



SHAKO

FILTERS | REGULATORS | LUBRICATORS | COMBINATION SETS

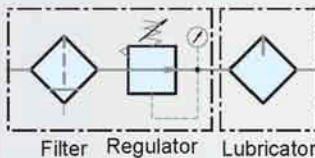
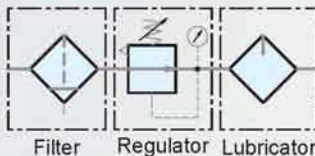


PRODUCT GUIDE

MINIATURE FRL/FR-L COMBINATION (FRL700A/FRL600A) COMPOSITE



Symbol



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.
- * 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

Howtoorder

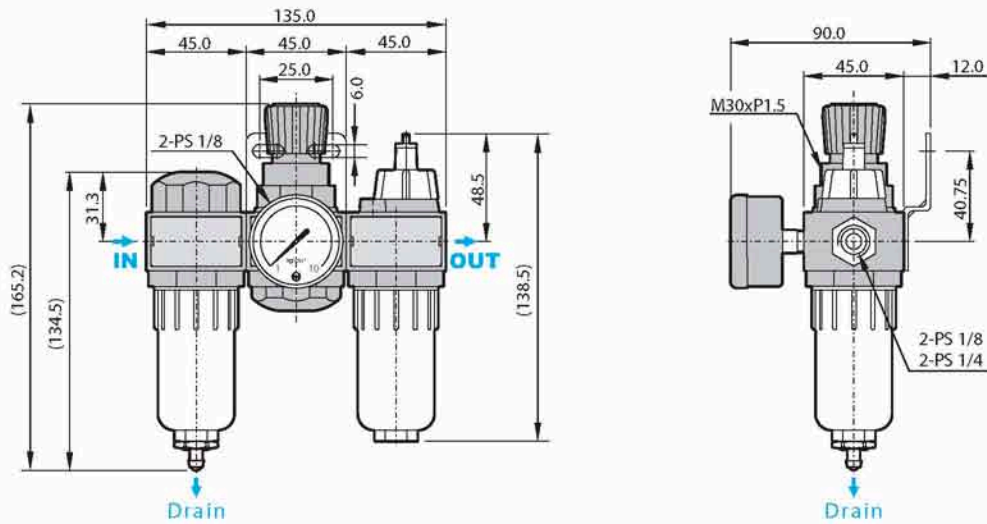
FRL700A		-	02	N	C	H	K
FRL700A	Miniature Filter+Regulator+Lubricator	Port size	Thread	Filtration	Drain	Bowl guard	
FRL600A	Miniature Filter Regulator+Lubricator	01 1/8" Option	Blank PS N NPT	Blank 5 μ m C 40 μ m	Blank Semi-auto drain H Manual drain	Blank W/O guard K W/I guard	
		02 1/4" Standard					

Specifications

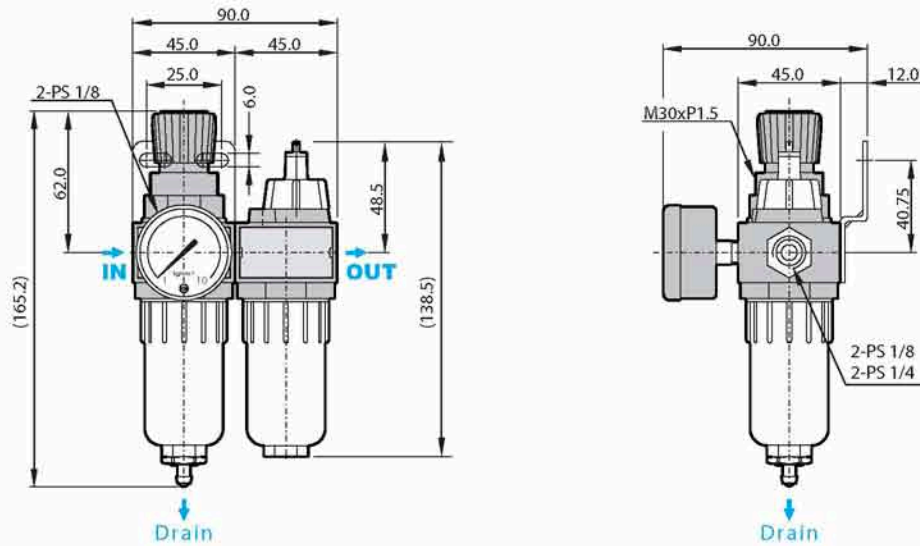
Model	FRL700A-01	FRL700A-02	FRL600A-01	FRL600A-02
Port size	1/8" (Option)	1/4" (Standard)	1/8" (Option)	1/4" (Standard)
Fluid	Compressed air			
Regulator construction	Diaphragm			
Body material	Polycarbonate			
Bowl material	Polycarbonate (Standard)			
Filtration	5 μ m (Standard), 40 μ m (Option)			
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)	1850		1650	1850
Ambient temperature	-10C ~ 60C			
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

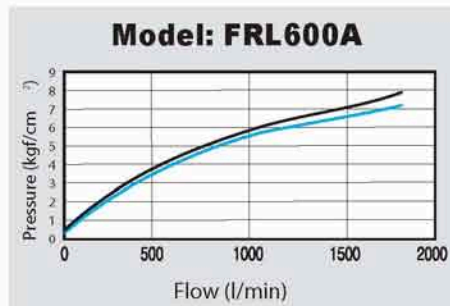
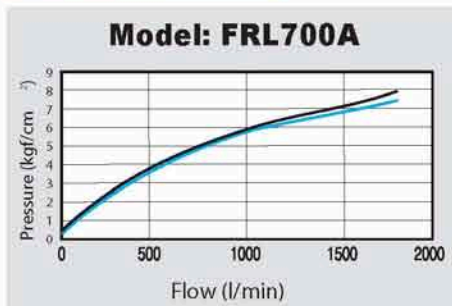
FRL700A-01, 02



FRL600A-01, 02



Flow chart



Note:

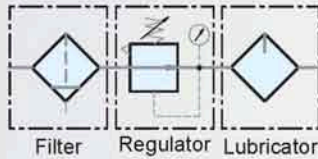
- X axis: Flow
- Y axis: Pressure
- Blue line (P0) = Outlet pressure
- Black line (P1) = Inlet pressure
- P1-P0= Pressure range

COMPOSITE/ALUMINIUM

STANDARD & LARGE FRL COMBINATION (UFRL) F+R+L (3 Unit Style) ALUMINIUM DIE-CAST/COMPOSITE



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 MVP for more enquires.)



How to order

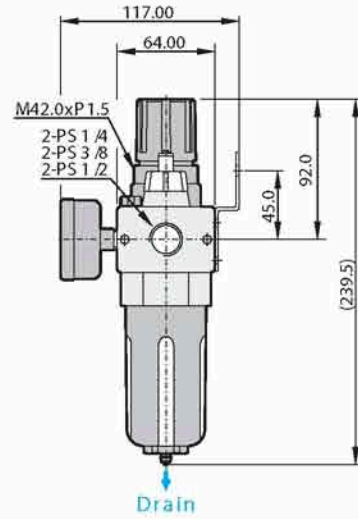
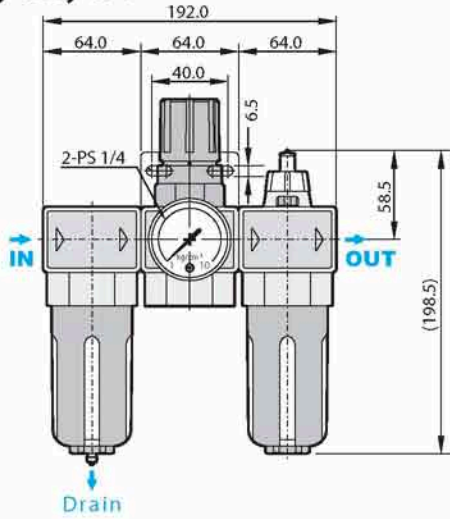
UFRL	-	02	N	C	D	A	SB
F.R.L combination	Port size	Thread	Filtration	Drain	Bowl	Spacer block	
Filter+Regulator +Lubricator	02 1/4" 03 3/8" 04 1/2" 06 3/4" 08 1"	Blank PS N NPT	Blank 5 μ m C 40 μ m	Blank Semi-auto drain H Manual drain D Auto drain	Blank Standard bowl A Anti-acid & alkali bowl AL Aluminum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

Specifications

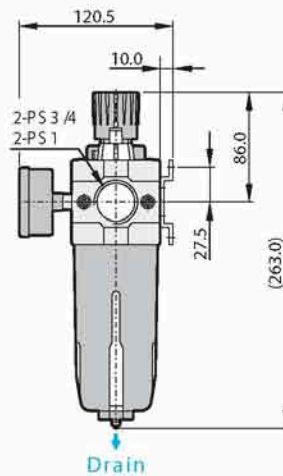
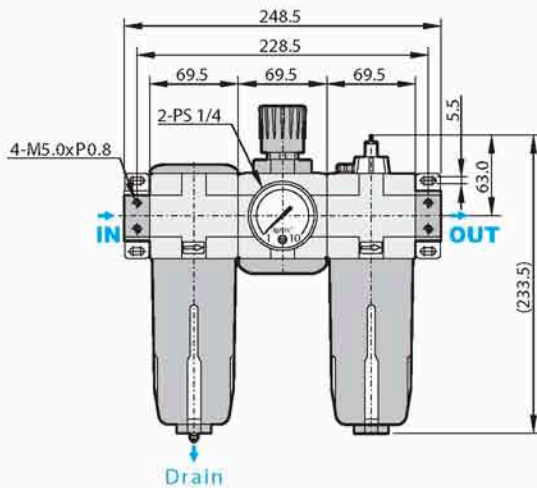
Model	UFRL-02	UFRL-03	UFRL-04	UFRL-06	UFRL-08
Port size	1/4"	3/8"	1/2"	3/4"	1"
Fluid	Compressed air				
Regulator construction	Piston				
Body material	Aluminum die-cast				
Bowl material	Polycarbonate (Standard), Anti-acid & alkali bowl (Option), Aluminum bowl (Option)				
Filtration	5 μ m (Standard), 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	-10C ~ 60C				
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

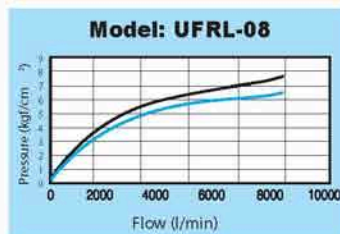
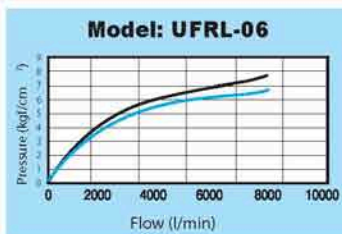
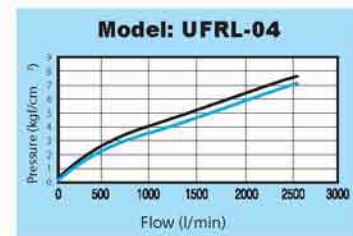
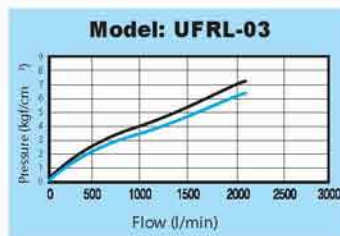
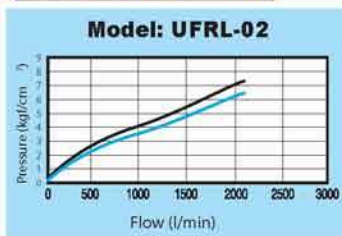
UFRL-02, 03, 04



UFRL-06, 08



Flow chart



Note:

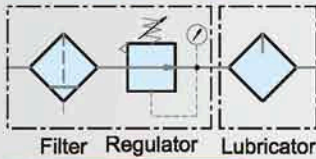
X axis: Flow
 Y axis: Pressure
 Blue line (P0) = Outlet pressure
 Black line (P1) = Inlet pressure
 P1-P0=Pressure range

COMPOSITE/ALUMINIUM

STANDARD & LARGE FR/L COMBINATION (UFR/L) FR+L (2 Unit Style) ALUMINIUM DIE-CAST/COMPOSITE



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

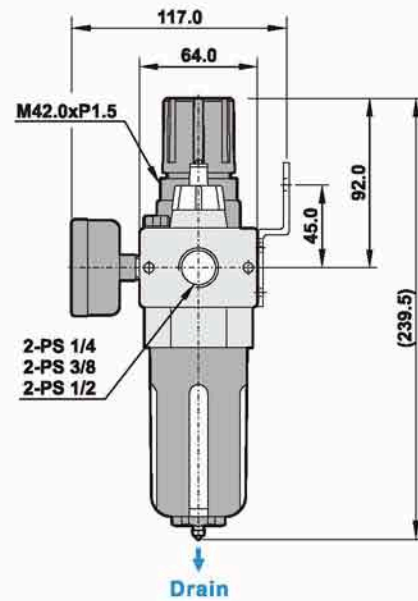
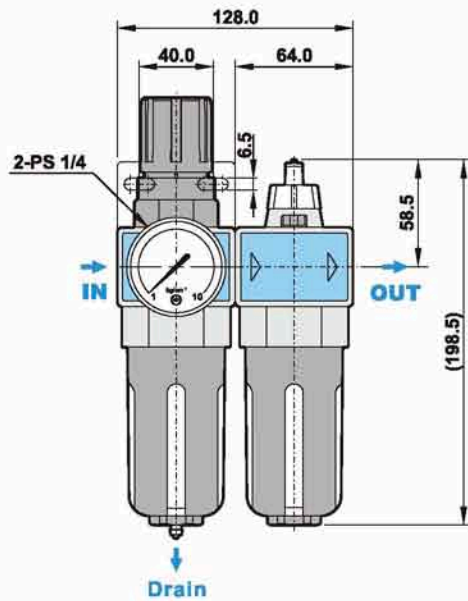
UFR/L	-	02	N	C	D	A	SB		
F.R.L combination	Port size	Thread		Filtration		Drain		Bowl	Spacer block
Filter Regulator +Lubricator	02 1/4" 03 3/8" 04 1/2" 06 3/4" 08 1"	Blank N	PS NPT	Blank C	5 μm 40 μm	Blank H D	Semi-auto drain Manual drain Auto drain	Blank A AL	Standard bowl Anti-acid & alkali bowl Aluminum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

Specifications

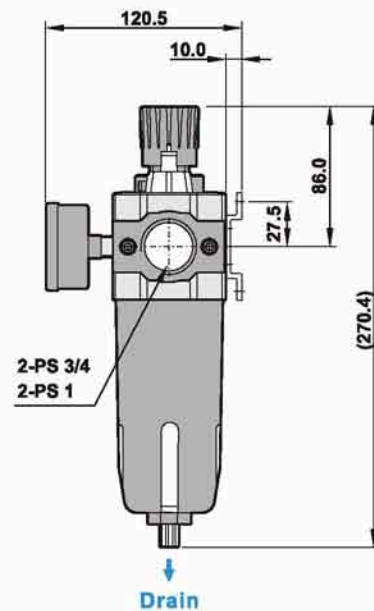
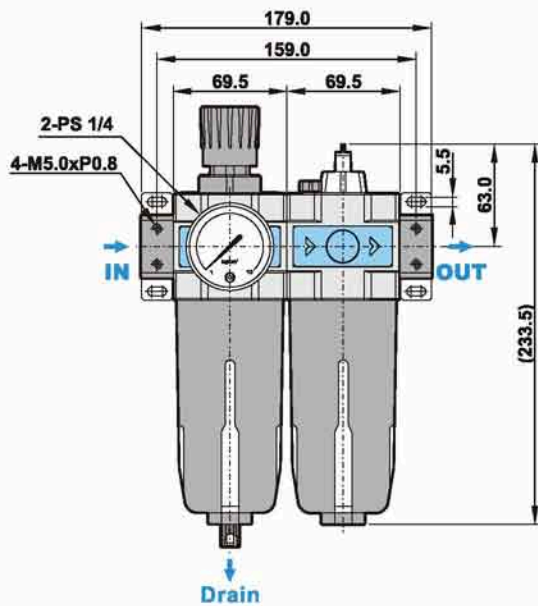
Model	UFR/L-02	UFR/L-03	UFR/L-04	UFR/L-06	UFR/L-08
Port size	1/4"	3/8"	1/2"	3/4"	1"
Fluid	Compressed air				
Regulator construction	Piston				
Body material	Aluminum die-cast				
Bowl material	Polycarbonate (Standard), Anti-acid & alkali bowl (Option), Aluminum bowl (Option)				
Filtration	5 μm (Standard) - 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



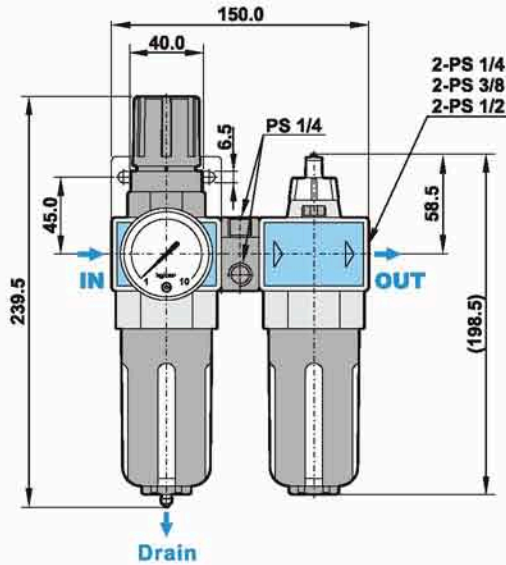
● UFR/L-06, 08



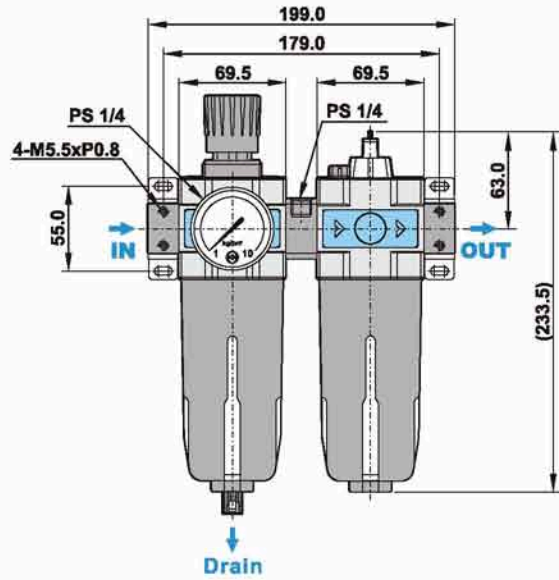
COMPOSITE/ALUMINIUM

Dimensions

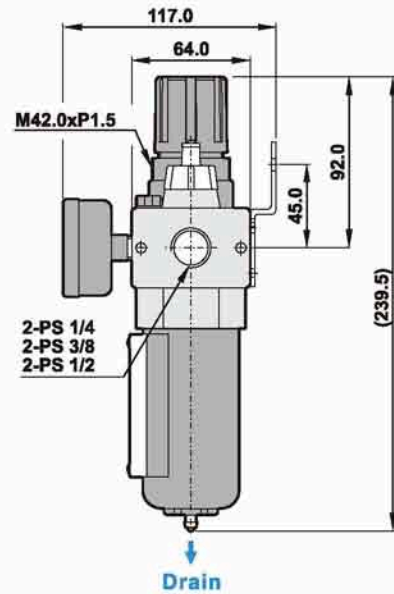
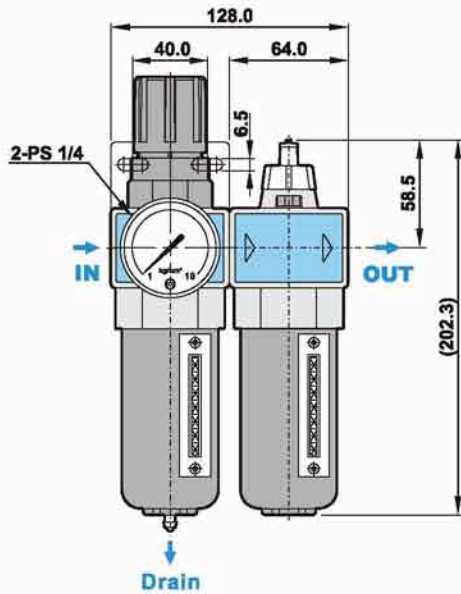
UFR/L-02, 03, 04SB (Spacer block)



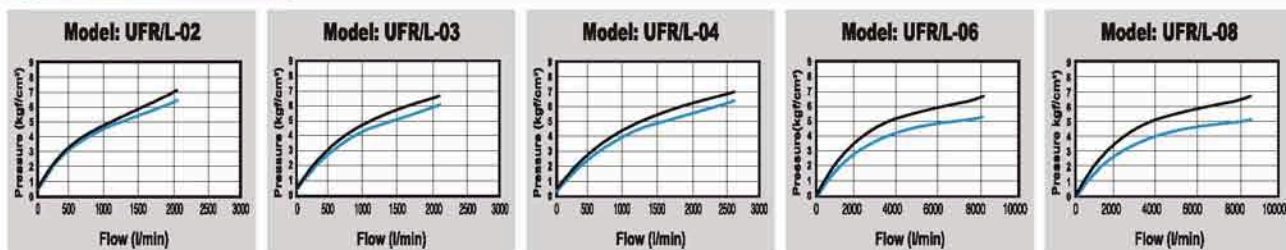
UFR/L-06, 08SB (Spacer block)



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



Flow chart

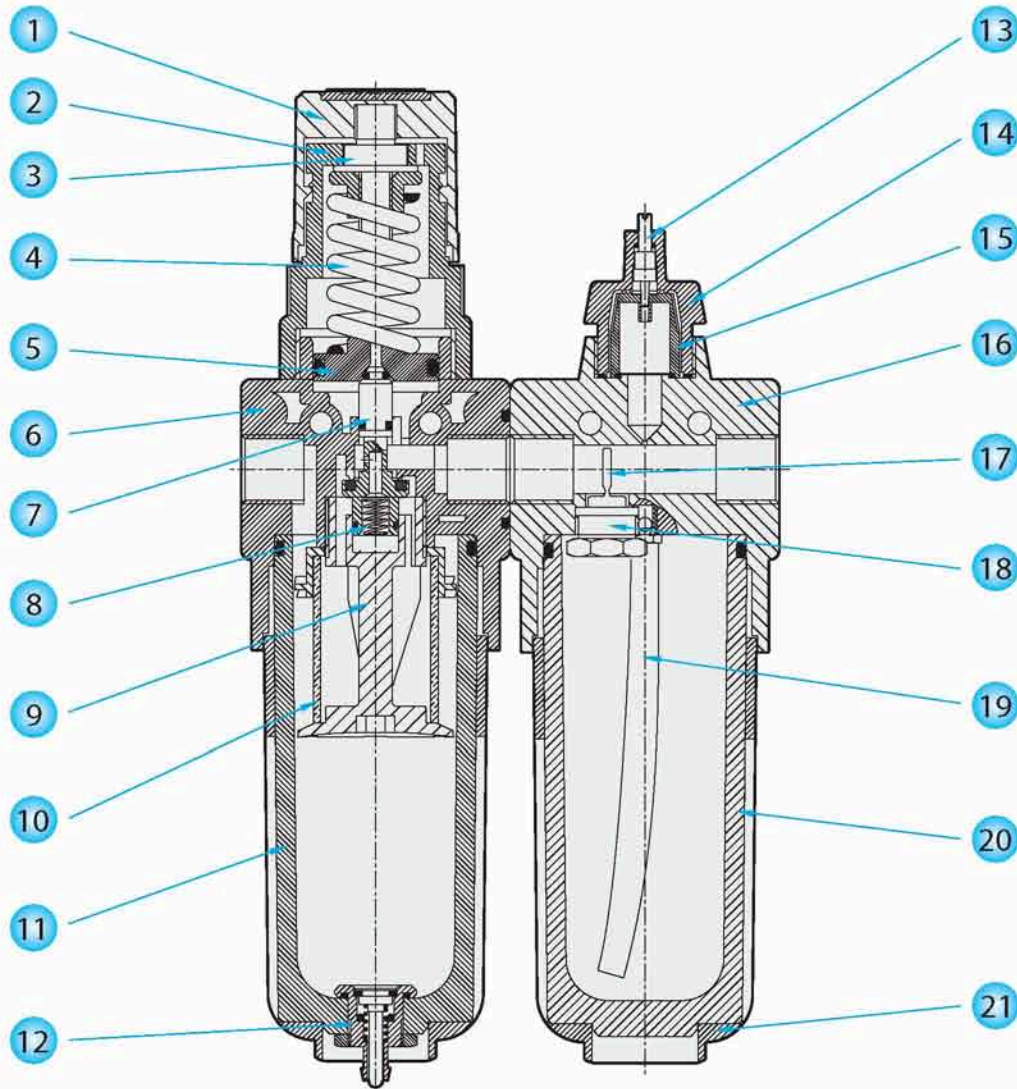


Note: X axis: Flow, Y axis: Pressure, Blue line (P0) = Outlet pressure, Black line (P1) = Inlet pressure, P1-P0=Pressure range

COMPOSITE/ALUMINIUM

Construction

UFR/L-02, 03, 04



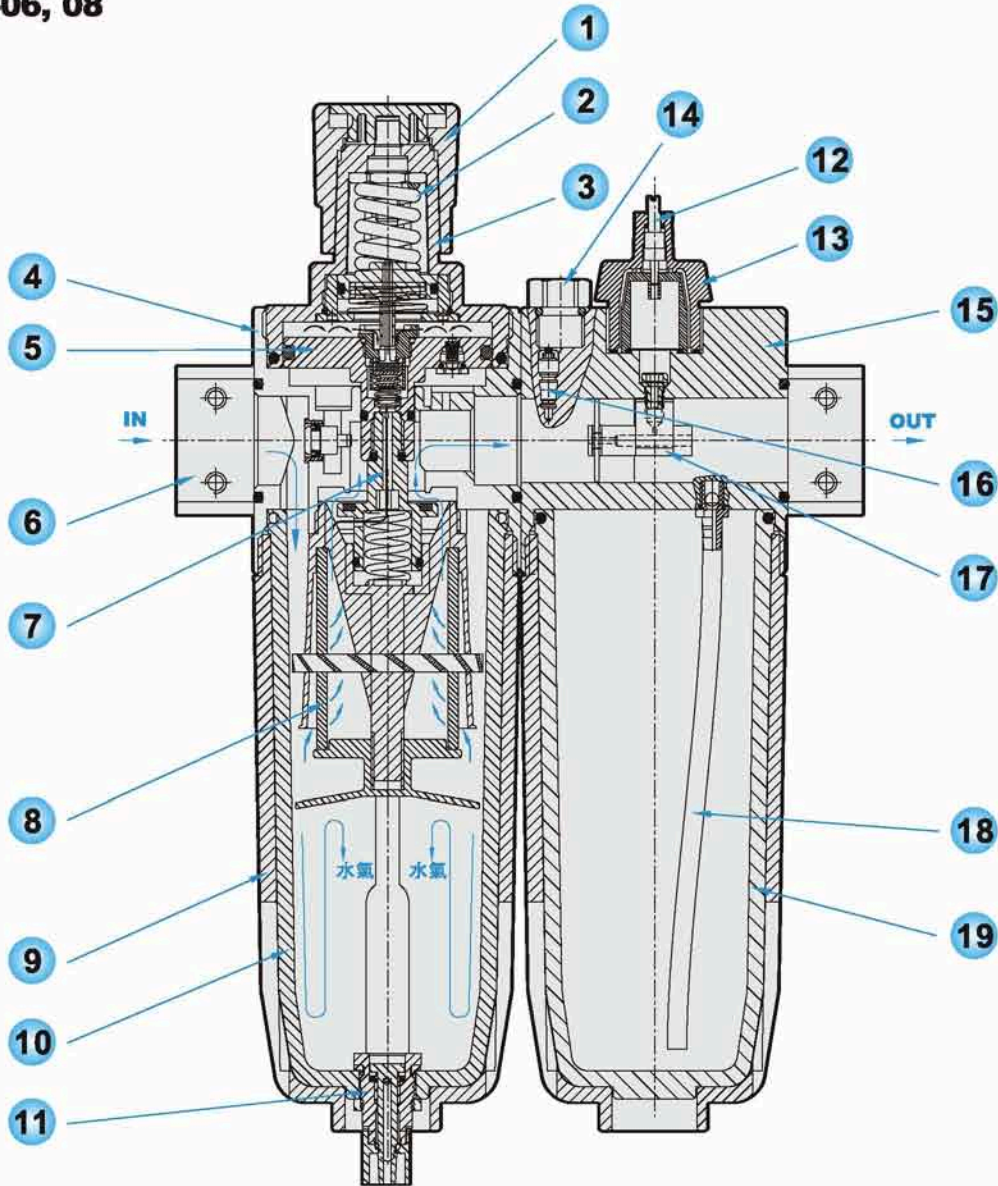
COMPOSITE/ALUMINIUM

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



COMPOSITE/ALUMINIUM

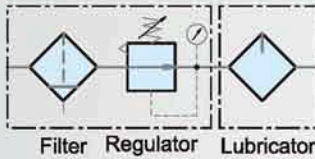
No.	Description	Material
1	Pressure regulating knob	NY
2	Spring	Spring steel+Ni
3	Regulator base	NY+GF
4	Regulator body	ADC12
5	Piston	AL
6	Adaptor	ADC12
7	Pressure regulating needle	Cu+NBR
8	Filter element	Cu
9	Bowl guard	NY+GF
10	Filter bowl	PC

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

MINIATURE FR/L COMBINATION (2 UNIT) (SSFRL600) STAINLESS STEEL



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.



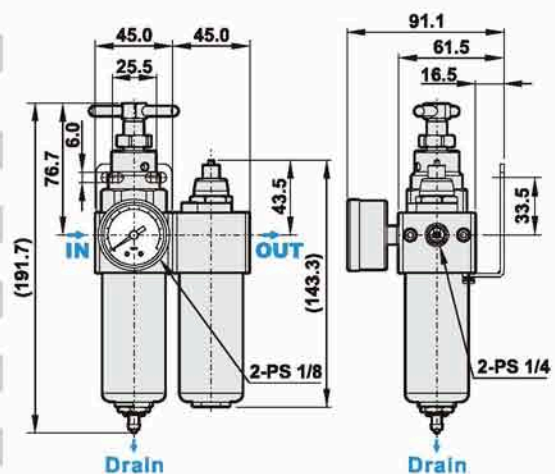
How to order

SSFRL600	—	02	N	H
Stainless steel SUS316 miniature		Port size	Thread	
Miniature Filter Regulator+Lubricator		02 1/4"	Blank PS	Blank Semi-auto drain
			N NPT	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

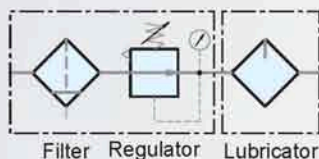
Dimensions



STANDARD FR/L COMBINATION (2 UNITS) (USFR/L) STAINLESS STEEL



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	-	04	N	C	H			
SUS316 Stainless steel	Filter R egulator+L ubricator		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

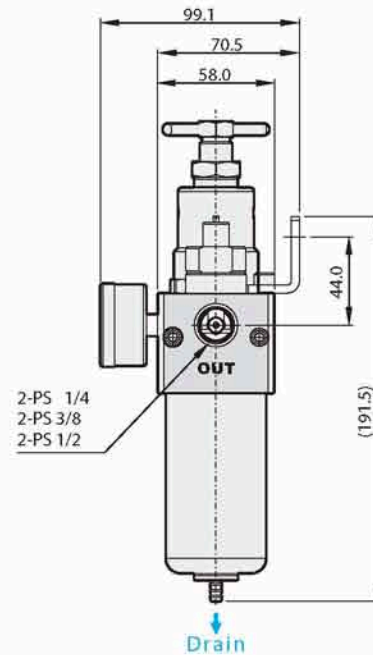
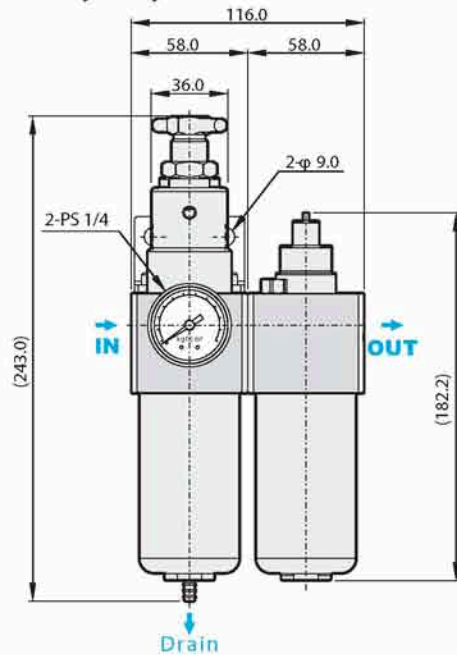
Specifications

Model	USFR / L-02	USFR / L-03	USFR / L-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. inlet pressure	60 kgf/cm ²		
Max. flow rate l/min (6kgf/cm ²)	2080	2200	2500
Ambient temperature	-10C ~ 70C		
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		

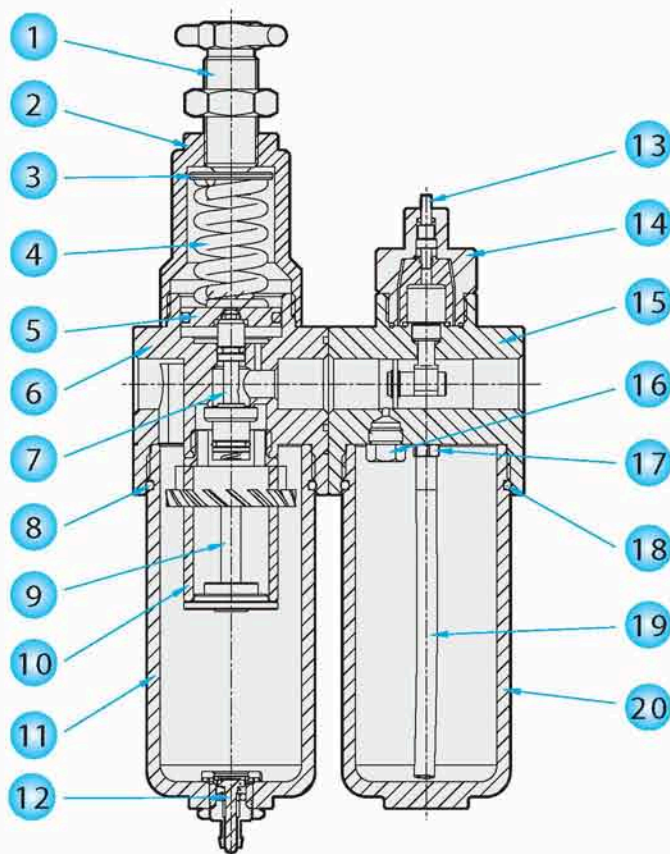
STAINLESS STEEL

Dimensions

USFR/L-02, 03, 04



Construction

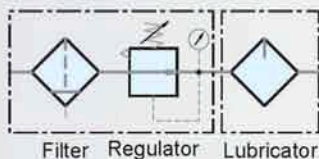


No.	Description	Material
1	Pressure regulating screw	SUS316
2	Regulator base	SUS316
3	Disc gasket	SUS303
4	Spring	SUS303
5	Piston	SUS303
6	Regulator body	SUS316
7	Pressure regulating needle	SUS303
8	O-ring	VITON
9	Filter element holder	SUS303
10	Filter element	SUS316
11	Filter bowl	SUS316
12	Drain	Cu+Ni
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

LARGE FR/L COMBINATION (2 UNIT) (USFR/L) STAINLESS STEEL



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

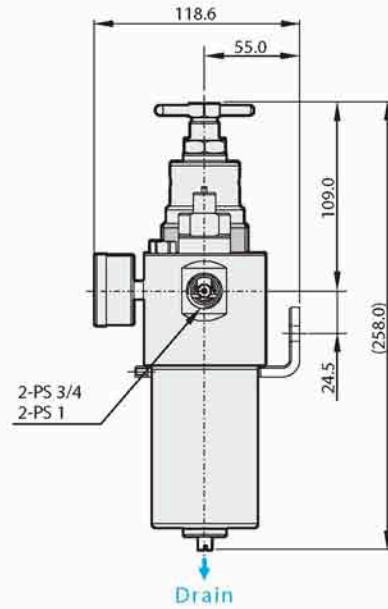
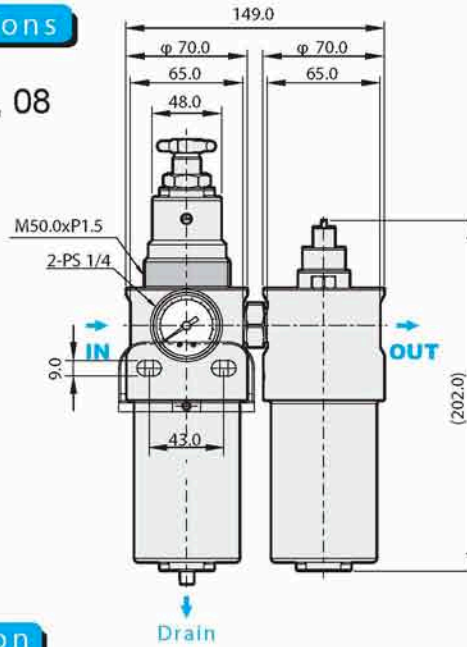
Specifications

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	-10C ~ 70C	
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	

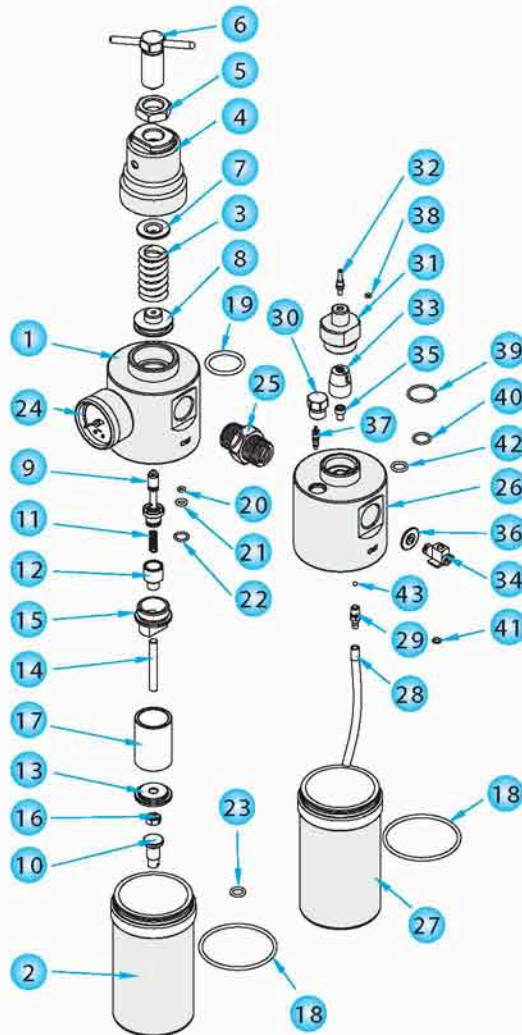
STAINLESS STEEL

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			

STAINLESS STEEL