

CYGNUS TECH



Air cooled water chillers, heat pumps and condensing units
featuring hermetic scroll compressors.

Cooling capacity **14 -78 kW**

heating capacity **15 -80 kW**

PST



PROCESS COOLING
SOLUTIONS



AIR CONDITIONING
SYSTEMS

Conditioning Your ambient,
maximising Your comfort.



Benefits

- Extremely low noise levels;
- High EER/COP values and seasonal performance indices;
- Ideally suited to commercial and domestic chilled water air-conditioning applications;
- Extended operating limits;
- Optimisation of heat pump defrosting cycles thanks to the exclusive Frost Detecting System (FDS) (Minimum ambient temperature in heat pump mode = -10°C);
- Self-adaptive temperature control (SAC) for efficient operation with installations having low water contents;
- Designed for installation in confined spaces;
- Easy to use thanks to a controller with icon-based dual display;
- Easy installation and simple access to all chiller components.

Main Options

- Configuration without storage tank;
- High/low head pressure pump;
- Anti-freeze heaters on evaporator, pump and tank;
- Remote user interface;
- RS485 ModBus interface for connection to supervisor systems;
- xWEB300D for local or remote (GPRS) monitoring plus data filing based on WEB server technology;
- Antivibration mountings;
- Condenser filters;
- Soft starter;
- Thermostat (condensing and reversible condensing unit).

Standard Features

- Scroll compressors (051-121) tandem Scroll compressors (181-301);
- Integral hydronic kit complete with pump, tank, expansion vessel, filling/drain valve, pressure gauge, and automatic bleed valve;
- Hydraulic threaded connections directly accessible from the exterior of the unit;
- Brazed stainless steel plate evaporator;
- Axial fans with sickle shaped blades and electronic speed control;
- Heat pumps with 2nd thermostatic valve for performance optimisation in all operating conditions (models 121 to 301);
- Factory charged with refrigerant and non-freezing oil (MC versions excluded);
- Protection grade IPX4;
- Inspections and tests performed in factory as per all MTA products and components;
- Environmentally friendly refrigerant R410A with zero ozone depletion potential;
- Phase monitor against phase reversal;
- Compressor crankcase heater.

Versions

- **CY** - Cooling only;
- **HCY** - Reversible heat pump;
- **MCCY** - Condensing unit;
- **MCHCY** - Reversible condensing unit.

Microprocessor controller with dual icon-based display.



Higher energy efficiency and quieter operation thanks to the use of scroll compressors.



Built-in pumping module with or without storage tank.



Remote control.



Low noise operation of technical systems is essential for continuously occupied premises such as homes, offices and light-commercial buildings, where air conditioning units are usually placed in close proximity to the users. In order to satisfy the specific comfort requirements of these type of premises, without compromising performance in all operating conditions, **PST** has developed the Cygnus Tech series of minichillers and reversible heat pumps with environmentally friendly refrigerant R410A. The already very low noise levels have been further reduced by installing electronic fan speed controls, which run at lower speeds as cooling or heating demands decrease. Seasonal efficiency levels are even more evident in heat pump operation, with clear benefits in terms of climatic comfort, thanks to the integral storage tank and Frost Deteting System (FDS), designed to detect the quantity of ice accumulating on the external coil, so that defrost cycles are performed only when appropriate, thereby minimising the power consumption.

| | | | | | | | | | | | |
|--------------------------------|---------|---------------------------|------|------|------|------|------|------|------|------|------|
| Model CY | | 051 | 071 | 091 | 101 | 121 | 181 | 201 | 241 | 271 | 301 |
| Cooling apacity (1) | kW | 14.05 | 18.8 | 23.3 | 27.5 | 29.9 | 46.4 | 52.8 | 60 | 69.8 | 78 |
| Cooling capacity (1) | TR | 4 | 5.3 | 6.6 | 7.8 | 8.5 | 13 | 15 | 17 | 20 | 22 |
| Total absorbed power | kW | 4.3 | 5.6 | 7.1 | 8.2 | 9.1 | 14.1 | 16.9 | 18.2 | 21.9 | 25.9 |
| EER | - | 3.27 | 3.35 | 3.26 | 3.37 | 3.28 | 3.28 | 3.13 | 3.30 | 3.19 | 3.01 |
| Max external air temperature | °C | 52 | 51 | 49 | 49 | 48 | 50 | 49 | 51 | 49 | 47 |
| EXCHANGERS | | | | | | | | | | | |
| Evaporator pressure drops | kPa | 8 | 7 | 35 | 36 | 35 | 35 | 36 | 37 | 41 | 43 |
| Water flow | m³/h | 2.41 | 3.23 | 4 | 4.72 | 5.14 | 8 | 9.1 | 10.3 | 12 | 13.4 |
| GENERAL DATA | | | | | | | | | | | |
| Refrigerant | - | R410A | | | | | | | | | |
| Circuits / Compressors | N° | 1/1 | | | | | 1/2 | | | | |
| Power supply | V/Ph/Hz | 400 ± 10% / 3+N - PE / 50 | | | | | | | | | |
| Protection class | - | IP54 | | | | | | | | | |
| NOISE LEVEL | | | | | | | | | | | |
| Noise pressure (2) | dB(A) | 43 | 43 | 43.5 | 43.5 | 44 | 46 | 46 | 48.5 | 49 | 49 |
| SIZE AND WEIGHT | | | | | | | | | | | |
| Depth | mm | 1605 | 1605 | 1950 | 1950 | 1950 | 2505 | 2505 | 2505 | 2505 | 2505 |
| Width | mm | 742 | 742 | 800 | 800 | 800 | 1108 | 1108 | 1108 | 1108 | 1108 |
| Height | mm | 1425 | 1425 | 1238 | 1238 | 1238 | 1710 | 1710 | 1710 | 1710 | 1710 |
| Weight (without tank and pump) | kg | 182 | 184 | 344 | 361 | 374 | 607 | 613 | 638 | 654 | 660 |
| Weight (with tank and pump) | kg | 313 | 315 | 556 | 574 | 587 | 824 | 830 | 854 | 871 | 877 |

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

The listed noise levels, weights and dimensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/or higher efficiency versions may differ.)

The continuous improvement of **PST** products can cause some variations in the information herein even without prior notice. Reproduction in whole or in part is forbidden.



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