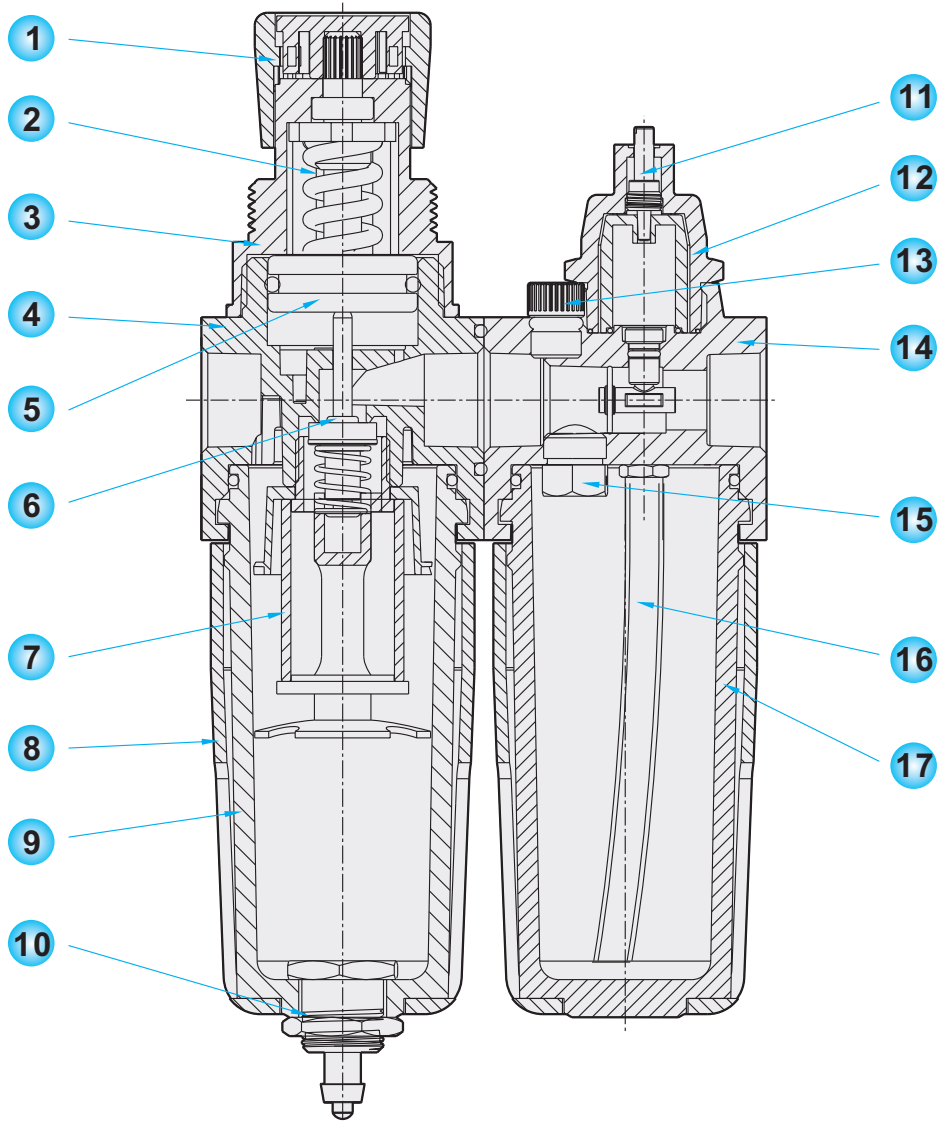
Model: FRL600B



Note:

- X axis: Flow
- Y axis: Pressure
- Blue line (P0) = Outlet pressure
- Black line (P1) = Inlet pressure
- P1-P0 = Pressure range

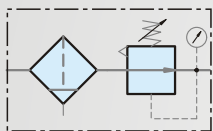
Construction



No.	Description	Material
1	Pressure regulating knob	NY
2	Spring	Spring steel+Ni
3	Regulator base	NY+GF
4	Regulator body	AL(ADC12)
5	Piston	AL(ADC12)
6	Pressure regulating needle	Cu+NBR
7	Filter element holder	Cu
8	Bowl guard	NY+GY
9	Filter bowl	PC

No.	Description	Material
10	Semi-auto drain	Cu+Ni
11	Oil adjusting screw	Cu+Ni
12	Oil viewer	GV4H
13	Oil filling plug	Cu+Ni
14	Lubricator body	AL(ADC12)
15	Check valve	Cu
16	Oil pipe	PU
17	Lubricator bowl	PC

Symbol



Filter Regulator

Features

- * Remove water and particle effectively.
- * Compact size with effective air service.
- * 40 μm and 5 μm filter element are easily interchangeable and replaceable.
- * Accurate and easy pressure setting.



How to order

FR500B

02

N

C

H

K

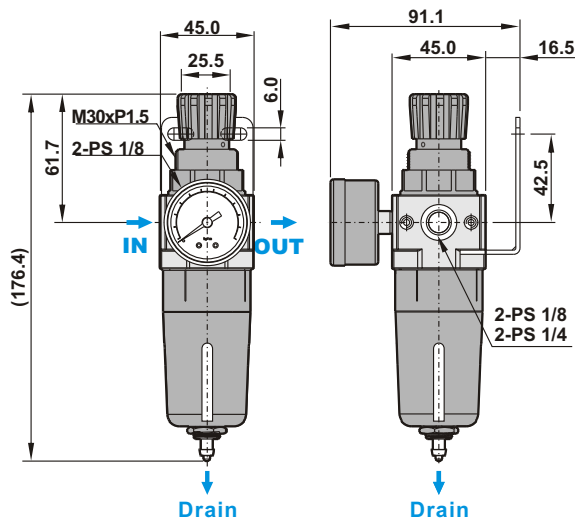
Miniature Filter Regulator		Port size		Thread		Filtration		Drain		Bowl guard	
FR	Filter Regulator	01	02	Blank	N	Blank	C	Blank	H	Blank	K
		1/8" Option	1/4" Standard	PS	NPT	5 μm	40 μm	Semi-auto drain	Manual drain	W/O guard	W/I guard

Specifications

Model	FR500B-01	FR500B-02
Port size	1/8" (Option)	1/4" (Standard)
Fluid	Compressed air	
Regulator construction	Piston	
Body material	Aluminum die-cast	
Bowl material	Polycarbonate (Standard)	
Filtration	5 μm (Standard) · 40 μm (Option)	
Operating pressure range	0.5 ~ 10 kgf/cm ²	
Max. inlet pressure (Standard bowl)	12 kgf/cm ²	
Max. flow rate l/min (6kgf/cm ²)	1800	1880
Ambient temperature	-10°C ~ 60°C	
Filter bowl capacity	40cc	
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)	
Net weight	365g	
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2	

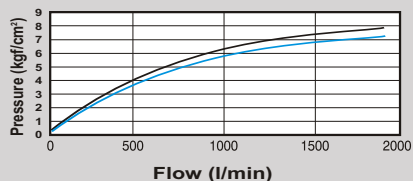
Dimensions

FR500B-01, 02



Flow chart

Model: FR500B

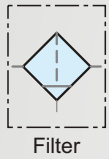


Note:

X axis: Flow
Y axis: Pressure

Blue line (P0) = Outlet pressure
Black line (P1) = Inlet pressure
P1-P0 = Pressure range

Symbol



Features

- * Remove water and particle effectively.
- * Compact size with effective air service.
- * 40 μm and 5 μm filter element are easily interchangeable and replaceable.



How to order

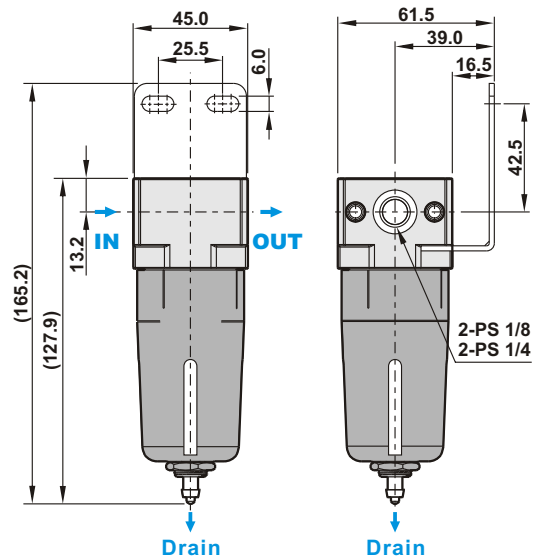
F200B	02	N	C	H	B	K					
Miniature Filter	Port size	Thread		Filtration		Drain	Mounting bracket		Bowl guard		
01	1/8" Option	Blank	PS	Blank	5 μm	Blank	Semi-auto drain	Blank	W/O bracket	Blank	W/O guard
02	1/4" Standard	N	NPT	C	40 μm	H	Manual drain	B	W/I bracket	K	W/I guard

Specifications

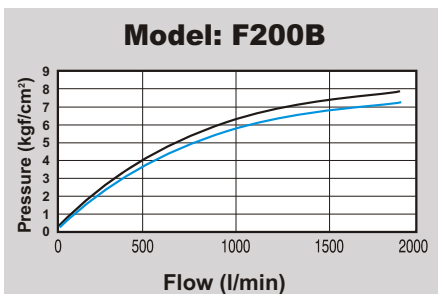
Model	F200B-01	F200B-02
Port size	1/8" (Opti on)	1/4" (Stan dard)
Fluid	Compressed air	
Body material	Aluminum die-cast	
Bowl material	Polycarbonate (Standard)	
Filtration	5 μm (Standard) ~ 40 μm (Option)	
Operating pressure range	0.5 ~ 10 kgf/cm ²	
Max. inlet pressure (Standard bowl)	12 kgf/cm ²	
Max. flow rate l/min (6kgf/cm ²)	1900	
Ambient temperature	-10℃ ~ 60℃	
Filter bowl capacity	40cc	
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)	
Net weight	245g	
Accessories	Mounting bracket, Screw x 2	

Dimensions

F200B-01, 02



Flow chart

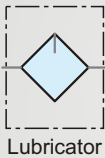


Note:

X axis: Flow
Y axis: Pressure

Blue line (P0) = Outlet pressure
Black line (P1) = Inlet pressure
P1-P0 = Pressure range

Symbol



Features

* Oil spray in mist ensures good lubrication for machines.



How to order

L200B

Miniature lubricator

02

Port size

01	1/8" Option
02	1/4" Standard

N

Thread

Blank	PS
N	NPT

B

Mounting bracket

Blank	W/O bracket
B	W/I bracket

K

Bowl guard

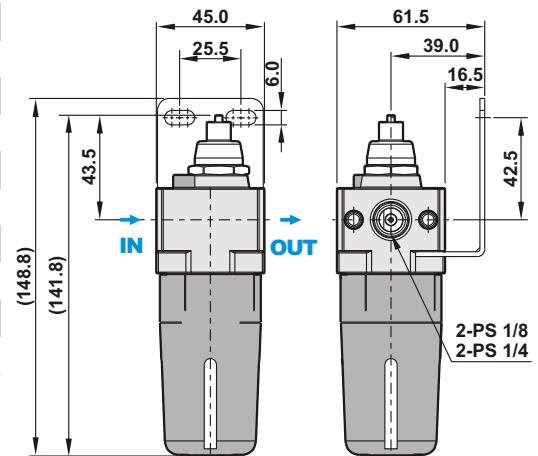
Blank	W/O guard
K	W/I guard

Specifications

Model	L200B-01	L200B-02
Port size	1/8" (Option)	1/4" (Standard)
Fluid	Compressed air	
Body material	Aluminum die-cast	
Bowl material	Polycarbonate (Standard)	
Operating pressure range	0.5 ~ 10 kgf/cm ²	
Max. inlet pressure	12 kgf/cm ²	
Max. flow rate l/min (6kgf/cm ²)	2490	
Ambient temperature	-10°C ~ 60°C	
Lubricator oil (Recommended)	ISO-VG32	
Lubricator bowl capacity	50cc	
Net weight	245g	
Accessories	Mounting bracket, Screw x 2	

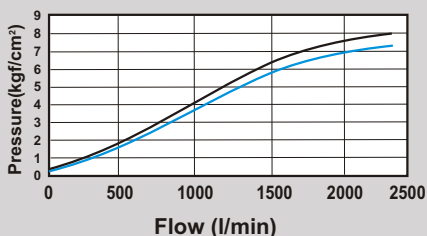
Dimensions

L200B-01, 02



Flow chart

Model: L200B

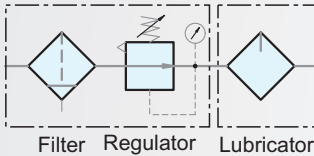
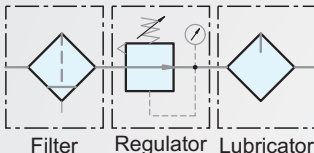


Note:

X axis: Flow
Y axis: Pressure

Blue line (P0) = Outlet pressure
Black line (P1) = Inlet pressure
P1-P0 = Pressure range

Symbol



Features

- * Remove water and particle effectively.
- * Compact size with effective air service.
- * 40 μm and 5 μm filter element are easily interchangeable and replaceable.
- * Accurate and easy pressure setting.
- * Oil spray in mist ensures good lubrication for machines.
- * Strict quality control offers product stable quality and long life.

Miniature FRL A type patent
 Patent number in Taiwan: 1888494
 Patent number in the US.: US6.733.044
 Patent number in China: 538716

How to order

FRL700A

02

N

C

H

K

FRL700A	Miniature Filter+Regulator+Lubricator
FRL600A	Miniature Filter Regulator+Lubricator

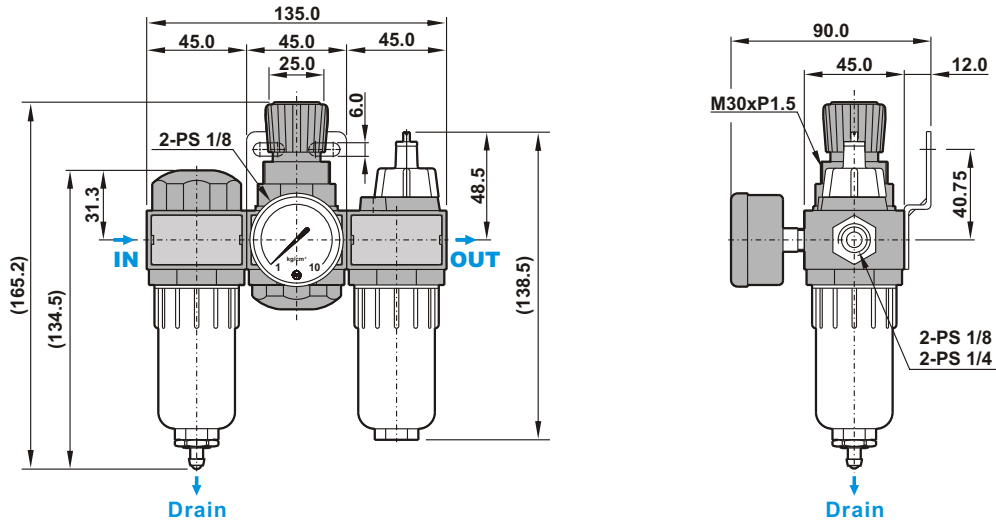
Port size		Thread		Filtration		Drain		Bowl guard	
01	1/8" Option	Blank	PS	Blank	5 μm	Blank	Semi-auto drain	Blank	W/O guard
02	1/4" Standard	N	NPT	C	40 μm	H	Manual drain	K	W/I guard

Specifications

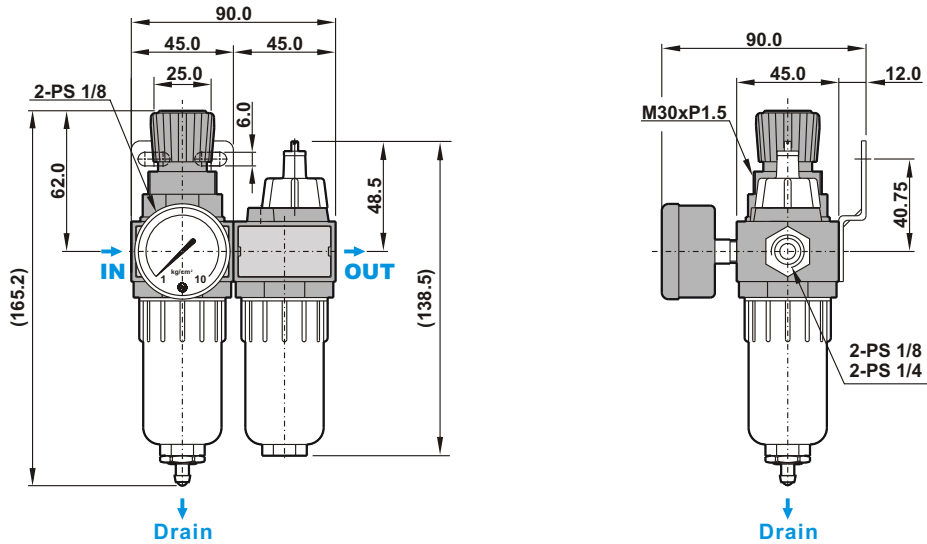
Model	FRL700A-01	FRL700A-02	FRL600A-01	FRL600A-02
Port size	1/8" (Option)	1/4" (Standard)	1/8" (Option)	1/4" (Standard)
Fluid	Compressed air			
Regulator construction	Diaphragm			
Body material	Polycarbonate			
Bowl material	Polycarbonate (Standard)			
Filtration	5 μm (Standard) · 40 μm (Option)			
Operating pressure range	0.5 ~ 10 kgf/cm ²			
Max. inlet pressure (Standard bowl)	12 kgf/cm ²			
Max. flow rate l/min (6kgf/cm ²)	1850		1650	1850
Ambient temperature	-10°C ~ 60°C			
Lubricator oil (Recommended)	ISO-VG32			
Filter bowl capacity	35cc			
Lubricator bowl capacity	50cc			
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)			
Net weight	810g		560g	
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2			

Dimensions

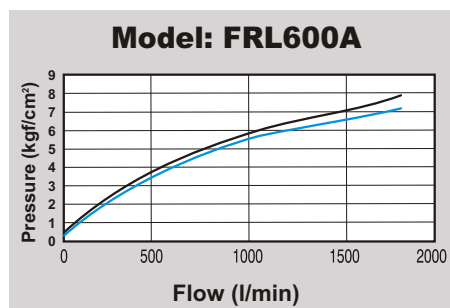
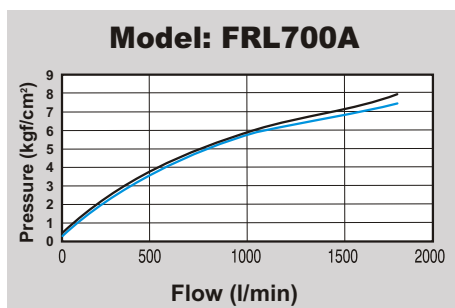
FRL700A-01, 02



FRL600A-01, 02



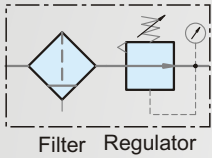
Flow chart



Note:

- X axis: Flow
- Y axis: Pressure
- Blue line (P0) = Outlet pressure
- Black line (P1) = Inlet pressure
- P1-P0 = Pressure range

Symbol



Filter Regulator

Features

- * Remove water and particle effectively.
- * Compact size with effective air service.
- * 40 μ m and 5 μ m filter element are easily interchangeable and replaceable.
- * Accurate and easy pressure setting.



How to order

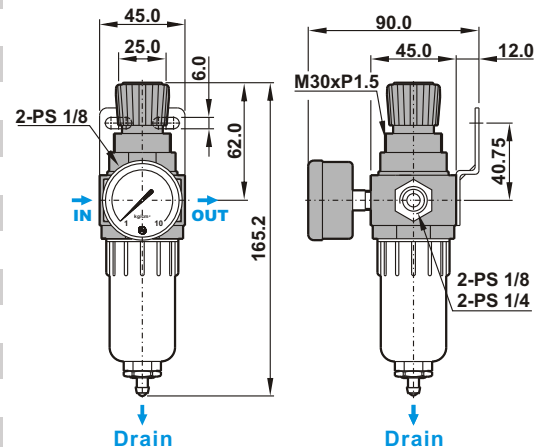
FR500A	—	02	N	C	H	K
Miniature Filter Regulator		Port size	Thread	Filtration	Drain	Bowl guard
		01 1/8" Option 02 1/4" Standard	Blank PS N NPT	Blank 5 μ m C 40 μ m	Blank Semi-auto drain H Manual drain	Blank W/O guard K W/I guard

Specifications

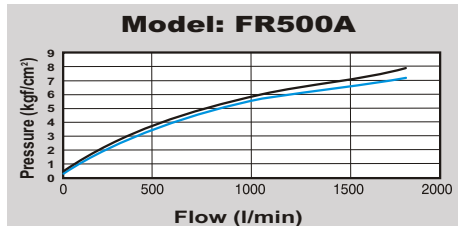
Model	FR500A-01	FR500A-02
Port size	1/8" [Option]	1/4" [Standard]
Fluid	Compressed air	
Regulator construction	Diaphragm	
Body material	Polycarbonate	
Bowl material	Polycarbonate (Standard)	
Filtration	5 μ m (Standard) 、 40 μ m (Option)	
Operating pressure range	0.5 ~ 10 kgf/cm ²	
Max. inlet pressure (Standard bowl)	12 kgf/cm ²	
Max. flow rate l/min (6kgf/cm ²)	1840	1940
Ambient temperature	-10 $^{\circ}$ C ~ 60 $^{\circ}$ C	
Filter bowl capacity	35cc	
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)	
Net weight	370g	
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2	

Dimensions

FR500A-01, 02



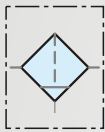
Flow chart



Note:

- X axis: Flow
- Y axis: Pressure
- Blue line (P0) = Outlet pressure
- Black line (P1) = Inlet pressure
- P1-P0=Pressure range

Symbol



Filter

Features

- * Remove water and particle effectively.
- * Compact size with effective air service.
- * 40 μm and 5 μm filter element are easily interchangeable and replaceable.



How to order

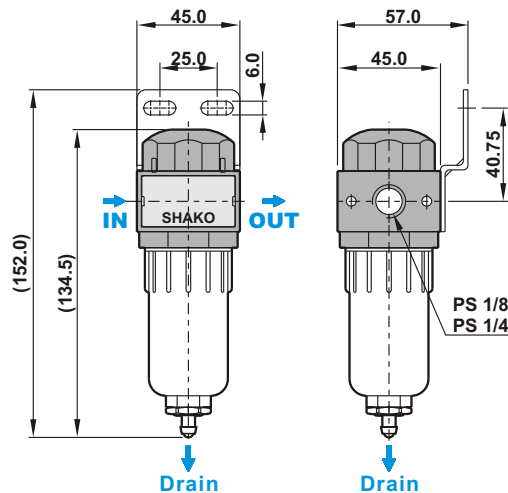
F200A	-	02	N	C	H	B	K
Miniature Filter		Port size	Thread	Filtration	Drain	Mounting bracket	Bowl guard
		01 1/8" Option 02 1/4" Standard	Blank PS N NPT	Blank 5 μm C 40 μm	Blank Semi-auto drain H Manual drain	Blank W/O bracket B W/I bracket	Blank W/O guard K W/I guard

Specifications

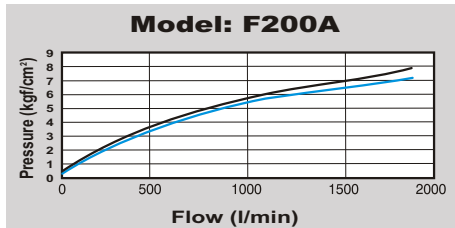
Model	F200A-01	F200A-02
Port size	1/8" (Option)	1/4" (Standard)
Fluid	Compressed air	
Body material	Polycarbonate	
Bowl material	Polycarbonate (Standard)	
Filtration	5 μm (Standard) · 40 μm (Option)	
Operating pressure range	0.5 ~ 10 kgf/cm ²	
Max. inlet pressure (Standard bowl)	12 kgf/cm ²	
Max. flow rate l/min (6kgf/cm ²)	1900	
Ambient temperature	-10°C ~ 60°C	
Filter bowl capacity	35cc	
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)	
Net weight	245g	
Accessories	Mounting bracket, Screw x 2	

Dimensions

F200A-01, 02



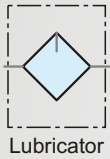
Flow chart



Note:

- X axis: Flow
- Y axis: Pressure
- Blue line (P0) = Outlet pressure
- Black line (P1) = Inlet pressure
- P1-P0 = Pressure range

Symbol



Features

- * Compact size with effective air service.
- * Oil spray in mist ensures good lubrication for machines.



How to order

L200A

Miniature lubricator

02

Port size

01	1/8" Option
02	1/4" Standard

N

Thread

Blank	PS
N	NPT

B

Mounting bracket

Blank	W/O bracket
B	W/I bracket

K

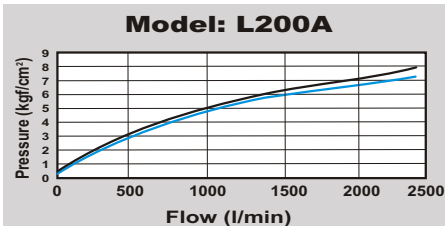
Bowl guard

Blank	W/O guard
K	W/I guard

Specifications

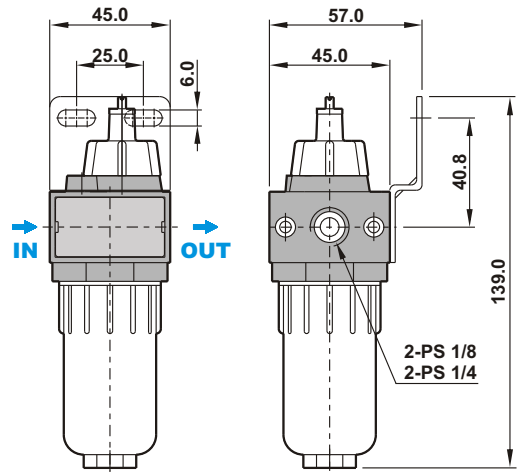
Model	L200A-01	L200A-02
Port size	1/8" (Option)	1/4" (Standard)
Fluid	Compressed air	
Body material	Polycarbonate	
Bowl material	Polycarbonate (Standard)	
Operating pressure range	0.5 ~ 10 kgf/cm ²	
Max. inlet pressure	12 kgf/cm ²	
Max. flow rate l/min (6kgf/cm ²)	2449	
Ambient temperature	-10°C ~ 60°C	
Lubricator oil (Recommended)	ISO-VG32	
Lubricator bowl capacity	50cc	
Net weight	165g	
Accessories	Mounting bracket, Screw x 2	

Flow chart



Dimensions

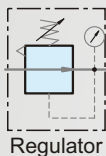
L200A-01, 02



Note:

- X axis: Flow
- Y axis: Pressure
- Blue line (P0) = Outlet pressure
- Black line (P1) = Inlet pressure
- P1-P0 = Pressure range

Symbol



Features

- * Accurate and easy pressure setting.
- * Panel mounting is available.



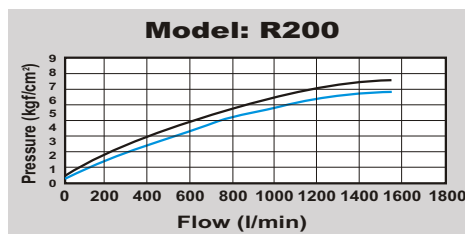
How to order

R200	—	02	N	B	G
R200 Miniature Regulator		Port size	Thread	Mounting bracket	Pressure gauge
		01 1/8"	Blank PS	Blank W/O bracket	Blank W/O gauge
		02 1/4"	N NPT	B W/I bracket	G W/I gauge

Specifications

Model	R200
Port size	1/8", 1/4"
Fluid	Compressed air
Regulator construction	Piston
Body material	Aluminum die-cast
Operating pressure range	0.5 ~ 8 kgf/cm ²
Max. inlet pressure	9.9 kgf/cm ²
Max. flow rate l/min (6kgf/cm ²)	1550
Ambient temperature	-10°C ~ 60°C
Net weight	205g
Accessories	Plug

Flow chart

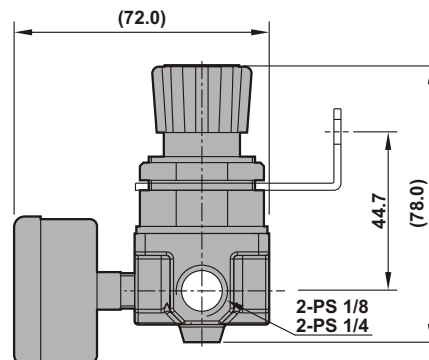
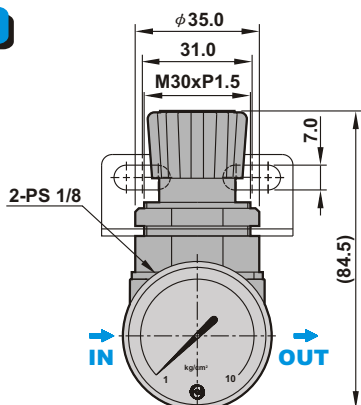


Note:

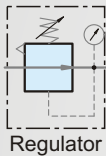
- X axis: Flow
- Y axis: Pressure
- Blue line (P0) = Outlet pressure
- Black line (P1) = Inlet pressure
- P1-P0 = Pressure range

Dimensions

R200-01, 02



Symbol



Features

- * Diaphragm design provides more accurate and easier pressure setting.
- * Panel mounting is available.



How to order

NR200

02

N

B

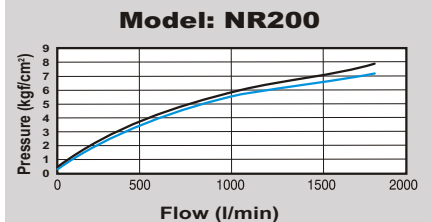
G

NR200	Operating pressure 0.5~8kgf/cm ²	Port size	Thread	Mounting bracket	Pressure gauge
NR200L4	Operating pressure 0~4kgf/cm ²	01 1/8"	Blank PS	Blank W/O bracket	Blank W/O gauge
NR200L2	Operating pressure 0~2 kgf/cm ²	02 1/4"	N NPT	B W/I bracket	G W/I gauge

Specifications

Model	NR200	NR200L4	NR200L2
Port size	1/8", 1/4"		
Fluid	Compressed air		
Regulator construction	Diaphragm		
Body material	Aluminum die-cast		
Operating pressure range	0.5~8 kgf/cm ²	0~4 kgf/cm ²	0~2 kgf/cm ²
Max. inlet pressure	12 kgf/cm ²		
Max. flow rate l/min (6kgf/cm ²)	1500		
Ambient temperature	-10°C ~ 60°C		
Net weight	205g		
Accessories	Plug		

Flow chart

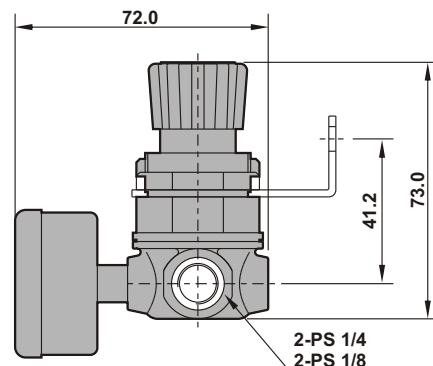
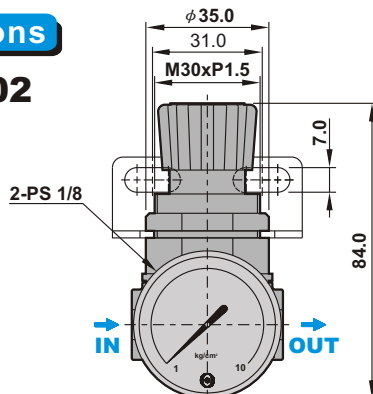


Note:

X axis: Flow
 Y axis: Pressure
 Blue line (P0) = Outlet pressure
 Black line (P1) = Inlet pressure
 P1-P0 = Pressure range

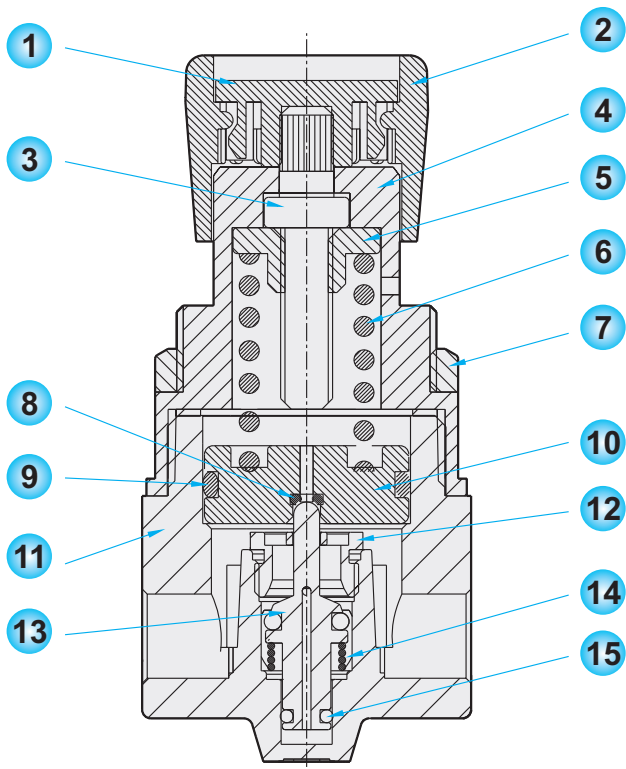
Dimensions

NR200-01, 02



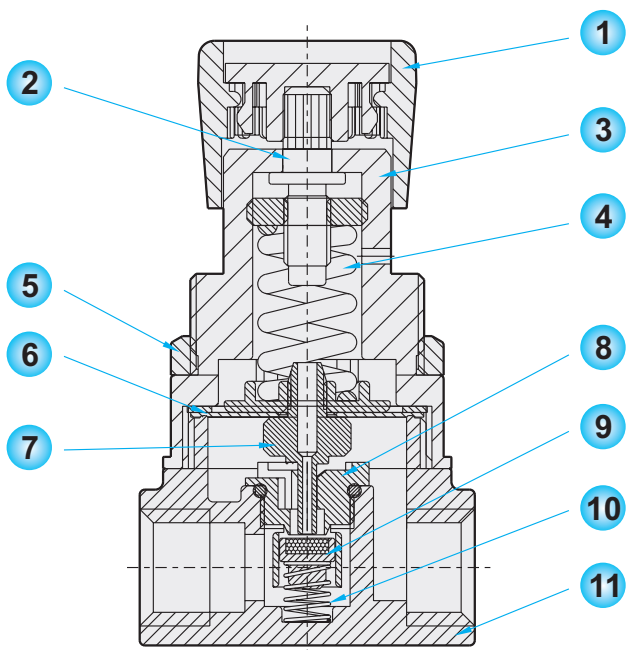
Construction

R200-01, 02



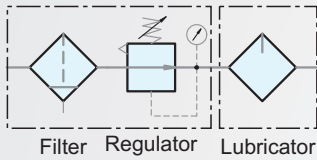
No.	Description	Material
1	Regulator dome	NY
2	Regulator knob	NY
3	Pressure regulating screw	Fe+Ni
4	Regulator base	NY+GF
5	Pressure regulating nut	Cu+Ni
6	Spring	Spring steel
7	Lock nut	NY+GF
8	O-ring	NBR
9	O-ring	NBR
10	Piston	AL
11	Body	ADC12
12	Positioning nut	Cu
13	Regulating needle	Cu
14	Spring	SUS
15	O-ring	NBR

NR200-01, 02



No.	Description	Material
1	Regulator knob	NY
2	Pressure regulating screw	Fe+Ni
3	Regulator base	NY+GF
4	Spring	Spring steel
5	Lock nut	NY+GF
6	Diaphragm	NBR70 ⁺
7	Regulating needle	AL
8	Positioning nut	POM
9	Plug	Cu
10	Spring	SUS
11	Body	ADC12

Symbol



Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * The product effectively removes water and particle.
- * Accurate and sensitive pressure setting.
- * Lubricator oil can be replenished without stopping air supply.
- * Oil spray in mist ensures good lubrication for machines.



How to order

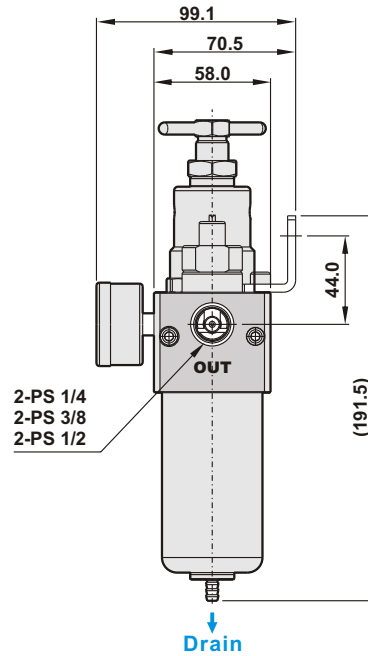
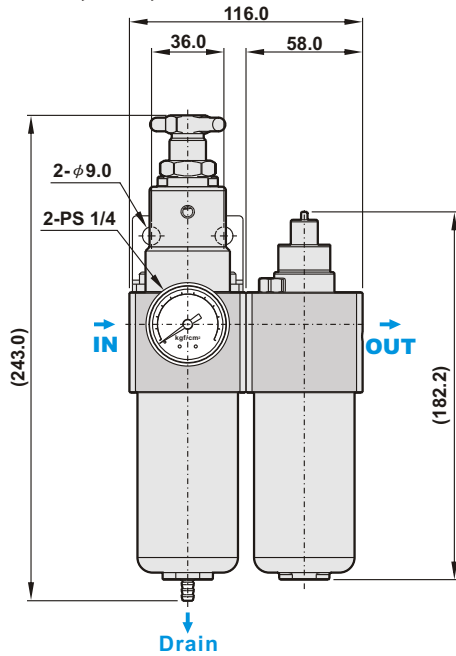
US	FR/L	-	O4	N	C	H
SUS316 Stainless steel	Filter Regulator+Lubricator		Port size	Thread	Filtration	Drain
			02 1/4" (Option)	Blank PS N NPT	Blank 5 μm C 40 μm	Blank Semi-auto drain H Manual drain D Auto drain
			03 3/8"			
			04 1/2"			

Specifications

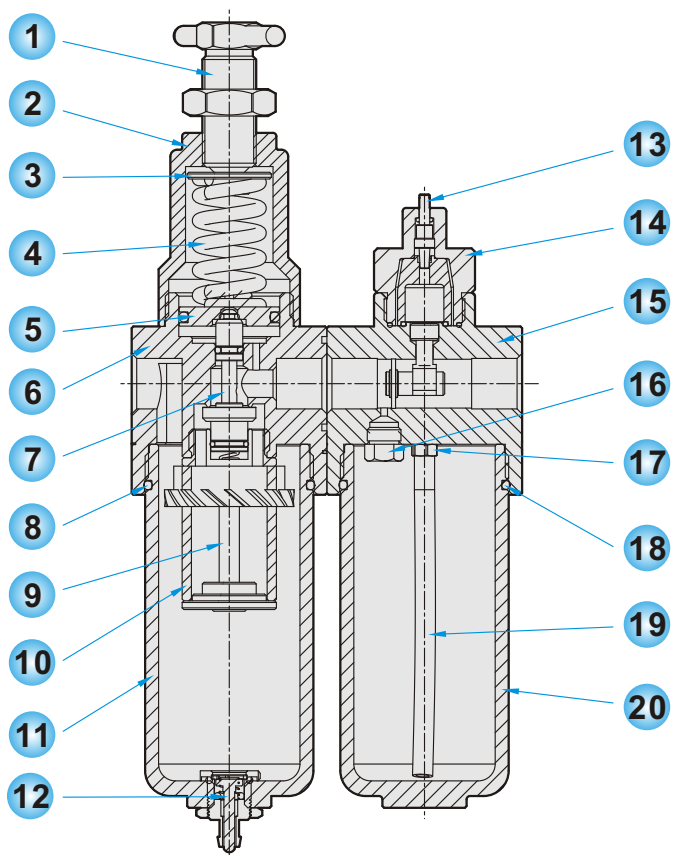
Model	USFR/L-O2	USFR/L-O3	USFR/L-O4
Port size	1/4" (Option)	3/8"	1/2"
Fluid	Compressed air		
Regulator construction	Piston		
Body material	Stainless steel SUS316		
Bowl material	Stainless steel SUS316		
Pressure gauge material	Case: Stainless steel SUS304, Thread: Stainless steel SUS316		
Filtration/Element material	5μm (Standard) Stainless steel SUS316		
Operating pressure range	0.5 ~ 30 kgf/cm ²		
Max. inlet pressure	60 kgf/cm ²		
Max. flow rate l/min (6kgf/cm ²)	2080	2200	2500
Ambient temperature	-10°C ~ 70°C		
Lubricator oil (Recommended)	ISO-VG32		
Filter bowl capacity	110cc		
Lubricator bowl capacity	130cc		
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)		
Net weight	3800g	3870g	3840g
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2		

Dimensions

USFR/L-02, 03, 04

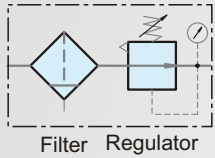


Construction



No.	Description	Material
1	Pressure regulating screw	SUS316
2	Regulator base	SUS316
3	Disc gasket	SUS303
4	Spring	SUS303
5	Piston	SUS303
6	Regulator body	SUS316
7	Pressure regulating needle	SUS303
8	O-ring	VITON
9	Filter element holder	SUS303
10	Filter element	SUS316
11	Filter bowl	SUS316
12	Drain	Cu+Ni
13	Oil adjusting screw	SUS316
14	Screw cover	SUS316
15	Lubricator body	SUS316
16	Plug	SUS316
17	Oil pipe fitting	SUS316
18	O-ring	VITON
19	Oil pipe	PU
20	Lubricator bowl	SUS316

Symbol



Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * The product effectively removes water and particle.
- * Accurate and sensitive pressure setting.



Patent number in China :
ZL200620055734.0

How to order

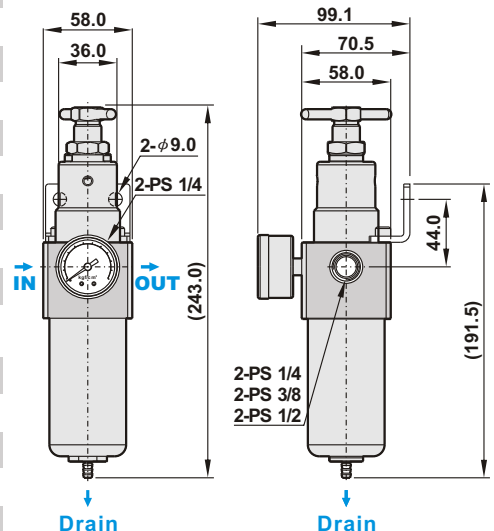
US	FR	—	04	N	C	H
SUS316 Stainless steel	Filter Regulator		Port size	Thread	Filtration	Drain
			02 1/4" (Option)	Blank PS	Blank 5μm	Blank Semi-auto drain
			03 3/8"	N NPT	C 40μm	H Manual drain
			04 1/2"			D Auto drain

Specifications

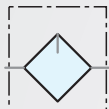
Model	USFR-02	USFR-03	USFR-04
Port size	1/4" [Option]	3/8"	1/2"
Fluid	Compressed air		
Regulator construction	Piston		
Body material	Stainless steel SUS316		
Bowl material	Stainless steel SUS316		
Pressure gauge material	Case: Stainless steel SUS304, Thread: Stainless steel SUS316		
Filtration/Element material	5μm (Standard) Stainless steel SUS316		
Operating pressure range	0.5 ~ 30 kgf/cm ² (Max)		
Max. inlet pressure	60 kgf/cm ²		
Max. flow rate l/min (6kgf/cm ²)	2200	2500	3800
Ambient temperature	-10°C ~ 70°C		
Filter bowl capacity	110cc		
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)		
Net weight	2000g		
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2		

Dimensions

USFR-02, 03, 04



Symbol



Lubricator

Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Lubricator oil can be replenished without stopping air supply.
- * Oil spray in mist ensures good lubrication for machines.



Patent number in China : ZL200620055734.0

How to order

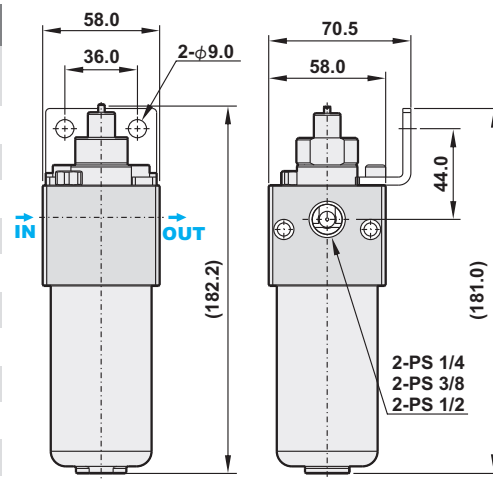
US		L	—	O4		N										
SUS316 Stainless steel		Lubricator		Port size		Thread										
				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px;">02</td><td style="width: 80px;">1/4" (Option)</td></tr> <tr><td>03</td><td>3/8"</td></tr> <tr><td>04</td><td>1/2"</td></tr> </table>	02	1/4" (Option)	03	3/8"	04	1/2"		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px;">Blank</td><td style="width: 80px;">PS</td></tr> <tr><td>N</td><td>NPT</td></tr> </table>	Blank	PS	N	NPT
02	1/4" (Option)															
03	3/8"															
04	1/2"															
Blank	PS															
N	NPT															

Specifications

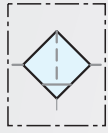
Model	USL-02	USL-03	USL-04
Port size	1/4" (Option)	3/8"	1/2"
Fluid	Compressed air		
Body material	Stainless steel SUS316		
Bowl material	Stainless steel SUS316		
Operating pressure range	0.5 ~ 30 kgf/cm ² (Max)		
Max. inlet pressure	60 kgf/cm ²		
Max. flow rate l/min (6kgf/cm ²)	2500	2525	4100
Ambient temperature	-10°C ~ 70°C		
Lubricator oil (Recommended)	ISO-VG32		
Lubricator bowl capacity	130cc		
Net weight	1750g		
Accessories	Mounting bracket, Screw x 2		

Dimensions

USL-02, 03, 04



Symbol



Filter

Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * The product effectively removes water and particle.
- * Strict quality control.



How to order

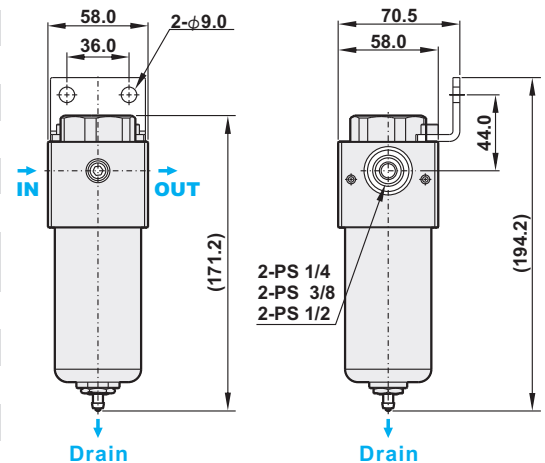
US	F	O4	N	C	H																				
SUS316 Stainless steel	Filter	Port size	Thread	Filtration	Drain																				
		<table border="1"> <tr><td>02</td><td>1/4" (Option)</td></tr> <tr><td>03</td><td>3/8"</td></tr> <tr><td>04</td><td>1/2"</td></tr> </table>	02	1/4" (Option)	03	3/8"	04	1/2"	<table border="1"> <tr><td>Blank</td><td>PS</td></tr> <tr><td>N</td><td>NPT</td></tr> </table>	Blank	PS	N	NPT	<table border="1"> <tr><td>Blank</td><td>5 μm</td></tr> <tr><td>C</td><td>40 μm</td></tr> </table>	Blank	5 μm	C	40 μm	<table border="1"> <tr><td>Blank</td><td>Semi-auto drain</td></tr> <tr><td>H</td><td>Manual drain</td></tr> <tr><td>D</td><td>Auto drain</td></tr> </table>	Blank	Semi-auto drain	H	Manual drain	D	Auto drain
02	1/4" (Option)																								
03	3/8"																								
04	1/2"																								
Blank	PS																								
N	NPT																								
Blank	5 μm																								
C	40 μm																								
Blank	Semi-auto drain																								
H	Manual drain																								
D	Auto drain																								

Specifications

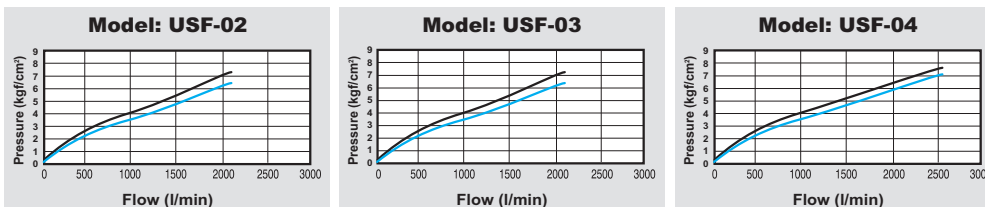
Model	USF-02	USF-03	USF-04
Port size	1/4" (Option)	3/8"	1/2"
Fluid	Compressed air		
Body material	Stainless steel SUS316		
Bowl material	Stainless steel SUS316		
Filter element material	Stainless steel SUS316		
Filtration	5 μm (Standard) ,40 μm (Option)		
Operating pressure range	0.5 ~ 30 kgf/cm ²		
Max. inlet pressure	60 kgf/cm ²		
Max. flow rate l/min (6kgf/cm ²)	2440	2450	3030
Ambient temperature	-10°C ~ 70°C		
Filter bowl capacity	110cc		
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)		
Net weight	1650 g		
Accessories	Mounting bracket, Screw x 2		

Dimensions

USF-02, 03, 04



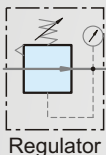
Flow chart



Note:

- X axis: Flow
- Y axis: Pressure
- Blue line (P0) = Outlet pressure
- Black line (P1) = Inlet pressure
- P1-P0 = Pressure range

Symbol



Regulator

Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * Accurate and sensitive pressure setting.
- * Strict quality control.



How to order

US

 SUS316
Stainless steel

R

Regulator

04

Port size

02	1/4" (Option)
03	3/8"
04	1/2"

N

Thread

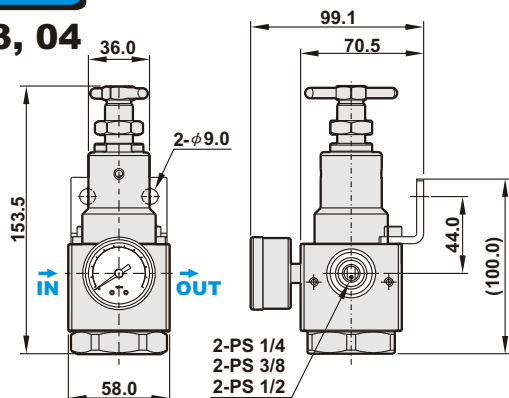
Blank	PS
N	NPT

Specifications

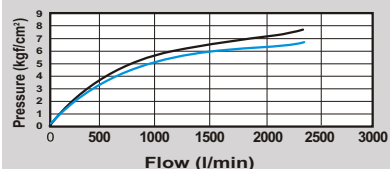
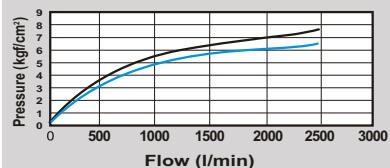
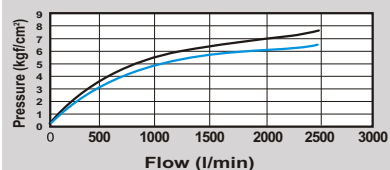
Model	USR-02	USR-03	USR-04
Port size	1/4" (Option)	3/8"	1/2"
Fluid	Compressed air		
Regulator construction	Piston		
Body material	Stainless steel SUS316		
Pressure gauge material	Case: Stainless steel SUS304, Thread: Stainless steel SUS316		
Operating pressure range	0.5 ~ 30 kgf/cm ²		
Max. inlet pressure	60 kgf/cm ²		
Max. flow rate l/min (6kgf/cm ²)	1950	2250	2520
Ambient temperature	-10°C ~ 70°C		
Net weight	1400g		
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2		

Dimensions

USR-02, 03, 04

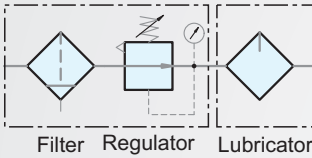


Flow chart

Model: USR-02

Model: USR-03

Model: USR-04

Note:

X axis: Flow
Y axis: Pressure
Blue line (P0) = Outlet pressure
Black line (P1) = Inlet pressure
P1-P0 = Pressure range

Symbol



Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * Large flow rate and effectively removes water and particle.
- * Accurate and sensitive pressure setting.
- * Lubricator oil can be replenished without stopping air supply.
- * Oil spray in mist ensures good lubrication for machines.



How to order

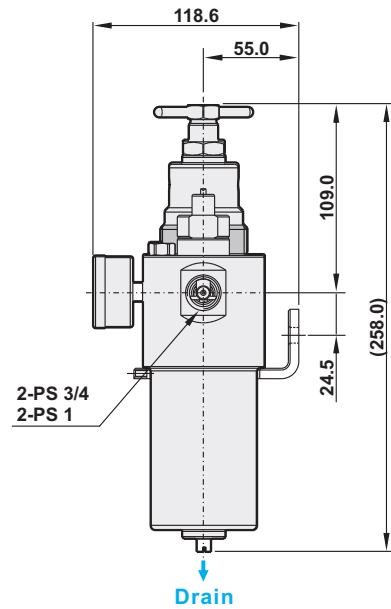
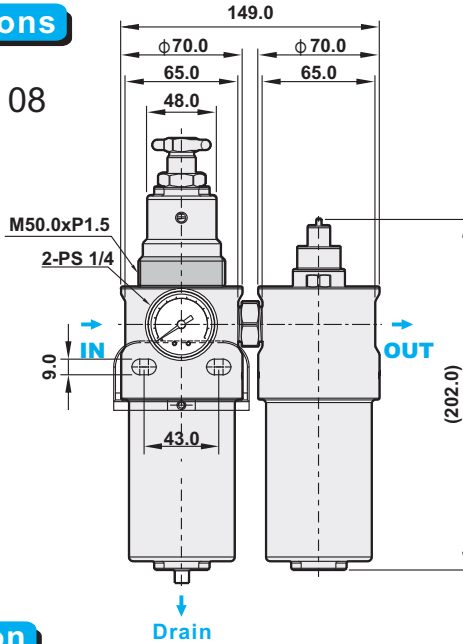
US	FR/L	C - 06	N	C	H	
SUS316 Stainless steel	Filter Regulator+Lubricator	Series	Port size	Thread	Filtration	Drain
		C Series	06 3/4" 08 1"	Blank PS N NPT	Blank 5µm C 40µm	H Manual drain

Specifications

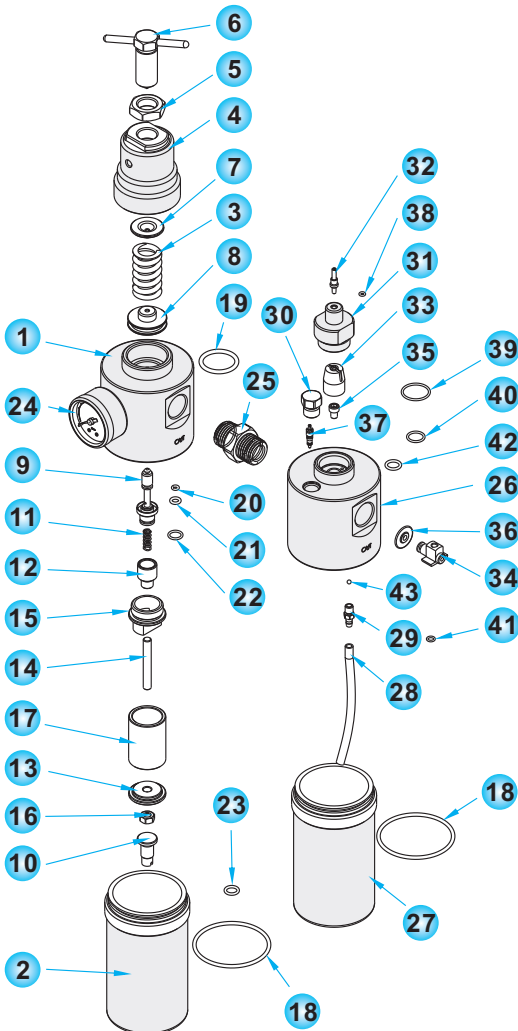
Model	USFR/LC-06	USFR/LC-08
Port size	3/4"	1"
Fluid	Compressed air	
Regulator construction	Piston	
Body material	Stainless steel SUS316	
Bowl material	Stainless steel SUS316	
Pressure gauge material	Case: Stainless steel SUS304, Thread: Stainless steel SUS316	
Filtration/Element material	5µm (Standard) Stainless steel SUS316	
Operating pressure range	0.5 ~ 30 kgf/cm ²	
Max. inlet pressure	60 kgf/cm ²	
Max. flow rate l/min (6kgf/cm ²)	7250	7600
Ambient temperature	-10°C ~ 70°C	
Lubricator oil (Recommended)	ISO-VG32	
Nipple size and material	1/2" SUS316	
Filter bowl capacity	200cc	
Lubricator bowl capacity	220cc	
Standard drain	Manual drain	
Net weight	5500g	
Accessories	Pressure gauge, Plug, Mounting bracket	

Dimensions

USFR/LC-06, 08

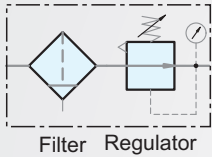


Explosion



No.	Description	Material	No.	Description	Material
1	Filter Regulator body	SUS316	23	O-ring	VITON
2	Filter bowl	SUS316	24	Pressure gauge	Stainless Steel
3	Pressure regulating spring	SUS304	25	Nipple	Stainless Steel
4	Stainless steel regulator base	SUS316	26	Lubricator body	SUS316
5	Nut	SUS316	27	Lubricator bowl	SUS316
6	Pressure regulating screw	SUS316	28	Oil pipe	PU
7	Disc gasket	SUS316	29	Oil pipe fitting	SUS316
8	Piston	SUS316	30	Oil filling plug	SUS316
9	Pressure regulating needle	SUS316	31	Oil adjusting knob	SUS316
10	Manual drain	SUS316	32	Oil adjusting screw	SUS316
11	Spring	SUS304	33	Oil dropping orifice	SUS316
12	Needle holder	SUS316	34	Oil spraying orifice	SUS316
13	Plate	SUS316	35	Screw	SUS316
14	Bolt	SUS316	36	Damper	VITON
15	Spring holder	SUS316	37	Check valve	Stainless Steel
16	Nut	SUS316	38	O-ring	VITON
17	Filter element	SUS316	39	O-ring	VITON
18	O-ring	VITON	40	O-ring	VITON
19	O-ring	VITON	41	O-ring	VITON
20	O-ring	VITON	42	O-ring	VITON
21	O-ring	VITON	43	Steel ball 3mm	SUS316
22	O-ring	VITON			

Symbol



Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * Large flow rate and effectively removes water and particle.
- * Accurate and sensitive pressure setting.



How to order

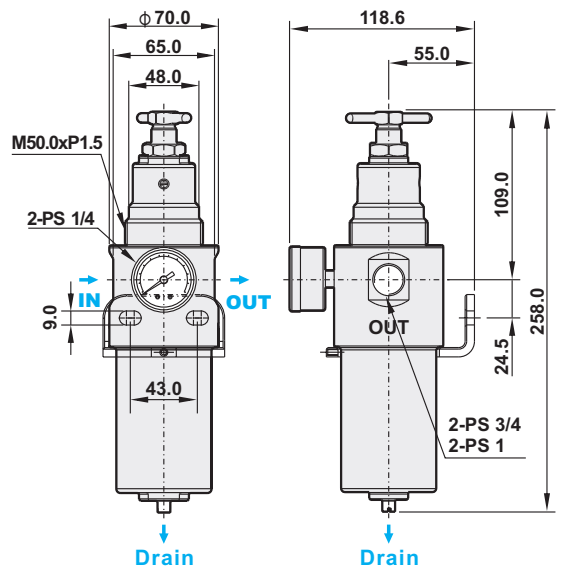
US	FRC	—	06	N	C	H
SUS316 Stainless steel	Filter Regulator		Port size	Thread	Filtration	Drain
			06 3/4" 08 1"	Blank PS N NPT	Blank 5µm C 40µm	H Manual drain

Specifications

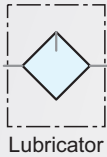
Model	USFRC-06	USFRC-08
Port size	3/4"	1"
Fluid	Compressed air	
Regulator construction	Piston	
Body material	Stainless steel SUS316	
Bowl material	Stainless steel SUS316	
Pressure gauge material	Case: Stainless steel SUS304, Thread: Stainless steel SUS316	
Filtration/Element material	5µm (Standard) Stainless steel SUS316	
Operating pressure range	0.5 ~ 30 kgf/cm ²	
Max. inlet pressure	60 kgf/cm ²	
Max. flow rate l/min (6kgf/cm ²)	7250	7650
Ambient temperature	-10°C ~ 70°C	
Filter bowl capacity	200cc	
Standard drain	Manual drain	
Net weight	3000g	
Accessories	Pressure gauge, Plug, Mounting bracket	

Dimensions

USFRC-06, 08



Symbol



Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * Lubricator oil can be replenished without stopping air supply.
- * Oil spray in mist ensures good lubrication for machines.



How to order

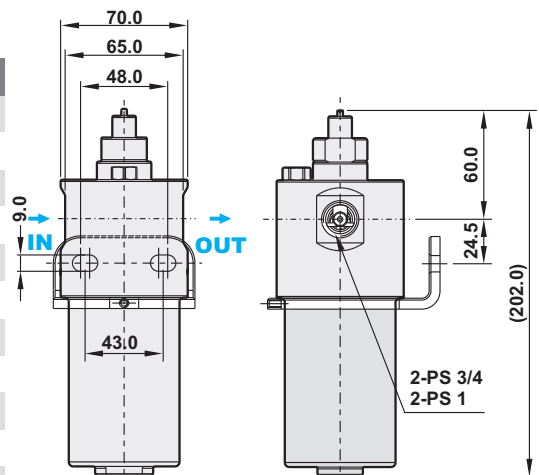
US	LC	—	06	N
SUS316 Stainless steel	Lubricator		Port size	Thread
			06 3/4" 08 1"	Blank PS N NPT

Dimensions

USLC-06, 08

Specifications

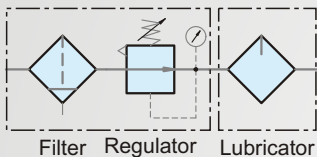
Model	USLC-06	USLC-08
Port size	3/4"	1"
Fluid	Compressed air	
Body material	Stainless steel SUS316	
Bowl material	Stainless steel SUS316	
Operating pressure range	0.5 ~ 60 kgf/cm ²	
Lubricator bowl capacity	200cc	
Max. inlet pressure	70 kgf/cm ²	
Max. flow rate l/min (6kgf/cm ²)	7250	7650
Lubricator oil (Recommended)	ISO-VG32	
Ambient temperature	-10°C ~ 70°C	
Net weight	2500g	



STAINLESS STEEL SUS316 MINIATURE F.R.L COMBINATION Filter Regulator + Lubricator

FRL COMBINATIONS

Symbol



Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * Large flow rate and effectively removes water and particle.
- * Accurate and sensitive pressure setting.
- * Lubricator oil can be replenished without stopping air supply.
- * Oil spray in mist ensures good lubrication for machines.
- * Light weight, compact size for space saving.



How to order

SSFRL600

Stainless steel SUS316 miniature

Miniature Filter Regulator+Lubricator

02

Port size

02 1/4"

N

Thread

Blank	PS
N	NPT

H

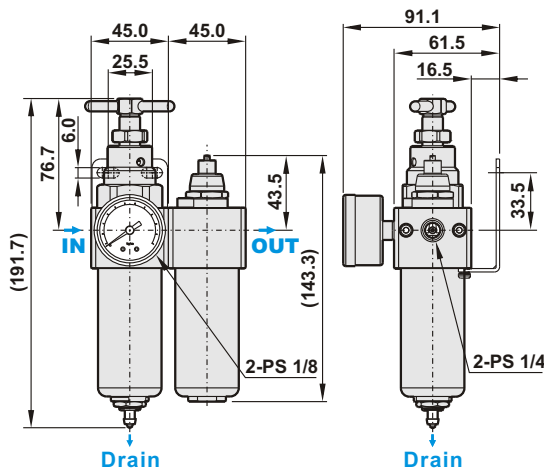
Drain

Blank	Semi-auto drain
H	Manual drain
D	Auto drain

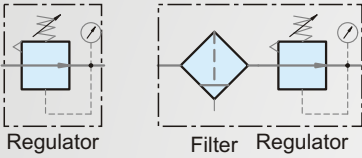
Specifications

Model	SSFRL600
Port size	1/4"
Fluid	Compressed air
Regulator construction	Piston
Body material	Stainless steel SUS316
Bowl material	Stainless steel SUS316
Pressure gauge material	Case: Stainless steel SUS304, Thread: Stainless steel SUS316
Filter element material	Stainless steel SUS316
Filtration	5 μ m (Standard) 、40 μ m (Option)
Operating pressure range	0.5 ~ 20 kgf/cm ²
Max. inlet pressure	30 kgf/cm ²
Max. flow rate l/min (6kgf/cm ²)	1850 l/min
Ambient temperature	-10 $^{\circ}$ C ~ 60 $^{\circ}$ C
Lubricator oil (Recommended)	ISO-VG32
Filter bowl capacity	105cc
Lubricator bowl capacity	125cc
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)
Net weight	2660g
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2

Dimensions



Symbol



Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * Large flow rate and effectively removes water and particle.
- * Accurate and sensitive pressure setting.
- * Light weight, compact size for space saving.

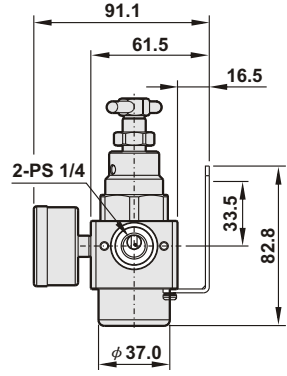
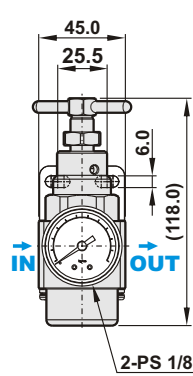


How to order

SSR200		02	N	H
Stainless steel SUS316 Miniature F.R.L		Port size	Thread	Drain
SSR200	Miniature Regulator	02 1/4"	Blank PS N NPT	Blank Semi-auto drain H Manual drain D Auto drain Only for SSFR500
SSFR500	Miniature Filter Regulator			

Dimensions

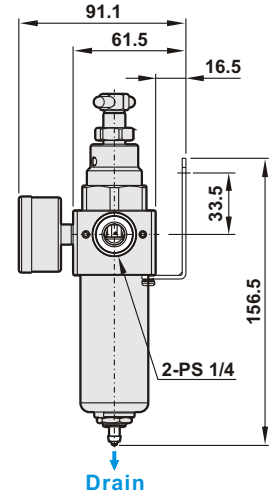
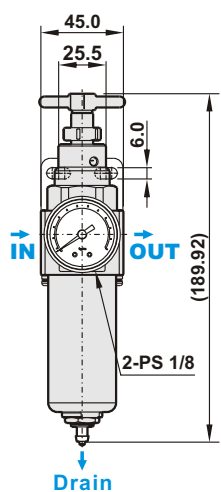
SSR200



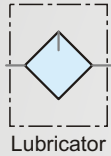
Specifications

Model	SSR200	SSFR500
Port size		1/4"
Fluid		Compressed air
Regulator construction		Piston
Body material		Stainless steel SUS316
Bowl material	—	Stainless steel SUS316
Pressure gauge material	Case: Stainless steel SUS304, Thread: Stainless steel SUS316	
Filter element material	—	Stainless steel SUS316
Filtration	—	5 μ m (Standard) · 40 μ m (Option)
Operating pressure range	0.5 ~ 20 kgf/cm ²	
Max. inlet pressure	30 kgf/cm ²	
Max. flow rate (6kgf/cm ²)	1850 l/min	
Ambient temperature	-10 $^{\circ}$ C ~ 60 $^{\circ}$ C	
Filter bowl capacity	—	105cc
Standard drain	—	Semi-auto drain (Drains below 0.5kgf/cm ²)
Net weight	1200g	1380g
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2	

SSFR500



Symbol



Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * Lubricator oil can be replenished without stopping air supply.
- * Oil spray in mist ensures good lubrication for machines.
- * Light weight, compact size for space saving.



How to order

SSL200

Stainless steel SUS316 miniature F.R.L

Miniature Lubricator

02

Port size

02 1/4"

N

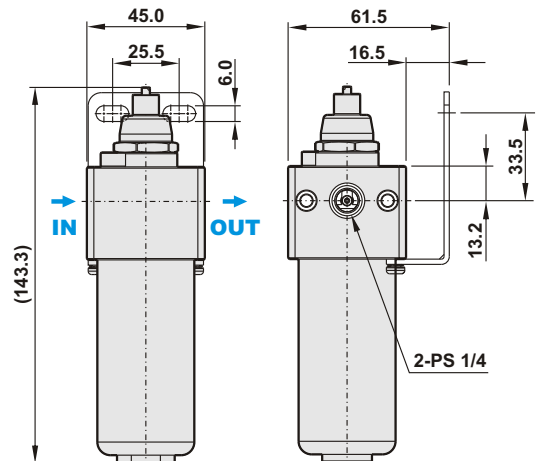
Thread

Blank	PS
N	NPT

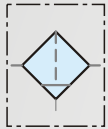
Dimensions

Specifications

Model	SSL200
Port size	1/4"
Fluid	Compressed air
Body material	Stainless steel SUS316
Bowl material	Stainless steel SUS316
Operating pressure range	0.5 ~ 20 kgf/cm ²
Max. inlet pressure	30 kgf/cm ²
Max. flow rate	2500 l/min
Ambient temperature	-10°C ~ 60°C
Lubricator oil (Recommended)	ISO-VG32
Lubricator bowl capacity	125cc
Net weight	1200g
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2



Symbol



Filter

Features

- * For high pressure use, corrosion and chemical resistance.
- * Good performance in chemically working environments and outdoor facility.
- * Suitable for semi-conductor industry.
- * Effectively removes water and particle.
- * Strict quality control.
- * Light weight, compact size for space saving.



How to order

SSF200

Stainless steel SUS316 Miniature F.R.L

Miniature Filter

02

Port size

02 1/4"

N

Thread

Blank	PS
N	NPT

H

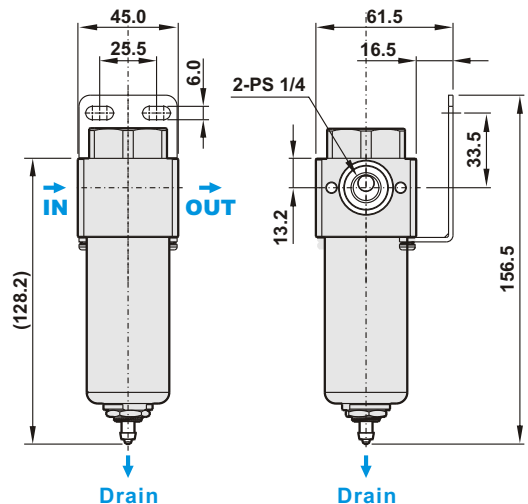
Drain

Blank	Semi-auto drain
H	Manual drain
D	Auto drain

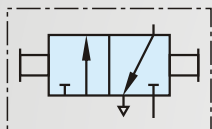
Specifications

Model	SSF200
Port size	1/4"
Fluid	Compressed air
Body material	Stainless steel SUS316
Bowl material	Stainless steel SUS316
Filter element material	Stainless steel SUS316
Filtration	5 μ m (Standard) · 40 μ m (Option)
Operating pressure range	0.5 ~ 20 kgf/cm ²
Max. inlet pressure	30 kgf/cm ²
Max. flow rate	1900 l/min
Ambient temperature	-10 $^{\circ}$ C ~ 60 $^{\circ}$ C
Filter bowl capacity	105cc
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)
Net weight	1260g
Accessories	Pressure gauge, Mounting bracket, Plug, Screw x 2

Dimensions

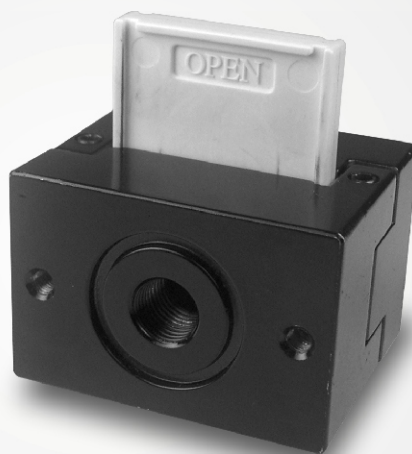


Symbol



Features

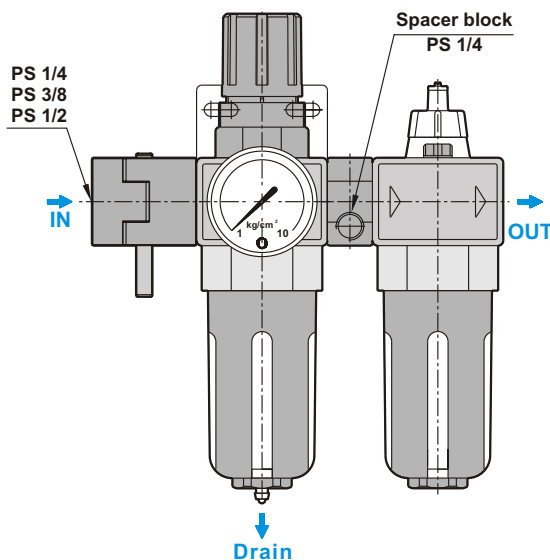
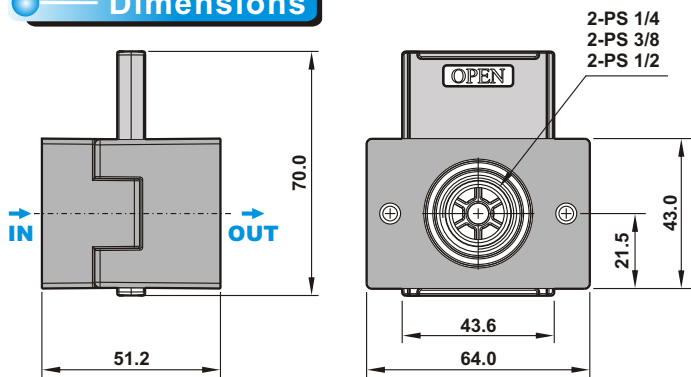
- * The valve cut air source effectively and quickly.
- * Hole lockable design to increase safety.
- * Positioning mechanism ensures to cut air supply entirely.
- * See following drawing for connection with FRL.



How to order

SHV		02		N	
Shut-off valve		Port size		Thread	
SHV	3/2 way	02	1/4"	Blank	PS
		03	3/8"	N	NPT
		04	1/2"		

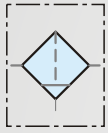
Dimensions



Specifications

Model	SHV-02	SHV-03	SHV-04
Port size	1/4"	3/8"	1/2"
Fluid	Compressed air		
Body material	Aluminum die-cast		
Shut-off panel material	Polycarbonate		
Operating pressure range	0.5 ~ 12 kgf/cm ²		
Max. inlet pressure	15 kgf/cm ²		
CV value	4.0	8.0	8.0
Ambient temperature	-10°C ~ 60°C		
Net weight	350g		

Symbol



Filter



Features

- * UV series removes particle effectively.
- * 40 μ m and 5 μ m filter element are easily interchangeable and replaceable.

How to order

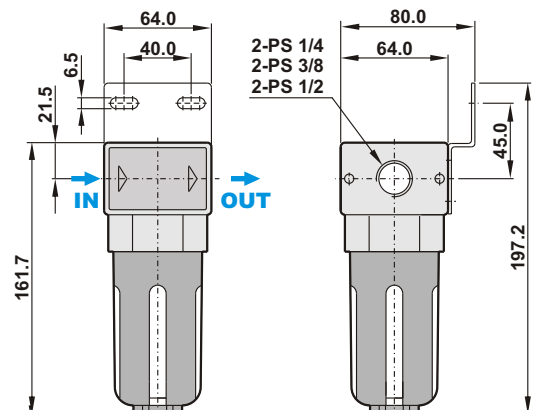
UV	02	N	C	B	A
Vacuum filter	Port size	Thread	Filtration	Mounting bracket	Bowl
	02 1/4"	Blank PS	Blank 5 μ m	Blank W/O bracket	Blank Standard bowl
	03 3/8"	N NPT	C 40 μ m	B W/I bracket	A Anti-acid & alkali bowl
	04 1/2"				AL Aluminum bowl (1/4"~1/2")

Specifications

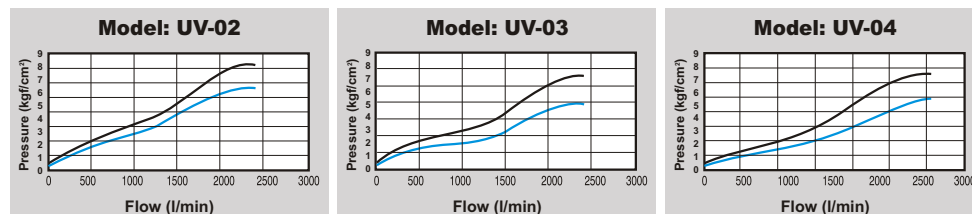
Model	UV-02	UV-03	UV-04
Port size	1/4"	3/8"	1/2"
Fluid	Compressed air		
Body material	Aluminum die-cast		
Bowl material	Polycarbonate (Standard)		
Filtration	5 μ m (Standard) - 40 μ m (Option)		
Operating pressure range	0.5 ~ 10 kgf/cm ²		
Max. operating pressure (Standard bowl)	15 kgf/cm ²		
Max. flow rate l/min (6kgf/cm ²)	2440	2450	3030
Ambient temperature	-10 $^{\circ}$ C ~ 60 $^{\circ}$ C		
Filter bowl capacity	105cc		
Net weight	530g		

Dimensions

UV-02, 03, 04



Flow chart



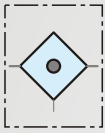
Note:

- X axis: Flow
- Y axis: Pressure
- Blue line (P0) = Outlet pressure
- Black line (P1) = Inlet pressure
- P1-P0 = Pressure range

SHAKO COALESCING FILTER

FRL COMBINATIONS

Symbol



Filter

Features

- * UMF series effectively removes oil, water, carbon and particle.
- * With 0.01 μ m glass fiber filter element.
- * High quality control ensures stable running and long life.
- * Convenient to see air quality from pressure indicator, prevent the filter element from clogging.

Note: Please install air filter UF series upstream to extend life of filter element.



How to order

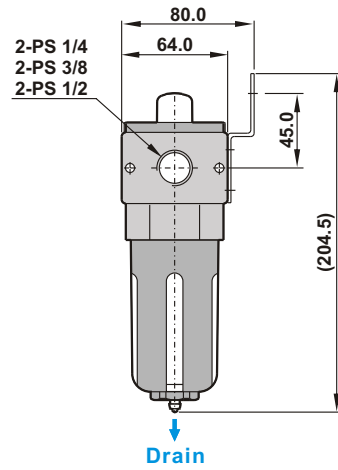
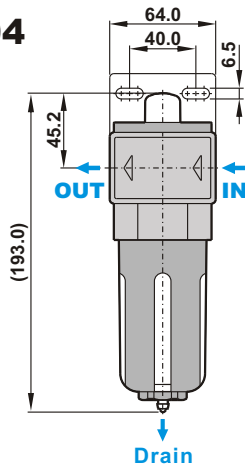
UMF - 02		N		C		H		B		A	
Coalescing filter		Port size		Thread		Filtration		Drain		Mounting bracket	
02	1/4"	Blank	PS	Blank	0.01 μ m	Blank	Semi-auto drain	Blank	W/O bracket	Blank	Standard bowl
03	3/8"	N	NPT		Activated	H	Manual drain	B	W/I bracket	A	Anti-acid & alkali bowl
04	1/2"			C	charcoal filter element					AL	Aluminum bowl (1/4"~1/2")
06	3/4"										
08	1"										

Specifications

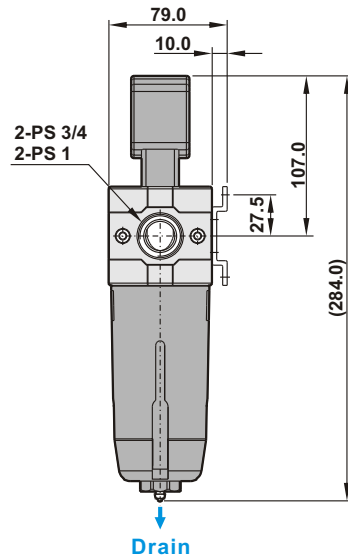
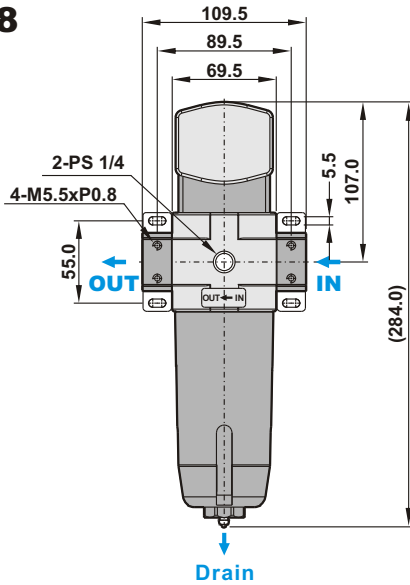
Model	UMF-02	UMF-03	UMF-04	UMF-06	UMF-08
Port size	1/4"	3/8"	1/2"	3/4"	1"
Fluid	Compressed air				
Body material	Aluminum die-cast				
Bowl material	Polycarbonate (Standard), Anti-acid & alkali bowl (Option), Aluminum bowl (Option)				
Filtration	0.01 μ m(Standard)				
Operating pressure range	0.5 ~ 10 kgf/cm ²				
Max. inlet pressure	15 kgf/cm ²				
Max. flow rate l/min(6kgf/cm ²)	2050	2100	2150	3800	3850
Ambient temperature	-10 $^{\circ}$ C ~ 60 $^{\circ}$ C				
Filter bowl capacity	65cc			115cc	
Standard drain	Semi-auto drain (Drains below 0.5kgf/cm ²)				
Net weight	600g			1200g	

Dimensions

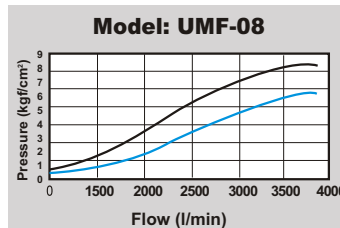
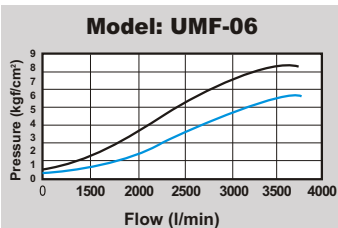
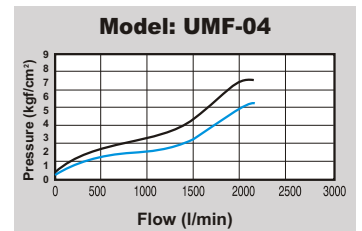
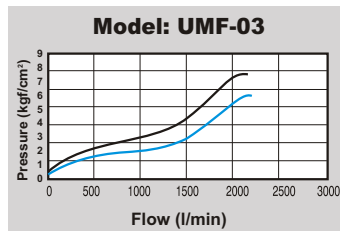
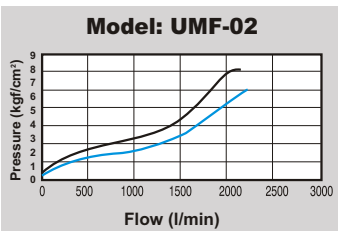
UMF-02, 03, 04



UMF-06, 08



Flow chart



Note:

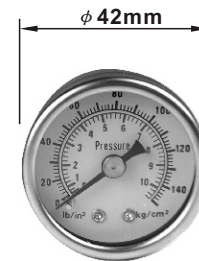
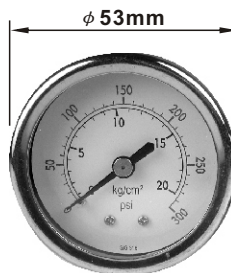
X axis: Flow
 Y axis: Pressure
 Blue line (P0) = Outlet pressure
 Black line (P1) = Inlet pressure
 P1-P0=Pressure range

Pressure gauge

Part no.	Application	Dimension
KUX0000020	Miniature FRL series	1/8", ϕ 42mm
KUX0000030	Standard FRL series 1/4", 3/8", 1/2", 3/4", 1"	1/4", ϕ 53mm



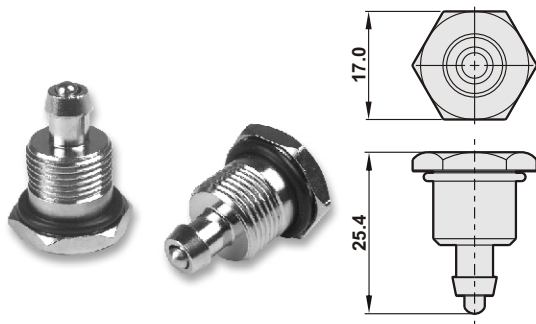
Part no.	Application	Dimension/Material
KUX0000046	USFR Stainless steel FRL series	2" x 20kg x 1/4", SUS316
KUX0000050	SSFR Miniature stainless steel FRL series	2" x 10kg x 1/8", SUS316



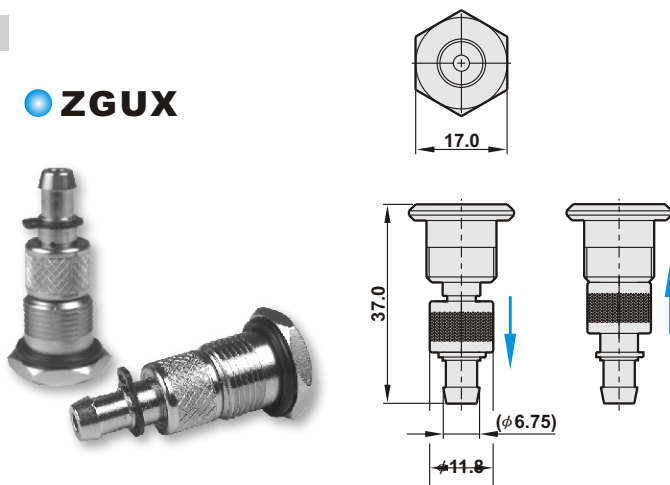
Semi-auto/Manual drain

Part no.	Type	Port size
ZGUX-1	Semi-auto	6mm (PU tube)
ZGUX	Manual	6mm (PU tube)

ZGUX-1



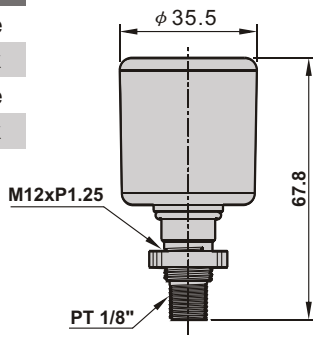
ZGUX



Automatic drain

Part no.	Thread	Color
DA-014	14mm (Male thread)	White
DA-014W	14mm (Male thread)	Black
DA-014N	14mm (Female thread)	White
DA-014NW	14mm (Female thread)	Black

DA-014, DA-014W



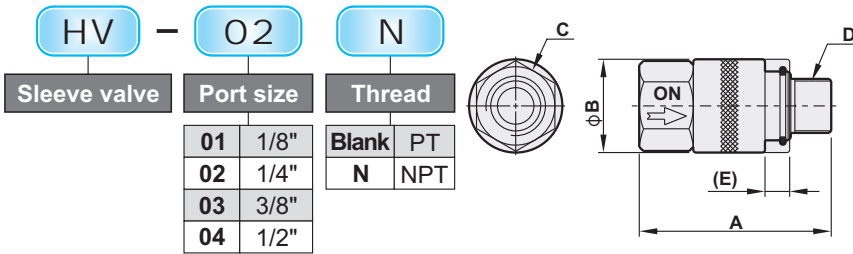
Feature

1. Completely drain water together with polluted particles and oils at once without remnants on filter bowl.
2. Automatically remove remaining water on filter bowl after air pressure is shut off.
3. Working pressure: 2~8kgs/cm²
Discharge capacity: 10~15cc each time (12 times/min.)

* Patent number in Taiwan: 096216673

Sleeve valve

How to order Apply to standard FRL series 1/8", 1/4", 3/8", 1/2"



Sleeve valve	Port size	Thread
01	1/8"	Blank
02	1/4"	PT
03	3/8"	N
04	1/2"	NPT



Part no.	Dimension	A	B	C	D	E
HV-01		54.5	20.0	PT1/8"	PT1/8"	8.0
HV-02		62.0	22.0	PT1/4"	PT1/4"	8.5
HV-03		66.5	26.0	PT3/8"	PT3/8"	9.0
HV-04		71.0	34.5	PT1/2"	PT1/2"	9.1

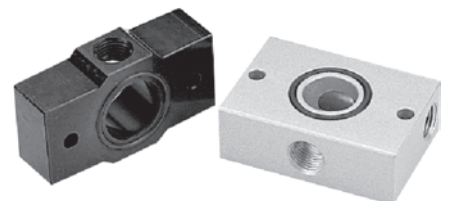
Filter bowl & Lubricator bowl

Part no.	Application	Content
ZGL200B	Lubricator bowl for FRL700A, FRL600A, L200A	Bowl with o-ring
ZGUL-O6B	Lubricator bowl for UFR/L-06, 08	Bowl with o-ring
ZGUL-O2B	Lubricator bowl for UFR/L-02, 03, 04	Bowl with o-ring
ZGUL-O2BA	Anti-acid & alkali lubricator bowl for UFR/L-02, 03, 04	Bowl with o-ring
ZGUL-O2BAL	Aluminum lubricator bowl for UFR/L-02, 03, 04	Bowl with o-ring
ZGF200B	Filter bowl for FRL700A, FRL600A, F200A	Bowl with o-ring
ZGUF-O6B	Filter bowl for UFR/L-06, 08	Bowl with o-ring
ZGUF-O2B	Filter bowl for UFR/L-02, 03, 04	Bowl with o-ring
ZGUF-O2BA	Anti-acid & alkali filter bowl for UFR/L-02, 03, 04	Bowl with o-ring
ZGUF-O2BAL	Aluminum filter bowl for UFR/L-02, 03, 04	Bowl with o-ring
ZGF200BB	Filter bowl for FRL700B, FRL600B, F200B	Bowl with o-ring
ZGL200BB	Lubricator bowl for FRL700B, FRL600B, L200B	Bowl with o-ring
ZGUSF-O4B	SUS316 Filter bowl for USFR stainless steel series	Bowl with o-ring
ZGUSF-O2B	SUS316 Filter bowl for SSFR Miniature stainless steel series	Bowl with o-ring



Spacer block

Part no.	Application	Content
ZGUFRO2SB	UFR/L-02, 03, 04	Block, O-ring, Screw, Washer, Plug
ZGUFRO6SB	UFR/L-06, 08 series	Block, O-ring, Screw, Washer, Plug



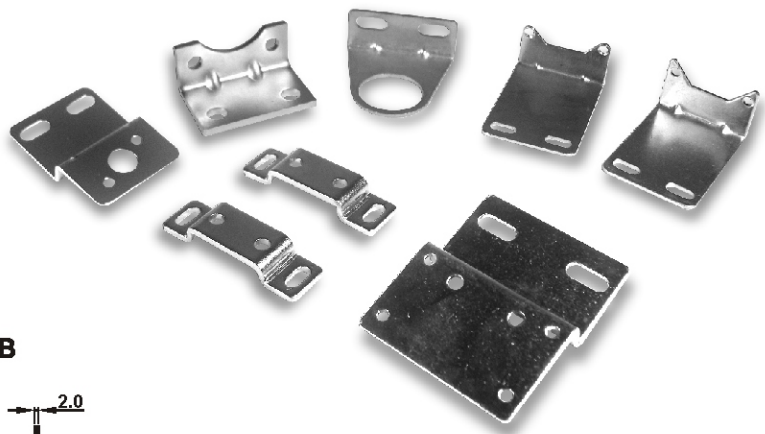
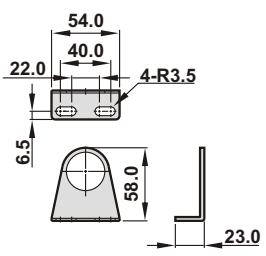
Sintered bronze element

Part no.	Application	Remark
KUS0032041	40 μ m, FRL600(A,B), F200(A,B), FR500(A,B)	
KUS0032042	5 μ m, FRL600(A,B), F200(A,B), FR500(A,B)	
KUN0010035	40 μ m, UFR/L-02, 03, 04	ϕ 28
KUN0010036	5 μ m, UFR/L-02, 03, 04	ϕ 28
KUB0008060	40 μ m, UFR/L-06, 08	
KUB0008061	5 μ m, UFR/L-06, 08	

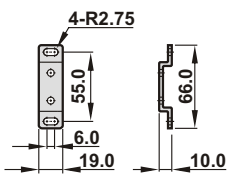


Mounting bracket

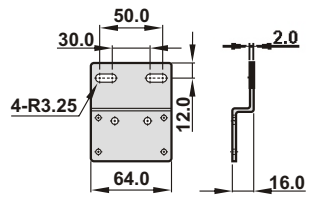
ZGFR200MB



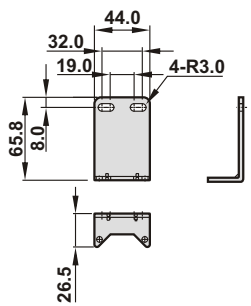
ZGUFR/L-06MB



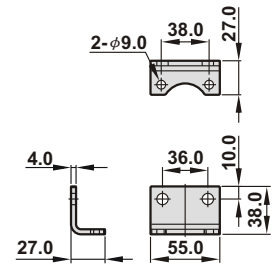
ZGUFR/L-02MB



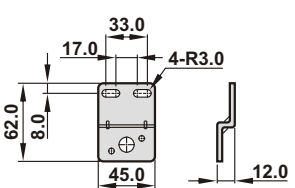
ZGSSFR500MB ZGUFR500MB ZGUFR500BMB



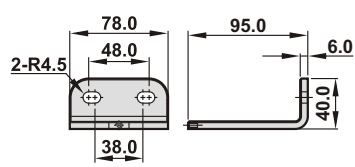
ZGUSFR/L-04MSB



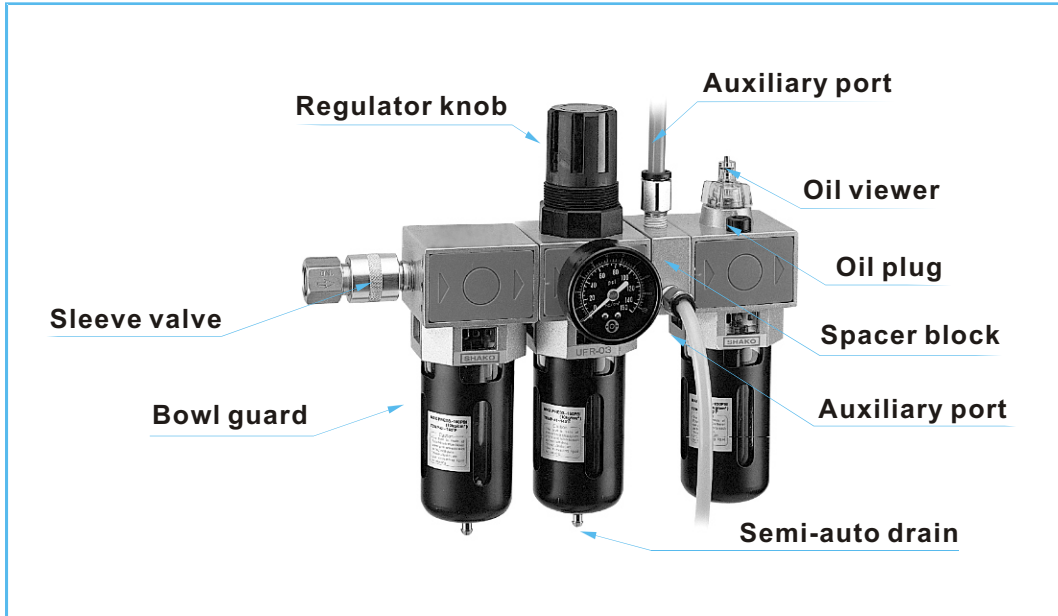
ZGUFR500AMB



ZGUSFRC-08MB



Part no.	Application	Material
ZGR200MB	R200	Metal plated
ZGUFR/L-02MB	UF-02,03,04 / UL-02,03,04 / UR-02,03,04 / UFRL-02,03,04	Metal plated
ZGUFR/L-06MB	UF-06,08 / UL-06,08 / UR-06,08 / UFR-06,08 / UFRL-06,08 / UMF-06,08 / URL-06,08	Metal plated
ZGFR500MB	FR500-02 / FRL600-02 / F200	Metal plated
ZGFR500AMB	FR500A / FRL600A / FRL700A	Metal plated
ZGFR500BMB	FR500B / FRL600B / FRL700B / L200B / R200B	Metal plated
ZGSSFR500MB	SSFR500-02 / SSFR600-02	Stainless steel
ZGUSFRC-08MB	USFR/LC-06,08 / USFRC-06,08 / USFLC-06,08	Stainless steel
ZGUSFR/L-04MSB	USF-02,03,04 / USL-02,03,04 / USR-02,03,04 / USFR-02,03,04 / USFR/L-02,03,04	Stainless steel



Adjusting oil spray

Use screw driver to adjust oil spray. Turn oil adjusting screw clockwise to increase oil spray. Turn oil adjusting screw counter-clockwise to decrease oil spray.



The way to fill oil

Open oil plug, fill oil directly without cut off air supply. ISO VG32 lubricator oil is highly recommended.



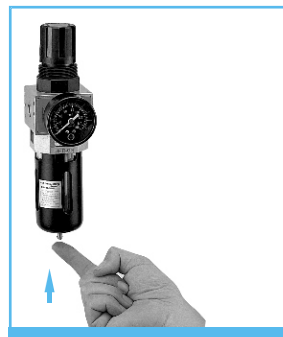
How to use sleeve valve

Pull backward to stop air and release residual air pressure. Push forward to open air line.



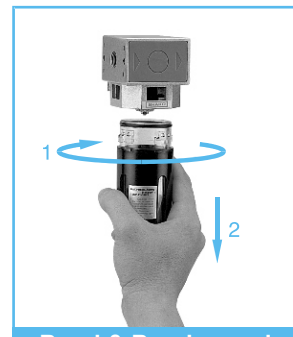
Pressure regulating

Pull up regulator knob and turn it clockwise to increase pressure. Pull up regulator knob and turn it counter-clockwise to decrease pressure.



Semi-auto drain

The water drain automatically when air pressure in filter bowl is below 0.5kgf/cm².

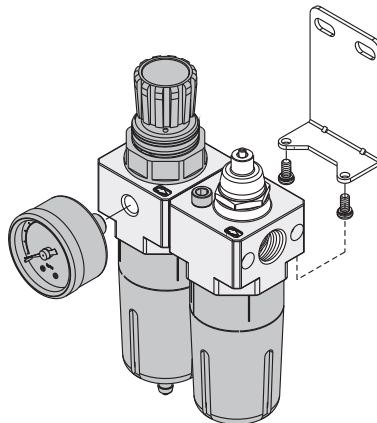


Bowl & Bowl guard

Turn counter-clockwise to take off bowl and bowl guard. High quality material provides product long-life and easy maintenance.

FRL600B

- The product can be installed by mounting bracket or purchasing lock nut as optional accessory for panel mounting in any direction.
- The miniature design is for space saving especially for installation in a limited room.
- Install anti-acid & alkali bowl to increase capability of chemical corrosion resistance.



UFR/L-02,03,04

Installation

Open rear blue plate on FRL body, and screw mounting bracket (the accessory of FRL) on the rear body tightly. (See attached drawing)

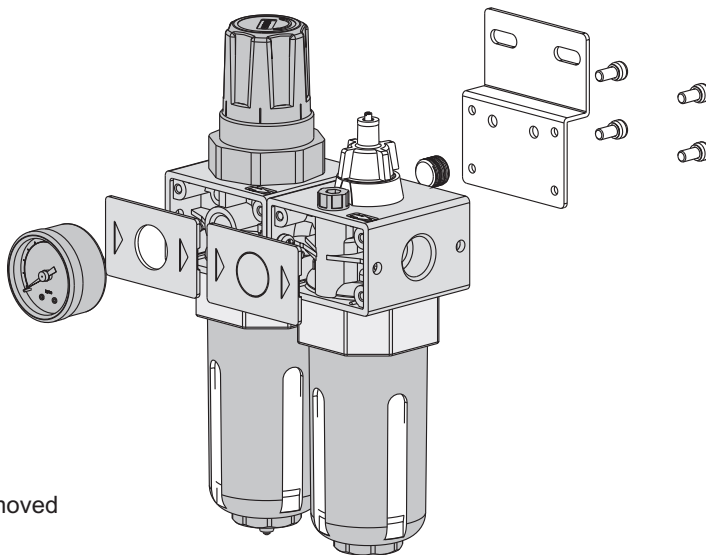
Operation

(A) Filter/Regulator

1. Automatic exhaust as standard type.
2. Piston plus balance spring construction can offer better pressure control.
3. Turn regulator knob clockwise to increase air pressure, turn regulator knob counter-clockwise to decrease air pressure.
4. High quality filter possesses 5 micron sintered bronze elements
5. The water collected in filter bowl can be easily removed by semi-auto drain.

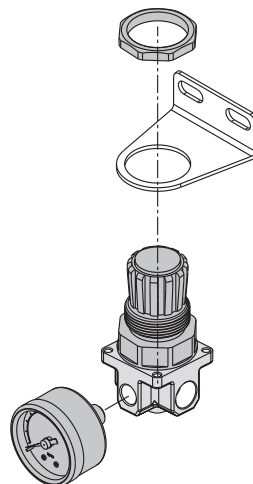
(B) Lubricator

After compressed air goes through regulator, the air pressure gets into lubricator bowl and draw lubricator oil into oil pipe. The oil adjusting screw on top of oil viewer is used to adjust flow of oil dropped, then the oil drop into sprayer and mix with compressed air.



R-200

- Miniature regulator is able to be installed with pressure gauge and mounting bracket, panel nut is optional for panel mounting.
- Miniature regulator offers more accurate pressure regulating, please pull up regulator knob and turn it clockwise for pressure setting.



Operation/Cautions

A.Regulator

Pull up regulator knob and turn it clockwise to increase air pressure, turn it counter-clockwise to decrease air pressure. Push regulator knob back for lock the knob.

B.Lubricator

- Open oil plug to fill lubricator oil.
- Please turn off air supply if lubricator bowl is taken off for oil refill.
- ISO VG32 lubricator oil is highly recommended, it is able to lubricate pneumatic components in system, reduce damaged rate, also extend life of operation.

C.Filter

- Semi-auto drain (standard): Drain automatically when air pressure below 0.5kgf/cm².
- Manual drain (Optional): Use hand to remove water anytime.
- Automatic drain: Drain automatically when full water in filter bowl makes float rise.
- If air pressure drop too much from inlet to outlet, please clean or change filter element to ensure the filter running well.

Spacer block installation

When there is no need to use lubricator in working environments, it is available to install spacer block on FRL combination.

- 1.Connect spacer block with fitting and tube as attached drawing shown.
- 2.Open blue beauty plate as attached drawing shown.
- 3.Use screw driver to take apart filter regulator and lubricator, and lock spacer block between filter regulator and lubricator.

UFR/L02, 03, 04

Spacer block Part number: ZGUFR02SB

UFR/L06, 08

Spacer block
Part number: ZGUFR06SB

