KOGANEI
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Catalog No.BK-K001

NEW Products

For AUTO-GREASTAR

Lubricating Pumps & Distributors

Guide to Lubrication System Products

Our company provides sales and after-sales service for individual products such as lubricating pumps and distributors for our lubrication system products.

We are unable to provide the services listed below, so we ask that customers prepare and handle these matters themselves.

If you have any questions regarding services other than those listed below, please contact us.

① Overall lubrication system design ② Sales of pipes and fittings ③ Piping work ④ Support for trial operations

For AUTO-GREASTAR

Lubricating Pumps & Distributors

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Foreword

General-purpose presses, machining centers, and other machine tools have seen remarkable advances in automation and speed, leading to increasingly complex structures, more lubrication points, and higher rotational speeds.

In such circumstances, the need to eliminate hazardous lubrication tasks and improve lubrication management has grown significantly. Consequently, equipment that automatically performs regular lubrication without human intervention, ensuring neither excess nor deficiency, has become standard.

Furthermore, in recent years, effective and appropriate lubrication has become a critical issue in lubrication management.

Reflecting the above, lubrication devices are now widely installed in various equipment including forging presses, paper-making machinery, cement plants, sewage treatment facilities, waste incineration plants, chemical machinery, cargo handling and transportation machines, mining machinery, and sluice gates.

Before Use

Be sure to read the "Safety Precautions" on page ② or on our website, as well as the "Instruction Manual" included with the product.

Safety Precautions

Be sure to read these precautions carefully before use.

Before selecting and using products, please read all the Safety Precautions carefully to ensure proper product use.
Our products are designed and manufactured as parts for use in general industrial machinery.
The Safety Precautions shown below are to help you use the product safely and correctly, and to prevent injury or damage to assets.
Safety regulations related to the overall design and management of equipment and devices must be observed in conjunction with the latest applicable standards, regulations, and other safety regulations.

- ISO 4414 (JIS B 8370: General rules for pneumatic systems)
- ISO 4413 (JIS B 8361: General rules for hydraulic systems)
- Labor standards laws, occupational safety and health laws
- ISO 12100 (JIS B 9700: Safety of machinery - General principles for design)
- IEC60204 (JIS B 9960: Safety of machinery - Electrical equipment for machines)
- ISO10218 (JIS B8433: Safety requirements for industrial robots)

The directions are ranked according to degree of potential danger or damage: "DANGER", "WARNING", and "CAUTION".

⚠ DANGER	Incorrect handling involves a high degree of immediate danger and can result in death or serious injury[NOTE 1] to the user.
⚠ WARNING	Incorrect handling can result in death or serious injury[NOTE 1] to the user.
⚠ CAUTION	Incorrect handling can result in minor injury[NOTE 2] to the user or property damage[NOTE 3].

Note 1: Serious injury refers to injuries such as blindness, physical injury, burns (high or low temperature), electric shock, fractures, or poisoning that result in lasting aftereffects, or that require hospitalization or long-term outpatient treatment.
2: Minor injury refers to injuries such as physical injury, burns, or electric shock that do not require hospitalization or long-term outpatient treatment.
3: Property damage refers to consequential damage involving buildings, household goods, mounted equipment, livestock, pets, etc.

The danger, warning, and caution items listed under these “Safety Precautions” do not cover all possible cases. Read the Catalog and Owner’s Manual carefully, and always keep safety first.

⚠ WARNING

- Do not use the product under conditions, environments, or for purposes not specified in the catalogs, instruction manuals, or other documentation.
- This product is not designed or intended for the following applications. If you are considering such applications, please consult our sales representative.
  1. Medical equipment related to maintenance or management of human lives or bodies
  2. Mechanical devices or equipment designed for the purpose of moving or transporting people
  3. Critical safety components in mechanical devices
  4. Applications requiring a particularly high level of safety

(nuclear power, aerospace equipment, railways, aviation, marine vessels, vehicles, military equipment, medical devices, food and beverage manufacturing equipment, combustion equipment, entertainment equipment, functional safety equipment, etc.)

- The product should be selected and handled by people with sufficient knowledge and experience, such as a system designer or other responsible person, who have read the safety precautions and specifications in the catalogs and instruction manuals. Additionally, compliance should be verified as needed.
- Because these products can be used under a wide variety of conditions, decisions concerning conformance with a particular system should be made upon the careful evaluation by the person in charge of system design. Assurances concerning expected system performance and safety are the responsibility of the designer who decides system conformity. Be sure to consider the possibility of machine breakdown, and to configure a system that ensures safety and reliability, such as by using fail-safes.
- When using this product in a system, use only genuine Koganei parts or compatible parts (recommended parts). Also, when doing maintenance and repairs, always use genuine Koganei parts or compatible parts (recommended parts) and follow the prescribed methods and procedures.
- Never attempt to modify the product. Also, never attempt inappropriate disassembly or assembly of the product relating to its basic configuration, or its performance or functions.
- Before applying energy (compressed air, electricity, etc.) to the product and before operating the equipment, be sure to check the safety of the state of the equipment connections and operating range.
- Non-routine operations involving the product, such as maintenance inspections, servicing, or replacement, must only be performed after implementing safety measures to confirm there is no danger from any energy that exists inside the equipment or facilities.

⚠ CAUTION

- Use safety circuits or system designs to prevent damage to machinery or injury to personnel when the machine is shut down abnormally due to emergency stop or power failure.
- The product can exhibit degraded performance and function over its operating life. Always conduct daily inspections, and confirm that all requisite system functions are satisfied, to prevent accidents from happening.

After reading these materials, always store them where they are easily available for reference by users of the product.

Warranty and General Disclaimer

1. Warranty Period
The warranty period for Koganei products is 1 year from the date of delivery.
* However, some products have a 2-year warranty; contact your nearest Koganei sales office or the Koganei overseas department for details.

2. Scope of Warranty and General Disclaimer

(1) When a product purchased from Koganei or from an authorized Koganei distributor or agent malfunctions during the warranty period in a way that is attributable to Koganei's responsibility, Koganei will repair or replace the product free of charge. Even if a product is still within the warranty period, its durability is determined by its operation cycles and other factors. Contact your nearest Koganei sales office or the Koganei overseas department for details.

(2) The Koganei product warranty covers individual products. Therefore, Koganei is not responsible for incidental losses (repair of this product, various expenses required for replacement, etc.) caused by breakdown, loss of function, or loss of performance of Koganei products.

(3) Koganei is not responsible for any losses or for any damages to other machinery caused by breakdown, loss of function, or loss of performance of Koganei products.

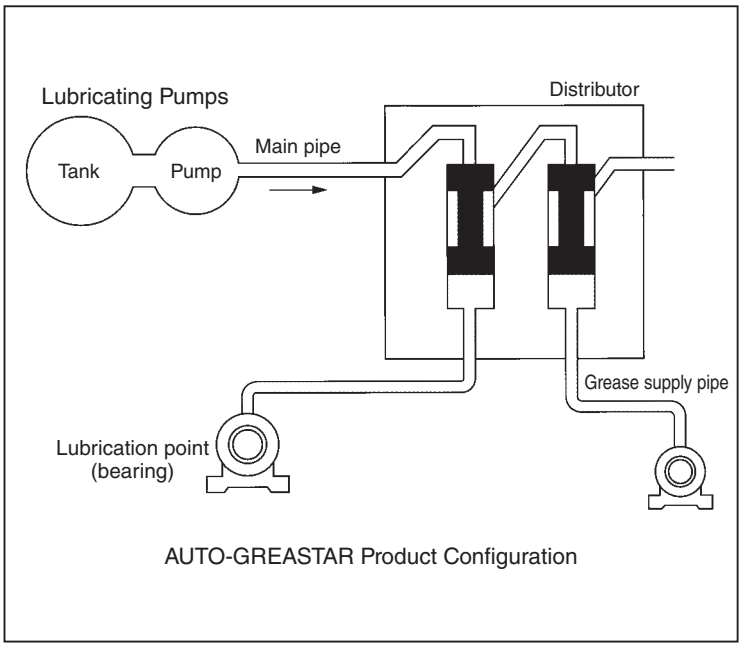
(4) Koganei is not responsible for any losses due to use or storage of the product in a way that is outside of the product specifications prescribed in Koganei catalogs and instruction manuals, and/or due to actions that violate the mounting, installation, adjustment, maintenance or other safety precautions.

(5) Koganei is not responsible for any losses caused by breakdown of the product due to factors outside the responsibility of Koganei, including but not limited to fire, natural disaster, the actions of third parties, and intentional actions or errors by the purchaser.

About Lubrication Products

What is AUTO-GREASTAR?

AUTO-GREASTAR is a lubrication supply system consisting of a lubricating pump, distributors, and piping (main pipes and grease supply pipes).
Koganei sells the lubricating pumps and distributors in this system.



AUTO-GREASTAR Product Configuration

Clears up lubrication problems.

- Reduces machine downtime and improves productivity
- Optimizes lubricant quantity and saves lubricant
- Extends machine and bearing life
- Prevents missed lubrication
- Prevents hazards
- Prevents foreign matter from contaminating grease

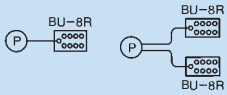
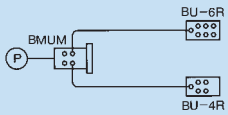
Ideal for use in these fields.

AUTO-GREASTAR is now being used in the major fields, machines, and equipment shown below.

- **Vehicles**
  Buses, various trucks, railroad cars, garbage trucks, etc.
- **Specialized civil engineering and construction vehicles**
  Hydraulic excavators, bucket loaders, truck cranes, motor graders, bulldozers, transit mixers, concrete pump trucks, asphalt pavers, etc.
- **Agricultural machinery**
  Tractors, power carrier, combines, hay balers, harvesters, etc.
- **Press machinery**
  Mechanical presses, hydraulic presses, injection molding machines, die casting machines, etc.
- **Mining machinery**
  Various hoists, winches, crushers, cement finishing machines
- **Machine Tools**
- **Steelmaking, forging, and auxiliary equipment, small-capacity rolling mills, tables, shears, levelers, electric resistance welded pipe equipment, wire drawing machines, etc.**
- **Cranes, conveyors and various materials handling machinery; ropeways and other aerial transport systems for tourist facilities; overhead travelling cranes with trolleys.**
- **Hydroelectric turbines and auxiliary equipment**
- **Paper manufacturing machinery**
- **Textile industry machinery**
- **Printing machinery**
- **Other various machinery and equipment**
  Food, pharmaceutical and cosmetic industry machinery, packaging machines, bottling machines, bottle washers, pumps, etc.

Grease lubricators for large and heavy machinery include, among others, centralized grease lubricators and one-way lubricators.

Table of lubrication systems classified by piping method

Piping method	Structure	
	Lubricating Pumps[Note 2]	
	Drive system	Model
Single-end-line format	Electric	SK-505BM□ SK-505BM-AGT SKA-521□
	Pneumatic	SKB-881□ SKC-800□
	Manual	SKA-214□ SKA-244□
	Mechanical Drive[Note 3]	SKA-722□

Note 1: These reference values assume that the main pipe is ϕ8 x ϕ6 (ϕ6 x ϕ4 for oil) in diameter, the oil feed pipe is ϕ6 x ϕ4 (ϕ4 x ϕ2 for oil) in diameter, and the length is 3 meters.

Distributors	Performance				Standard discharge volume per distributor port (cm³/stroke)
	Maximum number of lubrication ports (ports)		Total length of one main pipe[Note 1] (m)		
Model (grease and oil)	Grease	Oil	Grease	Oil	
BU-□R type BMUM-□R (□-□) type[Note 4]	60	60	25	50	0.3
	–		–	30	

Note 2: When ordering a lubricating pump, please select either for grease or for oil.
3: Mechanical drive lubricating pumps are for oil only.
4: See page ㉛ and ㉜ for distributor combinations.

Operating temperature range: -20°C to 60°C (no condensation)
However, the system may not operate with some types of grease.
(In particular, we recommend low-temperature grease for temperatures below 0°C.)

Features

Lubricating Pumps

Four types of oil pumps are available depending on the drive system: electric, pneumatic, manual, and mechanical drive.

Electric Lubricating Pumps

An electric lubricating pump consists of a pump body, motor, and tank. After connecting the power supply, turn the switch ON/OFF to operate it to pressure feed grease or oil.

Electric lubricating pump specifications

Product name code	Model	Lubricant used	Number of outlet ports (ports)	Maximum operating pressure (MPa)	Discharge rate (cm^3/min)	Tank capacity (L)	Motor	Tank low-level switch	Mass (kg)
RK990700	SK-505BM no tank	Grease	1	14.7 (relief pressure 15.7±1)	13 or more	No tank	DC24V 1.5 A or less Rated for 5 minutes	None	0.7
RK990100	SK-505BM-04					0.4 (0.3)		None	1.1
RK999300	SK-505BMS-1					1		None	1.5
RK999400	SK-505BMS-1-LLS							Yes	1.6
RK981500	SKA-521 no tank		2 (however, 1 outlet is possible)		(at 50 Hz) 20 × 2 ports (at 60 Hz) 25 × 2 ports	No tank	AC200V 0.1 kW 3ϕ continuous rating	None	10.0
RK981600	SKA-521-2					2		None	11.0
RK981700	SKA-521-2-LLS							Yes	11.5
RK993800	SK-505BML no tank	Oil	1	5.9 (relief pressure 6.9±1)	13 or more	No tank	DC24V 1.5 A or less Rated for 5 minutes	None	0.7
RK991100	SK-505BML-04					0.4 (0.3)		None	1.1
RK999500	SK-505BMLS-1					1		None	1.5
RK999600	SK-505BMLS-1-LLS							Yes	1.6
RK981800	SKA-521L no tank		2 (however, 1 outlet is possible)		(at 50 Hz) 2.5 to 20 × 2 ports (at 60 Hz) 3 to 25 × 2 ports	No tank	AC200V 0.1 kW 3ϕ continuous rating	None	10.0
RK981900	SKA-521L-2					2		None	11.0
RK982000	SKA-521L-2-LLS							Yes	11.5
RK981000	SKA-521L-10-LS					10		Yes	21.0

Note 1: Pump discharge rate values are for grease at 9.8 MPa and for oil at 4.9 MPa.
2: Figures in parentheses (...) indicate the effective capacity of the tank.

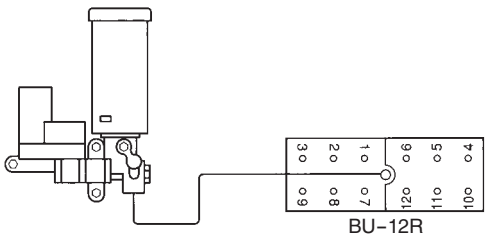
Distributors that can be used with electric lubricating pumps

Electric Lubricating Pumps			Distributors	Maximum number of lubrication ports (ports)	
Grease	Oil	Power supply used		Grease	Oil
SK-505BM no tank	SK-505BML no tank	DC24V	BU-□R BU-□M BMUM-□R (□-□) BMUM-□M (□-□)	60	60
SK-505BM-04	SK-505BML-04				
SK-505BMS-1	SK-505BMLS-1				
SK-505BMS-1-LLS	SK-505BMLS-1-LLS				
SK-505BM-04-AGT	SK-505BML-04-AGT				
SK-505BM-1-AGT	SK-505BML-1-AGT				
SK-505BM-1-LLS-AGT	SK-505BML-1-LLS-AGT				
SKA-521-2	SKA-521L-2	AC200V 3ϕ		120	120
SKA-521-2-LLS	SKA-521L-2-LLS				

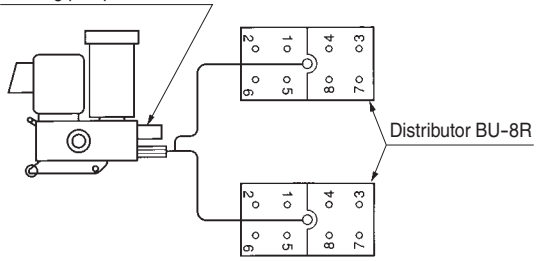
Note: The maximum number of lubrication ports applies when using a BMUM distributor. See page ㉛ and ㉜ for distributor combinations.

Piping system diagram (example)

Lubricating pump SK-505BM□

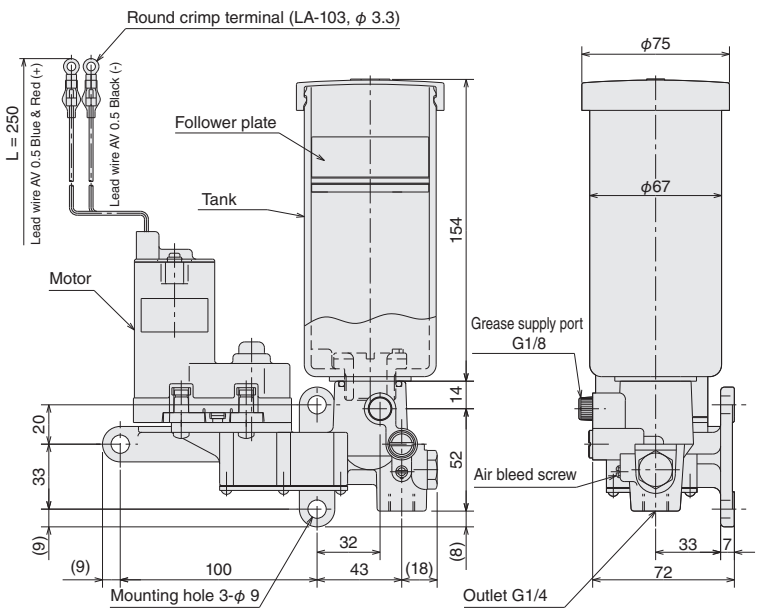


Lubricating pump SKA-521□

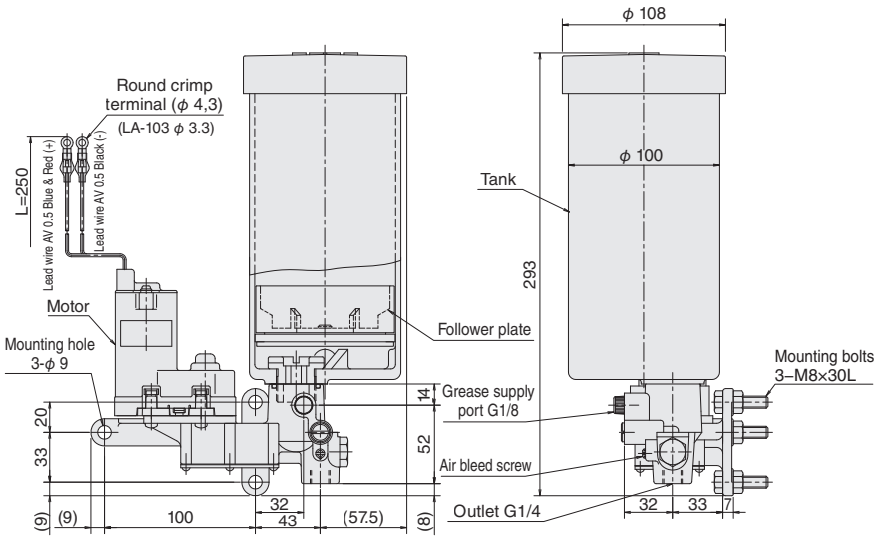


Electric Lubricating Pump Dimensions (mm)

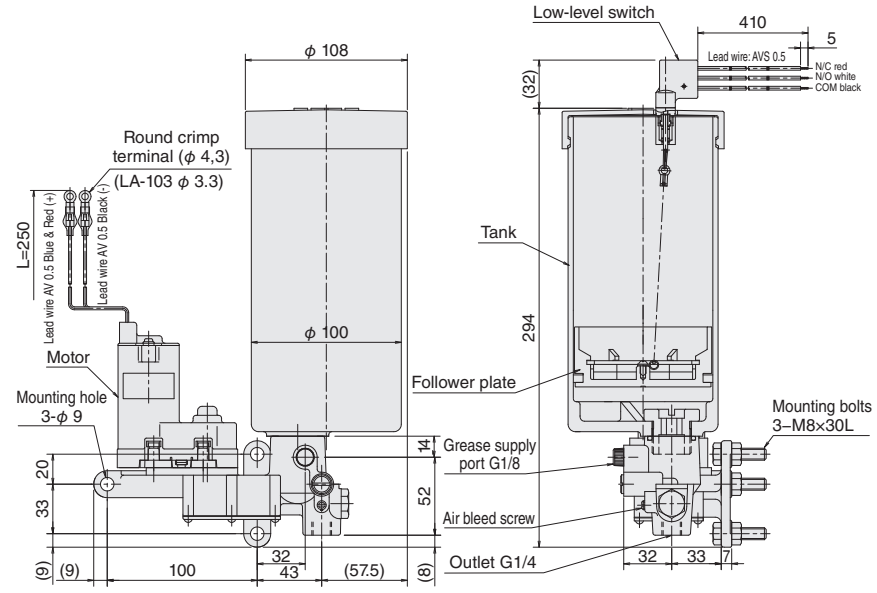
● SK-505BM-04 (for grease)



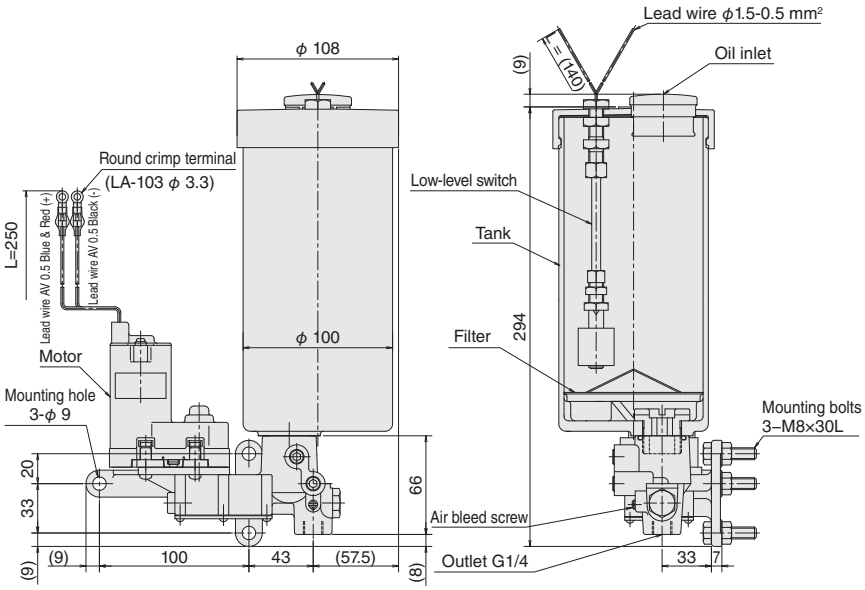
● SK-505BMS-1 (for grease)



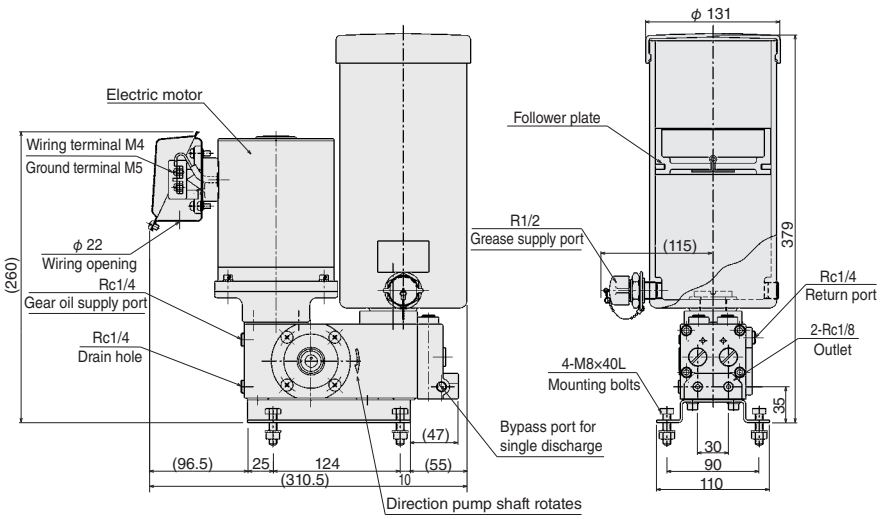
● SK-505BMS-1-LLS (for grease)



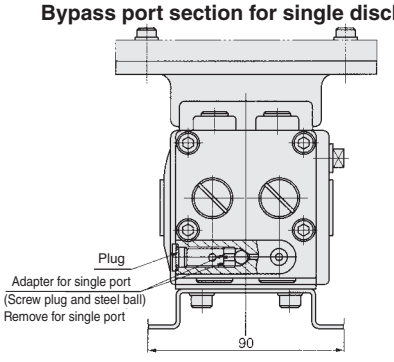
● SK-505BMLS-1-LLS (for grease)



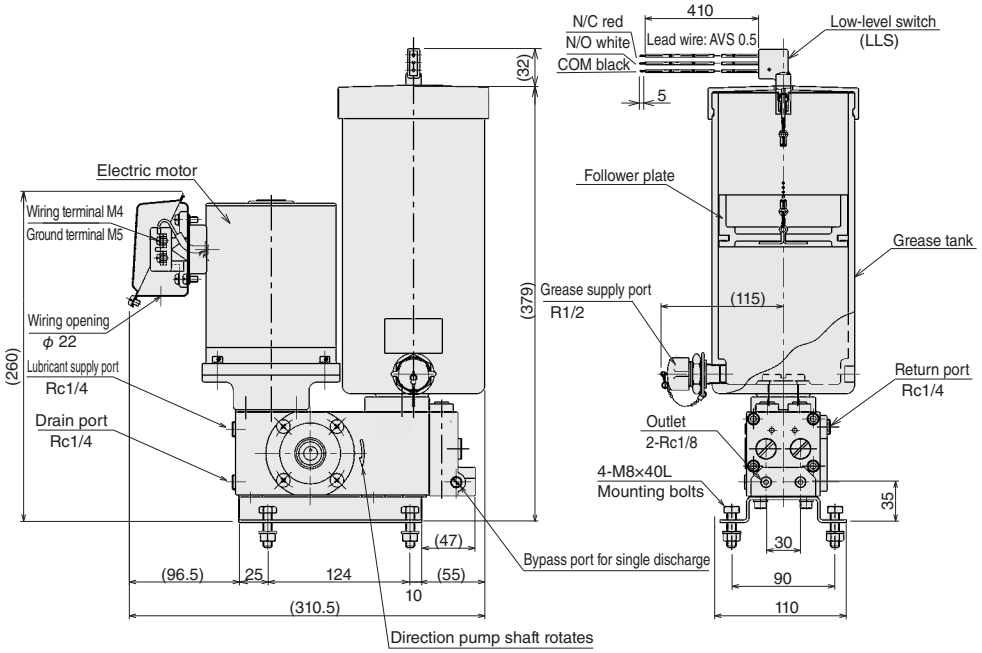
● SKA-521-2 (for grease)



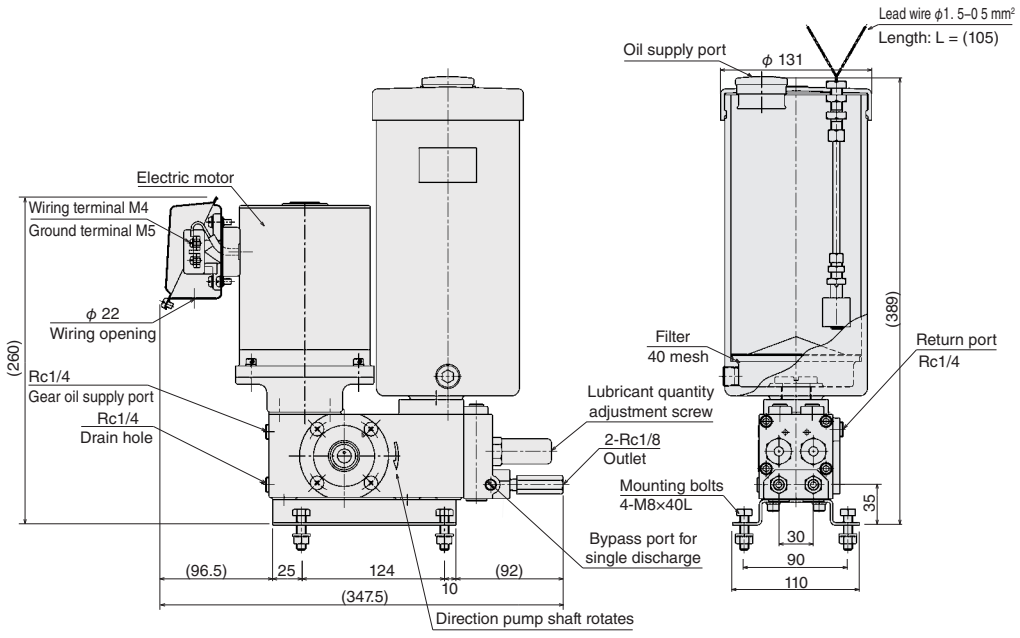
Bypass port section for single discharge



● SKA-521-2-LLS (for grease)



● SKA-521L-2-LLS (for oil)



Full-Auto Pump (Integrated Controller)

The Full-Auto Pump SK-505□-AGT model is a compact, lightweight, and easy-to-handle economical lubricating pump unit that integrates the lubricating pump and controller into a single unit. Power supply options include AC100V or AC200V, with selectable features such as a long-time timer and stop modes.

Features

1. Simply connect to a power source (AC100V or AC200V compatible) to operate.
2. This compact and lightweight design allows installation even in confined spaces.
3. Timer activates the lubricating pump at set intervals, performing one cycle of the distribution valve operation to complete lubrication. It can also be stopped by using a stop timer. (Selectable via a switch)
4. The pump is a plunger type, providing high-pressure discharge capability.
5. When used in combination with the lubricator's distributor, it reliably supplies the correct amount of lubricant to multiple bearings.

SK-505□-AGT series specifications

Product name code	Model	Lubricant used	Maximum discharge pressure (MPa)	Discharge rate (cm³/min)	Tank capacity (L)	Low-level switch	Mass (kg)
RK993200	SK-505BM-1-AGT	Grease	14.7	13 or more	1	None	5.7
RK993300	SK-505BM-1-LLS-AGT				1	Yes	5.8
RK993100	SK-505BM-04-AGT				0.4	None	5.0
RK994200	SK-505BML-1-AGT	Oil	5.9		1	None	5.7
RK994300	SK-505BML-1-LLS-AGT				1	Yes	5.8
RK994100	SK-505BML-04-AGT				0.4	None	5.0

- Power Supply: 100 VAC or 200 VAC, single-phase, 50/60 Hz
- Lubrication Pump Motor: 24 VDC, rated for 5 minutes
  Current: 1.5 A max.
- Startup timer setting times: 30 min., 1, 2, 5, 10, 20, 50, 100, 200 hr. and × 1/100 selectable by DIP switch. Further adjustable to × 1/2 of each range by using a vernier.
- Stop timer setting time: 1, 2, 4, 10, 20, 40 min. and × 1/10 selectable by DIP switch. Further adjustable to × 1/2 of each range by using a vernier.

Note: Orders cannot be placed using the model codes.
Please order by using the product name code.

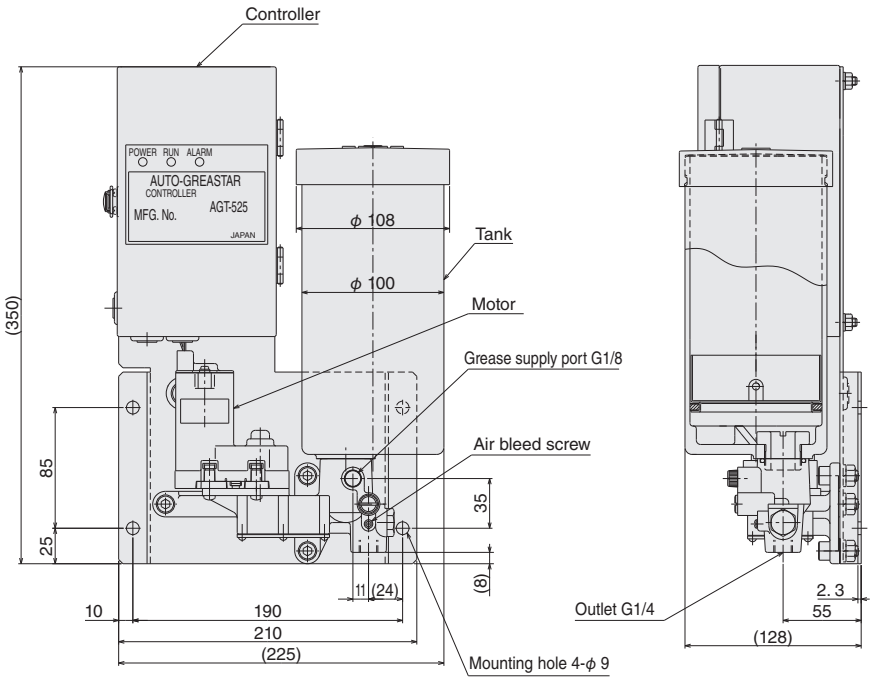
- Explanation of model codes

SK-505BM□-□-□-AGT

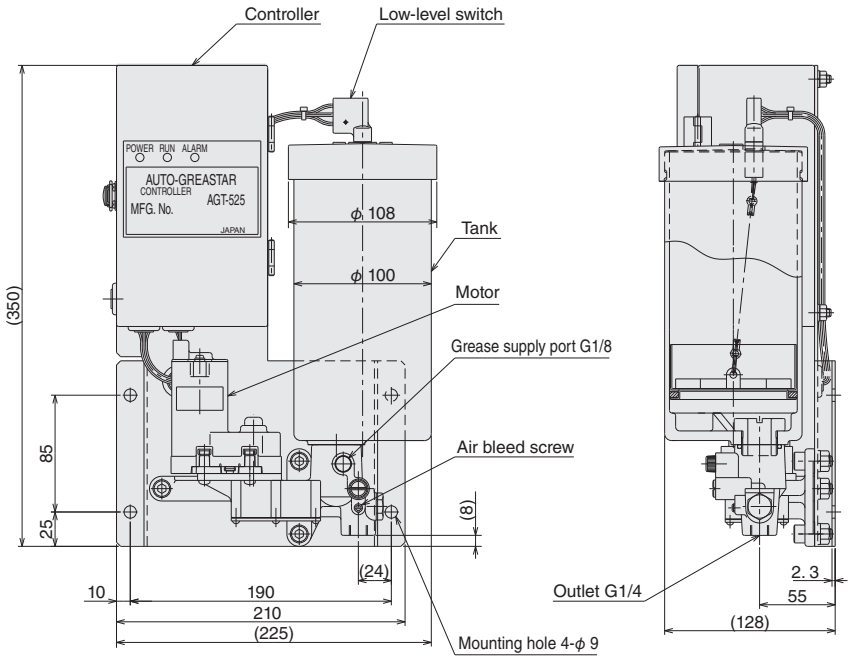
- AGT: With controller
- □ (Low-level switch): Not specified: Without; LLS: Yes
- □ (Tank capacity): 04: 0.4 L; 1: 1 L
- □ (Lubricant used): Blank: Grease; L: Oil

● SK-505BM-1-AGT (for grease)

Note: SK-505BML-1-AGT (for oil) has the same external dimensions.

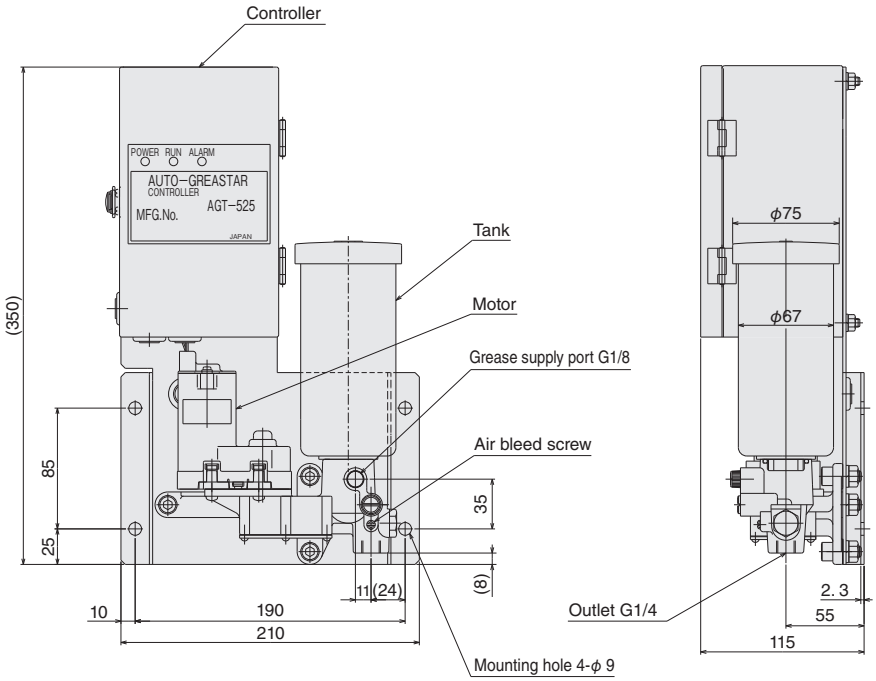


● SK-505BM-1-LLS-AGT (for grease)

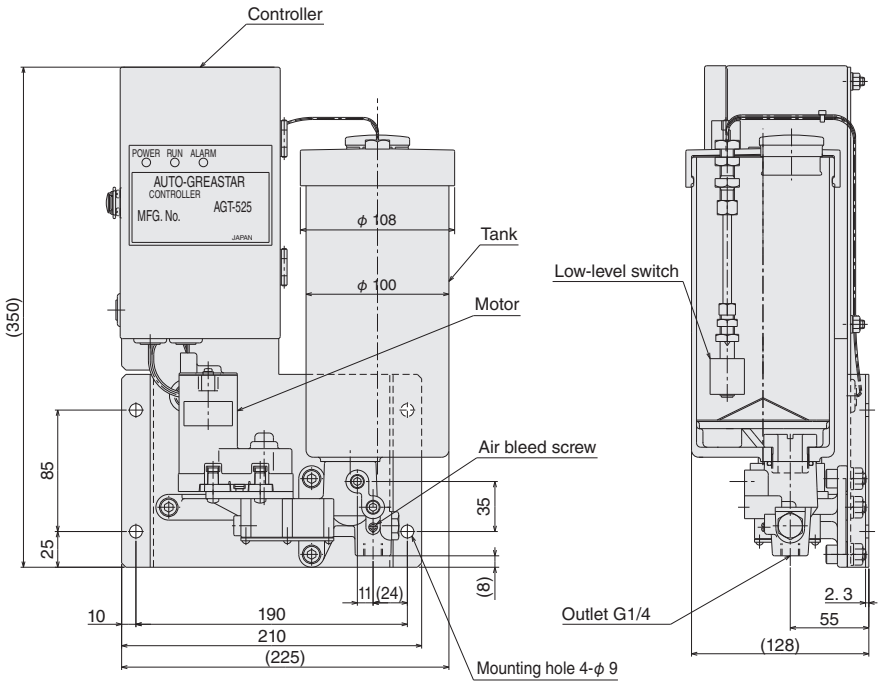


● SK-505BM-04-AGT (for grease)

Note: SK-505BML-04-AGT (for oil) has the same external dimensions.



● SK-505BML-1-LLS-AGT (for grease)



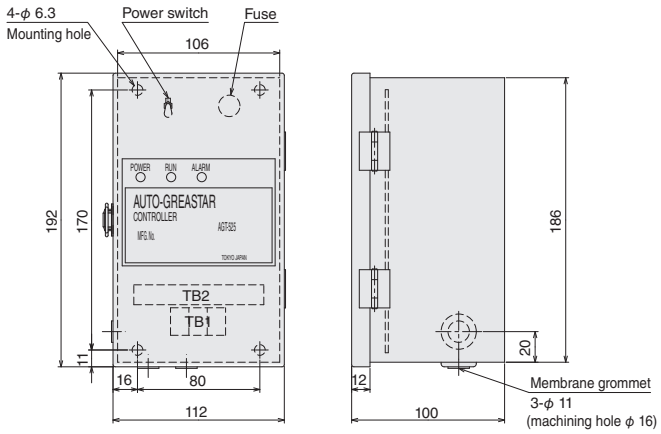
Full-Auto Pump Controllers (AGT-525A Type)

This is a specialized controller for the full-auto pump SK-505□-AGT series.

AGT-525A model controller specifications

Product name code	RK844900
Power supply	100 VAC or 200 VAC, both single-phase
Startup timer setting time (T1: min. 9 sec, max. 200 hr)	Selectable by DIP switch: 30 min., 1, 2, 5, 10, 20, 50, 100, 200 hrs. and × 1/100. Further adjustable to × 1/2 of each range by using a vernier.
Stop timer setting time (T2: min. 3 sec, max. 40 min.)	1, 2, 4, 10, 20, 40 min. and × 1/10 selectable by DIP switch. Further adjustable to × 1/2 of each range by using a vernier.
Startup method	①Automatic start via T1 timer (accumulating type) ②External signal ③Manual switch (Select ① or ② using S3 selector switch)
Stop method	①Stop via T2 timer ②One-cycle stop (LS) ③Manual switch (Select ① or ② using S4 selector switch. When operating in mode ②, the T2 timer functions as a protective measure.)
Output	24 VDC, max. 1.5 A (for SK-505 motor)
Operating temperature	-20℃ to +50℃
Operating humidity	85% RH or less (no condensation)
Mass	Approx. 3 kg
Paint color	Munsell 5Y7/1

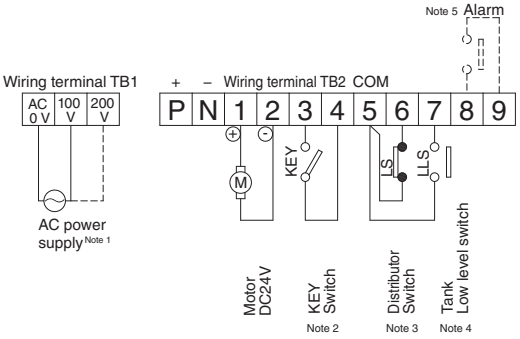
Full-Auto Pump Controller Dimensions (mm)



Handling Method

- Connect according to the external wiring diagram.
- Use switches S3 and S4 to toggle between start and stop modes.
  At time of delivery, the unit is set to timer start and one-cycle stop mode.
- When the KEY switch is ON (during machine operation), the start timer begins accumulating time; turning it OFF pauses accumulation.
- In one-cycle stop mode, the protection timer starts accumulating simultaneously with the pump turning ON. If the pump fails to stop after the T2 time elapses (due to malfunction of the distributor or leakage from the piping), the alarm lamp will light and the pump will stop.
- If this happens, pressing the stop button will reset the system and the lamp will turn off. Investigate the cause of the abnormality and repair it.
- Additionally, for timer-stop operation, the pump will stop after the time set for the T2 timer.
- You can manually turn the pump ON at any time using the manual start button. If you do this, the start timer will reset to its initial state.
- You can also stop the pump mid-operation by using the stop button.
- Set the T1 timer to a longer duration than the T2 timer.

External wiring diagram



Note 1: Connect the power supply (single-phase) to the two terminals on the TB1 wiring terminal. For 200 VAC, connect to the left and right terminals. For 100 VAC, connect to the left and middle terminals.

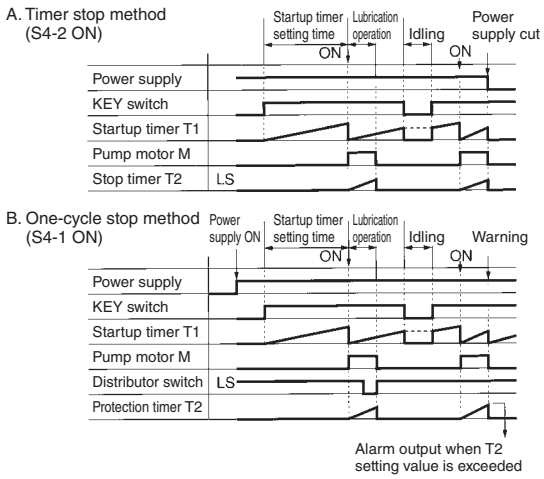
2: The KEY switch is used when you want to accumulate the operating time of the machine being lubricated and perform linked operation. Connect it to the contact (1a dry contact) that links with the machine operation. When this contact is OFF, the T1 timer does not accumulate the time. If linked operation is not required, short-circuit terminals 3 and 4. In such cases, the T1 timer operates while the power is on. The timer resets when the power is turned OFF.

3: Use the 1b contact for the distributor switch LS. (The standard M switch uses the 1c contact, so tape and insulate the remaining N/O wire.) No wiring is required for the timer stop method.

4: Use the 1a contact for the tank low-level switch. When the contact closes, an alarm sounds and the pump stops.

5: When the tank low-level signal is received, terminals 8 and 9 close, triggering the alarm signal. (Contact capacity: 0.4 A 24 VDC) For one-cycle stops, the alarm also activates when the protection timer T2 times out.

Operation chart (selectable by S4 switch)



Pneumatic Lubricating Pumps

These lubricating pumps are operated pneumatically.

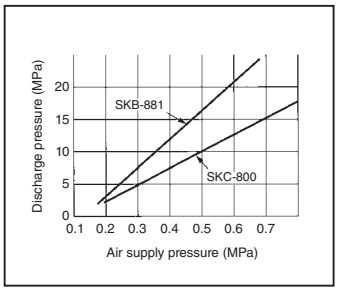
Features of Pneumatic Lubricating Pumps

This lubricating pump operates by a compressed air supply to pump grease or oil, and can be controlled as desired by opening and closing the air supply line. The pump discharge pressure can be set as desired from 2.9 MPa to 19.6 MPa depending on the supplied air pressure. It is a compact yet powerful lubricating pump.

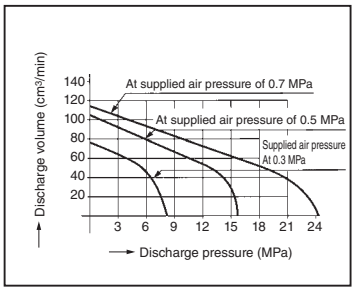
The SKB-881 model is a reciprocating lubricating pump that operates continuously as long as air is supplied; its operating speed varies according to the air pressure. Therefore, the required discharge volume is obtained by adjusting the supplied air pressure.

The relationship between discharge pressure and supplied air pressure, and the relationship between discharge volume and supplied air pressure, are as shown in the figure on the right.

The SKC-800 model is a single-acting lubricating pump that operates once each time air is supplied.



Discharge pressure and supply air pressure



Discharge volume and discharge pressure (SKB-881) (reference)

Pneumatic lubricating pump specifications

Product name code	Model	Lubricant used	Number of outlet ports (ports)	Maximum discharge pressure (MPa)	Discharge rate (cm³/stroke)	Air pressure (MPa)	Tank capacity (L)	Tank low-level switch	Mass (kg)
RK948300	SKB-881-2	Grease	1	19.6	See table above	0.3 to 0.7	2 (1.8)	None	3.2
RK948500	SKB-881-2-LLS							Yes	3.4
RK985200	SKC-800A-2			14.7	1 to 4			None	7.2
RK985300	SKC-800A-2-LLS							Yes	7.4
RK985500	SKC-800M-2				0.2 to 1			None	4.1
RK985600	SKC-800M-2-LLS							Yes	4.3
RK948400	SKB-881L-2	Oil		19.6	See table above			None	3.2
RK959000	SKB-881L-2-LLS							Yes	3.4
RK985700	SKC-800AL-2			14.7	1 to 4			None	7.2
RK985900	SKC-800AL-2-LLS							Yes	7.4
RK985800	SKC-800ML-2				0.2 to 1			None	4.1
RK986100	SKC-800ML-2-LLS							Yes	4.3
RK946000	SKB-881 no tank	—		19.6	See table above		No tank	—	1.5
RK985100	SKC-800A no tank			14.7	1 to 4			—	4.9
RK985400	SKC-800M no tank				0.2 to 1			—	2.6

Note 1: Tankless models are for both grease and oil.

2: Discharge pressure is at 0.7 MPa air pressure.

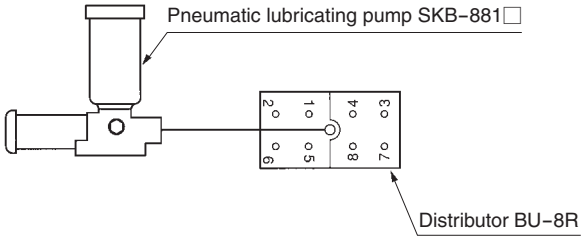
3: Figures in parentheses (...) indicate the effective capacity of the tank.

Distributors that can be used with pneumatic lubricating pumps

Pneumatic Lubricating Pumps			Distributors	Maximum number of lubrication ports (ports)	
Grease	Oil	Supplied air pressure (MPa)		Grease	Oil
SKB-881-2	SKB-881L-2	0.3 to 0.7	BU-□R BU-□M BMUM-□R (□-□) BMUM-□M (□-□)	60	60
SKB-881-2-LLS	SKB-881L-2-LLS				
SKC-800A-2	SKC-800AL-2				
SKC-800A-2-LLS	SKC-800AL-2-LLS				
SKC-800M-2	SKC-800ML-2				
SKC-800M-2-LLS	SKC-800ML-2-LLS				

Note: The maximum number of lubrication ports applies when using a BMUM distributor. See page ㉛ and ㉜ for distributor combinations.

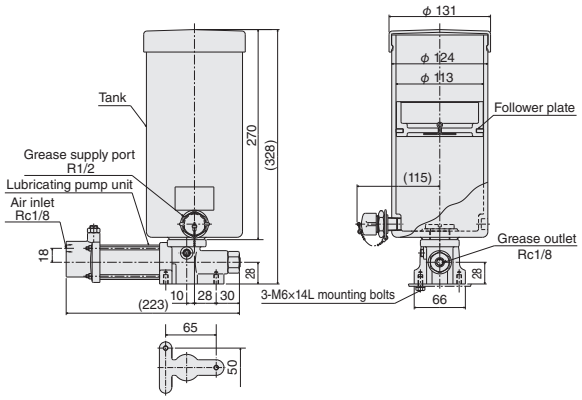
Piping system diagram (example)



Pneumatic Lubricating Pump Dimensions (mm)

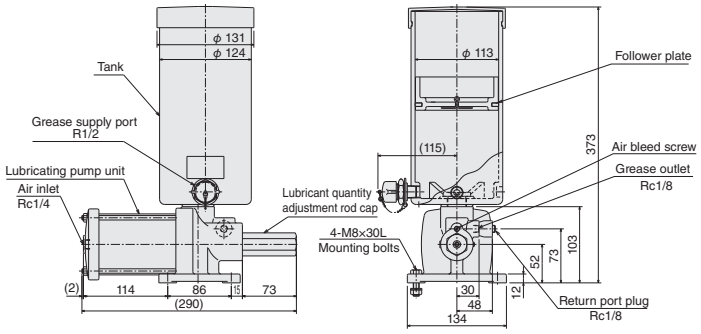
● SKB-881-2
(for grease)

Note: SKB-881L-2 (for oil) has the same external dimensions.



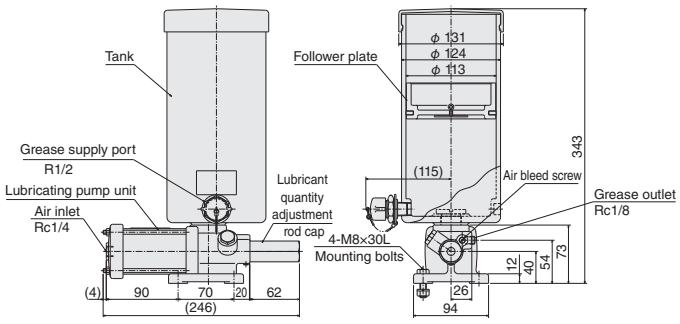
● SKC-800A-2
(for grease)

Note: SKC-800AL-2 (for oil) has the same external dimensions.



● SKC-800M-2
(for grease)

Note: SKC-800ML-2 (for oil) has the same external dimensions.



Manual Lubricating Pumps

Manual lubricating pump specifications

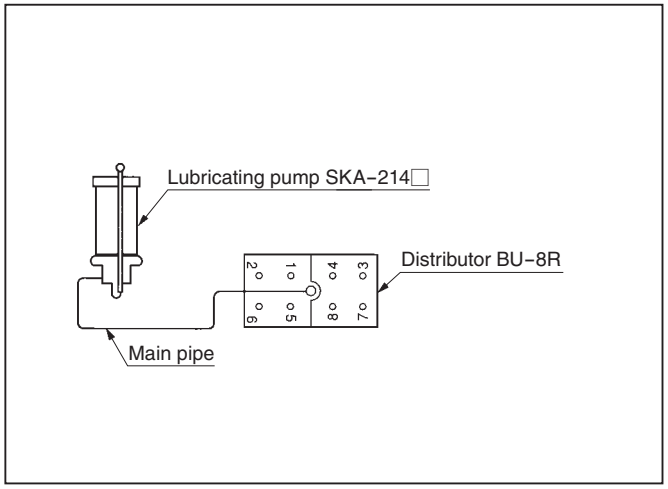
Product name code	Model	Lubricant used	Number of outlet ports (ports)	Discharge pressure (MPa)	Discharge rate (cm³/stroke)	Tank capacity (L)	Mass (kg)
RK942800	SKA-214-04	Grease	1	14.7	1	0.4 (0.3)	1.3
RK943000	SKA-214-1					1 (1.0)	2.8
RK956700	SKA-244-04		2			0.4 (0.3)	1.5
RK956800	SKA-244-1					1 (1.0)	2.3
RK943700	SKA-214L-04	Oil	1			0.4 (0.3)	2.0
RK943800	SKA-214L-1					1 (1.0)	2.8
RK956900	SKA-244L-04		2			0.4 (0.3)	1.5
RK957000	SKA-244L-1					1 (1.0)	2.3
RK958400	SKA-214 no tank	—	1			No tank	1.2
RK956600	SKA-244 no tank		2				1.3

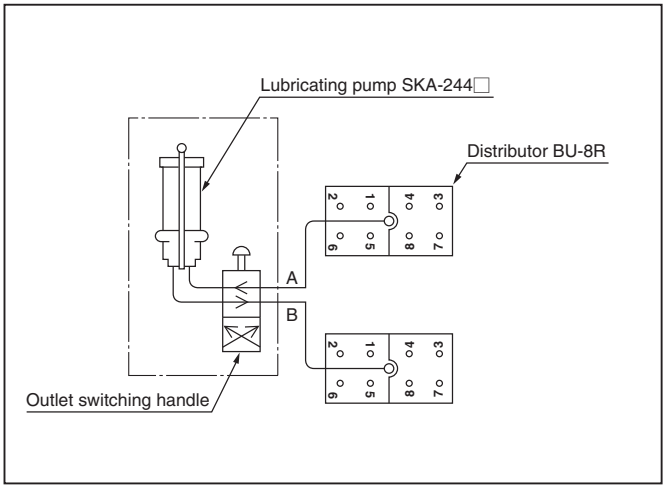
Distributors that can be used with manual lubricating pumps

Manual Lubricating Pumps			Distributors	Maximum number of lubrication ports (ports)	
Grease	Oil	Discharge pressure (MPa)		Grease	Oil
SKA-214-04 SKA-214-1	SKA-214L-04 SKA-214L-1	14.7	BU-□R BU-□M BMUM-□R (□-□) BMUM-□M (□-□)	60	60
SKA-244-04 SKA-244-1	SKA-244L-04 SKA-244L-1			120	120

Note: The maximum number of lubrication ports applies when using a BMUM distributor. See page ㉛ and ㉜ for distributor combinations.

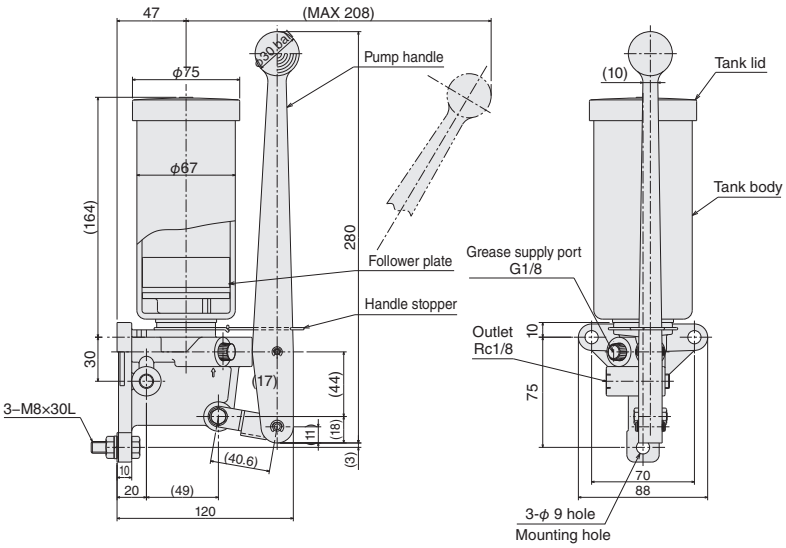
Piping system diagram





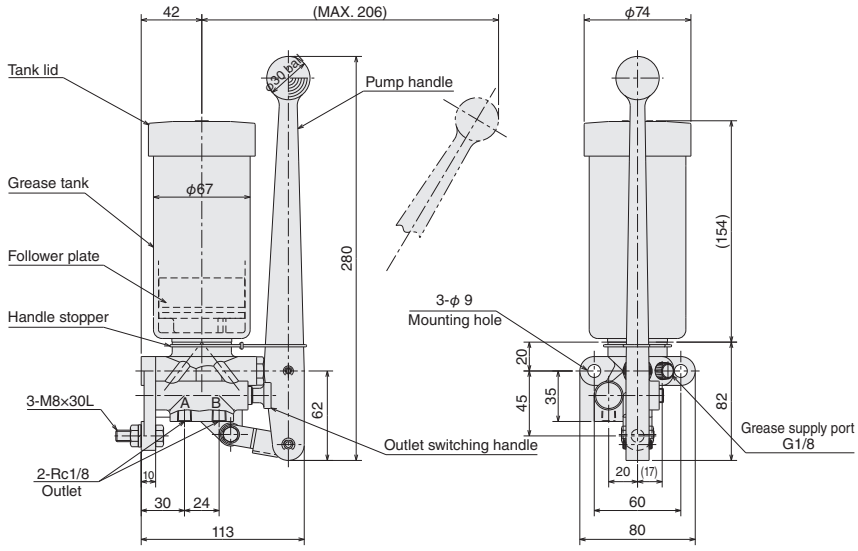
● SKA-214-04 (for grease)

Note: SKA-214L-04 (for oil) has the same external dimensions.



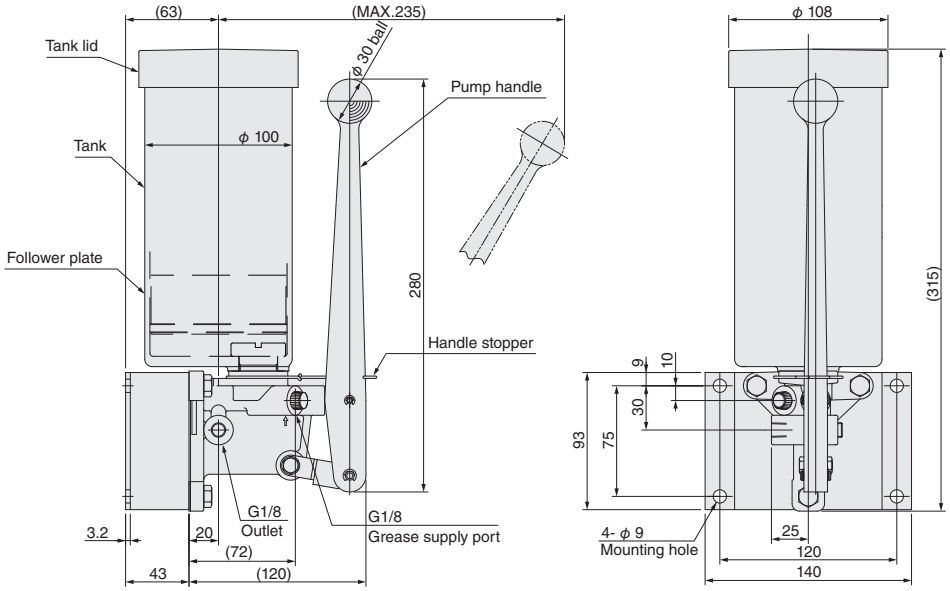
● SKA-244-04 (for grease)

Note: SKA-244L-04 (for oil) has the same external dimensions.



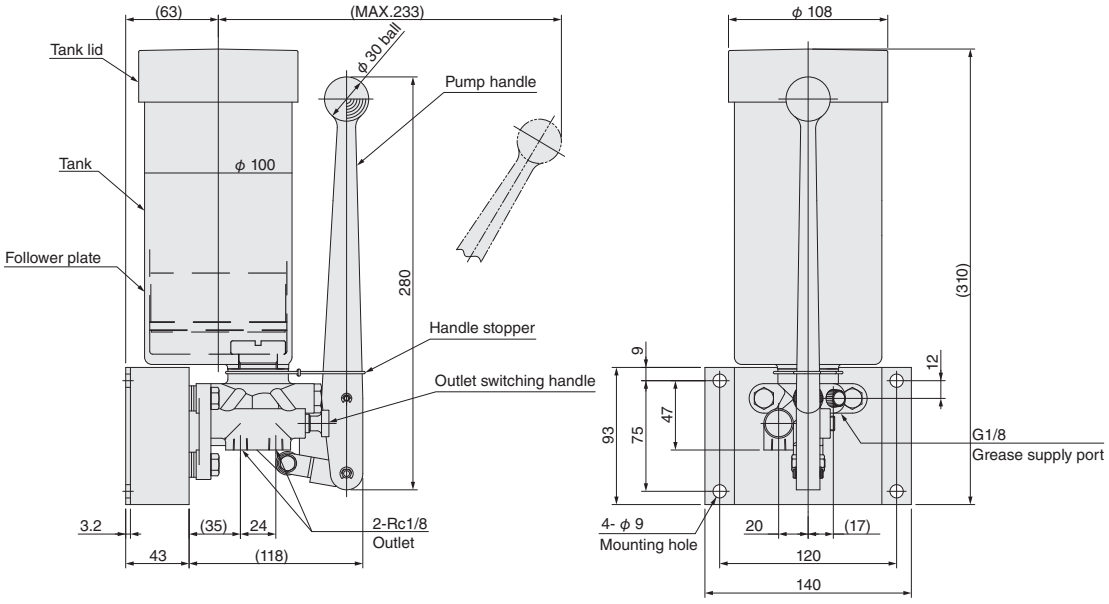
● SKA-214-1 (for grease)

Note: SKA-214L-1 (for oil) has the same external dimensions.



● SKA-244-1 (for grease)

Note: SKA-244L-1 (for oil) has the same external dimensions.



Mechanical Drive Lubricating Pumps

This unit is specialized for supplying oil.

Features of Mechanical Drive Lubricating Pumps

This lubricating pump is a ratchet feed type that automatically pressurizes and delivers oil in link with the machine. (Can also be chain-driven.) The SKA-722 model consists of a pump section that pressurizes and discharges oil, a cam that operates the pump, and a lever and ratchet that move the cam shaft. The cam, plunger, and cylinder are arranged in two sets, so there are two discharge ports; however, it is also possible to use only one port.

CAUTION: Install safety covers on the drive unit levers and rotating parts.

Mechanical Drive Lubricating Pump Specifications

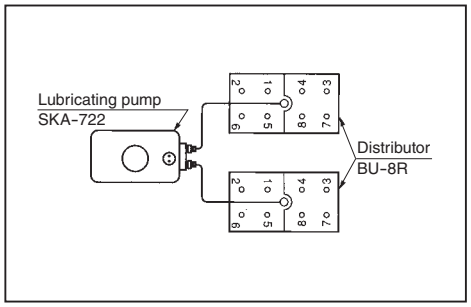
Product name code	Model	Number of outlet ports (ports)	Maximum discharge pressure (MPa)	Discharge rate (cm^3/stroke)	Tank capacity (L)	Minimum lever angle (°)	Maximum pump shaft speed (min^{-1})	Minimum pump shaft speed (min^{-1})	Mass (kg)
RK293300	SKA-722R	1 or 2	5.9	1 port: 0 to 1.8 2 port: 0 to 0.9 × 2	2 (1.9)	9	80	10	4.2
RK293400	SKA-722L								

- Figures in parentheses (...) indicate the effective capacity of the tank.
- When using a single outlet, remove the steel ball from the bypass valve. (See page ⑩)
- The SKA-722L has the handle position reversed left to right compared to the SKA-722R.

Distributors that can be used with mechanical lubricating pumps

Mechanical Drive Lubricating Pumps	Distributors	Maximum number of lubrication ports (ports)
SKA-722R SKA-722L	BU-□R BU-□M BMUM-□R (□-□) BMUM-□M (□-□)	120

Piping system diagram

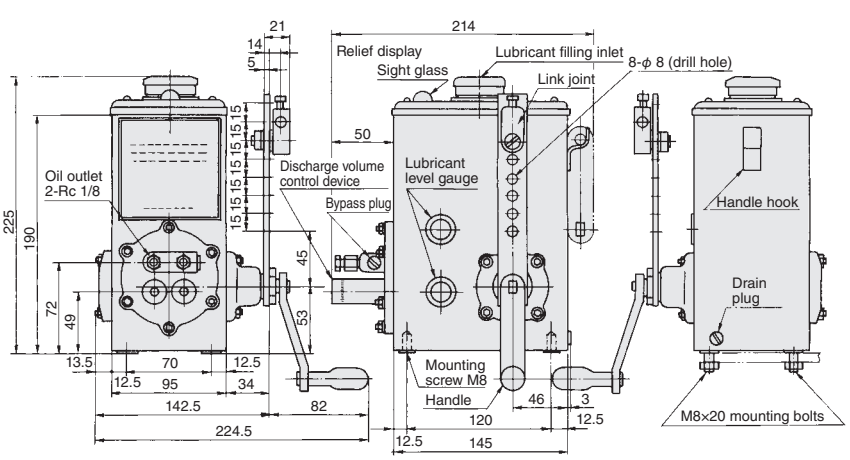


However, 1 outlet is possible.

Mechanical Lubricating Pump Dimensions (mm)

● SKA-722R (L)

Note: For SKA-722L, the handle position is reversed from left to right.



Distributors

Features

This is a compact type that saves space.
For single-end line distributors, the BU model and BMUM model (BMU model, M model) are available.
The distributor operates on a progressive action principle, enabling a constant oil supply to each bearing regardless of back pressure.
● Do not plug the outlet port of the distributor. Doing so can cause the entire system to malfunction.
Note: When using oil, perform an oil flush before use.

BU Model Distributors

-R Model: Indicator rod
-M Model: With micro switch

BU-R Model Distributor Specifications

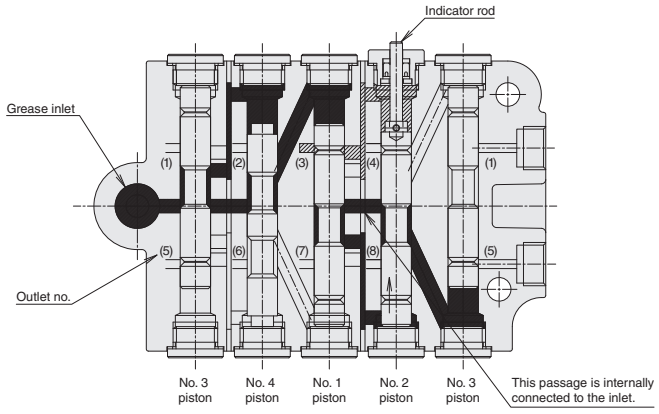
Product name code	Model	Number of outlet ports (ports)	Discharge rate (cm³/stroke)	Maximum operating pressure (MPa)	Mass (kg)
RK620500	BU-4R	4	0.3	14.7 (Oil 5.9)	0.42
RK620600	BU-6R	6			0.42
RK620700	BU-8R	8			0.41
RK620800	BU-12R	12			0.55

BU-M Model Distributor Specifications

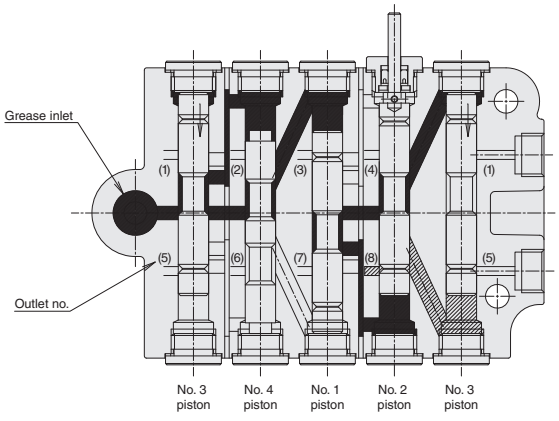
Product name code	Model	Number of outlet ports (ports)	Discharge rate (cm³/stroke)	Maximum operating pressure (MPa)	Mass (kg)
RK649100	BU-4M	4	0.3	14.7 (Oil 5.9)	0.48
RK649200	BU-6M	6			0.48
RK649300	BU-8M	8			0.47
RK649400	BU-12M	12			0.61

Operation Description (BU-8R Model Distributor)

Grease entering through the inlet passes through the black passage and pushes the end face of each piston. At this time, the lower part of No. 2 piston (hereinafter referred to as PS) is pressurized and grease from the upper part of No. 2 PS is discharged from No. 3 discharge port. (The indicator rod rises.) When No. 2 PS rises, the passage to the lower part connected to No. 3 PS closes, and the passage to the upper part of No. 3 PS opens. At this time, the passage between outlet No. 8 and the lower part of No. 3 PS opens, and the grease in the lower part of No. 3 PS is discharged from outlet No. 8. (See figure below.) When No. 3 PS descends, the passage to the upper part connected to No. 4 PS closes, and the passage to the lower part of No. 4 PS opens. At this time, the passage between outlet No. 1 and the upper part of No. 4 PS opens, and grease from the upper part of No. 4 PS is discharged from outlet No. 1. When No. 4 PS rises, the passage to the upper part connected to No. 1 PS closes, and the passage to the lower part of No. 1 PS opens. At this time, the passage between discharge outlet No. 2 and the upper part of No. 1 PS opens, and the grease in the upper part of No. 1 is discharged from discharge outlet No. 2.
This completes half a cycle of lubrication.
When further movement occurs, the pistons move in the opposite direction to that described above, discharging from outlet No. 7 → No. 4 → No. 5 → No. 6, completing one cycle of lubrication. (The operation of the BU-4R, BU-6R, and BU-12R is basically the same as that of the BU-8R.

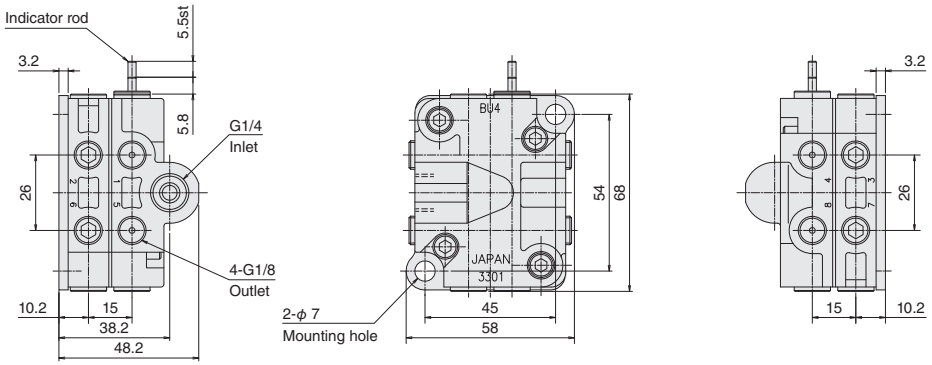


Before No. 2 piston stroke

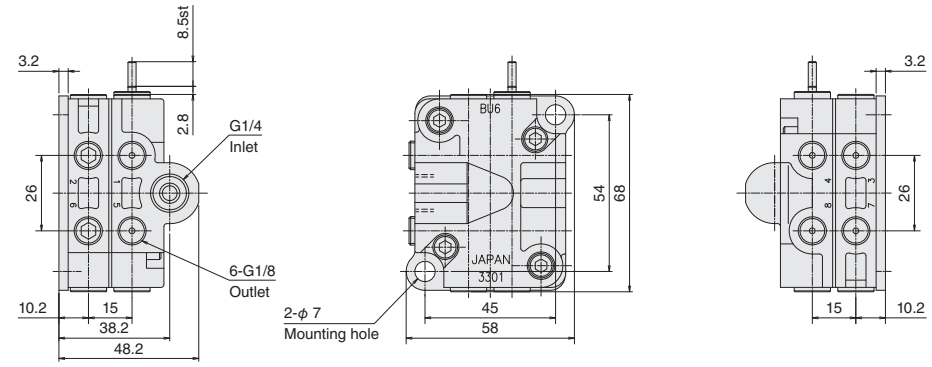


After No. 2 piston stroke

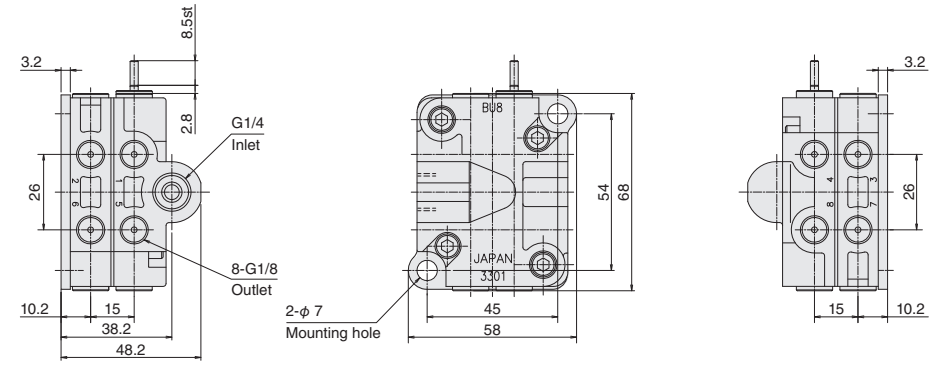
● BU-4R



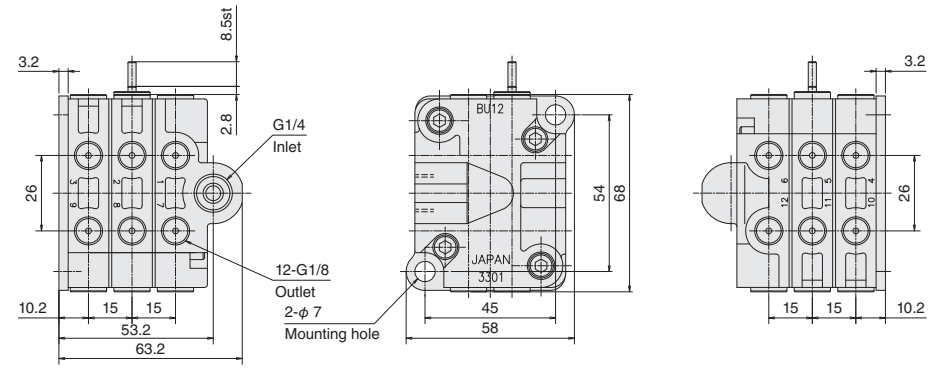
● BU-6R



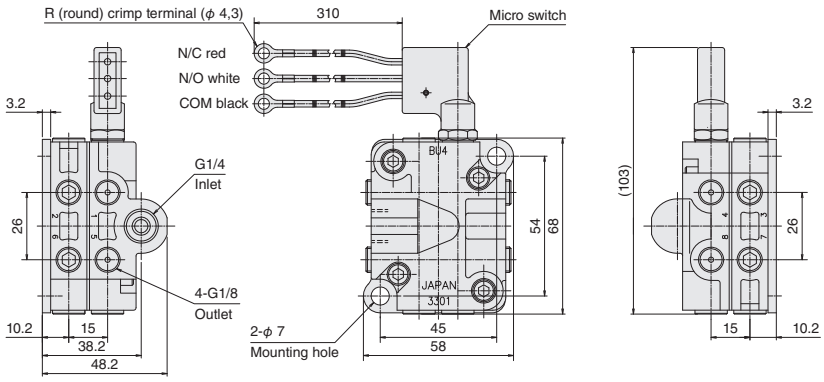
● BU-8R



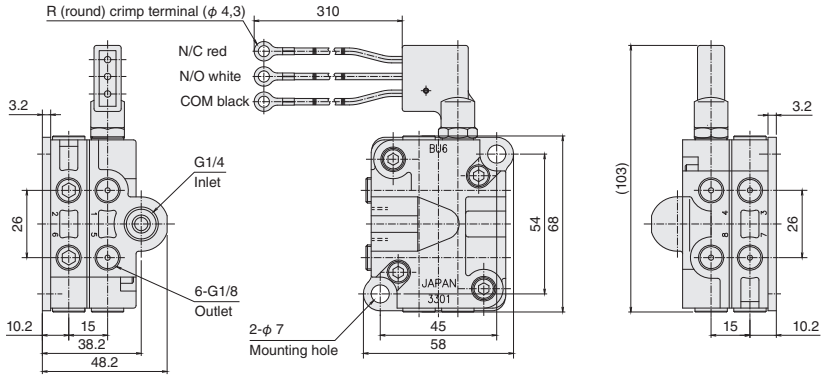
● BU-12R



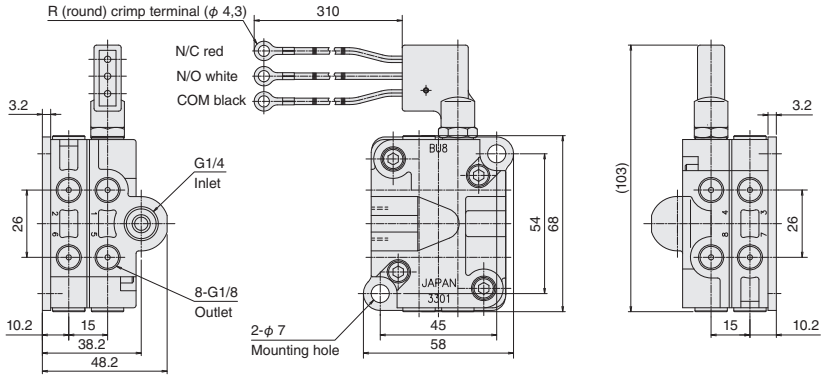
● BU-4M



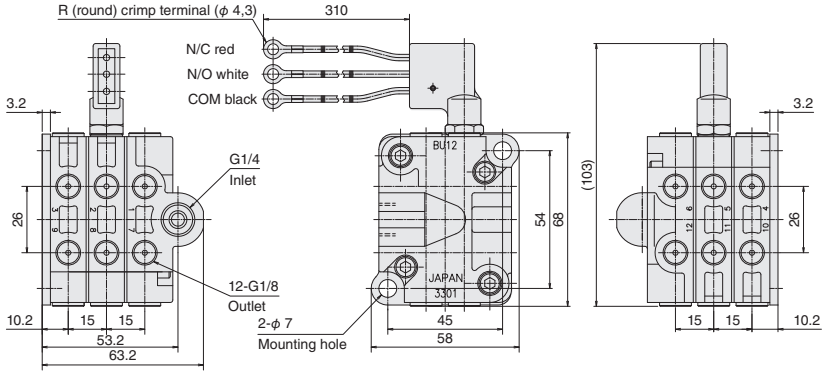
● BU-6M



● BU-8M



● BU-12M



BMU Model Distributors

*The BMU model distributors are used in combination with the M model distributors.
・They cannot be used alone.
・The assembled models are the BMUM-*R (*-*) and the BMUM-*M (*-*).
Note: When using oil, perform an oil flush before use.

BMU-R Model Distributor Specifications

Product name code	Model	Number of outlet ports (ports)	Outlet number	Discharge rate (cm^3)	Maximum operating pressure (MPa)	Mass (kg)
RK653100	BMU-4R	4	1・5	M[Note 1]	14.7	0.42
			4・8	0.3		
RK653200	BMU-6R	6	1・5	M[Note 1]		0.42
			3・4・7・8	0.3		
RK653300	BMU-8R	8	2・6	M[Note 1]		0.41
			1・3・4・5・7・8	0.3		
RK653400	BMU-12R	12	3・9	M[Note 1]		0.55
			1・2・4・5・6・7・8・10・11・12	0.3		

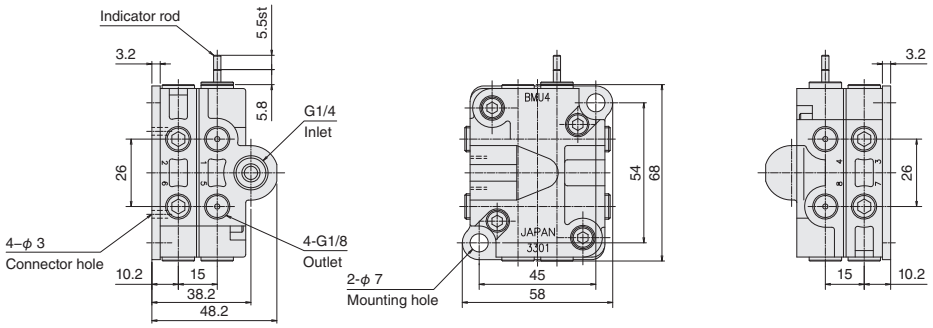
Note 1: Discharge volume based on piston stroke of M model distributor.

BMU-M Model Distributor Specifications　Distributor with Micro Switch

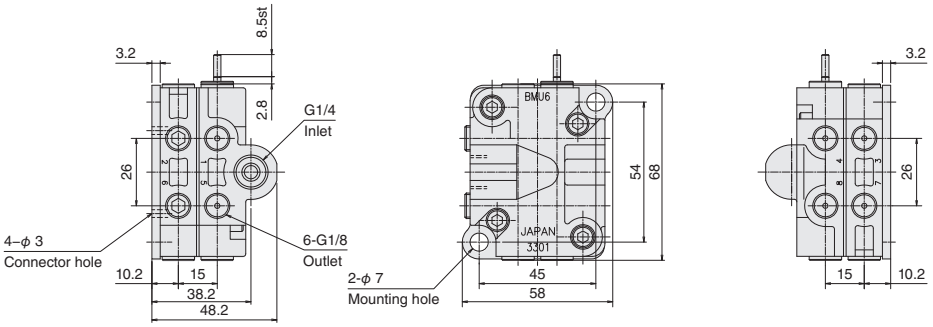
Product name code	Model	Number of outlet ports (ports)	Outlet number	Discharge rate (cm^3)	Maximum operating pressure (MPa)	Mass (kg)
RK653500	BMU-4M	4	1・5	M[Note 1]	14.7	0.50
			4・8	0.3		
RK653600	BMU-6M	6	1・5	M[Note 1]		0.50
			3・4・7・8	0.3		
RK653700	BMU-8M	8	2・6	M[Note 1]		0.49
			1・3・4・5・7・8	0.3		
RK653800	BMU-12M	12	3・9	M[Note 1]		0.63
			1・2・4・5・6・7・8・10・11・12	0.3		

Note 1: Discharge volume based on piston stroke of M model distributor.

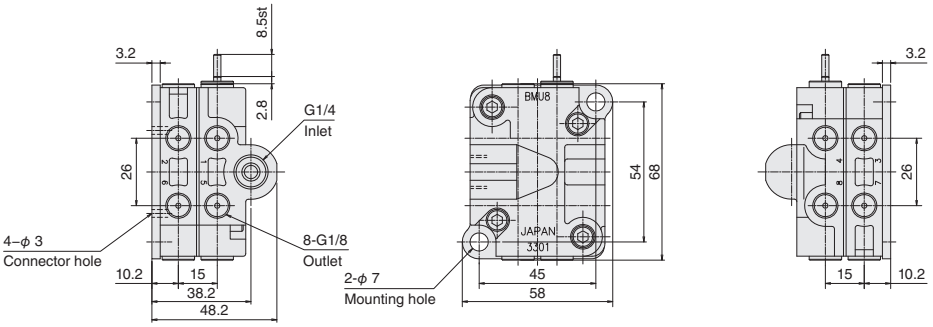
● BMU-4R



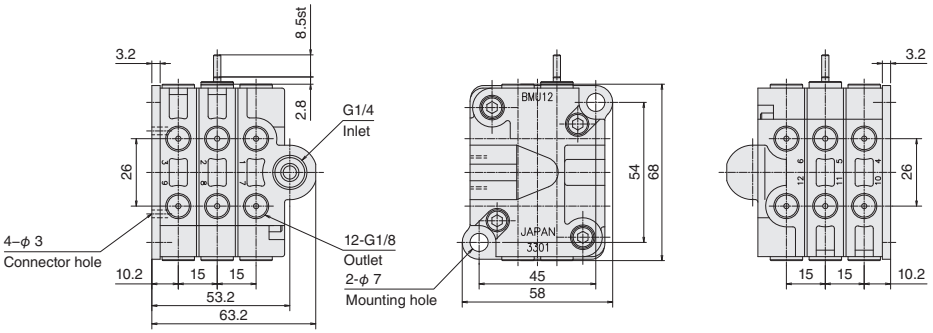
● BMU-6R



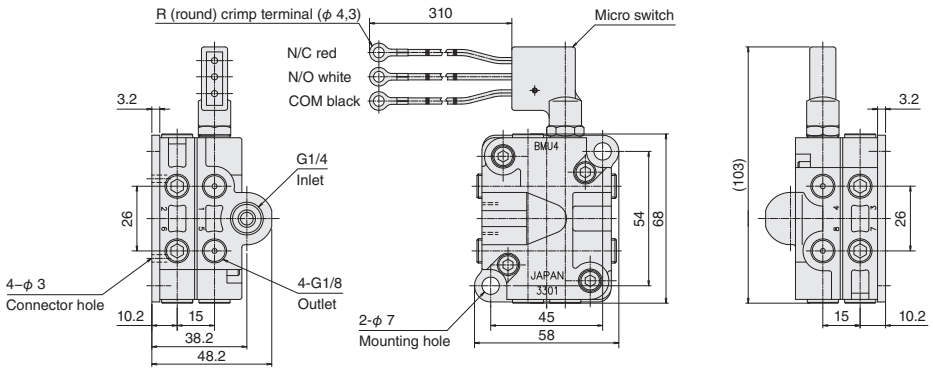
● BMU-8R



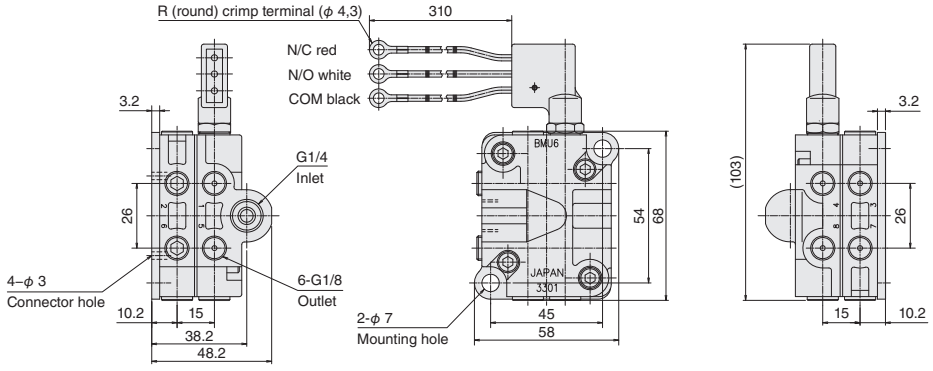
● BMU-12R



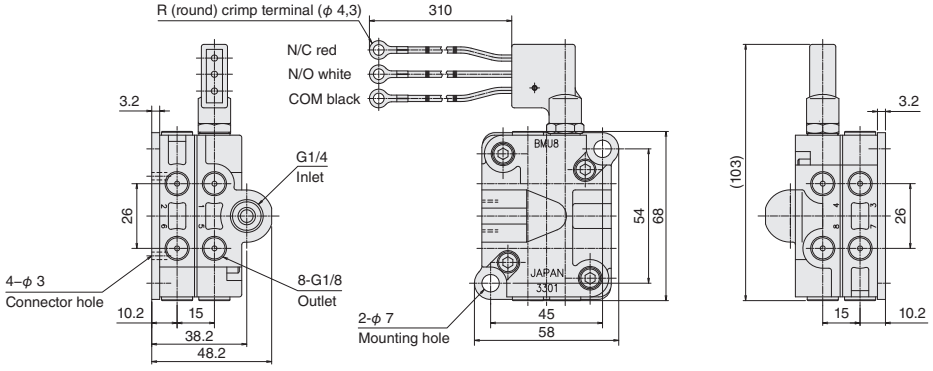
● BMU-4M



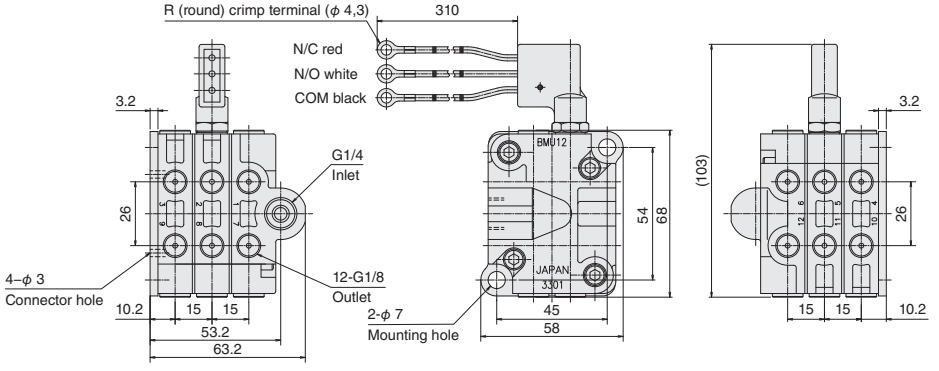
● BMU-6M



● BMU-8M



● BMU-12M



M Model Distributors

The M model distributors are used in combination with the BMU model distributors.
・They cannot be used alone.

M Model Distributor Specifications Table

Product name code	Model	Number of outlet ports (ports)	Outlet number	Discharge rate (cm^3)	Maximum operating pressure (MPa)	Mass (kg)
RK667100	M (0-10Note 1)	2	M2・M4	0.3Note 2	14.7	0.28
RK667200	M (0-15Note 1)	2	M2・M4	0.3Note 2		0.28
RK667300	M (0-20Note 1)	2	M2・M4	0.3Note 2		0.28
RK667400	M (0-30Note 1)	2	M2・M4	0.3Note 2		0.28
RK667600	M (15Note 1-15)	4	M1・M3	1.5		0.38
			M2・M4	0.3Note 2		
RK667700	M (20Note 1-20)	4	M1・M3	2		0.38
			M2・M4	0.3Note 2		
RK667800	M (30Note 1-30)	4	M1・M3	3		0.38
			M2・M4	0.3Note 2		

Note 1: Discharges from the outlet of the BMU distributor.
2: Discharge volume based on piston stroke of BMU model distributor.

Accessories: 2 hexagon socket head cap screws M6 and 4 O-rings (P4) for assembly with BMU model distributor

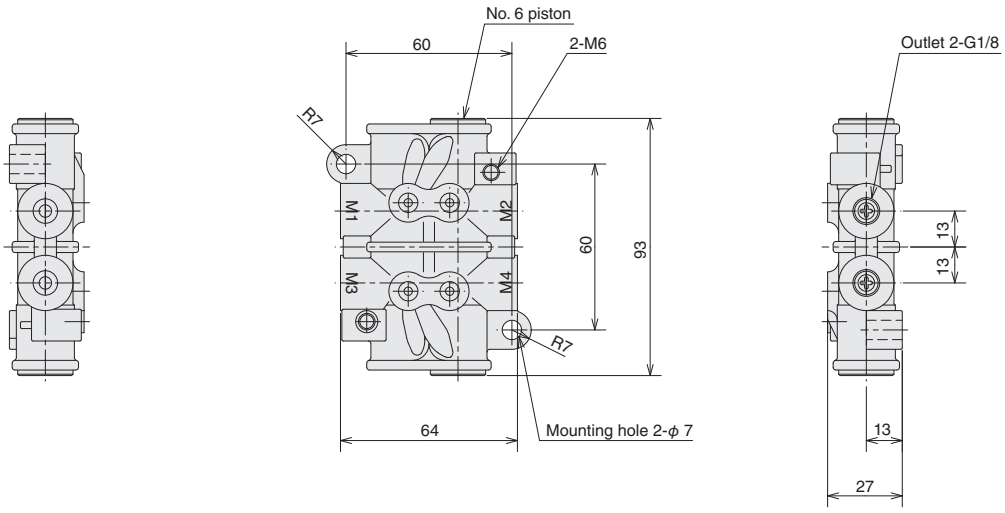
Explanation of model codes: M (□-□)
- NO. 6 piston size
- NO. 5 piston size

0: Without piston
10: 1cm^3/st
15: 1.5cm^3/st
20: 2cm^3/st
30: 3cm^3/st

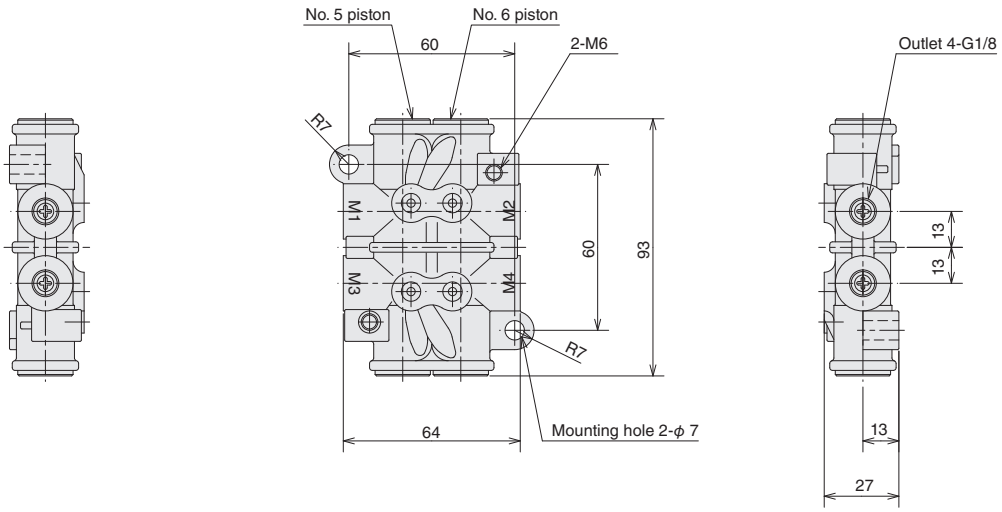
Note: Orders cannot be placed using the model codes.
Please order by using the product name code.

M Model Distributor Dimensions (mm)

● M (0-□)

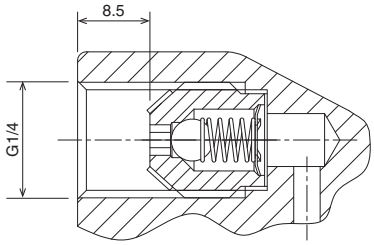


● M (□-□)

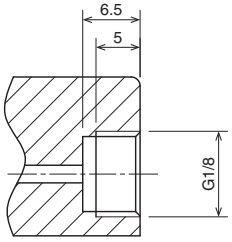


Detailed Dimensions of Distributor Inlet and Outlet (mm)

Inlet



Outlet

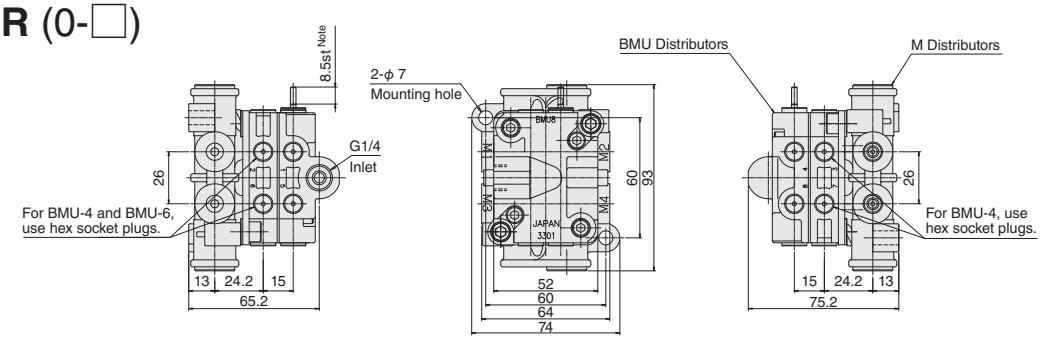


BMUM Model Distributors

・BMUM model distributors are a combination of a BMU model distributor and an M model distributor.
・Model: Not sold as BMUM-□.
・Purchase the BMU model distributor and M model distributor separately and assemble them.
・Assembly is easy with two mounting bolts (included with the M model distributor.).
Note: When using oil, perform an oil flush before use.

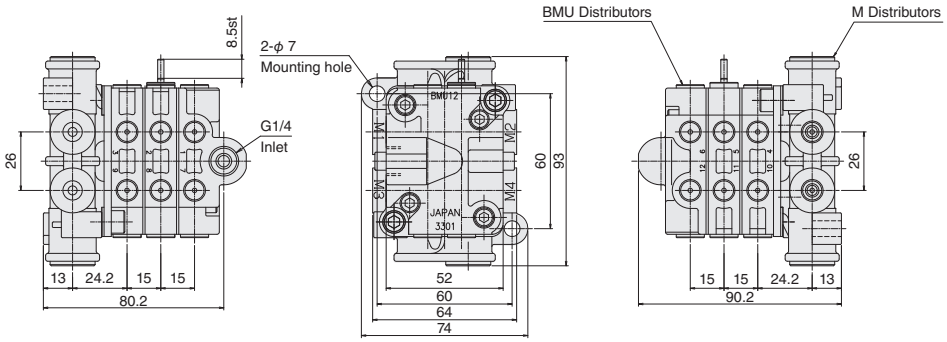
BMUM Model Distributor Dimensions (mm)

● BMUM-4, 6, 8R (0-□)

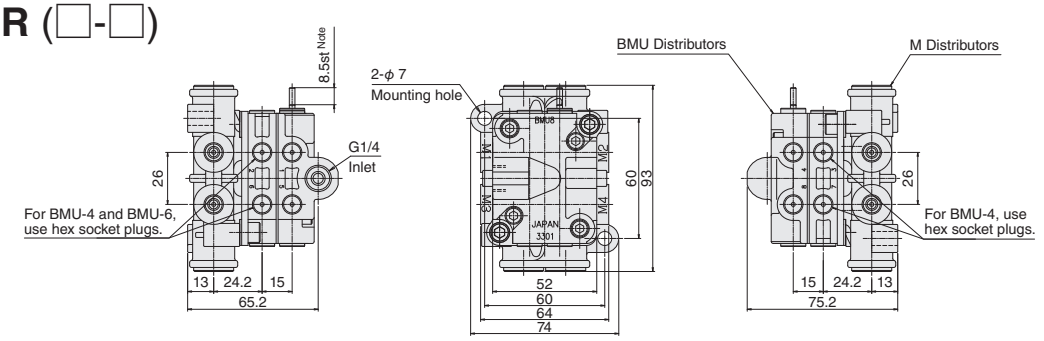


Note: For BMUM-4R, it is 5.5st.

● BMUM-12R (0-□)

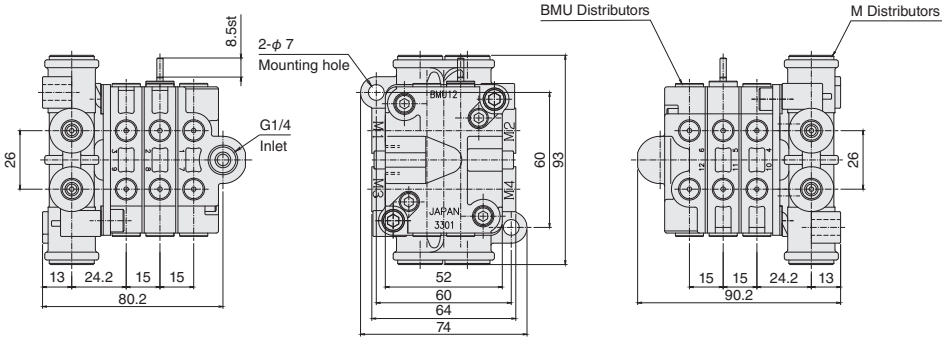


● BMUM-4, 6, 8R (□-□)

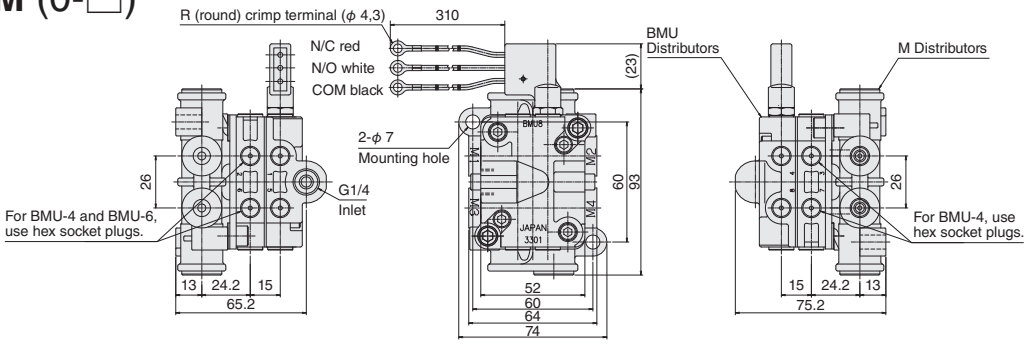


Note: For BMUM-4R, it is 5.5st.

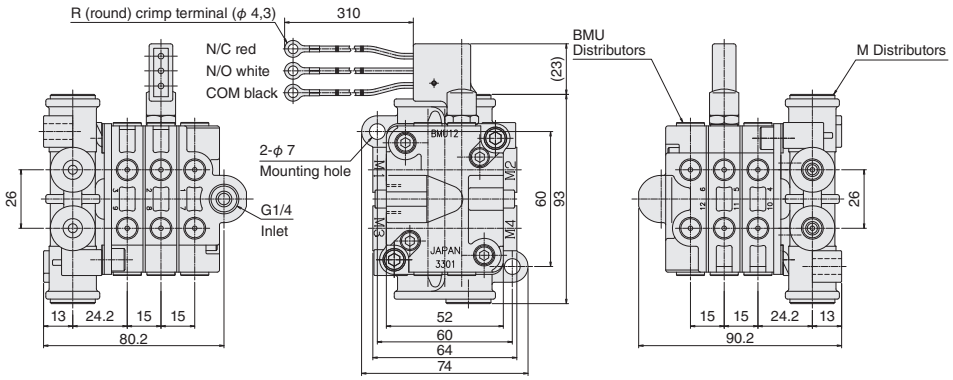
● BMUM-12R (□-□)



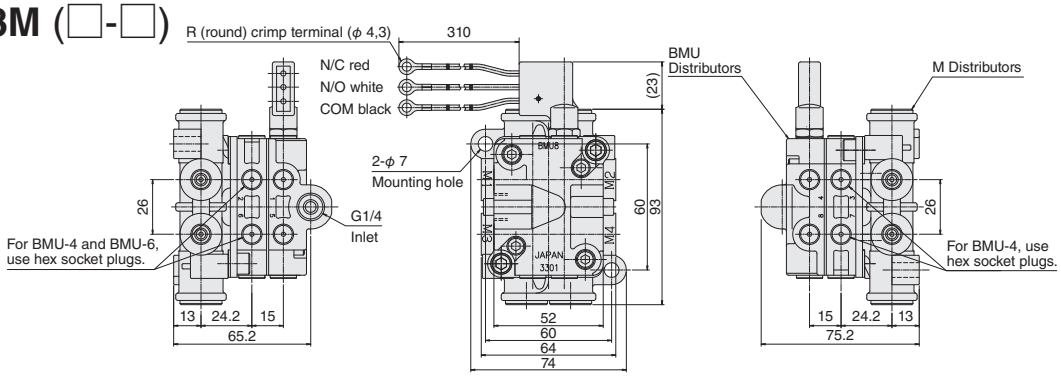
● BMUM-4, 6, 8M (0-□)



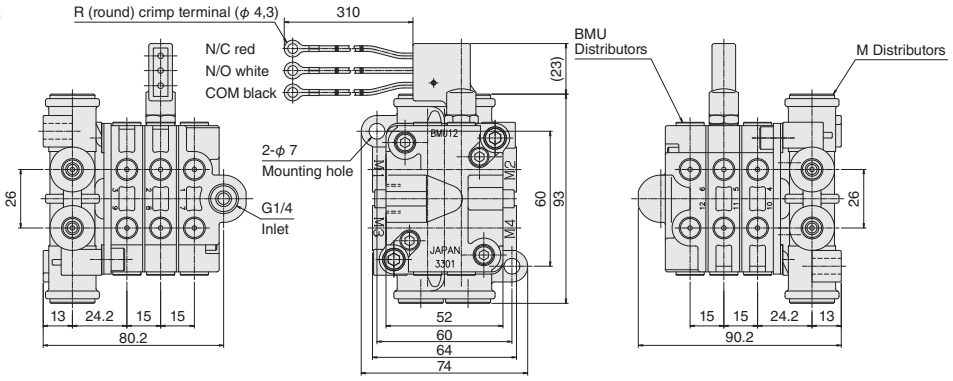
● BMUM-12M (0-□)



● BMUM-4, 6, 8M (□-□)

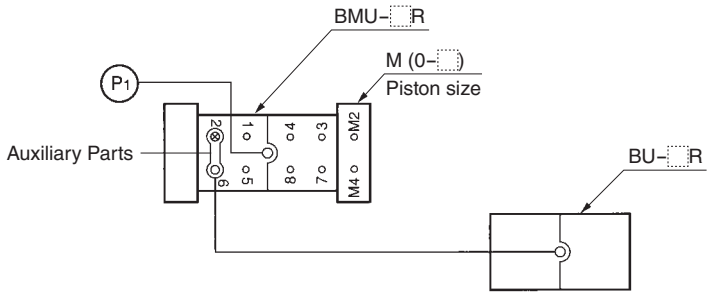


● BMUM-12M (□-□)

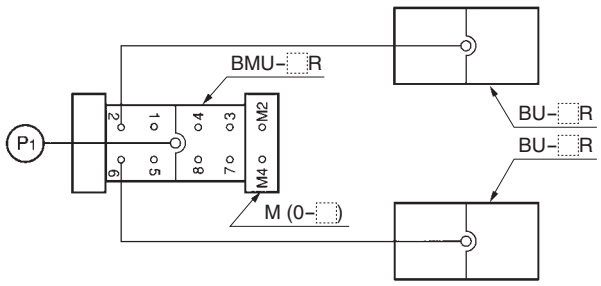


Distributor Selection Tables

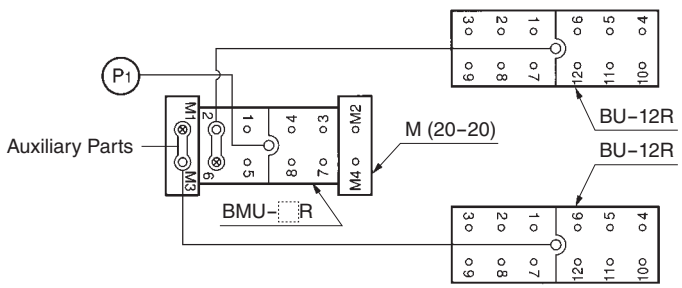
There are 56 standard combinations of BMU distributors, M model distributors, and BU model distributors that are possible. You can plan the installation of an appropriate lubrication system according to the number of lubrication ports and how they are distributed.
Refer to the following for how to select the number of lubrication ports and distributors.
When combined as indicated in these tables, each lubrication point will receive the same amount of lubricant. (0.3 cm³/st)



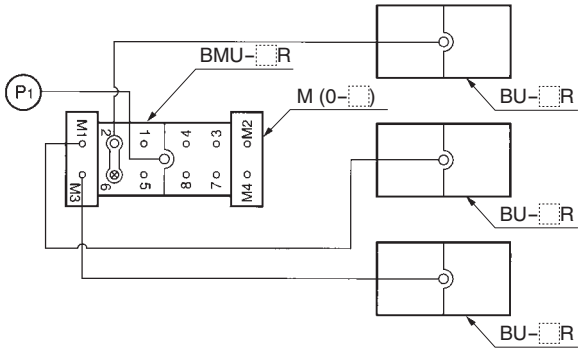
Number of lubrication ports	Number of distributors													
	M							BMU				BU			
	0 to 10	0 to 15	0 to 20	0 to 30	15 to 15	20 to 20	30 to 30	4 R	6 R	8 R	12 R	4 R	6 R	8 R	12 R
8	1							1				1			
10	1								1			1			
10	1							1					1		
12	1									1		1			
12	1								1				1		
12		1						1						1	
14	1									1			1		
14		1							1					1	
16	1										1	1			
16		1								1				1	
16			1					1							1
18			1						1						1
20		1									1			1	
20			1							1					1
24			1								1				1



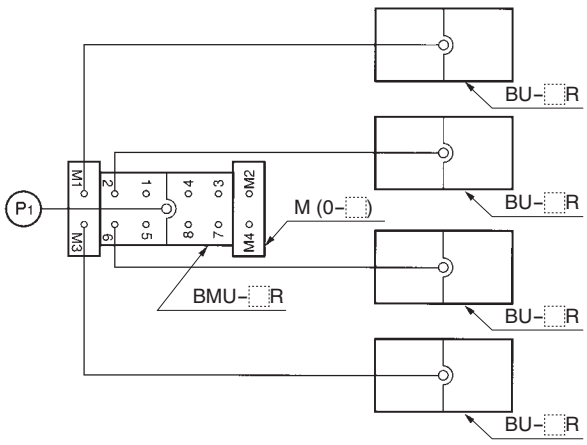
Number of lubrication ports	Number of distributors													
	M							BMU				BU			
	0 to 10	0 to 15	0 to 20	0 to 30	15 to 15	20 to 20	30 to 30	4 R	6 R	8 R	12 R	4 R	6 R	8 R	12 R
12		1						1				2			
14		1							1			2			
16		1								1		2			
16			1					1					2		
18			1						1				2		
20		1									1	2			
20			1							1			2		
20				1				1						2	
22				1					1					2	
24			1								1		2		
24				1						1				2	
28				1							1			2	



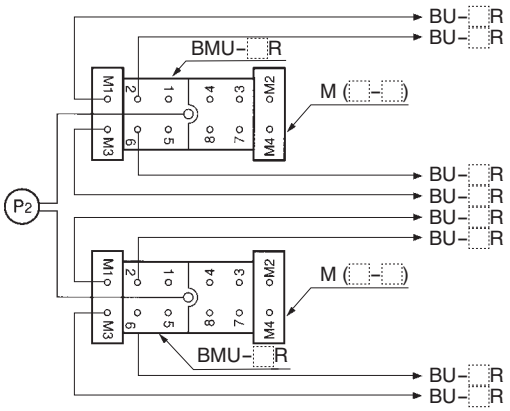
Number of lubrication ports	Number of distributors													
	M							BMU				BU			
	0 to 10	0 to 15	0 to 20	0 to 30	15 to 15	20 to 20	30 to 30	4 R	6 R	8 R	12 R	4 R	6 R	8 R	12 R
28						1		1							2
30						1			1						2
32						1				1					2
36						1					1				2



Number of lubrication ports	Number of distributors														
	M							BMU				BU			
	0 to 10	0 to 15	0 to 20	0 to 30	15 to 15	20 to 20	30 to 30	4 R	6 R	8 R	12 R	4 R	6 R	8 R	12 R
20					1			1				2		1	
22					1				1			2		1	
24					1					1		2		1	
28					1						1	2		1	
28						1		1					2		1
30						1			1				2		1
32						1				1			2		1
36						1					1		2		1



Number of lubrication ports	Number of distributors														
	M							BMU				BU			
	0 to 10	0 to 15	0 to 20	0 to 30	15 to 15	20 to 20	30 to 30	4 R	6 R	8 R	12 R	4 R	6 R	8 R	12 R
20					1			1				4			
22					1				1			4			
24					1					1		4			
28					1						1	4			
28						1		1					4		
30						1			1				4		
32						1				1			4		
36						1					1		4		
36							1	1						4	
38							1		1					4	
40							1			1				4	
44							1				1			4	
52							1	1							4
54							1		1						4
56							1			1					4
60							1				1				4



Note 1: For P2 lubricating pumps, a combination of two lines of distributors can be used.

2: P2 lubricating pumps are SKA-521, SKA-722, and SKA-244 model pumps with two discharge ports.

Grease Filling Unit -Grease Pack-

Use the Grease Pack to fill your tanks with grease.

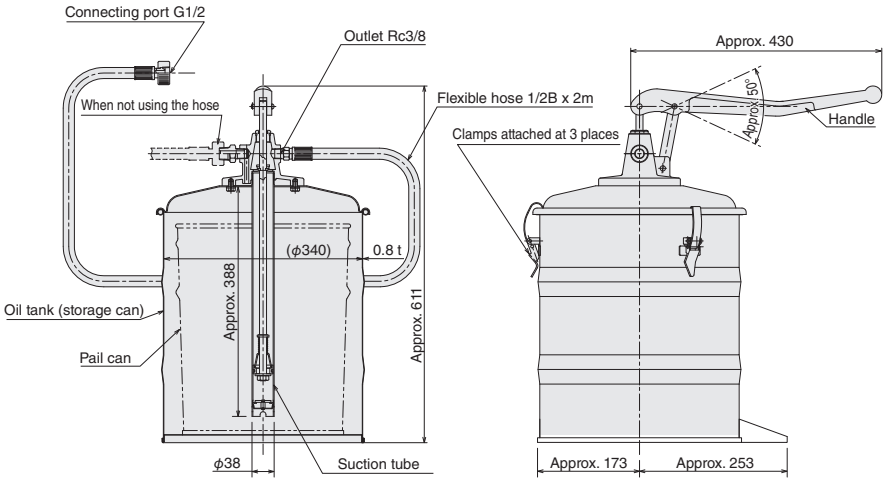
The grease filling unit -Grease Pack- is a manual lubricating pump designed for replenishing and refilling lubricating pump tanks with grease or oil.
Simply place a commercially available pail or square can inside the lubricant tank, then by moving the handle up and down, grease is dispensed efficiently.
When delivered, the flexible hose is stored inside the lubricant tank, so be sure to remove the hose and connect it to the discharge port before use.
Because grease is not exposed to air during filling, contamination from dust and other particles is effectively prevented.

Specifications

Product name code	Model	Discharge rate cm³/stroke	Discharge pressure MPa	Hose length m	Mass (Approx.) kg	Applicable container
RK700100	SGP-104	40	1.0	2	12	Pail (18 L, 20 L) Square can (18 L)

Note 1: Compatible with grease of NLGI consistency No. 00 to No. 1. May also be used with oil.

Grease Filling Unit -Grease Pack- Dimensions (mm)



Cartridge-Type Grease Pumps

- Compatible with accordion-type cartridge grease using the combination of electric or manual lubrication pump and tank case.
- Quick and easy to load grease.
- No risk of contamination by dust or air while refilling grease.
- Hands and clothing remain clean during cartridge changes.

SK-505BM-04-JH

Specifications

Pump Name	Assembled Model	Maximum discharge pressure (MPa)	Discharge rate	Mass (kg)
Electric Lubricating Pumps	SK-505BM-04JH	14.7	13 cm³/min or more	1.8
Manual Lubricating Pumps	SKA-214-04JH		1cm³/st.	2.0
	SKA-244-04JH		1cm³/st.	2.2

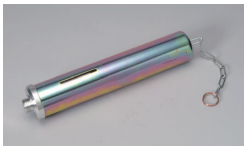
*Cannot be ordered as an assembled model. Please place separate orders for the lubricating pump and tank case using their respective part numbers.

Lubricating Pumps

Product name code	Pump Name	Model
RK990700	Electric Pumps	SK-505BM no tank
RK958400	Manual Pumps	SKA-214 no tank
RK956600		SKA-244 no tank

Tank Case

Product name code	Model	Compatible cartridge grease
RK488500	T04JH	400g



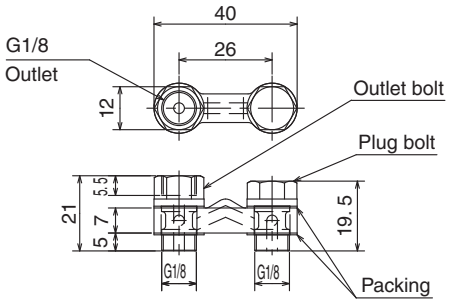
T04JH

Fits as a replacement tank for existing lubricating pumps.

Auxiliary Parts

The two outlets of the distributor can be combined into a single outlet.
When using the auxiliary parts, the discharge amount from the outlet is doubled (equivalent to two outlets).

Auxiliary Parts　Dimensions (mm)



Product name code	Model	Rated operating pressure (MPa)
RK864404	AU-26	7

Installation Plans

Our company provides sales and after-sales service for individual products such as lubricating pumps and distributors for our lubrication system products.
We are unable to assist with installations. Please review the following precautions and make the necessary preparations and arrangements.

Precautions for Planning Installations

A. Lubricating Pump and Distributor Installation Location

Install each item in a location that is easy to maintain and inspect, is not exposed to heat or water, and is not susceptible to damage. Pay special attention to the following points.

(1) Install the lubricating pump in a location where grease and oil can be easily replenished and the pump can be easily operated.

(2) Install the distributor in a location where the lubricant supply indicator rod is clearly visible.

(3) Arrange the main pipe and grease supply pipes to the distributor to be as short as possible. Also, install the pipes so they are easy to access.

B. Piping

(1) Main Lubricant Supply Pipe (Copper Pipe)

Use copper pipe for the main lubricant supply pipe. Refer to the “Table of lubrication systems classified by drive method” on pages 5 and 6 for the required length of copper pipe.

(2) Lubricant Supply Pipe (Polyethylene Tube, Rubber Hose, Copper Pipe)

The standard length for the lubricant supply pipe is 3 m, but it can be made slightly longer depending on the lubricant supply conditions.

● Polyethylene Tubing:

For polyethylene tubing, the tube ends are formed into flanges using the end forming tool described below.

Polyethylene tubing offers excellent flexibility, pressure resistance, and water resistance. Therefore, it can be used for both flexible lubrication points and fixed lubrication points. In all cases, the tube length must be sufficient to accommodate movement and the shape of the connection points.

Avoid routing polyethylene tubing where it may be subjected to excessive stress or come into contact with machine parts, especially in high-temperature areas, when machinery is operating. When tightening the fitting nut, hold the tube to prevent it from rotating and tighten to approximately 2 N·m of torque.

● Rubber Hosing:

Rubber hoses come with flanged fittings already assembled at both ends, so they can be used as-is.

Compared to polyethylene tubing, rubber hoses offer the following advantages:

(a) Superior vibration resistance.
(b) Strong resistance to bending.
(c) Strong resistance to twisting of the hose itself.
(d) Not easily crushed.

● Copper Tubing:

Use copper tubing fittings or copper tubing elbows for connections.

Use copper tubing if the equipment is exposed to harsh conditions, especially high temperatures.

Select based on temperature:

Ambient temperature: 60°C or higher, then use copper tubing
Ambient temperature: 60°C to -20°C, then use polyethylene tubing or rubber hosing
Ambient temperature: -20°C or lower → Please consult us.

C. Precautions for Piping Work

Note the following precautions during piping work.

(1) Pay special attention to the length and mounting method when connecting lubrication equipment (such as pumps) to the main and branch lubrication pipes. Avoid excessive strain or improper installation.

(2) Secure pipes with pipe supports at necessary points.

(3) Completely purge all air inside the main lubrication pipe with grease or oil.

(4) When bending copper pipes, we recommend using a pipe bender whenever possible.

(5) Be sure to blow away any chips, dust, or foreign matter generated during pipe processing using compressed air.

(6) Allow enough slack when piping to moving parts, and ensure that the piping is routed in directions that do not cause stress.

(7) Pre-fill lubrication pipes with grease using a grease gun or grease filling pipe before installing them.

(8) The minimum bending radius for pipes is as follows.

For copper pipe ϕ8 (ϕ6), at least four times the pipe diameter; for polyethylene tubing, at least eight times the pipe diameter.

Grease Selection

The selection of grease depends on the conditions at the lubrication point, but it is necessary to use a high-quality grease with high durability that is suitable for the purpose. As each grease has its own characteristics according to its quality, please select one that is appropriate for your operating conditions.

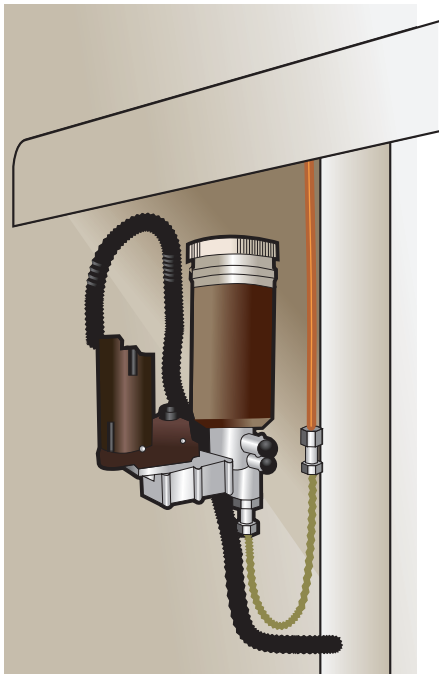
There are greases with properties particularly suited for water resistance, low temperatures, high temperatures, or high loads, depending on the type. In general, the properties of grease can change significantly depending on the type of metallic soap base in its composition. For example, calcium (Ca) grease has low heat resistance but good water resistance. Sodium (Na) grease has relatively poor water resistance but provides good heat resistance and excellent mechanical stability.

Lithium (Li) grease is a so-called all-purpose type, offering excellent water resistance, cold resistance, heat resistance, and mechanical stability.

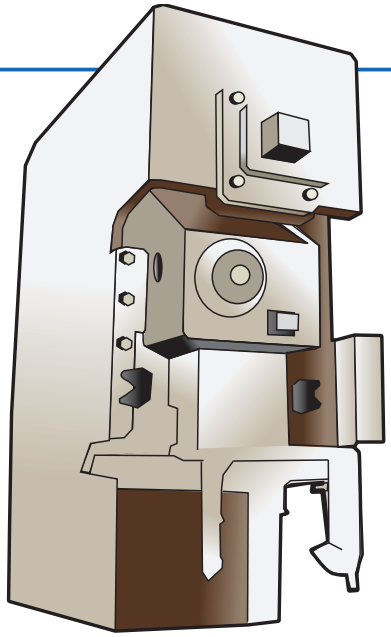
The operating temperature range in which the auto-grease function can be fully utilized varies depending on the brand of grease. In particular, when using the system in cold climates, be sure to use a grease with good low-temperature flow properties.

Installation Example

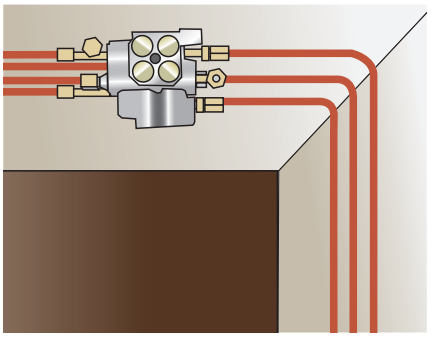
● Industrial lubrication equipment



Electric lubricating pump
SK-505BM model



Press



BU Model Distributors

MEMO

MEMO

Limited Warranty

KOGANEI CORP. warrants its products to be free from defects in material and workmanship subject to the following provisions.

Warranty Period The warranty period is 180 days from the date of delivery.

Koganei Responsibility If a defect in material or workmanship is found during the warranty period, KOGANEI CORP. will replace any part proved defective under normal use free of charge and will provide the service necessary to replace such a part.

Limitations

- This warranty is in lieu of all other warranties, expressed or implied, and is limited to the original cost of the product and shall not include any transportation fee, the cost of installation or any liability for direct, indirect or consequential damage or delay resulting from the defects.
- KOGANEI CORP. shall in no way be liable or responsible for injuries or damage to persons or property arising out of the use or operation of the manufacturer's product.
- This warranty shall be void if the engineered safety devices are removed, made inoperative or not periodically checked for proper functioning.
- Any operation beyond the rated capacity, any improper use or application, or any improper installation of the product, or any substitution upon it with parts not furnished or approved by KOGANEI CORP., shall void this warranty.
- This warranty covers only such items supplied by KOGANEI CORP. The products of other manufacturers are covered only by such warranties made by those original manufacturers, even though such items may have been included as the components.

The specifications are subject to change without notice.

URL https://www.koganei.co.jp

E-mail: overseas@koganei.co.jp

KOGANEI CORPORATION

OVERSEAS GROUP
Takanawa Office, 3F, PMO Takanawa Gateway, 2-19-17, Takanawa, Minato-Ku, Tokyo, 108-0074, Japan
Tel: (+81)-3-6721-7478 Fax: (+81)-3-5424-1021

KOGANEI INTERNATIONAL AMERICA.INC.
48860 Milmont Drive, suite 108C, Fremont, California 94538
Tel : 1-510-744-1626 Fax : 1-510-744-1676

SHANGHAI KOGANEI INTERNATIONAL TRADING CORPORATION
RM2601-2602, Tongda Venture Building No.1, Lane 600, Tianshan Road, Shanghai, China (200051)
Tel: 86-21-6145-7313 Fax: 86-21-6145-7323

TAIWAN KOGANEI TRADING CO.,LTD
Rm. 2, 16F., No88, Sec. 2, Zhongxiao E. Rd., Zhongzheng Dist., Taipei City 100, Taiwan(ROC)
Tel: 886-2-2393-2717 Fax: 886-2-2393-2719

KOGANEI KOREA CO.,LTD
A-3001, Heungdeok IT Valley Bldg., Heungkeok 1-ro, 13, Giheung-gu, Yongin-si, Gyeonggi-do, 446-908, KOREA
Tel: 82-31-246-0414 Fax: 82-31-246-0415

KOGANEI (THAILAND) CO.,LTD
555, Rasa One Building A, 11th Fl.,Unit 1107 and 1108, Phaholyothin Road, Chatuchak, Chatuchak, Bangkok 10900
Tel: +66 (0) 2513-1228-31 Fax: +66 (0) 2513-1232

KOGANEI AUTOMATION (MALAYSIA) SDN, BHD.
Suite 29-2, Level 29, Menara 1MK, No.1, Jalan Kiara, Mont Kiara 50480, Kuala Lumpur, Malaysia
Tel: 60-12-537-7086

KOGANEI ASIA PTE. LTD.
69 Ubi Road 1, #05-18 Oxley Bizhub Singapore 408731
Tel: 65-6293-4512 Fax: 65-6293-4513

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