

Industrial & Laboratory Vacuum Drying Ovens

DP200/300/410/610



DP200/300/410/610

Shorter drying time & Faster heat-up process

The New Z Controller system has been added in the current PID Controller system, which has made the heat-up process faster by 37% (comparing with the previous model) and improved temperature stability when operating in low temperatures.

Easy use & Multi-functional

- User-Friendly control panel and display.
- Equipped with Power Consumption / CO2 Emission Monitor.
- Various Operation Mode Programmable, Auto-start/Auto-stop, Timer, Calibration Offset Function, and some more various support functions are equipped as standard.
- Input/Output Function (Optional) 4-20mA Analog Output, External Communication Terminal (RS485), Alarm Output, Operation Signal, Time-up signal, Output Port.

Efficient Safety

- Safety Countermeasure
 - Self diagnosis functions (Temperature Sensor Abnormal, Heater Wire Broken)
 - Independent overheating prevention & Electric leakage breaker

Wide variation of compact and large scale ovens

With a high-accuracy controller system, the DP series is able to attain high temperature with accuracy, also with advanced functionality and safety. The series not only performs curing, annealing, baking, de-foaming, hardening & de-aeration treatment, but also has vacuum storage ability and upgraded optional items.

Model			
DP200/300		DP410/610	
Operating Temperature Range			
40deg.C to 240 deg.C		40deg.C to 200 deg.C	
Internal Capacity (L)			
10	27	91	216

■ Specifications

Model	DP200	DP300	DP410	DP610
Performance				
System	Vacuum drying by decompressed chamber direct heating			
Operating temperature range	40deg.C to 240deg.C		40deg.C to 200deg.C	
Operating pressure range	101 to 0.1 kPa (760 to 1 Torr) at absolute pressure			
Temp. control accuracy (JTM K05)	±1.0deg.C (at 240deg.C)		±1.0deg.C (at 200deg.C)	
Temp. fluctuation (JIS)	±1.0deg.C (at 240deg.C)		±1.5deg.C (at 200deg.C)	
Max. temp. reaching time	Approx. 60 min.	Approx. 120 min.	Approx. 80 min.	Approx. 100 min.
Components				
Interior material	Stainless steel			
Exterior material	Cold rolled steel plate with baked-on melamine resin finish			
Door	Single swing door			
Heat insulating material	Rock wool			
Heating method	Decompressed chamber direct heating			
Heater	Mica heater, 0.68 kW	Mica heater, 1.05 kW	Mica heater, 2.25 kW	Mica heater, 3.15 kW
Vacuum gauge	Bourdon tube type, 0 to 0.1 MPa (Gauge pressure)			
Observation window	Tempered glass and polycarbonate resin plate			
Pump connection port / Purge port	Exterior ø18(mm) / Rc 1/4		NW25 flange / Rc 1/4	
Controller				
Temp. control method	PID control by microprocessor			
Temp. setting method	Digital setting with UP/DOWN key			
Temp display method	Digital display by green LED			
Timer	0 min. to 99 Hrs. 59 min. and 100 Hrs. to 999 Hrs.			
Min. division	1 min. or 1 Hrs.			
Operation function	Fixed temperature operation, Auto-start operation, Auto-stop operation			
Additional functions	Calendar timer (max. 24 Hrs.), Integration time (max 65535 Hrs.), Time display			
Heater circuit control	Triac zero-cross control			
Temp. sensor	K-thermocouple (double sensor)			
Safe Device				
Safety countermeasures	Self diagnosis functions(Sensor, Heater, Triac, automatic overheating prevention), Independent overheating prevention, Key lock function, Electric leakage breaker			
Leakage breaker	15A		20A	
Independent cut-out circuit	Set temperature range: 0 to 270 deg..C		Set temperature range: 0 to 230 deg.C	
Standard				
Internal dimensions (W×D×Hmm)	200×250×200	300×300×300	450×450×450	600×600×600
External dimensions (W×D×Hmm)	400×410×682	510×460×782	670×669×1500	820×819×1650
Internal capacity	10 liters	27 liters	91 liters	216 liters
Shelf rest step number	3 steps (fixed)		4 steps (fixed)	
Shelf rest pitch	63mm (fixed)	71mm (fixed)	105mm (fixed)	140mm (fixed)
Exhaust port / Purge port	18mm O.D. (the right side) 1 pc. each		NW25 flange / Rc 1/4 (18mm O.D.)	
Power source 50/60Hz	AC100V 7A(15A)	AC100V 10.7A(15A)	Single phase AC200V 11.5A(15A)	Single phase AC200V 16A(20A)
Weight	Approx. 45 kg	Approx. 72 kg	Approx. 210 kg	Approx. 310 kg
Accessories				
Shelf plate	Punched stainless steel, 2 pcs			

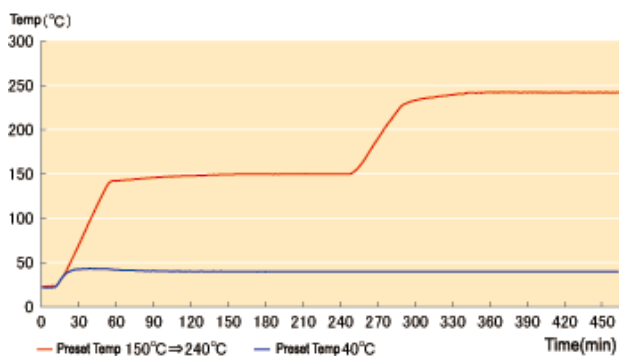
*The performance shown here is the value under the condition of the ambient temperature of 23deg.C±5deg.C, humidity of 65%RH±20%.

*The projection is not included for Internal dimensions and External dimensions.

■ Control Panel



■ DP300 Thermal Elevation (Nomal Temp, Pressure Falling)



■ Vacuum Pump & Cold Trap

Product Code	Product Name
221436	Cold Trap CA 301
221437	Cold Trap CA801
221481	Easy Cold Trap
221487	Glass Condenser Set
242276	Dry Vacuum Pump PK 250, exhaust speed 250 L/min
242277	Silent Kit for Dry Vacuum Pump PK 250
242290	Vacuum Pump PD53, exhaust speed 50/60 L/min
242291	Vacuum Pump PD103, exhaust speed 100/120 L/min
242292	Vacuum Pump PD138, exhaust speed 135/162 L/min
242293	Vacuum Pump PD203, exhaust speed 200/240 L/min
242384	Vacuum Pump Oil (4L/can) SMR-100
221623	Immersion Cooler BE201

(1)Easy Cold Trap + (2) Immersion Cooler BE201 + (3)Vacuum Pump

Cold Trap



Vacuum Pump



■ Optional items

Product Code	Description	Model No	Specification
212134	Shelf (1pc with 2 supports)	DP200	Max. Load 15kg/shelf
212162	Shelf (1pc with 2 supports)	DP300	Max. Load 15kg/shelf
212192	Shelf (1pc with 2 supports)	DP410	Max. Load 15kg/shelf
212193	Shelf (1pc with 2 supports)	DP610	Max. Load 15kg/shelf
212079	Stand	DP200/300	
281601	Sheath Sensor(500mm)	DP200/300/410/610	K-thermocouple (φ1.6、500mm length)
281602	Sheath Sensor(1500mm)	DP200/300/410/610	K-thermocouple (φ1.6、1,500mm length)
211880	External Connection Adapter Set	DP200/300/410/610	USB-RS485 with Utilities Software
281603	External Communication Terminal	DP200/300	RS485, 2 wire system
281604	Analog Output Terminal	DP200/300	DC4-20mA, max load 600Ω
281605	External Alarm Output Terminal *1	DP200/300	Non-Electrical Voltage Interface Output
281606	Time-up Output Terminal *1	DP200/300	Non-Electrical Voltage Interface Output
281607	Digital Vacuum Indicator	DP200/300	Basic Type
281608	External Communication Terminal	DP410/610	RS485, 2 wire system
281609	Analog Output Terminal	DP410/610	DC4-20mA, max load 600Ω
281610	External Alarm Output Terminal	DP410/610	Non-Electrical Voltage Interface Output
281611	Time-up Output Terminal	DP410/610	Non-Electrical Voltage Interface Output
281612	Operating Signal Output Terminal	DP410/610	Non-Electrical Voltage Interface Output
281613	Output Port Terminal	DP410/610	Non-Electrical Voltage Interface Output
281625	Vacuum Pump Switch (AC100V)	DP410/610	Select-Switch
281614	Vacuum Pump Switch (AC200V)	DP410/610	Select-Switch
281615	Pirani Vacuum Gauge with 0-10mV Voltage Output (Analog type) *2	DP410/610	with Vacuum Level Output Terminal
281616	Pirani Vacuum Gauge with 0-10mV Voltage Output (Digital type) *2	DP410/610	with Vacuum Level Output Terminal
281617	Recorder	DP410/610	AL4706, 6 Dotting Type, include Memory Function
281618	Digital Vacuum Indicator	DP410/610	Basic Type
281619	N2 Gas Supply Unit (include Flow Indicator) *2	DP410	Flow Indicator 30L/min
281620	Slide type Vacuum Pump Stand A	DP410	for PK250
281621	Slide type Vacuum Pump Stand B	DP410	for PD203
281622	N2 Gas Supply Unit (include Flow Indicator) *2	DP610	Flow Indicator 30L/min
281623	Slide type Vacuum Pump Stand C	DP610	for PK250
281624	Slide type Vacuum Pump Stand D	DP610	for PD203

*1: External Alarm Output & Time-up out could not be used together for Model DP200/300, please use either one.

*2: Pirani Vacuum Gauge (Analog & Digital type) could not be used together with N2 Gas Supply unit, please use either one.