

Industrial & Laboratory Vacuum Drying Ovens

DP200/300/410/610



DP200/300/410/610

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 | |
| Room temp. 40deg.C to 240 deg.C | Room temp. 40deg.C to 200 deg.C |
| Internal Capacity (L) | |
| 10 | 27 |
| 91 | 216 |

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

Specifications

| Model | DP200 | DP300 | DP410 | DP610 |
|-------------------------------|--|-----------------------------------|------------------------------------|------------------------------------|
| Performance | | | | |
| System | Vacuum drying by decompressed chamber direct heating | | | |
| Operating temperature range | Room temp.+40 to 240deg.C | | Room temp.+40 to 200deg.C | |
| Operating pressure range | 101 to 0.1 kPa (760 to 1 Torr) at absolute pressure | | | |
| Temp. Fluctuation | ±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. 120 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 | | | |
| 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. 49999 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 | | | |
| 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 | 4 steps | | |
| Shelf rest pitch | 63mm | 71mm | 105mm | 140mm |
| 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 | 100V/220V, single phase, 8A/3.7A | 100V/220V, single phase, 12A/5.5A | 200V/220V, single phase, 12A/10.9A | 200V/220V, single phase, 17A/15.5A |
| Weight | Approx. 45 kg | Approx. 72 kg | Approx. 210 kg | Approx. 310 kg |
| Accessories | | | | |
| Shelf plate | Punched stainless steel, 2 pcs | | | |

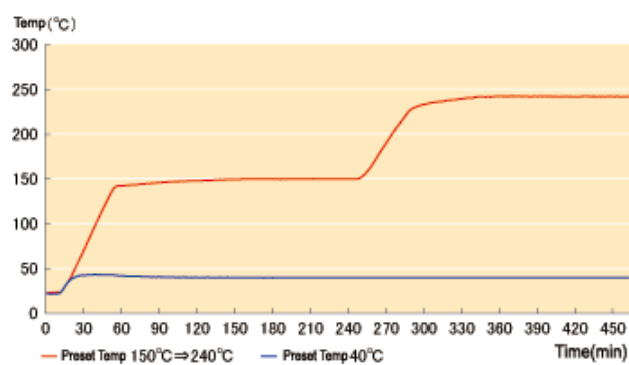
*The performance shown here is the value under the condition of the ambient temperature of 23deg.C±5deg.C, humidity of 65% RH±20%.

*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 |
| 221422 | Immersion Cooler BE200 |

(1) Easy Cold Trap + (2) Immersion Cooler BE200 + (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.