

TAURUS TECH



Air cooled water chillers, heat pumps and condensing units
with hermetic scroll compressors and R410A refrigerant gas.

Cooling capacity **81 - 189 kW**

Heating capacity **84 - 199 kW**

Cooling capacity condensing units **81 - 189 kW**

PST



PROCESS COOLING
SOLUTIONS



AIR CONDITIONING
SYSTEMS

Conditioning Your ambient,
maximising Your comfort.



Taurus Tech chillers and heat pumps represent the optimal solution for centralised hydronic conditioning of medium sized applications and with the wide range of accessories it is possible to satisfy the installation and start-up unit needs. The parametric microprocessor control, through an user friendly interface allows to modify the unit operating parameters in a simple way. In the heat pumps, the defrosting cycles are automatically and continuously manages with DDS logic (Dynamic Defrosting System) that, unlike commonly adopted solutions, operates only when effectively necessary, optimising defrosting duration and frequency, to the benefit of ambient comfort and operating economy.



Respect of Environment

The eco-friendly refrigerant R410A (ODP=0) with outstanding heat conductivity, coupled with the low absorbed power level of the scroll compressors, reduce the environment impact, minimizing the energy waste. Recyclable and high quality materials ensure respect of environment, and reduces the carbon footprint.

Dynamic Defrosting System

DDS (Dynamic Defrosting System) function in heat pumps dynamically manages defrost cycles according to environmental conditions and real operating needs. It allows to achieve a greater energy efficiency of the system and a greater ambient comfort in comparison with the conventional defrosting logics.

Electronic Expansion Valve

The electronic expansion valve allows an improvement of performance and an operating range wider than thermostatic expansion valves. The continuous calibrations system represents the best solution for all application characterized by several thermal load changes.

EC Fans

The EC electronic switching technology, thanks to a continuous and efficient regulation of the fans speed at partial loads, allows the reduction of noise levels together with a decrease of the consumption, increasing reliability and energy efficiency of the system.

R410A



Benefits

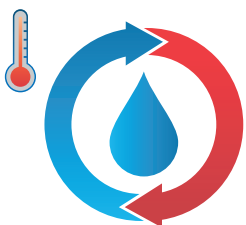
- Refrigerant R410A is an environmentally friendly fluid (zero ozone depletion potential) and provides high performances thanks its outstanding heat conductivity;
- 8 base models that perfectly match each specific system requirements;
- 2 acoustic versions (HE, SHE) with high efficiency
- Scroll compressors ensure high efficiency, excellent performance and elevated energy savings;
- Plug-in solution with integrated pump and tank allows a simple installation;
- Extended operating limits: Taurus Tech standardly accepts inlet water temperatures up to 25°C and outlet water temperature down to 0°C; HTaurus Tech working with ambient temperature up to 47°C in cooling mode; outlet water temperature up to 55°C and ambient temperature down to -10°C in heating mode.
- Optimisation of performance also in heating mode thanks to hot gas injection and the DDS defrosting system;
- Comprehensive safety equipment, including phase monitor, pressure switches, differential pressure switch, crankcase heaters;
- Extensive range of accessories and kits, allow each unit to match the specific customer requirements.

Standard features

- Refrigerant R410A;
- 2 Hermetic Scroll compressors in 1 circuit configuration;
- shell & tube evaporator
- AC Axial fans with die-cast aluminum blades, developed on the basis of bionic principles
- Air-cooled condensers (copper tubes/aluminium fins) with longitudinal "V" formation;
- High and low refrigerant pressure switches;
- Refrigerant pressure gauges;
- Parametric microprocessor control IC208CX;
- IP54 protection class;
- Phase monitor against phase loss and phase reversal;
- Compressor crankcase heater.

Heat recovery

The integrated partial or total heat recovery systems are able to provide useful heat, that would otherwise be lost, for other purposes thus reducing the overall energy bill and CO₂ emissions.



IC208CX microprocessor control

Taurus Tech features a new advanced microprocessor control technology, with all models fitted with a unique IC208CX digital control. A comprehensive digital display keeps the user fully informed concerning the correct operation of the unit, warnings and alarms. IC208CX also allows remote control due to VICX620 LED display and semi-graphic LCD display VG1890.



Main options

- Protection of the hydraulic group by means of panels or metallic mesh;
- Coils protection by means of filters or metallic mesh;
- Soft starter: are installed on each compressor and allow an average reduction of 30% of the start-up current compared to the direct start;
- Shut-off valves on suction side and discharge line of each pair of compressors;
- Total heat recovery (available for TAT only);
- Partial heat recovery (available for TAT and HTAT only);
- Pump options: P15, P2, double P15+P15 or P2+P2 with or without storage tank;
- Anti-freeze heater on heat exchangers and hydraulic kit (if present);
- High efficiency EC axial fans with inverter technology and integrated speed regulation or fan speed controller
- Electronic expansion valve
- Condenser coils designed for aggressive atmosphere;
- -20 °C option: it allows the units to operate in cooling mode down to -20 °C ambient temperature;
- Anti-vibration mounts;
- Thermostatic valves kit for condensing units;
- Remote control kit: VICX620 display LED, VG1890 display LCD semi-graphic (max 150 m);
- Gateway Modbus/Trend Kit;
- Supervisor kits: RS485 ModBus, xWEB300D.

Versions

- **Taurus Tech** - cooling only version;
- **HTaurus Tech** - reversible heat pumps with outlet water temperature up to 55 °C;
- **MCTaurus Tech** - condensing units.

High energy efficiency versions:

- **HE** - High energy efficiency and basic acoustic configuration;
- **SHE** - High energy efficiency and low noise acoustic configuration.

Supervisor systems

Taurus Tech can be linked to various external Supervisor systems:

- RS485 serial connection to an external Supervisor system (MODBUS and other leading systems);
- xWEB300D Supervisor kit, operating via Internet;
- xWEB300D + modem GPRS for connection directly to a smartphone and tablet.



Factory test

All models are individually tested in order to check correct operation, and also undergo refrigerant charge and leakage controls, and microprocessor and safety device setting verifications. Leading brand components are used throughout, ensuring long term reliability.

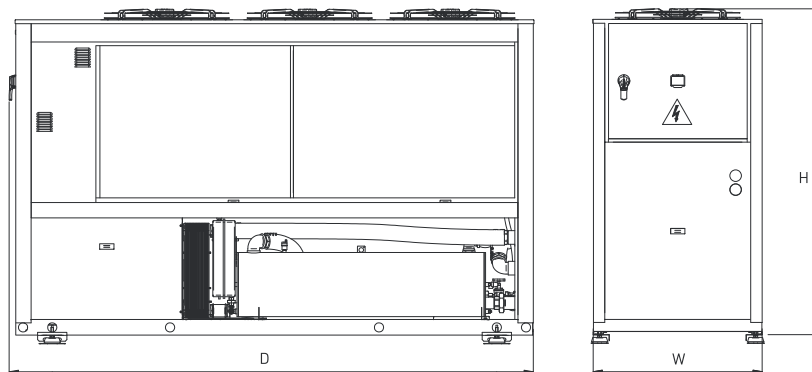


Model TAT (HE)		301	351	401	451	501	551	601	701
Cooling capacity (1)	kW	84	94	106.2	130	139.8	154.8	171	189
Cooling capacity (1)	TR	24	26.7	30	37	40	44	49	54
Total absorbed power	kW	26	29.4	32.3	40	43.2	46.6	53.8	62.3
EER	-	3.23	3.20	3.29	3.25	3.23	3.32	3.18	3.03
Max external air temperature	°C	52	50	49	51	50	50	48	47
EXCHANGERS									
Evaporator pressure drops (plate)	kPa	20	23	24	26	31	29	35	40
Evaporator pressure drops (Shell Tube)	kPa	22	33	22	28	32	34	42	31
Water flow	m ³ /h	14.4	16.1	18.2	22.3	24	26.6	29.4	32.5
GENERAL DATA									
Refrigerant	-	R410A							
Circuits / Compressors	N°	1/2							
Power supply	V/Ph/Hz	400 ± 10% / 3+N-PE / 50							
Protection class	-	IP54							
NOISE LEVEL									
Noise pressure (2)	dB(A)	56	56	58	58	58	59	59	60
Noise power	dB(A)	88	88	90	90	90	91	91	92
SIZE AND WEIGHT									
Depth	mm	2800	2800	2800	3810	3810	3810	3810	3810
Width	mm	1100	1100	1100	1100	1100	1100	1100	1100
Height	mm	2170	2170	2170	2170	2170	2170	2170	2170
Weight	kg	913	988	1120	1322	1396	1472	1510	1522

(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.

(3) Dimensions and operating weights are referred to Taurus Tech cooling only version without options.

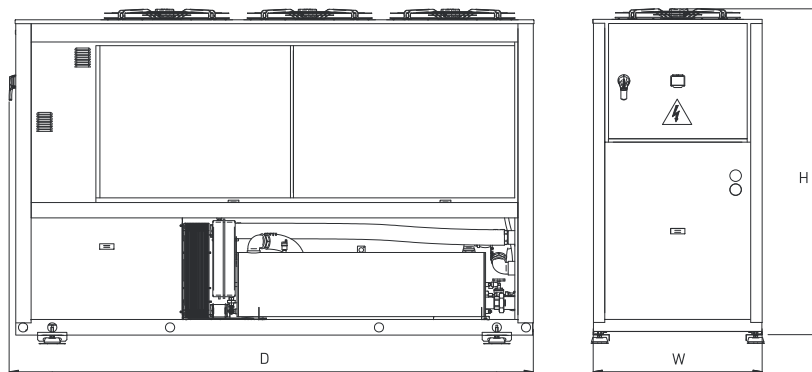


Model TAT (SHE)		301	351	401	451	501	551	601	701
Cooling capacity (1)	kW	81	92.9	107.4	128.5	138.1	149.8	164	-
Cooling capacity (1)	TR	23	26.4	30.5	36.5	39	42.6	46.6	-
Total absorbed power	kW	25.8	28.9	31.7	38.8	42.3	47	54.8	-
EER	-	3.13	3.22	3.39	3.31	3.26	3.19	2.99	-
Max external air temperature	°C	50	48	51	49	48	47	45	-
EXCHANGERS									
Evaporator pressure drops (plate)	kPa	24	23	24	25	30	28	35	-
Evaporator pressure drops (Shell Tube)	kPa	20	32	23	28	32	32	38	-
Waterflow	m ³ /h	13.9	16	18.4	22.1	23.7	25.7	28.2	-
GENERAL DATA									
Refrigerant	-	R410A							
Circuits / Compressors	N°	1/2							
Power supply	V/Ph/Hz	400 ± 10% / 3+N-PE / 50							
Protection class	-	IP54							
NOISE LEVEL									
Noise pressure (2)	dB(A)	48	48	50	50	50	51	51	-
Noise power	dB(A)	80	80	82	82	82	83	83	-
SIZE AND WEIGHT									
Depth	mm	2800	2800	2800	3810	3810	3810	3810	-
Width	mm	1100	1100	1100	1100	1100	1100	1100	-
Height	mm	2170	2170	2170	2170	2170	2170	2170	-
Weight	kg	913	1025	1352	1373	1377	1472	1510	-

(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.

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