

New lightweight, compact drain discharger with long service life and high reliability

Drain discharger that automatically discharges drain from the pneumatic circuit. The newly adopted snap-action mechanism has improved durability beyond the conventional types. Manual discharge as desired is possible in addition to automatic discharge.



Two connection ports

Either top or side piping can be selected based on the application.

Compact & Lightweight

Combining different materials (body: aluminum die-casting, cover: resin) has enabled a strong body lighter than the conventional model.

*Mount the attached blanking plug on the unused port.



Quick-release latch

The bowl and bowl guard are easily attached/detached together with the quick-release latch.

*Mount and remove the bowl and bowl guard after checking that pressure is not being applied.

Either NO or NC

Normally open or normally closed can be selected according to the application.

Highly corrosion resistant, safe bowl guard

Very safe and corrosion resistant plastic bowl guard is used.

Integrated fitting for drain pipe

Nylon tube with inner diameter $\phi 5.7$ to $\phi 6$ can be directly connected.

*Do not use vertical piping with a length of 5 m or less.

Manual cock provided as standard

The manual cock allows manual discharging as desired. It can also be used as residual pressure exhaust function.



Automatic drain DT3000-W, DT4000-W Series

Lightweight and compact automatic drain discharger

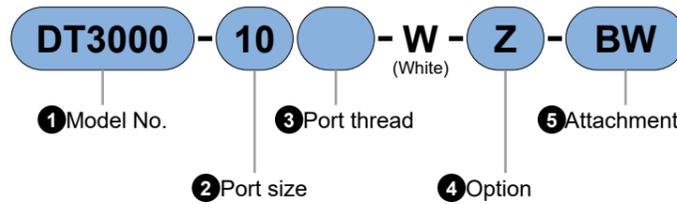
●Compatible compressor: 0.75 to 75 kW

Circuit diagram symbol



DT3000-W, DT4000-W Series Specifications

Model No. Notation



Note: A masking plug matching the port size is included.

1 Model No.

Code	Description
DT3000	Normally open auto-drain
DT3010	Normally closed auto-drain
DT4000	Normally open auto-drain
DT4010	Normally closed auto-drain

2 Port size

Code	Description
10	3/8
15	1/2

3 Port thread

Code	Description
Blank	Rc thread
N	NPT thread
G	G thread

4 Option

Code	Description	
Bowl material	Blank	Polycarbonate bowl
	Z	Nylon bowl
	M	Metal bowl (with gauge) drain port Rc1/8 *1
	M2	Metal bowl (with gauge) drain port Rc1/4 *1
With cock	Blank	With pipe plug included
	C	With cock (without pipe plug) *1

*1: A cock is attached.

5 Attachment

Code	Description
Blank	Not included
BW	C-bracket

Discrete attachment model No.

●C-bracket

Part No.	Compatibility
B320	DT3000-W
B420	DT4000-W

Specifications

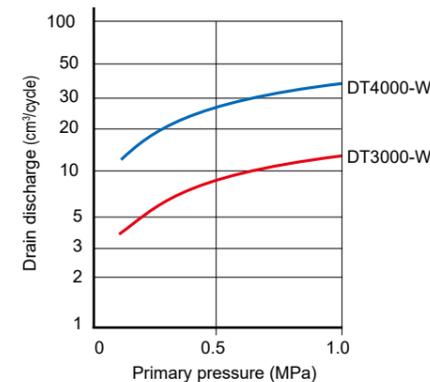
Item	DT3000-W	DT4000-W	DT3010-W	DT4010-W
Type	Normally open (*1)		Normally closed	
Working fluid	Drain contained in the compressed air (water or oil)			
Proof pressure MPa	1.5			
Working pressure range MPa	0.1 to 1		0.15 to 1	
Operating ambient temperature range °C	5 to 60			
Port size Rc, NPT, G	3/8, 1/2			
Drain outlet	Barbed nipple (soft nylon tube of ø5.7 to ø6 bore size can be connected directly)			
Weight kg	0.3	0.45	0.3	0.45

*1: If the compressor used is less than 0.75 kW (discharge flow rate 0.09 m³/min), use normally closed.

Bowl type and shape

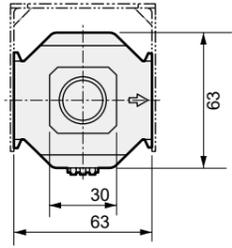
Type		Normally open (open at no pressure) DT3000-W/DT4000-W	Normally closed (closed at no pressure) DT3010-W, DT4010-W
Compatible series	Plastic	●With manual cock 	●With manual cock
	Metal	●Without manual cock [M, M2] Rc1/8 (M) Rc1/4 (M2)	●Without manual cock [M, M2] Rc1/8 (M) Rc1/4 (M2)

Automatic drain performance curve

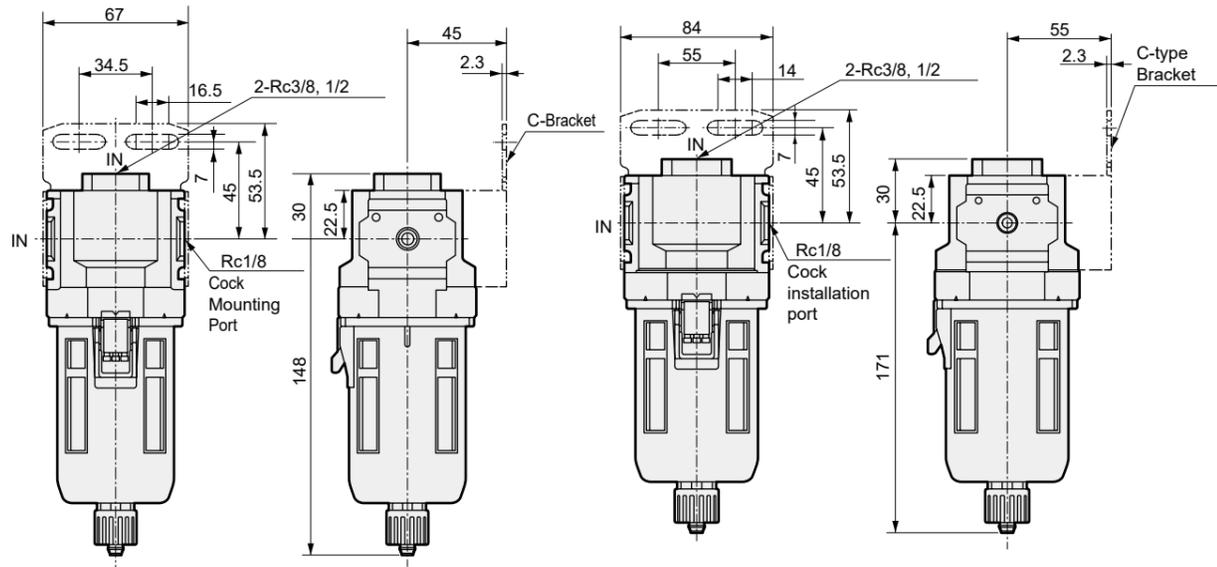
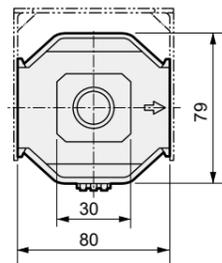


Dimensions

●DT3000-W, DT3010-W



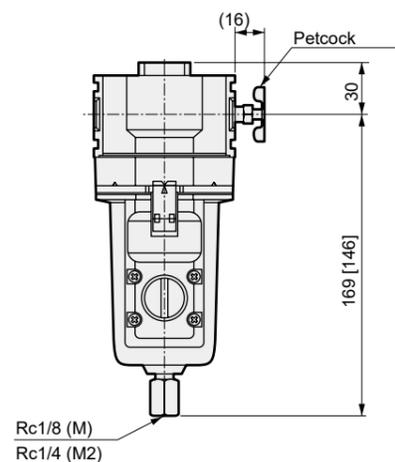
●DT4000-W, DT4010-W



Note: A soft nylon tube with bore size of $\phi 5.7$ to $\phi 6$ can be directly connected to the drain outlet.
 Note: Leave a space of 60 mm or more below the bowl for maintenance.

Metal bowl specifications

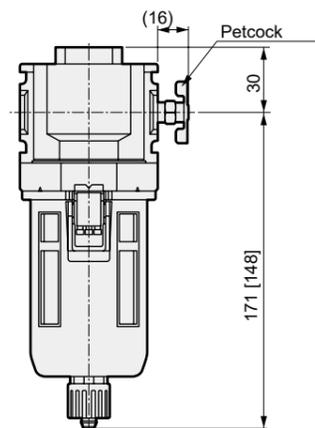
●Option [M, M2]



Note: Dimensions shown in [] are for DT3000-W.

Cock specifications

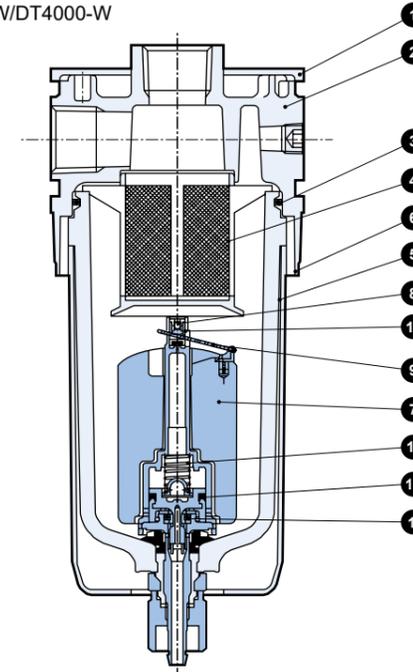
●Option [C]



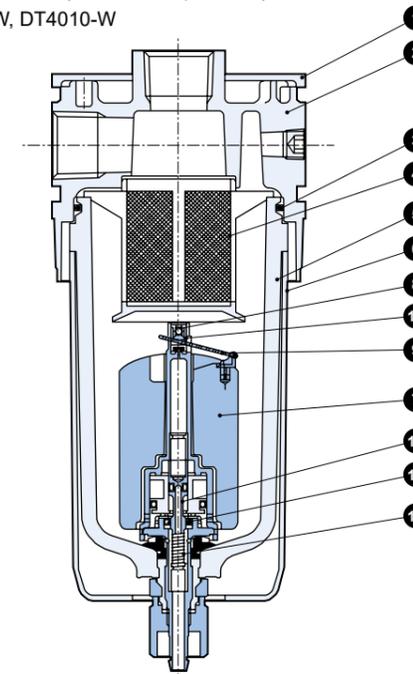
Note: Dimensions shown in [] are for DT3000-W.

Internal Structure Diagram / Material

●Normally open (open at no pressure) DT3000-W/DT4000-W



●Normally closed (closed at no pressure) DT3010-W, DT4010-W



When pressure is not applied inside the bowl, ①the spring ①pushes down the valve, ①keeping it away from the stem packing. When 0.1 MPa or higher pressure is applied inside the bowl, ①the pressure applied to the valve becomes ②larger than the force of the spring and ②pushes up the valve, ①sealing it with the stem packing. When drain accumulates in the bowl, ⑦the float moves up and ⑧the float level arm ⑧pushes up the orifice spring. Then, ⑩the orifice spring ⑩snaps open the orifice seat assembly and ⑫leads the compressed air into the upper chamber of the valve, making it pressurized. And, ⑫when the valve is pushed down apart ⑩from the stem packing, drain is discharged to air. After drain is discharged, ⑦the float moves down and ⑧the float level arm ⑧closes the orifice seat assembly. ⑫The compressed air that has kept the upper chamber of the valve pressurized ⑫passes through the orifice of the valve to be discharged to air. Then from below ⑬the pressure applied to the valve ⑬becomes larger than the force of the spring and ⑬pushes up the valve, ①sealing it with the stem packing.

When pressure is not applied inside the bowl, ⑬the spring ⑬pushes up the valve, ①keeping it sealed with the stem packing. When 0.15 MPa or higher pressure is applied inside the bowl and drain accumulates ⑦the float moves up and ⑧the float level arm ⑧pushes up the orifice spring. Then, ⑩the orifice spring snaps open ⑩the orifice seat assembly and leads ⑫the compressed air into the upper chamber of the valve, making it pressurized. When ⑬the valve is pushed down ⑩apart from the stem packing, drain is discharged to air. After drain is discharged, ⑦the float moves down and ⑧the float level arm ⑧closes the orifice seat assembly. ⑫The compressed air that has kept the upper chamber of the valve pressurized ⑫passes through the orifice of the valve to be discharged to air. Then from below, ⑬the force of the spring ⑬pushes up the valve, ①sealing it with the stem packing.

No.	Part name	Material	No.	Part name	Material
1	Plate cover	ABS resin	4	Screen	Polyacetal resin, polyester
2	Body	Aluminum alloy die-casting	5	Bowl assembly (including O-ring)	-
3	O-ring	Special nitrile rubber	6	Bowl guard	Polyamide resin, steel

For maintenance parts, refer to the CKD Components Product site.
 Refer to (<https://www.ckd.co.jp/kiki/en/>) → "Model No." → Maintenance Parts



Pneumatic components (drain discharger)

Safety Precautions

Be sure to read this section before use.
Refer to Intro 15 for General Precautions.

MEMO

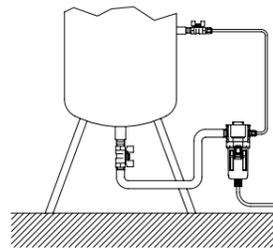
Product-specific cautions: Automatic drain DT3000/DT4000-W Series

Design / Selection

CAUTION

- Avoid direct exposure to sunlight. Avoid installing this product where it is subject to direct sunlight.
- As the bowl is made of polycarbonate, avoid exposing it to the chemicals listed below or to an atmosphere containing them. A metal bowl is available if these chemicals must be used.
- Drain discharge piping should have an inner diameter of $\phi 5.7$ to $\phi 6.0$ and a length of 5 m or less, and avoid vertical piping. Do not route it vertically. Pipe so that no lateral load is applied on the bowl.
- Applicable compressor should be 0.75 kW or more (discharge flow 90/min or more). (Normally open auto-drain only)
- Prevent drainage exceeding the processing capability from entering the product. The product may malfunction if such a large amount of drain enters even temporarily.

- Even when the drain piping is forced to rise due to mounting restrictions, the drain can be discharged by the following procedure.
 - (1) Open the cock slightly to let the air bleed.
 - (2) Remove the cock and provide pressure equalization piping to the tank as shown in the figure below.
- Repeated and sudden increase and decrease in pressure must be avoided because it could adversely affect the service life of the drain discharger. Moderate the pressure change in the circuit.



Chemical Resistance of Plastic Bowls

In areas where there is an atmosphere with the following chemicals, use metal bowls (metal).

Types of Chemicals	Categories of Chemicals	Main Products of Chemicals	General Applications	Polycarbonate bowl	Nylon bowl
Inorganic compounds	Acids	Hydrochloric acid, sulfuric acid, fluorine, phosphoric acid, chromic acid, etc.	Acid washing of metals, acidic degreasing solutions, coating treatment solutions, etc.	×	×
	Alkalines	Alkalies such as caustic soda, caustic potash, calcium hydroxide, aqueous ammonia, sodium carbonate	Alkaline degreasing solution for metals	×	○
	Inorganic salts	Sodium sulfide, potassium nitrate, potassium bichromate, sodium sulfate, etc.		×	○
Organic compounds	Aromatic hydrocarbons	Benzene, toluene, xylene, ethyl benzene, styrene, etc.	Contained in paint thinner (benzene, toluene, xylene)	×	×
	Chlorinated Aliphatic Hydrocarbons	Methyl chloride, ethylene chloride, methylene chloride, acetylene chloride, chloroform, trichlene, perchlene, carbon tetrachloride	Organic solvent-based washing solution for metals (trichlene, perchlene, carbon tetrachloride, etc.)	×	○
	Chlorinated Aromatic Hydrocarbons	Chlorobenzene, dichlorobenzene, benzene hexachloride (B/H/C), etc.	Agricultural chemicals	×	○
	Petroleum components	Solvent naphtha, gasoline, kerosene		×	○
	Alcohols	Methanol, ethanol, cyclohexanol, benzyl alcohol	Used as an antifreeze agent	×	×
	Phenol	Carbolic acid, cresol, naphthol, etc.	Disinfectant solution	×	×
	Ethers	Methyl ether, methyl ethyl ether, ethyl ether	Brake fluid additive	×	○
	Ketones	Acetone, methyl ethyl ketone, cyclohexanone, acetophenone, etc.		×	×
	Carboxylic acids	Formic acid, acetic acid, butyl acid, acrylic acid, oxalic acid, phthalic acid, etc.	Dyes; oxalic acid for aluminum processing; phthalic acid for paint base	×	×
	Esters	Dimethyl phthalate (DMP), diethyl phthalate (DEP), dibutyl phthalate (DBP), dioctyl phthalate (DOP)	Lubricant, synthetic hydraulic fluid, rust preventative additives used as plasticizers for synthetic resins	×	○
	Oxyacids	Glycolic acid, lactic acid, malic acid, citric acid, tartaric acid		×	×
	Nitro compounds	Nitromethane, nitroethane, nitroethylene, nitrobenzene, etc.		×	○
	Amines	Methylamine, dimethylamine, ethylamine, aniline, acetanilide, etc.	Brake fluid additive	×	×
	Nitriles	Acetonitrile, acrylonitrile, benzonitrile, acetoinitrile, etc.	Raw material for nitrile rubber	×	○

For precautions during mounting, installation, adjustment, use and maintenance, refer to the CKD Components Product Site (<https://www.ckd.co.jp/kiki/en/>) → "Model No. → Instruction Manual"

Main Line Components

Refrigeration Dryers

Desiccant Dryers

High Polymer Membrane Dryers

Main Line Filters

Drain discharger, etc.

Main Line Components

Refrigeration Dryers

Desiccant Dryers

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Drain discharger, etc.

Ending

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