FURNACE

SPECIFICATION

3-1 Furnace Unit

1-1 Furnace mount frame

(1) Type/Model No. : VFA-090
(2) External dimensions : 900mmW × 1900mmD × 3080mmH
(Please refer to the drawing)

1-2 Front panel contents

(1) Mechanical switches
(only the pause switches are located at both the front and rear side.)
(2) EMO switches
(3) Connector for HCT

1-3 Furnace mount rear section contents:

(1) Cooling water unit
(2) Mechanical switches (pause switch)
(3) EMO switches
~~(4) Furnace-mount temp. controller~~ ⚠
(5) Exhaust fan (Electrical Equipment Exhaust)

1-4 Basic specifications

(1) The furnace unit shall be so structured that it may be divided at its height of 2100 mm.

(2) The furnace is provided with a heater chamber cooling mechanism in order to prevent the rise of ambient temperature because of the furnace heat radiation.

(3) The heater chamber is so structured that it may be removed from the rear side of the furnace for maintenance and repair works.

(4) A heat insulating blanket shall be attached to the furnace ceiling providing the protection against high temperature.

(5) A safety cover is provided at the front of the heater terminal.

(6) The interlock is provided at the back door.

(7) A connector port for the handy communication terminal(HCT) is provided on the lower section of the furnace unit rear side.

(8) The connection of the cooling water shall be made at the lower portion of the furnace unit rear facing, and joined by means of a 3/4" SWAGELOK.

(9) A temperature measuring connector (branched from the internal T/C) will be provided on the furnace unit rear facing.

(10) The each door switches (open/close and enable sw) distance must be 650mm.

2. Heater specifications

(1)	Heater type/model	:	VOS-40-017
(2)	Effective inner diameter	:	320 mm
(3)	Outer diameter	:	500 mm
(4)	Heater length	:	1161mm(except Air Blow)
(5)	Zone control	:	4 zones
(6)	Flat heat zone length	:	600mm(±1℃)(@950℃,No Wafers,No Gas)
(7)	Normal specified temperature range	:	RT~1000 ℃
(8)	Maximum operating temperature range	:	1000℃
(9)	Maximum electric power rating	:	67.9kW

3. Auxiliary components

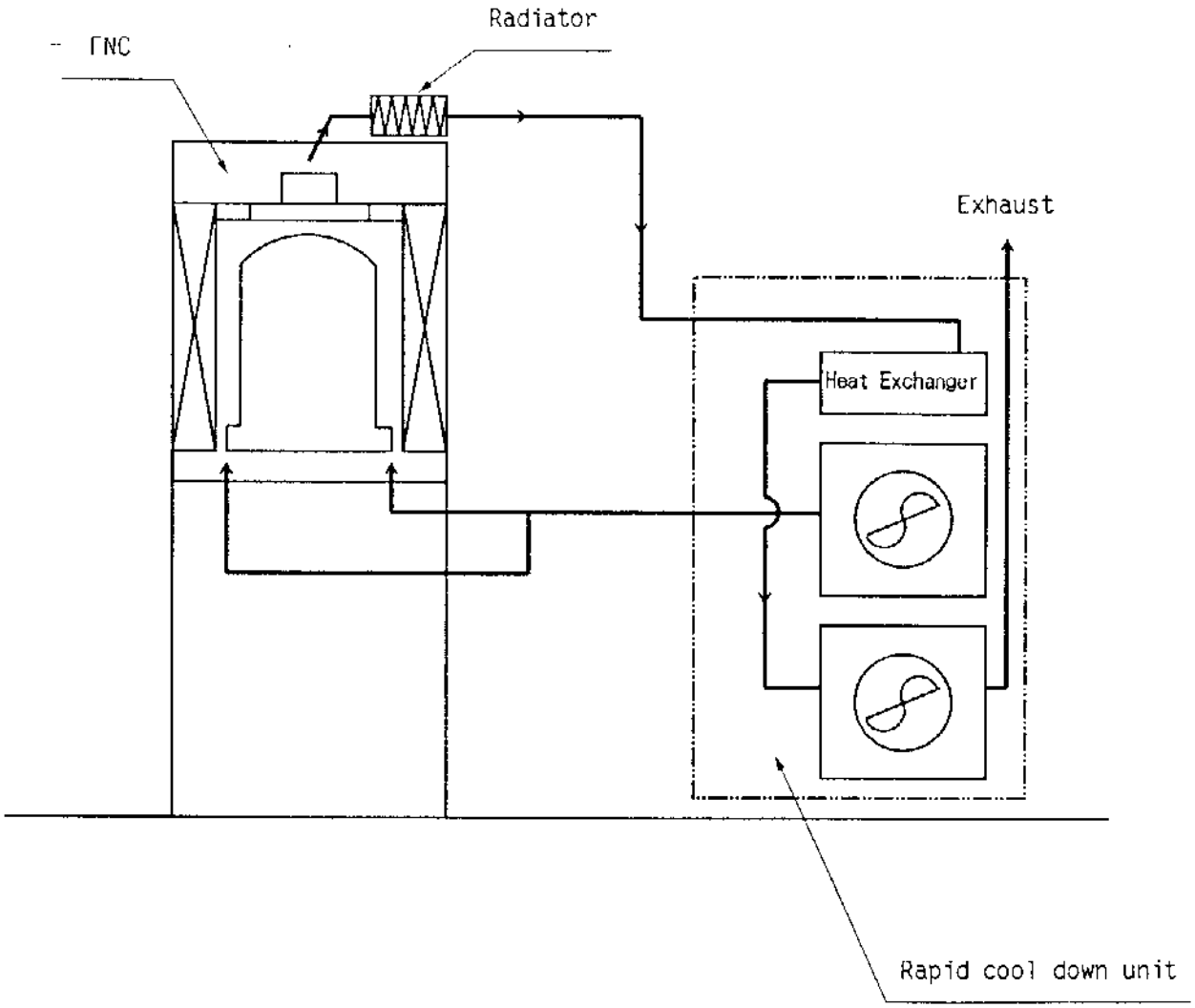
(1) Scavengers

① Scavengers are installed between the ceiling of the mount and heater, base plate and loading area to exhaust the hot ambience generate by the heaters.
② They shall be made of stainless steel, SUS 316.
③ A manually operable damper shall be installed on the scavenger.
④ The scavenger at the furnace opening is made dividable into two sections, so that it may be removed even when the elevator is moved up.
⑤ A manostat gage(0~30mm H_2O) shall be installed on the exhaust duct. A manostat switch(2~12mm H_2O) shall be installed, then an alarm shall be input to controller.
⑥ Gas sampling port shall be installed inside the scavengers.

(2) Rapid cooling down unit

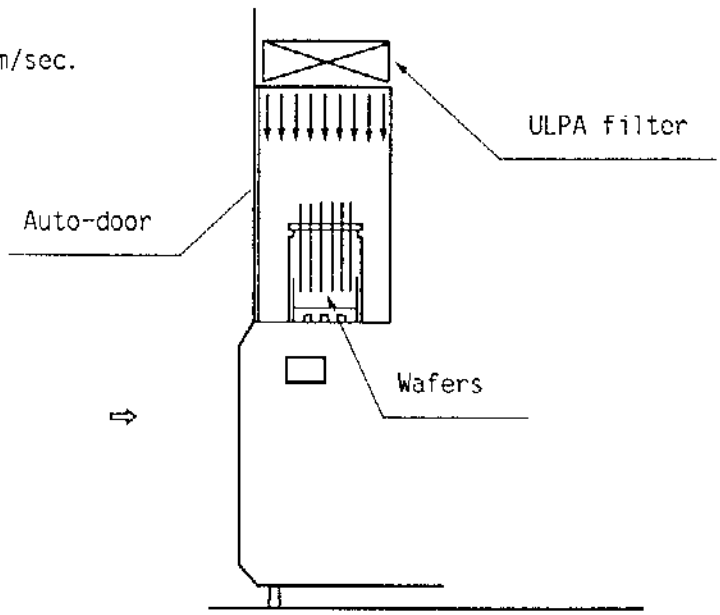
① Outer dimension : 900mmW × 500mmD × 2300mmH
② Air Blower Flow Schematic
* Refer to next page

Air Blower Flow schematic

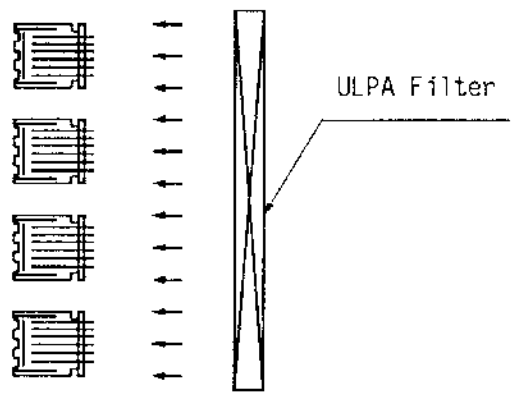


4. Clean air flow specifications
Filters are provided with the system in such a way that clean air flow paralled to the wafer facing while a wafer is at the carrier I/O port, carrier stage, or loading area. (The differential pressure shall be less than 0.5 mm H_2O between the clean room and utility room.)

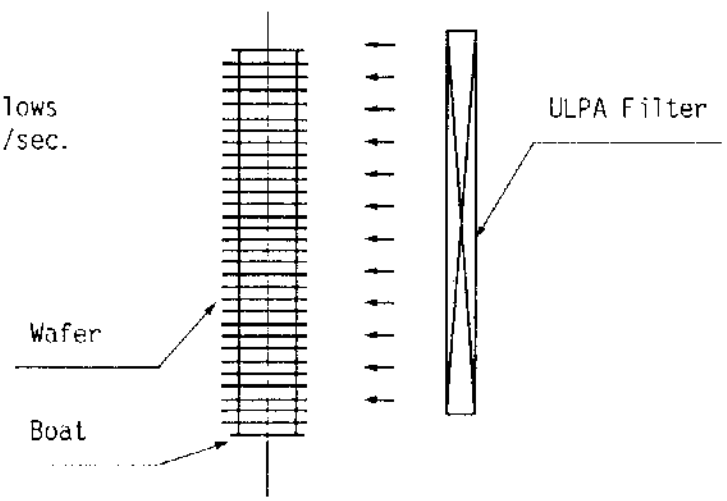
(1) Carrier I/O port
1) Flow direction: Down
2) Flow rate : 0.5 m/sec.



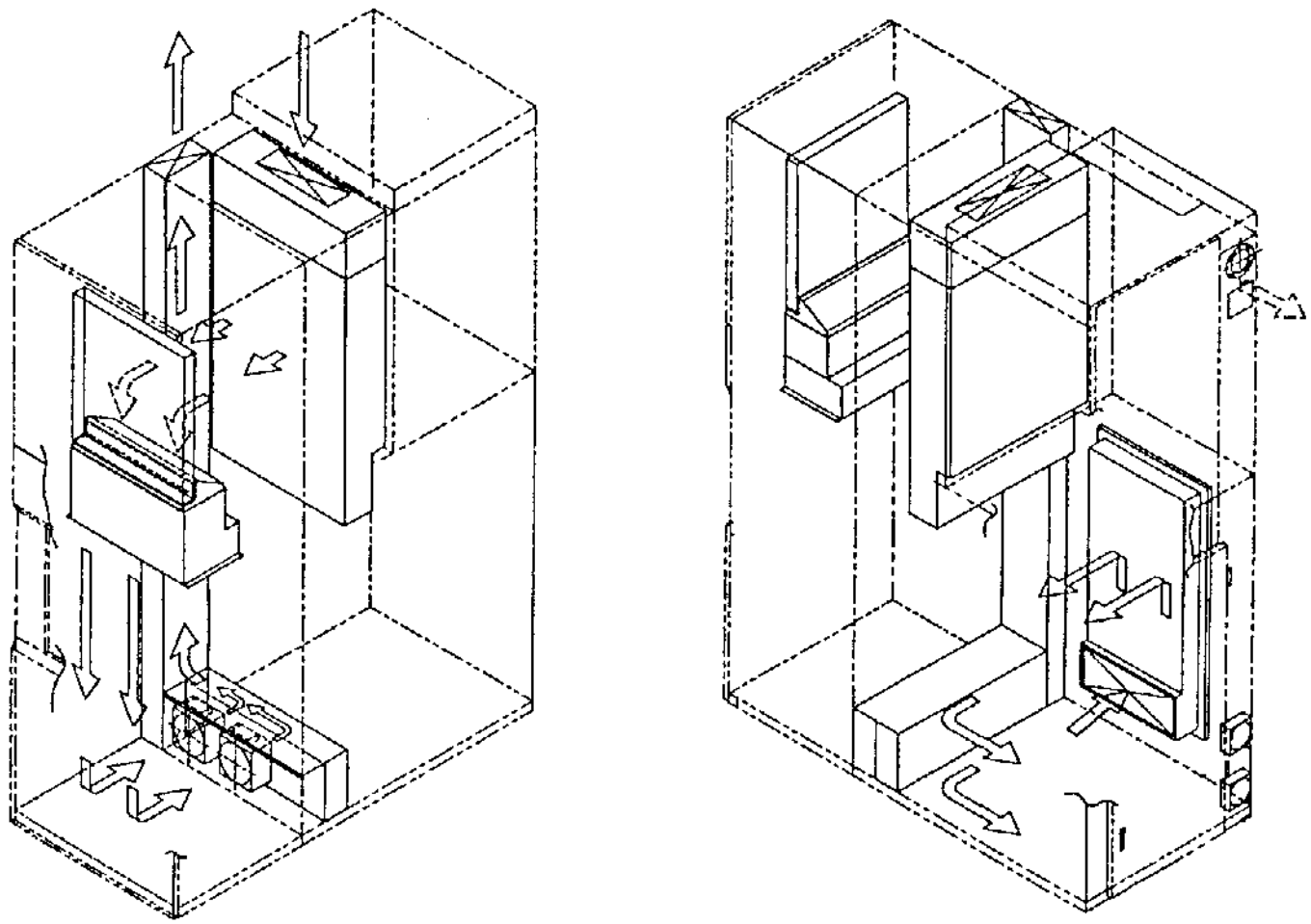
(2) Carrier stage
1) Flow direction: Side flow
2) Flow rate : 0.3 m/sec.



(3) Loading area
1) Flow direction: Sideflows
2) Flow rate : 0.3 m/sec.



(4) Special notes:
1) Each filter has flow rate adjustment mechanism.
2) The flow rate adjustment mechanism is installed inside the furnace unit upper door.



AIR FLOW

(N₂ Purge Box type)