

PRE-INSTALLATION CHECK LIST for DTG8460 TAIKO

Machine: DTG8460

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6. Environmental Conditions for Installation

7. Acceptance

1.General machine requirements		Tick off
1.1. Power requirements		
a) Voltage to transformer (not to M/C!!!)	AC 380 - 400 V +/- 10%,3-phase, 50/60 Hz	
b) Voltage to Machine	AC 200 V +/- 10%,3-phase, 50/60 Hz	
c) Power consumption	- during warming up : 2,5 kW - during grinding : 5,3 kW	
d) Maximum consumption	13 kVA	
Short circuit current rating	1.5kA	
Break capacity	60A	
1.2. Air		
a) Supply pressure	0.5 – 0.8 MPa (5.0 – 8.0 kgf/cm ²)	
c) Max consumption	800 L/min or less (A.N.R.)	
1.3. Water (For wheel coolant and cleaning use)		
a) Water used	Deionised water	
b) Pressure	0.3 to 0.4 MPa (approx. 3 to 4 kgf/cm ²)	
c) Flow rate	25 L/min or higher	
d) Water temperature	Room temperature ± 2 °C (the maximum permissible hourly temperature variation is 1 °C)	
1.4. Water (for spindle coolant use)		
a) Water used	City water or tap water (meeting the specified water quality standard)	
b) Pressure	0.2 to 0.3 MPa (approx. 2 to 3 kgf/cm ²)	
c) Flow rate	15 L/min or higher	
d) Water temperature	Room temperature ± 2 °C (the maximum permissible hourly temperature variation is 1 °C)	

1.5. Water (for vacuum unit use)		
a) Water used	City water or tap water (meeting the specified water quality standard)	
b) Pressure	0.052 to 0.49 MPa (approx. 0.5 to 4.9 kgf/cm ²)	
c) Flow rate	2 L/min or higher (When water temperature is 22 °C or higher) 1 L/min or higher (When water temperature is less than 22 °C)	
d) Water temperature	20 to 25 °C (the maximum permissible hourly temperature variation is 2 °C)	
1.6. Air exhaust		
a) Displacement	4 m ³ /min (at the duct connection port of the machine main body when static pressure is as below mentioned)	
b) Static pressure	0.4 kPa (at the duct connection port of the machine main body)	
c) Connection port (duct hose)	Machine main body: 88.9 mm ID x 100.1 mm OD Vacuum unit: 38 mm ID x 45.8 mm OD	
1.7. Machine dimensions	Main body: 1,200 (W) x 3,500 (D) x 1,800 (H) mm (2,055 mm (H) if the status indicator is included) Vacuum unit: 242 (W) x 765 (D) x 500 (H) mm	
1.8. Machine dry weight	Main body: Approx. 5,000 kg Vacuum unit: Approx. 75 kg	

Quality standard for city water/tap water

pH	6.5 to 7.5	Sulfur ion	0
M alkalinity	100 ppm or less	Sulfate ion	100 ppm or less
Electricity conductivity	500 μS/cm or less	Ammonia ion	0
Total hardness	200 ppm or less	Total iron	1.0 ppm or less
Chlorine ion	100 ppm or less	Silica	50 ppm or less

2. Procedure of hoisting and lowering the machine

2.1. Safety



Air exhaust, water drainage, and grinding dust must be properly managed/ disposed in compliance with applicable environmental regulations. Due to the nature of its processing characteristics; the machine may produce harmful substances depending on the types of wafers it grinds. It is recommended that the installed machine be secured with anchors of the machine. DISCO provides the optional machine anchors for human/equipment protection in case of an earthquake or other disaster.

The floor on which the machine is installed should be provided with sufficient waterproofing and drainage treatment. If water leakage should occur, the floor surface and downstairs might be damaged. Periodically inspect the water pipe fittings to make sure that no water leaks from them. If water leakage should occur, the floor surface and downstairs might be damaged.



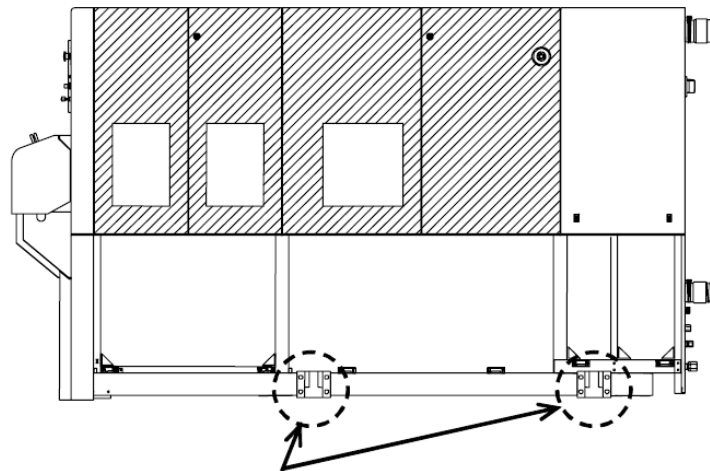
While the machine is hoisted or lowered, stay away from the area beneath and around the machine. If the machine should fall, persons in such area may be crushed to death or severely injured, or if the machine should swing like a pendulum, they may be caught between the machine and wall or hit by the machine to death or severely injured.

Make sure to secure the machine with the dedicated hoisting jigs when hoisting the machine. If the machine should fall while the machine is hoisted or lowered, persons beneath or near it may be crushed to death or severely injured. Note that the mass of the machine is approximately 4,000 kg.

Ensure that the employed crane is rated for a hoisting load of 10,000 kg (10 t) or heavier and withstands the machine weight, boom length and hoisting angle. If the machine should fall while the machine is hoisted or lowered, persons beneath or near it may be crushed to death or severely injured. Note that the mass of the machine is approximately 4,000 kg.



Make sure to use the designated hoisting jigs when hoisting the machine. If you use any other jigs having inadequate strength, they may break and cause the machine to lose balance and fall, thereby severely injuring or killing persons nearby or damaging the machine. Check to make sure that the retaining bolts (M16 × 4 pcs per hook) are securely fastened before hoisting the machine. If any of the bolts securing the hooks to the machine comes off during machine hoisting, it may cause the machine to lose balance and fall.

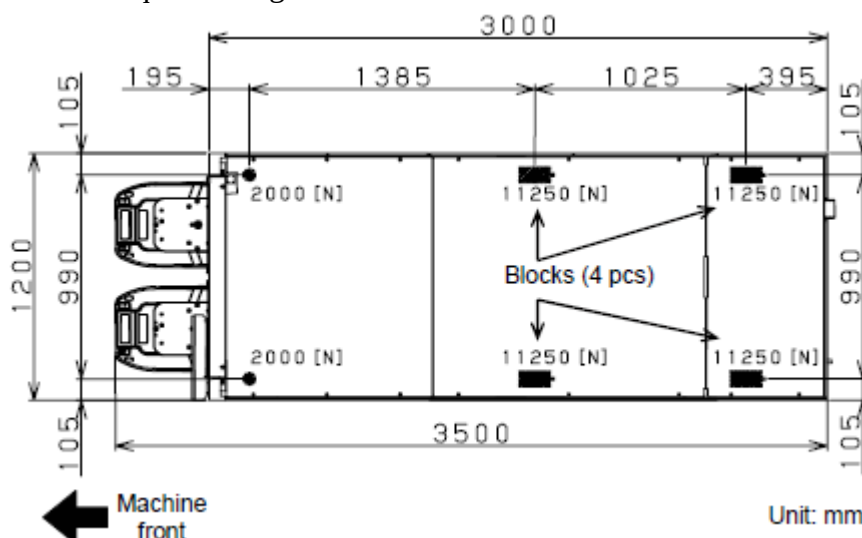


Hook (2 pcs at each side of the machine)

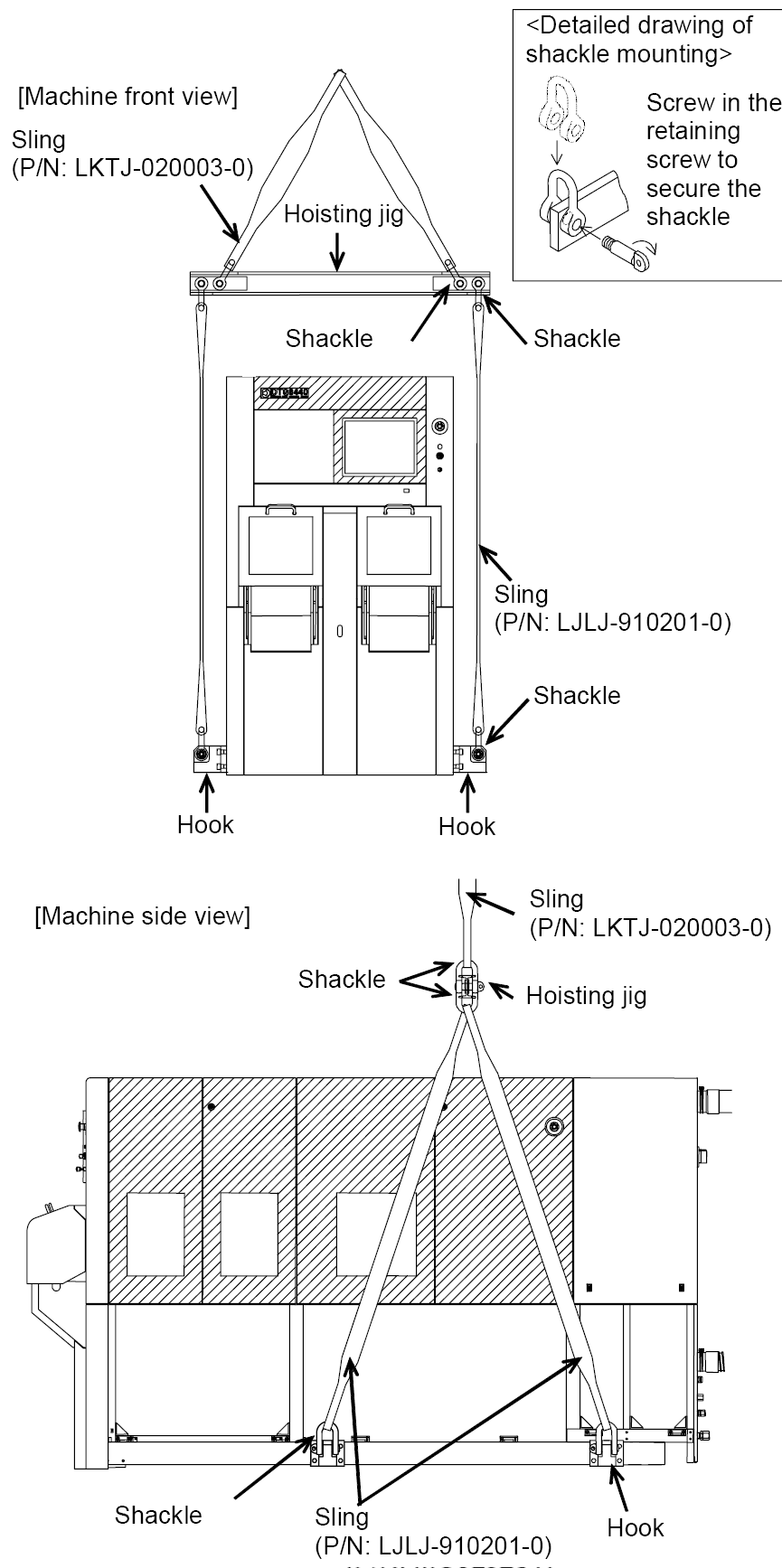
Make sure to wear safety shoes and protective gloves throughout the machine hoisting/lowering process. Your feet or hands could be caught or cut off by the machine while the machine is hoisted or lowered. Make sure that the blocks on the installation site are equal in height during the machine lowering process. If they vary in height, the machine may lose balance and topple, causing persons nearby severely injured or crushed to death.

2.2. Transferring the machine by a crane

- | Step No. | Procedure |
|----------|--|
| 1 | Wear the safety shoes and protective gloves. |
| 2 | Check the dedicated hoisting jig set to make sure that all the parts in the specified numbers are readied. |
| 3 | Place the four blocks of the same height on the machine lowering site.
<ul style="list-style-type: none"> • Check to be sure that the four blocks are equal in height. |



- 4 Thread the dedicated slings through the shackles and then attach the shackles to the machine as shown in the figure below.



- 5 After verifying that the slings do not come into contact with any part of the machine, hoist the machine slowly so that it should not be shocked.
 - The machine weighs **about 4,000 kg**.
 - Ensure that the employed crane is rated for a hoisting load of 10,000 kg (10t) or heavier and withstands the machine weight, boom length and hoisting angle.
- 6 Place the machine on the blocks.
 - Slowly lower the machine so as not to shock it.
- 7 Remove the hooks (total 4) from the machine. To remove each hook, you should first remove six hexagon socket-head screws retaining it.

2.3. Transferring the machine by pallet truck



When transferring the machine by pallet truck, make sure that the gravity center of the machine is on the center of the fork

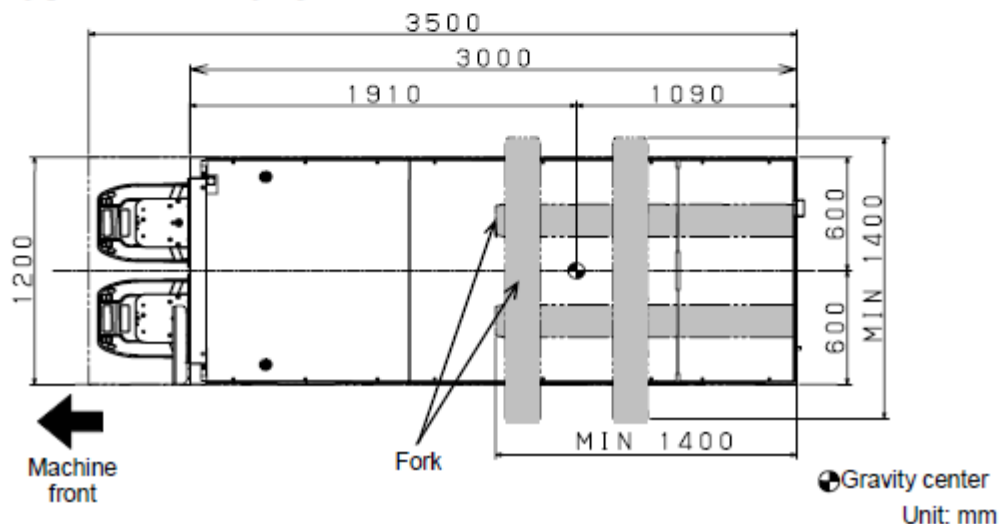
If the machine is transferred while its gravity is not properly centered on the pallet truck, it may fall off the truck, causing severe personal injury or death. The mass of the machine is approximately 5,000 kg.

The employed pallet truck must be capable of moving up and down and transporting a load of 6,000 kg and be equipped with a fork of 1,400 mm or longer

If the machine is transferred while its gravity is not properly centered on the pallet truck, it may fall off the truck, causing severe personal injury or death. The mass of the machine is approximately 5,000 kg.

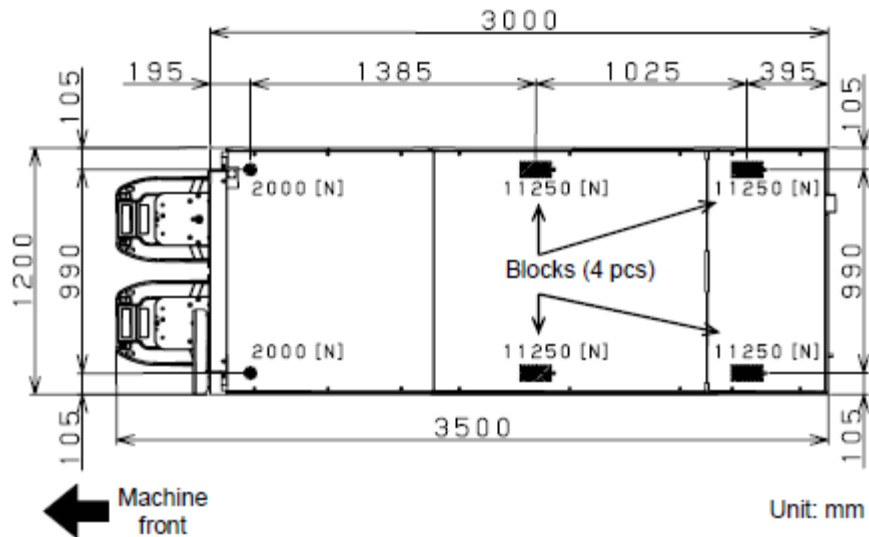
Make sure that the fork of the pallet truck is correctly inserted into the designated position so that the gravity center of the machine is on the center of the fork

If the fork of the pallet truck is not correctly positioned under the machine, it may cause the machine to topple or fall off the pallet truck during transportation, causing nearby persons seriously injured or crushed to death.

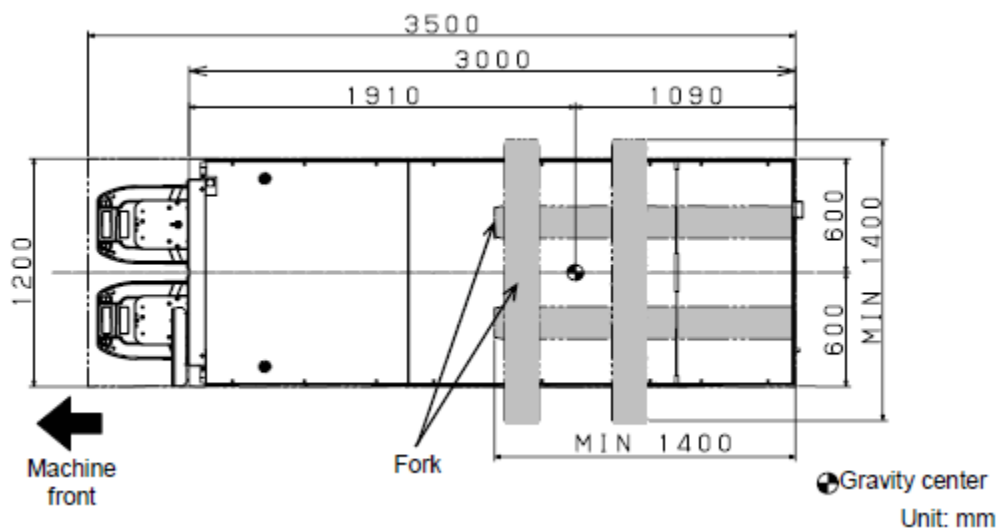


PRE-INSTALLATION CHECK LIST for DTG8460 TAIKO

1. Wear the safety shoes and protective gloves.
2. Place the four leveling blocks at the machine installation site.
 - Check to be sure that the four leveling blocks are equal in height.



3. Insert the fork of the pallet truck under the machine.
 - Check to be sure that the gravity center of the machine is on the center of the fork..



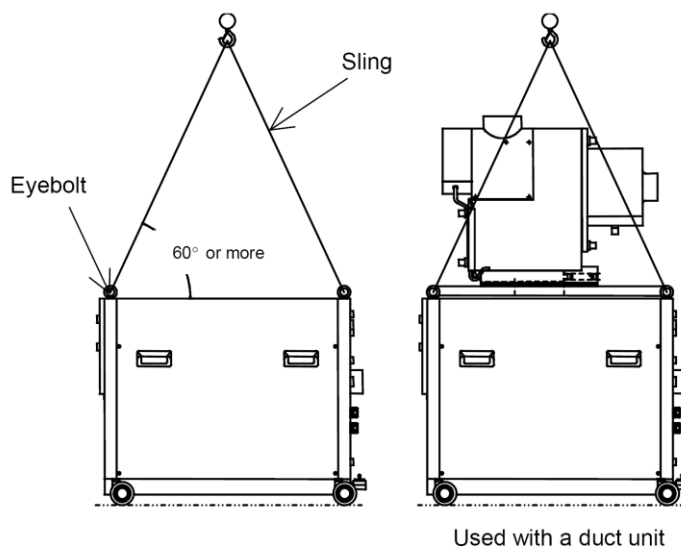
2.4. Transferring the Vacuum Unit [Optional Accessory]

Transferring by crane



- An inadequate lifting method could cause an accident resulting in injury or death from toppling over or dropping of the machine. Be sure to install an eyebolt (hanger bolt) at each corner of the machine for lifting. Followings are the weight of the machine with certain equipment when they are dried.

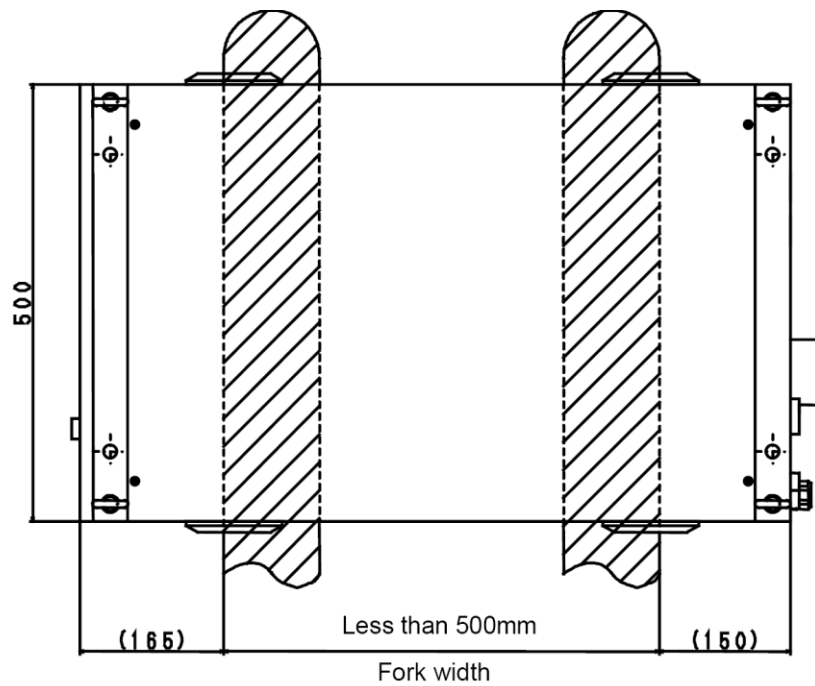
Vacuum unit:	approx. 735 N (75 kgf)
Vacuum unit + booster pump unit:	approx. 1078 N (110 kgf)
Vacuum unit + duct unit:	approx. 1225 N (125 kgf)
Vacuum unit + booster pump unit + duct unit:	approx. 1568 N (160 kgf)



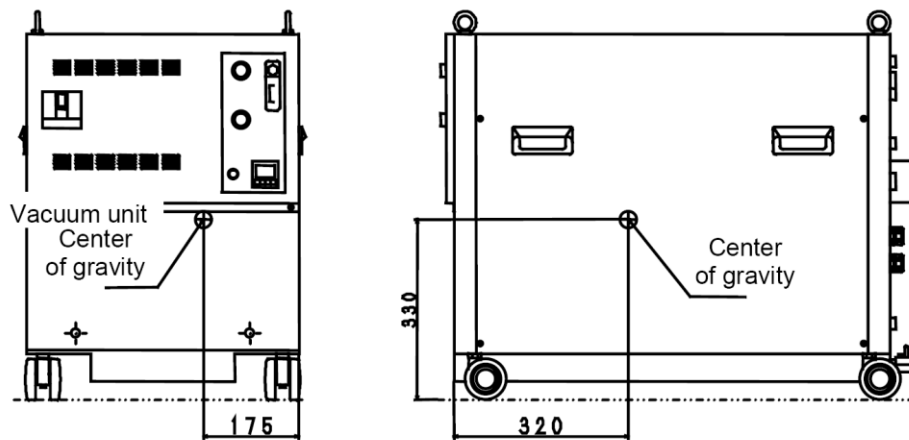
Use 1.5 m slings which are durable to the lifting weight.

- Dropping during lifting procedure might create a cause of serious injury or death from being caught by the machine. Do not stand directly underneath of or close to the machine during the lifting procedure.

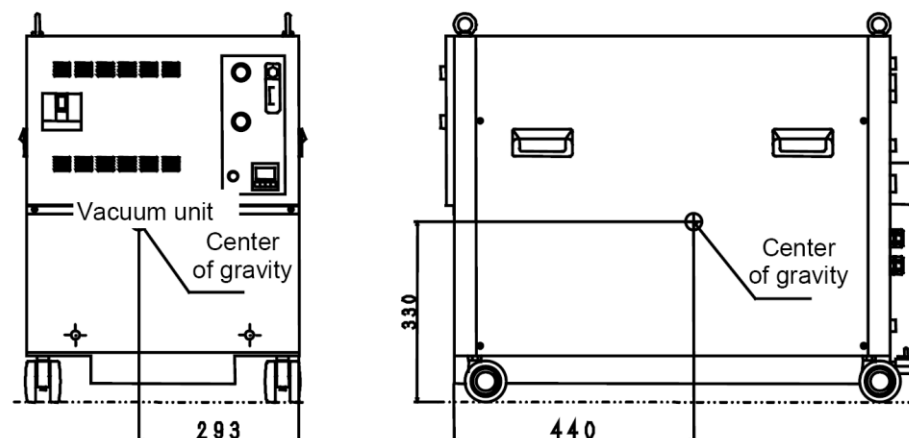
Transferring the Vacuum Unit by forklift



Vacuum unit



Vacuum unit and booster pump unit



2.5. Transferring the Coolant Unit / Duct Unit [Optional Accessory]

Transferring by crane

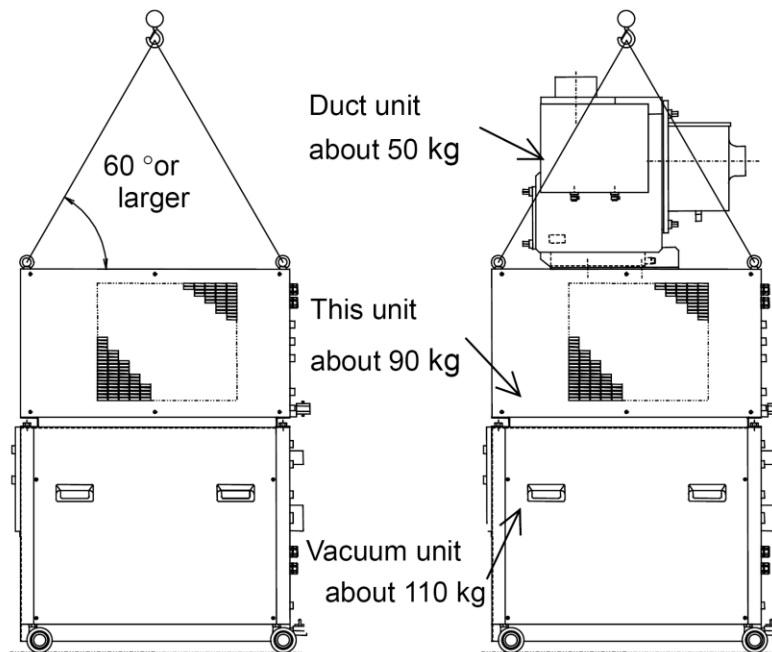


- Improper hoisting of the unit may cause toppling or falling of the unit and a resultant accident involving human injury or death.
- Make sure to use the four supporting points (eyebolt at each corner on the unit) for hoisting the unit.
- Keep the angle of each sling hooked to each eyebolt at 60 ° or larger to the unit surface.

Weight of the spindle coolant unit for hoisting:

Spindle coolant unit + vacuum unit (with booster pump):
about 200 kg

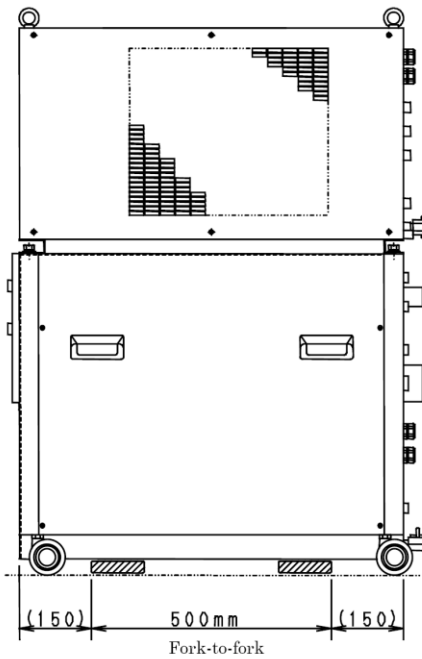
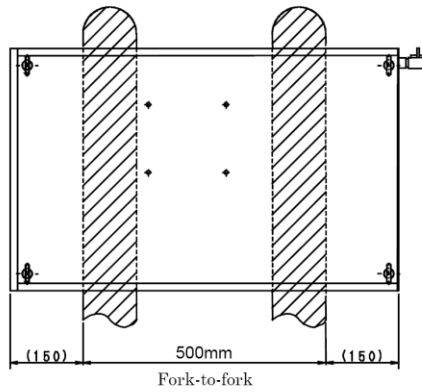
Spindle coolant unit + vacuum unit (with booster pump) + duct unit:
about 250 kg



- The hoisting jigs such as the slings should be strong enough to withstand the weight of the load during hoisting.
- While the (combined) units are hoisted/lowered, clear the area beneath and around them. If the units should fall during hoisting, a person in such area may be crushed to death or severely injured.

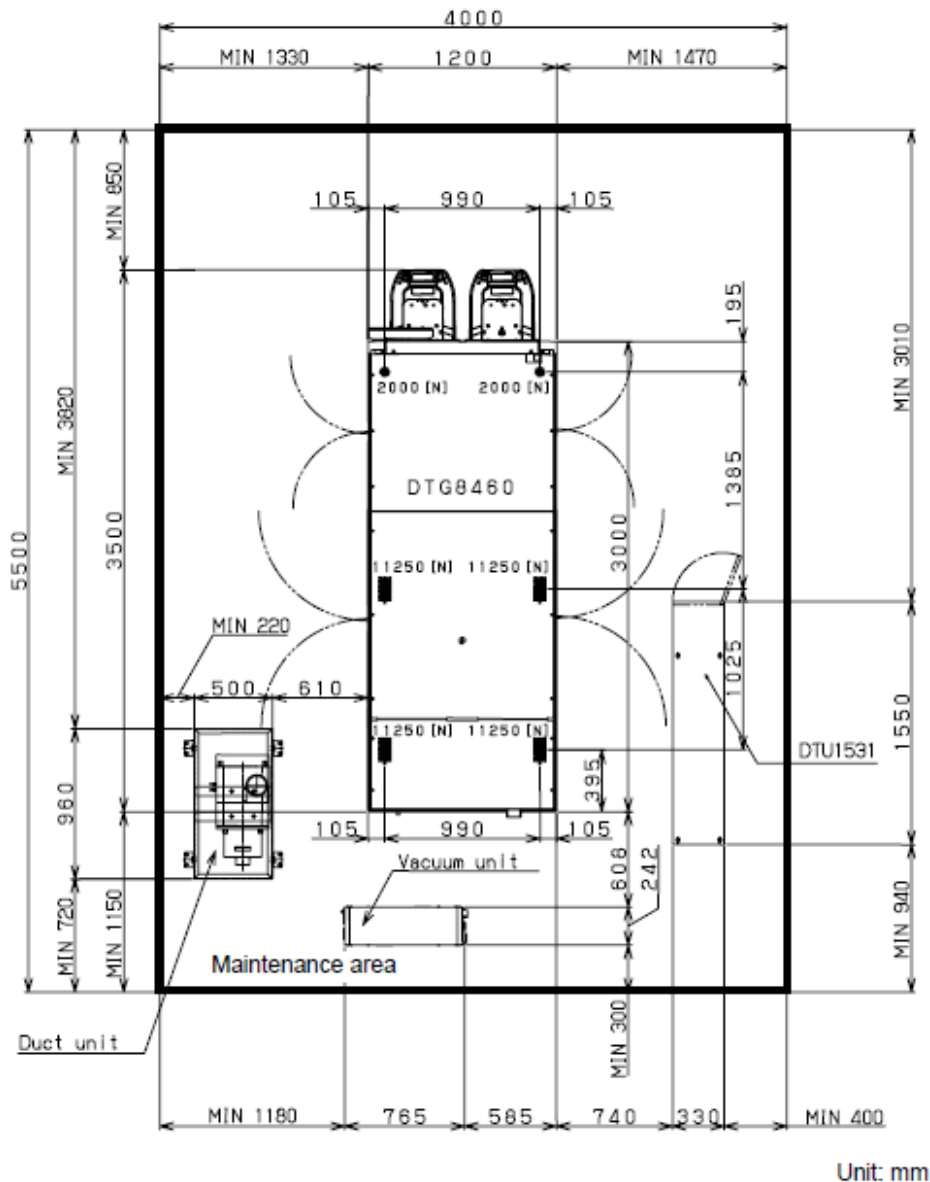
Transferring the Coolant Unit / Duct Unit by forklift

Mount the units on the forks of a forklift as shown in the figure below.



3. Space Requirements

Installation diagram (when the DTU1531/duct unit are used)

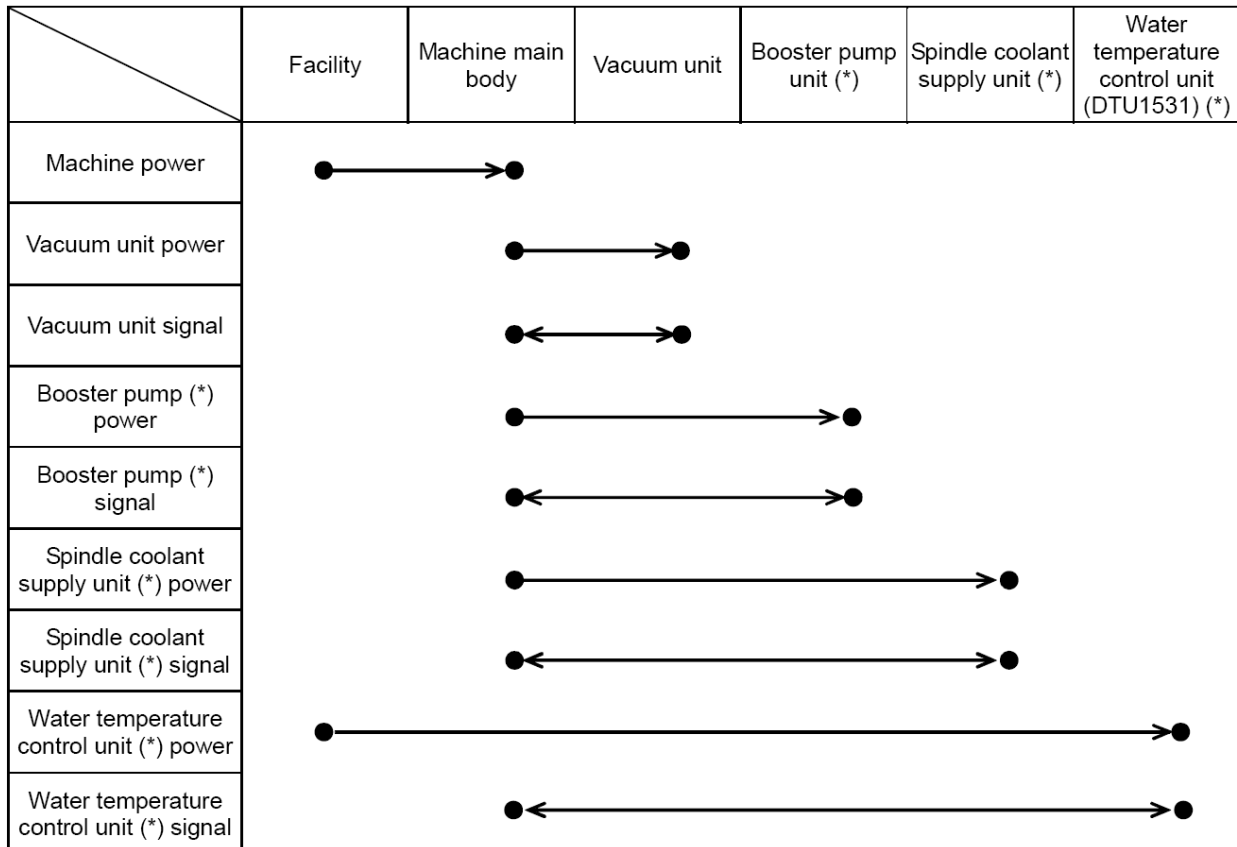


- Secure enough space taking operational and maintenance ease into account.
- Avoid places where the temperature greatly varies.
- A maintenance area of at least 3,000 mm from the floor to the ceiling is required for spindle replacing work.
- The maintenance area is described with the recommended values that are based on SEMI S8.

4. Electric Wiring Connection

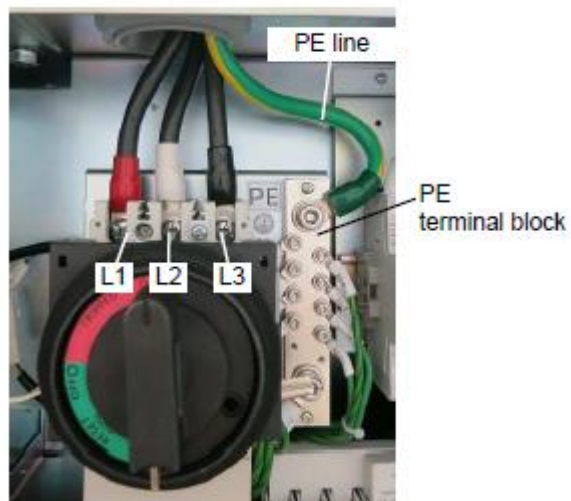
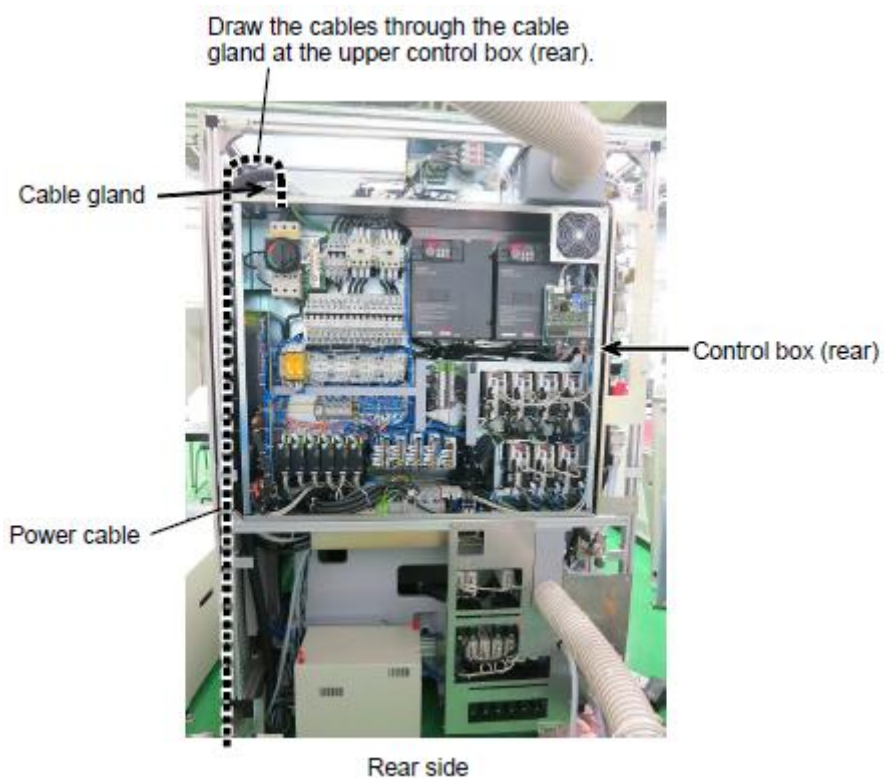
4.1. The electric wiring connection diagram of the machine

The electric wiring connection diagram of the machine is indicated as follows.

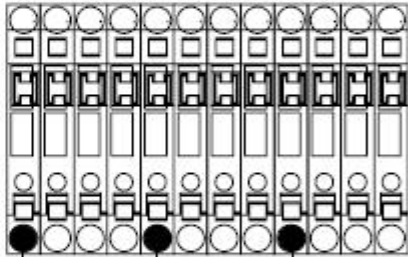
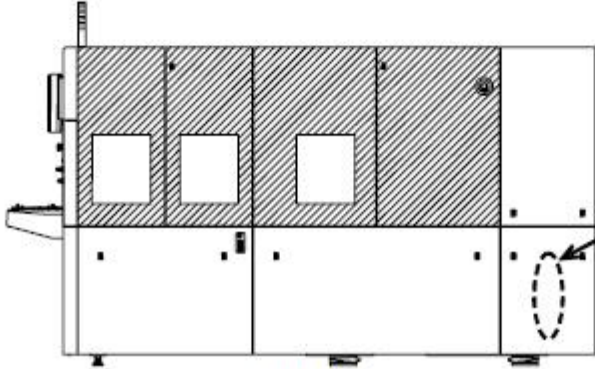


(*) The booster pump unit, spindle coolant supply unit, and water temperature control unit (DTU1531) are optional accessories.

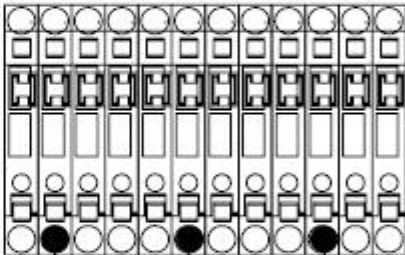
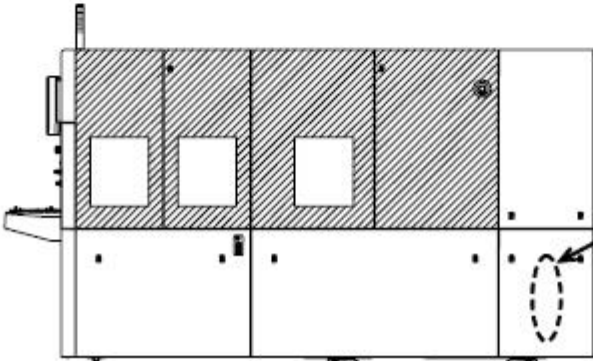
Install power cable



4.2. Electric Wiring of Vacuum Unit [Optional Accessory]

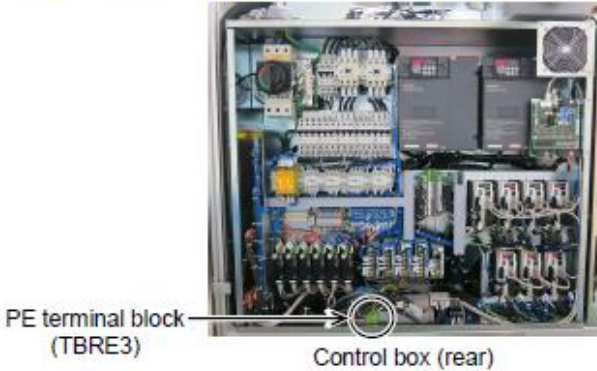
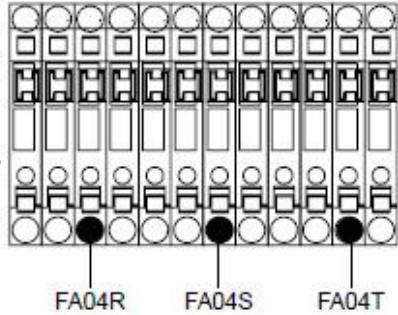
Step No.	Procedure
1	Connect the PE line of the vacuum unit power cable to its terminal on the PE terminal block (TBRE3) at the left in the control box (rear).  Control box (rear)
2	Connect each power line of the vacuum unit power cable to the corresponding terminals on the terminal block (FA02R/FA02S/FA02T).   Control box (rear) FA02R FA02S FA02T
3	Connect the signal lines (JVCMU) of the vacuum unit to the corresponding connector.  Right side

4.3. Electric Wiring of Booster Pump Unit [Optional Accessory]

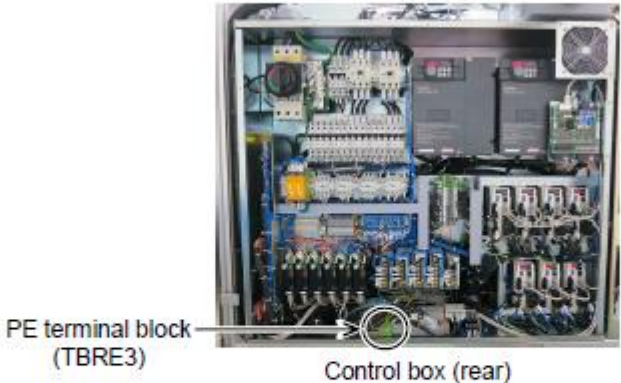
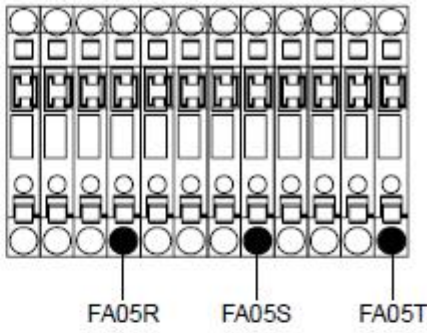
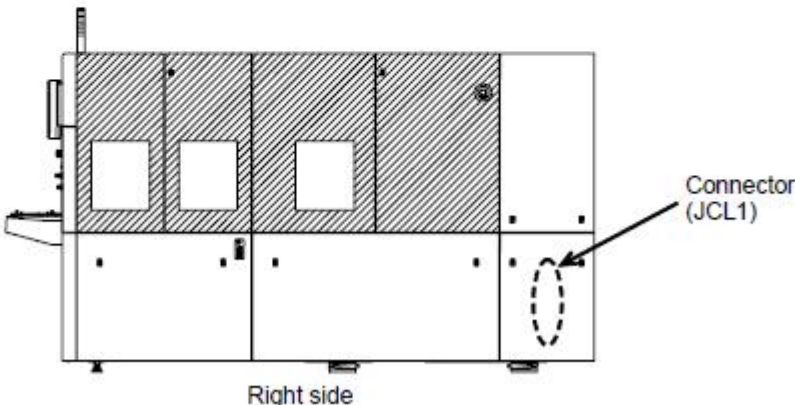
Step No.	Procedure
1	Connect the PE line of the booster-pump unit power cable to its terminal on the PE terminal block (TBRE3) at the left in the control box (rear).  Control box (rear)
2	Connect each power line of the booster-pump unit power cable to the corresponding terminals on the terminal block (FA03R/FA03S/FA03T).   Control box (rear) FA03R FA03S FA03T
3	Connect the signal lines (JPREUP) of the booster pump unit to the corresponding connector.  Right side Connector (JPREUP)

4.4. Electric Wiring of Duct Unit [Optional Accessory]

Procedures to make electric wiring connection to duct unit

Step No.	Procedure
1	Connect the PE line of the duct unit power cable to its terminal on the PE terminal block (TBRE3) at the left in the control box (rear).  PE terminal block (TBRE3) → Control box (rear)
2	Connect each power line of the duct unit power cable to the corresponding terminals on the terminal block (FA04R/FA04S/FA04T).  Control box (rear)  FA04R FA04S FA04T

4.5. Electric Wiring of Coolant Unit [Optional Accessory]

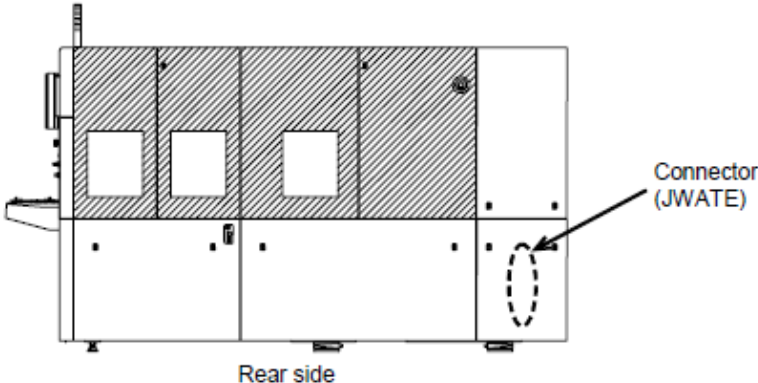
Step No.	Procedure
1	Connect the PE line of the spindle coolant supply unit power cable to its terminal on the PE terminal block (TBRE3) at the left in the control box (rear). 
2	Connect each power line of the spindle coolant supply unit power cable to the corresponding terminals on the terminal block (FA05R/FA05S/FA05T).  
3	Connect the signal line (JCL1) of the spindle coolant supply unit to the corresponding connector. 

Connect the signal line (JCL1) of the spindle coolant supply unit to the corresponding connector.

- The connection terminals of the signal lines are positioned as shown in the figure below.

4.6. Electric Wiring of Water Temperature Control Unit [Optional Accessory]

Procedures to make electric wiring connection to the water temperature control unit DTU1531

Step No.	Procedure
1	Connect the signal line of the water temperature control unit DTU1531 to its connector. Connector of DTG8460: JWATE Connector of DTU1531: JA02 

5. Piping Connection

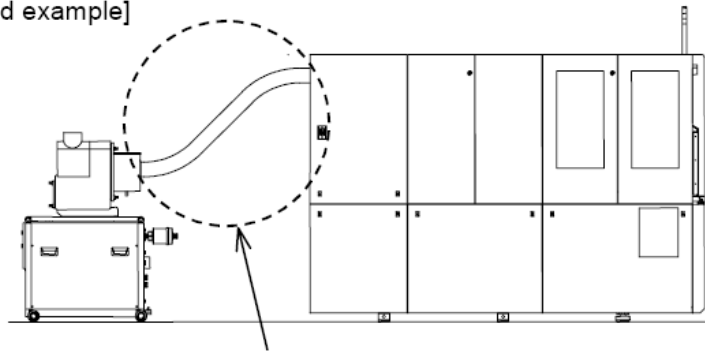
5.1. Cautions in making piping connection

- Only air is allowed to be used as the air source with this machine. If nitrogen (N₂) or other gas is used instead of air, it may fill the machine room to cause oxygen deficiency, thereby incurring an accident involving serious personal illness or death.
 - The only liquid material allowed to be used with this machine is water. Using other liquid than water may bring about detrimental effect on your health. If any harmful liquid contacts your skin or you inhale its vapor, it could cause serious illness or death. It may also corrode the machine to invoke abnormal movements.
 - Make sure to use the air and water hoses supplied as accessories to the machine. If you use any other hose it may burst or cause unexpected piping disconnection, which could result in personal injury.
 - Use the air and water piping joints that are rated as follows. Using of the joints that are out of the specifications may cause piping burst or displacement to incur personal injury.
- | | |
|------------------------------------|--|
| <Air piping joints withstanding:> | Working pressure of 0.8 MPa or higher
Burst pressure of 2.4 MPa or higher |
| <Water piping joint withstanding:> | Working pressure of 0.3 MPa or higher
Burst pressure of 1.2 MPa or higher |

CAUTION

A hose or hard piping line between the machine air duct port and the facility exhaust system (such as duct unit) must be properly inclined. If it is not properly inclined, water may build up in the duct hose, preventing smooth flow of air exhaust from the machine. That may cause mist leakage from the water case and resultant serious machine failure. Use props or the like to support the hose as needed.

[Good example]



Inclining the hose prevents water buildup in the hose.

Ensure that air hose coupling is properly completed. Inadequate coupling may incur unexpected hose disconnection. If an air hose is disconnected while the spindle is rotating, the spindle may seize up.

NOTICE

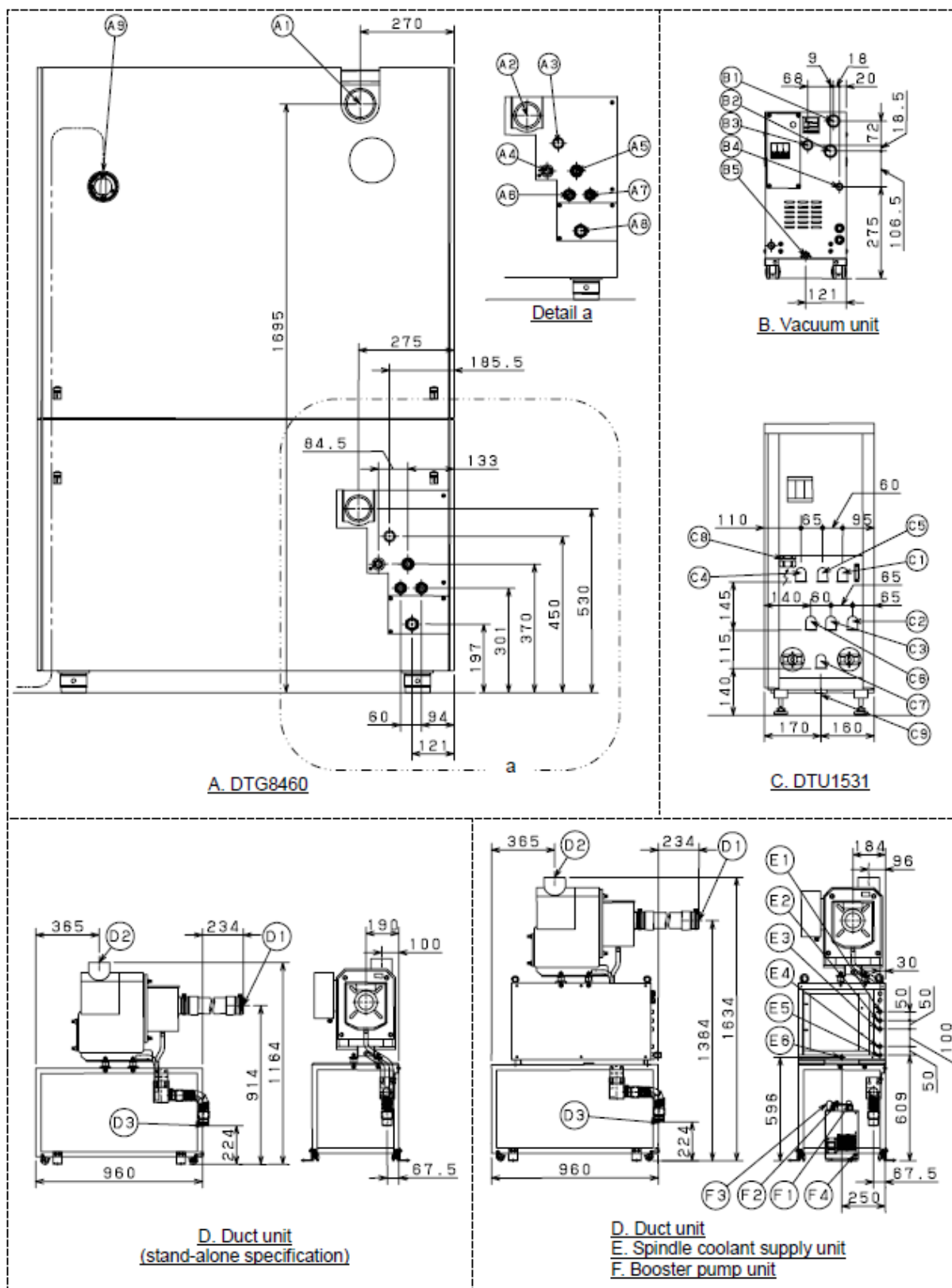
A hose or hard piping line between the machine drain port and facility drain port must be inclined. If the machine drain port is not positioned higher than the facility drain port, water may remain in the drain tank, thereby causing an overflow error.

The following tools should be readied to make piping connection. The sizes and quantities of the joints to be furnished by the user may differ from the ones indicated below depending on the machine installation site conditions and connection method.

Joint	for 19 × 26 braided hose: R3/4 (1 pc.) for 15 × 22 braided hose: R3/8 (1 pc.) for 12 × 18 braided hose: R3/8 (1 pc.) for 12 × 18 braided hose: R1/4 (2 pcs.) for 9 × 15 braided hose: R1/4 (1 pc.)
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5.2. Rear Panel Connection Ports

Rear panel piping and wiring connection ports



Rear panel piping and wiring connection ports (Continued)

	Machine configuration					
	Standard		Optional accessory			
	A	B	C	D	E	F
	DTG8460	Vacuum unit	Water temperature control unit (DTU1531)	Duct unit	Spindle coolant supply unit	Booster pump
1	√	√	-	-	-	-
2	√	√	√	-	-	-
3	√	√	-	√	-	-
4	√	√	√	√	-	-
5	√	√	-	√	√	-
6	√	√	-	√	-	√
7	√	√	-	√	√	√
8	√	√	-	-	√	-
9	√	√	-	-	-	√
10	√	√	-	-	√	√

√: Used -: Not used (The standard machine is configured as "1".)

<A: DTG8460>

No.	Name	IN/OUT ⁽¹⁾	Applicable hose (unit: mm)	Connection port ⁽²⁾
A1	Exhaust	 To plant-side exhaust inlet	Duct hose (ID 88.9×OD 99.3)	Flange pipe OD 90 ^(3,4)
A2	Wheel coolant water/cleaning water drainage	 To plant-side drain inlet	Duct hose (ID 76.4×OD 87.0)	Flange pipe OD 75 ⁽³⁾
A3	Vacuum unit connection port	 To B3	Pressure hose (ID 25×OD 29)	Rc3/4 ⁽⁵⁾
A4	Spindle cooling water supply	 From plant facility ⁽⁷⁾	Braided hose (ID 9×OD 15)	Rc3/8
A5	Spindle cooling water drainage	 To plant-side drain inlet ⁽⁷⁾	Braided hose (ID 12×OD 18)	Rc3/8
A6	Sub-air supply ⁽⁶⁾ [optional accessory]	 From plant facility	Braided hose (ID 15×OD 22)	Rc1/2
A7	Air supply	 From plant facility	Braided hose (ID 15×OD 22)	Rc1/2
A8	Wheel coolant water/cleaning water supply	 From plant facility	Braided hose (ID 19×OD 26)	Rc3/4
A9	Power supply	 From plant facility	Cable (4 AWG)	22-S8

Rear panel piping and wiring connection ports (Continued)

<B: Vacuum unit>

No.	Name	IN/OUT ⁽¹⁾	Applicable hose (unit: mm)	Connection port ⁽²⁾
B1	Exhaust	 To plant-side exhaust inlet	Duct hose (ID 38.0×OD 45.8)	Flange pipe OD 38 ^(3,4)
B2	Overflow water drainage	 To plant-side drain inlet	Duct hose (ID 38.0×OD 45.8)	Flange pipe OD 38 ⁽³⁾
B3	Air intake	 From A3	Pressure hose (ID 25×OD 29)	Rp3/4 ⁽⁵⁾
B4	Vacuum pump water supply	 From plant facility	Braided hose (ID 12×OD 18)	Rp3/8
B5	Drain pan water drainage ⁽⁹⁾	 To plant-side drain inlet	Braided hose (ID 12×OD 18)	Rp1/4 ⁽³⁾

<C: Water temperature control unit (DTU1531)>

No.	Name	IN/OUT ⁽¹⁾	Applicable hose (unit: mm)	Connection port ⁽²⁾
C1	Refrigerator cooling water drainage ⁽¹⁰⁾	 To plant-side drain inlet	Braided hose (ID 19×OD 26)	Rc1/2
C2	Spindle cooling water discharge	 To A4 ⁽⁸⁾	Braided hose (ID 9×OD 15)	Rc1/2 ⁽⁵⁾
C3	Wheel coolant water/cleaning water supply	 From plant facility	Braided hose (ID 19×OD 26)	Rc1/2
C4	Spindle cooling water return	 From A5 ⁽⁸⁾	Braided hose (ID 12×OD 18)	Rc1/2 ⁽⁵⁾
C5	Overflow water drainage	 To plant-side drain inlet	Braided hose (ID 15×OD 22)	Rc1/2
C6	Wheel coolant water/cleaning water discharge	 To A8	Braided hose (ID 19×OD 26)	Rc1/2 ⁽⁵⁾
C7	Refrigerator cooling water supply ⁽¹⁰⁾	 From plant facility	Braided hose (ID 19×OD 26)	Rc1/2
C8	Power supply	 From plant facility	Cable (4 AWG)	R22-8
C9	Drain pan water drainage ⁽⁹⁾	 To plant-side drain inlet	Braided hose (ID 12×OD 18)	Rc1/2

Rear panel piping and wiring connection ports (Continued)

<D: Duct unit>

No.	Name	IN/OUT ⁽¹⁾	Applicable hose (unit: mm)	Connection port ⁽²⁾
D1	Exhaust	 To plant-side exhaust inlet	Duct hose (ID 125.9×OD 139.3)	Flange pipe OD 125 ^(3, 4)
D2	Air intake	 From A1	Duct hose (ID 88.9×OD 99.3)	Flange pipe OD 90 ^(3, 5)
D3	Water drainage	 To plant-side drain inlet	Duct hose (ID 50.6×OD 61.0)	Flange pipe OD 50 ⁽³⁾

<E: Spindle coolant supply unit>

No.	Name	IN/OUT ⁽¹⁾	Applicable hose (unit: mm)	Connection port ⁽²⁾
E1	Tank water supply	 From plant facility	Braided hose (ID 15×OD 22)	Rc3/8
E2	Overflow water drainage	 To plant-side drain inlet	Braided hose (ID 15×OD 22)	Rc3/8
E3	Spindle cooling water discharge	 To A4 ⁽⁸⁾	Braided hose (ID 9×OD 15)	Rc3/8 ⁽⁵⁾
E4	Spindle cooling water return	 From A5 ⁽⁸⁾	Braided hose (ID 12×OD 18)	Rc3/8 ⁽⁵⁾
E5	Tank water drainage	 To plant-side drain inlet	Braided hose (ID 15×OD 22)	Rc3/8
E6	Drain pan water drainage ⁽⁹⁾	 To plant-side drain inlet	Braided hose (ID 15×OD 22)	Rc3/8

<F: Booster pump>

No.	Name	IN/OUT ⁽¹⁾	Applicable hose (unit: mm)	Connection port ⁽²⁾
F1	Deionized water discharge	 To A8	Braided hose (ID 19 x OD 26)	Rc3/4 ⁽⁵⁾
F2	Water drainage	 To plant-side drain inlet	Urethane tube (ID 5 x OD 8)	Rc1/4
F3	Deionized water supply	 From plant facility	Braided hose (ID 19 x OD 26)	Rc3/4
F4	Drain pan water drainage ⁽⁹⁾	 To plant-side drain inlet	Braided hose (ID 12 x OD 18)	Rp1/4

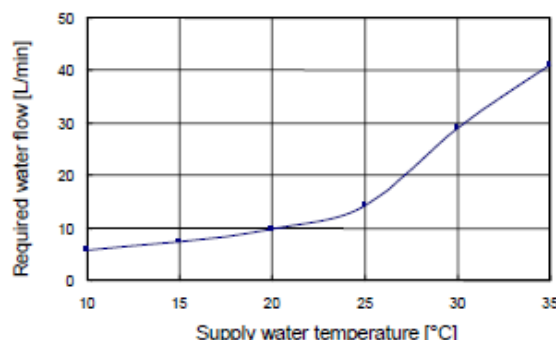
Rear panel piping and wiring connection ports (Continued)

- The connection accessories (hard piping, etc.) to be furnished by the customer may differ from the ones indicated in the above diagram depending on the machine installation site conditions and connection method. Contact your nearest DISCO office or DISCO service office for details.
- Hoses (4 m in length) run from the plant facility to the DTG8460, from the plant facility to each unit, and from the DTG8460 to each unit are furnished by DISCO. Piping from the plant facility to the DTG8460 and from the plant facility to each unit should be connected by the customer. Piping from the DTG8460 to each unit is connected by DISCO.
- The joints used for the primary-side piping ports (plant facility side) and the power cables (for DTG8460 and DTU1531) are not attached to the machine and they should be furnished and connected by the customer. DISCO is providing the joints and the cables as optional accessories for the customer to purchase.

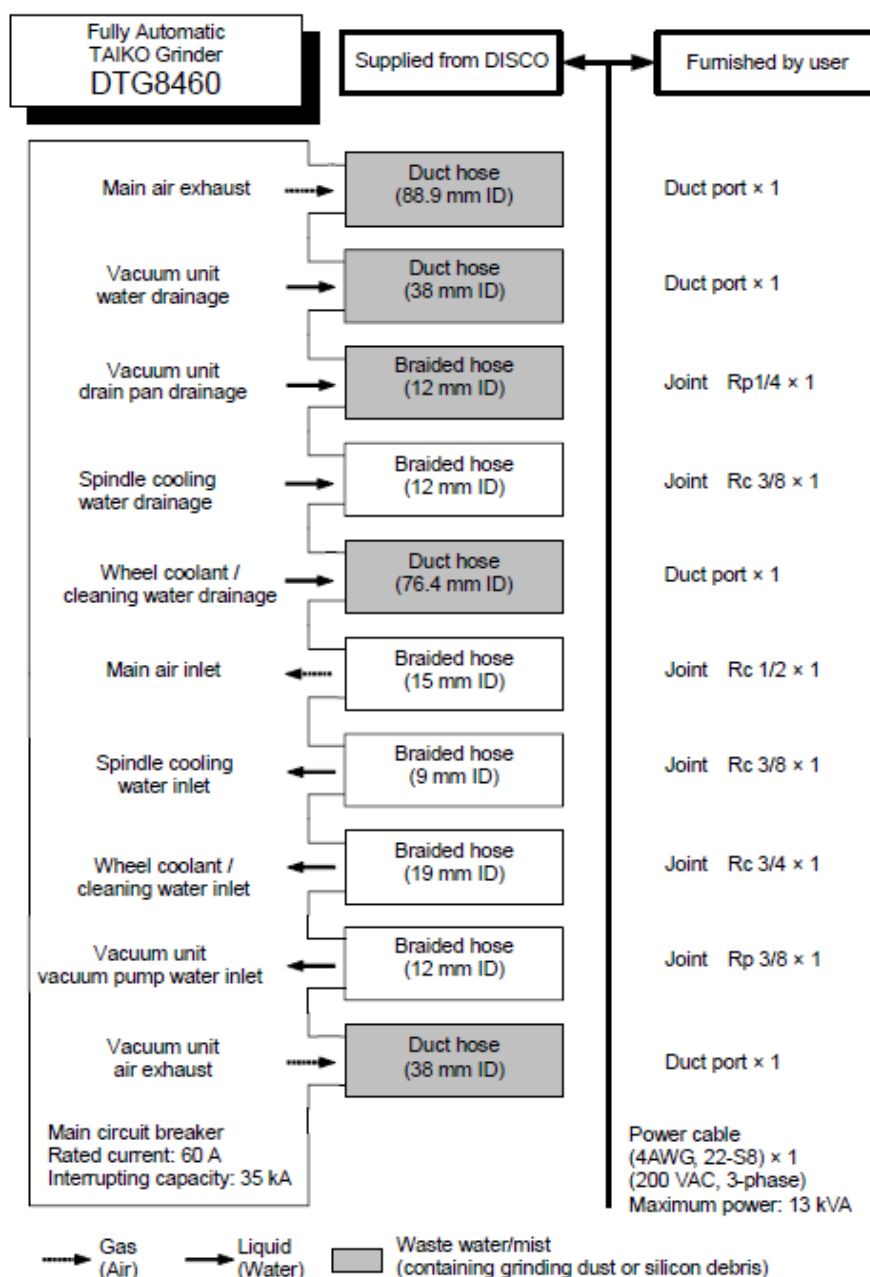
- (*1) The leftward arrows used in the diagrams indicate the flow into the machine, while the rightward arrows indicate the flow out of the machine. The meanings the arrows represent are described below.

	Water		Contaminated mist
	Contaminated water		Air
	Power line		

- (*2) "Connection port" indicates the diameter of the screws for the joint to be connected, the outer diameter of the pipe to connect the duct hose, or the shape of the terminal of the cable.
- (*3) Discharges drain water/mist that contains silicon dust.
- (*4) Outdoor exhaust type (no silencer, etc. included)
- (*5) The connection work is made by DISCO.
- (*6) A6 (sub-air supply port) is used when the machine is equipped with the sub-air switching unit [optional accessory].
- (*7) Spindle cooling water can be circularly used if its flow rate and temperature meet the specified conditions. When used in circulation, water discharged from A5 is resupplied from A4.
→See Section 1 [Machine Specifications] of this chapter for the specified flow rate and temperature conditions.
- (*8) Spindle cooling water can be circularly used through the tank.
- (*9) The drain pan water drainage refers to the drainage with water accumulating in the drain pan.
- (*10) Refrigerator cooling water can be circularly used if its flow rate and temperature meet the specified conditions. When used in circulation, water discharged from C1 is resupplied from C7. See the graph below for the specified flow rate and temperature conditions.



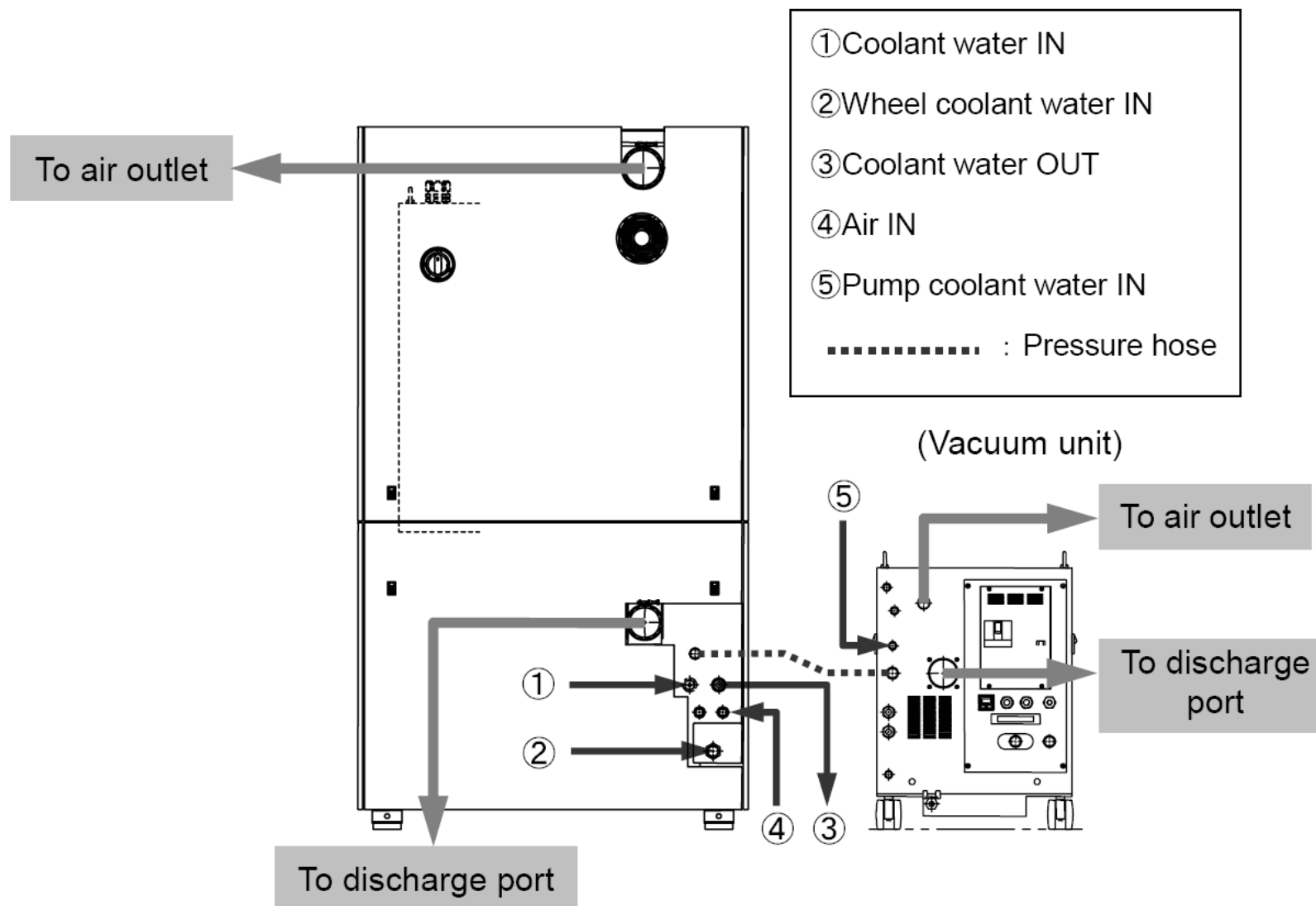
Piping/wiring diagram (standard)



- No optional piping is included in the above diagram.
- The vacuum unit is of outdoor exhaust type. The connection port of a duct hose at the facility side should be furnished by the user.
- The connection accessories (hard piping, etc.) to be furnished by the user may differ from the ones indicated in the above diagram depending on the machine installation site conditions and connection method. Contact your nearest DISCO office or DISCO service office for details.
The "swagelok" type is recommended for the joints to be used.

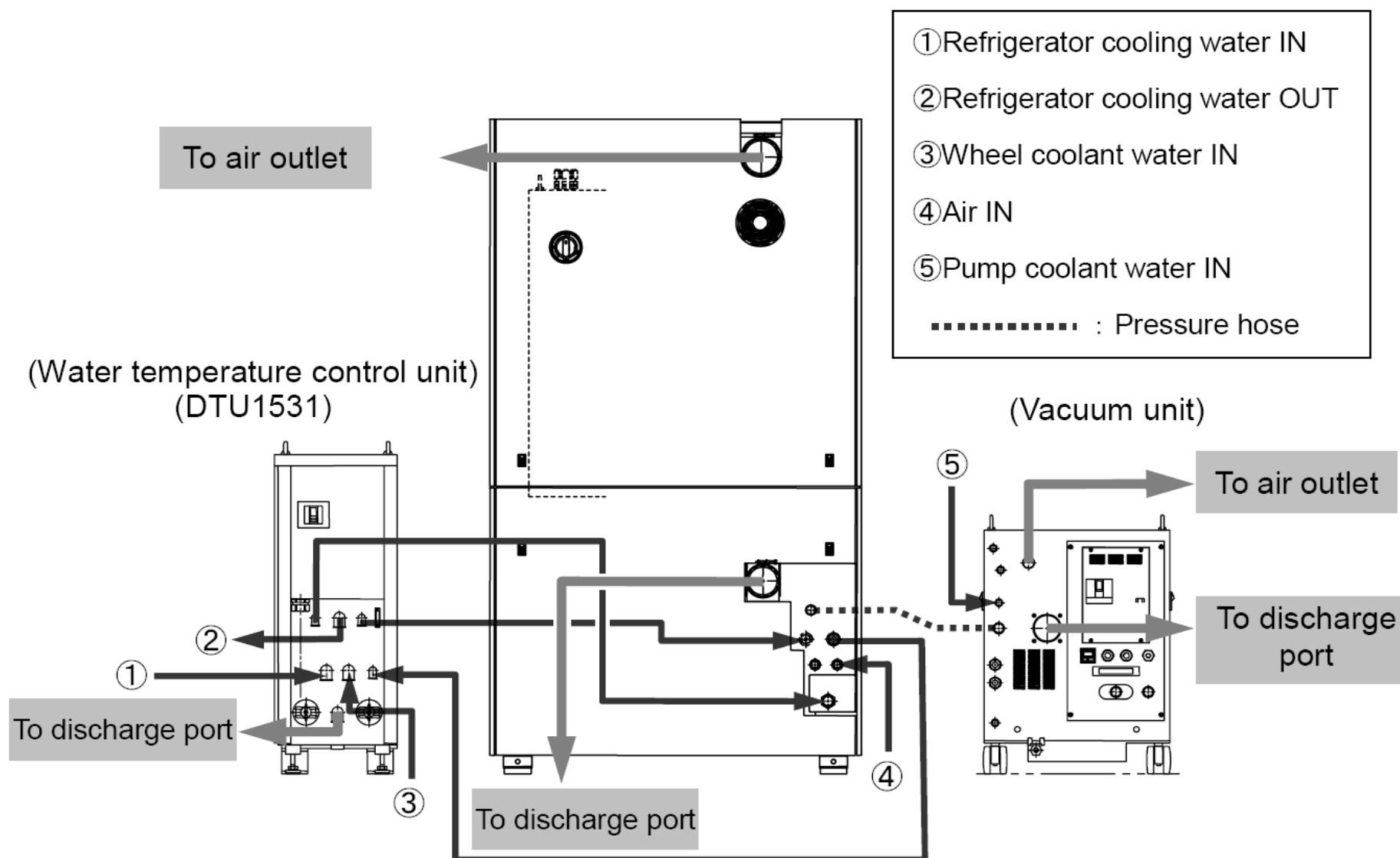
PRE-INSTALLATION CHECK LIST for DTG8460 TAIKO

5.2.1. Piping system diagram (Standard specification)

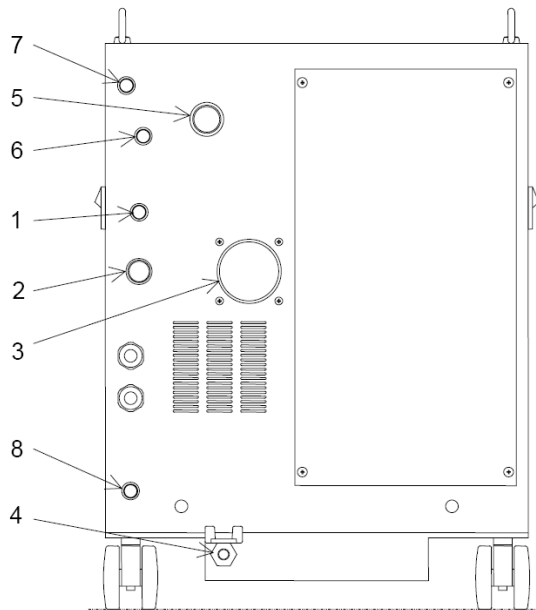


PRE-INSTALLATION CHECK LIST for DTG8460 TAIKO

5.2.2. Piping system diagram (when the DTU1531 is used)



5.3. Piping Connection of Vacuum Unit [Optional Accessory]

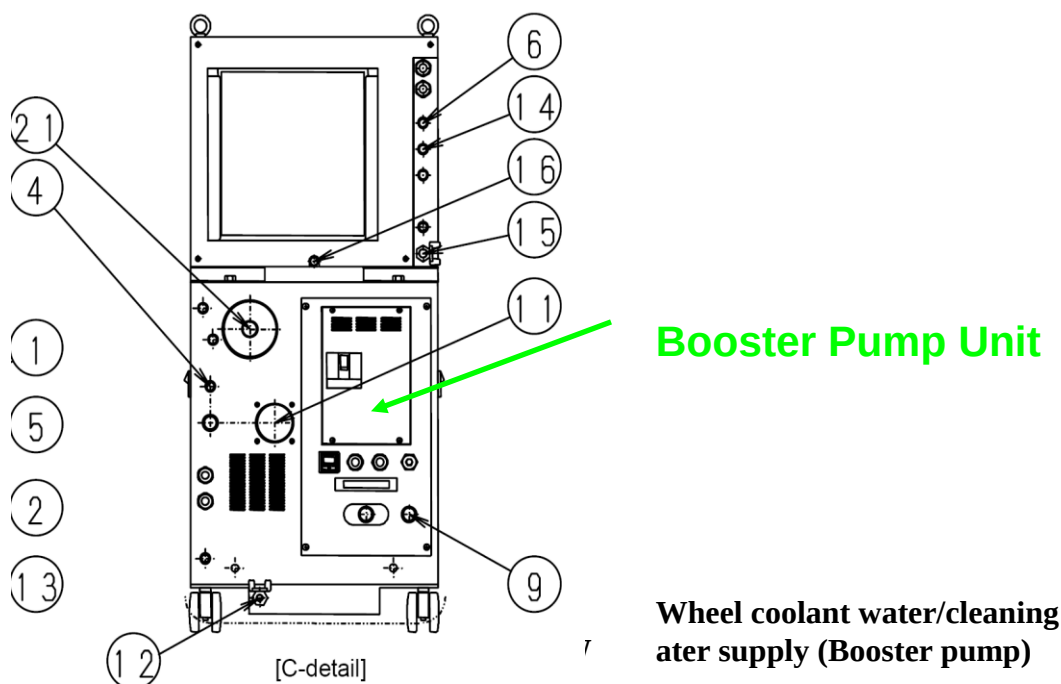


No.	Name of Port	Connection pipe diameter	Note
1	Water inlet port	Rp3/8	
2	Suction port	Rp3/4	
3	Drain port	φ 75	
4	Drain pan drain port	Rc1/4	Equipped with valve.
5	Exhaust port	φ 38	Rp1
6	Duct unit drain port (for pre-process box)	Rp3/8	Used when a duct unit is connected to the machine.
7	Duct unit drain port (for post-process box)	Rp3/8	Used when a duct unit is connected to the machine.
8	Tank drain port	Rp3/8	Blocked by a plug

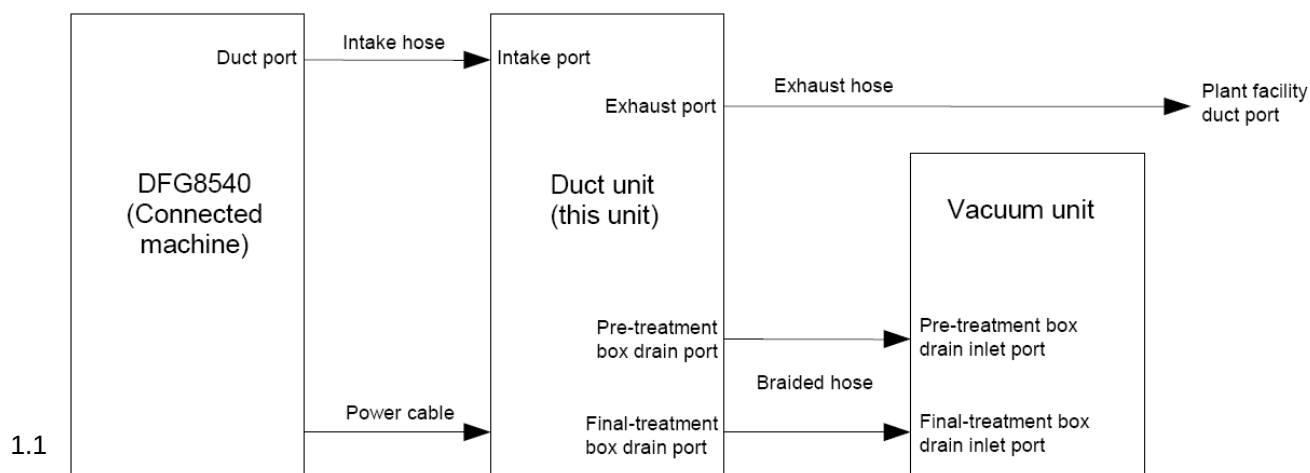
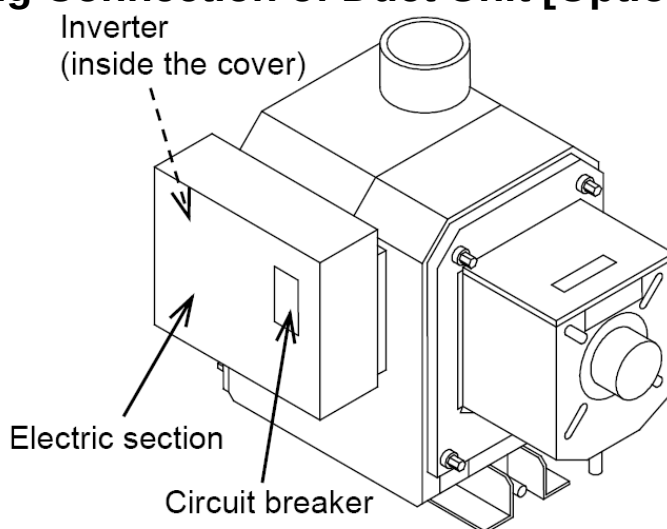
Vacuum Unit



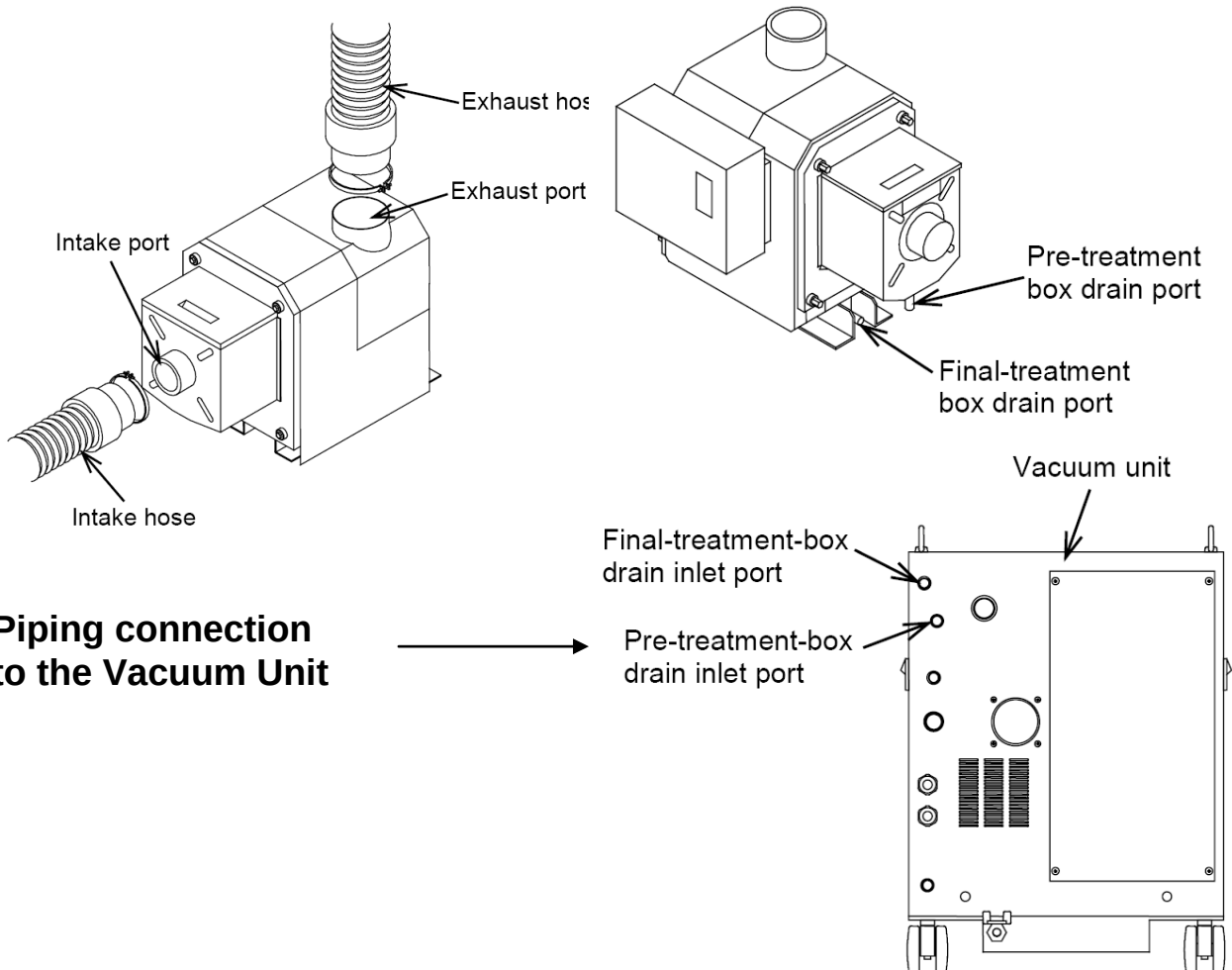
5.4. Piping Connection of Booster Pump Unit [Optional Accessory]



5.5. Piping Connection of Duct Unit [Optional Accessory]



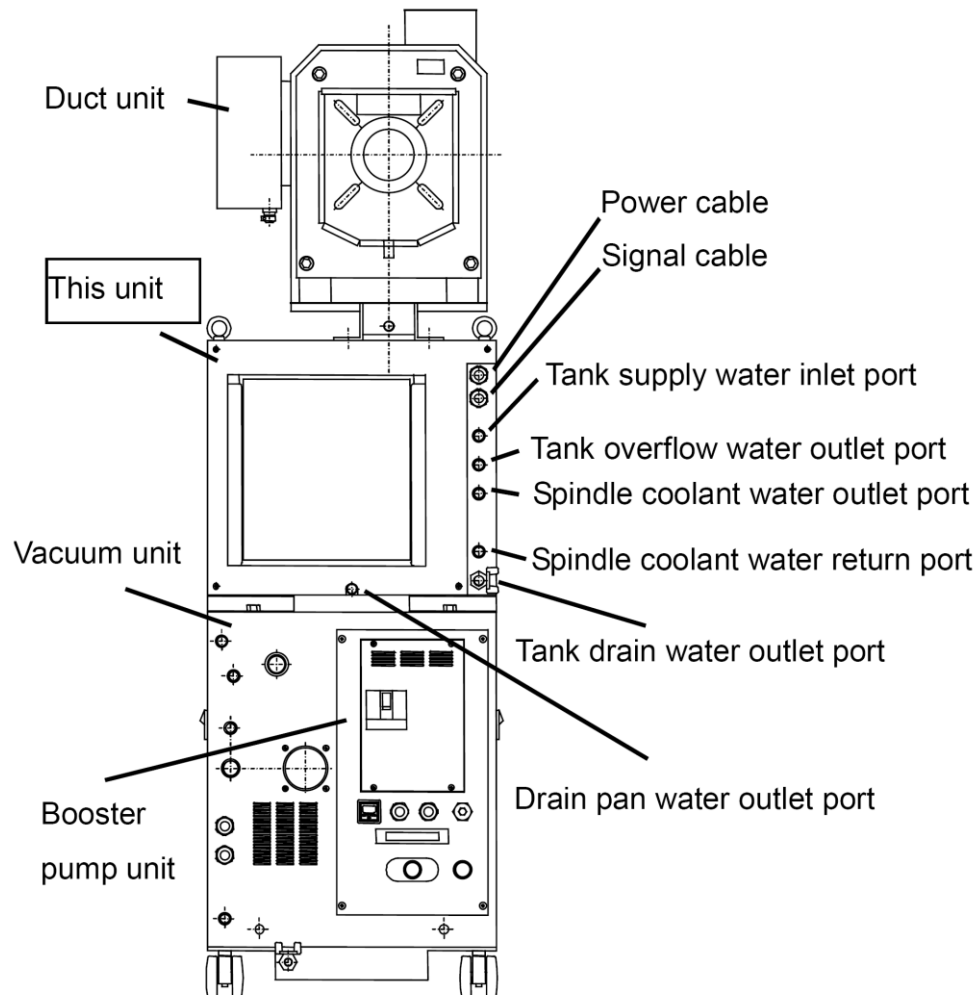
PRE-INSTALLATION CHECK LIST for DTG8460 TAIKO





5.6. Piping Connection of Coolant Unit [Optional Accessory]

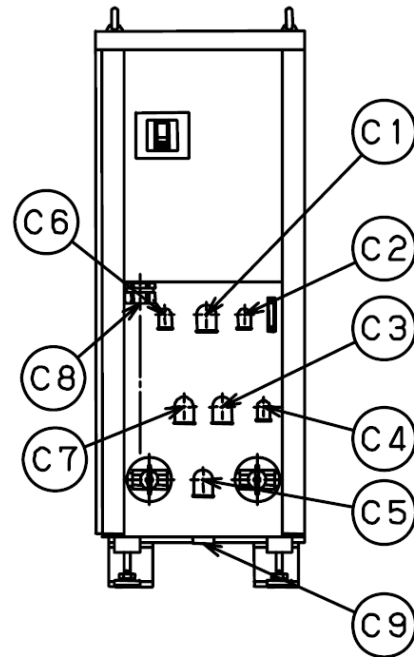
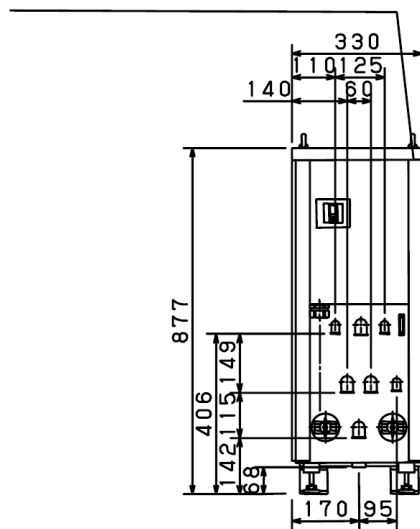
- a) The installing location/space of the spindle coolant unit (combined with the vacuum unit and/or duct unit) should be decided taking the maintenance space and the weight of the units into consideration. Refer to [Installation site] in Chapter 2.
- b) Push the units by at least two persons to move them to where they will be installed.
- c) Secure the units to the floor referring to the instruction manual of the vacuum unit.
- d) Make piping connection to the piping connection ports on the rear of the spindle coolant unit using an adjustable wrench. (Refer to the associated manual of the connected machine for the procedure to make piping connection.) - Refer to the respective instruction manuals to make piping connection to the vacuum unit and duct unit.



- e) Make wiring connection between the spindle coolant unit and the connected machine. (Refer to the associated manual of the connected machine for the procedure to make wiring connection.) - Refer to the respective instruction manuals to make wiring connection to the vacuum unit and duct unit.

5.7. Piping Connection of Water Temperature Control Unit (for example DTU1531) [Optional Accessory]

C: Water temperature control unit (DTU1531) [optional accessory]



(Unit: mm)

<C: Water temperature control unit (DTU1531)>

No.	Name	IN/OUT ^(*)	Applicable hose (Unit: mm)	Connection Port ^(*)
C1	Refrigerator cooling water drainage ^(*)	→ To plant-side drain inlet	Braided hose (ID 19 × OD 26)	Rc1/2
C2	Spindle/Z-axis/Chuck table coolant water discharge	→ To A6 ^(*)	Braided hose (ID 9 × OD 15)	Rc1/2 ^(*)
C3	Wheel coolant water/cleaning water supply	← From plant facility	Braided hose (ID 19 × OD 26)	Rc1/2
C4	Spindle/Z-axis/Chuck table coolant water return	← From A7 ^(*)	Braided hose (ID 12 × OD 18)	Rc1/2 ^(*)
C5	Overflow water drainage	→ To plant-side drain inlet	Braided hose (ID 15 × OD 22)	Rc1/2
C6	Wheel coolant water/cleaning water discharge	→ To A8	Braided hose (ID 19 × OD 26)	Rc1/2 ^(*)
C7	Refrigerator cooling water supply ^(*)	← From plant facility	Braided hose (ID 19 × OD 26)	Rc1/2
C8	Power supply	— From plant facility	Cable (4 AWG)	R22-8
C9	Drain pan water drainage ^(*)	→ To plant-side drain inlet	Braided hose (ID 19 × OD 26)	Rc1/2

PRE-INSTALLATION CHECK LIST for DTG8460 TAIKO

Example of valve:



Duct Unit



Duct unit and the grinder (rear side)



PRE-INSTALLATION CHECK LIST for DTG8460 TAIKO

DTU152 and the grinder (rear side connections)



Grinder rear side connections



DTU152 rear side connections



6. Environmental Conditions for Installation

Accuracy of the machine is greatly affected by the environmental conditions in which the machine is installed. Make sure to use the machine in the following operating condition ranges.

<u>Ambient temperature (room temperature)</u>	20 to 25 °C (variation: ± 1 °C max.)
<u>Ambient humidity</u>	55 ± 15 % (non-condensing)
<u>Wheel coolant temperature</u>	Room temperature + 2 °C (hourly temperature variation: 1 °C max.)
<u>Spindle coolant temperature</u>	20 to 25 °C (hourly temperature variation: 2 °C max.)
<u>Power requirements</u>	: 200 VAC $\pm 10\%$, 3-phase. (to machine!!!) : 380-400 VAC $\pm 10\%$, 3-phase (to transformer!!!) - The employed power source must be free from significant voltage variations. - The employed power source must be free of noises equivalent to a voltage of 2000 V or higher at a noise stepping width of 500 ns. - A momentary power failure must not occur with the employed power source
<u>Vibration</u>	Amplitude: 5 μm max. (10 Hz or lower) Acceleration: 0.02 m/s ² (2 Gal) max. (10 Hz or higher)
<u>Air</u>	Filtration efficiency: 0.00001 mm / 99.5% or better Dew point: -15 °C or lower Residual oil content: Less than 0.1 ppm
<u>Ground</u>	A grounding connection must be made according to the local regulations.
<u>Others</u>	- Make sure that the air, water, and power sources and the water drain ports are positioned near the machine. - Ensure that the insides of the employed hoses are free of dirt. - The floor on which the machine is installed should be provided with sufficient waterproofing and drainage treatment. - Install the machine on the floor of adequate strength (refer to section 3-1, [Installation Space] in this chapter for the required load-carrying capacity of the floor). - Do not install the machine in places where noise, vibration, heat, or oil mist is generated or near fans and ventilation openings. - Machine anchors are optionally available. They are designed to provide human/equipment protection in the event of earthquake or other disasters. It is recommended that the installed machine be secured with these anchors.