



MAINLINE FILTER AF5000SERIES INSTRUCTION MANUAL

AF5016P, S, M, X-50
AF5032P, S, M, X-80
AF5048P, S, M, X-100
AF5064P, S, M, X-100
AF5080P, S, M, X-150
AF5096P, S, M, X-150
AF5128P, S, M, X-150
AF5160P, S, M, X-200
AF5192P, S, M, X-200
AF5256P, S, M, X-200

- Be sure to read this manual before installing and operating your Main line filter.
- Keep this manual within the reach of an operator all the time.

C K D Corporation

08-22 10th edition SM-12262-A

INTRODUCTION

Thank you for adopting Main line filter.

Read this booklet and understand idea for efficient utilization of Main line filter and its proper operation as we have lined up fundamental suggestions regarding its installation , operation and maintenance.

Keep this booklet handy for quick reference.

Please be advised in advance that there may be some discrepancies between products and contents of this book due to improvement of specification after printing.



Safety instructions

This Main line filter must be operated by a person who has basic knowledge of electric, compressed air, liquid, piping, refrigerant, etc. We are not responsible for any accidents caused when a person who does not have the basic knowledge or who is not well trained does installation, operation, repair, etc.

Improper operation may cause poor performance of the Main line filter or may cause accidents.

We applied a variety of safety measures to our Main line filter, but improper handling of Main line filter could cause accidents. Thus, be sure to read and fully understand this manual before using them.

“Save this instruction manual”

This Main line filter is industrials. Be sure to fully attend to using the Main line filter.

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1. PRODUCTS

1-1. Specifications

AF5000P TYPE

Model coding		AF5016P-50	AF5032P-80	AF5048P-100	AF5064P-100	AF5080P-150	AF5096P-150	AF5128P-150	AF5160P-200	AF5192P-200	AF5256P-200
Item		16	32	48	64	80	96	128	160	192	256
Permissible max. air flow m ³ /min(ANR)											
Fluid used		Compressed air									
Operating pressure range MPa		0.08~1.0									
Withstanding pressure MPa		1.5									
Working temperature range °C		5~60									
Removal particle size μm		3									
Initial operating pressure drop MPa		Within 0.005									
Nominal operating pressure drop MPa		0.01									
Maximum permissible differential pressure MPa		0.035									
Q'ty of element		1	2	3	4	5	6	8	10	12	16
Port size FLG		2B	3B	4B	4B	6B	6B	6B	8B	8B	8B
Mass kg		38	76	78	107	140	167	223	232	269	330
Material	Body	Stainless steel									
	Upper flange	Stainless steel									
Diff. press. switch											
Set pressure MPa		0.04±0.01									
Contact		Single terminal a contact									
Maximum switched current A		0.5									
Maximum switched voltage VDC		200									
Maximum switched power W		10									
Maximum initial contact resistance(including leads)mΩ		300									
Drain discharger (Model code:DBV1003D)											
Port size		G ¹ / ₄ or φ8-10mm hose joint									
Electric power		Single phase AC95V~AC240V±10% 50/60Hz									

Note1. FLG is flange of 10K.

Note2. Permissible max. air flow is converted to atmospheric at 0.7MPa, at pressure drop of 0.005MPa.

Note3. A.N.R. indicates that each treated flow rate is specified under atmospheric pressure with a temperature of 20°C and relative humidity 65%.

Note4. G¹/₄ can connected with the R¹/₄.

AF5000S TYPE

Item		Model coding									
		AF5016S-50	AF5032S-80	AF5048S-100	AF5064S-100	AF5080S-150	AF5096S-150	AF5128S-150	AF5160S-200	AF5192S-200	AF5256S-200
Permissible max. air flow m³/min(ANR)		16	32	48	64	80	96	128	160	192	256
Fluid used		Compressed air									
Operating pressure range MPa		0.08~1.0									
Withstanding pressure MPa		1.5									
Working temperature range °C		5~60									
Removal particle size μm		0.3									
Oil removal mg/m³		0.5 (At inlet temperature 21°C)									
Initial operating pressure drop MPa		0.007									
Nominal operating pressure drop MPa		0.014									
Maximum permissible differential pressure MPa		0.035									
Q'ty of element		1	2	3	4	5	6	8	10	12	16
Port size FLG		2B	3B	4B	4B	6B	6B	6B	8B	8B	8B
Mass kg		38	76	78	107	140	167	223	232	269	330
Material	Body	Stainless steel									
	Upper flange	Stainless steel									
Diff. press. switch											
Set pressure MPa		0.04±0.01									
Contact		Single terminal a contact									
Maximum switched current A		0.5									
Maximum switched voltage VDC		200									
Maximum switched power W		10									
Maximum initial contact resistance(including leads)mΩ		300									
Drain discharger (Model code:DBV1003D)											
Port size		G ¹ / ₄ or φ8-10mm hose joint									
Electric power		Single phase AC95V~AC240V±10% 50/60Hz									

Note1. FLG is flange of 10K.

Note2. Permissible max. air flow is converted to atmospheric at 0.7MPa, at pressure drop of 0.007MPa.

Note3. A.N.R. indicates that each treated flow rate is specified under atmospheric pressure with a temperature of 20°C and relative humidity 65%.

Note4. G¹/₄ can connected with the R¹/₄.

AF5000M TYPE

Item \ Model coding		AF5016M-50	AF5032M-80	AF5048M-100	AF5064M-100	AF5080M-150	AF5096M-150	AF5128M-150	AF5160M-200	AF5192M-200	AF5256M-200
Permissible max. air flow m ³ /min(ANR)		16	32	48	64	80	96	128	160	192	256
Fluid used		Compressed air									
Operating pressure range MPa		0.08~1.0									
Withstanding pressure MPa		1.5									
Working temperature range °C		5~60									
Removal particle size μm		0.1									
Oil removal mg/m ³		0.1 (At inlet temperature 21°C)									
Initial operating pressure drop MPa		0.01									
Nominal operating pressure drop MPa		0.02									
Maximum permissible differential pressure MPa		0.035									
Q'ty of element		1	2	3	4	5	6	8	10	12	16
Port size FLG		2B	3B	4B	4B	6B	6B	6B	8B	8B	8B
Mass kg		38	76	78	107	140	167	223	232	269	330
Material	Body	Stainless steel									
	Upper flange	Stainless steel									
Diff. press. switch											
Set pressure MPa		0.04±0.01									
Contact		Single terminal a contact									
Maximum switched current A		0.5									
Maximum switched voltage VDC		200									
Maximum switched power W		10									
Maximum initial contact resistance(including leads)mΩ		300									
Drain discharger (Model code:5100-4C)											
Port size		Rc ¹ /4									

Note1. FLG is flange of 10K.

Note2. Permissible max. air flow is converted to atmospheric at 0.7MPa, at pressure drop of 0.01MPa.

Note3. A.N.R. indicates that each treated flow rate is specified under atmospheric pressure with a temperature of 20°C and relative humidity 65%.

AF5000X TYPE

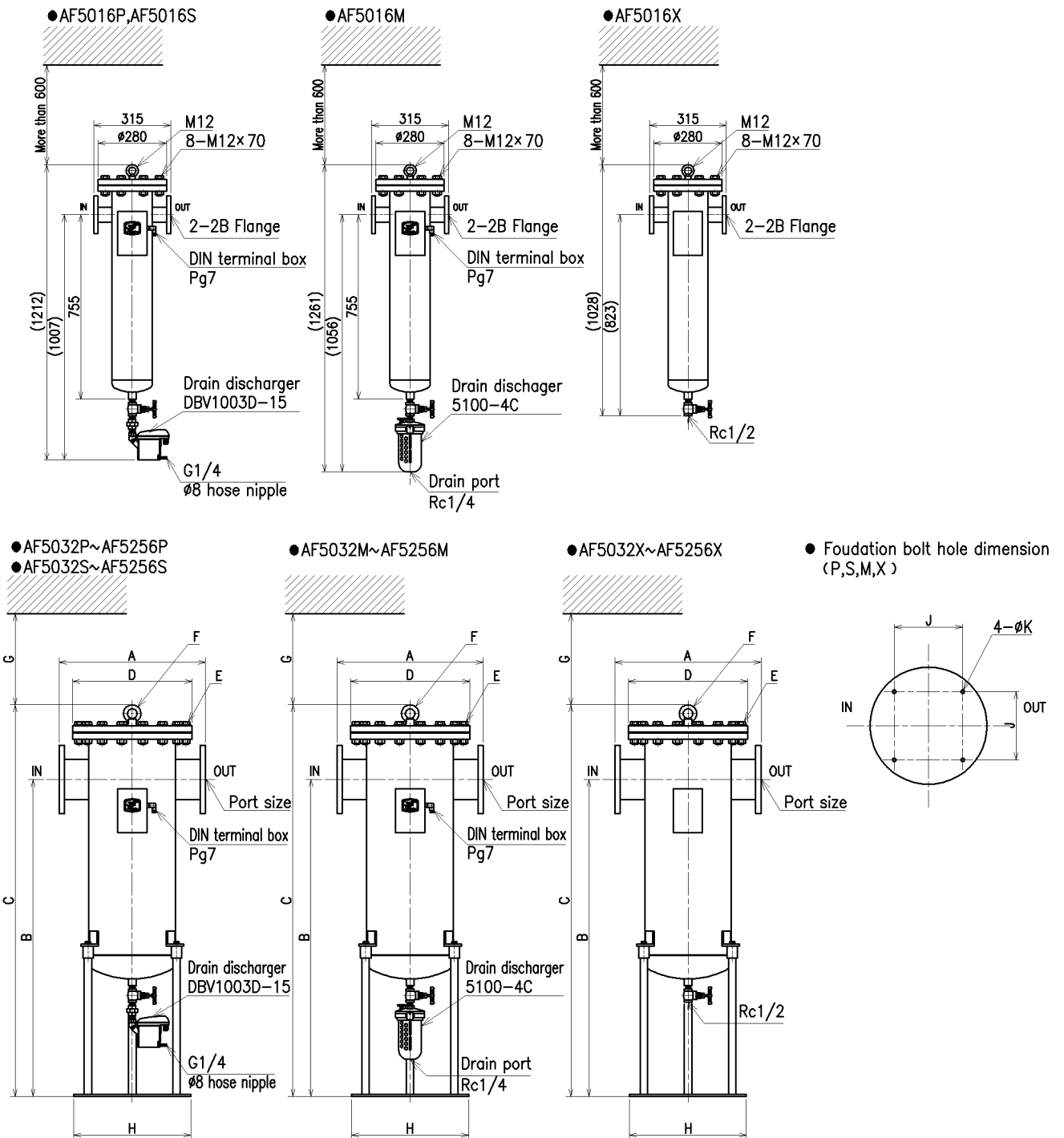
Item \ Model coding		AF5016X-50	AF5032X-80	AF5048X-100	AF5064X-100	AF5080X-150	AF5096X-150	AF5128X-150	AF5160X-200	AF5192X-200	AF5256X-200
Permissible max. air flow m ³ /min(ANR)		16	32	48	64	80	96	128	160	192	256
Fluid used		Compressed air									
Operating pressure range MPa		0.08~1.0									
Withstanding pressure MPa		1.5									
Working temperature range °C		5~30									
Inlet atmospheric dew point °C		-17									
Inlet oil concentration mg/m ³		0.01									
Method of filtration		Absorption by activated carbon									
Objects of filtration		Oil vapor, various hydrocarbons (carbon monoxide, carbon dioxide, methane, and ethane cannot be filtered)									
Oil removal mg/m ³		0.003 (At inlet temperature 21°C)									
Pressure drop MPa		Within 0.007									
Q'ty of element		1	2	3	4	5	6	8	10	12	16
Port size FLG		2B	3B	4B	4B	6B	6B	6B	8B	8B	8B
Mass kg		38	76	78	107	140	167	223	232	269	330
Material	Body	Stainless steel									
	Upper flange	Stainless steel									

Note1. FLG is flange of 10K.

Note2. Permissible max. air flow is converted to atmospheric at 0.7MPa, at pressure drop of 0.007MPa.

Note3. A.N.R. indicates that each treated flow rate is specified under atmospheric pressure with a temperature of 20°C and relative humidity 65%.

1-2. External dimensions



Model	Port size	A	B	C	D	E	F	G	H	J	K
AF5032※-80	FLG3"	500	1255	1495	$\phi 400$	12-M22 $\times$ 80	M12	600	$\phi 380$	210	$\phi 15$
AF5048※-100	FLG4"	500	1255	1495	$\phi 400$	12-M22 $\times$ 80	M12	600	$\phi 380$	210	$\phi 15$
AF5064※-100	FLG4"	550	1270	1522	$\phi 445$	16-M22 $\times$ 80	M16	600	$\phi 440$	250	$\phi 15$
AF5080※-150	FLG6"	600	1300	1606	$\phi 490$	16-M22 $\times$ 80	M20	600	$\phi 480$	280	$\phi 15$
AF5096※-150	FLG6"	650	1320	1630	$\phi 560$	16-M24 $\times$ 90	M20	600	$\phi 540$	320	$\phi 15$
AF5128※-150	FLG6"	700	1350	1693	$\phi 620$	20-M24 $\times$ 90	M20	600	$\phi 610$	350	$\phi 15$
AF5160※-200	FLG8"	700	1350	1693	$\phi 620$	20-M24 $\times$ 90	M20	600	$\phi 610$	350	$\phi 15$
AF5192※-200	FLG8"	750	1360	1709	$\phi 675$	20-M24 $\times$ 100	M20	600	$\phi 670$	400	$\phi 15$
AF5256※-200	FLG8"	850	1400	1786	$\phi 745$	20-M30 $\times$ 110	M24	600	$\phi 730$	450	$\phi 15$

Note ※Indication by P·S·M·X

2. CAUTIONS

2-1. Formalities when installed Main line filter

Main line filter is classified “Pressure vessel” subject to “Safety Regulation of Pressure Vessel” .

Safety Regulation of Pressure Vessel

As models AF5032-AF5256 are applied as “Second Class Pressure Vessel” according to “Boiler and Pressure Vessel Safety Regulation” by legislation of Ministry of labor, they are accompanied by a certificate for withstanding pressure of the Second Class Pressure Vessel.

During use of this machine, keep this certificate in your possession.

2-2. Operational cautions

- 1) Air flow rate through Main line filter must not exceed processed air flow rate. Otherwise, water and/or dust in compressed air could not be removed.
- 2) When pressurizing Main line filter which is set-up in front or in the rear of valves, operate valve, etc. slowly enough so that index of indicator with diff. press. switch may not exceed max. range. Rapid operation of valve may damage filter element and indicator with diff. Press. switch. In case that indicator with diff. press. switch points over 0.035MPa during pressurizing, water, dust and/or oil could not be removed by element.
- 3) When releasing pressure from piping, release it slowly at secondary side of Main line filter. If released at primary side, reverse flow may arise in Main line filter, resulting in damage of indicator with diff. press. switch and element.
- 4) Do not use the dryer for pneumatic caisson shield or respiratory medical equipment.
※It could cause an accident includes injury.
- 5) Do not use the dryer for transportation devices such as automobile, ship etc.
※Vibration could be a cause of break down of the internal components.

3. OPERATION

3-1. Prior to opening air valve

Ensure the following check points after completion of installation Main line filter prior to opening air valve.

- 1) Whether indicator with diff. press. switch and drain discharger (X type is not required) are properly installed, particularly direction of flow.
- 2) Ensure that the air flow is within max. tolerable flow rate.
- 3) Drain discharger of Main line filter (P·S) voltage must be within $\pm 10\%$ of rated voltage.

It indicates that the system is operable when no discrepancies is discovered.

4. INSTALLATION

4-1. Place of installation

- 1) Do not the Main line filter in a place where it is likely to be exposed to direct sunlight and rainwater.

Because resin begin to deterioration, Main line filter likely to breakage.

- 2) Make use of working temperature range.

- 3) Do not use the Main line filter in a place where condensation is likely to occur. Because drain begin to condensation, Main line filter likely to breakage.

- 4) Inlet air temperature must low as low as the Main line filter can use. Because Oil removal rating down by inlet air temperature is high at the same time.

- 5) Do not use the Main line filter in a place where it is likely to danger (blowing up possible an atmosphere).

- 6) Provide ample room around it for later service such as replacing element or dismounting bowl.

- 7) Avoid its installation within the area where such gases as follows are likely mixed in the ambient air because element may be eroded or swollen.

- Sulforous acid gas

- Clorate gas

- Hidensity ozone

- Aromatic hydro carbons solvent

(Examples; Benzene, Toluen, Phenol, Cyclohexane etc.)

- Chlorinated aliphatic hydrocarbons

(Examples; Trichloro ethylene, Chlorohorm etc.)

- Keton (Example; Aceton)

- Aldehyde (Examples; Holmaldehyde, Acetoaldehyde etc.)

- Amin (Examples; Ethylamin, Methyl amin etc.)

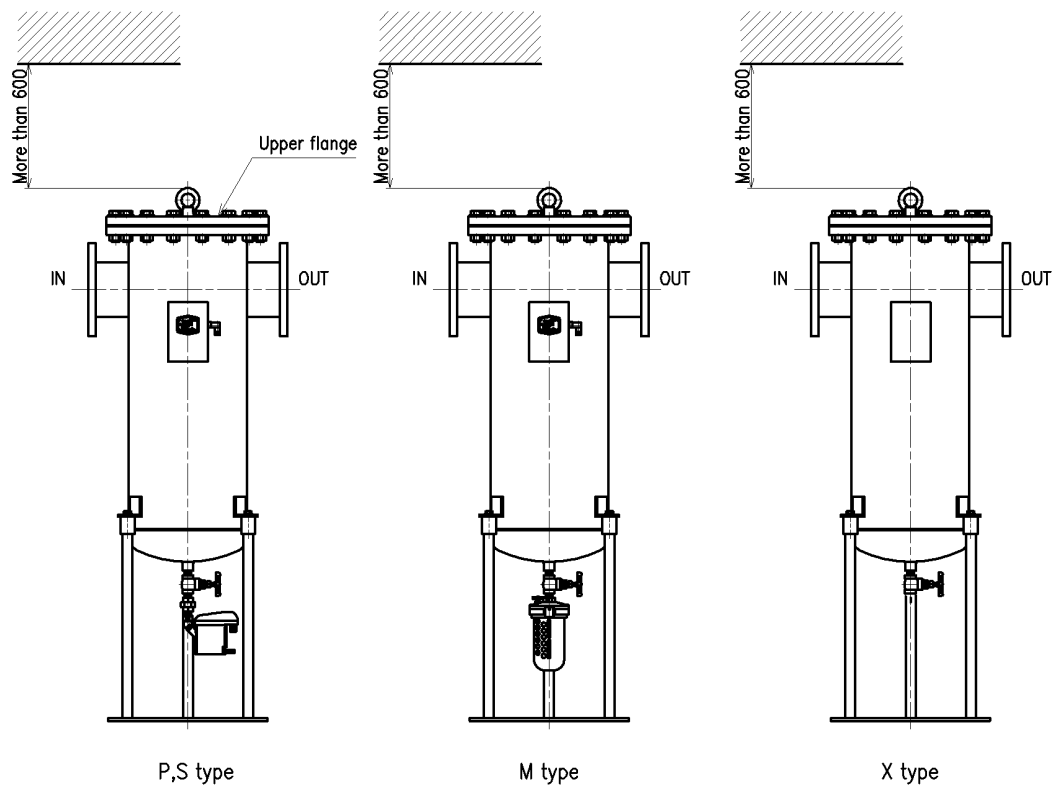
- 8) Material of bowl of automatic drain is polycarbonate resin. Material of window of scale board of differential pressure gauge is nylon resin.

Do not use this machine where the following chemical agents are contained in the compressed air or in atmosphere near drain discharger or indicator with diff. press. switch.

Kind of chemicals	Classification of chemicals	Major products of each chemicals	Ordinal application
Inorganic compound	Acid	Hydrochloric acid·Sulfuric acid·Nitric acid·Fluoride acid·Phosphoric acid·Chromate acid, etc	Acid washing off metal parts, degreasing, oil film washing
	Alkali	Caustic soda·Caustic potassium·Hydrated lime·Ammonia solvent·Carbonate soda	Alkali washing off metal parts
	Inorganic hydrochlorine	Sulfide soda·Potassium nitrate·Chromic potassium·Sulfa soda	
Organic compound	Aromatic hydrocarbons	Benzene·Toluene·Xylene·Ethyl benzene·Styrene	Contained in the thinner of painting material (Benzene, toluene, xylene)
	Chlorinated aliphatic hydrocarbons	Methyl chloride · Ethylene chloride · Methylene chloride · Acetylene chloride · Chloroform · Trichloroethylene·Perchlene·Carbon tetrachloride	Washing rinse of organic solvent off metal components (Trichloro ethylene, perchlene, carbon tetrachloride)
	Chlorinated aromatic hydrocarbons	Chlorobenzene·Dichloro benzene·Benzene hexachloride	Farm chemicals
	Petroleum solvent	Solvent·Naphtha·Gasoline	
	Alcohol	Methyl alcohol·Ethyl alcohol·Cyclohexanol·Benzyl alcohol	Anti-freezer
	Phenol	Carbolic acid·Cresol·Naphthol	Disinfectant
	Ether	Methyl ether·Methyl-ethyl ether·Ethyl ether	Additive to brake fluid
	Ketones	Acetone·Methyl-ethyl keton·Cyclohexanone·Acetophenone	
	Carbonic acid	Formic acid·Acetic acid·Buthylene acid·Acrylic acid·Oxalic acid·Biphthalate acid	Dying ditargent. Oxalic acid as aluminum treatment compound. Biphthalate acid as basic compound of painting
	Phosphoric ester	Dimethyl phthalate (DMP)·Diethyl phthalate (DEP) · Dibuthyl phethalate (DBP) ·Diothyl phethalate(DOP)	Additive to lubricant, synthetic hydraulic fluid, rust preventive oil and prasticizer to synthetic
	Oxy acid	Glycol acid·Lactic acid·Malic acid·Citrate acid·Tartaric acid	
	Nitro compound	Nitromethane·Nitro ethane·Nitro ethylene·Nitro benzene	
	Amin	Methyl amin·Diothyl amin·Ethyl amin·Aniline·Aceto anilido	Additive to brake fluid
	Nitril	Acetonitrile·Acrylonitrile·Benzenitrile·Acetoirinitril	Raw material of nitril rubber

4-2. Installation

- 1) Install the Main line filter on the leveled floor without no vibration.
 - 2) Do not mount the Main line filter in front on in the rear abrupt open/close valve.
 - 3) Install it so as to have arrow mark coincides with direction of flow.
It may sometimes cause a damage of element and indicator with diff. press. switch when back pressure is charged to Main line filter.
 - 4) Install it as perpendicular as possible having drain port downward.
 - 5) Install it as far away from compressor as possible so as to have compressed air cools by natural radiation in piping before coming into filter.
 - 6) Provide ample room for later service work such as more than 600mm a top of eyenut.
 - 7) Keep primary pressure within 1.0MPa.
 - 8) Install base bolts utilizing bolt holes of mounting legs.
- Refer to 1-2 external dimensions for mounting pitch.



4-3. Piping

- 1) Use large enough pipe to reduce pressure drop and eliminate sharp bending of piping or using stop valve with large flow resistance.
- 2) It is recommended to use zinc coated pipes to prevent rusting or stainless pipe.
- 3) Wash off cutting oil and/or rust preventive oil off the pipes and couplings.
- 4) Be sure to set Microalescer M type before Microalescer X type. Also, do not forget to install the air dryer before operation.
- 5) Separated oil of compressed air by Main line filter is automatically purged by drain discharger.

Type P.S : Drain discharger, Model DBV1003D-15, is delivered together with Main line filter but is not mounted on.

Mount it on the Main line filter upon installation and piping Main line filter by spanner (size : 27mm)

Make use delivered couplings (Nipple, Stop valve and Union)

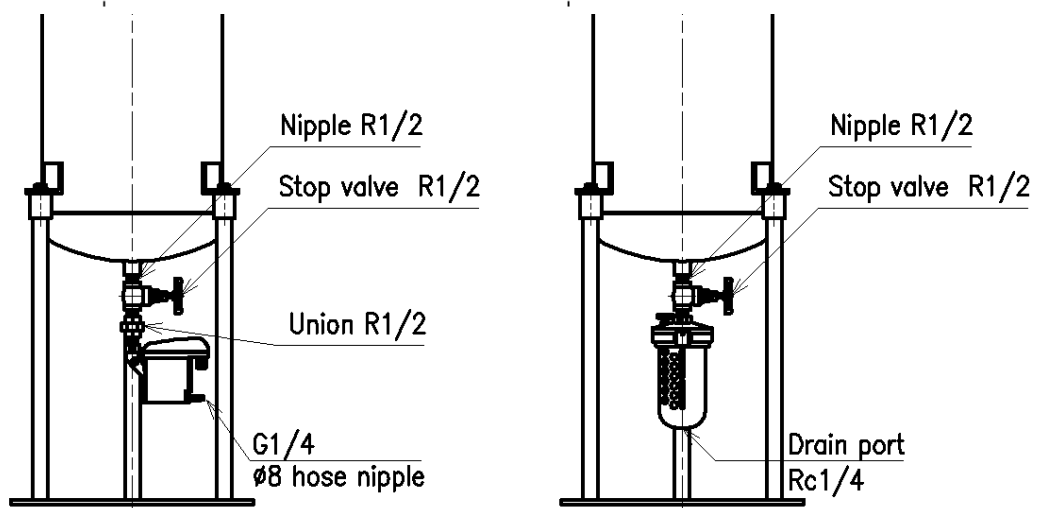
Be sure to set open Stop valve.

Type M : Drain discharger, Model 5100-4C, is delivered together with Main line filter but is not mounted on.

Mount it on the Main line filter upon installation and piping Main line filter by spanner (size : 30mm)

Make use delivered couplings (Nipple Stop valve)

Be sure to set open Stop valve.

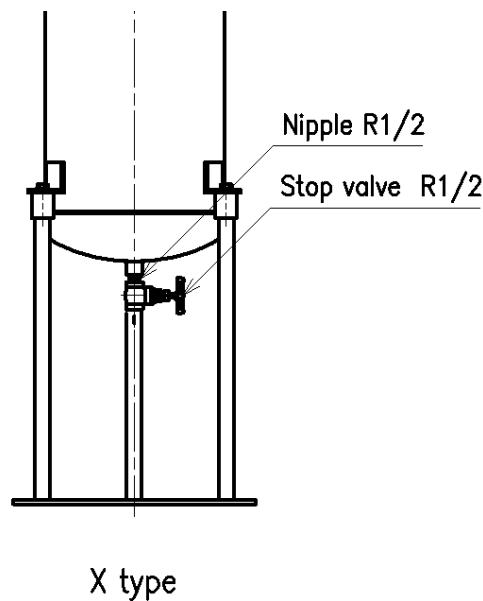


6) Drain discharge port must plumbing hose

- Type P.S : ①The port size of the drain discharge is $G^{1/4}$.
 $G^{1/4}$ can connect to $R^{1/4}$.
Hose can connect by hose joint (for $\Phi 8-\Phi 10$) of accessory.
Hose must fix by hose band.
②For each yard of rising slope in the outlet line, the required minimum pressure will increase by 0.01MPa.
The rise of the outlet line must not exceed 5m.

- Type M : ①The port size of the drain discharge is $Rc^{1/4}$.
The drain pipe must be $\Phi 6$ or smaller in I.D. and within 5m in length and must not be installed upward.

- 7) Stop valve and nipple for air-bleeder at maintenance is delivered together with Main line filter type-X but is not mounted on.
Mount it on the Main line filter type-X upon installation and piping Main line filter type-X
Be sure to set close Stop valve.

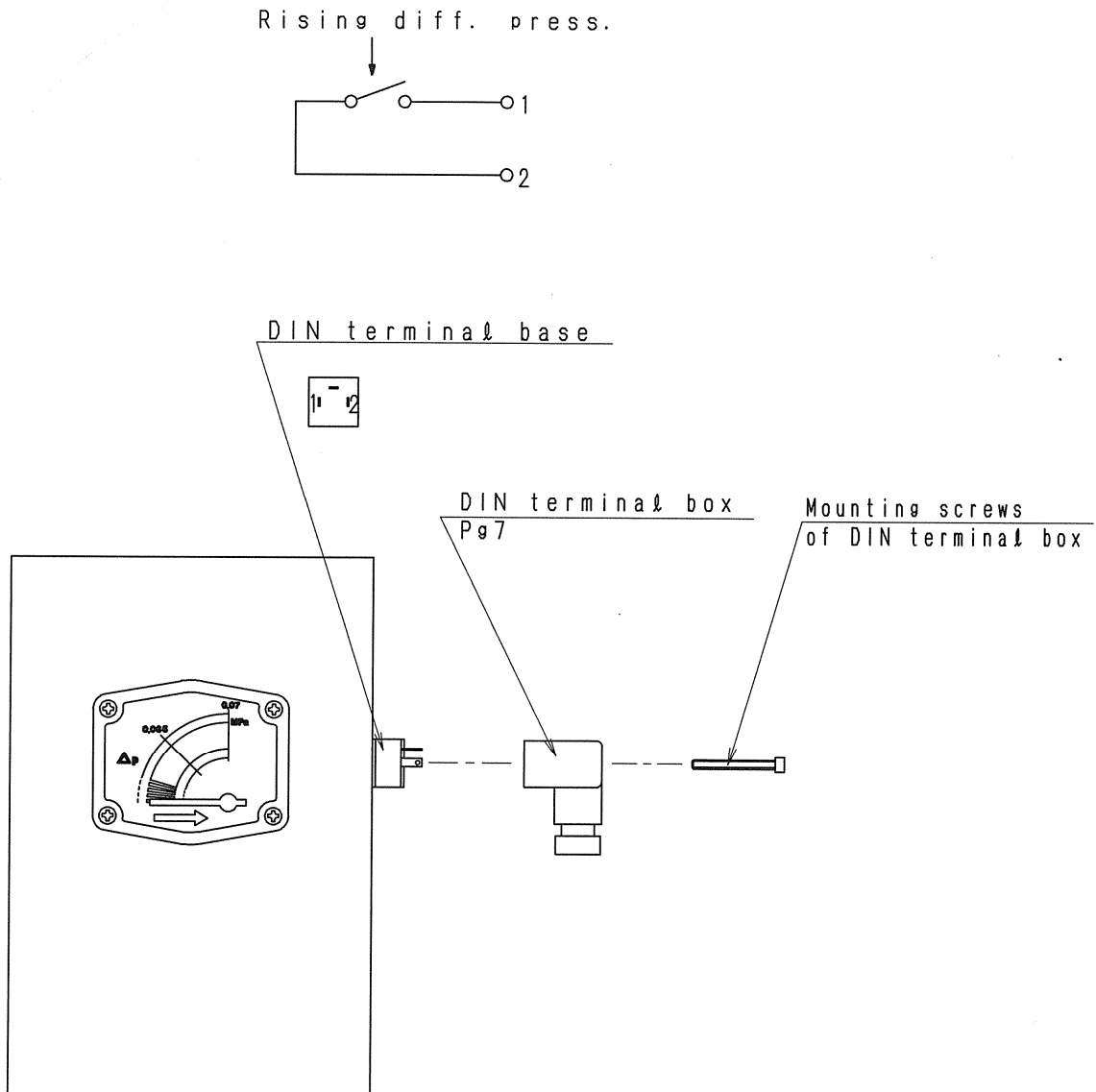


4-4. Wiring method

Before starting wiring, turn OFF the primary power and make sure that no compressed air is supplied to the Main line filter.

4-4-1. Indicator with diff. press. Switch

- ① Remove mounting screws of DIN terminal box and lift off DIN terminal box.
- ② Cable through DIN terminal box and connect to DIN terminal base 1-2.



4-4-2. Drain discharger (DBV1003)

Electrical installation



Danger!

Supply voltage!

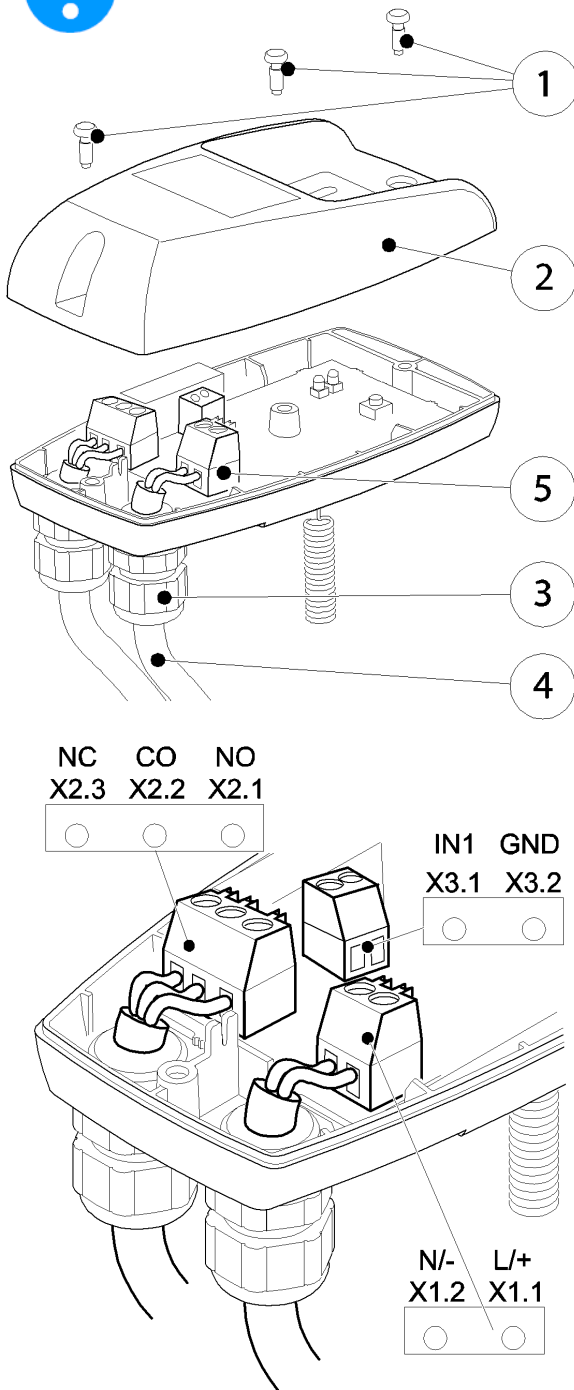
There is the risk of an electric shock involving injury or death when coming into contact with non-insulated components carrying supply voltage.

Measures:

- During electric installations, all regulations in force need to be adhered to.
- **Service measures must only be undertaken when the system is deactivated.**
- **The removed control unit has no IP degree of protection.**
- All types of electrical works must be carried out by authorised and qualified personnel only.



NOTE



Power supply connection:

1. Read the permissible supply voltage on the type plate and make sure this voltage is observed.
2. For the supply voltage, a reliably accessible separator must be provided close-by (e.g. power plug or switch), which separates all current-carrying conductors.
3. Carry out installation in accordance with VDE 0100 / IEC 60364.
4. Observe the terminal assignment.
5. Do not install when the device is energised.
6. Unscrew the screws (1) and remove the upper part of the cover (2).
7. Unscrew the threaded cable connection (3), remove the plug (if there is one), and lead the cable (4) for the power supply through.
8. Connect the cable (4) with terminals X1 (1.1, 1.2) (5).
9. Install the cables as shown (see also terminal assignment in the following text).
10. Tighten the threaded cable connection (3) with a slightly sealing effect.
11. Put on the upper part of the cover (2) and tighten the screws (1) fingertight.

Alarm / potential-free contact:

- X 2.1 n.o.
- X 2.2 com.
- X 2.3 n.c.

n.c. – com. closed in the event of malfunction or power failure

(closed current principle)

n.o. – com. closed during normal operation

The contacts X2.1 – 2.3 are potential-free.

External test / remote control:

- X 3.1 external test (IN1)
- X 3.2 GND

Contacts connected = test active = discharge

Contacts open = test inactive

The contacts X 3.1 –3.2 are not potential-free.

5. MAINTENANCE

5-1. Observation of indicator with diff. press. switch.

Pressure drop at Main line filter (P·S·M) grows more and more as its operation is kept. It is due to the accumulation of captured carbon and dust particles. When pressure drop grows more, keep watching indicator at least once a week because Main line filter should be used within 0.035MPa of the pressure drop range.

5-2. Timing of element replacement

- (1) Main line filter (P·S·M) is due for element to be replaced when pressure drop falls out of range of 0.035MPa (red zone). It is hard to tell exactly as to when because it depends upon volume of foreign particles carried by air to prime side of element.

Immediately replace it with new element whenever it is noticed that it falls out of 0.035MPa (red zone). Discard clogged element because it is not washable.

- (2) Microalescer X type absorbs odor by means of activated carbon. Because of this, a differential pressure cannot be used to measure its operation life. Replace the element when every 1000 hours or its deodorizing power begins to deteriorate (odour is detected).

The element at the end of its life cannot be revived by washing. Replace it with a new one.

 注意 CAUTION	
マイクロエレッサ・Xタイプエレメントは、1000時間毎または油の臭気が検出されれば早めに交換してください。 Microalescer Xtype elements should be changed every 1000hours or earlier if odour is detected.	
MONTH	YEAR

F7-050000

5-3. Replacement of element

1) Stop supplying compressed air and release pressure in filter.

(When releasing pressure from filter body, use pet cock. Do not release pressure from primary side.)

2) Loosen flange fixing bolt.

3) Remove upper flange.

4) Loosen element ass'y by turning it counterclockwise.

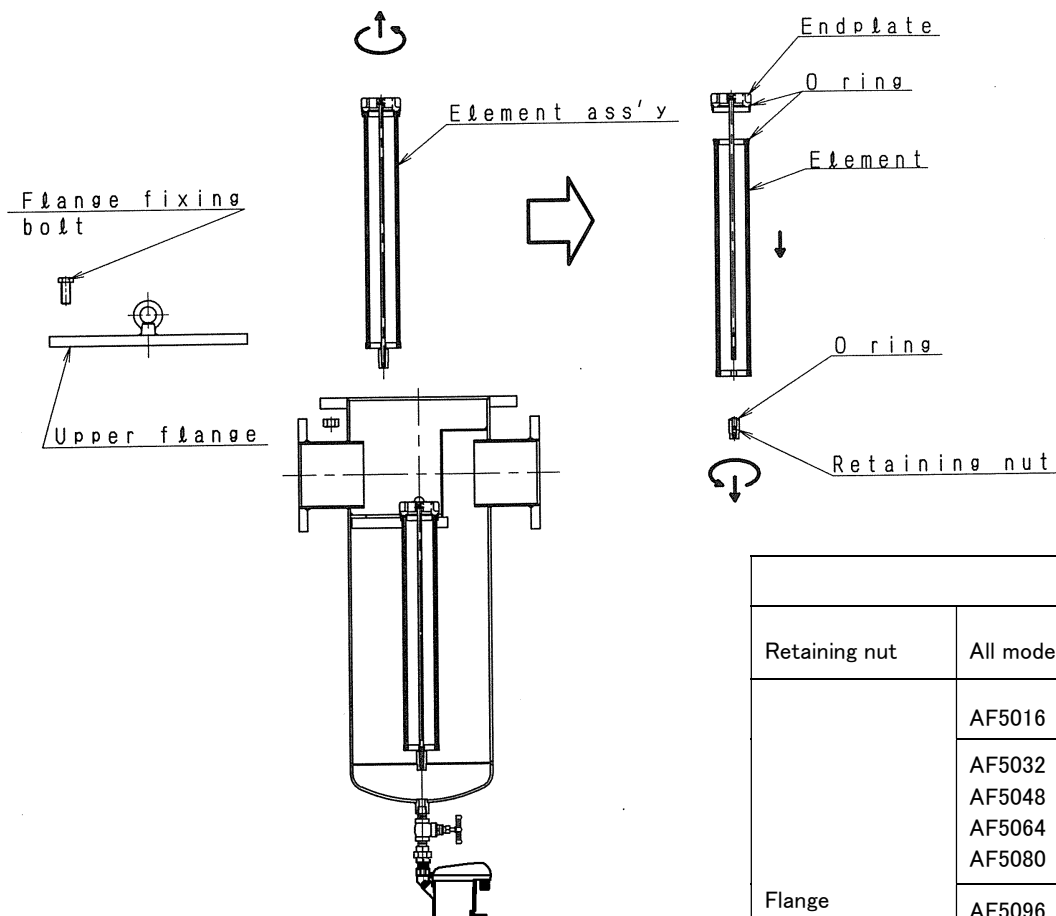
(As there is a hexagon hole in upper part, use allen wrench of 10mm.)

5) Pull out element ass'y slowly.

6) Loosen retaining nut and remove element.

7) Replace element. (Care must be taken that an O-ring is set each for end plate, element and retaining nut.)

8) Assemble them in the reverse steps. (The bolt clamping torque refers to the following list)



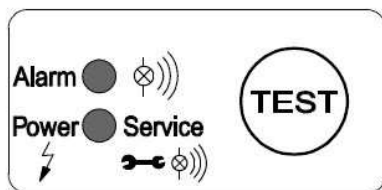
		Clamping torque
Retaining nut	All model	18Nm
Flange	AF5016	230Nm
	AF5032 AF5048 AF5064 AF5080	300Nm
	AF5096 AF5128 AF5160 AF5192	380Nm
	AF5256	800Nm

5-4. Inspection of drain discharger

5-4-1. Drain discharger (DBV1003D)

- (1) Inspect light up “Power“ lamp.
- (2) Inspect put out lights “Alarm“ lamp.
- (3) The test button is used for checking correct functioning

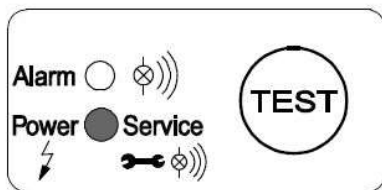
Pressing	Effect
Short	Manual drainage
> 1 min	Alarm mode



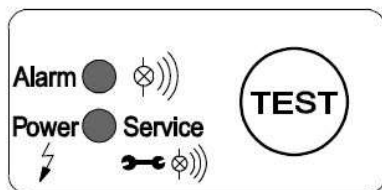
At the SUPERDRAIN, two LEDs indicate the individual operating states.

When applying supply voltage, the SUPERDRAIN carries out a self-test.

Both LEDs are lit for approximately 1 second, subsequently, the device changes over to the “ready-to-operate” state.

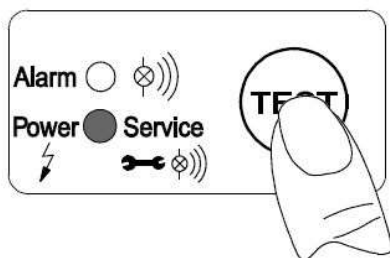


Ready to operate, voltage is applied.



In the event that the condensate discharge is disturbed, an alarm mode will start which is indicated by the flashing of the red alarm LED.

Malfunction/alarm

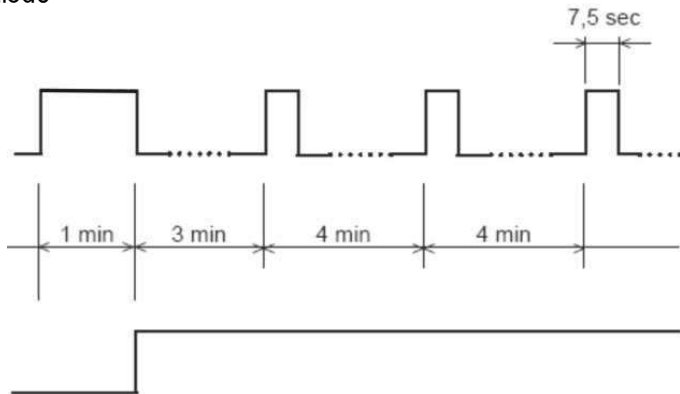


Test of the valve function (manual drainage): press and hold the button for approximately 2 s.

Test of the alarm function (see below): press and hold the button for at least 1 min.

Do not use for permanent drainage.

Switching sequence of the valve in the alarm mode



Trouble indication via a potential-free contact

Alarm mode:

In the event that the SUPERDRAIN is not empty after one minute, a trouble indication is released:

- The alarm LED flashes.
- The alarm relay switches over (the signal can be picked off potential-freely).
- The valve opens every four minutes for 7.5 seconds.
- When the malfunction has been eliminated, the SUPERDRAIN will switch back automatically into the normal mode.

Possible trouble sources include :

- Mistakes during installation
- Dropping below the minimum pressure
- Excessive accumulation of condensate (excess load)
- Blocked / obstructed outlet line
- Extreme amount of dirt particles
- Frozen pipework

5-4-2. Drain discharger (5100-4C)

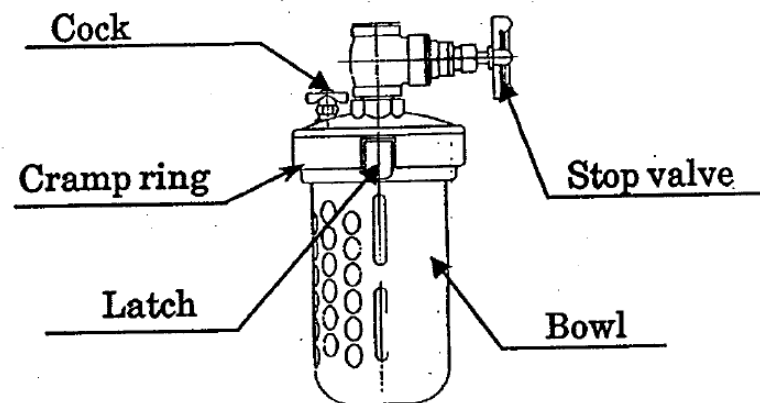
Separated water element of Microalescer has to be purged out. Visually inspect occasionally to confirm its appropriate functioning. Disassemble and clean it or replace with a new drain unit.

5-4-3. Washing bowl

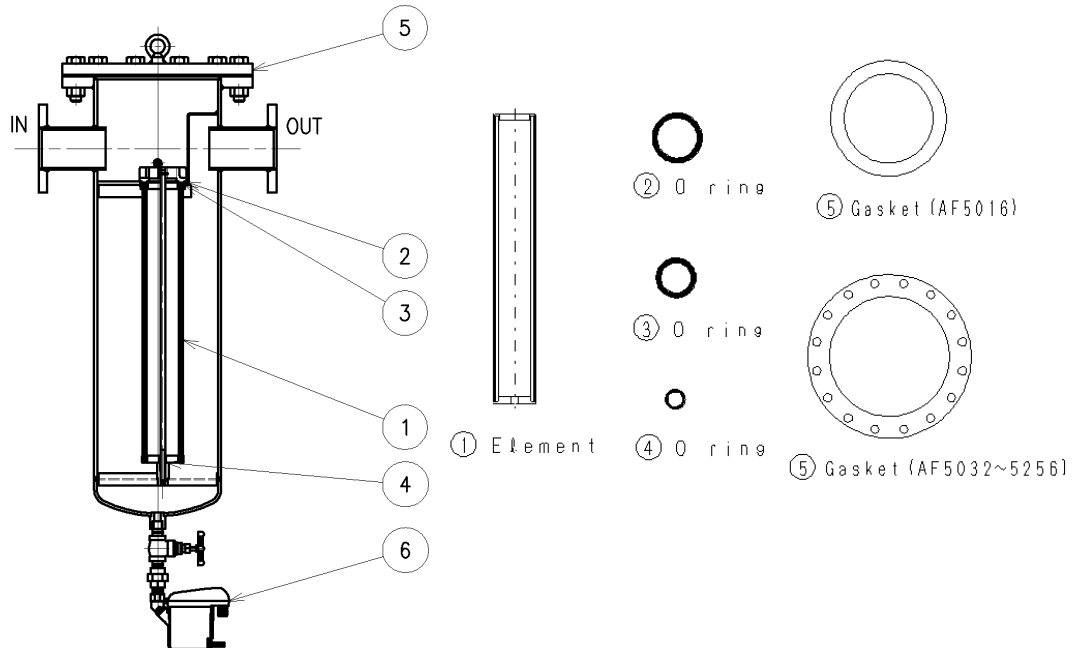
Use only neutral detergent for home use or kerosene to wash transparent bowl, avoiding to use any chemicals or detergent disserving to the bowl.

5-4-4. Dismounting of bowl

- (1) Shut off the stop valve, and release air inside of the bowl from cock.
- (2) Pushing the latch and turn the cramp ring by 15° to release the bowl.



5-5. Expendable parts



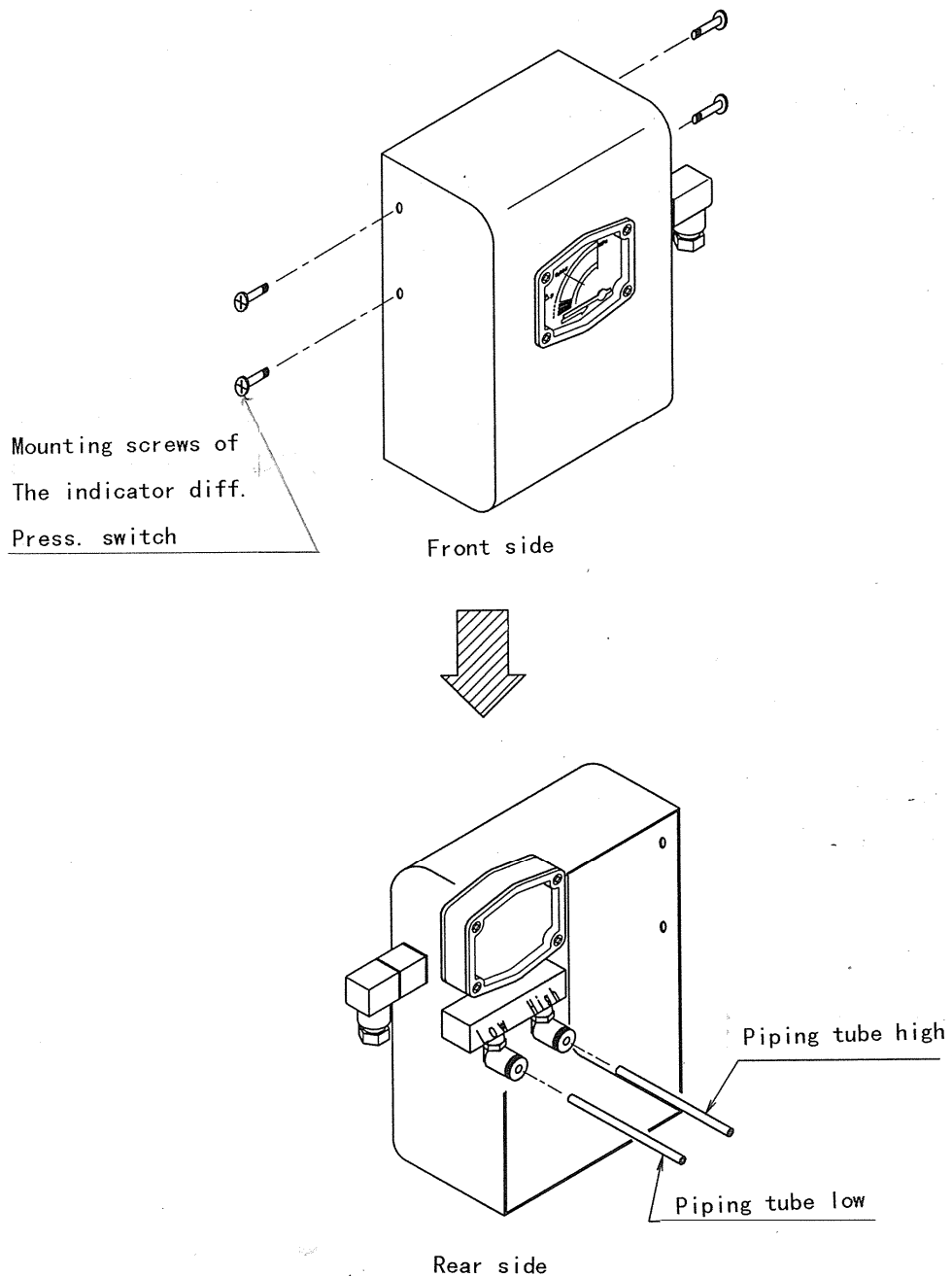
No.	Parts	Parts No.				
		AF5016※-50	AF5032※-80	AF5048※-100	AF5064※-100	AF5080※-150
	Q'ty of element	1	2	3	4	5
①	Element	AF5016※- ELEMENT-KIT	AF5032※- ELEMENT-KIT	AF5048※- ELEMENT-KIT	AF5064※- ELEMENT-KIT	AF5080※- ELEMENT-KIT
②	O ring					
③	O ring					
④	O ring					
⑤	Gasket	AF5016※- GASKET	AF5032※- GASKET	AF5048※- GASKET	AF5064※- GASKET	AF5080※- GASKET
⑥	Drain discharger	P	AF-DBV1003D-15			
		S				
		M	5100-4C			
		X	—			

No.	Parts	Parts No.				
		AF5096※-150	AF5128※-150	AF5160※-200	AF5192※-200	AF5256※-200
	Q'ty of element	6	8	10	12	16
①	Element	AF5096※- ELEMENT-KIT	AF5128※- ELEMENT-KIT	AF5160※- ELEMENT-KIT	AF5192※- ELEMENT-KIT	AF5256※- ELEMENT-KIT
②	O ring					
③	O ring					
④	O ring					
⑤	Gasket	AF5096※- GASKET	AF5128※- GASKET	AF5160※- GASKET	AF5192※- GASKET	AF5256※- GASKET
⑥	Drain discharger	P	AF-DBV1003D-15			
		S				
		M	5100-4C			
		X	—			

Note1. ※ is indicated by type P·S·M·X.

5-6. Replacement of indicator with diff. press. switch

- 1) Stop the air supply and release air inside of the filter.
- 2) Remove the mounting screws of the indicator with diff. press. switch cover.
- 3) Take out the indicator with diff. press. switch carefully.
- 4) Take out piping tubes (high, low) from the body of indicator with diff. press. switch .
- 5) Replace it with new one. And connect piping tube (high, low) between indicator with diff. press. switch and filter.



6. MODEL CODING

AF5016 P – 50 – O
 ① ② ③ ④

①Classification of air flow rate	
016	16m ³ /min (ANR)
032	32m ³ /min (ANR)
048	48m ³ /min (ANR)
064	64m ³ /min (ANR)
080	80m ³ /min (ANR)
096	96m ³ /min (ANR)
128	128m ³ /min (ANR)
160	160m ³ /min (ANR)
192	192m ³ /min (ANR)
256	256 ³ /min (ANR)

②Type of element	
P	Type P
S	Type S
M	Type M
X	Type X

③Diameter		④Option	
50	Flange 2 B	No mark	Standard
80	Flange 3 B	X1	IN-OUT Reverse (note 1)
100	Flange 4 B	D	Drain discharger 5100-4C (note 2)
		E	Without drain discharger (note 3)
150	Flange 6 B	K	Coupling flange attached
		H	Specifications in english
		H1	Export packing
200	Flange 8 B	H2	Stainless nameplate
		L	Foundation bolts and nuts attached (steel) (note 4)
		L1	Foundation bolts and nuts attached (Stainless steel) (note 4)
		Y2	Photograph of finished goods

(Note 1) Air flow direction option X1.

(Note 2) Correspond to type P and S.

(Note 3) Correspond to type P and S.

(Note 4) Correspond to AF5256 from AF5032.

