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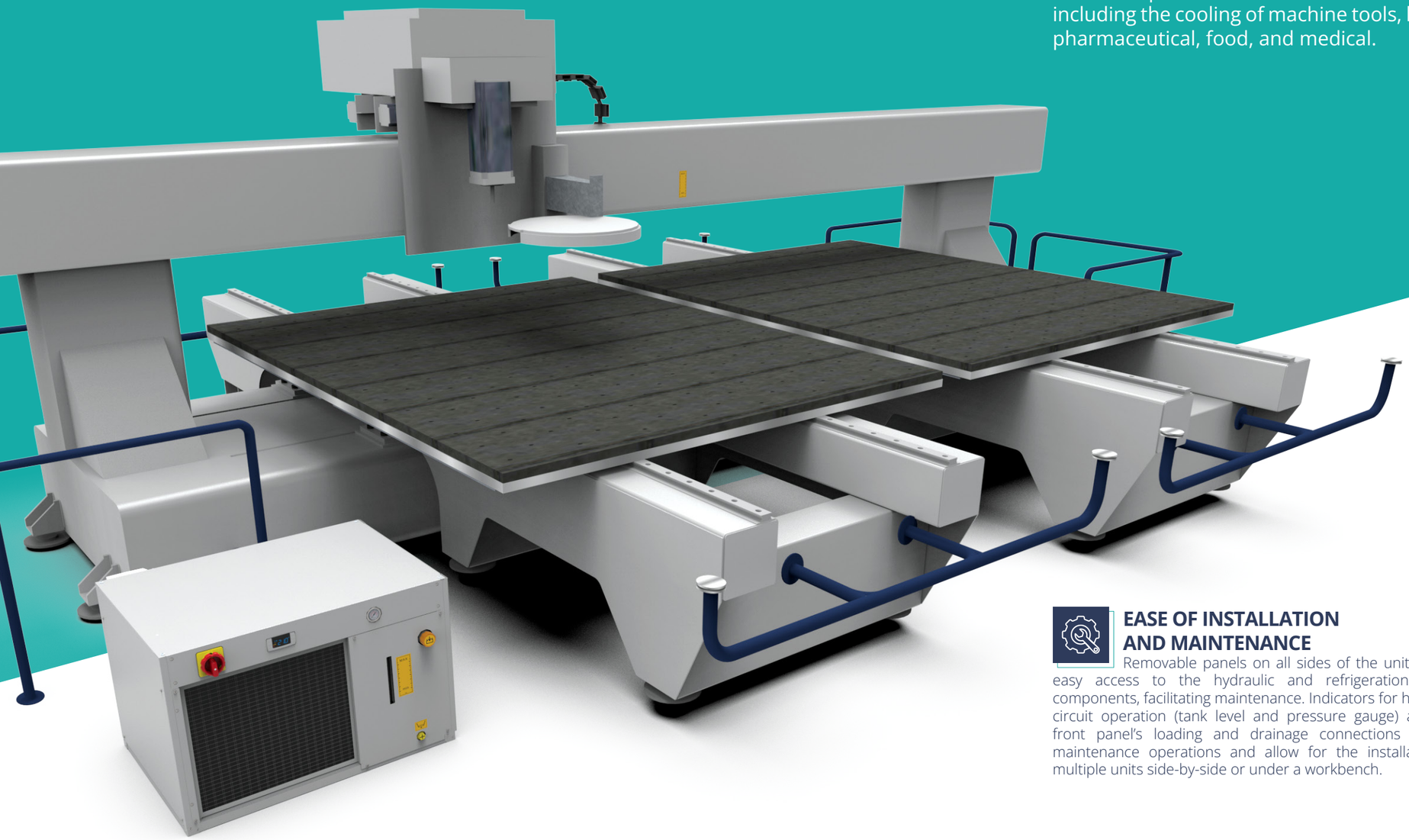
your cooling solutions



WLA Compact

Reliability and Precision at the Highest Levels



Reliable and Precise Industrial Liquid Chiller

The performance of modern industrial processes is heavily influenced by variations in operating temperature and can be compromised by dangerous overheating phenomena.

The new **WLA Compact** industrial chillers are designed to provide precise temperature control of process fluids and reliable operation across a wide range of industrial applications, including the cooling of machine tools, lasers, presses, extruders, and sectors such as chemical-pharmaceutical, food, and medical.

EASE OF INSTALLATION AND MAINTENANCE

Removable panels on all sides of the unit ensure easy access to the hydraulic and refrigeration circuit components, facilitating maintenance. Indicators for hydraulic circuit operation (tank level and pressure gauge) and the front panel's loading and drainage connections simplify maintenance operations and allow for the installation of multiple units side-by-side or under a workbench.

RELIABLE OPERATION

Each **WLA Compact** unit is individually tested at a specialized end-of-line test station, where the refrigeration circuit parameters and safety devices' operation are verified. The simplified refrigeration circuit and standard safety systems such as the flow switch and hydraulic bypass valve increase the unit's reliability and ensure a long operational life.

MICROPROCESSOR CONTROL XW07K

The LT version for low ambient temperatures -5°C/-10°C, the Brine version for low water outlet temperatures Tw-5°C (SPECIAL), and the LASER version expand the technical capabilities of the **WLA Compact** range, meeting diverse application requirements and ensuring maximum safety for the production process in which the chiller is integrated.

HIGH CONFIGURABILITY

The LT version for low ambient temperatures -5°C/-10°C, the Brine version for low water outlet temperatures Tw-5°C (SPECIAL), and the LASER version expand the technical capabilities of the **WLA Compact** range, meeting diverse application requirements and ensuring maximum safety for the production process in which the chiller is integrated.

Key Strengths



CONTROLLER
XW07K microprocessor

ELECTRICAL PANEL
Built according to EN60204-1, includes: switch, numbered electrical cables, and standard phase monitor. Dual frequency 50/60HZ power supply is standard.

HYDRAULIC CIRCUIT
Non-ferrous atmospheric material, equipped with an automatic bypass valve and standard flow switch. The thermally insulated HDPE storage tank features a level indicator and front loading and drainage connections. Peripheral pump P3/P5 (optional)

ROBUST STRUCTURE
Self-supporting type with galvanized steel frame, powder-coated RAL705. All panels are easily removable, allowing easy access to internal components for maintenance operations.

REFRIGERATION CIRCUIT
Manufactured according to directive 2014/68/EU, comprising:

- Rotary/scroll compressor
- High-efficiency plate evaporator
- Finned coil condenser
- Thermostatic valve
- Refrigerant R134a

WLA Compact Certification 4.0
Enabling access to Industry 4.0 tax incentives

For more information, visit our page
www.cosmotec.it/certificazione-industria-4-0

Advanced Technologies for Industrial Process Cooling

Designed for 24/7 industrial use
all units are individually tested in the factory and subjected to functional checks. The use of top-brand components and a full range of safety devices (automatic hydraulic bypass valve, phase monitor, antifreeze sensor, differential pressure switch) ensure long-term reliability.

Corrosion Protection
The plastic HDPE tank, non-ferrous hydraulic circuit, and pump (stainless steel/polymers) are corrosion-free, preserving the purity of the process fluid.

LT Version for Low Ambient Temperature
Suitable for ambient temperatures down to -5°C/-10°C, includes enhanced insulation of the hydraulic circuit and a fan speed control system for the condensing section.

LASERPACK Version
All WLA Laser units are equipped with a LASERPACK regulation system, which integrates a hot gas bypass valve for cooling power regulation and a microprocessor control with an advanced PI algorithm ensuring a standard hysteresis of ±0.5K/1K under variable load conditions.

Dynamic Set Point Function
Thanks to a temperature sensor mounted on the side panel, the controller adjusts the working set point based on the external temperature. This prevents deviations and deformations in spindle cooling or avoids condensation in electrical device cooling.



Technical Features

Refrigeration Circuit

- Compressor types: Piston (mod. 02-03), Rotary (mod. 05-08), Scroll (mod. 10-13)
- New plate heat exchangers optimised for operation at high evaporation temperatures
- New finned coil condensers protected by a metal particulate filter with reduced tube diameter, decreasing refrigerant charge content by approximately 20%.
- High-pressure manual reset HP pressure switch
- Thermostatic expansion valve

Atmospheric Non-Ferrous Hydraulic Circuit

- Hydraulic circuit at atmospheric pressure built with non-ferrous materials.
- New HDPE (High-Density Polyethylene) inertial tank with increased volume, featuring a visual level indicator, loading/draining connections, and overflow connections.
- Standard bronze automatic bypass valve.
- Standard flow switch.
- 0-6 barg pressure gauge.

Microprocessor Control

The XW07K manages and optimizes the operation of the refrigeration and hydraulic circuits. It regulates the ON/OFF cycles of the compressor based on the required water temperature, ensuring minimum operating times.

- Measurement and display of Tw out (water temperature out) and ambient temperature.
- Anti-freeze function for evaporator protection.
- Alarm management: HP.
- General alarm free contact.
- Remote digital ON/OFF input.
- Fine temperature adjustment function (hysteresis ± 1K).
- Dynamic set point function.

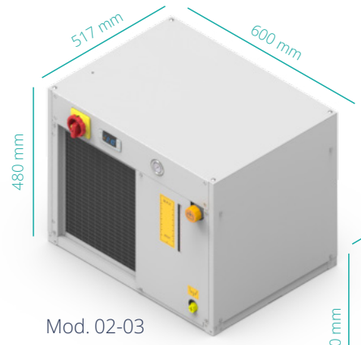
Versions & Options

- Version without tank and without pump.
- Version without tank.
- Version for low water outlet temperature -5°C.
- Version for low ambient temperature -5°C or -10°C.
- LASER version with hot gas injection valve (hysteresis ± 1K).
- Pump options: P3 standard; P5 high head
- Level switch option.
- Under-bench installation option with check valve + solenoid valve.
- Multipole connector option.
- Pre-heating resistance option.
- Ambient probe option for dynamic set point.

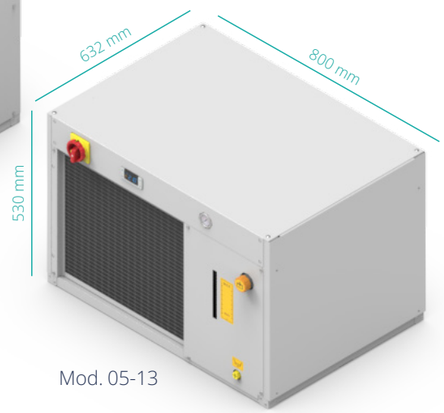
Accessories - Kit

- 100µm cartridge water filter.
- Swivel wheels.
- Lifting eyebolts.
- Anti-vibration mounts.
- RS485 ModBus connection.

Data Sheet



Mod. 02-03



Mod. 05-13

	WLA02	WLA03	WLA05	WLA08	WLA10	WLA13
Performance						
Cooling Capacity @50Hz (1) [kW]	1,41	1,61	2,50	3,24	4,12	5,05
Cooling Capacity @60Hz [kW]	1,58	1,80	2,80	3,63	4,61	5,66
Total Power Consumption @50Hz (1) [kW]	0,60	0,71	0,74	0,93	1,34	1,67
EER (excluding pump) @50Hz (1)	2,4	2,3	3,4	3,5	3,1	3,0
Evaporator Water Flow Rate @50Hz (1) [l/min]	4,0	4,6	7,2	9,3	11,8	14,5
Evaporator Pressure Drop @50Hz [kPa]	12,0	15,3	10,5	16,4	25,0	36,3
Evaporator Water Flow Rate @60Hz [l/min]	4,5	5,2	8,0	10,4	13,2	16,2
Evaporator Pressure Drop @60Hz [kPa]	15,1	19,2	13,1	20,5	31,4	45,5

Electrical Data						
Power Supply [V/ph/Hz]	230-1-50/60	230-1-50/60	230-1-50/60 400-3-50 460-3-60	230-1-50/60 400-3-50 460-3-60	230-1-50 400-3-50 460-3-60	230-1-50 400-3-50 460-3-60
Auxiliary Power Supply [V/ph/Hz]	230-1-50/60					
IP Protection Rating (electrical panel)	40	40	40	40	40	40

Technical Data						
N° of compressors/circuits	1/1	1/1	1/1	1/1	1/1	1/1
N° of Axial Fans	1	1	1	1	1	1
Air Flow Rate @50Hz [m³/h]	1820	1820	1820	1820	3415	3415
Fan Power Consumption @50Hz [kW]	0,13	0,13	0,13	0,13	0,30	0,30
Available Pump Head P3 @50Hz [barg]	2,4	2,3	3,9	3,7	3,4	3,2
Nominal Power Consumption of Pump P3 [kW]	0,37	0,37	0,55	0,55	0,55	0,55
Sound Pressure Level [dB(A)] (2)	64,1	64,1	61,9	61,9	71,8	71,8
Hydraulic Connection Diameter [Rp]	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Tank Volume [dm³]	8	8	20	20	20	20
Width [mm]	601	601	801	801	801	801
Depth [mm]	517	517	632	632	632	632
Height [mm]	477	477	527	527	527	527
Dry Weight [kg] (3	54,3	54,3	75,4	75,4	75,4	75,4

(1) Operating limits for standard chiller: Water outlet temperature: +13°/+30°C; Ambient air temperature min/max: +15°/+45°C
(2) Sound pressure level at 1m: average value obtained in free field on reflective plane at a distance of 1m from the unit according to EN ISO 9614-2.
(3) Weight of the empty unit in tank + P3 pump configuration without options/accessories. Tolerance +/- 10%.

COSMOTEC
Industrial Cooling

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