DAIKIN

SUPER UNIT

INVERTER HYDRAULIC UNIT

Excluded from high-efficiency motor regulations

NEW 400 V specifications added

NEW
400 V specifications

INDEX

DAIKIN INDUSTRIES, LTD.
Oil Hydraulic Division
Oil Hydraulic Division

Get more than energy savings!!

Saving energy is essential.
However, the Daikin hydraulic system goes one step further than conventional models.

Daikin practices environmentally friendly production by promoting energy savings in the production field and by reducing waste through recycling.
In the pursuit of higher usability and more diversified functions, Daikin combined its original high-efficiency IPM motors and pump switching control technology. The Super Unit incorporates the multi-stage pressure/flow rate control system as well as the functions of conventional hydraulic units, resulting in the use of fewer valves.
Daikin intends to promote energy savings through advanced hydraulic systems with the aim of contributing to improvement of factory environments, and to continuously introduce hydraulic systems that lead the industry.

HYBRID
SUPER UNIT
SYSTEM
INVERTER HYDRAULIC UNIT

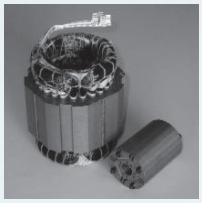
Combining Daikin's original high-efficiency IPM motors and hydraulic technology enables an unparalleled energy-saving effect and advanced functions.

Watch a video on the features of IPM motors!

URL https://www.hyd.daikin.com/mv/ipm_motor

Energy-saving technology that supports hybrid products

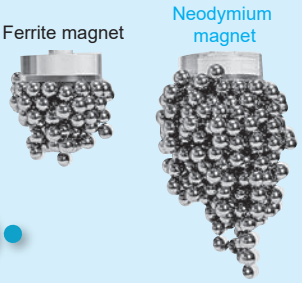
- Daikin was the first in the industry to introduce an interior permanent magnet synchronous motor (IPM motor) into air conditioners for household use. Daikin was also an early adopter in the industry of the IPM motor for use in industrial-use air conditioners. We have led the industry as a front runner in air conditioner energy-saving performance.
- Hybrid products equipped with variable speed motors, developed by making full use of Daikin's original energy-saving motor technology and its production capacity, help to achieve energy savings for factory equipment



Powerful neodymium magnets, the key to this improved energy-saving effect!

"Double torque" improves the energy-saving effect.

Combining two rotational forces, "magnetic torque" generated by a powerful neodymium magnet※1 and "reluctance torque"※2, generates more power with less electricity.



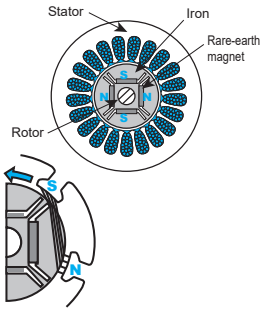
Neodymium magnets provide more power – substantially more than the ferrite magnets in general use.

※1: A compound of neodymium (Nd, rare-earth element), iron (Fe), and boron (B). Neodymium magnets are known to have superior magnetic properties.
※2: Rotational force generated by attractive force (reluctance = magnetic resistance) between iron and a magnet.

Fundamental Principle of the IPM Motor

With a rare-earth permanent magnet deeply embedded in the rotor, the IPM motor uses an electromagnetic structure that maximizes magnetic torque (attractive/repulsive force between the coil and permanent magnet) and reluctance torque (force of the coil that attracts iron).
This structure achieves high torque and maximum efficiency while suppressing heat generation.

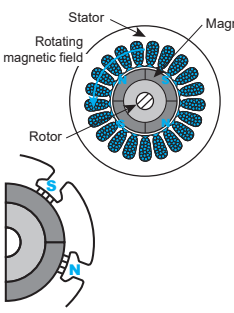
Structure of the IPM motor



IPM motor drive system
(Interior permanent magnet synchronous motor)

Since the magnetic field lines at the south pole side are made longer than those at the north pole side, the magnetic field lines at the south pole will try to shorten like a stretched rubber band contracts, resulting in rotational force due to reluctance torque in the direction indicated by arrow.

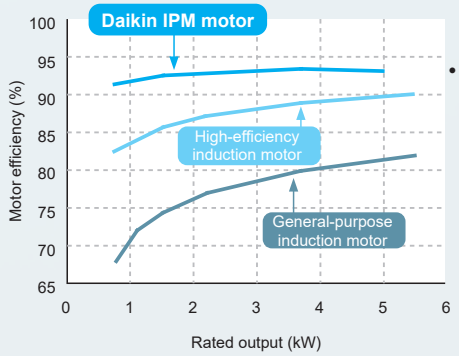
Structure of a conventional motor (AC servomotor)



SPM motor
(Surface permanent magnet synchronous motor: e.g., servomotor, brushless DC motor)

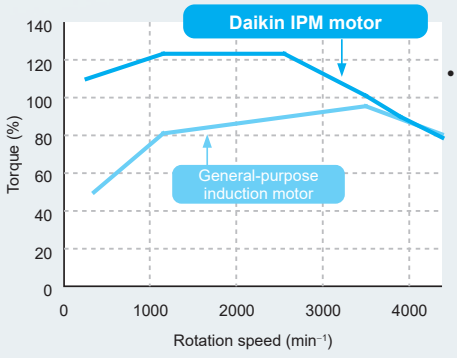
The lengths of the magnetic field lines at the south and north poles are equivalent. Therefore, no reluctance torque that results in rotational force is generated.

[1] Comparison of motor efficiency



- Daikin IPM motors have even greater efficiency than general-purpose induction motors and high-efficiency induction motors.

[2] Large torque at low speed



- Daikin IPM motors are capable of outputting a large torque in low-speed ranges, eliminating the problems with insufficient torque in low-speed ranges often observed with general-purpose inverters.

Hybrid Hydraulic Unit

Model List

Specifications vary depending on the machine
The Daikin product lineup provides various

Maximum discharge rate	EcoRich	EcoRich R	Super Unit
110 L/min			SUT00S11007 — 16 PQ, C, A, Hyb. Win — Equivalent to 11.0 kW — See Pages 21 to 22
80 L/min			SUT00S8007 — 16 PQ, C, A, Hyb. Win, 400 V specifications — SUT10S8007 — Equivalent to 7.0 kW — See Pages 19 to 20, 37
60 L/min			SUT00S6007 — 16 PQ, C, A, Hyb. Win, 400 V specifications — SUT06S6007 — Equivalent to 5.0 kW — See Pages 17 to 18, 36
40 L/min			SUT00S4007 — 16 PQ, C, A, Hyb. Win, 400 V specifications — SUT03S4007 — Equivalent to 3.7 kW — See Pages 15 to 16, 35
30 L/min			
28.5 L/min	EHU3007 — Equivalent to 2.8 kW — 400 V specifications, C, Hyb. Win	EHU30R0700 EHU30R0702 EHU30R0703	
25 L/min	EHU2504 — Equivalent to 1.5 kW — C, Hyb. Win EHU2507 — Equivalent to 2.2 kW — C, Hyb. Win	16 PQ, Equivalent to 2.8 kW — C, A, Hyb. Win	SUT00S3010 — 16 PQ, C, A, Hyb. Win — SUT03S3010 — Equivalent to 3.7 kW — See Pages 23 to 24
15 L/min	EHU1404 — Equivalent to 0.75 kW — C, Hyb. Win C, Hyb. Win	EHU15R0700 EHU15R0702 EHU15R0703 — 16 PQ, Equivalent to 2.2 kW — C, A, Hyb. Win EHU15R1000 EHU15R1002 EHU15R1003 — 16 PQ, Equivalent to 2.8 kW — C, A, Hyb. Win	
Maximum operating pressure	4 MPa / 7 MPa	7 MPa / 10 MPa	7 MPa / 10 MPa

8 PQ — 8-pattern PQ control

16 PQ — 16-pattern PQ control

C Communication — Communication function

A Analog — Analog command input

Hyb. Win — Hybrid-Win compatible
* Refer to Page 9.

400 V specifications — 400 V specifications

type.
functions and capacities according to the machine type.

Super Unit

SUT00D11021

P-SUT20D11KW

Equivalent to **11.0** kW

See Pages 33 to 34

SUT00D8021

SUT10D8021
SUT16D8021

Equivalent to **7.0** kW

See Pages 31 to 32, 40

SUT00D6021

SUT06D6021
SUT10D6021

Equivalent to **5.0** kW

See Pages 29 to 30, 39

SUT00D4016

SUT06D4016

Equivalent to **3.7** kW

See Pages 27 to 28

SUT00S3016

SUT06S3016

Equivalent to **5.0** kW

See Pages 25 to 26, 38

SUT00S1516

SUT03S1516

Equivalent to **3.7** kW

See Pages 25 to 26

Maximum discharge rate

300 L/min
260 L/min
220 L/min
200 L/min
150 L/min
130 L/min
80 L/min
50 L/min
30 L/min

Super Unit (high-precision type)

SUT00D30021

Equivalent to **37.0** kW

SUT00D30028

Equivalent to **37.0** kW

SUT00D26021

Equivalent to **37.0** kW

SUT00D22028

Equivalent to **37.0** kW

SUT00S20018

Equivalent to **22.0** kW

SUT00D20021

Equivalent to **15.0** kW

SUT00D20025

Equivalent to **22.0** kW

SUT00S15018

Equivalent to **15.0** kW

SUT00D15021

Equivalent to **15.0** kW

SUT00S13018

Equivalent to **15.0** kW

SUT00S13021
SUT00D13021

Equivalent to **15.0** kW

SUT00D13025

Equivalent to **15.0** kW

SUT00S8018

Equivalent to **11.0** kW

SUT00D8021

Equivalent to **11.0** kW

SUT00D8025

Equivalent to **11.0** kW

SUT00S5021

Equivalent to **11.0** kW

SUT00S5025

Equivalent to **15.0** kW

SUT00S3018

Equivalent to **7.0** kW

SUT00D3021

Equivalent to **7.0** kW

16 MPa	21 MPa	Maximum operating pressure	18 MPa	21 MPa	25 MPa	28 MPa

*1: The above motor capacities are given for guidance only and do not represent the standard capacities of general motors.

*2: When selecting a Super Unit, verify the specifications of each model by referring to “Pressure – Flow rate Characteristics (Typical)” on Pages 13 and 14 and “How to Select a Super Unit” on Page 51.
For the purpose of making improvements, the specifications given in this catalog are subject to change without prior notice. Be sure to see the latest model chart.

List of Super Unit models

■ Selecting the optimum model from a wide variety of Super Unit models

Series	Motor capacity Equivalent to 2.2 kW	Maximum operating pressure (MPa)	Maximum flow rate (L/min)	Maximum flow rate (L/min) 10 20 30 40 50 60 70 80 90 100 110	Motor pump type	Unit type	Tank capacity (L)	Page
Single pump type	3.7	7.0	39.7		SUT00S4007-30, 40-Y	SUT03S4007-30, 40-Y	30	15 to 16, 35
	5.0	7.0	61.1		SUT00S6007-30, 40-Y	SUT06S6007-30, 40-Y	60	17 to 18, 36
	7.0	7.0	83.0		SUT00S8007-30, 40-Y	SUT10S8007-30, 40-Y	100	19 to 20, 37
	11.0	7.0	110.0		SUT00S11007-41	—	—	21 to 22
	3.7	10.0	25.6		SUT00S3010-30	SUT03S3010-30	30	23 to 24
	3.7	16.0	15.2		SUT00S1516-30	SUT03S1516-30	30	25 to 26, 38
	5.0	16.0	25.6		SUT00S3016-30, 40-Y	SUT06S3016-30, 40-Y	60	
Double pump type	3.7	7.0	Combination 41.0		SUT00D4016-30	SUT06D4016-30	60	27 to 28
		15.7	Independent 16.0					
	5.0	7.0	Combination 61.1		SUT00D6021-30, 40-Y	SUT06D6021-30, 40-Y	60	29 to 30, 39
		20.6	Independent 21.2			SUT10D6021-30, 40-Y	100	
	7.0	7.0	Combination 83.0		SUT00D8021-30, 40-Y	SUT10D8021-30, 40-Y	100	31 to 32, 40
		20.6	Independent 28.7			SUT16D8021-30, 40-Y	160	
	11.0	7.0	Combination 110		SUT00D11021-41	P-SUT20D11KW-41	200	33 to 34
		20.6	Independent 40.5					

Nomenclature

● Equivalent to 3.7 to 7.0 kW

SUT	03	S	40	07	–	※※	–	※	※	※※	–	※※※※
a	b	c	d	e		f		g	h	i		j

a Model No.
- SUT: SUT series

b Tank capacity
- 00: Motor pump type
- 03: 30 L
- 06: 60 L
- 10: 100 L
- 16: 160 L

c Pump type
- D: Double pump type
- S: Single pump type

d Pump discharge rate
- 15: 15 L/min
- 30: 30 L/min
- 40: 40 L/min
- 60: 60 L/min
- 80: 80 L/min

e Maximum operating pressure
- 07: 7.0 MPa
- 10: 10.0 MPa
- 16: 15.7, 16.0 MPa
- 21: 20.6 MPa

f Design No.
- The design number is subject to change.

g Power supply voltage*
- No designation: AC 200 V specifications
- Y: AC 400 V specifications

h Function Option
- C: With communication function (RS232C)
  Protocol: Daikin original protocol/ Modbus-RTU
  Port: RS232C
  * RS485/422 can also be supported. Please consult us.
- P: With analog input function

i Hardware Option

01	Unit cover (SUT06S3016 and 30 L tank excluded)
02	Controller cover (except for 7 kW)
03	DCL (except for 7 kW)
04	Separate power supplies for power system and control system
05	Water fill test compliant tank
06	Water leak test compliant tank
07	Level switch
08	Temperature switch
09	Thermometer
10	Micro separator
11 ⋮	Combination of 1 to 10 above

j Non-standard No.
- N×××: Without control system
- A×××: With control system

● Equivalent to 11 kW

SUT	00	S	110	07	–	41	–	※	–	※※※※
a	b	c	d	e		f		g		h

a Model No.
- SUT: SUT series

b Tank capacity
- 00: Motor pump type

c Pump type
- D: Double pump type
- S: Single pump type

d Pump discharge rate
- 110: 110 L/min

e Maximum operating pressure
- 07: 7.0 MPa
- 21: 20.6 MPa

f Design No.
- The design number is subject to change.

g Function Option
- C: With communication function (RS232C)
  Protocol: Daikin original protocol/ Modbus-RTU
  Port: RS232C
  * RS485/422 can also be supported. Please consult us.
- P: With analog input function

h Non-standard No.
- N×××: Without control system
- A×××: With control system

* 200/400 V cited as power supply voltage specifications are nominal voltages. Refer to the specification tables (pages 15 to 33) and separately provided model drawings for details on the operating range.

Main features and functions

Features

1 Energy-saving

Daikin's original energy-saving motor technology utilizing high-efficiency IPM motors provides an energy-saving ratio of 50%.

- The motor rotation speed control controls the flow rate and pressure of the fixed displacement pump.
- The highly-efficient motor adopted in this unit achieves energy savings even in applications for general industrial machinery where actuators have high duty ratios.
- The single pump type is a highly-functional series to make it more useful.
- The double pump type uses the autonomously-switching, fixed-displacement double pump system, which combines large- and small-capacity pumps in the low pressure, high flow rate range, and autonomously switches to the single operation of the high-pressure, small capacity pump in the high pressure, low flow rate range. In this way, the double pump type ensures a higher energy-saving effect.

2 Low noise

Low noise level of 60 dB (A)
(In the pressure retained operation at 20.6 MPa, with the double pump type unit)
Even over the full operation range, noise is less than 73 dB (A).

- By using double phase-differential pumps, the Super Unit reduces pulsation and the noise level.

* Data for SUT××D60L21

3 Excluded from high-efficiency motor regulations

The Super Units that incorporate a high-efficiency IPM motor are excluded from high-efficiency motor regulations.

4 Restricted oil temperature rise

Motor speed control also leads to restriction of the oil temperature rise.

- The restricted oil temperature rise inhibits deterioration of the hydraulic oil.
- This also lowers the heat load for air conditioning equipment

5 Fewer control valves required

A wide variety of control can be achieved by adjusting parameter settings.

- Acceleration/deceleration operations that have been accomplished using proportional control valves may be replaced by simply setting the acceleration/deceleration time.
- Pressure switch may be reduced by using the pressure switch function.

(Note that some kinds of control are not applicable depending on the customer's circuit. Care must be taken especially when controlling multiple axes.)

6 400 V specifications

400V specifications

(Applicable to some models with a motor capacity equivalent to 3.7 to 7 kW)

Functions

1 Multi-stage pressure/flow rate control

16 PQ

Sixteen pressure (P) - flow rate (Q) setting patterns are available for cylinder control.

- The proportional control valve and proportional pressure control valve, which are utilized in conventional actuator circuits, can be omitted.
- The pressure and flow rate can be set using the control unit's operation panel.
- The pressure and flow rate settings can be selected from among the sixteen patterns using external input signals.
- The Super Unit autonomously switches between the pressure control and flow rate control modes.

2 Maintenance/Management Function (Hybrid-Win)

Internal data of the Super Unit can be obtained by using PC connected to the unit.

PC tool Hybrid-Win Supported

- The pressure, flow rate, and other internal data of the controller can be monitored and displayed in graph form. This facilitates operation checks during test runs, adjustment of parameters such as time constants, and troubleshooting.
- The time required for setting can be slashed by editing the parameter settings on the PC and writing them to the unit in a batch. The ability to read and save settings facilitates management.

3 Communication function

C Communication

(Available as an option with all models)

Remote control and setting changes are possible through RS232C serial communication.

- Using a commercially-available PLC or touch panel display with RS232C communication capabilities, parameters for the pressure, flow rate, acceleration time, deceleration time and so on can be set and viewed at the machine. This facilitates control of speeds and pressurizing forces and enables a wide variety of machine operations.

4 Analog command input

A Analog

(Available as an option with single pump type models)

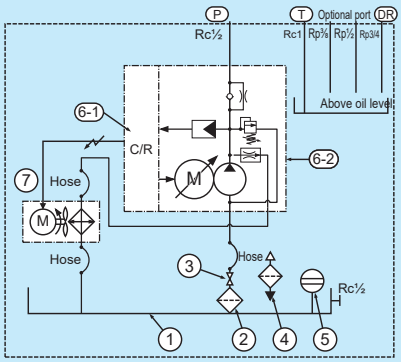
Enables continuous control of pressures and speeds as required.

- The pressure and flow rate can be controlled continuously at the desired values by inputting the pressure command voltage (0 to 10 V) and flow rate command voltage (0 to 10 V) from the machine side. This achieves a control system with a simple configuration for machinery that requires variable speed control or continuity of pressurizing forces.

Super Unit hydraulic circuits (example for the unit type)

Single pump type

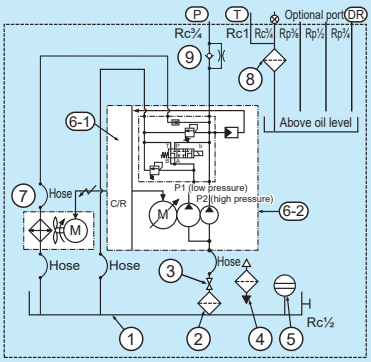
※Example with SUT03S4007-30. Refer to the Instruction Manual for each model for details because the port diameter varies depending on the model.



Part No.	Name
1	Tank
2	Suction strainer
3	Stop valve
4	Oil filler port with air breather
5	Oil level gauge
6-1	Controller
6-2	Motor pump equipped with IPM motor
7	Oil cooler

Double pump type

※Example with SUT06D4016-30. Refer to the Instruction Manual for each model for details because the circuit configuration varies depending on the model.



Part No.	Name
1	Tank
2	Suction strainer
3	Stop valve
4	Oil filler port with air breather
5	Oil level gauge
6-1	Controller
6-2	Motor pump equipped with IPM motor
7	Oil cooler
8	Return filter
9	Check valve with holes

Features

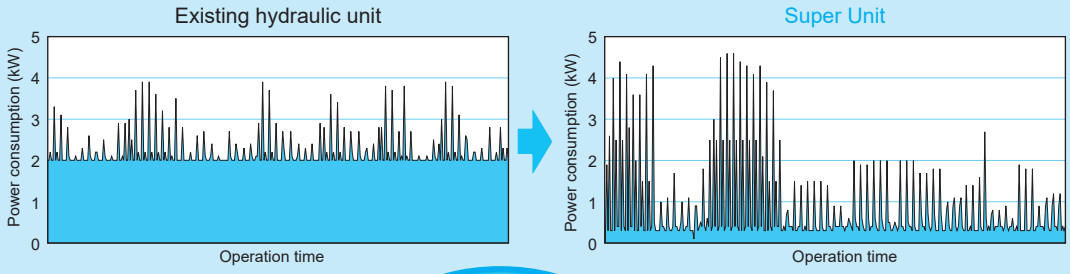
Watch a video on the features of hybrid hydraulic units!
URL https://www.hyd.daikin.com/mv/hybrid_features

With excellent energy-saving technology, the Super Unit can substantially reduce electricity costs. The control system can be easily upgraded by combining various Super Unit functions.

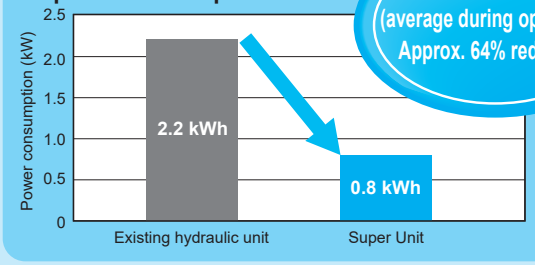
Feature 1 Energy-saving

■ Excellent cost effectiveness with energy-saving ratio of 50%
(In pressure retained operation at 20.6 MPa)

- Through servo control of Daikin's original high-efficiency IPM motor, the Super Unit ensures both a high response speed and stable rotation speed control with fixed-displacement pumps. In pressure holding mode, the Super Unit autonomously reduces the motor rotation speed to the minimum value required to hold the pressure, thus ensuring energy savings of 50% or higher (compared with the conventional Daikin variable piston pump).
- The Super Unit can even provide an energy-saving effect with general industrial machinery in which actuators provide a high duty ratio, as well as in pressure holding mode.



■ Comparison of annual power consumption



Power consumption (average during operation) Approx. 64% reduction

Annual energy-saving effect Decreased by $1,050 (JPY105,000)

[Estimation conditions]
- Existing hydraulic unit: Variable vane pump (Double pump)
- Model of Super Unit: SUT10D8021
- Cost of electricity: ¥15/kWh
- Annual operation time: 5,000 hours
- 1$: ¥100

Other Effects

- Suppression of the temperature rise enabled elimination of the conventionally installed fan cooler, resulting in reduction of the power consumed by the fan cooler on top of the energy-saving effect of the hydraulic unit itself.
- This is an environmentally friendly hydraulic unit with heat generation reduced, achieving features including (1) prolonged hydraulic oil life, (2) downsized oil tank, from 150L to 100L, (3) reduced waste oil disposal volume, and (4) reduced hydraulic oil costs.

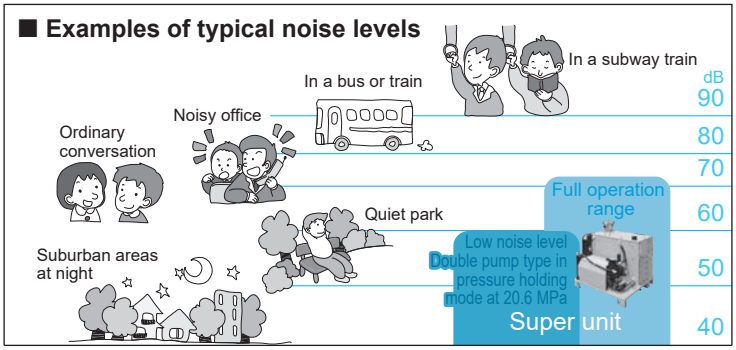
Feature 2 Low noise

■ Low noise level of 60 dB (A)
(In pressure retained operation at 20.6 MPa, with the double pump type unit)

Even over the full operation range, noise is less than 73 dB (A).

- Running the motor at the minimum required rotation speed in pressure holding mode achieves a remarkable noise level reduction.

■ Examples of typical noise levels



It is generally known that ordinary conversation can be conducted with a person one meter away in an environment at a noise level of 60 dB (A).

Feature 3 Excluded from high-efficiency motor regulations

■ **High-efficiency motor regulations came into effect in Japan in April 2015. These regulations apply to the hydraulic units equipped with general motors but the Super Units that incorporate a high-efficiency IPM motor are excluded from them.**

Advantages of using hybrid hydraulic units

- Eliminates the need for replacement of motors for each destination
- Eliminates the need for design changes in accordance with amendments to the regulations
- Reduces design changes to spare parts, and the maintenance workload

Feature 4 All models conforming to CE standards

■ **All models conform to the machinery directive, EMC directive, and low voltage directive. This facilitates CE approval of the machine.**

Feature 5 Restricted oil temperature rise

■ **Restriction of the temperature rise of the hydraulic fluid is one of the effects achieved by adopting Super Units. This generates the following advantages.**

- **Improved machining accuracy**

  Reduced thermal distortion improves the machining accuracy.

- **Reduced air-conditioning heat load**

  The reduced heat load on the air conditioner achieves further energy savings.

- **Extended service life of packing and other sealing materials**

  ➥ **Improved maintainability**

  Deterioration of the packing and other sealing materials that are made of rubber, used for hydraulic valves and hydraulic cylinders, is restricted.

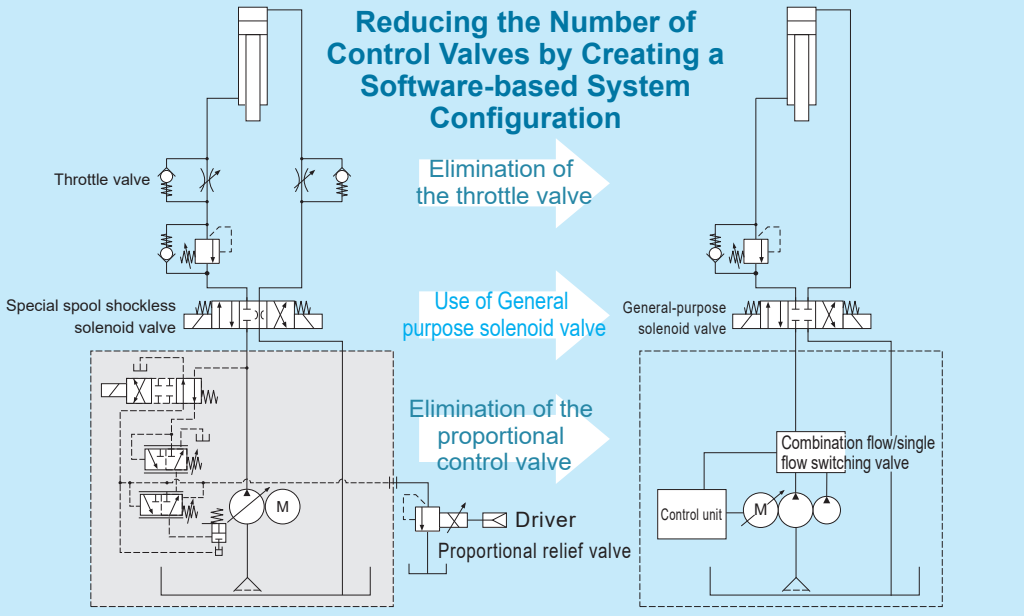
- **Extended service life of the hydraulic fluid**

  ➥ **Reduced environmental load and improved maintainability**

  Restricted deterioration of the hydraulic fluid extends its replacement interval.

Feature 6 Fewer control valves required

■ **Example hydraulic press circuit configuration**



Feature 7 400 V specifications

400 V specifications

A new 400 V specification is now available. With the single pump type, there is no need to install a transformer at the machine, which saves space.

Functions

Video introduction to hybrid hydraulic functions!
URL https://www.hyd.daikin.com/mv/hybrid_functions

Function 1 Multi-stage pressure/flow rate control (16 PQ control setting patterns)

Featured with standard models

16 PQ

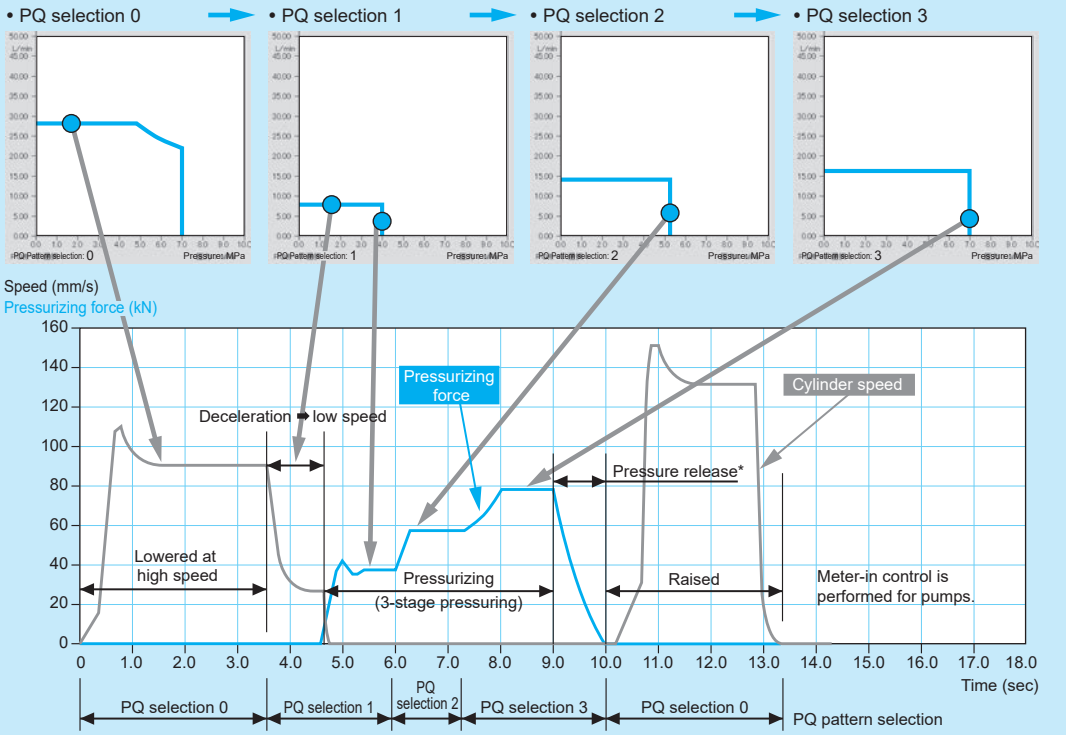
- **The force (pressure) and speed (flow rate) of the actuator (cylinder) can be controlled with 16 pressure (P) and flow rate (Q) setting patterns.**

  The proportional control valve and proportional pressure control valve, which are utilized in conventional actuator circuits, are not required. Once the pressure and flow rate have been set at the controller's operation panel, you can select 16 preset patterns using external input signals.
  The Super Unit autonomously changes the control mode from flow rate control to pressure control (example: flow rate control is changed to pressure control at the cylinder stroke end).
  The solenoid valve that actuates the cylinder must be turned ON/OFF at the machine.

- **Smooth changing of force (pressure) and speed (flow rate)**

  Once acceleration time and deceleration time parameters are registered, the force or speed can be changed gradually during a pressure/flow rate setting change.

Example of PQ control setting patterns



*: When pressure release control is disabled, an additional pressure release circuit should be provided for the load side.

Function 2 Maintenance/Management function (Hybrid-Win)

Featured with standard models

PC tool Hybrid-Win Supported

This PC utility reads data from Daikin hybrid systems (Super Unit, EcoRich, oil cooling unit, etc.) and manages it. Parameter setting and monitoring can be accomplished efficiently using the Windows application.

Main features

- **Displaying graphs**

  The pressure, flow rate, and other internal data of the controller can be monitored and displayed in graph form. This facilitates operation checks during test runs, adjustment of parameters such as time constants, and troubleshooting.

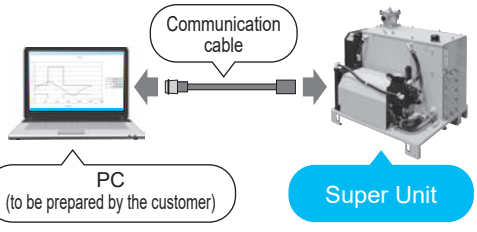
- **Reading, writing, editing, and saving parameters**

  The time required for setting can be slashed by editing the parameter settings on the PC and writing them to the unit in a batch. The ability to read and save settings facilitates management.

- **Reading and saving the alarm history**

  This function enables quick identification of the parts that require maintenance and reduction of the downtime. The operating time display can serve as the guide for the timing to replace consumable parts or to conduct maintenance. Troubleshooting information including the diagnosis results of the cause of an alarm and action to take can be displayed.

*: Hybrid-Win is utility software to monitor the internal status of Daikin hybrid systems using a PC. The software and its instruction manual can be downloaded from the website "https://www.hyd.daikin.com" free of charge by completing the user registration process.
*: The communication cable is separately available.
*: Some models require a dedicated separate monitor harness.



HYBRID SUPER UNIT SYSTEM
INVERTER HYDRAULIC UNIT

Optional function C Communication function

C Communication — Remote setting of operating conditions

• Operating condition setting of the SUPER UNIT possible from a distance

•Various settings such as acceleration/deceleration time and pressure switch settings, as well as the pressure and flow rate, can be set remotely.
This makes it possible to control the hydraulic pressure operating conditions in synchrony with the control of the machine.

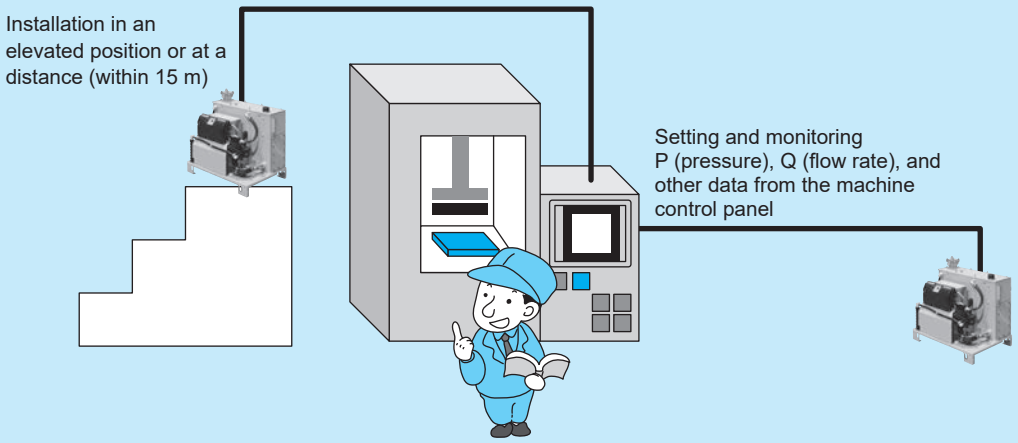
• Managing the pressure and flow rate from a machine

•The information that the SUPER UNIT outputs during machine operation, such as pressure and flow rate, can be displayed on the monitor at a machine.

•By continuously collecting data from the SUPER UNIT, it is possible to determine machining faults, diagnose machine failures, and utilize the data for predictive maintenance.

∗ RS232C is adopted for the serial communication interface. (For RS485 and RS422, please consult us.)
Provide a controller such as a PLC or touch panel display with the RS232C communication function at the machine side.
∗ For details on the communication procedure, refer to the communication/remote control function instruction manual.

Application of Super Unit Remote Operation and Communication Functions



Optional function P Analog command input

A Analog

The capability to specify the pressure and flow rate with voltage ranging from 0 to 10 V enables continuous hydraulic control as required. Real-time variation in response to commands facilitates condition settings at the machine side.

• A hydraulic control system for machinery that requires variable speed control or continuity of pressurizing forces can be realized with a simple configuration.

• A joystick or trimmer can be connected for real-time control.

Hardware Option

Hardware option 01 With unit cover

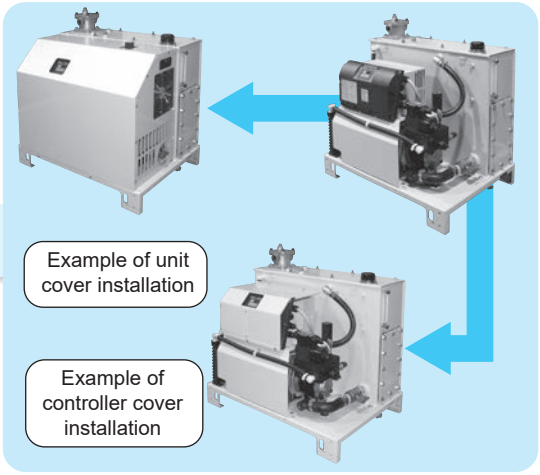
Optionally available for units with tank capacities of 60 L, 100 L, and 160 L (SUT06S3016-30 excluded)

- **The cover protects the controller unit and piping.**

Hardware option 02 With controller cover

Optionally available for models with motor capacities equivalent to 3.7 kW, and 5 kW

- **The metal cover protects the controller unit.**



Hardware option 03 With DCL (DC reactor)

Optionally available for models with motor capacities equivalent to 3.7 kW, and 5 kW

- **Appropriate when it is necessary to improve the power factor or reduce the harmonics of the power supply**
- **Optionally available for compact models with the capacity of 5 kW or smaller. Provided as standard for models with a capacity of 7 kW or greater.**

Hardware option 04 Separate power supplies for power system and control system

Optionally available for units with motor capacities equivalent to 3.7 kW, 5 kW, and 7 kW

- **When an error occurs, only the main power supply is shut down and control power supply continues to carry current, thereby enabling the alarm code and internal status on occurrence of an error to be checked on the operation panel or through serial communication.**

Hardware option 05 Water fill test compliant tank

Hardware option 06 Water leak test compliant tank

Optionally available with all unit type models

- **The water fill test, one of the adaptation criteria for the Fire Service Act, and the water leak test, Daikin original standard, are carried out. The tanks that pass the tests have compliance nameplates affixed and are delivered with the certificate. (Water fill test compliant tanks are not equivalent to Fire Service Act compliant tanks.)**

Hardware option 07 Level switch

Hardware option 08 Temperature switch

Hardware option 09 Thermometer

Hardware option 10 Micro separator

Optionally available with all unit type models

- **The accessories that can be fitted to the tank are provided as optional parts.**
- **The accessories can be purchased separately as optional parts.** (See Page 46.)

List of Models with Options Installed

			Power supply voltage	Function Option		Hardware Option				
Pump specifications	Motor capacity	Model code	Y	C	P	With unit cover (01)	With controller cover (02)	With DCL (03)	Separated power supply for power/ control systems (04)	Tank inspection/ unit accessory (*)
Single pump		SUT00S4007	✓			–	✓	✓	✓	–
		SUT03S4007				–	✓	✓	✓	✓
	Equivalent to 3.7 kW	SUT00S3010	–			–	✓	✓	✓	–
		SUT03S3010				–	✓	✓	✓	✓
		SUT00S1516				–	✓	✓	✓	–
		SUT03S1516			✓	–	✓	✓	✓	✓
	Equivalent to 5.0 kW	SUT00S3016				–	✓	✓	✓	–
		SUT06S3016				–	✓	✓	✓	✓
		SUT00S6007	✓			–	✓	✓	✓	–
		SUT06S6007		✓		✓	✓	✓	✓	✓
	Equivalent to 7.0 kW	SUT00S8007				–	–	–	✓	–
		SUT10S8007				✓	–	–	✓	✓
Double pump	Equivalent to 3.7 kW	SUT00D4016	–			–	✓	✓	✓	–
		SUT06D4016				✓	✓	✓	✓	✓
	Equivalent to 5.0 kW	SUT00D6021				–	✓	✓	✓	–
		SUT06D6021			–	✓	✓	✓	✓	✓
		SUT10D6021	✓			✓	✓	✓	✓	✓
	Equivalent to 7.0 kW	SUT00D8021				–	–	–	✓	–
		SUT10D8021				✓	–	–	✓	✓
		SUT16D8021				✓	–	–	✓	✓

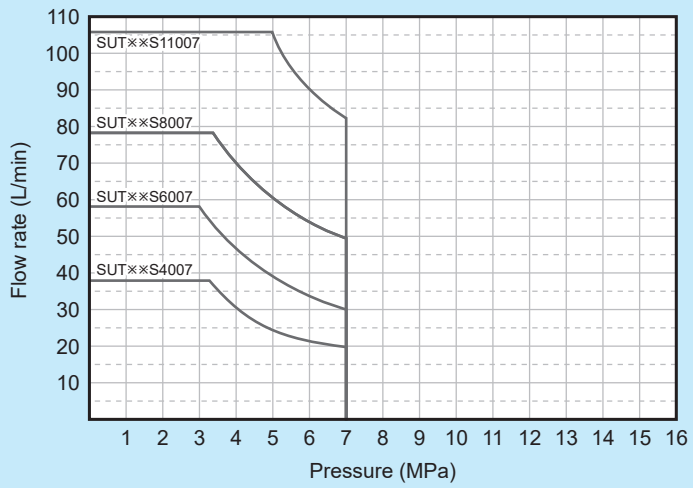
* Tank inspections : Water fill test compliant tank (05), water leak test compliant tank (06)
Unit accessories : Level switch (07), temperature switch (08), thermometer (09), microseparator (10)

✓ Available – Not available

Pressure – Flow Rate Characteristics (Typical)

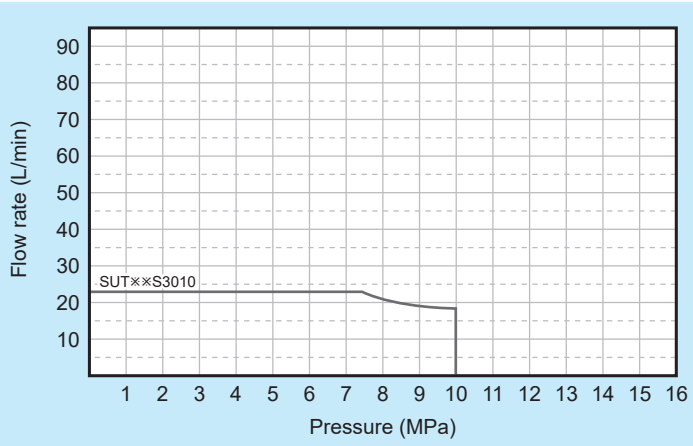
Single pump type

SUT××S4007 • SUT××S6007 • SUT××S8007 • SUT××S11007



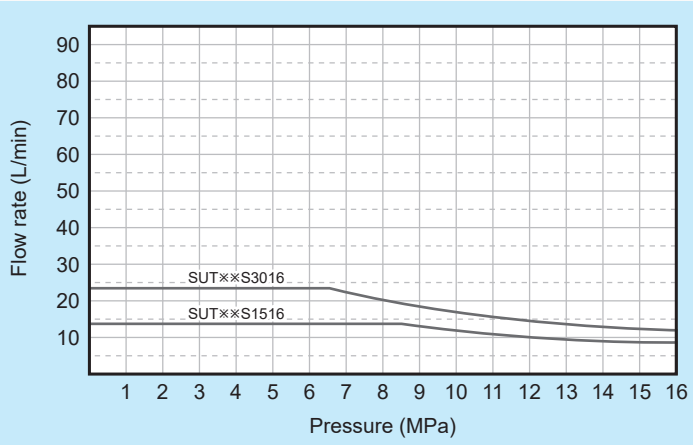
* Operating flow rate at the maximum pressure in continuous operation:
SUT××S4007: 8 L/min maximum
SUT××S6007: 14 L/min maximum
SUT××S8007: 19 L/min maximum
SUT××S11007: 16 L/min maximum

SUT××S3010



* Operating flow rate at the maximum pressure in continuous operation:
SUT××S3010: 5 L/min maximum

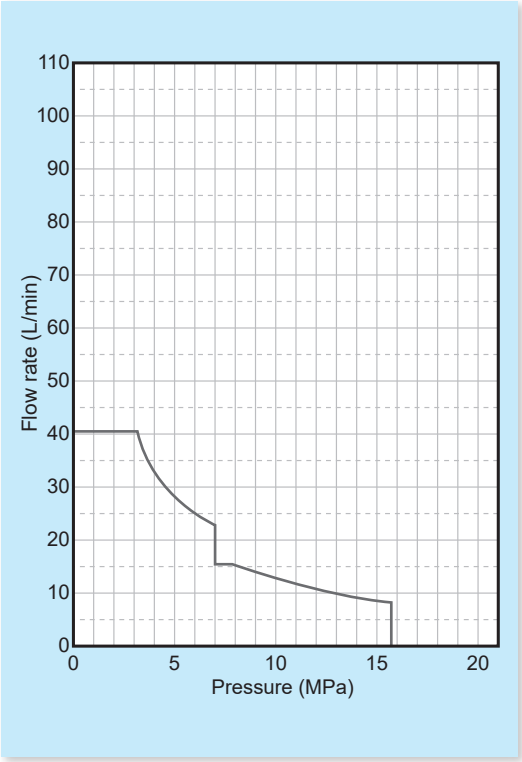
SUT××S3016 • SUT××S1516



* Operating flow rate at the maximum pressure in continuous operation:
SUT××S1516: 5 L/min maximum
SUT××S3016: 5 L/min maximum

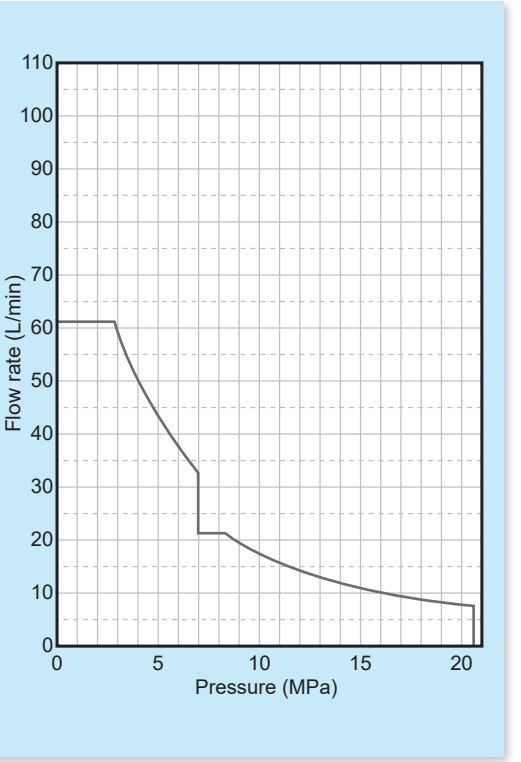
Double pump type

SUT××D4016



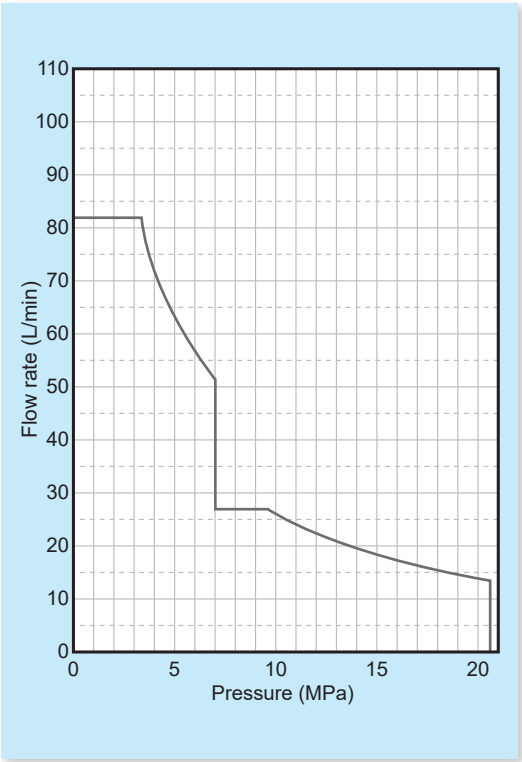
* Operating flow rate at the maximum pressure in continuous operation: 8 L/min maximum

SUT××D6021



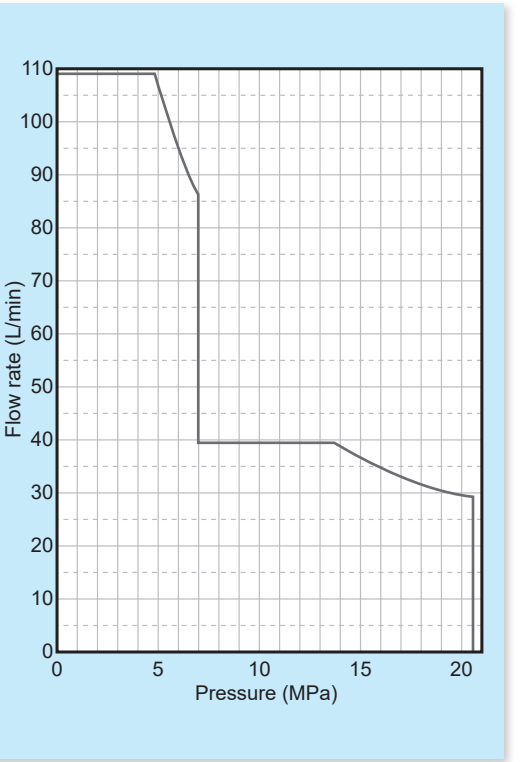
* Operating flow rate at the maximum pressure in continuous operation: 6.5 L/min maximum

SUT××D8021



* Operating flow rate at the maximum pressure in continuous operation: 14 L/min maximum

SUT××D11021



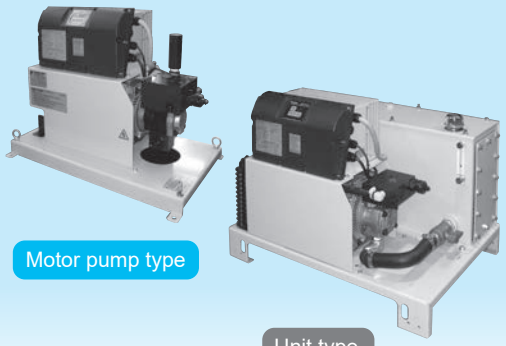
* Operating flow rate at the maximum pressure in continuous operation: 16 L/min maximum

Super Unit
[Single pump type]

Maximum operating pressure	7 MPa
Maximum flow rate	40 L/min

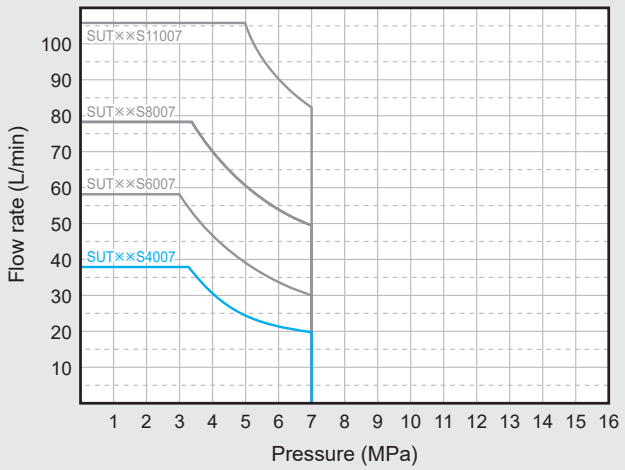
Model code

SUT※※S4007-30
SUT※※S4007-40-Y (Transformerless 400 V specifications)



* The photo shows the 200 V specifications.

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation: **8 L/min maximum**

Specifications

		200 V specifications		Transformerless 400 V specifications	
		Motor pump type	Unit type	Motor pump type	Unit type
Model code		SUT00S4007-30	SUT03S4007-30	SUT00S4007-40-Y	SUT03S4007-40-Y
Pumps	Maximum operating pressure (MPa)	7.0			
	Operating pressure adjustment range (MPa)	1.5 to 7.0			
	Maximum flow rate (theoretical value) *1 (L/min)	39.7			
	Operating flow rate adjustment range (L/min)	5.3 to 39.7			
Motor	Motor capacity (equivalent kW)	3.7			
Tank capacity (L)		–	30	–	30
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)		3-phase 380 to 480 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)	
Rated current (A)		16.1		6.9	
No-fuse breaker capacity (A)		20		15	
External input signal		5ch			
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel			
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel			
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)			
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 10 • Volumetric water content: 0.1% maximum			
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)			
	Operating ambient temperature	0 to 40°C			
	Storage ambient temperature	–20 to 60°C			
	Operating ambient humidity	85% RH maximum (no condensation)			
	Waterproof protection rating	IP44			
	Installation site	Indoors (Be sure to secure the unit with bolts.)			
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.			
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr			
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr			
Standard coating color		Ivory white (Munsell code 5Y7.5/1)			
Mass (kg)		46	64	50	76

Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil.
*3. The unit incorporates a safety valve.
*4. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

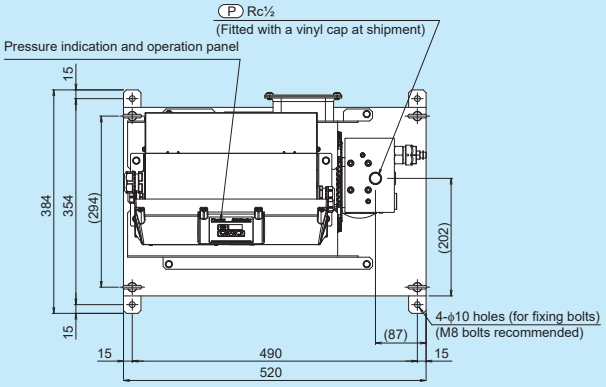
External Dimension Diagram

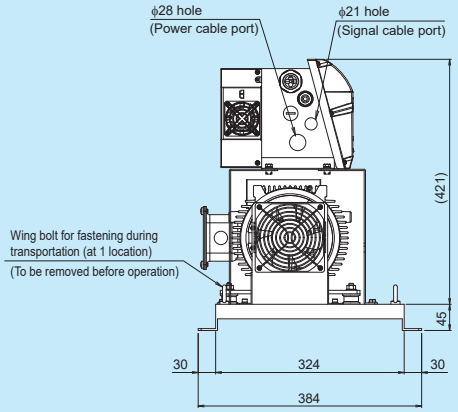
Refer to page 35 for the external dimensions of the transformerless 400 V specifications (-Y).

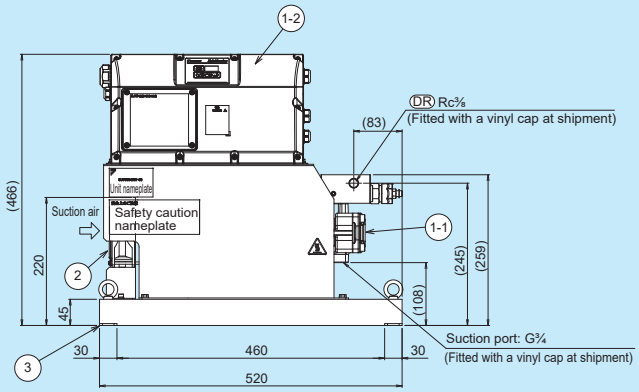
Motor pump type

SUT00S4007-30

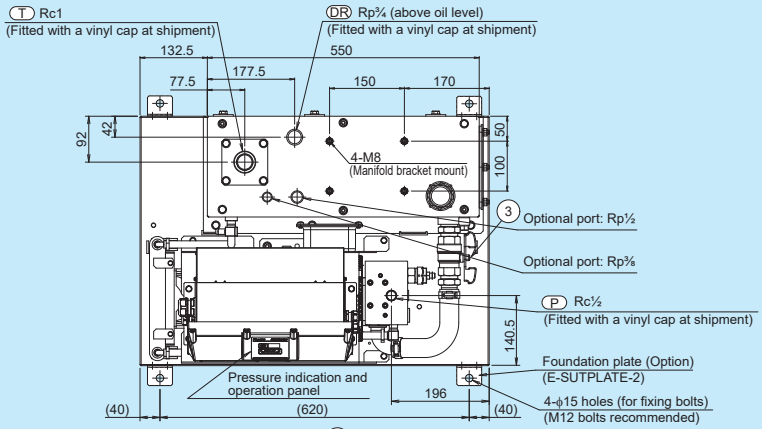
Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	1
3	Base	1

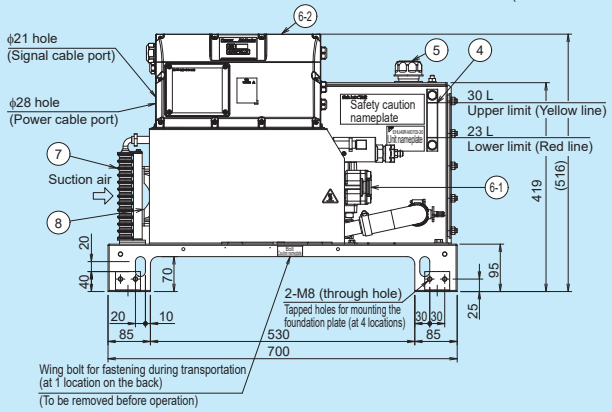






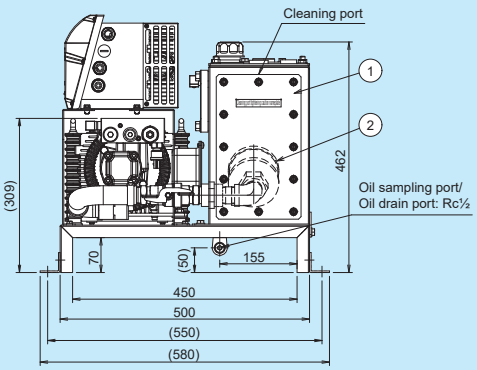
Unit type





SUT03S4007-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1



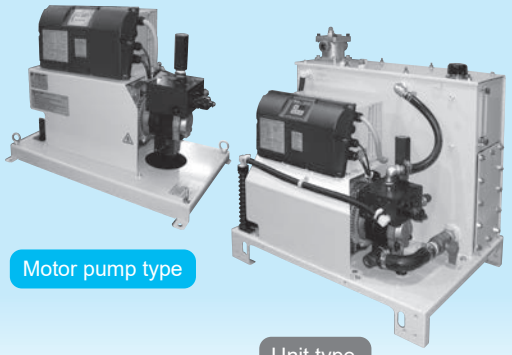
Super Unit
[Single pump type]

Maximum operating pressure **7 MPa**

Maximum flow rate **60 L/min**

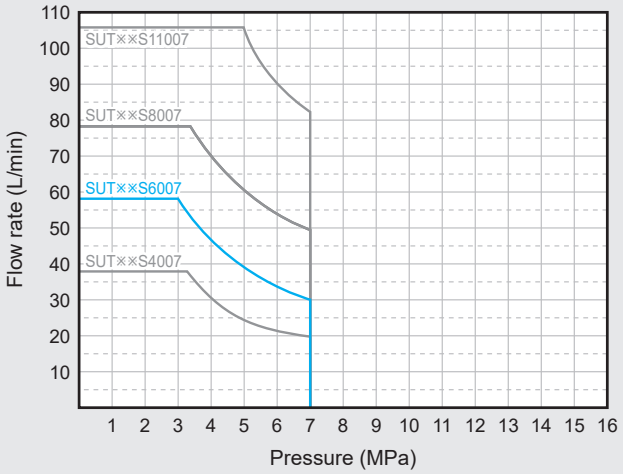
Model code

SUT00S6007-30
SUT06S6007-40-Y (Transformerless 400 V specifications)



* The photo shows the 200 V specifications.

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation: **14 L/min maximum**

Specifications

		200 V specifications		Transformerless 400 V specifications	
		Motor pump type	Unit type	Motor pump type	Unit type
Model code		SUT00S6007-30	SUT06S6007-30	SUT00S6007-40-Y	SUT06S6007-40-Y
Pumps	Maximum operating pressure (MPa)	7.0			
	Operating pressure adjustment range (MPa)	1.5 to 7.0			
	Maximum flow rate (theoretical value) *1 (L/min)	61.1			
	Operating flow rate adjustment range (L/min)	8.7 to 61.1			
Motor	Motor capacity (equivalent kW)	5.0			
Tank capacity (L)		–	60	–	60
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)		3-phase 380 to 480 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)	
Rated current (A)		22.1		9.7	
No-fuse breaker capacity (A)		30		15	
External input signal		5ch			
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel			
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel			
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)			
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 10 • Volumetric water content: 0.1% maximum			
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)			
	Operating ambient temperature	0 to 40°C			
	Storage ambient temperature	–20 to 60°C			
	Operating ambient humidity	85% RH maximum (no condensation)			
	Waterproof protection rating	IP44			
	Installation site	Indoors (Be sure to secure the unit with bolts.)			
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.			
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr			
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr			
Standard coating color		Ivory white (Munsell code 5Y7.5/1)			
Mass (kg)		56	97	58	92

Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil.
*3. The unit incorporates a safety valve.
*4. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

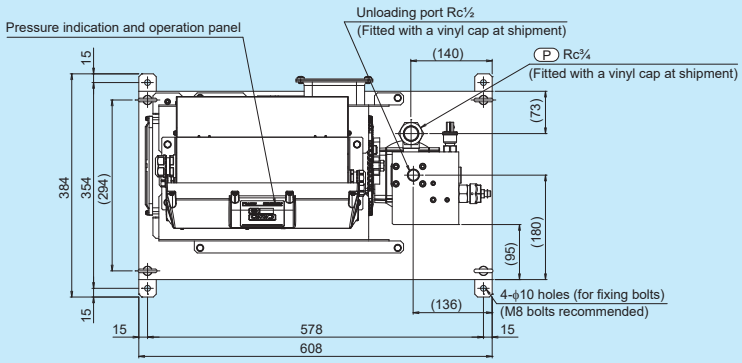
External Dimension Diagram

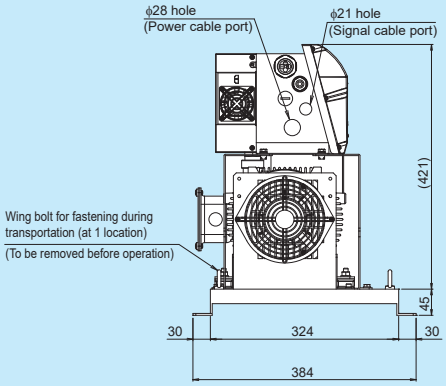
Refer to page 36 for the external dimensions of the transformerless 400 V specifications (-Y).

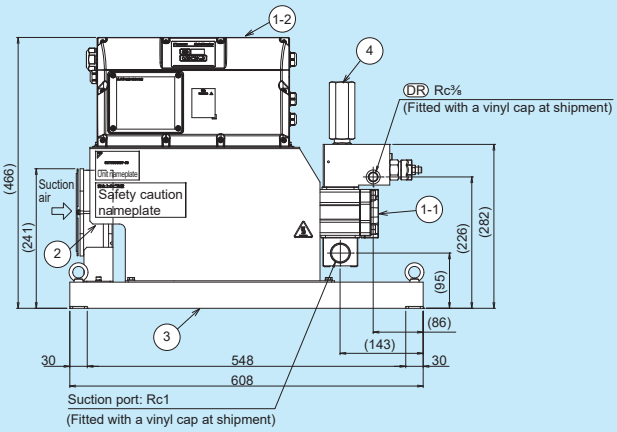
Motor pump type

SUT00S6007-30

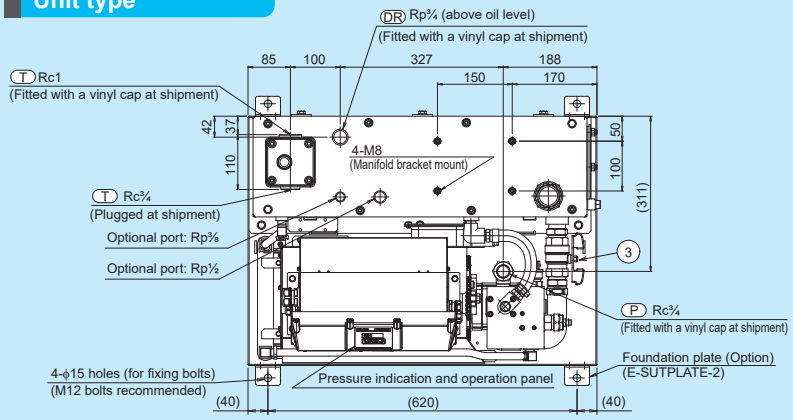
Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	1
3	Base	1
4	Check valve	1





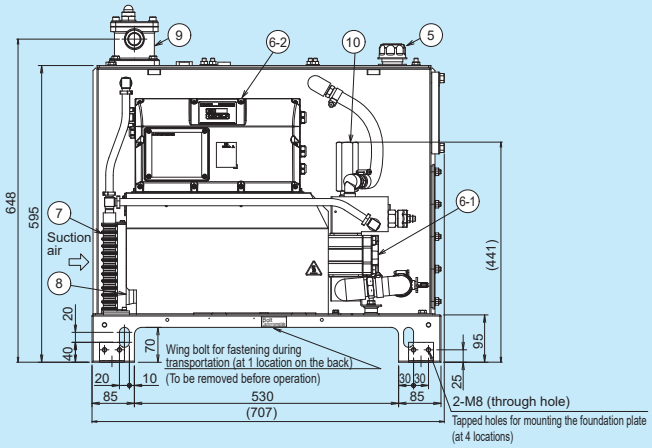


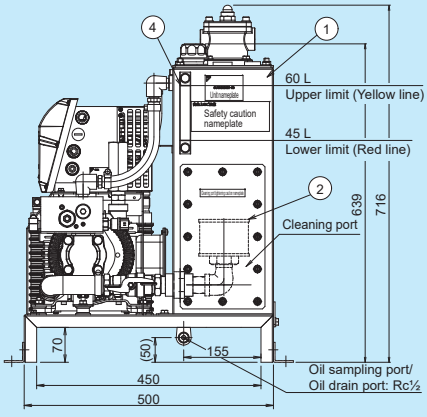
Unit type



SUT06S6007-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1
9	Return filter	1
10	Check valve	1



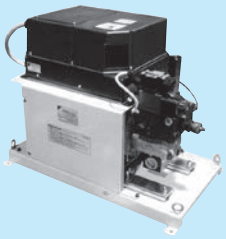


Super Unit
[Single pump type]

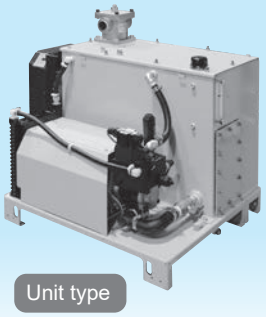
Maximum operating pressure	7 MPa
Maximum flow rate	80 L/min

Model code

SUT※※S8007-30
SUT※※S8007-40-Y (Transformerless 400 V specifications)



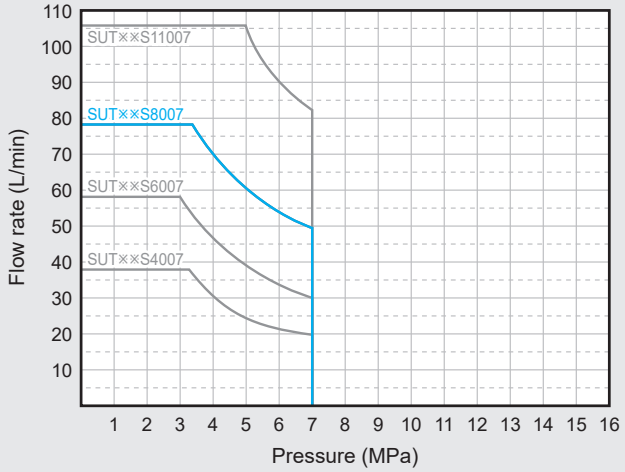
Motor pump type



Unit type

* The photo shows the 200 V specifications.

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation: **19 L/min maximum**

Specifications

		200 V specifications		Transformerless 400 V specifications	
		Motor pump type	Unit type	Motor pump type	Unit type
Model code		SUT00S8007-30	SUT10S8007-30	SUT00S8007-40-Y	SUT10S8007-40-Y
Pumps	Maximum operating pressure (MPa)	7.0			
	Operating pressure adjustment range (MPa)	1.5 to 7.0			
	Maximum flow rate (theoretical value) *1 (L/min)	83.0			
	Operating flow rate adjustment range (L/min)	11.6 to 83.0			
Motor	Motor capacity (equivalent kW)	7.0			
Tank capacity (L)		–	100	–	100
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)		3-phase 380 to 480 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)	
Rated current (A)		25.5		13.9	
No-fuse breaker capacity (A)		50		20	
External input signal		5ch			
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel			
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel			
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)			
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 10 • Volumetric water content: 0.1% maximum			
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)			
	Operating ambient temperature	0 to 40°C			
	Storage ambient temperature	–20 to 60°C			
	Operating ambient humidity	85% RH maximum (no condensation)			
	Waterproof protection rating	IP44			
	Installation site	Indoors (Be sure to secure the unit with bolts.)			
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.			
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr			
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr			
Standard coating color		Ivory white (Munsell code 5Y7.5/1)			
Mass (kg)		72	131	61	105

Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil.
*3. The unit incorporates a safety valve.
*4. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

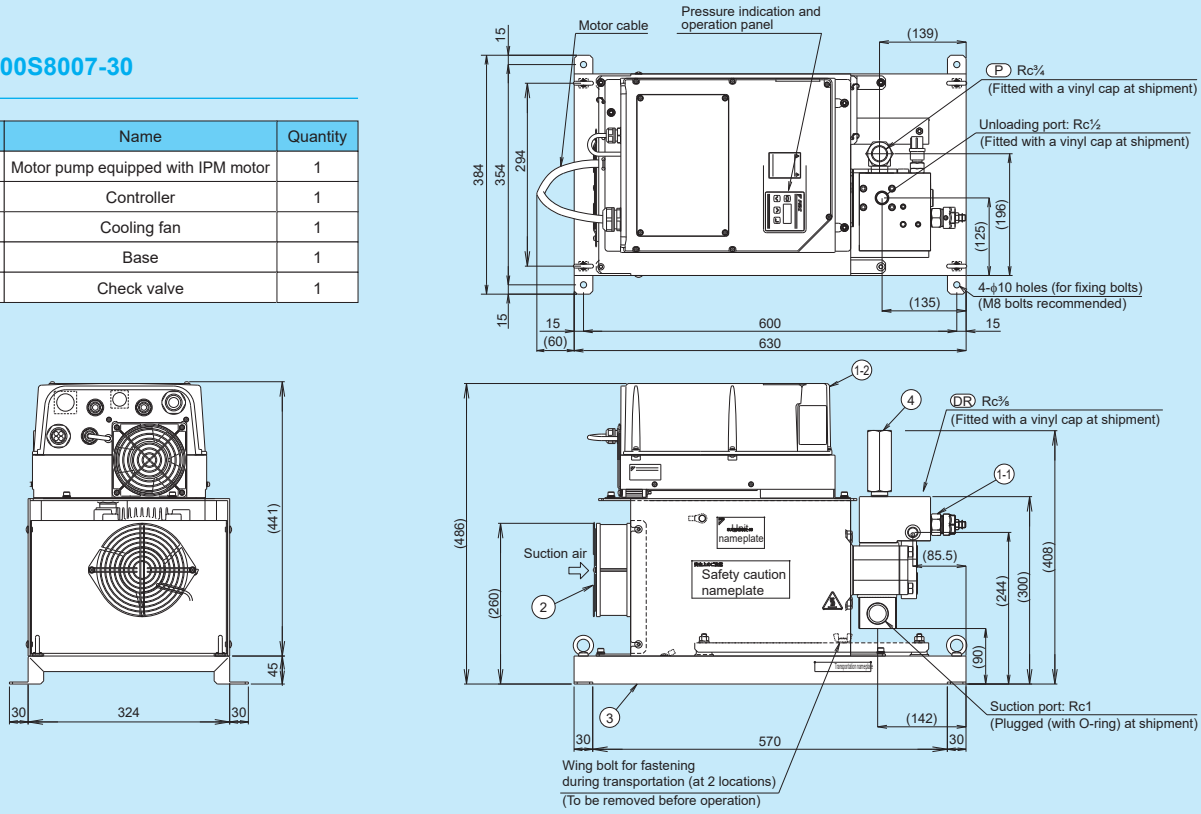
External Dimension Diagram

Refer to page 37 for the external dimensions of the transformerless 400 V specifications (-Y).

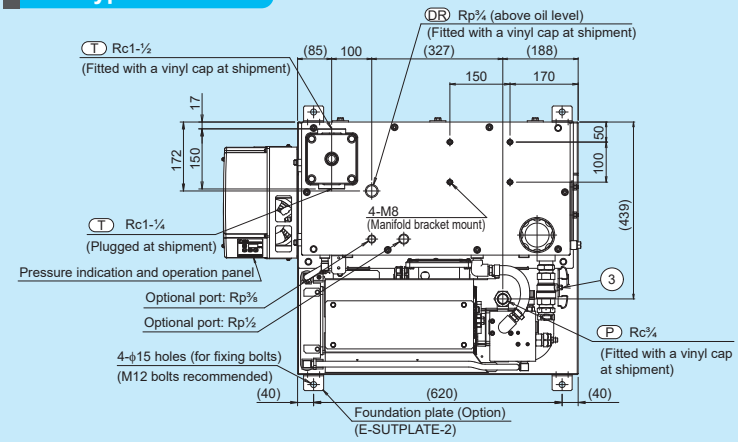
Motor pump type

SUT00S8007-30

Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	1
3	Base	1
4	Check valve	1

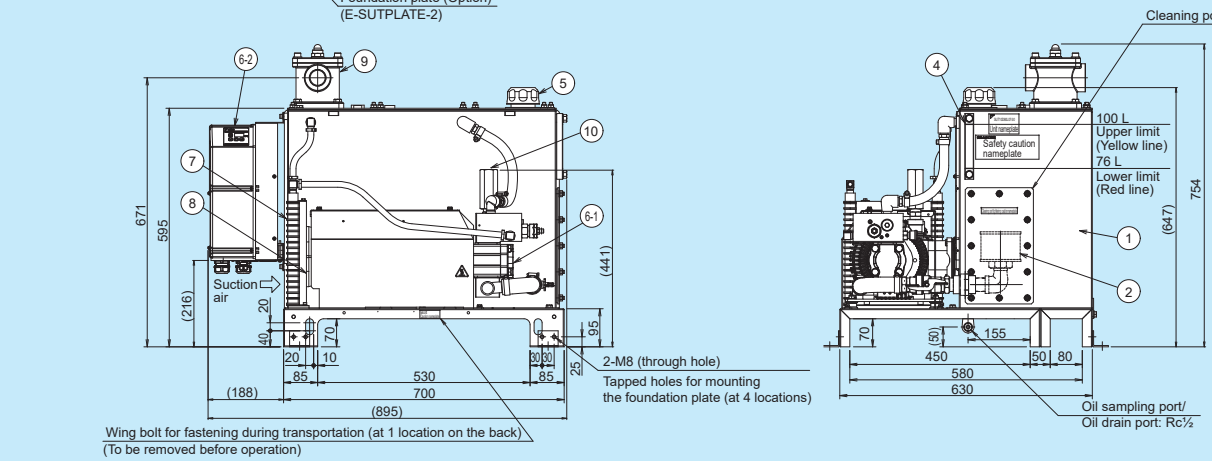


Unit type



SUT10S8007-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1
9	Return filter	1
10	Check valve	1

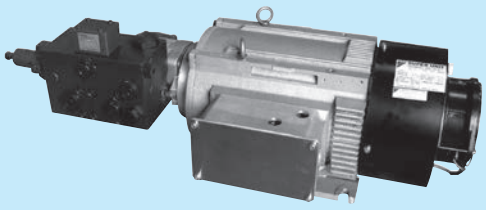


Super Unit
[Single pump type]

Maximum operating pressure	7 MPa
Maximum flow rate	110 L/min

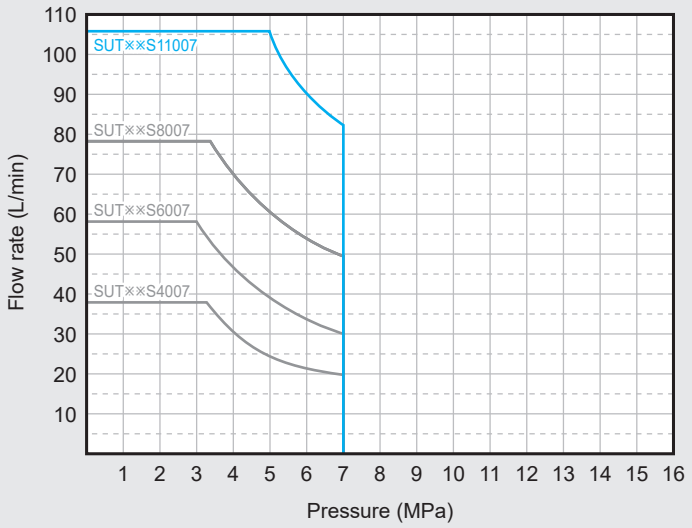
Model code

SUT00S11007-41



Motor pump type

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation: **16 L/min maximum**

Specifications

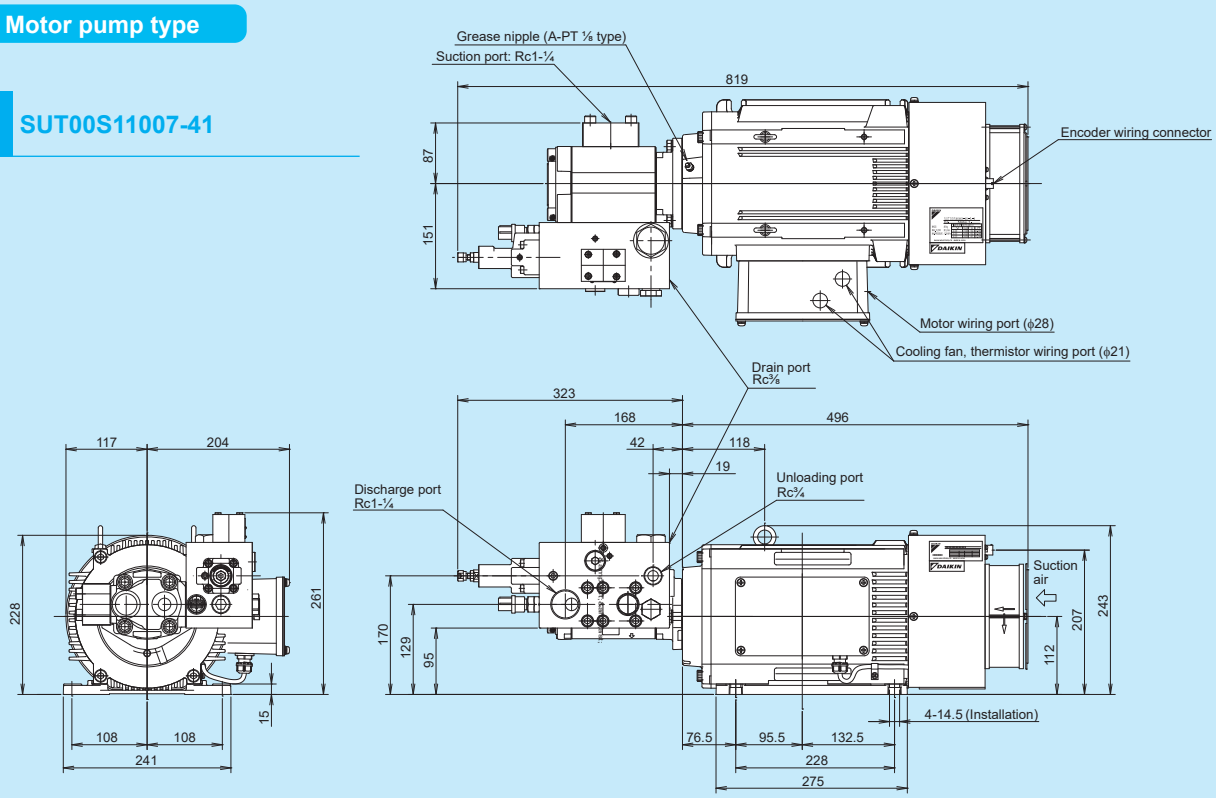
		Motor pump type
Model code		SUT00S11007-41
Pumps	Maximum operating pressure (MPa)	7.0
	Operating pressure adjustment range (MPa)	1.5 to 7.0
	Maximum flow rate (theoretical value) *1 (L/min)	110
	Operating flow rate adjustment range (L/min)	13.3 to 110
Motor	Motor capacity (equivalent kW)	11.0
Tank capacity (L)		–
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)
Rated current (A)		38.3
No-fuse breaker capacity (A)		75
External input signal		5ch
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 10 • Volumetric water content: 0.1% maximum
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)
	Operating ambient temperature	0 to 40°C
	Storage ambient temperature	–20 to 60°C
	Operating ambient humidity	85% RH maximum (no condensation)
	Waterproof protection rating	IP44
	Installation site	Indoors (Be sure to secure the unit with bolts.)
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr
Standard coating color		Ivory white (Munsell code 5Y7.5/1)
Mass (kg)		112

Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil.
*3. The unit incorporates a safety valve.
*4. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

External Dimension Diagram

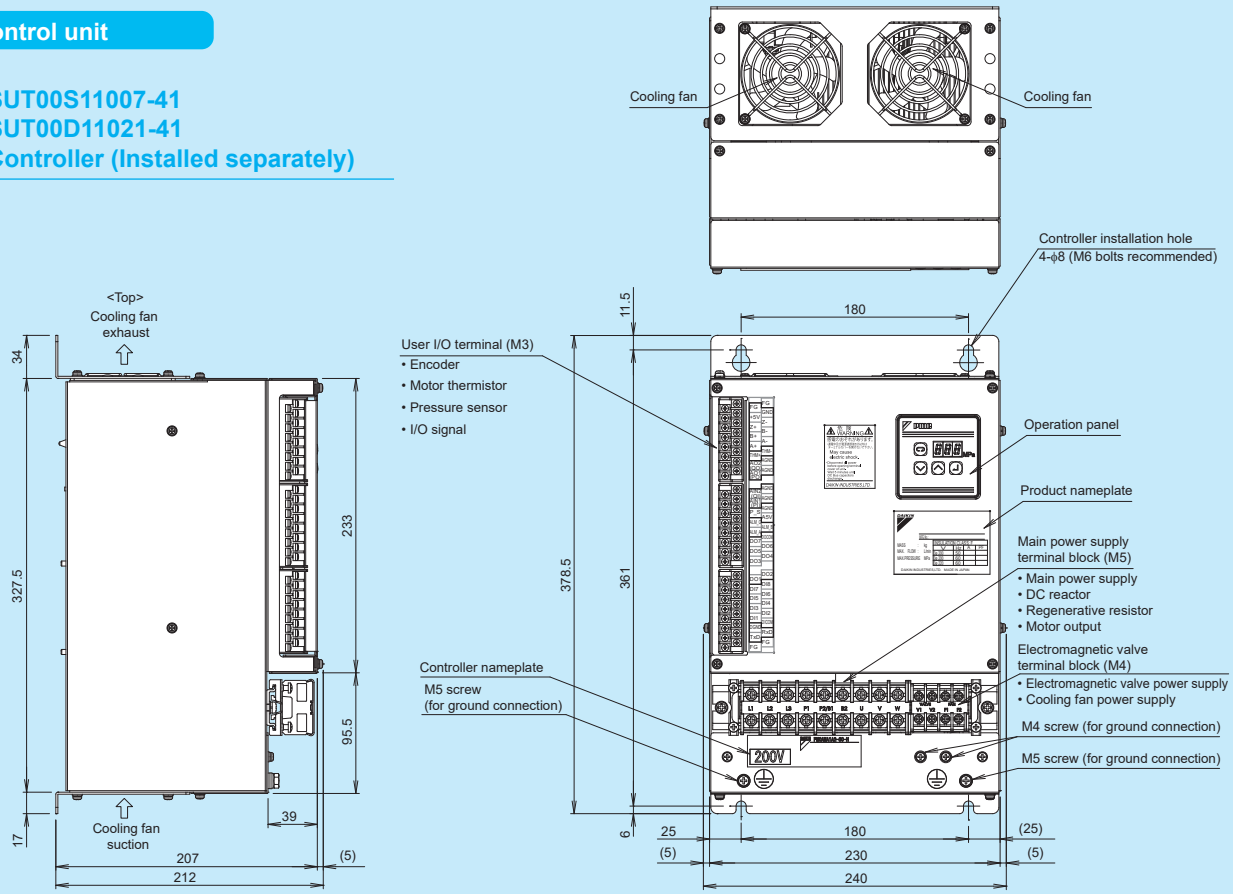
Motor pump type

SUT00S11007-41



Control unit

SUT00S11007-41
SUT00D11021-41
Controller (Installed separately)



Super Unit
[Single pump type]

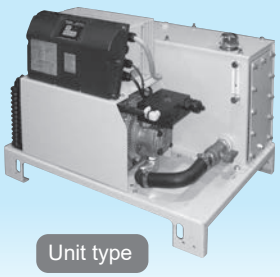
Maximum operating pressure **10 MPa**

Maximum flow rate **30 L/min**

Model code

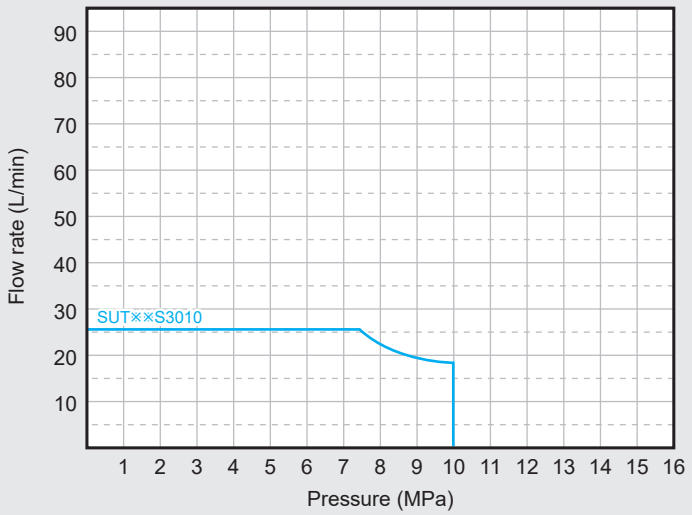
SUT※※S3010-30

Motor pump type



Unit type

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation:
  5 L/min maximum

Specifications

		Motor pump type	Unit type
Model code		SUT00S3010-30	SUT03S3010-30
Pumps	Maximum operating pressure (MPa)	10.0	
	Operating pressure adjustment range (MPa)	1.5 to 10.0	
	Maximum flow rate (theoretical value) *1 (L/min)	25.6	
	Operating flow rate adjustment range (L/min)	3.4 to 25.6	
Motor	Motor capacity (equivalent kW)	3.7	
Tank capacity (L)		–	30
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)	
Rated current (A)		18.4	
No-fuse breaker capacity (A)		20	
External input signal		5ch	
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel	
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel	
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)	
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 9 (within NAS class 10 for 7 MPa and lower) • Volumetric water content: 0.1% maximum	
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)	
	Operating ambient temperature	0 to 40°C	
	Storage ambient temperature	–20 to 60°C	
	Operating ambient humidity	85% RH maximum (no condensation)	
	Waterproof protection rating	IP44	
	Installation site	Indoors (Be sure to secure the unit with bolts.)	
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.	
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr	
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr	
Standard coating color		Ivory white (Munsell code 5Y7.5/1)	
Mass (kg)		46	64

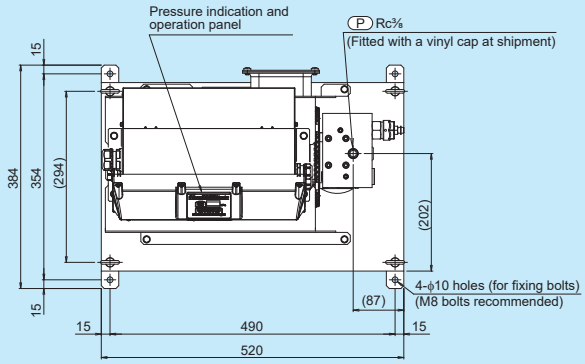
Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil. Keep the contamination level of the hydraulic oil within NAS contamination class 10 for operating pressures of 7 MPa or lower.
*3. The unit incorporates a safety valve.
*4. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

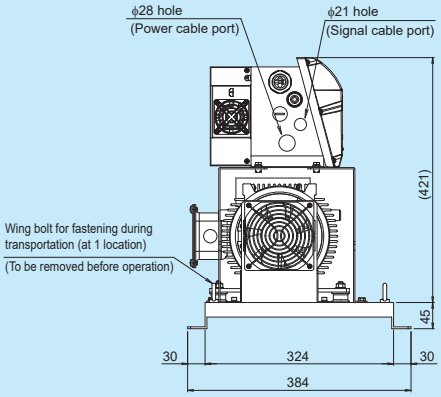
External Dimension Diagram

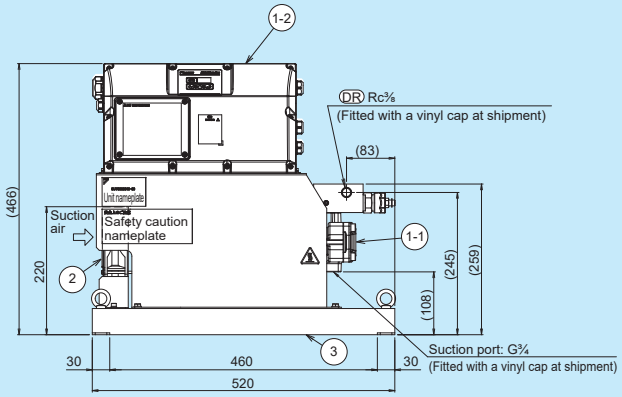
Motor pump type

SUT00S3010-30

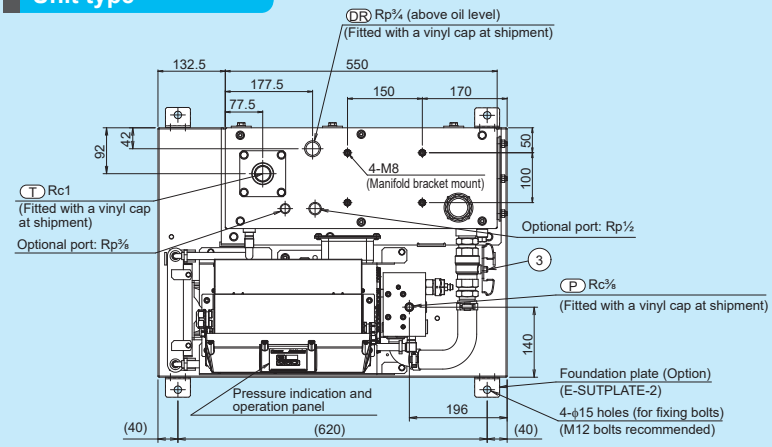
Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	1
3	Base	1





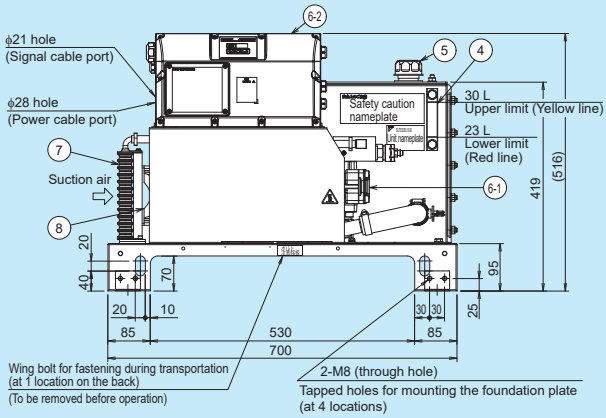


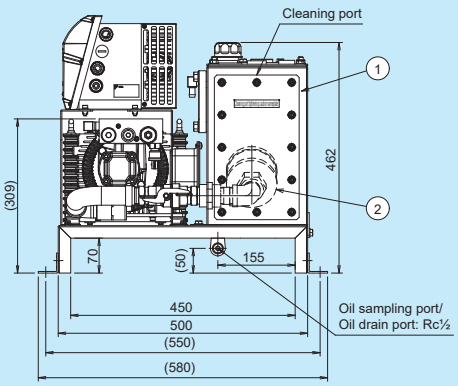
Unit type



SUT03S3010-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1





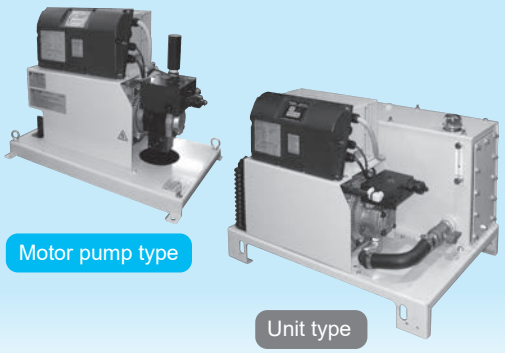
Super Unit
[Single pump type]

Maximum operating pressure **16 MPa**

Maximum flow rate **15/30 L/min**

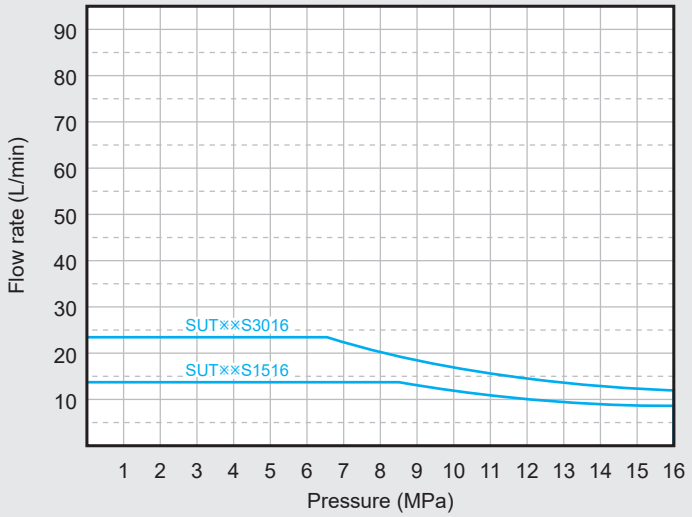
Model code

SUT※※S1516-30
SUT※※S3016-30
SUT※※S3016-40-Y (Transformerless 400 V specifications)



* The photo shows the 200 V specifications.

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation:
5 L/min maximum

Specifications

		200 V specifications				Transformerless 400 V specifications	
		Motor pump type		Unit type		Motor pump type	Unit type
Model code		SUT00S1516-30	SUT00S3016-30	SUT03S1516-30	SUT06S3016-30	SUT00S3016-40-Y	SUT06S3016-40-Y
Pumps	Maximum operating pressure (MPa)	16.0					
	Operating pressure adjustment range (MPa)	1.5 to 16.0					
	Maximum flow rate (theoretical value) *1 (L/min)	15.2	25.6	15.2	25.6	25.6	
	Operating flow rate adjustment range (L/min)	2.4 to 15.2	3.4 to 25.6	2.4 to 15.2	3.4 to 25.6	3.4 to 25.6	
Motor	Motor capacity (equivalent kW)	3.7	5.0	3.7	5.0	5.0	
Tank capacity (L)		–		30	60	–	60
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)				3-phase 380 to 480 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)	
Rated current (A)		15.2	21.4	15.2	21.4	9.3	
No-fuse breaker capacity (A)		20	30	20	30	15	
External input signal		5ch					
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel					
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel					
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)					
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 9 (within NAS class 10 for 7 MPa and lower) • Volumetric water content: 0.1% maximum					
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)					
	Operating ambient temperature	0 to 40°C					
	Storage ambient temperature	–20 to 60°C					
	Operating ambient humidity	85% RH m aximum (no condensation)					
	Waterproof protection rating	IP44					
	Installation site	Indoors (Be sure to secure the unit with bolts.)					
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.					
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr					
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr					
Standard coating color		Ivory white (Munsell code 5Y7.5/1)					
Mass (kg)		46	52	64	83	51	84

Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil. Keep the contamination level of the hydraulic oil within NAS contamination class 10 for operating pressures of 7 MPa or lower.
*3. The unit incorporates a safety valve.
*4. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

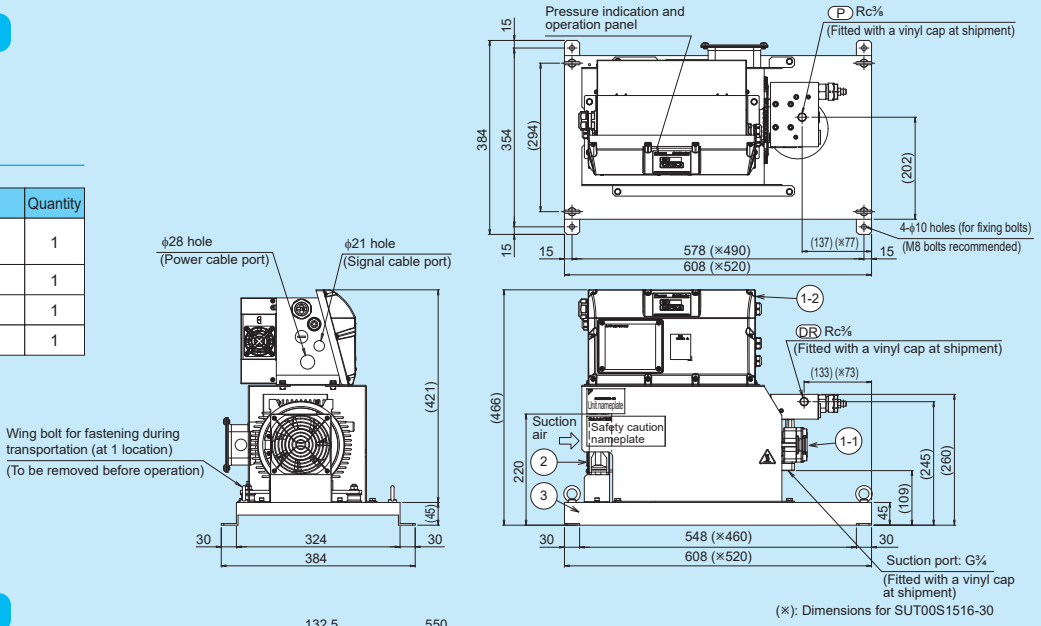
External Dimension Diagram

Refer to page 38 for the external dimensions of the transformerless 400 V specifications (-Y).

Motor pump type

SUT00S1516-30
SUT00S3016-30

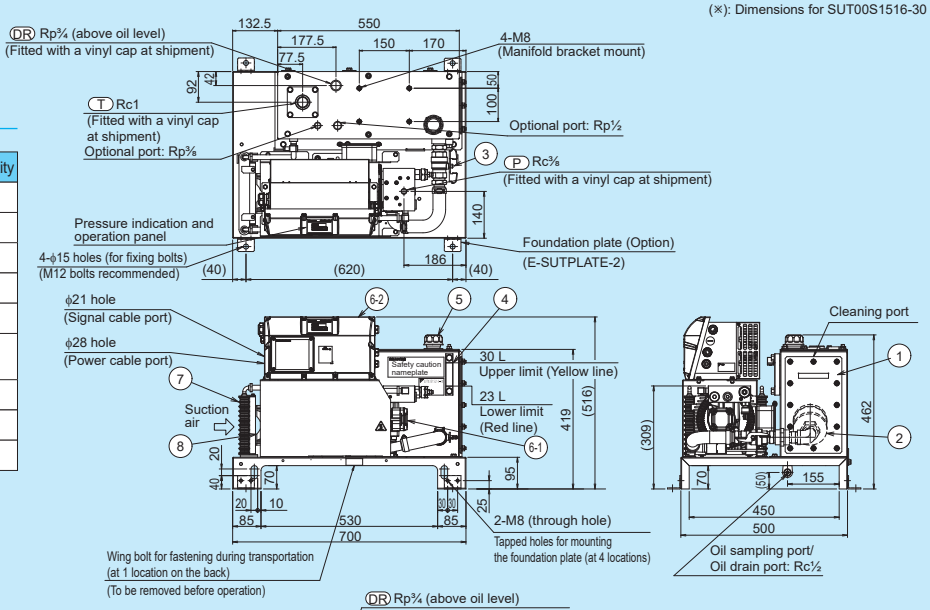
Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	1
3	Base	1



Unit type

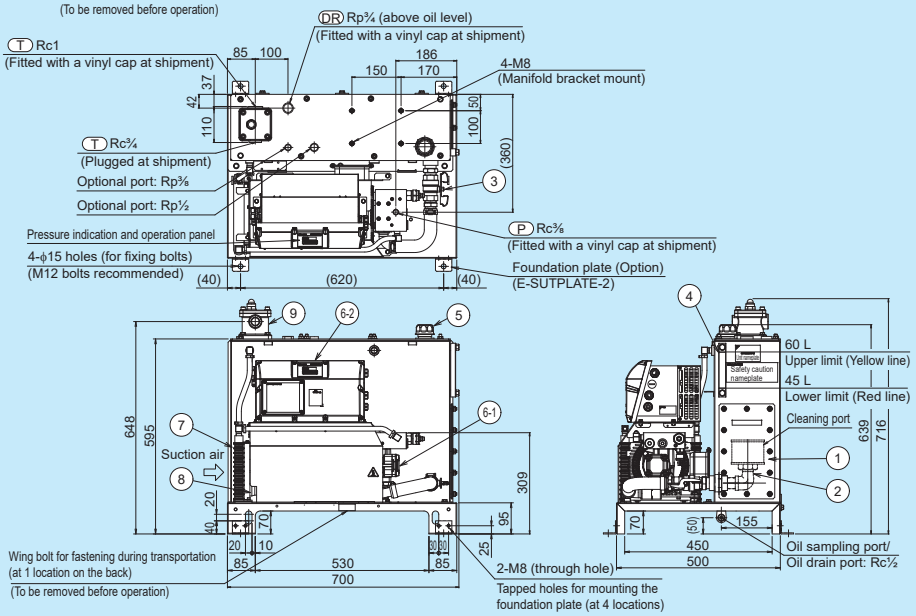
SUT03S1516-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1



SUT06S3016-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1
9	Return filter	1

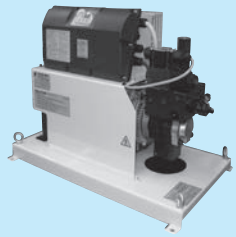


Super Unit
[Double pump type]

Maximum operating pressure	16 MPa
Maximum flow rate	40 L/min

Model code

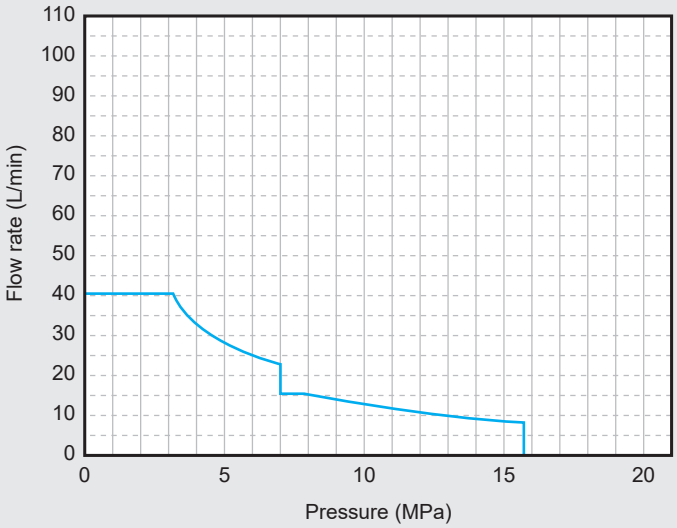
SUT※※D4016-30



Motor pump type

Unit type

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation:
8 L/min maximum

Specifications

		Motor pump type	Unit type
Model code		SUT00D4016-30	SUT06S4016-30
Pumps	Maximum operating pressure (MPa)	15.7	
	Operating pressure adjustment range (MPa)	1.5 to 15.7	
	Maximum flow rate (theoretical value) *1 (L/min)	41.0 (Combination flow: 41.0, independent flow: 16.0)	
	Operating flow rate adjustment range (L/min)	Combination flow: 5.5 to 41.0, independent flow: 2.2 to 16.0	
Motor	Motor capacity (equivalent kW)	3.7	
Tank capacity (L)		–	60
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)	
Rated current (A)		17.9	
No-fuse breaker capacity (A)		20	
External input signal		5ch	
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel	
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel	
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)	
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 9 (within NAS class 10 for 7 MPa and lower) • Volumetric water content: 0.1% maximum	
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)	
	Operating ambient temperature	0 to 40°C	
	Storage ambient temperature	–20 to 60°C	
	Operating ambient humidity	85% RH maximum (no condensation)	
	Waterproof protection rating	IP44	
	Installation site	Indoors (Be sure to secure the unit with bolts.)	
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.	
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr	
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr	
Standard coating color		Ivory white (Munsell code 5Y7.5/1)	
Mass (kg)		53	94

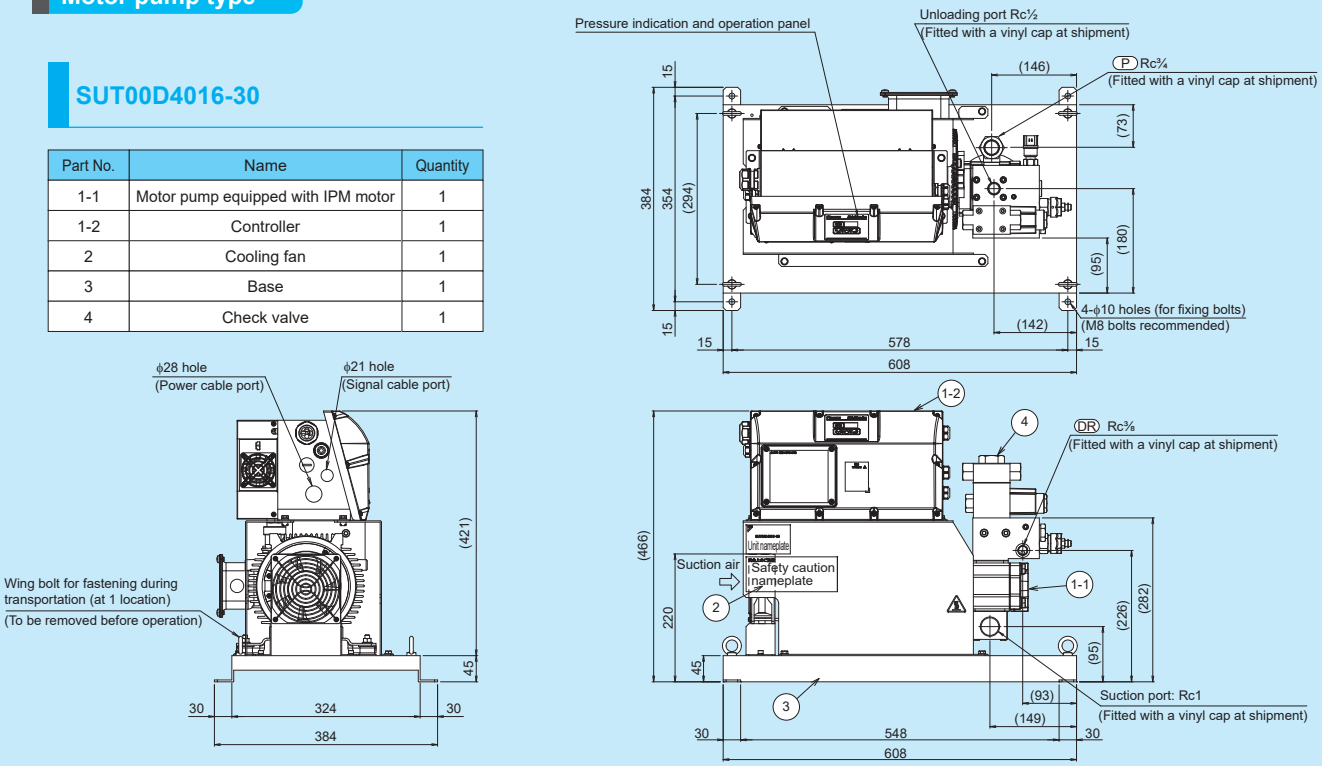
Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil. Keep the contamination level of the hydraulic oil within NAS contamination class 10 for operating pressures of 7 MPa or lower.
*3. The unit incorporates a safety valve.
*4. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

External Dimension Diagram

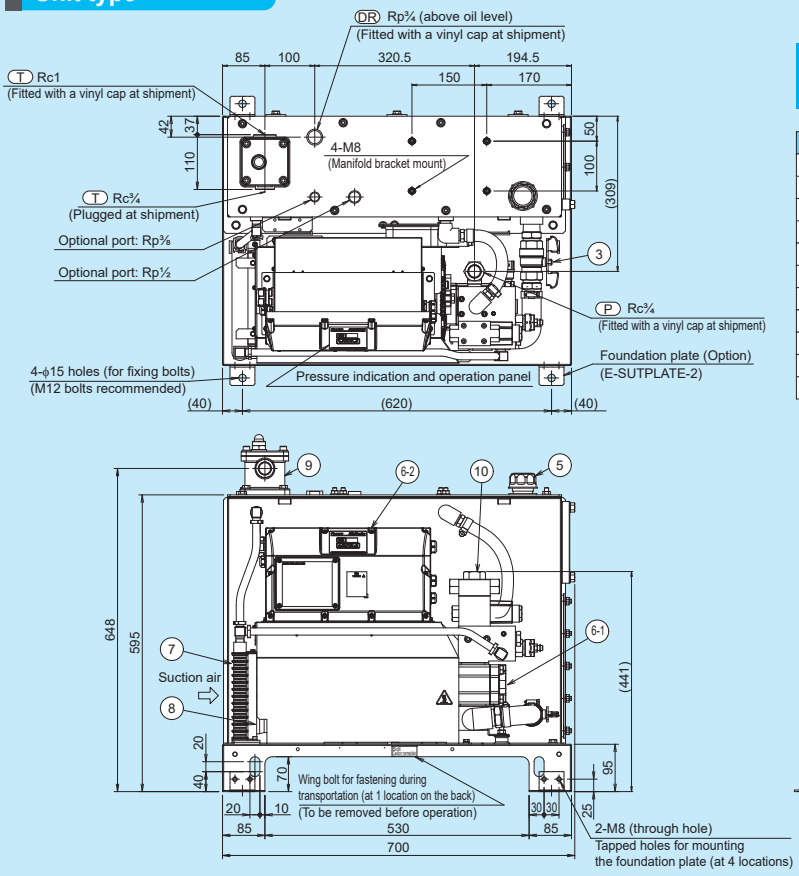
Motor pump type

SUT00D4016-30

Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	1
3	Base	1
4	Check valve	1

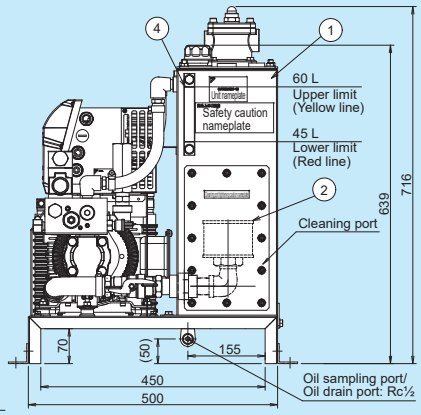


Unit type



SUT06D4016-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1
9	Return filter	1
10	Check valve	1



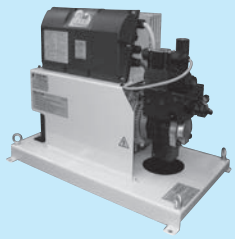
Super Unit
[Double pump type]

Maximum operating pressure **21 MPa**

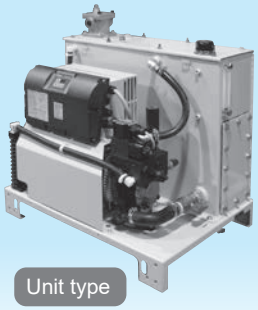
Maximum flow rate **60 L/min**

Model code

SUT※※D6021-30
SUT※※D6021-40-Y (400 V specifications)



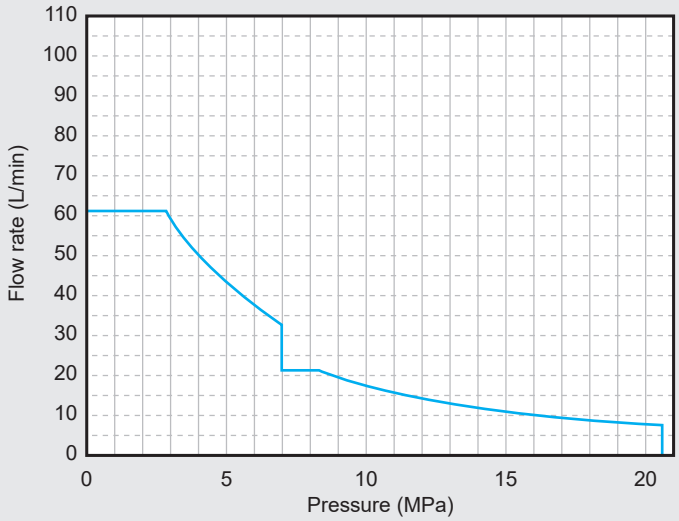
Motor pump type



Unit type

* The photo shows the 200 V specifications.

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation: **6.5 L/min maximum**

Specifications

		200 V specifications			Transformerless 400 V specifications		
		Motor pump type	Unit type		Motor pump type	Unit type	
Model code		SUT00D6021-30	SUT06D6021-30	SUT10D6021-30	SUT00D6021-40-Y	SUT06D6021-40-Y	SUT10D6021-40-Y
Pumps	Maximum operating pressure (MPa)	20.6					
	Operating pressure adjustment range (MPa)	1.5 to 20.6					
	Maximum flow rate (theoretical value) *1 (L/min)	61.1 (Combination flow: 61.1, independent flow: 21.2)					
	Operating flow rate adjustment range (L/min)	Combination flow: 8.8 to 61.1, independent flow: 3.1 to 21.2					
Motor	Motor capacity (equivalent kW)	5.0					
Tank capacity (L)		–	60	100	–	60	100
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)			3-phase 380 to 480 V (50 Hz/60 Hz) *3 (Permissible voltage fluctuation: ±10%)		
Rated current (A)		22.1			10.3		
No-fuse breaker capacity (A)		30			15		
External input signal		5ch					
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel					
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel					
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)					
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 9 (within NAS class 10 for 7 MPa and lower) • Volumetric water content: 0.1% maximum					
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)					
	Operating ambient temperature	0 to 40°C					
	Storage ambient temperature	–20 to 60°C					
	Operating ambient humidity	85% RH maximum (no condensation)					
	Waterproof protection rating	IP44					
	Installation site	Indoors (Be sure to secure the unit with bolts.)					
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.					
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr					
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr					
Standard coating color		Ivory white (Munsell code 5Y7.5/1)					
Mass (kg)		58	99	112	60	94	102

Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil. Keep the contamination level of the hydraulic oil within NAS contamination class 10 for operating pressures of 7 MPa or lower.
*3. For double pump selection, prepare a single-phase 230 V, 50 Hz power supply (allowable power supply fluctuation range: 80 to 110%) or single-phase 230 V, 60 Hz power supply (allowable power supply fluctuation range: 90 to 120%) separately.
*4. The unit incorporates a safety valve.
*5. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

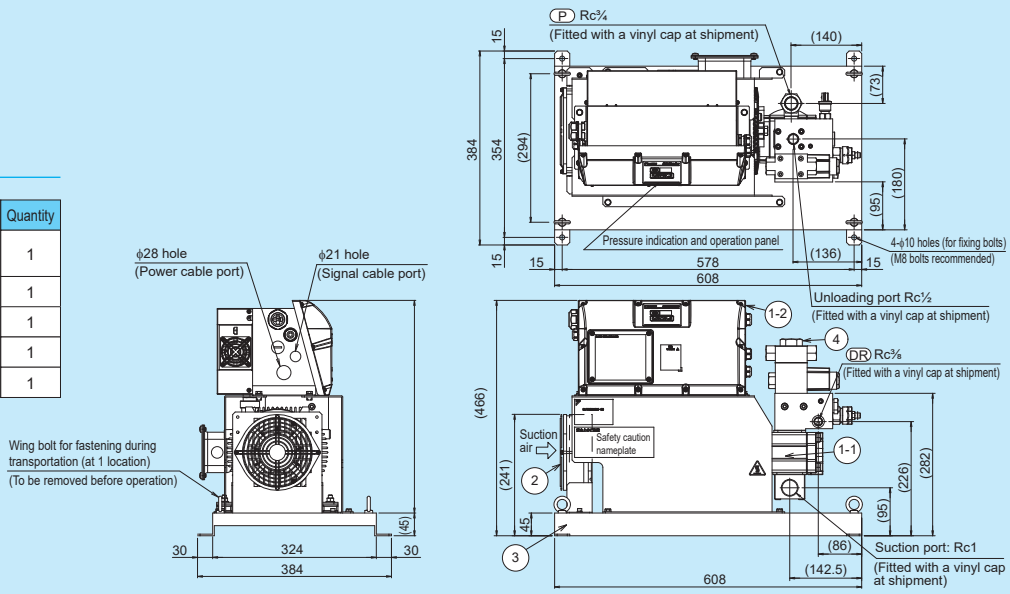
External Dimension Diagram

Refer to page 39 for the external dimensions of the 400 V specifications (-Y).

Motor pump type

SUT00D6021-30

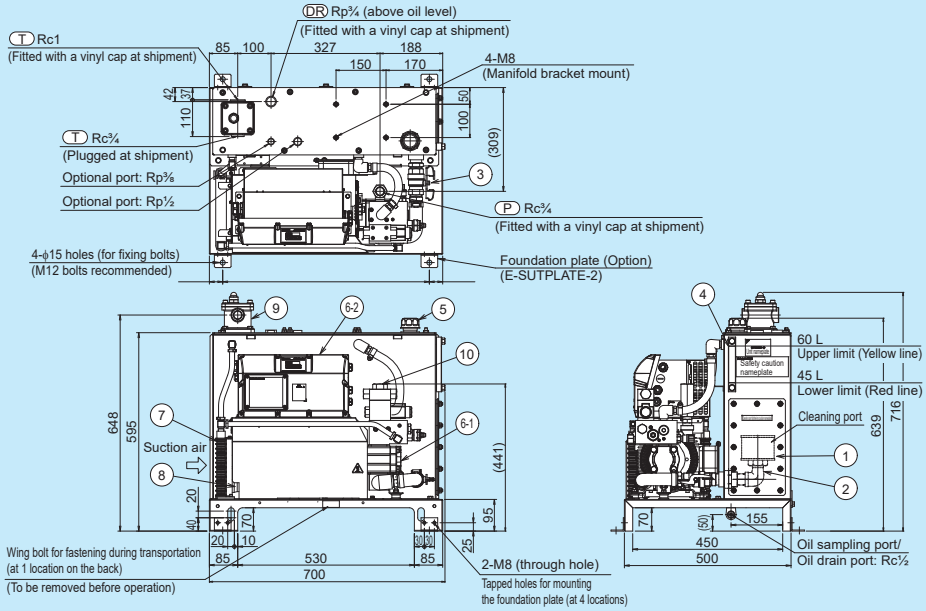
Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	1
3	Base	1
4	Check valve	1



Unit type

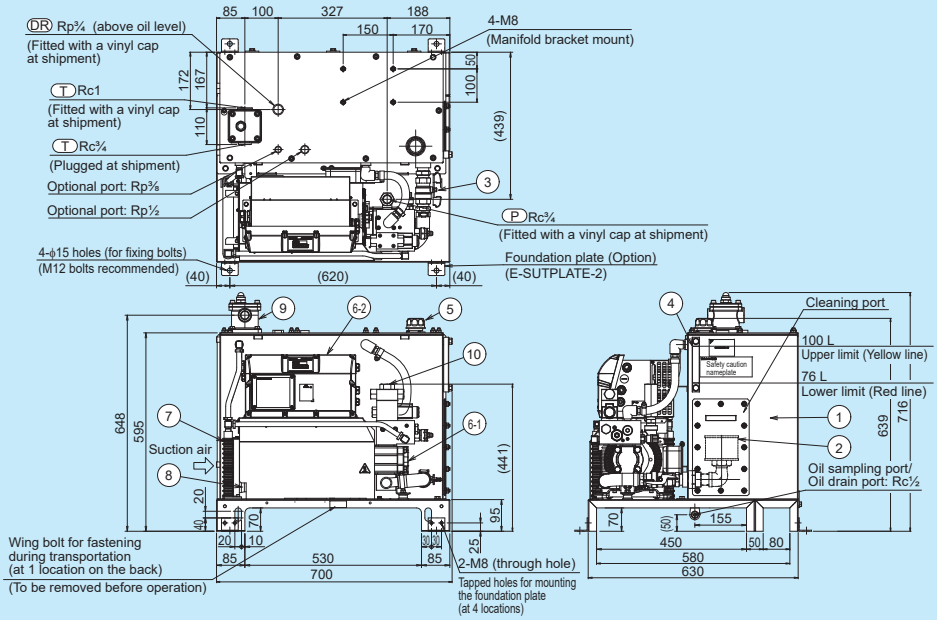
SUT06D6021-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1
9	Return filter	1
10	Check valve	1



SUT10D6021-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1
9	Return filter	1
10	Check valve	1



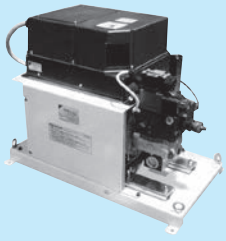
Super Unit
[Double pump type]

Maximum operating pressure **21 MPa**

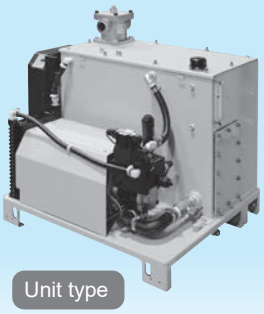
Maximum flow rate **80 L/min**

Model code

SUT※※D8021-30
SUT※※D8021-40-Y (400 V specifications)



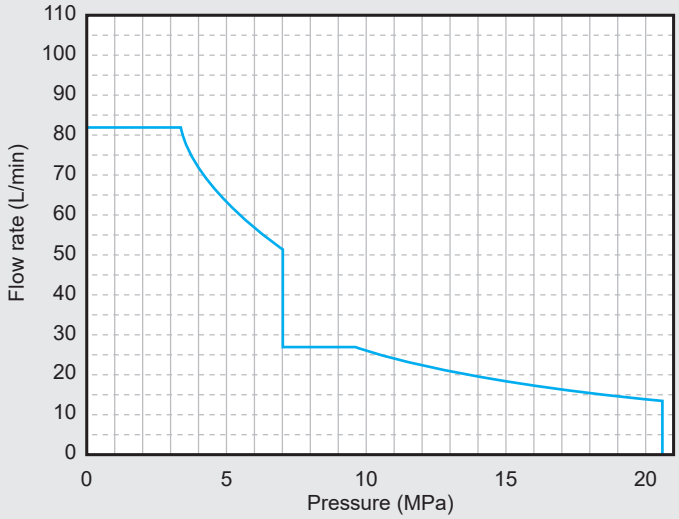
Motor pump type



Unit type

* The photo shows the 200 V specifications.

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation: **14 L/min maximum**

Specifications

		200 V specifications			Transformerless 400 V specifications		
		Motor pump type	Unit type		Motor pump type	Unit type	
Model code		SUT00D8021-30	SUT10D8021-30	SUT16D8021-30	SUT00D8021-40-Y	SUT10D8021-40-Y	SUT16D8021-40-Y
Pumps	Maximum operating pressure (MPa)	20.6					
	Operating pressure adjustment range (MPa)	1.5 to 20.6					
	Maximum flow rate (theoretical value) *1 (L/min)	83.0 (Combination flow: 83.0, independent flow: 28.7)					
	Operating flow rate adjustment range (L/min)	Combination flow: 11.6 to 83.0, independent flow: 4.1 to 28.7					
Motor	Motor capacity (equivalent kW)	7.0					
Tank capacity (L)		–	100	160	–	100	160
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)			3-phase 380 to 480 V (50 Hz/60 Hz) *3 (Permissible voltage fluctuation: ±10%)		
Rated current (A)		25.5			14.1		
No-fuse breaker capacity (A)		50			20		
External input signal		5ch					
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel					
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel					
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)					
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 9 (within NAS class 10 for 7 MPa and lower) • Volumetric water content: 0.1% maximum					
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)					
	Operating ambient temperature	0 to 40°C					
	Storage ambient temperature	–20 to 60°C					
	Operating ambient humidity	85% RH maximum (no condensation)					
	Waterproof protection rating	IP44					
	Installation site	Indoors (Be sure to secure the unit with bolts.)					
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.					
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr					
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr					
Standard coating color		Ivory white (Munsell code 5Y7.5/1)					
Mass (kg)		72	133	145	63	108	122

Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil. Keep the contamination level of the hydraulic oil within NAS contamination class 10 for operating pressures of 7 MPa or lower.
*3. For double pump selection, prepare a single-phase 230 V, 50 Hz power supply (allowable power supply fluctuation range: 80 to 110%) or single-phase 230 V, 60 Hz power supply (allowable power supply fluctuation range: 90 to 120%) separately.
*4. The unit incorporates a safety valve.
*5. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

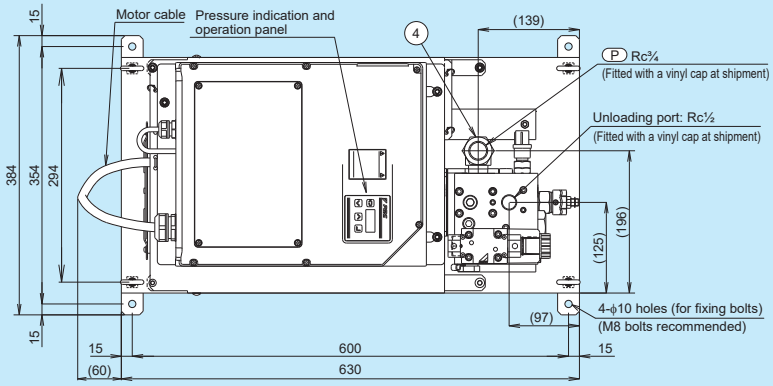
External Dimension Diagram

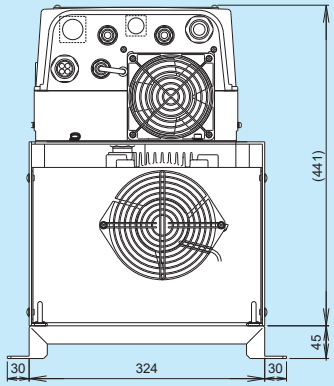
Refer to page 40 for the external dimensions of the 400 V specifications (-Y).

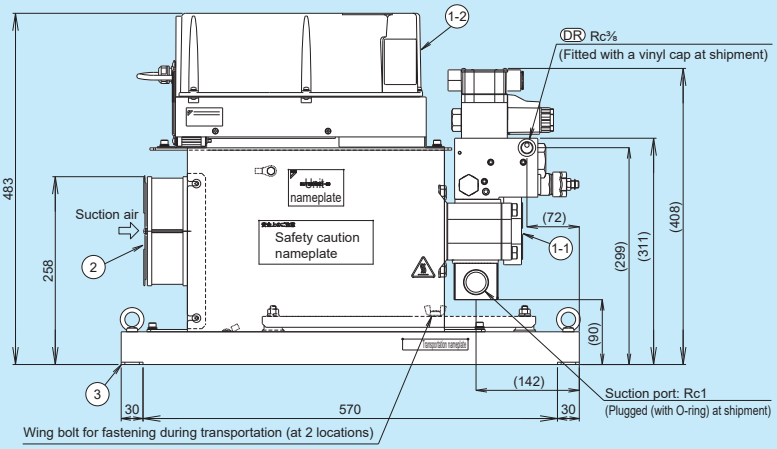
Motor pump type

SUT00D8021-30

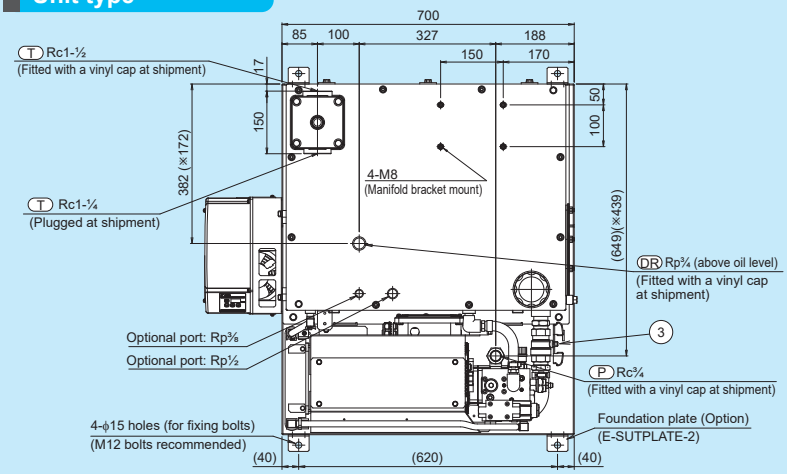
Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	1
3	Base	1
4	Check valve	1





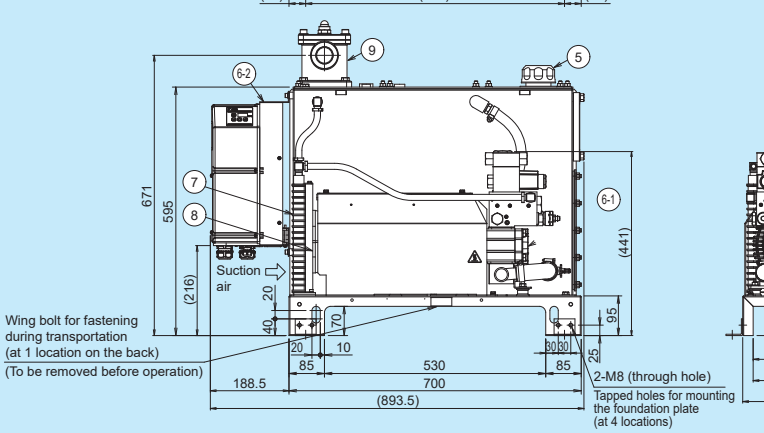


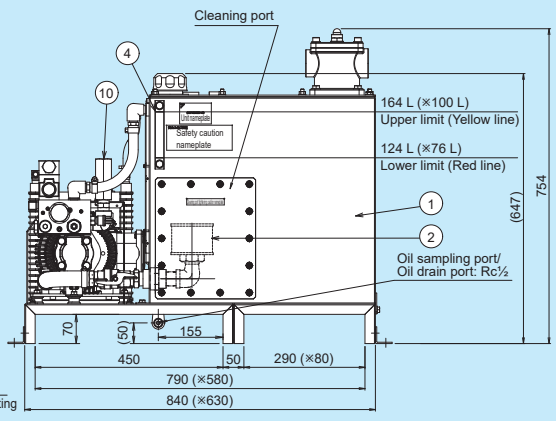
Unit type



SUT10D8021-30
SUT16D8021-30

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	1
9	Return filter	1
10	Check valve	1





(×): Dimensions for SUT10D8021-30

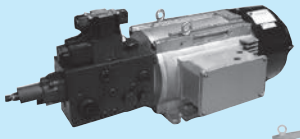
Super Unit
[Double pump type]

Maximum operating pressure 21 MPa

Maximum flow rate 110 L/min

Model code

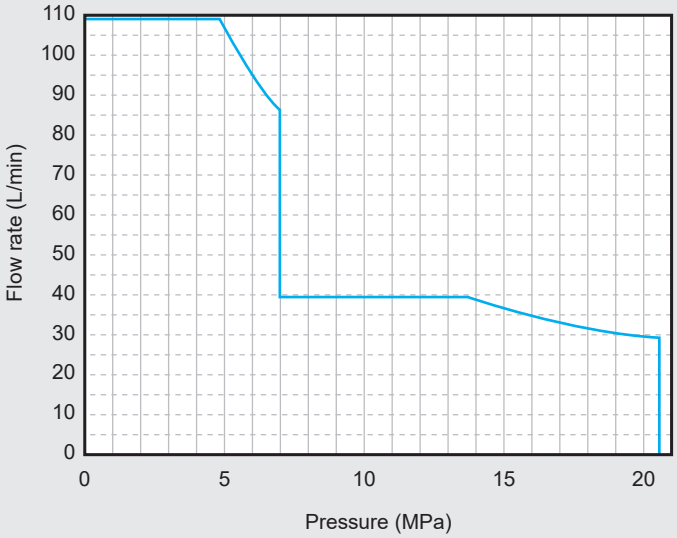
SUT00D11021-41
P-SUT20D11KW-41



Motor pump type

Unit type

Pressure – Flow rate characteristics (Representative)



* The graph shows actual flow rates (representative values).
* Operating flow rate at the maximum pressure in continuous operation: **16 L/min maximum**

Specifications

		Motor pump type	Unit type
Model code		SUT00D11021-41	P-SUT20D11KW-41
Pumps	Maximum operating pressure (MPa)	20.6	
	Operating pressure adjustment range (MPa)	1.5 to 20.6	
	Maximum flow rate (theoretical value) *1 (L/min)	110 (Combination flow: 110, independent flow: 40.5)	
	Operating flow rate adjustment range (L/min)	Combination flow: 13.3 to 110, independent flow: 4.9 to 40.5	
Motor	Motor capacity (equivalent kW)	11	
Tank capacity (L)		–	200
Power supply voltage	Motor pump/unit	3-phase 200-220 V (50 Hz/60 Hz) (Permissible voltage fluctuation: ±10%)	
Rated current (A)		38.3	
No-fuse breaker capacity (A)		75	
External input signal		5ch	
		Photo-coupler insulation, DC 24 V (DC 27 V maximum), 5 mA/channel	
External output signal	Digital output	2 channels, photocoupler insulation, FET output, DC 24 V, 50 mA maximum per channel	
	Contact output	1 channel (1 common contact), dry contact, Contact capacity: DC 30 V, 0.5 A (resistance load)	
Operating conditions	Usable oil *2	General petroleum-based hydraulic oil (R&O)/Wear-resistant hydraulic oil • Viscosity grade: ISO VG32 to 68 • Viscosity range: 15 to 400 mm²/s (20 to 200 mm²/s recommended) • Contamination: Within NAS class 9 (within NAS class 10 for 7 MPa and lower) • Volumetric water content: 0.1% maximum	
	Tank oil temperature	0 to 60°C (Recommended operating temperature range: 15 to 50°C)	
	Operating ambient temperature	0 to 40°C	
	Storage ambient temperature	–20 to 60°C	
	Operating ambient humidity	85% RH maximum (no condensation)	
	Waterproof protection rating	IP44	
	Installation site	Indoors (Be sure to secure the unit with bolts.)	
	Other	• Be sure to connect a circuit breaker for all (three) poles and the earth leakage breaker. • Make sure that the electrical wiring meets the requirements of European Standard EN60204-1. • Frequent turning this unit's power supply ON/OFF will considerably shorten the controller's service life. To start or stop the unit at 8-minute or shorter intervals, use the unit's control stop function. • Be sure to connect the ground terminal.	
Vibration resistance	Motor pump	30.0 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr	
	Controller	21.6 m/s², 33.3 Hz, 3-direction, X/Y: 2 Hr, Z: 4 Hr	
Standard coating color		Ivory white (Munsell code 5Y7.5/1)	
Mass (kg)		112	360

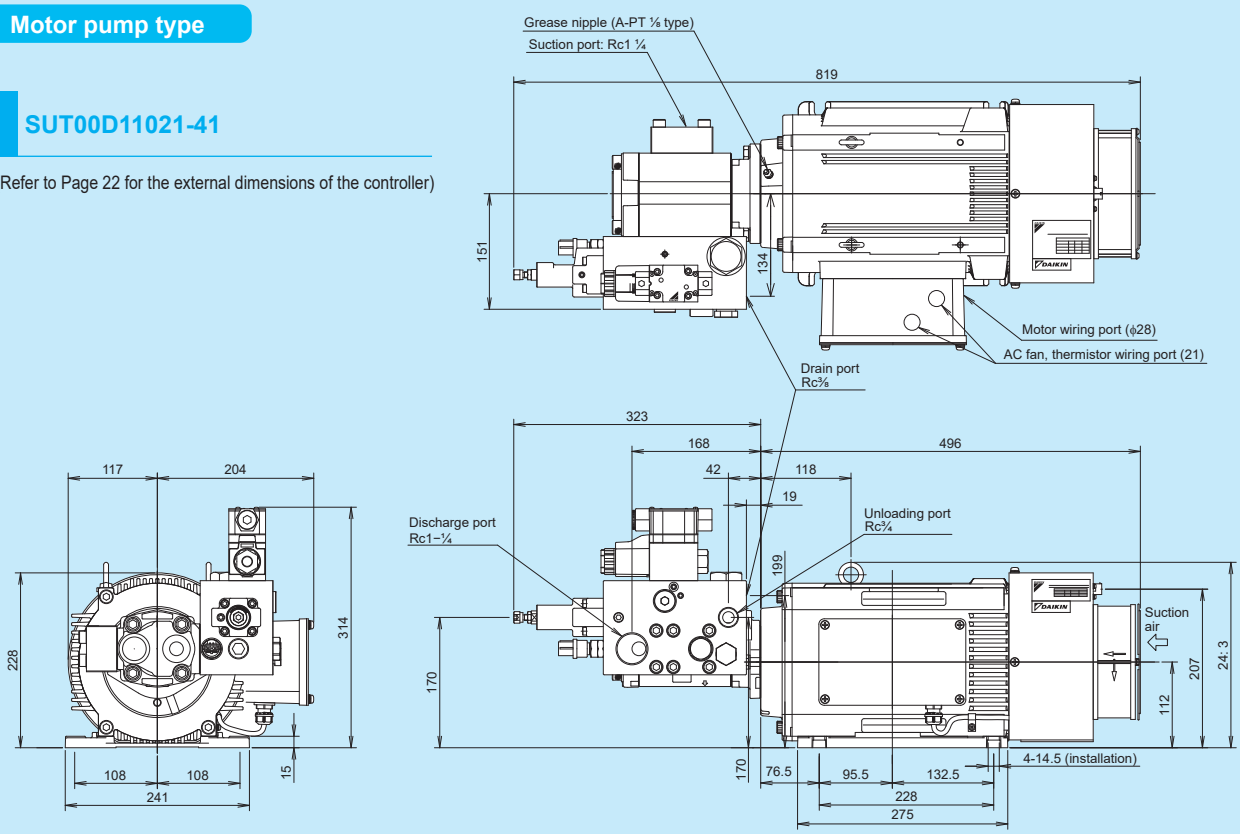
Note) *1. The factory default setting is the maximum flow rate. The maximum flow rate given in the table above is a theoretical value, not a guaranteed value.
*2. Consult DAIKIN about the use of hydraulic oils other than petroleum-based oil (e.g. hydrous/synthetic) such as water-glycol hydraulic oil. Keep the contamination level of the hydraulic oil within NAS contamination class 10 for operating pressures of 7 MPa or lower.
*3. The unit incorporates a safety valve.
*4. When selecting a SUPER UNIT, refer to "Pressure-Flow Rate Characteristics" and the description of how to select a unit in the separate catalog for SUPER UNITs.
For the purpose of making improvements, the specifications given in catalogs are subject to change without prior notice. Be sure to refer to the latest model drawings.

External Dimension Diagram

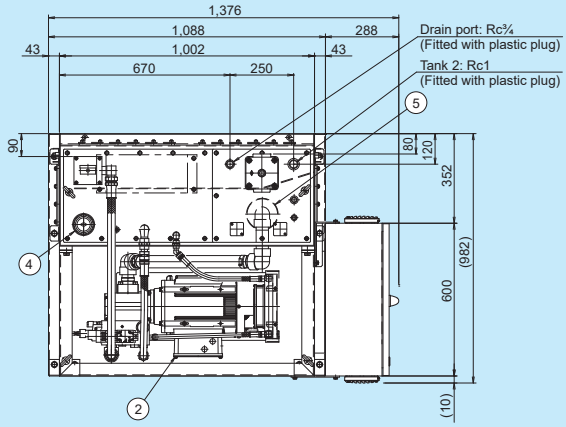
Motor pump type

SUT00D11021-41

(Refer to Page 22 for the external dimensions of the controller)

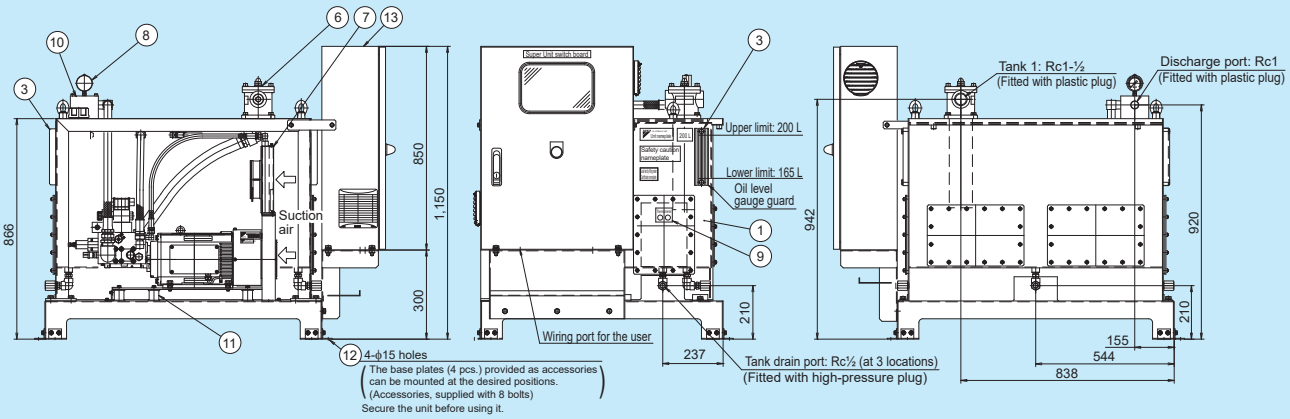


Unit type



P-SUT20D11KW-41

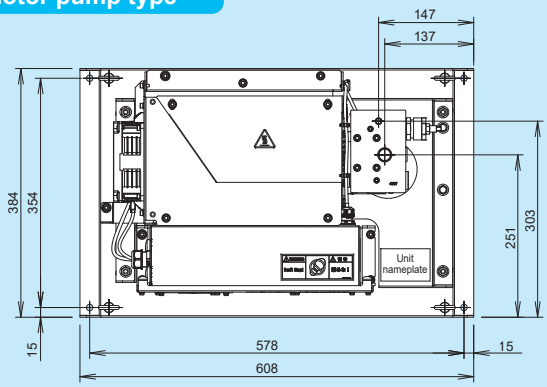
Part No.	Name	Quantity
1	Oil tank	1
2	Motor pump	1
3	Oil level gauge	2
4	Oil filler port with air breather	1
5	Suction strainer	1
6	Return filter	1
7	Oil cooler	1
8	Pressure gauge	1
9	Thermometer	1
10	Outlet block	1
11	Vibration-absorbing rubber	6
12	Foundation plate	1
13	Electrical cabinet	1

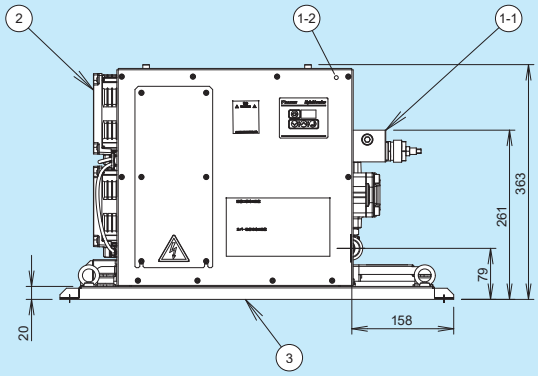


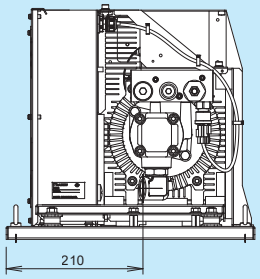
External Dimension Diagram

Refer to page 15 for the specifications of the transformerless 400 V specifications (-Y).

Motor pump type



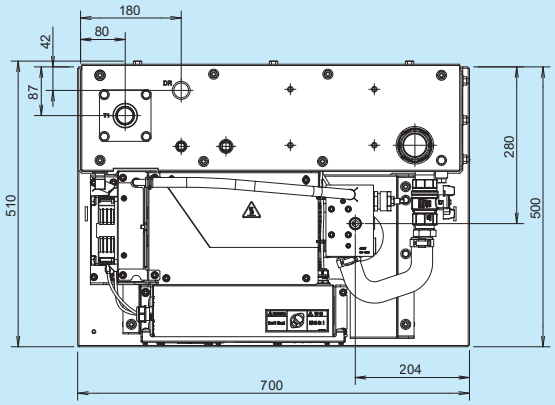


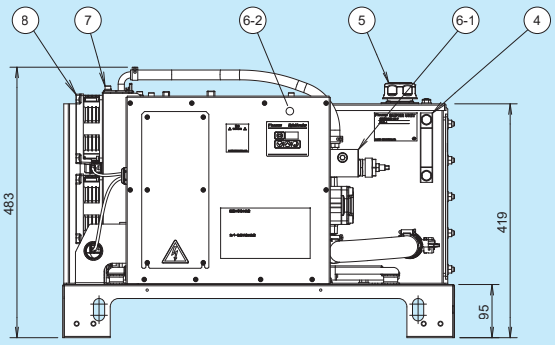


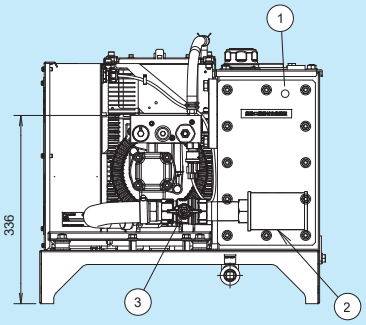
SUT00S4007-40-Y

Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	2
3	Base	1

Unit type







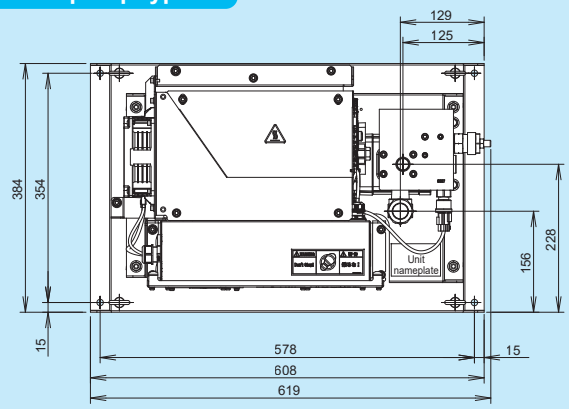
SUT03S4007-40-Y

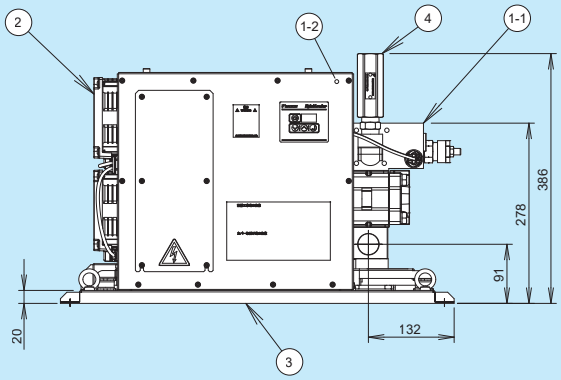
Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	2

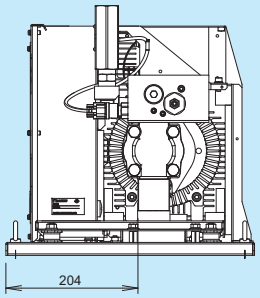
External Dimension Diagram

Refer to page 17 for the specifications of the transformerless 400 V specifications (-Y).

Motor pump type



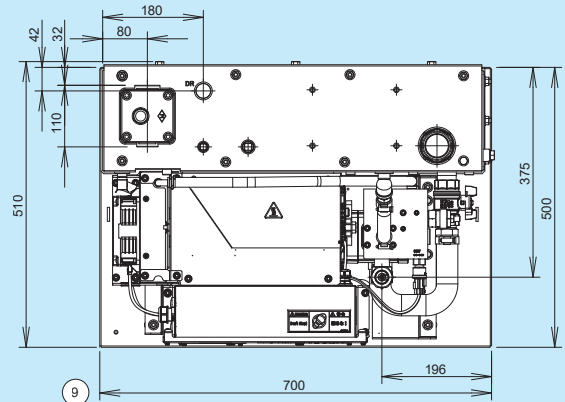


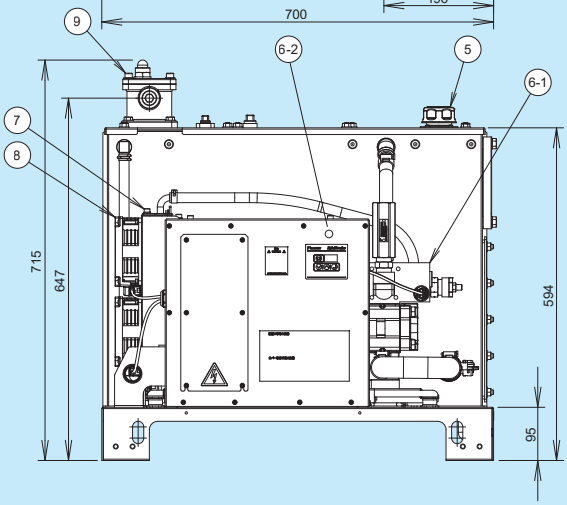


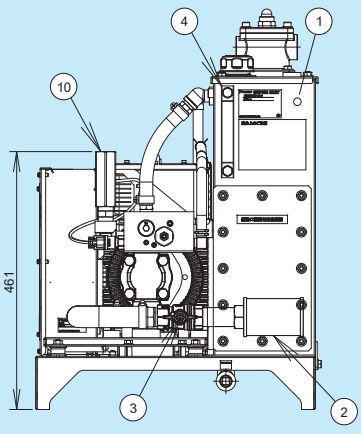
SUT00S6007-40-Y

Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	2
3	Base	1
4	Inline check valve	1

Unit type







SUT06S6007-40-Y

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	2
9	Return filter	1
10	Inline check valve	1

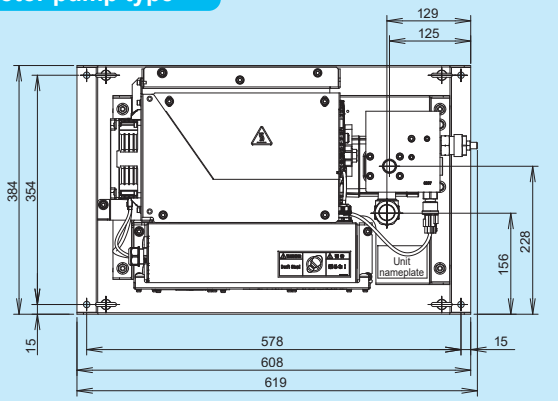
Transformerless
400 V specifications
[Single pump type]

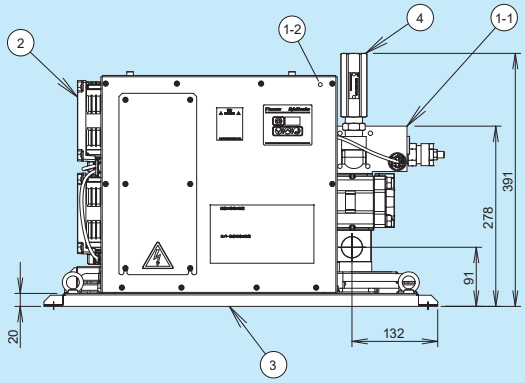
Maximum operating pressure **7** MPa | Maximum flow rate **80** L/min

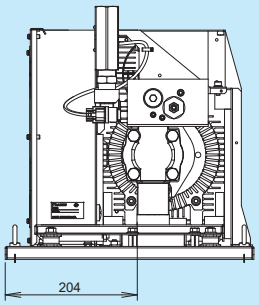
External Dimension Diagram

Refer to page 19 for the specifications of the transformerless 400 V specifications (-Y).

Motor pump type



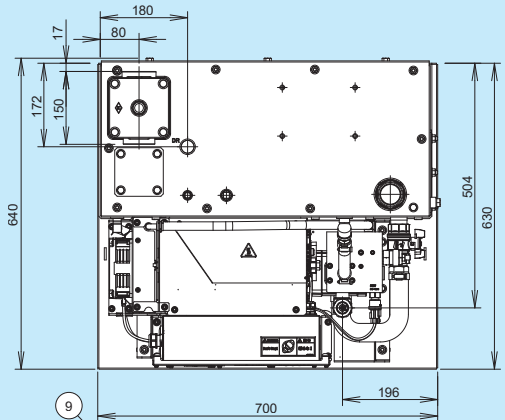


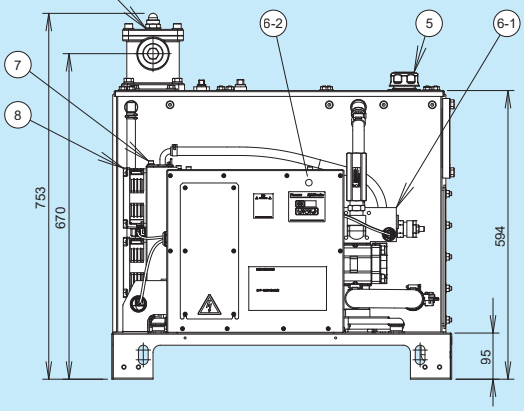


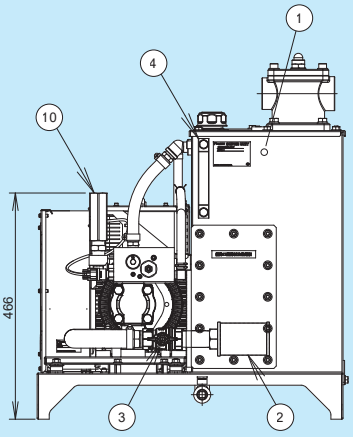
SUT00S8007-40-Y

Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	2
3	Base	1
4	Inline check valve	1

Unit type







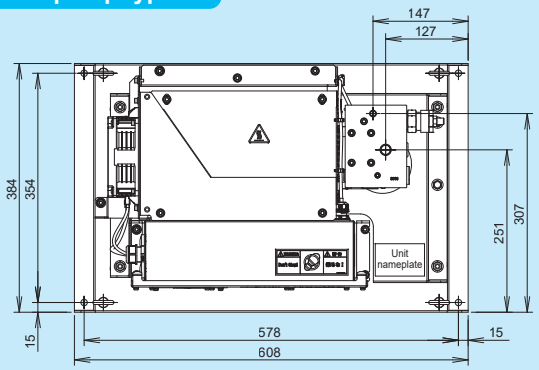
SUT10S8007-40-Y

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	2
9	Return filter	1
10	Inline check valve	1

External Dimension Diagram

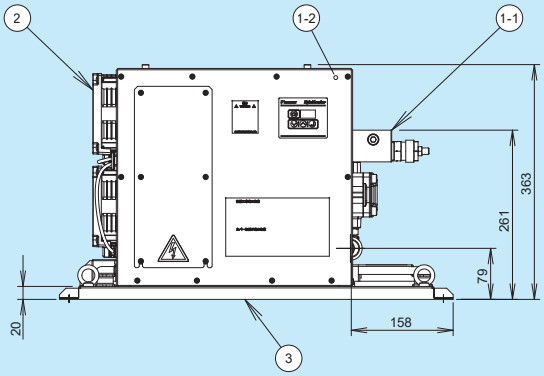
Refer to page 25 for the specifications of the transformerless 400 V specifications (-Y).

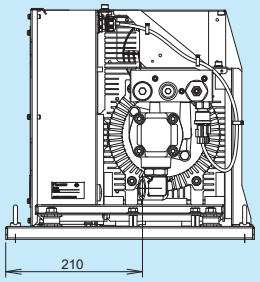
Motor pump type



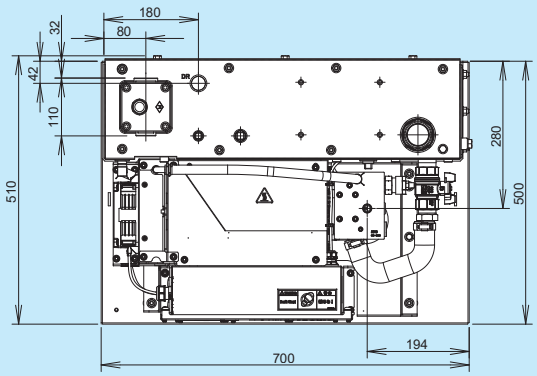
SUT00S3016-40-Y

Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	2
3	Base	1



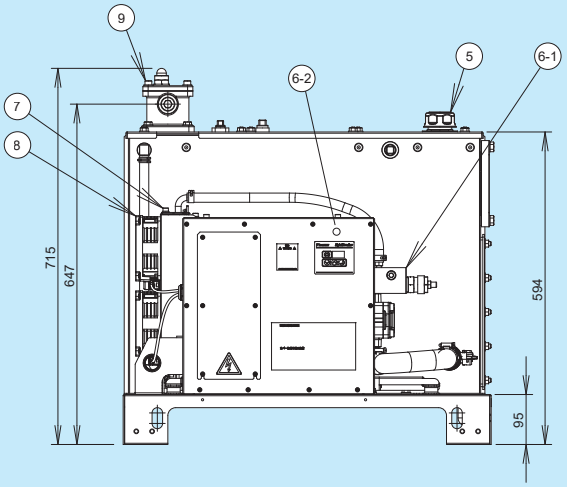


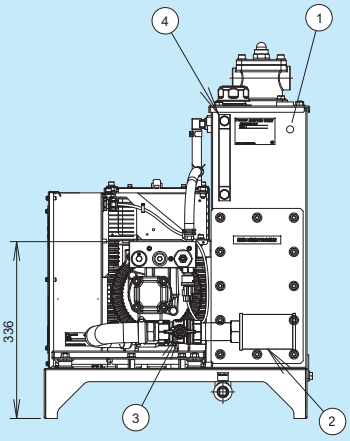
Unit type



SUT06S3016-40-Y

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	2
9	Return filter	1





400 V specifications
[Double pump type]

Maximum operating pressure 21 MPa | Maximum flow rate 60 L/min

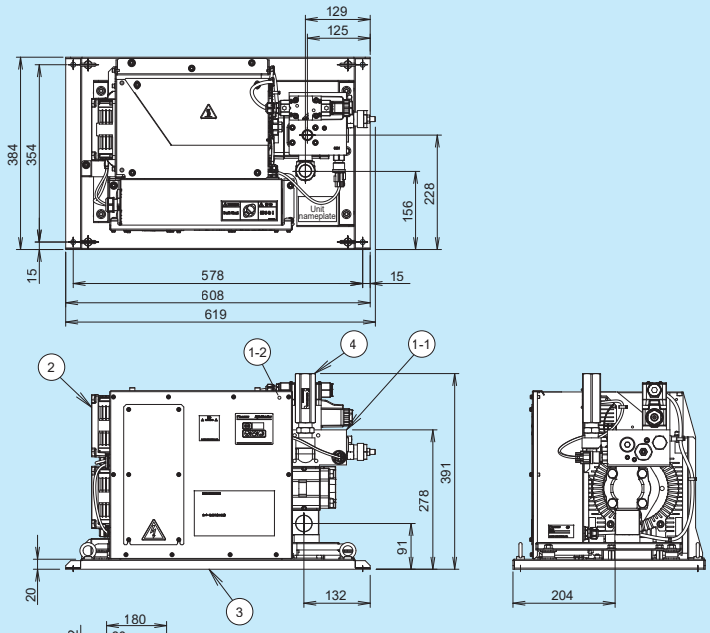
External Dimension Diagram

Refer to page 29 for the specifications of the 400 V specifications (-Y).

Motor pump type

SUT00D6021-40-Y

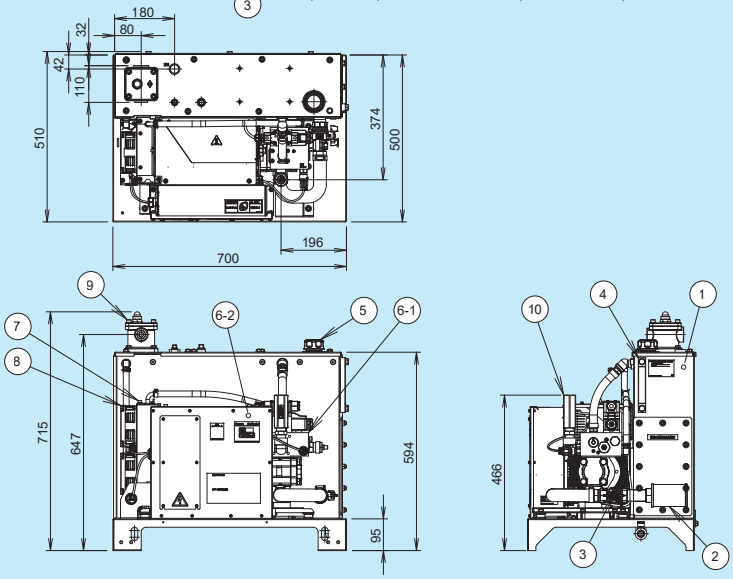
Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	2
3	Base	1
4	Inline check valve	1



Unit type

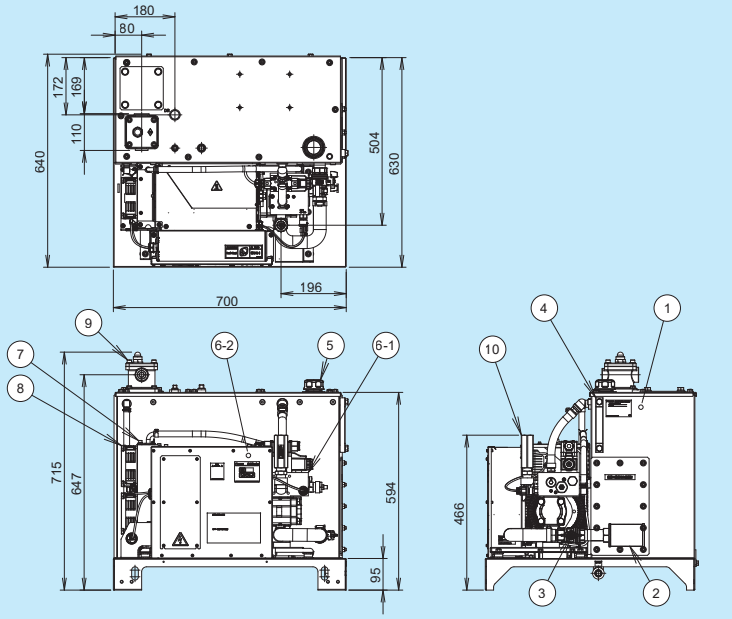
SUT06D6021-40-Y

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	2
9	Return filter	1
10	Inline check valve	1



SUT10D6021-40-Y

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	2
9	Return filter	1
10	Inline check valve	1



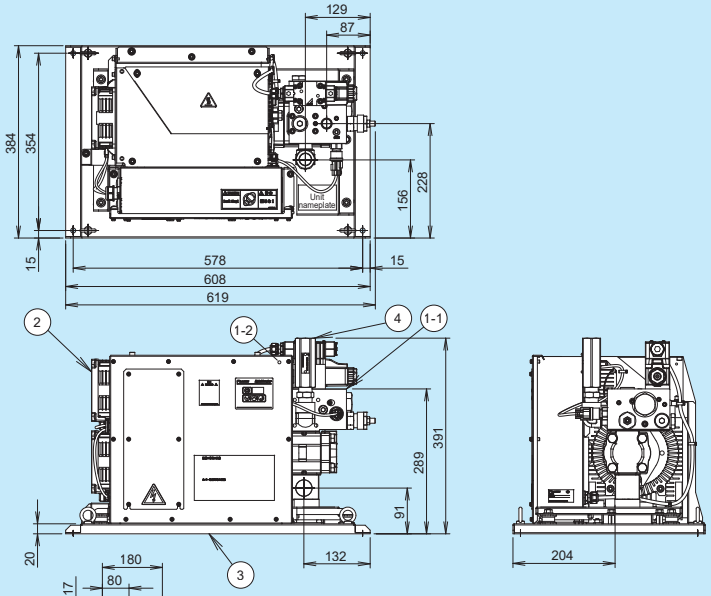
External Dimension Diagram

Refer to page 31 for the specifications of the 400 V specifications (-Y).

Motor pump type

SUT00D8021-40-Y

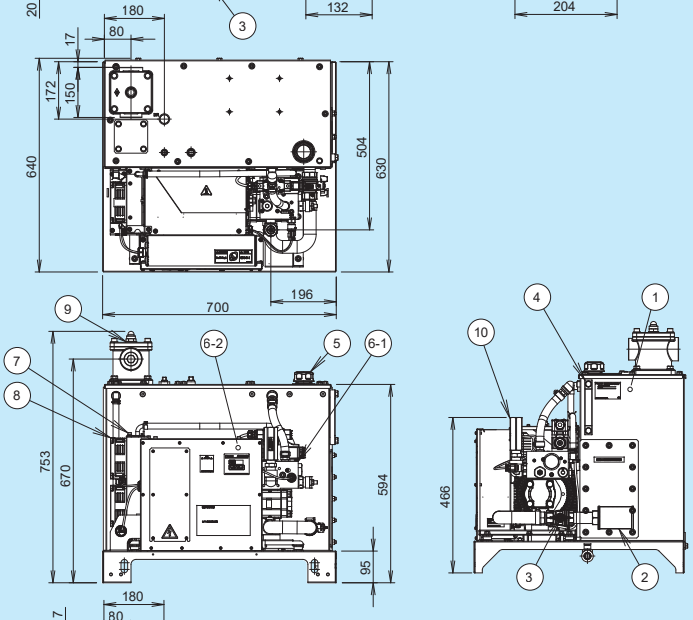
Part No.	Name	Quantity
1-1	Motor pump equipped with IPM motor	1
1-2	Controller	1
2	Cooling fan	2
3	Base	1
4	Inline check valve	1



Unit type

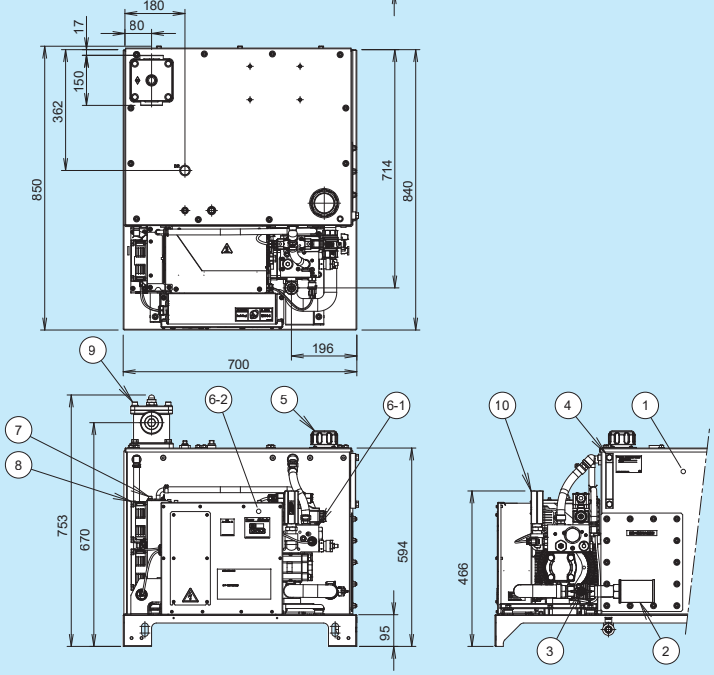
SUT10D8021-40-Y

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	2
9	Return filter	1
10	Inline check valve	1



SUT16D8021-40-Y

Part No.	Name	Quantity
1	Oil tank	1
2	Suction strainer	1
3	Stop valve	1
4	Oil level gauge	1
5	Oil filler port with air breather	1
6-1	Motor pump equipped with IPM motor	1
6-2	Controller	1
7	Oil cooler	1
8	Cooling fan	2
9	Return filter	1
10	Inline check valve	1

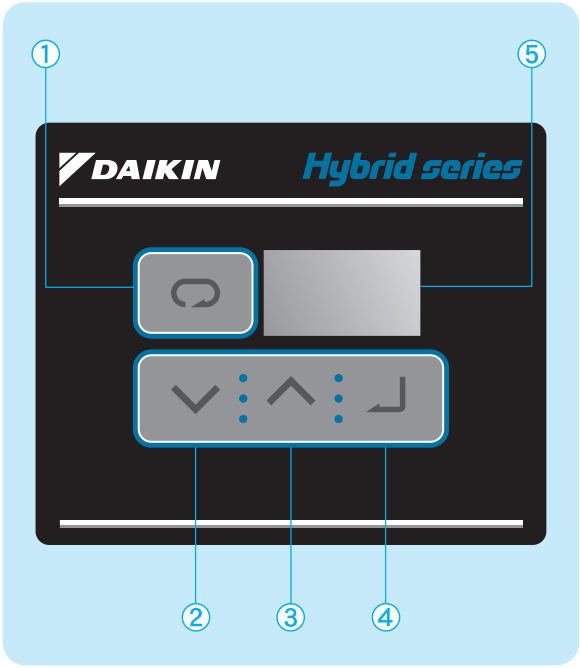


Operation Panel

Part names, functions, and the operation

Using the key switches on the Super Unit controller, you can monitor the pressure and flow rate and set or change parameters.

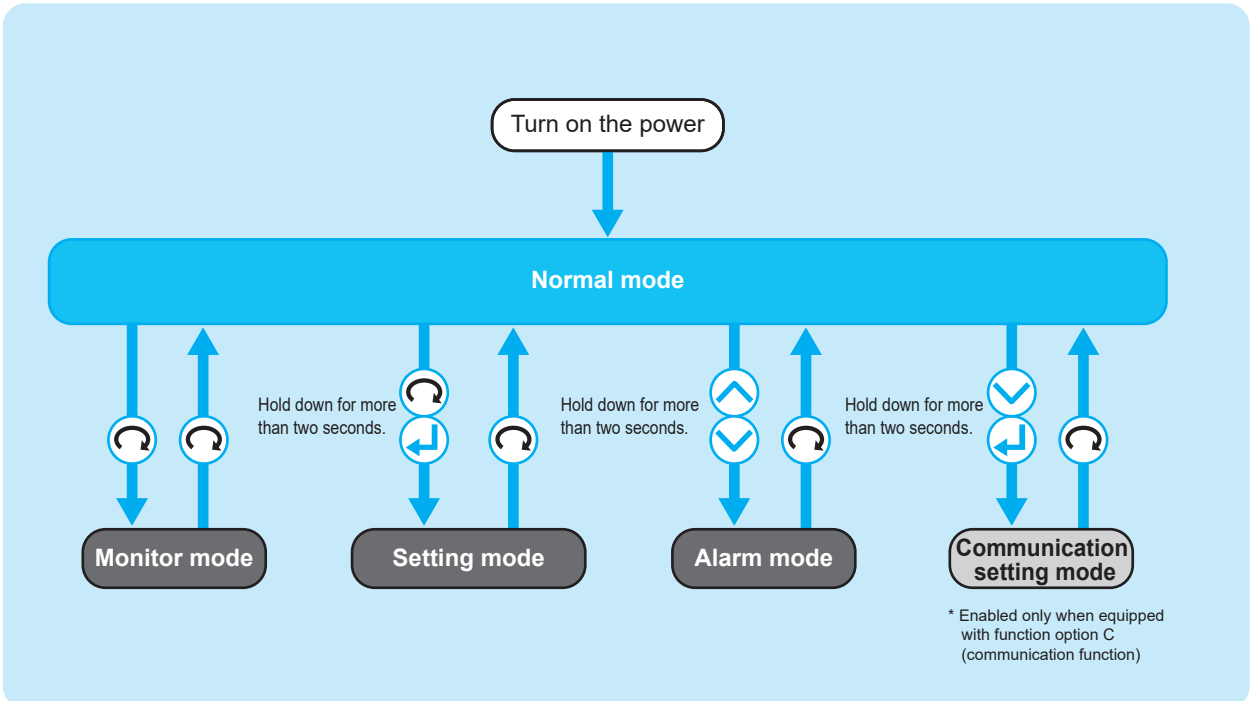
■ Outline of Functions



NO.	Item	Description
①	[MODE] key	Selects the operation mode.
②	[DOWN] key	Decrements a value set for the operation mode/monitor mode/data.
③	[UP] key	Increments a value set for the operation mode/monitor mode/data.
④	[ENT] key	Confirms the edited operation mode/monitor mode/data.
⑤	Data display	Normal mode: Displays the actual pressure or alarm code. Monitor mode: Displays the pressure switch setting, each pressure setting, each flow rate setting, the actual flow rate, or the actual rotation speed. Setting mode: Set or change the pressure, flow rate, or other parameters. Alarm mode: Check the alarm history. Communication setting mode: Change communication settings.

■ Mode selection

To go to the monitor mode or return to the normal mode from other modes, press the ↩ key.
To go to other modes, press and hold down a combination of relevant keys for 2 seconds.



Monitor mode

The following items can be checked in the monitor mode.

Item No.	Name	Unit	Description
n00 *1	Pressure switch setting	MPa ×10PSI	[When the PSI unit is selected: ×10 PSI] Displays the pressure switch setting.
n01 *1	Pressure setting	MPa ×10PSI	[When the PSI unit is selected: ×10 PSI] Alternately displays the high (single flow) and low (combination flow) pressure settings for the current P-Q selection number.
n02	Flow rate setting	L/min	Alternately displays the high (single flow) and low (combination flow) flow rate settings for the current P-Q selection number.
n03	Flow rate	L/min	Displays the current flow rate (theoretical value).
n04 *2	Latest alarm code	—	Displays the alarm code of the alarm that occurred most recently. The current power ON count can be checked by pressing the ↵ key. Press the ↵ key to check how many times the power has been turned on so far.
n05	Motor rotation speed	×10min^{-1}	Displays the current rotation speed of the motor.
n06	Operation status	—	[SUT××D] Displays the solenoid valve switching status: “Low pressure [L]” (combination flow) or “High pressure [H]”(single flow), and the P-Q selection number. Example:  Combination flow (low pressure) - P-Q selection No. 1 [SUT××S] Displays the low pressure status [L] and P-Q selection number or the selected P-Q selection number only. Example:  Combination flow (low pressure) - P-Q selection No. 1 Example:  P-Q selection No. 2
n07	Reverse rotations at power OFF	min^{-1}	Displays the total number of rotations of the motor when it rotates in the reverse direction due to reverse flow from the load when the power supply for the unit is turned OFF. This value is used to estimate the machine load volume.
n08	Regenerative load integration ratio	%	Displays the regenerative load integration ratio of the current regenerative braking resistance.
n10	Motor temperature	°C	Displays the temperature of the motor.
n11	Heat emission fin temperature	°C	Displays the temperature of the heat emission fins of the controller.
n12	Main circuit DC voltage	V	Displays the controller’s internal circuit voltage. The indicated voltage is a value equivalent to "power supply voltage √2". The main circuit voltage may vary depending on the operating conditions and momentarily exceed 350 V due to a regenerative current during deceleration and other operations. However, this is not abnormal.
n13 *3	Pressure command	—	Displays the input voltage at analog input terminal AIN1.
n14 *3	Flow rate command		Displays the input voltage at analog input terminal AIN2.
n15 *3	Actual pressure		Displays the output voltage at analog output terminal AO1.
n16 *3	Actual flow rate		Displays the output voltage at analog output terminal AO2.

*1: The default setting is displayed in MPa (standard display unit). If you change the display unit to PSI, ensure that you indicate in some manner that the monitor value is displayed using the PSI unit (attach a label, etc). However, use of the PSI unit in Japan is subject to punishment under the Measurement Law. Users should supply their own unit indication labels.

*2: You can check the current power ON count by pressing the ↵ key when an alarm code is displayed. For details on alarm codes, refer to the alarm descriptions in the Operation Manual.

*3: Enabled only when equipped with function option P (analog input function)

Setting mode

The following data can be set in the setting mode.
For details on the settings, refer to the Operation Manual of the relevant model since they vary depending on the model.

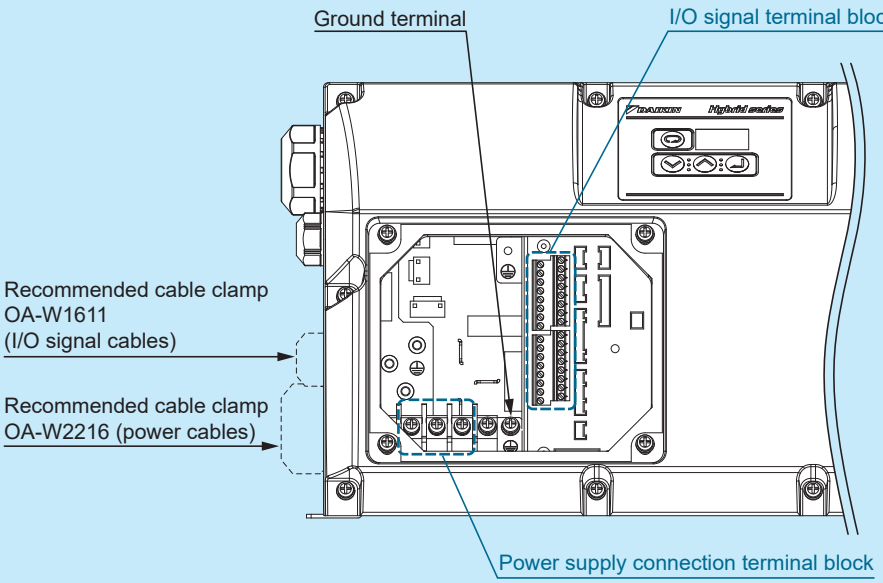
- **The pressure, flow rate, acceleration time, deceleration time, etc., to be set for multi-stage pressure/flow rate control**
- **Enable/disable setting of pressure switch functions**
- **Display unit selection**
- **Dry run judging pressure, time, etc.**
- **Various control gains**

Electric Wiring

Power supply and I/O signal cables

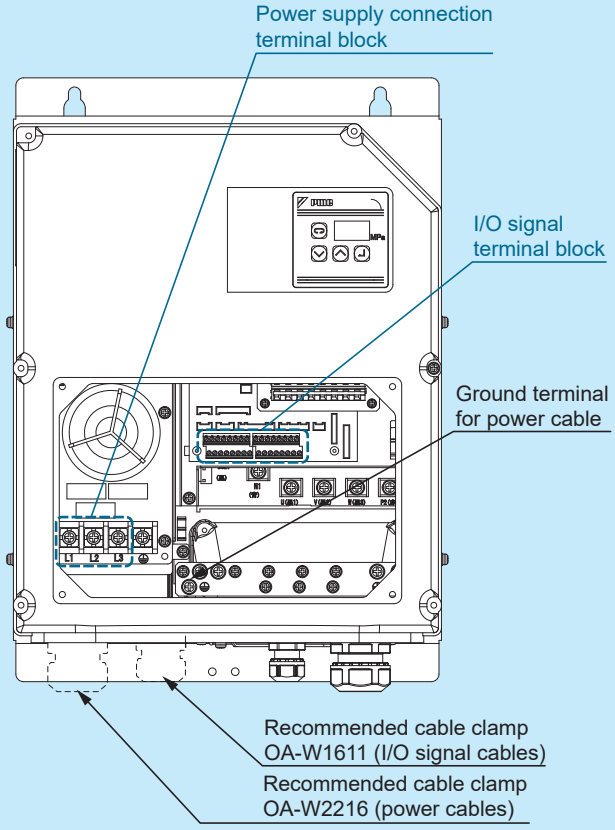
SUT××S4007-30, SUT××S6007-30, SUT××S3010-30
SUT××S1516-30, SUT××S3016-30
SUT××D4016-30, SUT××D6021-30

Internal terminal layout (with the controller cover open)



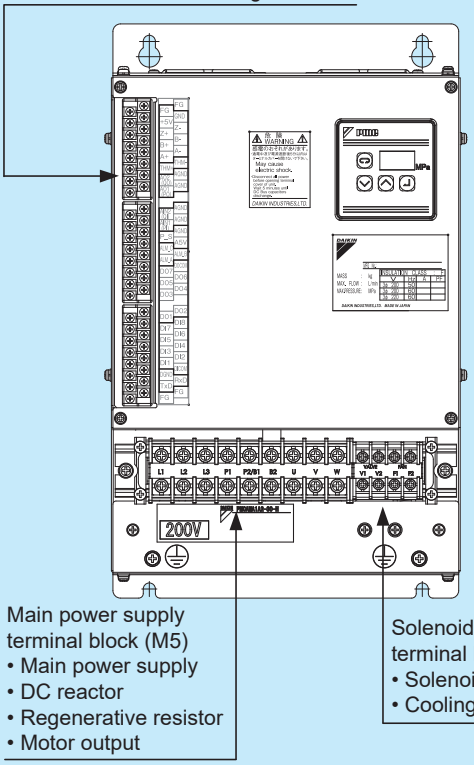
SUT××S8007-30, SUT××D8021-30

Internal terminal layout (with the controller cover open)



SUT00S11007-41, SUT00D11021-41
P-SUT20D11KW-41

User I/O terminal (M3)
- Encoder
- Pressure sensor
- Motor thermistor
- I/O signal

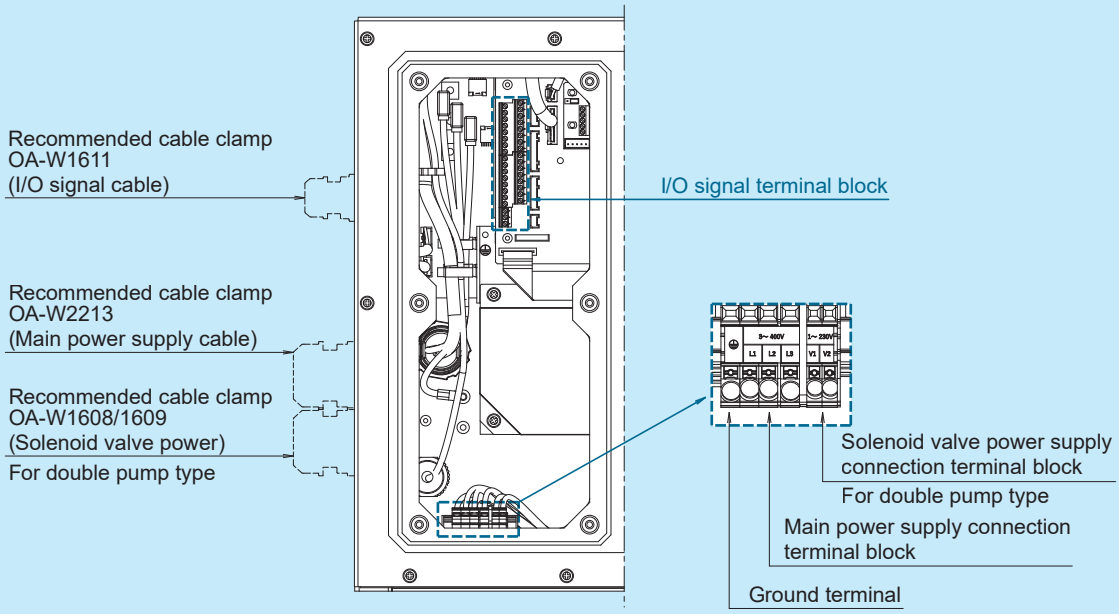


Main power supply terminal block (M5)
- Main power supply
- DC reactor
- Regenerative resistor
- Motor output

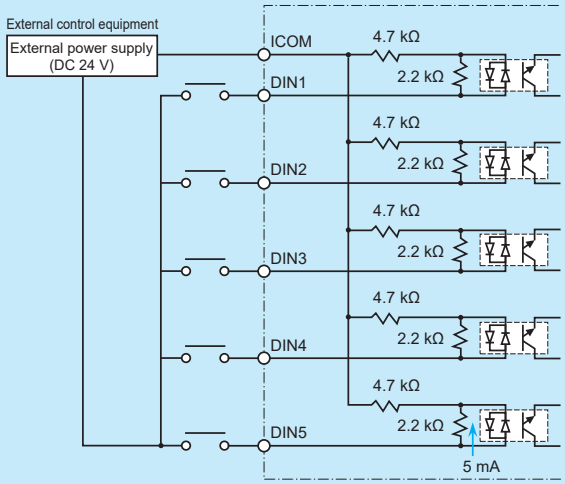
Solenoid valve terminal block (M4)
- Solenoid valve power
- Cooling fan power

* Main power supply connections: Connect a 3-phase AC power supply (200 V/50 Hz, 200 V/60 Hz, or 220 V/60 Hz) to the power supply terminals (L1, L2 and L3), and connect a ground cable to the ground terminal.
* I/O signal connections: Connect digital input terminals, digital output terminals, and contact output terminals as shown on Page 44.

SUT××S4007-40-Y, SUT××S6007-40-Y, SUT××S8007-40-Y, SUT××S3016-40-Y
SUT××D6021-40-Y, SUT××D8021-40-Y

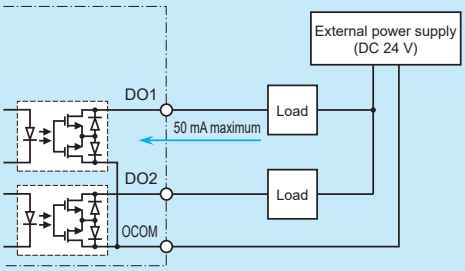


Digital input signal



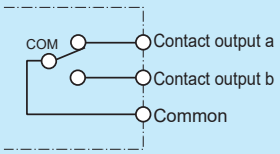
* The digital input common terminal can be either positive or negative.
* Prepare an external power supply (DC 24 V ± 1 V, 0.5 A or more).
* The current of the input circuit is 5 mA per channel.

Digital output signal



* The digital output common terminal can be either positive or negative.
* Prepare an external power supply (DC 24 V ± 1 V, 0.5 A or more).
* The maximum output current of the output circuit is 50 mA per channel.

Contact output signal

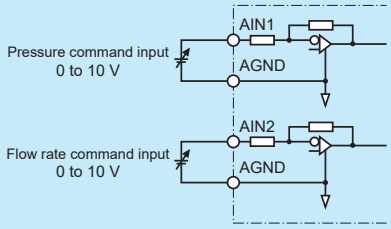


(The above figure shows the normal status of the relay contacts.)

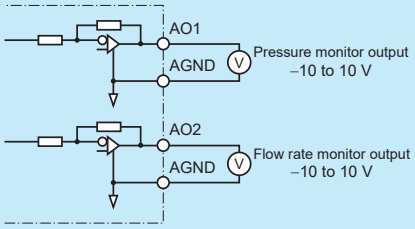
* The switching capacity of the contact output is DC 30 V, 0.5 A (at resistance load).
* The minimum applicable load of the contact output is DC 10 mV, 10 μA, but this is only a guide to the lower limit where switching is possible with a minute load.
The value varies depending on the switching frequency, environmental conditions, etc., so it is advisable to check the actual value.

■ Enabled when equipped with function option P (analog input function)

Analog input signal



Analog output signal



Harness specifications(to be prepared by the customer)

The harnesses that need to be prepared by the customer are as follows.

Model code	Power supply cable				I/O signal cable		
	Cable size	Recommended cable	Recommended crimp terminal	Recommended cable clamp	Cable size	Recommended cable	Recommended cable clamp
SUT××S3010 SUT××S1516 SUT××S3016	2.5 mm² or more (AWG14 or larger size)	CE362 2.5 mm² × 4 wires (KURAMO ELECTRIC)	RBV2-4	OA-W2213 (OHM ELECTRIC) Applicable cable outer diameter: ϕ9 to ϕ13	0.3 to 0.5 mm² (AWG20 to 22)	KVC-36SB 0.3 - 0.5 mm²	OA-W1611 (OHM ELECTRIC) Applicable cable outer diameter: ϕ9 to ϕ11
SUT××S6007	4.0 mm² or more (AWG12 or larger size)	CE362 4.0 mm² × 4 wires (KURAMO ELECTRIC)	RBV5.5-4	OA-W2216 (OHM ELECTRIC) Applicable cable outer diameter: ϕ13 to ϕ16			
SUT××S8007	6.0 mm² or more (AWG10 or larger size)	CE362 6.0 mm² × 4 wires (KURAMO ELECTRIC)	RBV5.5-5	OA-W2219 (OHM ELECTRIC) Applicable cable outer diameter: ϕ15 to ϕ19	0.3 to 1.0 mm² (AWG16 to 22)		
SUT××D4016	2.5 mm² or more (AWG14 or larger size)	CE362 2.5 mm² × 4 wires (KURAMO ELECTRIC)	RBV2-4	OA-W2216 (OHM ELECTRIC) Applicable cable outer diameter: ϕ13 to ϕ16	0.3 to 0.5 mm² (AWG20 to 22)		
SUT××D6021	4.0 mm² or more (AWG12 or larger size)	CE362 4.0 mm² × 4 wires (KURAMO ELECTRIC)	RBV5.5-5	OA-W2216 (OHM ELECTRIC) Applicable cable outer diameter: ϕ13 to ϕ16			
SUT××D8021	6.0 mm² or more (AWG10 or larger size)	CE362 6.0 mm² × 4 wires (KURAMO ELECTRIC)		OA-W2219 (OHM ELECTRIC) Applicable cable outer diameter: ϕ15 to ϕ19	0.3 to 1.0 mm² (AWG16 to 22)		
SUT00S11007 SUT00D11021	10 mm² or more	CE362 10.0 mm² × 4 wires (KURAMO ELECTRIC)	R8-5	—	0.3 to 0.5 mm² (AWG20 to 22)		—

Model code	Power supply cable for solenoid valve output	
	Recommended cable	Recommended crimp terminal
SUT00S11007 SUT00D11021	CE362 0.5 mm² × 3 wires (KURAMO ELECTRIC)	(Controller side) RBA1.25-4 (Solenoid valve side) RBA1.25-3

Model code	Motor cable		Cooling fan power supply cable		Motor thermistor harness	
	Recommended cable	Recommended crimp terminal	Recommended cable	Recommended crimp terminal	Recommended cable	Recommended crimp terminal
SUT00S11007 SUT00D11021	CE362 10 mm² × 4 wires (KURAMO ELECTRIC)	(Controller side) R8-5 (Motor side) R8-6	CE362 0.5 mm² × 3 wires (KURAMO ELECTRIC)	(Controller side) RBA1.25-3	KVC-36SB 0.3 to 0.5 mm² (KURAMO ELECTRIC)	(Controller side) RBA1.25-3 (Motor side) RBA1.25-3.5

Harness specifications (options for SUT00S11007/SUT00D11021)

The encoder harness and pressure sensor harness for SUT00S11007/SUT00D11021 are options and can be ordered separately. If preparing your own harnesses, make the harness length no greater than 5 m.

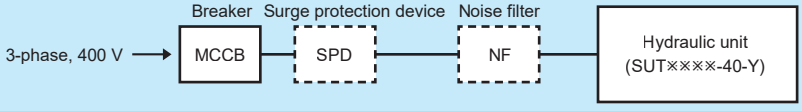
Name	Model code	Terminal specifications		Cable specifications			Ferrite core/ Ring core (recommended)
		SUT unit	Controller side	Cable type	Cable gauge	Cable length	
Encoder harness	PM-SEH05-P22-A09R	Contact 170366-1 Housing 172169-1 (All manufactured by AMP)	Round terminal with a vinyl insulation sheath (PBA1.25-3) (Manufactured by JST)	KVC-36SB (KURAMO ELECTRIC)	AWG22 (0.3 mm²)	5 m	Not required
Pressure sensor harness	PM-SPH05-003 (with a ring core)	Contact 171630-1 Rubber cap 172746-1 Housing 174357-2 Double lock plate 1-174358-1 (All manufactured by AMP)	Round terminal with a vinyl insulation sheath (PBA1.25-3) (Manufactured by JST)	KVC-36SB (KURAMO ELECTRIC)	AWG20 (0.5 mm²)	5 m	Ring core Equivalant to R-47/27/15 (A) MA055 (JFE)

Compliance of 400 V specifications with EU Directives

We confirmed that a 400 V specification SUPER UNIT (-Y) is in compliance with the EU directive that applies to the wiring connection to the right. As an SPD and NF are not equipped on an SUT 400 V unit as standard, prepare an SPD and NF to install on site if the machine requires those parts under the following conditions.

- Retrofitting an SUT 400 V unit on an existing machine
- Requirement for compliance with the EU Directive applicable to the SUT 400 V unit itself.

- EMC Directive: 2014/30/EU
- Standards complied with: EN61800-3:2004+A1:2012 (Second environment/PDS Category "C3")



- Noise filter (NF) DAIKIN Models: PM-SNF06 [Manufacturer: SCHAFFNER/Part No.: FN3025HP-30-71]
- Surge protection device (SPD) DAIKIN Models: PM-SPD01 [Manufacturer: OTOWA ELECTRIC CO., LTD./Part No.: LT-C35G102W]

Unit accessory

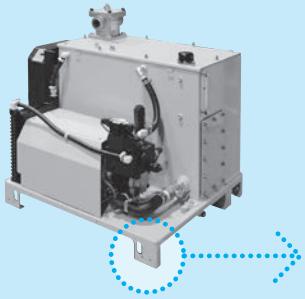
The following optional parts can be purchased separately from the Super Unit.
These parts are to be mounted by the user.

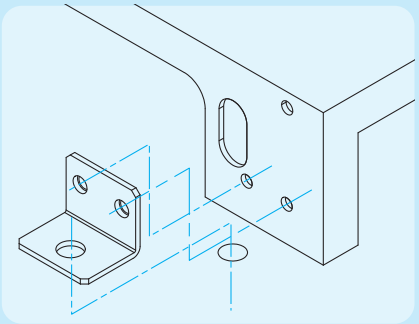
Base plate set

These parts are used to fasten the Super Unit to a floor surface.
The bolts for mounting the unit to the floor should be prepared by the user.

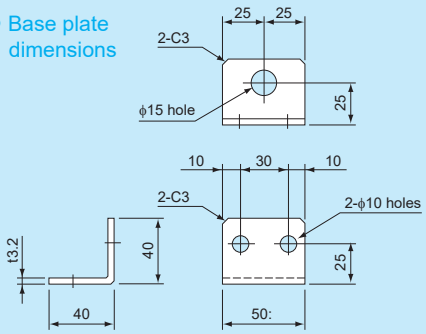
Model code	Applicable model		Color	Accessories
	Unit type: Single pump type	Unit type: Double pump type		
E-SUTPLATE-2	SUT06S6007-30,40-Y SUT10S8007-30,40-Y SUT03S3010-30 SUT03S1516-30 SUT03S4007-30,40-Y SUT06S3016-30,40-Y	SUT06D4016-30 SUT06D6021-30,40-Y SUT10D6021-30,40-Y SUT10D8021-30,40-Y SUT16D8021-30,40-Y	Ivory white (Munsell code 5Y7.5/1)	(1) Base plate (4 pcs) (2) Tank fastening bolt (8 pcs) (3) Plain and spring washers for the above parts (8 pcs each)

Example of installation





● Base plate dimensions



Level switch

Model code	Operating voltage	Operating current	Contact resistance	Protection class	Oil level triggering alarms	Mount size	CE standard
E-DLSN-130L-A-10	AC 100/110 V DC 24 V	0.02 A 0.05 A	1 Ω maximum	IP65	SUT03 (with 30 L tank) 21 L maximum Closed	R 1/2	N/A
E-DLSN-130L-B-10					SUT03 (with 30 L tank) 21 L maximum Open		
E-DLSN-170L-A-10					SUT06 (with 60 L tank) 45 L maximum Closed SUT10 (with 100 L tank) 75 L maximum Closed SUT16 (with 160 L tank) 123 L maximum Closed		
E-DLSN-170L-B-10					SUT06 (with 60 L tank) 45 L maximum Open SUT10 (with 100 L tank) 75 L maximum Open SUT16 (with 160 L tank) 123 L maximum Open		

* Directly mountable on the Rc1/2 option port on the top face of each tank.

Temperature switch

Model code	Operating voltage	Operating current	Contact resistance	Protection class	Oil level triggering alarms	Mount size	CE standard
E-MQT83PD-L60X1-10	AC 100 V DC 24 V	2 A 50 mA	30 mΩ maximum	IP65	60°C	R 3/8	N/A

* Directly mountable on the Rc3/8 option port on the top face of each tank.

Thermometer

Model code	Thermometer specification	Temperature indication range	Mount size	Display size
E-RBT-100-200L	Bimetal type	0 to 100°C	R 1/4	ϕ45

Micro separator

Model code	Size
E-MSB-110	110 × 60 × 30

Bracket/Piping Set for Manifolds

In order to install a control system on the Super Unit, select a bracket and piping set for the manifold according to the control system's size and number of series. Please prepare a manifold block separately.

(For 200 V specifications)

Super Unit			Installation of 02 Size Control Systems		
Model code	Tank capacity	Return filter	Manifold bracket	Piping set	
			Model code	Model code	Part Configuration
SUT03S1516-30	**30 L**	Not provided	E-SUT03BASE-402 (Maximum installable series : 4) [Mountable manifold blocks] BT-102-50 (1 series) to BT-402-50 (4 series) or BT-102-50-140 (1 series) to BT-402-50-140 (4 series)	E-SUT03S1516N-PIPE-02	①
SUT03S3010-30				E-SUT03S3010N-PIPE-02	
SUT03S4007-30				E-SUT03S4007N-PIPE-02	
SUT06S3016-30	60 L	Provided	E-SUT06BASE-302 (Maximum installable series : 3) [Mountable manifold blocks] BT-102-50 (1 series) to BT-302-50 (3 series) or BT-102-50-140 (1 series) to BT-302-50-140 (3 series) E-SUT06BASE-602 (Maximum installable series : 6) [Mountable manifold blocks] BT-102-50 (1 series) to BT-602-50 (6 series) or BT-102-50-140 (1 series) to BT-602-50-140 (6 series)	E-SUT06S3016F-PIPE-02	②
SUT06S6007-30				E-SUT06S6007F-PIPE-02	③
SUT06D4016-30				E-SUT06D4016F-PIPE-02	
SUT06D6021-30				E-SUT06D6021F-PIPE-02	
SUT10D6021-30	100 L			E-SUT10D6021F-PIPE-02	
SUT10S8007-30				E-SUT10S8007F-PIPE-02	
SUT10D8021-30				E-SUT10D8021F-PIPE-02	
SUT16D8021-30	160 L			E-SUT16D8021F-PIPE-02	

Super Unit			Installation of 03 Size Control Systems		
Model code	Tank capacity	Return filter	Manifold bracket	Piping set	
			Model code	Model code	Part Configuration
SUT03S1516-30	30 L	Not provided	E-SUT03BASE-203 (Maximum installable series : 2) [Mountable manifold blocks] BT-103-40 (1 series), BT-203-40 (2 series)	E-SUT03S1516N-PIPE-03	①
SUT03S3010-30				E-SUT03S3010N-PIPE-03	
SUT03S4007-30				E-SUT03S4007N-PIPE-03	
SUT06S3016-30	60 L	Provided	E-SUT06BASE-203 (Maximum installable series : 2) [Mountable manifold blocks] BT-103-40 (1 series), BT-203-40 (2 series) E-SUT06BASE-403 (Maximum installable series : 4) [Mountable manifold blocks] BT-103-40 (1 series), BT-403-40 (4 series)	E-SUT06S3016F-PIPE-03	②
SUT06S6007-30				E-SUT06S6007F-PIPE-03	③
SUT06D4016-30				E-SUT06D4016F-PIPE-03	④
SUT06D6021-30				E-SUT06D6021F-PIPE-03	
SUT10D6021-30	100 L			E-SUT10D6021F-PIPE-03	③
SUT10S8007-30				E-SUT10S8007F-PIPE-03	
SUT10D8021-30				E-SUT10D8021F-PIPE-03	
SUT16D8021-30	160 L			E-SUT16D8021F-PIPE-03	

(For 400 V specifications)

Super Unit			Installation of 02 Size Control Systems		
Model code	Tank capacity	Return filter	Manifold bracket	Piping set	
			Model code	Model code	Part Configuration
SUT03S4007-40-Y	**30 L**	Not provided	E-SUT03BASE-402-40 (Maximum installable series : 4) [Mountable manifold blocks] BT-102-50 (1 series) to BT-402-50 (4 series) or BT-102-50-140 (1 series) to BT-402-50-140 (4 series)	E-SUT03S4007N-PIPE-02	①
SUT06S3016-40-Y	60 L	Provided	E-SUT06BASE-302-40 (Maximum installable series : 3) [Mountable manifold blocks] BT-102-50 (1 series) to BT-302-50 (3 series) or BT-102-50-140 (1 series) to BT-302-50-140 (3 series) E-SUT06BASE-602-40 (Maximum installable series : 6) [Mountable manifold blocks] BT-102-50 (1 series) to BT-602-50 (6 series) or BT-102-50-140 (1 series) to BT-602-50-140 (6 series)	E-SUT06S3016F-PIPE-02	②
SUT06S6007-40-Y				E-SUT06S6007F-PIPE-02	③
SUT06D6021-40-Y				E-SUT06D6021F-PIPE-02	
SUT10D6021-40-Y	100 L			E-SUT10D6021F-PIPE-02	
SUT10S8007-40-Y				E-SUT10S8007F-PIPE-02	
SUT10D8021-40-Y				E-SUT10D8021F-PIPE-02	
SUT16D8021-40-Y	160 L			E-SUT16D8021F-PIPE-02	

Super Unit			Installation of 03 Size Control Systems		
Model code	Tank capacity	Return filter	Manifold bracket	Piping set	
			Model code	Model code	Part Configuration
SUT03S4007-40-Y	30 L	Not provided	E-SUT03BASE-203-40 (Maximum installable series : 2) [Mountable manifold blocks] BT-103-40 (1 series), BT-203-40 (2 series)	E-SUT03S4007N-PIPE-02	①
SUT06S3016-40-Y	60 L	Provided	E-SUT06BASE-203-40 (Maximum installable series : 2) [Mountable manifold blocks] BT-103-40 (1 series), BT-203-40 (2 series) E-SUT06BASE-403-40 (Maximum installable series : 4) [Mountable manifold blocks] BT-103-40 (1 series), BT-403-40 (4 series)	E-SUT06S3016F-PIPE-02	②
SUT06S6007-40-Y				E-SUT06S6007F-PIPE-02	③
SUT06D6021-40-Y				E-SUT06D6021F-PIPE-02	④
SUT10D6021-40-Y	100 L			E-SUT10D6021F-PIPE-02	③
SUT10S8007-40-Y				E-SUT10S8007F-PIPE-02	
SUT10D8021-40-Y				E-SUT10D8021F-PIPE-02	
SUT16D8021-40-Y	160 L			E-SUT16D8021F-PIPE-02	

Component parts

● Manifold bracket

(For 200 V specifications)

Model code	Maximum installable series	Accessories	
E-SUT03BASE-402	4-series	• Bracket body 1 pc. • Hexagon bolt (M8 × 16) 4 pcs. • Flat washer (M8) 4 pcs.	Hexagon socket head cap bolt for mounting manifold (M8 × 85) 2 pcs.
E-SUT06BASE-302	3-series		
E-SUT06BASE-602	6-series		
E-SUT03BASE-203	2-series		Hexagon socket head cap bolt for mounting manifold (M8 × 105) 4 pcs.
E-SUT06BASE-203	2-series		
E-SUT06BASE-403	4-series		

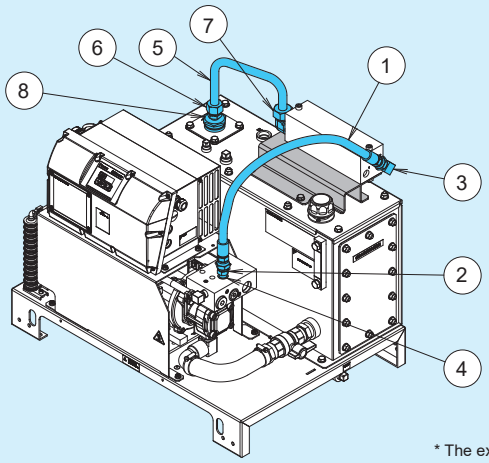
(For 400 V specifications)

Model code	Maximum installable series	Accessories	
E-SUT03BASE-402-40	4-series	• Bracket body 1 pc. • Hexagon bolt (M8 × 16) 4 pcs. • Flat washer (M8) 4 pcs.	Hexagon socket head cap bolt for mounting manifold (M8 × 85) 2 pcs.
E-SUT06BASE-302-40	3-series		
E-SUT06BASE-602-40	6-series		
E-SUT03BASE-203-40	2-series		Hexagon socket head cap bolt for mounting manifold (M8 × 105) 4 pcs.
E-SUT06BASE-203-40	2-series		
E-SUT06BASE-403-40	4-series		

Bracket/Piping Set for Manifolds

● Piping set

Part Configuration 1



* The external shape differs depending on the model.

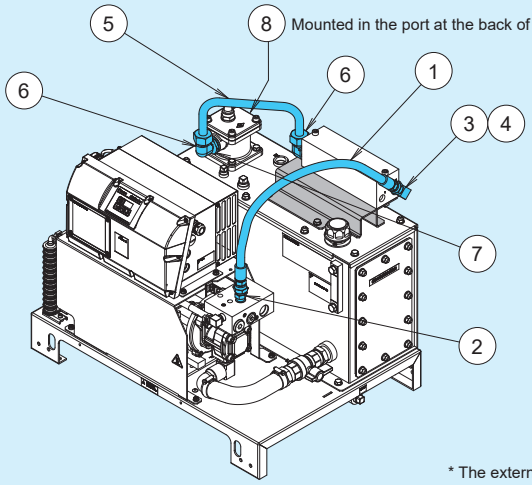
• For installing 02 size control systems

Model code		Name	Quantity	Tightening torque (N·m)
E-SUT03S1516N-PIPE-02 E-SUT03S3010N-PIPE-02	1	Hydraulic hose	1	54.0 to 66.0
	2	Hose adaptor (straight)	1	43.0 to 47.5
	3	Hose adaptor (elbow)	1	43.0 to 47.5
	4	———	—	———
	5	Steel pipe	1	100.0 to 120.0
	6	Steel piping joint (straight)	1	28.5 to 33.0
	7	Steel piping joint (elbow)	1	28.5 to 33.0
	8	Bushing	1	95.0 to 110.0
	9	Installation guide	1	———
E-SUT03S4007N-PIPE-02	1	Hydraulic hose	1	54.0 to 66.0
	2	Hose adaptor (straight)	1	64.0 to 70.0
	3	Hose adaptor (elbow)	1	43.0 to 47.5
	4	———	—	———
	5	Steel pipe	1	100.0 to 120.0
	6	Steel piping joint (straight)	1	28.5 to 33.0
	7	Steel piping joint (elbow)	1	28.5 to 33.0
	8	Bushing	1	95.0 to 110.0
	9	Installation guide	1	———

• For installing 03 size control systems

Model code		Name	Quantity	Tightening torque (N·m)
E-SUT03S1516N-PIPE-03 E-SUT03S3010N-PIPE-03	1	Hydraulic hose	1	54.0 to 66.0
	2	Hose adaptor (straight)	1	43.0 to 47.5
	3	Hose adaptor (elbow)	1	64.0 to 70.0
	4	Bushing	1	110.0 to 120.0
	5	Steel pipe	1	247.0 to 286.0
	6	Steel piping joint (straight)	1	95.0 to 110.0
	7	Steel piping joint (elbow)	1	57.0 to 66.0
	8	———	—	———
	9	Installation guide	1	———
E-SUT03S4007N-PIPE-03	1	Hydraulic hose	1	108.0 to 132.0
	2	Hose adaptor (straight)	1	64.0 to 70.0
	3	Hose adaptor (elbow)	1	110.0 to 120.0
	4	———	—	———
	5	Steel pipe	1	247.0 to 286.0
	6	Steel piping joint (straight)	1	95.0 to 110.0
	7	Steel piping joint (elbow)	1	57.0 to 66.0
	8	———	—	———
	9	Installation guide	1	———

Part Configuration 2



* The external shape differs depending on the model.

• For installing 02 size control systems

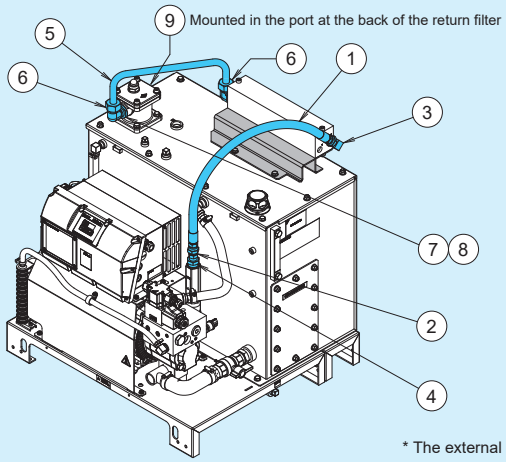
Model code		Name	Quantity	Tightening torque (N·m)
E-SUT06S3016F-PIPE-02	1	Hydraulic hose	1	54.0 to 66.0
	2	Hose adaptor (straight)	1	43.0 to 47.5
	3	Hose adaptor (elbow)	1	43.0 to 47.5
	4	———	—	———
	5	Steel pipe	1	100.0 to 120.0
	6	Steel piping joint (elbow)	2	28.5 to 33.0
	7	Bushing	1	57.0 to 66.0
	8	Plug	1	95.0 to 110.0
	9	Installation guide	1	———

• For installing 03 size control systems

Model code		Name	Quantity	Tightening torque (N·m)
E-SUT06S3016F-PIPE-03	1	Hydraulic hose	1	54.0 to 66.0
	2	Hose adaptor (straight)	1	43.0 to 47.5
	3	Hose adaptor (elbow)	1	64.0 to 70.0
	4	Bushing	1	110.0 to 120.0
	5	Steel pipe	1	247.0 to 286.0
	6	Steel piping joint (elbow)	2	95.0 to 110.0
	7	———	—	———
	8	Plug	1	95.0 to 110.0
	9	Installation guide	1	———

• Piping set

Part Configuration 3



* The external shape differs depending on the model.

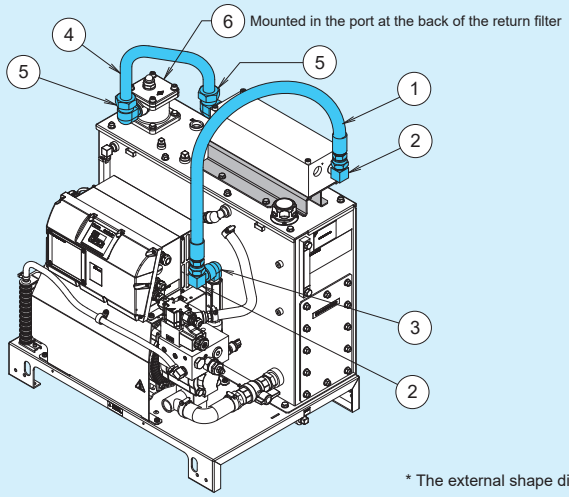
• For installing 02 size control systems

Model code		Name	Quantity	Tightening torque (N·m)
E-SUT06S6007F-PIPE-02 E-SUT06D4016F-PIPE-02 E-SUT06D6021F-PIPE-02 E-SUT10D6021F-PIPE-02	1	Hydraulic hose	1	54.0 to 66.0
	2	Hose adaptor (straight)	1	64.0 to 70.0
	3	Hose adaptor (elbow)	1	43.0 to 47.5
	4	High-pressure bushing	1	110.0 to 120.0
	5	Steel pipe	1	100.0 to 120.0
	6	Steel piping joint (elbow)	2	28.5 to 33.0
	7	Low-pressure bushing	1	57.0 to 66.0
	8	———	—	———
	9	Plug	1	95.0 to 110.0
	10	Installation guide	1	———
E-SUT10S8007F-PIPE-02 E-SUT10D8021F-PIPE-02 E-SUT16D8021F-PIPE-02	1	Hydraulic hose	1	54.0 to 66.0
	2	Hose adaptor (straight)	1	43.0 to 47.5
	3	Hose adaptor (elbow)	1	43.0 to 47.5
	4	High-pressure bushing	1	110.0 to 120.0
	5	Steel pipe	1	100.0 to 120.0
	6	Steel piping joint (elbow)	2	28.5 to 33.0
	7	Low-pressure bushing (small)	1	57.0 to 66.0
	8	Low-pressure bushing (large)	1	114.0 to 132.0
	9	Plug	1	142.5 to 165.0
	10	Installation guide	1	———

• For installing 03 size control systems

Model code		Name	Quantity	Tightening torque (N·m)
E-SUT06S6007F-PIPE-03 E-SUT10D6021F-PIPE-03	1	Hydraulic hose	1	108.0 to 132.0
	2	Hose adaptor (straight)	1	110.0 to 120.0
	3	Hose adaptor (elbow)	1	110.0 to 120.0
	4	———	—	———
	5	Steel pipe	1	247.0 to 286.0
	6	Steel piping joint (elbow)	2	57.0 to 66.0
	7	———	—	———
	8	———	—	———
	9	Plug	1	95.0 to 110.0
	10	Installation guide	1	———
E-SUT10S8007F-PIPE-03 E-SUT10D8021F-PIPE-03 E-SUT16D8021F-PIPE-03	1	Hydraulic hose	1	108.0 to 132.0
	2	Hose adaptor (straight)	1	110.0 to 120.0
	3	Hose adaptor (elbow)	1	110.0 to 120.0
	4	———	—	———
	5	Steel pipe	1	247.0 to 286.0
	6	Steel piping joint (elbow)	2	57.0 to 66.0
	7	Bushing	1	114.0 to 132.0
	8	———	—	———
	9	Plug	1	142.5 to 165.0
	10	Installation guide	1	———

Part Configuration 4



* The external shape differs depending on the model.

• For installing 03 size control systems

Model code		Name	Quantity	Tightening torque (N·m)
E-SUT06D4016F-PIPE-03 E-SUT06D6021F-PIPE-03	1	Hydraulic hose	1	108.0 to 132.0
	2	Hose adaptor (elbow)	2	110.0 to 120.0
	3	Female-male elbow	1	110.0 to 120.0
	4	Steel pipe	1	247.0 to 286.0
	5	Steel piping joint (elbow)	2	57.0 to 66.0
	6	Plug	1	95.0 to 110.0
	7	Installation guide	1	———

Method of Selection

How to Select a Super Unit

How to Select a SUPER UNIT

1. Determine the cylinder that requires the maximum pressure and flow rate.
2. To operate several cylinders simultaneously, calculate the pump discharge rate required for each circuit. Refer to (6) below.

(1) Calculation of cylinder output (see the calculation formula for each load)
Calculate the force F (N) required for the cylinder.

(2) Calculation of the required pressure (Pu) of the cylinder (Pu = F/A)
Based on the force (F) and pressurized area (A), calculate the net pressure (Pu; MPa) required for the cylinder.

F: Load (N)
A: Pressurized area of the cylinder (cm^2)
* The pressurized area varies depending on the specifications of the hydraulic cylinder.

(3) Calculation of the required pressure (Pp) of the pump (Pp = Pu + $\triangle$P)
Calculate the pressure Pp (MPa) required for the pump by adding the total pressure loss P to the pressure (Pu) required for the cylinder.

$\triangle$P: Valve pressure loss + Piping pressure loss (MPa)

(4) Calculation of the net required discharge rate (Qc) of the cylinder (Qc = A × V × 0.06)
Based on the cylinder speed (V) and pressurized area (A), calculate the net discharge rate (Qc; L/min) of the cylinder.

V: Speed (cm/s)

(5) Calculation of the required discharge rate (Qp) of the pump
Add the flow rate loss to the net discharge rate (Qc) of the cylinder.

g1: Flow rate loss (L/min)
Set the flow rate loss according to (1) the pressure reducing valve type, and (2) the pressure reducing valve diameter.

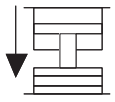
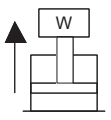
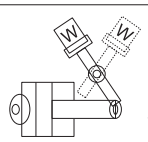
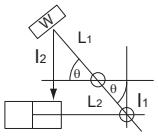
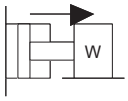
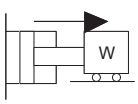
(6) Total required discharge rate (Qp) of the pump
Calculate the maximum required discharge rate of the pump by totaling the (Qp) values of the cylinders to be simultaneously operated.

3. Based on the maximum required pump pressure (Pp) and pump discharge rate (Qp), select the Super Unit size.

By referring to the "Pressure – Flow Rate Characteristics" charts (on Pages 13 and 14), select a model such that the Pp and Qp values of all cylinders fall within the P-Q curve.

(Reference) Load analysis (cylinder output)

Calculate the cylinder force (Fs) depending on the operation and load type.

Operation/Load type		Calculation of force (Fs)
A. Mechanical load	 Load requiring a pushing or pulling force (Examples: pressing, forming, cutting, shearing)	User-defined value (Generally specified in tons)
B. Load driven under its own weight load	 Load driven by negative force in a cylinder pushing or pulling operation to move a driven target (e.g., table lifter) up/down.	Fs = W The required force is equal to the weight of the driven target.
C. Inverting load	 Load whose direction of force changes (+ → −) (Examples: down ender, workpiece rotation)	Fs = I_1/I_2 × W I_1 = L_1 × cosθ I_2 = L_2 × cosθ 
D. Resistance load	 Load driven by positive sliding force in both forward and backward operation (Examples: pusher, table slide)	Fs = W × μ (Friction coefficient) Standard setting: 0.3 Other cases: user-defined value
E. Inertial load	 Load driven by large inertial force in high-speed operation with a heavy object (Example: Coil car travel)	Fs = W × μ (Friction coefficient) Standard setting: 0.1 Other cases: user-defined value

The following are the minimum requirements for use of the Super Unit.
For details, refer to the unit's Instruction Manual.

● Ambient conditions

1. Ambient temperature: 0 to 40°C, ambient humidity: 85%RH maximum (with no condensation), altitude: 1,000 m maximum, to be used indoors

● Hydraulic oil

1. Use general petroleum hydraulic oil (R&O) or wear-resistant hydraulic oil.
   If use of hydrous or synthetic oil is intended, consult Daikin.
2. Use hydraulic oil equivalent to ISO VG32 to 68 and operate the unit within an oil viscosity range from 15 to 400 mm^2/s and a tank oil temperature from 0 to 60°C. The recommended operating range is from 15 to 50°C (20 to 200 mm^2/s).
3. Keep contamination of hydraulic oil within NAS class 9, or NAS class 10 for 7 MPa or lower pressure.

● Installation and piping

1. This hydraulic unit mounts the motor pump using vibration-absorbing rubber to prevent pump vibration being transmitted to the unit. Use hoses for piping to the unit to provide flexibility.
2. The unit is a stationary type. Fix it with bolts on a level location that is free of vibration.
3. Keep obstacles that will obstruct air intake and emission at least 100 mm away from the end face of the unit.
   Install the unit at a location with good air flow so that heated air can be vented.
4. Use hoses for piping to provide flexibility.
5. Before operating the unit, be sure to remove the wing bolt and spacer for protecting the rubber vibration isolator. If you fail to do so, the noise and vibration may be excessive.
6. Be sure to secure the space required to access the unit during electrical wiring at the noise filter box or control unit side.

● Electric wiring

1. Install a no-fuse breaker and a ground fault interrupter compliant with European Standard EN60947-2 in the main power supply of this hydraulic unit, to protect the electrical circuits against shorting and overcurrent, and to prevent electric shocks.
2. Use suitable electric cable in accordance with the power supply capacity.
3. Be sure to provide a ground connection with a grounding resistance of 100 Ω maximum, and connect the grounding wire directly with no breaker in the line.
4. Take care not to leave waste metal such as screws and cutting chips, combustible matter such as wood waste or oil, or wiring debris inside the controller.
5. Use a commercial power supply for the power source. The use of an inverter power supply may cause burn damage to the unit.
6. Before accessing the interior of the controller, turn the unit's power supply OFF. Make sure that the circuit is turned OFF using the circuit breaker for the primary power supply, and then wait at least 5 minutes.

● Other precautions

1. If a failure occurs in the hydraulic unit, the system indicates an alarm and stops.
2. If failure or malfunction of this unit is expected to cause death or pose a danger to human beings, adopt appropriate safety measures in the facilities. If this unit is used in an important facility, also adopt appropriate safety measures in the facility to ensure that a failure of the equipment will not lead to a serious accident or loss.
3. It takes approximately 3 seconds for this hydraulic unit to start up after being powered ON.
   Depending on the piping conditions, the unit may take longer to increase the pressure to the pressure switch's preset level, resulting in pressure switch signal output. In this case, set the machine up so that it will not accept this alarm output during this period.
4. Do not turn the power OFF/ON with the main power breaker frequently. It may damage controller components.
   (Use the "run/stop" digital input signals for frequent power OFF/ON control.)

Memo

Memo

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