
TAIYO AMERICA

Grease Suction Unit for Robots

GVC-UN-Series

Specifications & Accessories

Patent Pending in Japan and USA



Prevent Breakdowns in Robots Allowing for Longer Lifespans.

Taiyo's Grease Suction Unit applies a new optimized air pressure method, turning grease replacement into a more efficient process.

Taiyo's Grease Suction Unit GVC-UN series sucks degraded grease from the robot's decelerator, and at the same time, pressurizes it. This increases the amount of grease replacement and extends the robot's lifespan.

Features:

- Only air supply needed to start suction
- Portable, convenient
- Larger suction amount due to suction and pressurizing^{*4}
- Easy grease discharge

Specifications

Usage	Discharge of the grease filled up in the robot's decelerator (*1)
Grease type (consistency)	No0, No00
Suction tank	3l, transparent (acrylic) with gauge, 0.66 gal
Power supply	Air pressure 0.5 to 0.7MPa (*2)
Supply pressure to decelerator	0 to 0.2MPa (Pressure adjustment possible by built-in regulator) (*3)
Suction volume / Suction time (in-house measured value): J1 axis	0.8 to 2l, /10 to 20 minutes (*4), 0.17~0.44 gal
Suction volume / Suction time (in-house measured value): J2 axis	0.5 to 1l, /5 to 10 minutes (*4) 0.1~0.21 gal
Working temperature range	+10 to +50°C
Degree of vacuum	-93kPa (at air pressure of 0.5MPa)
Amount of Air suction / Air consumption	11 0Q/min [ANR] / 200Q/min [ANR] (at air pressure of 0.5MPa)
Port size of Suction / Discharge ports	Quick coupler Rc1/2 (with male, female)
Port size of air supply port	Quick coupler Rc3/8 (with male, female)
Port size connected to decelerator	Quick coupler Rc1/4 (with male, female)
Connection with robot	Use the enclosed piping kit (Accessories) (*5)
Grease discharge method	Discharge by pushing the handle
Disassembly, cleaning	Disassembly without any tools is possible by using the thumbscrew
Weight	6kg / 13.2lbs

*1 This unit is for suction and discharge of grease.

*2 Power supply is not required. Adjust the source pressure (supply pressure) to the specified pressure.

*3 Be sure to set the pressure less than 0.2MPa. Failure to do so may result in malfunction, such as the oil seal slipping off.

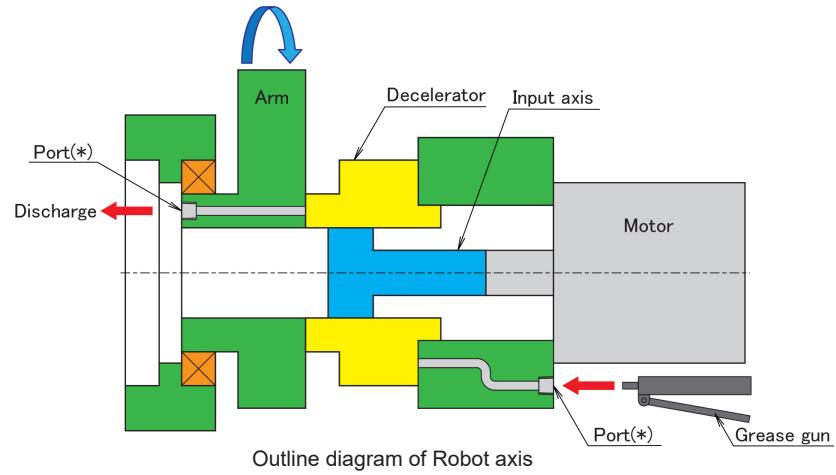
*4 Suction amount and suction time differs depending on the condition (change of viscosity by the ambient temperature etc.) of robot and grease (to increase the suction amount of grease, operate the robot at low speed or inching during suction). If the grease is not getting sucked, then there is the possibility it has solidified. In such a case, refuel and allow grease to flow before starting suction again. Air flow starts when grease suction is completed. Stop suction when air starts flowing.

*5 Port sizes differs depending on robots. Please contact us if joints not included in the enclosed piping kit is necessary.

Grease Replacement for Robot

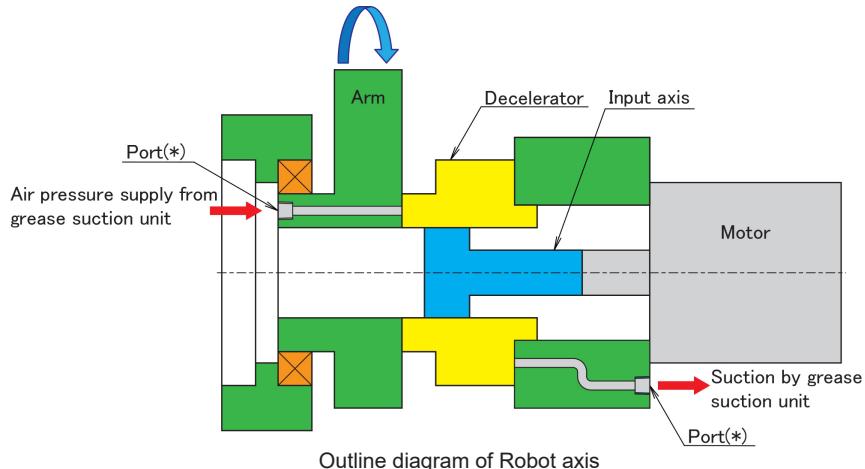
Existing method of replacing grease

Primarily a method was used where the grease injected using a grease gun or grease pump squeezed out the old grease. Grease replacement was not sufficient in this method.



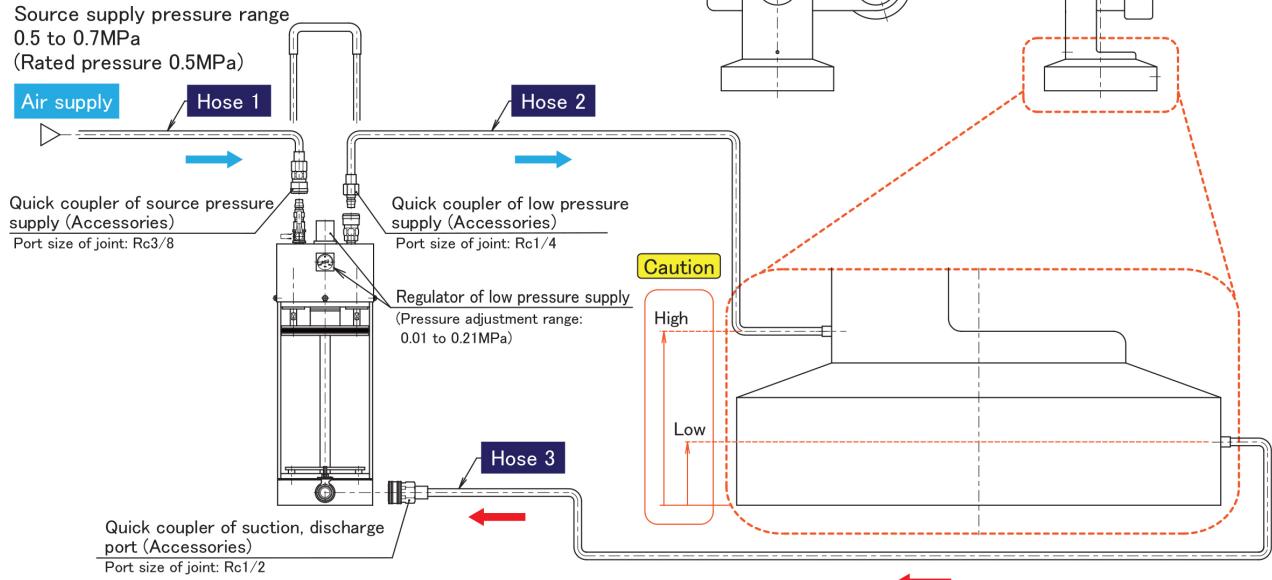
Replacement method using Taiyo's Grease Suction Unit

In this method, air pressure (0.2MPa or less) is supplied from the exhaust port while sucking the old grease, thus resulting in suction (discharge) of a larger amount of grease as compared to the existing method. Larger supply of new grease prevents breakdowns in robots and allows for longer life-spans.



*Port sizes may differ depending on robot manufacturers.

Connection Method



Hose 1

Connection joints for air hose and couplers are not provided.

Hose 2 / Hose 3

- Use the enclosed piping kit for the connection joint of air hose and coupler, and for the connection of these equipment.
- “Supply / discharge port diameters” of the robot side differs depending on robot manufacturers.
- Please contact us if joints not included in the enclosed piping kit is necessary.

Caution

Generally, a decelerator has 2 supply / discharge ports for filling and replacing the lubricating oil.

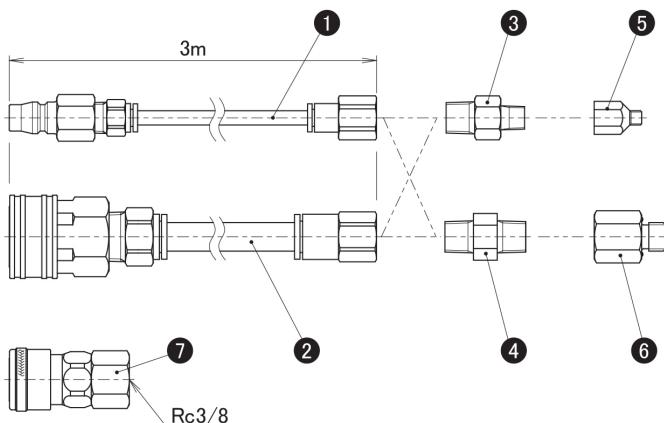
Be sure to connect:

- Low pressure supply port to the supply/discharge oil port at higher position
- Suction port to the supply/discharge oil port at lower position

*Air (maximum up to 0.2MPa) can be supplied from the oil supply port of decelerator, so as to effectively suck the grease. However this may cause malfunction such as the oil seal slipping off, depending on the robot. Therefore, be sure to check the instruction manual of the robot.

Piping kit (accessories)

How to order: GVC-UN-PS



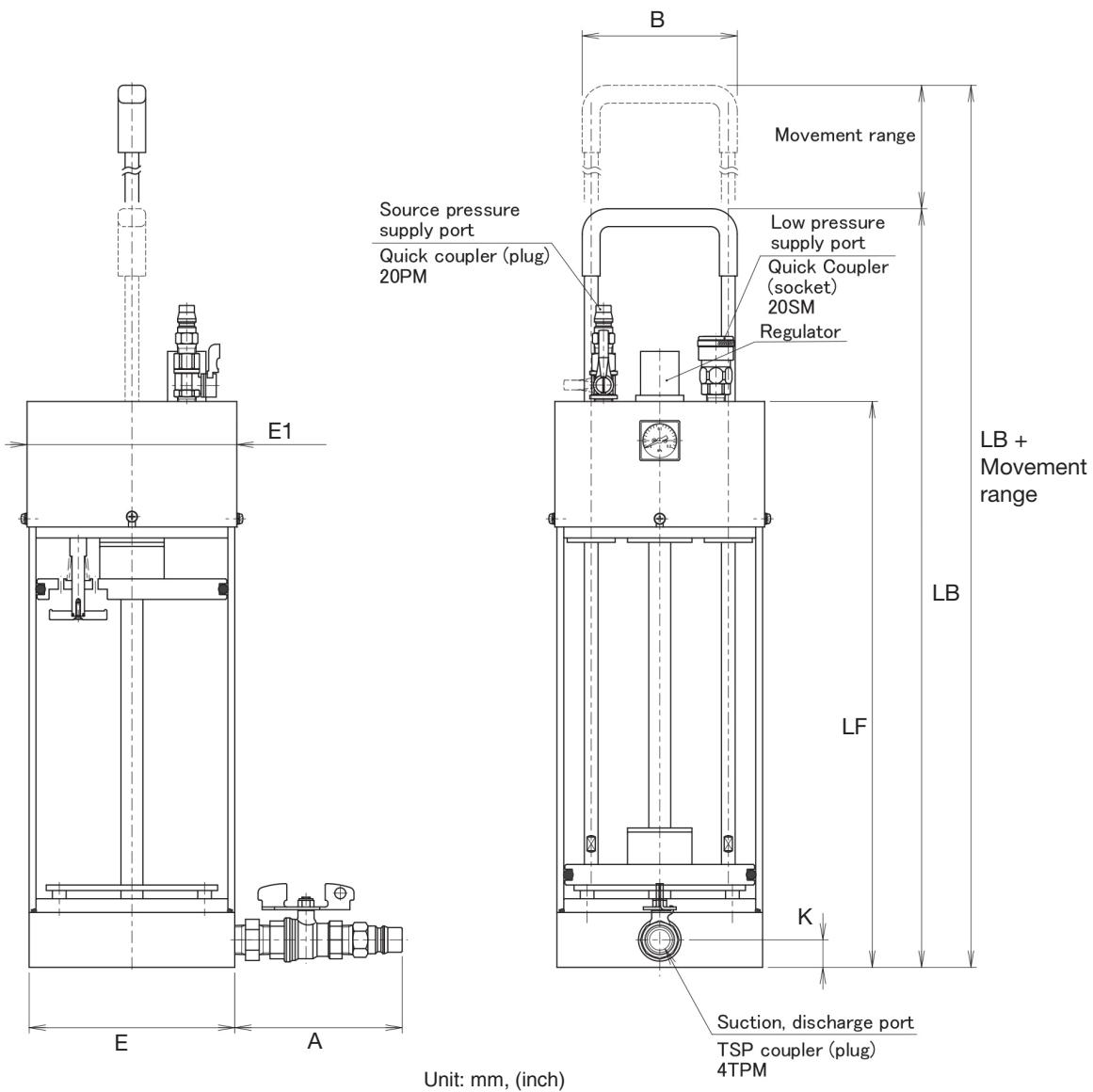
List of enclosed accessories

No.	Part Name	Q'ty	Configuration
①	Hose 2 (Connected to low pressure supply port)	1	Coupler (plug/20PF)
	Quick coupler		Tube ($\phi 6 \times \phi 4$: Black)
	Quick coupler		
②	Hose 3 (Connected to suction/discharge port)	1	TSP coupler (socket/4TSF)
	Quick coupler		Tube ($\phi 12 \times \phi 8$: Transparent)
	Quick coupler		
③	R1/4-R1/8 joint	2	Differential bore nipple
④	R1/4-R1/4 joint	2	Hexagonal nipple
⑤	Rc1/8-M6 joint	2	Adapter joint
⑥	Rc1/4-M12 joint	2	Adapter joint (with O ring)
⑦	Source pressure supply port joint	1	Coupler (socket/30SF)

*1) 4 types of connections of Rc1/8, Rc1/4, M6, M12, are possible with the combination of ③ to ⑥.
Make the combination after checking with your robot.

* 2) Please contact us about port sizes other than the above mentioned sizes.

Dimensions



	E1	E	A	B	LF	K	LB	LB + Movement Range	Movement Range
mm	153	150	122	113	417.5	25	558	766	208
Inches	6.0	5.9	4.8	4.4	16.4	1.0	22.0	30.2	8.2

How to Order

When placing an order, specify the model number shown below.

Grease suction unit: GVC-UN-3000-1

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