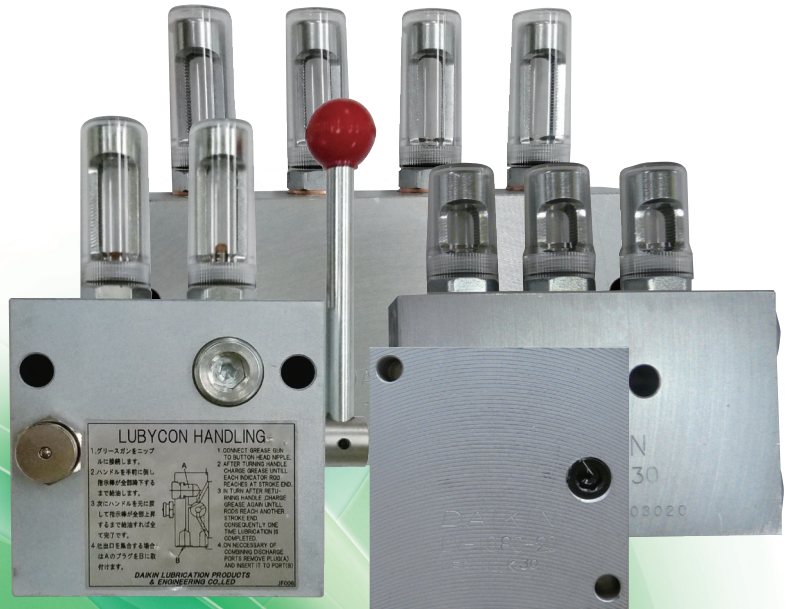


CENTRALIZED LUBRICATING SYSTEM

DV.DW.GW.LV

Dual Line

Distributing Valves



DV type Distributing Valve

Good durability and improved reliability of lubrication

DV-※※H



DV-54H-30(20)

■ Overview

DV type Distributing Valve is used in dual line systems. Lubricant is reliably supplied to each of the lubrication points by the pressure of the lubricant that is alternately fed under pressure from the main supply line.

Operation of the distributing valve is checked by indicator. Further, amount of grease can be adjusted as desired by the adjusting screw.

■ Features

● Accurate Lubrication

Sliding unit is finished in high precision, which enables accurate weighing and lubricating

● Tough and outstanding durability

● Maximum operating pressure 21 MPa

Application of high pressure improves reliability of lubrication and enables lubrication over a wide area.

● Lubrication amount can be adjusted and operation can be checked for each discharging port.

For users of design #20

→ The model has been changed to design #30.

■ Features and Effectiveness for Design #30

● Dustproof and Waterproof Properties improved by remodeling the frame body structure

● Redesigned heat-resistant caps that can be used at 120°C (Caps supporting 200°C also available as an option)

● The visibility of the indicator pins are improved as the caps are highly transparent and won't discolored easily

● The caps can be easily removed, improving maintainability.

* Since the main body and internal structure have not been changed from the conventional products designed as #20, all installation and basic performance are compatible.

■ Specifications

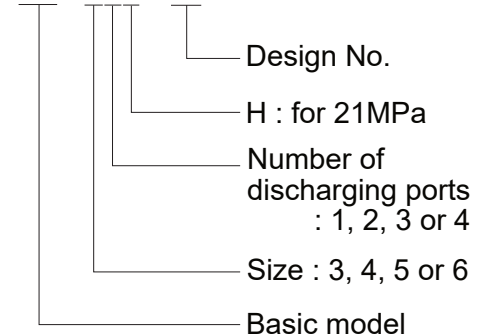
Distributing valve size	30	40	50	60
Max. operating pressure (MPa)	21			
Proof pressure (MPa)	31.5			
Grease used	Centralized lubricating grease NLGI consistency number #0 to #2			
Lowest operating pressure (Mpa)	1	1	1	1
Discharge quantity (cm ³ /stroke MAX.)	1.3	2.5	5.2	14.0
(cm ³ /stroke MIN.)	0.4	0.6	1.1	3.0
Adjustment amount per rotation of adjusting screw (cm ³)	0.06	0.10	0.15	0.68
Loss (cm ³)	0.50	0.55	0.63	0.63
Attachment	Cross recessed pan head screw, hexagon nut and spring washer			
	M8 x 60	M8 x 60	M8 x 65	M8 x 75

- Notes) ● "Loss" means the amount of lubricant required for operating the pilot piston.
 ● When operating with lubricating oil, set the pressure below 10MPa.
 ● The discharge quantity at the time of delivery will be set to maximum.

■ Explanation of Model Symbols

(example)

DV-31H-30

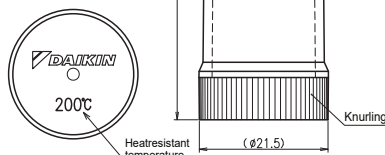


■ Heat-resistant 200°C Frame Covers (single item/option)

Color: Transparent amber

Accessories:
 heat-resistant O-ring included.

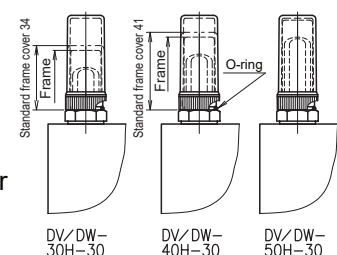
* Replace the O-ring attached to the body frame.



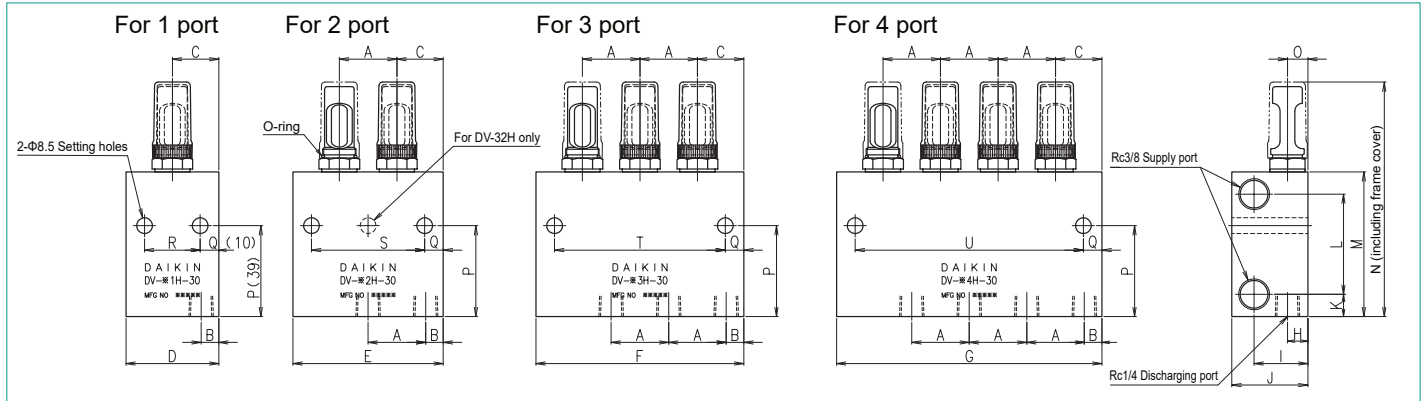
Installation

Can be installed on all models including DV/DW-30H-30, 40H-30, 50H-30 and DV-60H-30.

However, when used with 30H and 40H types, the overall height will be higher than the standard type.



Dimension drawings



Dimension

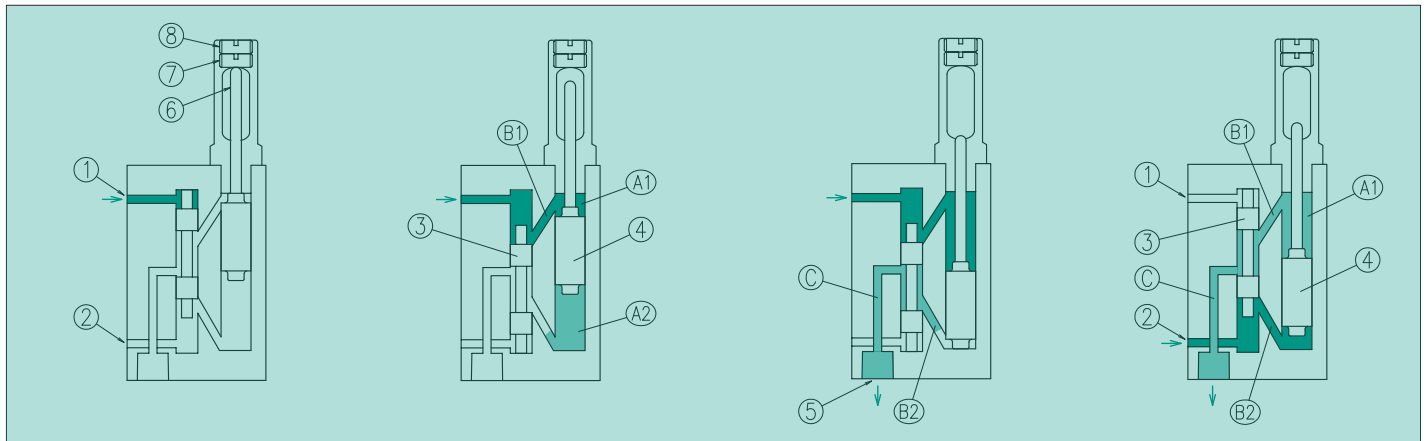
Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
DV - 31·32·33·34	29	8	22.5	44	73	102	131	11	27	39	12	42	66	106	11	* 42	* 36.5	24	-	29	58
DV - 41·42·43·44	31	9.5	25	50	81	112	143	11	29	41	12	54	78	126	11	49	10	30	61	92	123
DV - 51·52·53·54	37	9.5	28	53	90	127	164	14	34	46	13	57	83	142	14	53	10	33	70	107	144
DV - 61·62	46	10	33	62	108	-	-	29	45	57	16	57	89	149	20	56	10	42	88	-	-

Notes) • Dimension marked with "*" of the DV-31H type is different from the others. Please refer to the dimensions in () in the drawing.
 • The DV-32H type has one setting hole as above figure "For 2 port".
 • The frame of each distributing valve has a frame cap (made of polycarbonate, transparent) for dust prevention.

Weight

Model	DV -31	DV -32	DV -33	DV -34	DV -41	DV -42	DV -43	DV -44	DV -51	DV -52	DV -53	DV -54	DV -61	DV -62
Net weight (kg)	0.75	1.4	1.8	2.3	1.04	1.9	2.7	3.2	1.4	2.44	3.48	4.6	2.4	4.2

Explanation of Operation



- Grease is transported through the discharge supply line ①, and the grease on the opposite side passes through the discharge supply line ② to be released to the tank.
- The pilot piston ③ is pushed down and the internal passage B1 is opened, then the pushed grease reaches the upper chamber A1 and pushes down the main piston ④.
- When the grease pushed even more the main piston ④ is forwarded to the discharging port ⑤ from the passage C through the passage B2.
- The supply line is switched, then the line ① is opened to the tank. When grease is fed under pressure to the line ②, the pilot piston ③ is pressed up in the reverse direction to the former, and the passage B2 opens and the grease pushes the main piston ④ up. The grease in the upper chamber A1 is forwarded to the discharging port ⑤ through the passage B1 and C.

Handling

<Installation>

- Connect the two supply lines to the supply port.
- Apply a plug (R1/4) to unused discharging ports.
- Install a dustproof cover for protecting against dust, radiant heat, etc. (optional)

<Adjustment of Discharge Quantity>

- Adjust the discharge quantity as necessary with the adjusting screw at the top of the frame. (See the adjustment amount per rotation in the specification column.)
- For adjustment, set the position of adjusting screw ⑦ with the indicator bar ⑥ placed below, and fix it firmly with a locking screw ⑧ finally.

DW type Distributing Valve

Saving space by double-discharge style

DW-※※H



DW-58H

■ Overview

DW type Distributing Valve is used in dual line systems. The ports are doubled in number from a single discharging type (1 port/element) to a dual discharging type (2 ports/element) for saving space.

■ Features

- Discharging ports doubled in number
Distributing valves can be reduced half in number with reference to required number of lubricating points, which simplifies installation and piping.
- Can be changed easily to odd number of ports
Double discharging can be changed easily to single discharging just by reassembling the cross port hexagonal socket head flat plug on the right end to the discharging port. (See the changing procedure below.)
- Maximum operating pressure 21 MPa
Application of high pressure improves reliability of lubrication and enables lubrication over a wide area.
- Mounting dimension is the same
DW-30, 40 and 50 type all have the same mounting dimension, so that distributing valve can be connected with each other and size can be changed easily.
- Tough and outstanding durability

For users of design #20

→ The model has been changed to design #30.

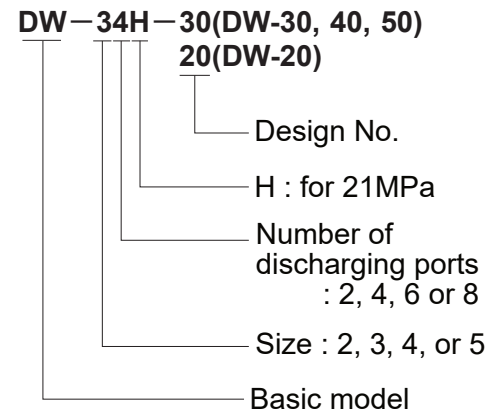
■ Features and Effectiveness for Design #30 Same as DV type (See page 1.)

■ Specifications

Distributing valve size	20	30	40	50
Max. operating pressure (MPa)	21			
Proof pressure (MPa)	31.5			
Grease used	Centralized lubricating grease NLGI consistency number #0 to #2			
Lowest operating pressure (Mpa)	1.8	1	1	1
Discharge quantity (cm ³ /stroke MAX.)	0.6	1.2	2.5	5.0
(cm ³ /stroke MIN.)	0.15	0.3	0.6	1.1
Adjustment amount per rotation of adjusting screw (cm ³)	0.04	0.06	0.10	0.15
Loss (cm ³)	0.17	0.20	0.20	0.20
Attachment	Cross recessed pan head screw, hexagon nut and spring washer			
	M8 x 60	M8 x 75	M8 x 75	M8 x 75

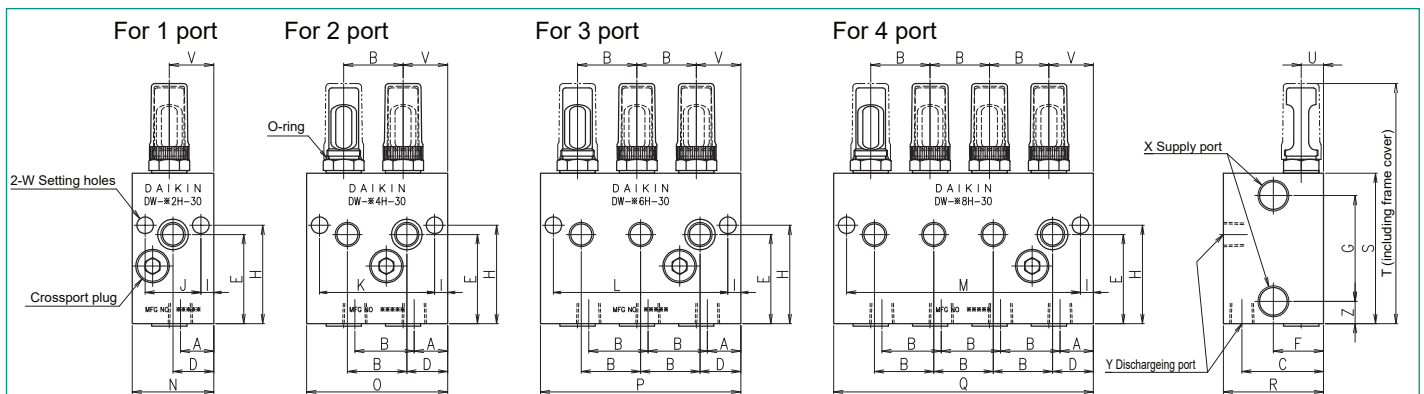
■ Explanation of Model Symbols

(example)



Notes) "Loss" means the amount of lubricant required for operating the pilot piston.
When operating with lubricating oil, set the pressure below 10MPa.
• DW-20H series does not apply 30 designs.
• The discharge quantity at the time of delivery will be set to maximum.

■ Dimension drawings



Dimension

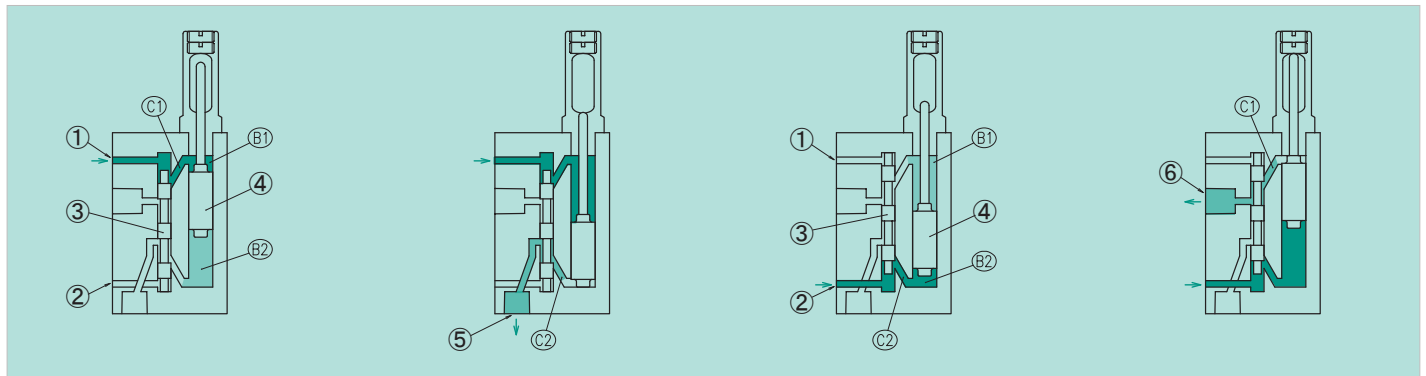
Model	Dimension (mm)																				Bore diameter					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	Z	X	Y
DW - 22, 24, 26, 28	18	17	32.5	18	33	21	37	34	6	24	41	58	75	36	53	70	87	40	56	82	8	18	7	9.5	Rc 1/4	Rc 1/8
DW - 32, 34, 36, 38																				122						
DW - 42, 44, 46, 48	18	32	44	22	48	27	57	53	7	30	62	94	126	44	76	108	140	54	81	129	12	24	9	12	Rc 3/8	Rc 1/4
DW - 52, 54, 56, 58																				138						

Notes) The frame cap for the distribution valve (30 design) is made of transparent polycarbonate. For DW-2×H-20, made of transparent soft PVC.

Weight

Model	DW-22	DW-24	DW-26	DW-28	32 DW-42	34 DW-44	36 DW-46	38 DW-48
Net weight (kg)	0.5	0.8	1.1	1.4	1.4 52	2.4 54	3.4 56	4.4 58

Explanation of Operation



- Grease is pressed forwarded to Line ① from the pump through the supply pipe, and Line ② is opened to the tank. The pilot piston ③ is pushed down and the internal passage C1 is opened, then the pushed grease reaches the upper chamber B1 and pushes the main piston ④.
- When the grease pushed even more the main piston down, the grease in the lower chamber B2 is forwarded to the discharging port ⑤ through the passage C2.
- The supply line is switched, then the Line ① is opened to the tank. When pumped grease reaches to the Line ②, the pilot piston ③ is pushed up in the reverse direction to the former, and the grease came into the lower chamber B2 pushes the main piston ④ up.
- When the grease pushed even more the main piston up, the grease in the upper chamber B2 is forwarded to the discharging port ⑥ through the passage C1.

Handling Same as DV type (See page 2.)

<Procedure for changing to odd number of ports>

● Only the element on the right end of the valve has a crossport mechanism. By using this mechanism to change from double discharge to single discharge, the number of discharging ports of the distributing valve can be changed from an even number to an odd number.

Double discharge (Factory settings)

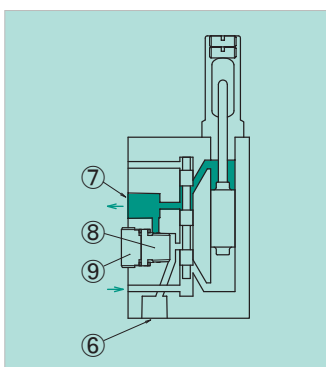
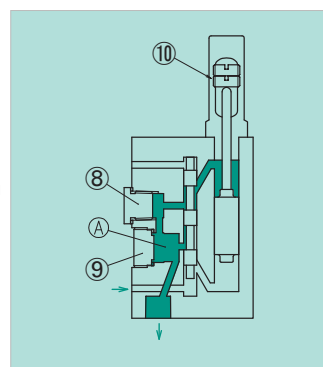


Figure A shows the status of double discharging. Discharging ports ⑥ and ⑦ are shut off by hexagon socket head flat plug ⑧, and the lubricant is discharged individually from each discharging port. At this time, the cross port plug ⑨ protrudes from the surface of the body.

Single discharge



As shown in Fig. B, by fixing the hexagon socket head flat plug ⑧ to the discharging port ⑦, the lubricant will gather at the cross port A to the discharging port ⑥. Re-tighten the cross port plug ⑨, then it will be in a lower position than the main body. In the case of single discharge, the amount of discharge will be twice that of other elements. Use the adjusting screw ⑩ at the top of the frame to reduce the amount to 1/2.

GW type Distributing Valve

Guarantees proper lubrication by handy centralized lubricatin system

GW-※※H



GW-54H

Overview

GW type Distributing Valve provides a small-scale, low-cost centralized lubricating system. Various lubrication pumps (grease gun, hand pump and small air-driven pump) can be connected to the lubricating port (grease nipple R1/8 button head type) to appropriately perform metered supply of lubricant to each lubricating point.

Install this distributing valve according to the number of lubricating points of the machine to be lubricated, and lubricated on regular basis, then the appropriate quantity of lubricant can be supplied in a short time, lubrication cannot be missed, and a simple centralized lubrication can be realized without the need of large-scale equipment such as dual line system, which saves cost.

Features

- Optimum for Centralized Lubrication of Small-scale
Handy equipment allows to handle the centralized lubrication easy.
- Guarantees accurate amount of lubricating
Adjustment of lubricating amount without restriction enables accurate weighing and lubricating. In addition, missing of lubrication can be prevented.
- Easy to increase or decrease the number of lubricating points
Lubricating points can be increased and decreased simply by installing and removing plugs.
- Tough and outstanding durability

Specifications

Model	GW-54H	GW-58H
Max. operating pressure (MPa)	21	
Discharge quantity (cm ³ /stroke)	MAX	5.0
	MIN	1.2
Min. operating pressure (MPa)	1.2	
Adjustment amount per rotation of adjusting screw (cm ³)	0.15	
Number of discharging ports (port)	4(1~4)	8(5~8)
Grease used	Centralized lubricating grease NLGI consistency number #0 to #2	
Attachment (for mounting)	M8 × 75 cross recessed pan head screw, hexagon nut and spring washer	
Net weight (kg)	2.7	4.7

Note) Select a grease in progressive system in the range of NLGI consistency number #0 to #1 for centralized lubricating.

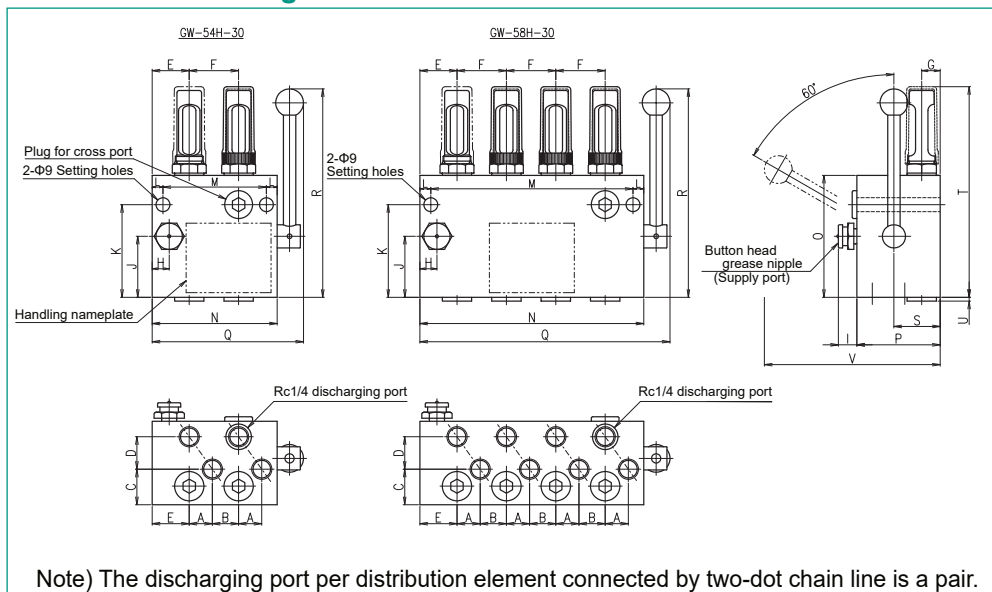
Explanation of Model Symbols

GW-54H-30

(example)

- Design No.
- H : for 21MPa
- Number of discharging ports :
4...4
8...8
- Size
- Basic model

Dimension drawings



Note) The discharging port per distribution element connected by two-dot chain line is a pair.

Handling

First, connect the grease gun to the nipple ①. Then, tilt the handle ② to near side, and lubricate until the indicator bar ③ is fully lowered. Next, reset the handle ② to its original position and lubricate until the indicator bar ③ rises for completion. (Note: Switch the handle ② after confirming that all indicator bar ③ have completed their operation.)

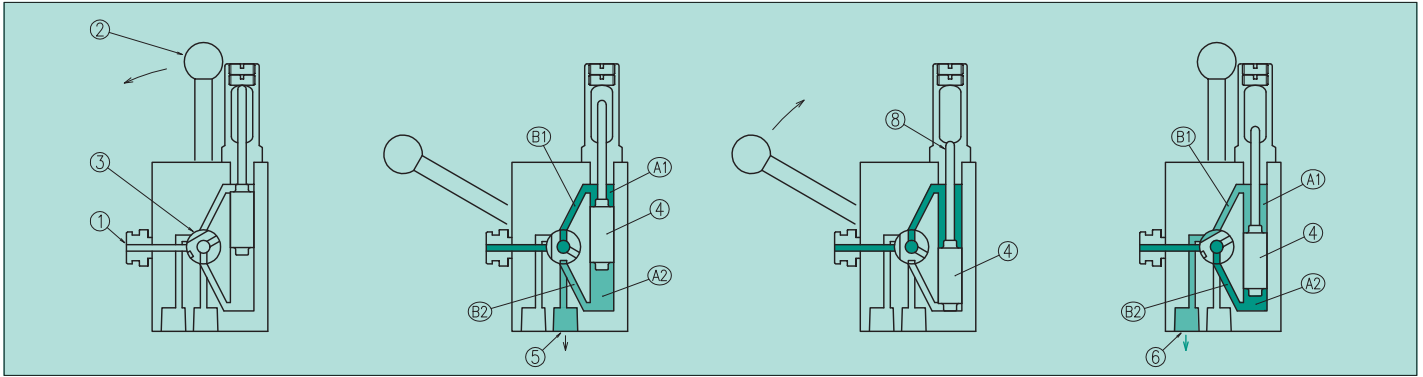
<Procedure for changing to odd number of ports>
Same as DW type (See page 4.)

Dimension

Model	Dimension (mm)																					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
GW-54H-30	15	17	23	21	24	32	12	11	12	39.5	60	7	67	81	79	54	98	135	30	136.4	2.5	115
GW-58H-30													131	145			162					

Note) The frame cap for the distribution valve (30 design) is made of transparent polycarbonate.

Explanation of Operation

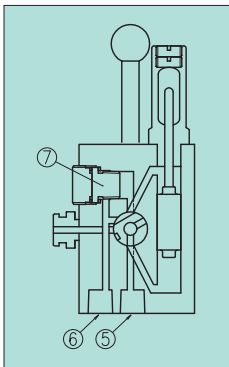


1 Connect an lubricating pump such as grease gun to the grease nipple ①. Next tilt the handle ② to near side to change over the Rotor ③ (Switch valve).

2 Operated lubricating pump makes grease go through the rotor and the passage (B1) to the upper chamber (A1), and push the Metering piston down. Grease in lower chamber (A2) goes through the passage (B2) and is forced out to the discharging port ⑤.

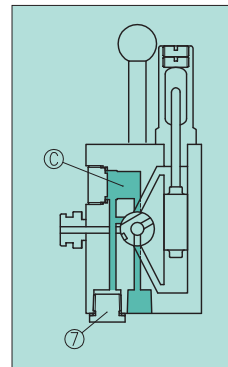
3 When the piston ④ comes to the lowest position, make certain with Indicator bar ⑧ that the entire lubrication has been completed. Then pull up Handle ② to change over Rotor ③.

4 Operated lubricating pump makes grease go through the rotor and the passage B2 to the lower chamber A2 and pushes the main piston ④ up. Grease in the upper chamber A1 is forced out to the discharging port ⑥ through the passage B1.



Double discharge (Factory settings)

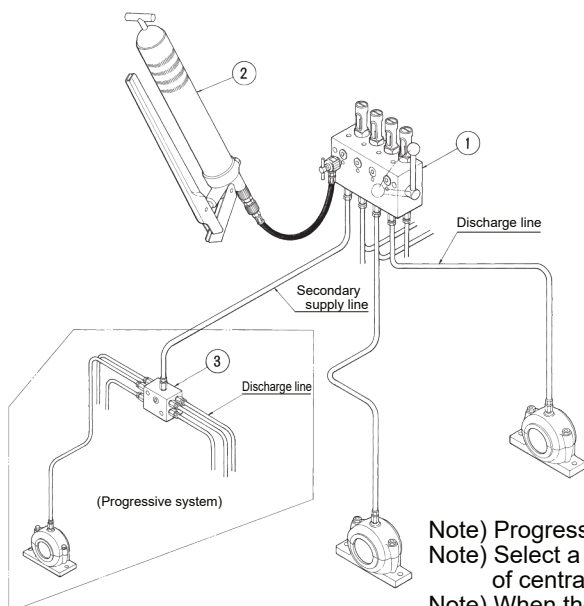
Discharging ports ⑤ and ⑥ are shut off by hexagon socket head flat plug ⑦, and the lubricant is discharged individually from each discharging port.



Single discharge

By fixing the hexagon socket head flat plug ⑦ to the discharging port ⑥, the lubricant will gather at the cross port C.

Configuration		
①	Distributing valve (Parental distributing valve)	GW-58 type
②	Lubricating pump	Grease gun
③	Distributing valve	LV-100 type



Example use of Rubicon type distributing valve

Lubricant transferred by the grease gun ② (and other various lubricating pumps) is sent to the GW type distributing valve ① and supplied to each lubricating point depending on the position of switch handle of distributing valve ①.

If the distribution valve ① is further equipped with the LV-100 type distributing valve, to make the system progressive one (within the two-dot chain line), one discharging port of the GW type distributing valve ① can be increased to 3 to 8, allowing lubricant to be supplied to many lubrication points.

Lubricating pump

Choose a grease pump of high pressure (Max. 21MPa) applicable to GW type Distributing Valve in consideration of use frequency, installation position and workability.

- ★General commercial lubricating pump
- Grease gun ●Cartridge grease gun
- Hand bucket pump air drive lubricator

Note) Prepare a connection hose equipped with fittings for button head type grease nipple R1/8.

- Note) Progressive system is also possible as shown in the two-dot chain line illustrated.
- Note) Select a grease in progressive system in the range of consistency number #0 to #1 of centralized lubricating grease NLGI.
- Note) When the secondary supply line is above 5m long in use for progressive system, install a check valve on the discharging port.

LV-100 type Distributing Valve

Improved Reliability of Lubrication

LV-10※C



LV-106C

Overview

LV-100 type Distributing Valve is a completely progressive operating type of distributing valve. When lubricant is supplied, the pistons operate sequentially, and lubricant is automatically metered and distributed to each of the discharging ports.

The maximum operating pressure has been increased to 21MPa, and discharging ports have a built-in check valve for preventing reverse action. Lubrication points can be centrally controlled by combining this valve with the DV and DW type distributing valves and adopting a progressive system.

Features

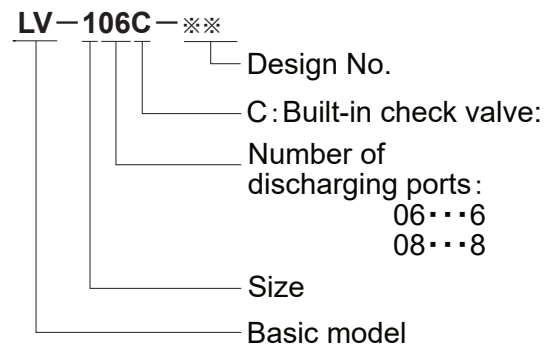
- **Maximum operating pressure 21MPa**
Application of high pressure improves reliability of lubrication and enables lubrication over a wide area.
- **Complete progressive operating type**
This distributing valve has a progressive operating type mechanism, which means that reliable lubrication can be assured.
- **Reliable lubrication**
Lubrication can be performed reliably regardless of the back pressure of the bearings, length of the supply line and other factors, as a check valve is built into the discharging port.
- **Lubrication points can be centrally controlled**
A Larger number of lubrication points also can be centrally controlled by checking operation on the DV and DW type distributing valves.

Specifications

Model	LV-106C	LV-108C
Max. operating pressure (MPa)	21	
Min. operating pressure (MPa)	1.2	
Discharge quantity (cm ³ /port)	0.16	
Number of discharging ports	6	8
Supply port diameter	Rc1/4	
Discharging port diameter	Rc1/8	
Grease used	Centralized lubricating grease NLGI consistency number #0 to #1	
Attachment	M6 × 60 cross recessed pan head screw and hexagon nut	
Net weight (kg)	1.7	

Explanation of Model Symbols

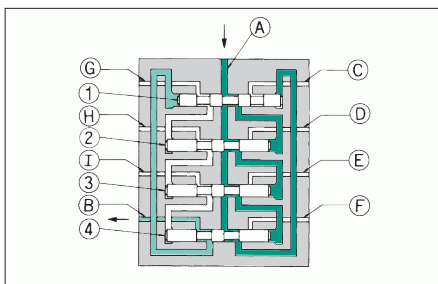
(example)



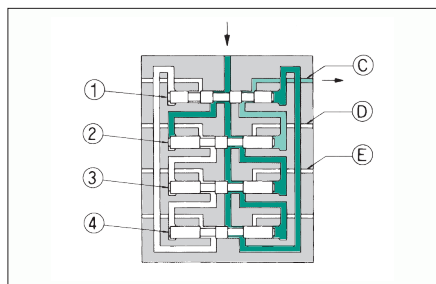
Handling

- As LV-100 type Distributing Valve has a progressive type mechanism, it does not operate when any of discharging ports is plugged.
- LV-106 type incorporates a bypass piston at the position marked with * and discharging ports are plugged in the dimension drawing. Do not connect piping here.
- When doubled discharge quantity is required or when discharging ports are to be reduced in number, use a collective attachment (T320-2). (Next page)

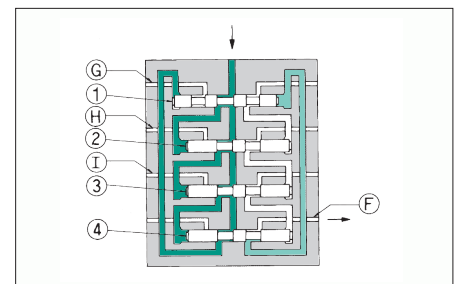
Explanation of Operation



When the four pistons are positioned as shown above, if pressure is applied from the supply port A, then the piston ① moves to the left, and lubricant is discharged at the discharging port B in a specified amount.



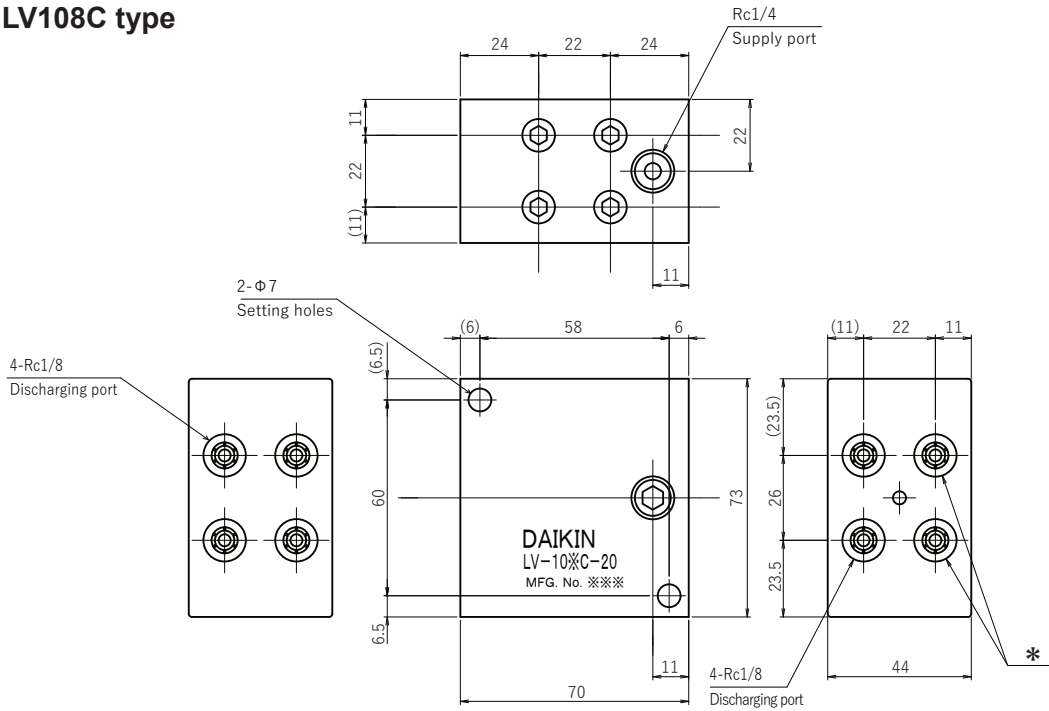
Then the piston ② moves to the right and lubricant is discharged from the discharging port C in a specified amount through the path open when the piston ① moves. In the same way, the piston ③ and ④ move to the right in sequence, and lubricant is discharged from the discharging port D and E in a specified amount.



The piston ①, ②, ③ and ④ perform completely symmetric operation in sequence, and lubricant is discharged at the discharging port F, G, H and I in sequence in a specified amount, which completes one cycle.

Dimension drawings

LV-106C, LV108C type



Note) Discharging ports marked with * of LV-106 type are plugged.

Collective attachment

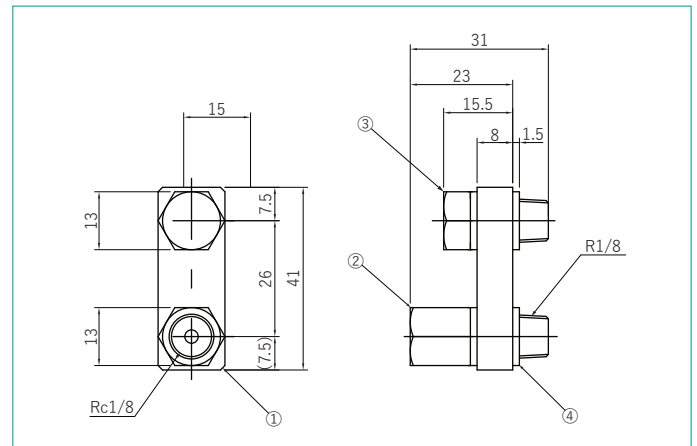
Specifications

Model	T320-2
Max. operating pressure (MPa)	14
Proof pressure (MPa)	21
Net weight (kg)	70

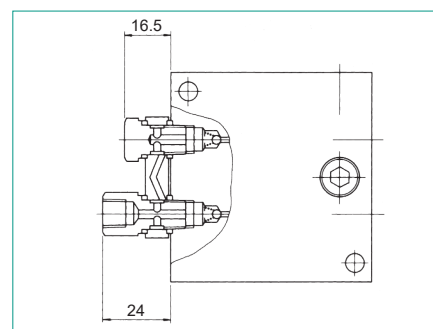
	Part name	Quantity
①	Body for 2 ports	1
②	Collective fitting	1
③	Collective plug	1
④	Copper gasket	4

T320-2

Dimension drawings



Installation procedure drawing



Note) Tightening torque of collective attachment : Install with 1500N·cm

When Inquiring With Us

■ Please inform us of the following items when inquiring about lubricating equipment.

1. The overall drawing or a sketch including overall dimensions of the machine equipment
2. Quantity and location of lubrication points
In particular, please specify the points to be lubricated on the drawing (sketch).
3. Types and characteristics of the above lubrication points
 - (a) Types of bearings and sliding parts (flat bearings, ball bearings, etc.)
 - (b) Dimensions and number of revolutions
 - (c) Whether the lubrication ports are fixed, movable, or rotatable, the movement, and the number of revolutions
 - (d) diameter of the lubrication ports' thread
 - (e) Special attentions to be paid in determining the amount of lubrication
 - (f) Types of lubricants (grease and oil)
4. In case the product will be exposed to high or low temperatures (50°C or higher, 0°C or lower), provide us the detailed information of the environment.
5. Whether it will be for outdoor or indoor, or particular status environment.
6. Planned pump type and control method.
Pneumatic/hydraulic pump, fully automatic control, semi-automatic control, with/without control panel, with/without spare pump.
7. Plans or instructions for the location of pumps and main pipes.
8. Power supply for motor driven pump control panel (voltage, frequency)
9. Special requirements regarding the control panel (remote display, remote operation, etc.)
10. Specification of drive pneumatic source and hydraulic source
11. Other important points regarding quotations
(If you do not specify about items 3, 4 and below, we will estimate based on our standards.)
12. Drawings, documents and their number of copies to be submitted for quotation.
Note that, if construction is included, please specify the following items.
 1. Construction site
 2. Scope of construction (In principle we do not provide electricity or foundation work.)
 3. Supplies
For example, electricity, water (if nearby), lubricants used, oxygen, acetylene, etc.

Safety Precautions

This section describes items that require special attention for the safety of the lubrication system before using this product.

The safety precautions listed here are intended to prevent injury or damage to the customer. In addition, the precautions are divided into two categories, "Warning" and "Caution", according to what may occur if the product is handled incorrectly. Be sure to follow all of these instructions as they include important safety information.



Warning

In case where the product operation is mishandled ignoring this indication, a dangerous situation may occur leading to fatal or serious injuries.



Caution

In case where the product operation is mishandled ignoring this indication, a dangerous situation may occur leading to injuries or property damage.

Warning

1. Turn off the power switch on the control panel before installing, removing, or repairing the product. Otherwise, the pump will automatically operate, causing the grease to leak and stain the surroundings.
2. Do not step on the lubricating equipment, piping, etc. attached to the machine as a foothold or pull as a handrail. It may cause slips and falls or damage the lubrication system.
3. Do not disassemble or remodel the lubrication equipment. Please consult us if necessary. In the unlikely event that maintenance work is required at the site, it should be performed by a person with specialized knowledge (Hydraulic adjuster level 2).
4. Injury may occur when handling lubricating equipment, so wear protective equipment depending on the situation.

Caution

1. When venting air from the pump, protect it with a plastic bag and so on. Grease (oil) mixed with air may scatter and get into your eyes or stain the surroundings.
2. Use protective equipment when handling grease. If it gets in your eyes or touches your skin, it may cause visual impairment or inflammation.
3. Carry out periodic inspections of the lubrication system (grease/oil consumption control, operation check, etc.). If you forget inspections, it may cause machine failure due to seizure in bearings, etc.
4. Use the product within the rated specifications and the usable environmental conditions. Using the product outside of the rated specifications or in a special atmosphere (next to fire, explosive atmosphere, etc.) may cause mechanical failure or fire.

Point of contact



**DAIKIN LUBRICATION PRODUCTS &
ENGINEERING CO., LTD.**

<https://www.daikin-lubrication.co.jp/en/>