



INDUSTRIAL REFRIGERATION



The history of Cosmotec began in 1989, in Peschiera del Garda, from the dream of people who strongly believed in their experience in industrial air conditioning and in sharing it with their customers.

Shortly after the production of the first units and the beginning of export worldwide, the need to expand the product range to meet all the **Thermal Management needs** opened up; this led to the birth of the industrial refrigeration line, a major challenge that saw Cosmotec competing on an equal footing with important players in the industry, asserting what is its most distinctive trait: working closely with customers, providing products and solutions that can solve their needs.

The approach chosen to meet market demands is **lean and effective**, a typical example of Italian flexibility, coupled with the solidity represented by the German STULZ group, which Cosmotec joined in 2001.

With STULZ, the product lines expanded to include telecommunications and new ranges of chillers with increasingly higher capacities. The speed of product renewal grew dramatically, and to keep up with the needs of the markets, Cosmotec decided to invest in employee training, production quality and efficiency, product engineering, and, in addition, expanded its production area, with new lines and a state-of-the-art **Climatic Chamber**.

The company's efforts are currently aimed at maintaining the efficiency and flexibility of its product ranges at the highest levels: the "**Innovation Center**" was created with this goal, in order to allow the development and testing of new technologies that meet the needs of **sustainability and efficiency** required by today's market.



“ All the achievements Cosmotec has made so far and those to come have been possible thanks to the commitment, ideas and work of the people who make it up and who help make it grow every day ”



Paolo Perotti - CEO and Cosmotec Founder



Foundation Year

1989



Employees

250



Worldwide partners

130



Units per year

10000

Our Values

The key to Cosmotec's success lies in its continuous **innovation**, ability and **flexibility** in handling each project, from its conception developed in cooperation with the customer, through to installation, maintenance and service, each time studying specific solutions to the needs of each individual plant and application.

Enthusiasm, the drive to strive for excellence and for new solutions in step with customer demands, attention to **workers' health and safety** and to the **environment**, transparency and acting responsibly: these are the values by which Cosmotec is inspired by and by which it is guided every day.

Through offering highly specialized services and products in high-tech fields, we contribute to the growth of the company team and our clients.



SUSTAINABILITY AND ENVIRONMENTAL RESPONSIBILITY

We strive to reduce the company's environmental footprint and handle product design, development and production in a way that minimises environmental impact throughout its life cycle.



PEOPLE AND WORK ETHICS

We are committed to empowering people, identifying and developing talents and creating an environment based on trust, respect and personal well-being. We base all our internal and external relationships on transparency and fairness. We work daily to ensure that all employees work under the safest conditions.



RELIABILITY

We conceive, design, develop and propose our solutions and services in such a way as to ensure continuity of service over time.



INNOVATION

we are committed to introducing new ways of designing, producing and selling goods or services, pursuing the continuous improvement of our offer.



FOCUS ON CUSTOMER AND QUALITY

we offer scalable solutions and share our expertise by gathering, intercepting and anticipating customers' implicit or expressed needs and market trends.

The Value of People

The company's most valuable resource is undoubtedly its people. They are the strength for the continuous development of activities and the achievement of success.

A highly specialised team, capable of proposing and implementing solutions with the highest technological level for the industrial sector, and able to fulfil the specific requirements of each individual customer, following them through every stage of the project and beyond.

Making cooling greener, one step at a time



Cosmotec strongly believes in the duty to contribute to decreasing and improve the environmental impacts associated with its activities and products.

In the Company

One of Cosmotec's main goals is the **continuous improvement of environmental performance**, to be achieved both through a reduction in wastage of resources (such as raw materials and energy) and through greater control of environmental costs, related to the treatment (disposal/recovery) of waste.

With that in mind, the company has achieved the following certifications:



ISO 14001 (Environmental Management System): ensuring a business model based on sustainability and reducing the environmental impact of products and the entire production process in order to provide customers with a service that meets current environmental standards. All activities that may affect the environment are assessed and controlled in accordance with current regulations.



ISO 50001 (Energy Management System): It aims to improve the company's energy performance, such as reducing energy consumption and related costs; reducing CO2 emissions.

Furthermore, the focus on environmental issues led to the decision to adopt a policy of reducing the use of paper documentation.



Paperless Documentation: our units are accompanied by the instructions for safe use and CE declaration, while the rest of the documentation will be available on Adam, our free App, downloadable on our website.

In the Products



To fight climate change and reduce greenhouse gas emissions, specific regulations have been introduced, including Regulation No. 517/2014, which imposes the phase-down of HFCs.

Cosmotec has decided to use low GWP (Global Warming Potential) gases, which significantly **reduce the carbon footprint and environmental impact of our products.**



Improved performance and reduced power consumption for high energy efficiency.

- **EER** (Energy Efficiency Ratio): our air conditioners boast the best values in the business

- **SEPR** (Seasonal Energy Performance Ratio): chillers in the Cosmotec line comply with the Ecodesign regulation and achieve high SEPR values

Service

The knowledge we have acquired developing industrial air conditioning and refrigeration systems, allows us to offer our customers a complete service, from the design of the systems to the supply of the machines, from the Start Up phase to the ordinary and extraordinary maintenance.

The level of complexity and precision required in today's production processes require a high level of control and reliability. The management of temperatures and heat disposal is one of the critical issues to be addressed, considering the uniqueness of each process and application.

Our technical assistance is also able to guarantee a remote assistance service: Cosmotec, always attentive to the needs of its customers, has developed and launched on the market a range of technologically advanced controllers that guarantee connectivity wherever you are. And thanks to connectivity, our support team can be at your side in real time, wherever you are, and give you advice and suggestions on how to improve performance, solve any problems and check the operation of your units.

Please visit our dedicated website, www.cosmotecservice.com, to discover our offer and find the contacts of our international service network!

Provided Services




Advice and Planning

Support from the planning phase through to installation and start-up of the system



Positioning and Installation

We guarantee the correct operation of equipment and related systems



Startup

We guarantee perfect commissioning and start-up of the entire system, with customised solutions



Maintenance contracts

A preventive and routine maintenance plan, ensuring constant plant efficiency




Availability

With guaranteed response times



Training

Programme of high-quality training courses with technical content



Remote Assistance

At your side in real time, with the help of augmented reality devices



Spare Parts

Supply of spare parts and repair service both in-house and on site

Selection & Monitoring Softwares

What is the purpose of Cosmotec software?

The correct cooling of industrial plants is vital for the operation of companies, as is the ability to **monitor, even remotely**, that all processes are running smoothly.

In order to be at your side at all times, from planning (Web Select) to monitoring (Adam), we have developed two software packages, which we make available to you free of charge.

XSHARK

Helping you choose

Designing a refrigeration system for industrial applications requires specific skills, which we have decided to make more accessible thanks to XShark, an **easy-to-use refrigeration system design software**. The specific characteristics of each project determine particular refrigeration needs and requirements: by entering the relevant data of your application, the XShark design software will process and present you with the most suitable proposals. We are of course available for specific advice or support in using this free tool!

XShark includes the following Cosmotec ranges:

- WLA Compact
- WRA ErP
- WPAmi Techno: air-cooled multi-scroll water chiller (80 to 150 kW)
- WPA Techno: air-cooled multi-scroll water chiller (160 to 560 kW)
- WSA Techno: air cooled screw compressor water chiller (from 370 to 1260 kW)
- WSW Techno: water cooled screw compressor chiller (230 to 1550 kW)
- RAW High density: water-cooled inrow chiller

How to use XShark

First you have to download the programme on <https://cosmotec.it/software/xshark/>. Then just follow the instructions, in case you need it, there is a guide with all the information.



Who's Adam?

This is the new app that records your Cosmotec units and imports them onto your mobile devices. Thanks to Adam you will have **access to our entire sales and technical documentation**.

It's also possible to organise, monitor and report faults for for all Cosmotec units equipped with a SEC.blue electronic controller or integrated Ethernet port.

Why using Adam?

So you always have all the information at your fingertips, reducing the time needed for commissioning, maintenance, analysis and troubleshooting.

Downloading Adam

Downloading our app is easy:

- via smartphone or tablet iOS e Android (Google Play Services requires for geolocalization & OCR): download at <https://app.stulz.it>
- With a **PC** running Windows (in the versions currently supported by Microsoft on x86-64 architecture) download at <https://app.stulz.it/Adam.msi>

Industrial Chillers

How and why to choose an industrial chiller for your applications

What is an industrial chiller?

Industrial water chillers are used in a variety of applications where **chilled water or fluid is circulated through process equipment**.

They are characterised by an immediate response to changing load requirements, the ability to modulate their cooling capacity, **high control accuracy** and **reliability** even within the limits of their operating conditions.

Industrial chillers are commonly used to cool products and machinery in a multitude of different applications including **injection moulding, machine tools, lasers, food, beverage, semi-conductors** and more.

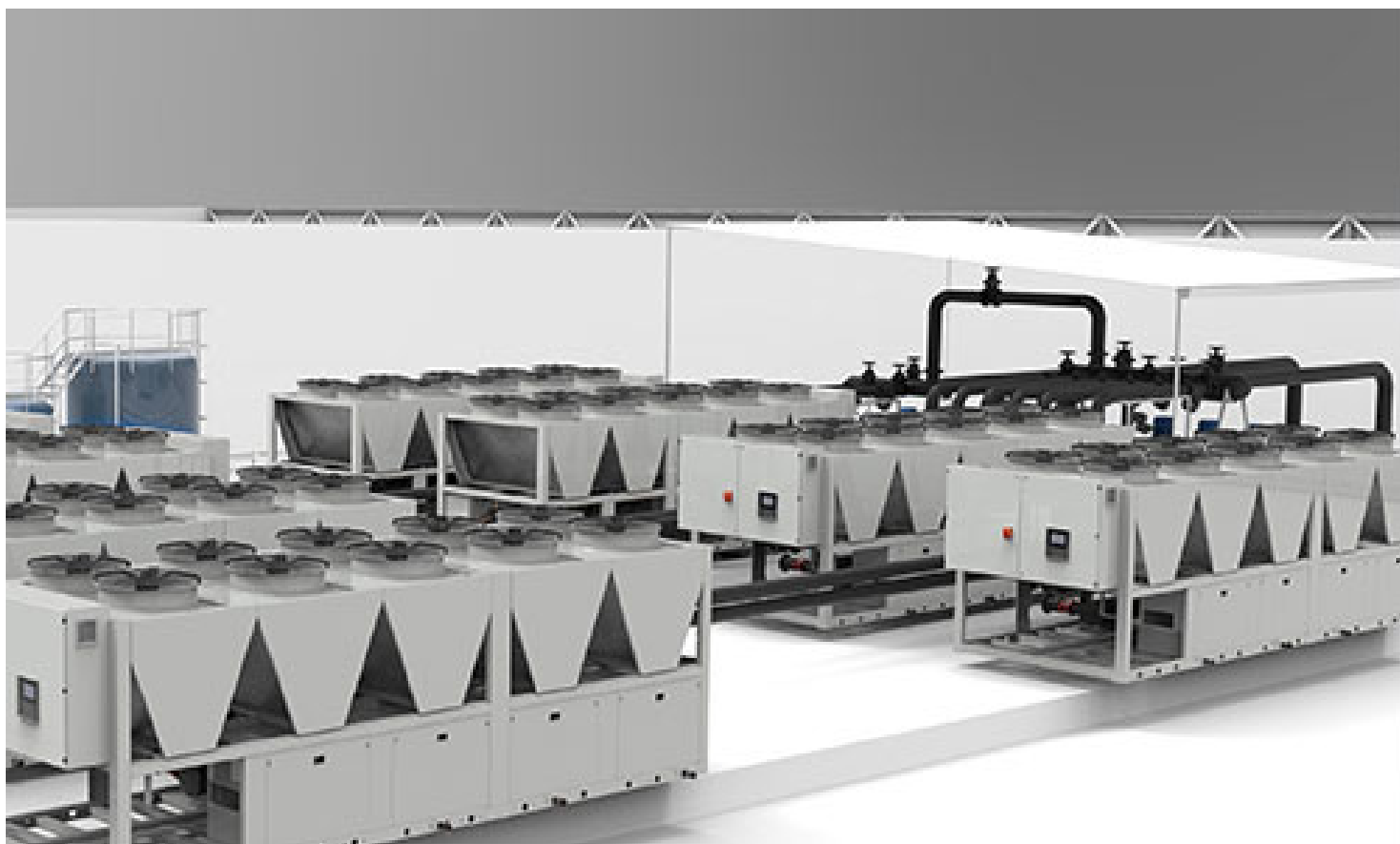
Why an industrial chiller?

No industrial process, machine or engine is 100% efficient and **heat** is the most common by-product of these inefficiencies. If this heat is not removed, it **can cause downtime and even premature failure**. It is therefore necessary to include cooling in the design of an industrial process to avoid these problems and increase its **efficiency** and **reliability**.

What is the difference between air conditioning chillers and process chillers?

Process chillers are designed to operate at **different temperatures**, with **different fluids** and **varying flow rates**. They have the possibility of integrating several pumps and several hydraulic and cooling circuits; they normally also include a hydraulic tank to compensate for sudden variations in the thermal load on the user side.

This **flexibility of use** and the **high level of reliability** are the main factors that differentiate it from air conditioning chillers. The **energy efficiency assessment** of an industrial chiller follows the rules of **European Regulation (EU) 2016/2281** for high temperature chillers (SEPR HT) and (EU) 2015/1095 for medium temperature chillers (SEPR MT).





WLA Compact

Air Cooled Chiller from 1.41 to 5.05 kW,
Accurate temperature control of the
process fluid

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WRA ErP

Air Cooled Chiller from 4.7 to 50 kW
Reliability and energy efficiency in line
with the ErP2021 standard

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WLA Precision R407C

Air Cooled Chiller from 29 to 72 kW
Designed to deliver the high standards
of reliability required by 24/7
production processes

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WLA Precision R410A

Air Cooled Chiller from 93 to 130 kW
Designed to deliver the high standards
of reliability required by 24/7 production
processes

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WPA Mini - Techno Range

Air Cooled Chiller from 95 to 170 kW
For 24/7 cooling of process
applications

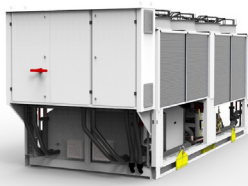
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WPA - Techno Range

Air Cooled Chiller from 165 to 560 kW –
For 24/7 cooling of process applications

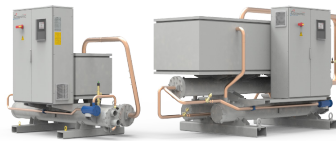
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WSA ErP - Techno Range

Air Cooled Chiller from 290 to 1800
kW
For 24/7 cooling of process
applications

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WSW - Techno Range

Water Cooled Chiller from 236 to 1,529
kW
For 24/7 cooling of process
applications

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ORA

Industrial Oil Chiller from 2,1 to 16
kW

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WLA Compact

Reliability and Precision

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

The new WLA Compact industrial chillers are designed to provide **accurate temperature control** of the process fluid and **reliable operation** in a wide range of industrial applications such as: cooling of machine tools, lasers, presses, extruders, and for the chemical, pharmaceutical, food and medical sectors.

Technical features - Cooling Circuit

- Piston (mod. 02-03), rotary (mod. 05-08) or scroll (mod. 10-13) compressor
- New plate heat exchangers optimised for high evaporation temperatures
- New finned coil condensers protected by a metal anti-particulate filter and with reduced tube diameter: they reduce the refrigerant charge by about 20%.
- HP high pressure switch with manual reset
- Thermostatic lamination valve

Technical features - Hydraulic Circuit

- Atmospheric pressure hydraulic circuit constructed from non-ferrous materials
- New HDPE inertia tank with increased volume equipped with visual level indicator, filling/draining connections and overflow
- Automatic bronze bypass valve as standard
- Standard flow switch
- Pressure gauge 0-6 barg

Main Features

- Cooling capacity: 1.41 to 5.05 kW
- Power supply: 230Vac, 400Vac, 460Vac
- Operating limits - Standard chiller:
 - Outlet water temperature: $-5^{\circ}/+1^{\circ}\text{C} \div +13^{\circ}/+30^{\circ}\text{C}$;
 - Ambient air temperature: min/max $+15^{\circ}/+45^{\circ}\text{C}$
- WLA Compact Process Chillers do not fall within the applicability range of the MT (Medium Temperature – EU 2015/1095) and HT (High Temperature – EU 2016/2281) regulations.



WLA02-03-05



CODE	M.U.	WLA02	WLA03	WLA05
PERFORMANCE				
Cooling Capacity (1)	@50Hz kW	1,41	1,61	2,50
Cooling Capacity	@60Hz kW	1,58	1,80	2,80
Absorbed power	@50Hz kW	0,60	0,71	0,74
EER (without pump) (1)	@50Hz	2,4	2,3	3,4
Evaporator water flow	@50Hz L/min	4,0	4,6	7,2
Evaporator pressure drop	@50Hz kPa	12,0	15,3	10,5
Evaporator water flow	@60Hz L/min	4,5	5,2	8,0
Evaporator pressure drop	@60Hz kPa	15,1	19,2	13,1
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
Auxiliaries feed	V-ph-Hz	230-1-50/60	230-1-50/60	230-1-50/60
IP Protection Degree		40	40	40
TECHNICAL DATA				
N° Compressors /N° Cooling circuits		1/1	1/1	1/1
N° Axial fans		1	1	1
Condenser fan air flow	@50Hz m ³ /h	1820	1820	1820
Fan absorbed power	@50Hz kW	0,13	0,13	0,13
Available head P3 Pump	@50Hz bar	2,4	2,3	3,9
Pump P3 absorbed power	kW	0,37	0,37	0,55
Noise level (2)	dB(A)	64,1	64,1	61,9
Hydraulic connections	Ø	1/2"	1/2"	1/2"
Tank volume	dm ³	8	8	20
Height x Width x Depth	HxWxD mm	477x601x517	477x601x517	527x801x632
Shipping weight (3)	kg	54,3	54,3	75,4

(1) Operating limits for standard chiller: outlet water temperature: +13°/+30°C; ambient air temperature min/max +15°/+45°C

(2) Sound pressure at 1m: average value obtained in a free field on a reflecting plane at a distance of 10m from the unit according to EN ISO 9614-2. Values with tolerance ± 2 dB.

(3) Empty weight of the unit with tank and P3 pump without options/kit. Tolerance +/- 10%

Refrigerant R134a

WLA08-10-13



CODE	M.U.	WLA08	WLA10	WLA13
PERFORMANCE				
Cooling Capacity (1)	@50Hz kW	3,24	4,12	5,05
Cooling Capacity	@60Hz kW	3,63	4,61	5,66
Absorbed power	@50Hz kW	0,93	1,34	1,67
EER (without pump) (1)	@50Hz	3,5	3,1	3,0
Evaporator water flow	@50Hz L/min	9,3	11,8	14,5
Evaporator pressure drop	@50Hz kPa	16,4	25,0	36,3
Evaporator water flow	@60Hz L/min	10,4	13,2	16,2
Evaporator pressure drop	@60Hz kPa	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	400-3-50	400-3-50
		460-3-60	460-3-60	460-3-60
Auxiliaries feed	V-ph-Hz	230-1-50/60	230-1-50/60	230-1-50/60
IP Protection Degree		40	40	40
TECHNICAL DATA				
N° Compressors /N° Cooling circuits		1/1	1/1	1/1
N° Axial fans		1	1	1
Condenser fan air flow	@50Hz m ³ /h	1820	3415	3415
Fan absorbed power	@50Hz kW	0,13	0,30	0,30
Available head P3 Pump	@50Hz bar	3,7	3,4	3,2
Pump P3 absorbed power	kW	0,55	0,55	0,55
Noise level (2)	dB(A)	61,9	71,8	71,8
Hydraulic connections	Ø	1/2"	1/2"	1/2"
Tank volume	dm ³	20	20	20
Height x Width x Depth	HxWxD mm	527x801x632	527x801x632	527x801x632
Shipping weight (3)	kg	75,4	75,4	75,4

(1) Operating limits for standard chiller: outlet water temperature: +13°/+30°C; ambient air temperature min/max +15°/+45°C

(2) Sound pressure at 1m: average value obtained in a free field on a reflecting plane at a distance of 10m from the unit according to EN ISO 9614-2. Values with tolerance ± 2 dB.

(3) Empty weight of the unit with tank and P3 pump without options/kit. Tolerance +/- 10%

Refrigerant R134a

WRA ErP

Reliability and energy efficiency

The new WRA ERP liquid chillers are the result of a design that has focused on **reliability, energy efficiency, extended operating limits** and **extreme configurability**. Thanks to dedicated technological solutions such as the oversized heat exchangers, the standard electronic expansion valve and the new high efficiency fans, each configuration of the WRA ERP chillers is characterized by high thermodynamic performances that **exceed the most stringent minimum energy efficiency requirements** imposed by the Ecodesign directive starting from 2021.

Energy Efficiency

Process chillers work with high heat loads continuously throughout the year. It is therefore very important that the chiller guarantees the highest performance under all operating conditions. All WRA chillers comply with the limits required by ErP2021 - SEPR HT (EU) 2016/2281 - SEPR MT (EU) 2015/1095, making them the best solution for all process applications

Extended operating limits

Thanks to the dedicated versions and accessories, operation at full load is guaranteed up to +45 °C outside air temperature during the summer season and -20 °C during the winter season in the LT version. Standard WRA ErP units produce chilled water with a maximum evaporator outlet temperature of up to +30 °C; minimum standard temperature +5 °C and -10 °C in the BRINE version.

New Configurations

The new LT versions for low ambient temperature -20°C, the Brine version for low water outlet temperature T_w -10°C, and the new version for pressurised hydraulic circuits expand the technical equipment of the WRA ErP range, which is therefore able to meet the most varied application requirements, guaranteeing maximum safety of the production process in which the chiller is integrated.

General Features

- Cooling Capacity 5 – 47,5 kW
- Power Supply: 230Vac, 400Vac, 460Vac
- Refrigerant: R134a (mod.13-18) R410A (mod.20-5A)
- IP54 Protection Degree: suitable for outdoor installation
- External Air Temperature max +45 °C min -20 °C for LT version. Maximum evaporator outlet temperature up to +30 °C; minimum standard temperature +5 °C and -10 °C in BRINE version.



WRA13-18-20-25



CODE	M.U.	WRA13	WRA18	WRA20	WRA25
Performance					
Cooling Capacity (1)	@50Hz kW	4,67	5,87	7,34	8,66
Absorbed Power ca (1)	@50Hz kW	1,10	1,49	1,93	2,33
Evaporator water flow (1)	@50Hz l/min	13,4	16,8	21,0	24,8
EER (without pump) (1)		4,2	3,9	3,8	3,7
SEPR HT (3)		5,38	5,42	5,45	5,18
Cooling Capacity (2)	@50Hz kW	3,40	4,35	5,63	6,58
Absorbed Power (2)	@50Hz kW	1,13	1,50	1,95	2,41
Evaporator water flow (2)	@50Hz l/min	9,7	12,5	16,1	18,9
EER (without pump) (2)	@50Hz	3,0	2,9	2,9	2,7
Electrical Data					
Power Supply	V-ph-Hz	400/3/50-60	400/3/50-60	400/3/50-60	400/3/50-60
Power Supply	V-ph-Hz	400/3/50 - 460/3/60			
Auxiliaries feed	V-ph-Hz	24VAC	24VAC	24VAC	24VAC
IP Protection Degree		IP54	IP54	IP54	IP54
Technical Data					
N° Compressors / N° Cooling circuits		1/1	1/1	1/1	1/1
N° Axial Fans		1	1	1	1
Pump P3 absorbed power	@50Hz kW	0,46	0,46	0,46	0,46
Noise Level (4)	dB(A)	37,5	37,5	40,4	40,4
Hydraulic connections	Ø	3/4"G	3/4"G	3/4"G	3/4"G
Tank Volume	dm ³	40	40	40	40
Height	mm	1290	1290	1310	1310
Width	mm	560	560	560	560
Depth	mm	720	720	720	720
Operating weight (5)	kg	178	185	188	190
Shipping weight (5)	kg	133	140	143	145

(1) Data referring to outlet water inlet temperature 20/15°C - Air temperature 32°C. @50Hz

(2) Data referring to outlet water inlet temperature 12/7°C - Air temperature 35°C. @50Hz

(3) Data declared according to European Regulation (EU) 2016/2281 for high temperature process chillers

(4) Sound pressure at 10m: average value obtained in a free field on a reflecting plane at a distance of 10m from the unit according to EN ISO 9614-2. Values with tolerance ± 2 dB.

(5) Weight of the unit with tank and P3 pump without options/kit. Tolerance +/-10%.

WRA30-35-50



CODE	M.U.	WRA30	WRA35	WRA50
Performance				
Cooling Capacity (1)	@50Hz kW	11,78	13,66	16,66
Absorbed Power ca (1)	@50Hz kW	2,82	3,31	4,45
Evaporator water flow (1)	@50Hz l/min	33,8	39,2	47,8
EER (without pump) (1)		4,2	4,1	3,7
SEPR HT (3)		5,52	5,54	5,37
Cooling Capacity (2)	@50Hz kW	9,01	10,3	12,66
Absorbed Power (2)	@50Hz kW	2,92	3,395	4,42
Evaporator water flow (2)	@50Hz l/min	25,8	29,5	36,3
EER (without pump) (2)	@50Hz	3,1	3,0	2,9
Electrical Data				
Power Supply	V-ph-Hz	400/3/50-60	400/3/50-60	400/3/50-60
Power Supply	V-ph-Hz		400/3/50 - 460/3/60	
Auxiliaries feed	V-ph-Hz	24VAC	24VAC	24VAC
IP Protection Degree		IP54	IP54	IP54
Technical Data				
N° Compressors / N° Cooling circuits		1/1	1/1	1/1
N° Axial Fans		1	1	1
Pump P3 absorbed power	@50Hz kW	0,69	0,69	0,69
Noise Level (4)	dB(A)	46,9	46,9	47,9
Hydraulic connections	Ø	1"G	1"G	1"
Tank Volume	dm ³	98	98	98
Height	mm	1550	1550	1550
Width	mm	740	740	740
Depth	mm	930	930	930
Operating weight (5)	kg	311	311	314
Shipping weight (5)	kg	201	200	204

(1) Data referring to outlet water inlet temperature 20/15°C - Air temperature 32°C. @50Hz

(2) Data referring to outlet water inlet temperature 12/7°C - Air temperature 35°C. @50Hz

(3) Data declared according to European Regulation (EU) 2016/2281 for high temperature process chillers

(4) Sound pressure at 10m: average value obtained in a free field on a reflecting plane at a distance of 10m from the unit according to EN ISO 9614-2. Values with tolerance ± 2 dB.

(5) Weight of the unit with tank and P3 pump without options/kit. Tolerance +/-10%.

WRA55-65-80-90



CODE	M.U.	WRA55	WRA65	WRA80	WRA90
Performance					
Cooling Capacity (1)	@50Hz kW	19,49	22,26	27,05	31,82
Absorbed Power ca (1)	@50Hz kW	4,59	5,25	6,73	7,79
Evaporator water flow (1)	@50Hz l/min	55,9	63,8	77,5	91,2
EER (without pump) (1)		4,25	4,24	4,02	4,09
SEPR HT (3)		6,37	5,76	5,69	5,53
Cooling Capacity (2)	@50Hz kW	14,9	17,1	20,96	24,65
Absorbed Power (2)	@50Hz kW	4,65	5,3	6,65	7,68
Evaporator water flow (2)	@50Hz l/min	42,7	49,0	60,1	70,7
EER (without pump) (2)	@50Hz	3,20	3,2	3,2	3,21
Electrical Data					
Power Supply	V-ph-Hz	400/3/50-60	400/3/50-60	400/3/50-60	400/3/50-60
Power Supply	V-ph-Hz	400/3/50 - 460/3/60			
Auxiliaries feed	V-ph-Hz	24VAC	24VAC	24VAC	24VAC
IP Protection Degree		IP54	IP54	IP54	IP54
Technical Data					
N° Compressors / N° Cooling circuits		1/1	1/1	1/1	1/1
N° Axial Fans		1	1	1	1
Pump P3 absorbed power	@50Hz kW	0,92	0,92	1,31	1,31
Noise Level (4)	dB(A)	41,9	42,5	44,3	43,9
Hydraulic connections	Ø	1"1/4	1"1/4	1"1/4	1"1/4
Tank Volume	dm ³	180	180	180	180
Height	mm	1992	1992	1992	1992
Width	mm	895	895	895	895
Depth	mm	1175	1175	1175	1175
Operating weight (5)	kg	560	572	572	580
Shipping weight (5)	kg	400	412	412	420

(1) Data referring to outlet water inlet temperature 20/15°C - Air temperature 32°C. @50Hz

(2) Data referring to outlet water inlet temperature 12/7°C - Air temperature 35°C. @50Hz

(3) Data declared according to European Regulation (EU) 2016/2281 for high temperature process chillers

(4) Sound pressure at 10m: average value obtained in a free field on a reflecting plane at a distance of 10m from the unit according to EN ISO 9614-2. Values with tolerance ± 2 dB.

(5) Weight of the unit with tank and P3 pump without options/kit. Tolerance +/-10%.

WRA0A1-5A1-0A2-5A2



CODE	M.U.	WRA0A1	WRA5A1	WRA0A2	WRA5A2
Performance					
Cooling Capacity (1)	@50Hz kW	39,94	48,16	39,48	47,39
Absorbed Power ca (1)	@50Hz kW	8,67	11,26	8,65	11,20
Evaporator water flow (1)	@50Hz l/min	114,5	138,1	113,2	135,9
EER (without pump) (1)		4,61	4,28	4,56	4,23
SEPR HT (3)		5,92	5,66	5,8	5,51
Cooling Capacity (2)	@50Hz kW	30,67	37,22	29,94	36,09
Absorbed Power (2)	@50Hz kW	8,61	11,07	8,58	10,96
Evaporator water flow (2)	@50Hz l/min	87,9	106,7	85,8	103,5
EER (without pump) (2)	@50Hz	3,56	3,36	3,49	3,29
Electrical Data					
Power Supply	V-ph-Hz	400/3/50-60	400/3/50-60	400/3/50-60	400/3/50-60
Power Supply	V-ph-Hz	400/3/50 - 460/3/60			
Auxiliaries feed	V-ph-Hz	24VAC	24VAC	24VAC	24VAC
IP Protection Degree		IP54	IP54	IP54	IP54
Technical Data					
N° Compressors / N° Cooling circuits		1/1	1/1	1/1	1/1
N° Axial Fans		2	2	2	2
Pump P3 absorbed power	@50Hz kW	1,76	1,76	1,76	1,76
Noise Level (4)	dB(A)	45,4	47	45,4	47,00
Hydraulic connections	Ø	1"1/2	1"1/2	1"1/2	1"1/2
Tank Volume	dm ³	300	300	250	250
Height	mm	20748	20748	20748	20748
Width	mm	1140	1140	1140	1140
Depth	mm	2084	2084	2084	2084
Operating weight (5)	kg	890	910	950	970
Shipping weight (5)	kg	610	630	710	730

(1) Data referring to outlet water inlet temperature 20/15°C - Air temperature 32°C. @50Hz

(2) Data referring to outlet water inlet temperature 12/7°C - Air temperature 35°C. @50Hz

(3) Data declared according to European Regulation (EU) 2016/2281 for high temperature process chillers

(4) Sound pressure at 10m: average value obtained in a free field on a reflecting plane at a distance of 10m from the unit according to EN ISO 9614-2. Values with tolerance ± 2 dB.

(5) Weight of the unit with tank and P3 pump without options/kit. Tolerance +/-10%.

WLA Precision R407C

Ideal for cooling water or process fluids

Extremely compact and easy to use, WLA Precision R407C units are industrial chillers, ideal for cooling water or process fluids, designed to ensure the high standards of reliability required for 24/7 production processes.

Thanks to the standard non-ferrous hydraulic circuit and the wide range of options and accessories, WLA Precision R407C units are effectively used for the cooling of a number of industrial sectors such as:

- plastics
- chemical and pharmaceutical industry
- Biogas
- automotive industry
- food & beverage
- machine tools
- chip removal machines
- laser

Reliability and the ability to adapt to specific plant requirements are the determining factors that allow WLA Precision R407C chillers to respond perfectly to the needs of these industrial applications, guaranteeing production continuity and contributing to the reduction of operating costs.

Main Features

- Cooling Capacity 29 – 72kW
- Hermetic scroll compressor
- Refrigerant Gas: R407C
- Air cooled finned coil condenser
- Axial fans
- Evaporator: stainless steel plates
- Laminating unit: thermostatic expansion valve
- Non-ferrous hydraulic circuit: standard
- Pumps: P3; P5
- Hydraulic by-pass: adjustable type with manometer
- Electrical panel: with main switch for outdoor use
- Electronic thermostat with +/-2K temperature accuracy
- WLA Precision R407C Process Chillers do not fall within the applicability range of the MT (Medium Temperature – EU 2015/1095) and HT (High Temperature – EU 2016/2281) regulations.
- Working range of the refrigerant:
 - basic unit: +13°C ÷ +25°C
 - unit for low temperature water: -5°C ÷ +1°C



WLAC8-D8-G2-H8



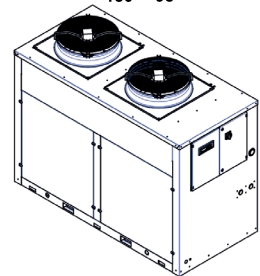
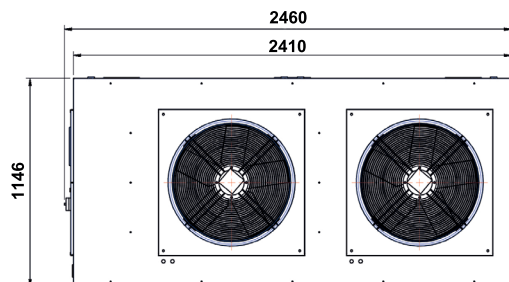
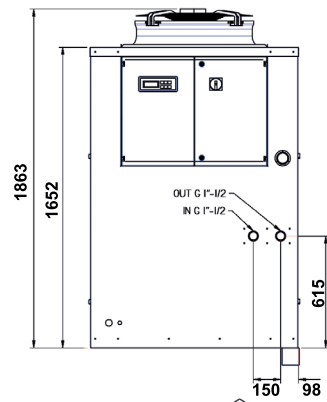
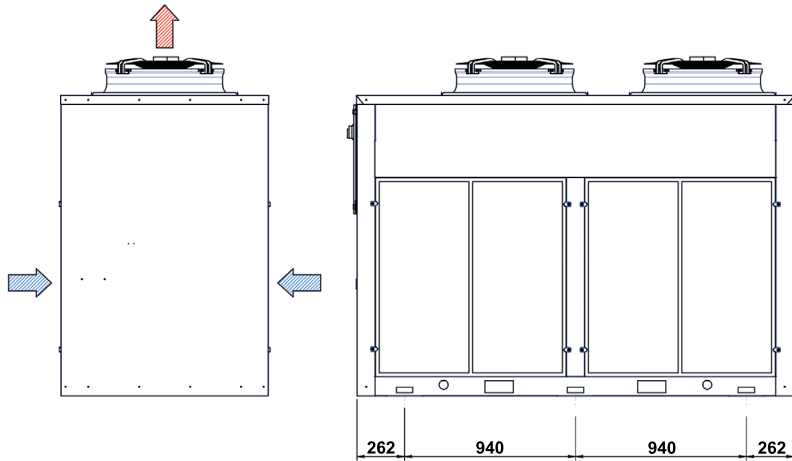
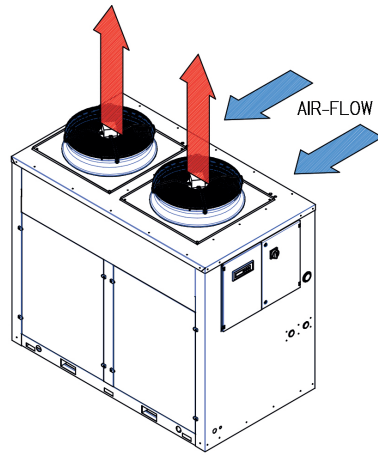
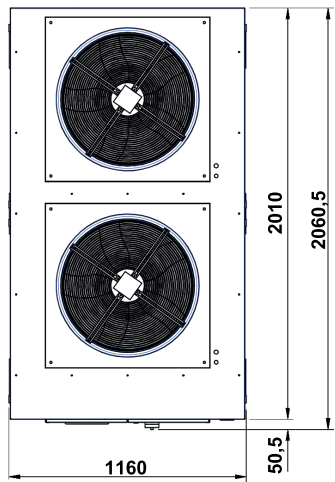
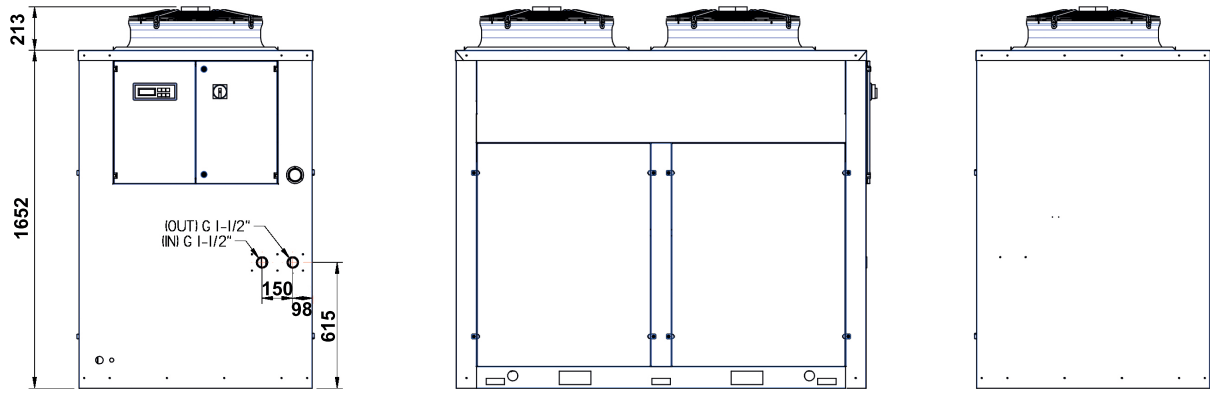
CODE	M.U.	WLAC8	WLAD8	WLAG2	WLAH8
Cooling Capacity (1)	W	41000	51000	72000	90500
Absorbed Power (2)	W	10300	12300	16400	20400
Refrigerant Gas		R407C	R407C	R407C	R407C
Refrigerant Gas charge	kg	10	10,2	16,5	16
Cooling circuits /Compressors	N°	1 / 1	1 / 1	1 / 1	1 / 1
Power Supply	V-Hz	400-3-50	460-3-60	400-3-50	460-3-60
Auxiliaries feed	VAC	24	24	24	24
Connections		Morsettiera / Terminal / Klemmen / Terminales			
Fan Type/N°		Assiale/1 - Axial/1			
Condenser fan air flow (free)	m ³ /h	30000	30000	36000	36000
Total fan absorbed power	W	1400	1400	5000	5000
Pump absorbed power	kW	1,5 (1,5-2,2)	1,85 (2,2-3)	2,2 (2,2-3)	2,2 (2,2-3)
Nominal flow	L/min	120	147	200	260
Available head nom (Med Prex)	bar	3,5 (4,7-6)	3,3 (4,4-5,5)	2,6 (5,4-6,6)	2,4 (5-6,2)
Tank Capacity	l	300	300	300	300
Hydraulic connections	Ø	1 ½"	1 ½"	1 ½"	1 ½"
Noise Level (3)	dB(A)	70	70	72	74
Height x Width x Depth	mm	1820 x 1140 x 2000	1820 x 1140 x 2000	1820 x 1140 x 2400	2250 x 1140 x 2400
Shipping weight	kg	650	750	850	950

Working limits for a standard chiller: leaving water Temperature min/max 13/25°C; ambient min/max 15/45°C

(1) Referred to the compressor only at conditions water Temperature inlet/outlet 20/15°C, ambient Temperature 32°C

(2) Referred to the compressor only at the following conditions: water Temperature inlet/outlet 20/15°C, ambient Temperature 32°C

(3) Sound pressure level referred to free field at distance of 1m EN ISO 9614



WLA Precision R410A

Ideal for cooling water or process fluids

WLA Precision R410A units are air cooled industrial chillers, offering two refrigerant circuits and two scroll compressors per circuit to maximize reliability and efficiency under partial load conditions on the utility side. They are ideal for cooling water or process fluids and have been designed to ensure the high standards of reliability required by production processes running 24/7.

Thanks to the standard non-ferrous hydraulic circuit and the wide range of options and accessories, the WLA Precision R410A units are effectively used for cooling a number of different applications such as:

- plastics
- chemical and pharmaceutical industry
- biogas
- automotive industry
- food & beverage

Reliability and the ability to adapt to specific plant requirements are the determining factors, which allow the WLA Precision R410A liquid chillers to respond perfectly to the needs of these industrial applications, guaranteeing continuity of production and contributing to the reduction of operating costs.

Main Features

- Cooling Capacity 96 – 130 kW
- Compressor: 2 hermetic scroll compressors per circuit
- Refrigerant Gas: R410A
- Air cooled finned coil condenser
- Axial fans with standard phase cut speed control
- Evaporator: stainless steel plates
- Laminating unit: thermostatic expansion valve
- Non-ferrous hydraulic circuit: standard
- Pumps: P3; P5; P3 + P3; P5 + P5
- Hydraulic by-pass: with adjustable type overpressure valve
- Electrical panel: for outdoor use with main switch and phase monitor
- Programmable microprocessor control with graphic display and standard RS485-Ethernet cards
- WLAprecision R410A Process Chillers do not fall within the scope of applicability of the MT (Medium Temperature – EU 2015/1095) and HT (High Temperature – EU 2016/2281) regulations.
- Working range of the refrigerant:
 - basic unit: $+13^{\circ}\text{C} \div +25^{\circ}\text{C}$
 - unit for low temperature water: $-5^{\circ}\text{C} \div +1^{\circ}\text{C}$



WLAJo-Lo-M7



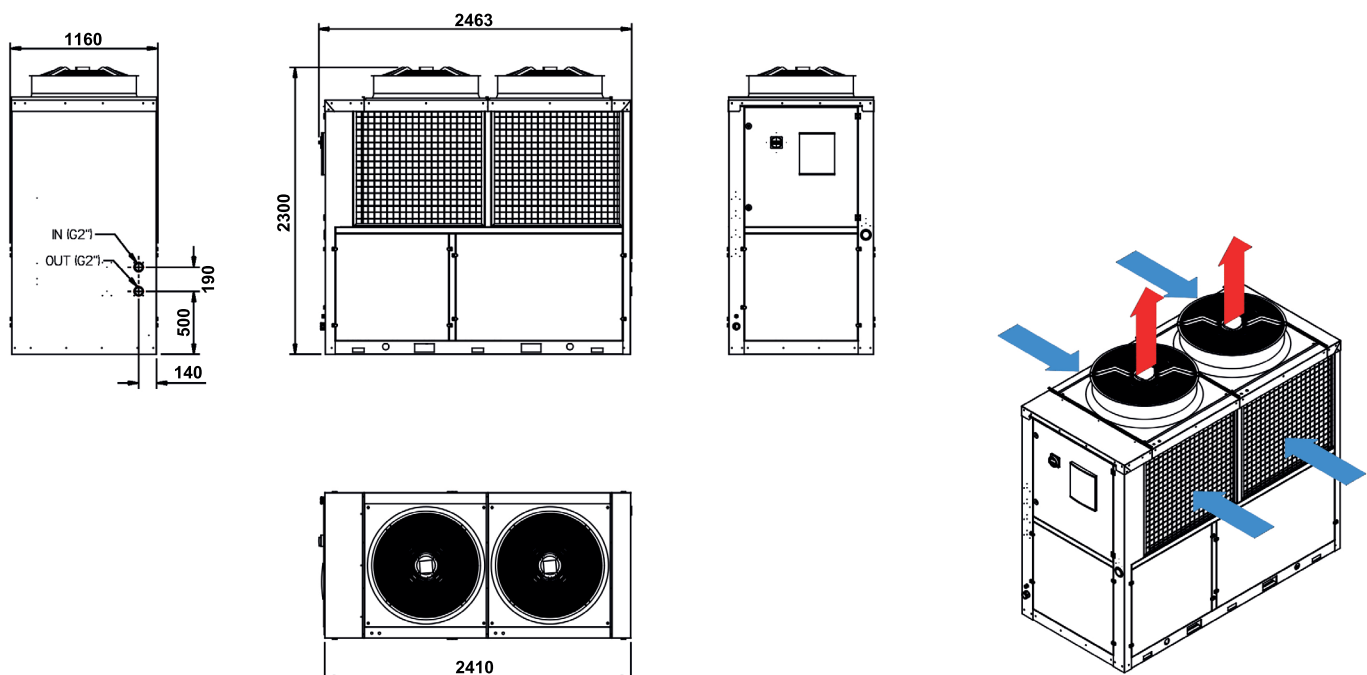
CODE	M.U.	WLAJo	WLALo	WLAM7
Cooling capacity (1)	W	96000	112000	130000
Absorbed power (2)	W	25200	28400	33000
SEPR		4,74	4,72	4,93
Refrigerant Gas		R410A	R410A	R410A
Refrigerant Gas charge	kg	12,5 + 12,5	13,0 + 13,0	12,0 + 12,0
Cooling circuits/Compressors	N°	2 / 4	2 / 4	2 / 4
Power Supply	V-Hz	400-3-50 460-3-60	400-3-50 460-3-60	400-3-50 460-3-60
Auxiliaries feed	VAC	24	24	24
Connections		Morsettiera		
Fan Type/N°		Assiale/1		
Condenser fan air flow (free)	m³/h	2 x 24000	2 x 24000	2 x 24000
Total fan absorbed power	W	2 x 2100	2 x 2100	2 x 2100
Pump absorbed power	kW	2470	2470	2470
Nominal flow	l/min	270	320	370
Available head nom (Med Prex)	bar	2,2 (5)	2 (4,5)	1,8 (5,2)
Tank Capacity	l	300	300	300
Hydraulic connections	Ø	2"	2"	2"
Noise level (3)	dB(A)	74	74	74
Height x Width x Depth	mm	2250 x 1160 x 2462	2250 x 1160 x 2462	2250 x 1160 x 2462
Shipping weight	kg	950	1100	1200

Working limits for a standard chiller: leaving water Temperature min/max 8/25°C; ambient min/max -10/45°C

(1) Referred to the compressor only at conditions water Temperature inlet/outlet 20/15°C, ambient Temperature 32°C

(2) Referred to the compressor only at the following conditions: water Temperature inlet/outlet 20/15°C, ambient Temperature 32°C

(3) Sound pressure level referred to free field at distance of 1m EN ISO 9614



WPA Mini - Techno Range

Ideal for cooling water or process fluids

Air cooled chillers designed for process cooling 24/7, 365 days a year, characterized by two refrigerant circuits with scroll compressors in tandem optimized for the use of R410A, plate evaporator and cooling capacity from 95 kW to 170 kW.

Cosmotec experience in process cooling has led to the development of this range of industrial chillers able to meet the wide operating limits (both ambient and user side) required by the new technologies used for energy saving.

All chillers in the WPAmini range feature high levels of energy efficiency (Class A or B) and compliance with the limits required by the 2009/125/EC Ecodesign ErP 2021 Directive.

The integrated Free Cooling version available for the WPAmini range allows strong energy saving especially in case of installations in areas with cold or temperate climates.

Even in the Low Noise version, ideal for installations near residential areas, our units maintain high performance and high energy savings, ensuring low noise.

The Electronic Expansion Valve (EEV) optimizes temperature and pressure of gas evaporation, increasing the efficiency at partial loads on the user side and helping to extend the operating range of the unit.

The Microchannel condensers are entirely made of aluminium and expressly designed to maximize the performance of the chiller, and allow the reduction the overall dimensions and the minimization of the refrigerant charge. For a better resistance to corrosion, the e-coating protective treatment is available (option).

Eco-friendly LOW GWP version

Upon request, WPAmini units are available with environmentally friendly R454B refrigerant fluid that provides a reduction in global warming potential (GWP = 467). Classified as A2L R454B is non-toxic but slightly flammable, in PED safety group 1.

Free Cooling for energy saving

WPAmini chillers are available in an integrated Free Cooling version, which allows strong energy saving, especially in applications that require high temperatures of the cooling fluid (plastic, data centers) and installation in areas with cold or temperate climates. By exploiting the external air to cool the fluid, the Free Cooling system can even replace the cooling circuit entirely, allowing the deactivation of the compressors.

Wide operating limits

Each application has different needs based on ambient temperature, fluid temperature, positioning, sound level, etc. Cosmotec is able to meet the most diverse needs, thanks to a wide range of options and the possibility to extend the operating limits of the WPAmini series chillers, if required. A few examples:

- Very hot and dusty environment
- Very cold environment
- High temperature water applications (plastic)
- Cold water applications (Food, Beverage, biogas)



WPAmi Standard

CODE		M.U.	WPA030	WPA045	WPA050	WPA055		
Cooling capacity	W15L32	kW	106,8	136,6	168,6	194,2		
Absorbed power	W15L32	kW	24,6	34,8	40,7	48,9		
SEPR			5,26	4,75	5,06	5,01		
Cooling capacity	W7L35	kW	82,2	106,2	131,2	150,1		
Absorbed power	W7L35	kW	25,1	34,8	41	48		
Refrigerant Gas			R410A	R410A	R410A	R410A		
Refrigerant Gas charge		kg	8 + 8	11 + 11	14 + 14	16 + 16		
Cooling circuits/Compressors		N*	2 / 4	2 / 4	2 / 4	2 / 4		
Rated voltage		V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency		Hz	50	60	50	60	50	60
Height x Width x Depth		mm	2350 x 1370 x 3650	2350 x 1370 x 3650	2350 x 1370 x 3650	2350 x 1370 x 3650		
Shipping weight		kg	1579	1634	1670	1778		

WPAmi Low Noise

CODE		M.U.	WPA030	WPA045	WPA050	WPA055		
Cooling capacity	W15L32	kW	103,2	130,7	161,2	184		
Absorbed power	W15L32	kW	26	37,5	43,5	52,7		
SEPR			4,76	4,53	4,83	4,75		
Cooling capacity	W7L35	kW	79,7	101,8	125,5	142,5		
Absorbed power	W7L35	kW	26,3	37,2	43,7	52,3		
Refrigerant Gas			R410A	R410A	R410A	R410A		
Refrigerant Gas charge		kg	8 + 8	10 + 10	13 + 13	15 + 15		
Cooling circuits/Compressors		N*	2 / 4	2 / 4	2 / 4	2 / 4		
Rated voltage		V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency		Hz	50	60	50	60	50	60
Height x Width x Depth		mm	2350 x 1370 x 3650	2350 x 1370 x 3650	2350 x 1370 x 3650	2350 x 1370 x 3650		
Shipping weight		kg	1594	1649	1685	1793		

WPAmi Free Cooling

CODE		M.U.	WPA030	WPA045	WPA050	WPA055		
Cooling capacity	W15L32	kW	89,7	123,1	141,2	169,3		
Free Cooling Cooling capacity	W15L32	kW	110,6	121,6	150,7	166,5		
Absorbed power	W7L35	kW	22,8	33,6	43,5	48,8		
Refrigerant Gas			R410A	R410A	R410A	R410A		
Refrigerant Gas charge		kg	8 + 8	11 + 11	14 + 14	16 + 16		
Cooling circuits/Compressors		N*	2 / 4	2 / 4	2 / 4	2 / 4		
Rated voltage		V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency		Hz	50	60	50	60	50	60
Height x Width x Depth		mm	2316 x 1370 x 3650	2350 x 1370 x 3650	2350 x 1370 x 3650	2350 x 1370 x 3650		
Shipping weight		kg	1842	1882	1933	2041		

WPAmi Low Noise Free Cooling

CODE		M.U.	WPA030	WPA045	WPA050	WPA055		
Cooling capacity	W15L32	kW	86,6	117,2	133,3	154,9		
Free Cooling Cooling capacity	W15L32	kW	99,5	108,1	143,7	147,8		
Absorbed power	W7L35	kW	24,1	36,4	47,4	55,5		
Refrigerant Gas			R410A	R410A	R410A	R410A		
Refrigerant Gas charge		kg	8 + 8	10 + 10	13 + 13	15 + 15		
Cooling circuits/Compressors		N*	2 / 4	2 / 4	2 / 4	2 / 4		
Rated voltage		V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency		Hz	50	60	50	60	50	60
Height x Width x Depth		mm	2350 x 1370 x 3650	2350 x 1370 x 3650	2350 x 1370 x 3650	2350 x 1370 x 3650		
Shipping weight		kg	1858	1897	1948	2056		

(1) Evaporator water IN/OUT 12/7 °C; condensing air 35 °C. Unit at full load
(2) In accordance with ISO 3744, the contribution of pumps is not considered.

WPA - Techno Range

Ideal for cooling water or process fluids

Liquid chillers designed for process cooling 24/7, 365 days a year, air cooled with two refrigerant circuits and scroll compressors installed in tandem/trio optimized for the use of R410A, plate/tube evaporator and cooling capacity from 160 kW to 550 kW.

Cosmotec experience in process cooling has led to the development of this range of industrial chillers able to meet the wide operating limits (both ambient and user side) required by the new technologies used for energy saving.

All chillers in the WPA range are characterized by high levels of energy efficiency (Class A or B) and compliance with the limits required by Directive 2009/125/EC Ecodesign ErP 2021.

The integrated Free Cooling version available for the WPA range also allows significant energy savings, especially in the case of installations in areas with cold or temperate climates.

Even in the Low Noise version, ideal for installations near residential areas, our units maintain high performance and high energy savings, ensuring low noise.

The Electronic Expansion Valve (EEV) optimizes temperature and pressure of gas evaporation, increasing the efficiency at partial loads on the user side and helping to extend the operating range of the unit.

The Microchannel condensers are entirely made of aluminium and expressly designed to maximize the performance of the chiller, and they allow to reduce the overall dimensions and to minimize the refrigerant charge. For a better resistance to corrosion, the e-coating protective treatment is available (option).

Eco-Friendly LOW GWP version

Upon request, WPA units are available with environmentally friendly R454B refrigerant fluid that provides a reduction in global warming potential (GWP = 467). Classified as A2L R454B is non-toxic but mildly flammable, in PED safety group 1.

Free Cooling for energy saving

WPA chillers are available in an integrated Free Cooling version, which allows a strong energy saving, especially in applications that require high temperatures of the cooling fluid (plastic, data centers) and installation in areas with cold or temperate climates. By exploiting the external air to cool the fluid, the Free Cooling system can even replace the cooling circuit entirely, thus allowing the deactivation of the compressors.

Wide operating limits

Each application has different needs based on ambient temperature, fluid temperature, positioning, sound level, etc. Cosmotec is capable to meet the most different needs, thanks to a wide range of options and the possibility to extend the operating limits of the WPA series chillers, if required. A few examples:

- Very hot and dusty environment
- Very cold environment
- High temperature water applications (plastic)
- Cold water applications (Food, Beverage, biogas)



WPA Standard



CODE		M.U.	WPA060	WPA070	WPA080	WPA090
Cooling Capacity	W15L32	kW	210,5	237,7	298,3	314,2
Absorbed Power	W15L32	kW	51,8	63,2	71,6	82
SEPR			5,36	5,36	5,02	5,72
Cooling Capacity	W7L35	kW	165,5	187,5	222,6	245,2
Absorbed Power	W7L35	kW	53,2	64,4	73,7	83
Refrigerant Gas			R410A	R410A	R410A	R410A
Refrigerant Gas charge		kg	18	17,5	17	18
Cooling circuits/Compressors		N°	2 / 4	2 / 4	2 / 4	2 / 4
Rated voltage		V~	400 . 3 460 . 3	400 . 3 460 . 3	400 . 3 460 . 3	400 . 3 460 . 3
Nominal Frequency		Hz	50 60	50 60	50 60	50 60
Height x Width x Depth		mm	2410x3100x2206	2410x3100x2206	2410x3100x2206	2410x3100x2206
Shipping weight		kg	2293	2323	2395	2420

CODE		M.U.	WPA100	WPA110	WPA120	WPA140
Cooling Capacity	W15L32	kW	343	416,3	460,3	499,9
Absorbed Power	W15L32	kW	91,7	99,7	114,1	129,5
SEPR			5,68	5,88	5,62	5,87
Cooling Capacity	W7L35	kW	266,5	318,6	353,1	385,1
Absorbed Power	W7L35	kW	91,6	100,4	114,2	127,5
Refrigerant Gas			R410A	R410A	R410A	R410A
Refrigerant Gas charge		kg	15,5	22,5	25	24,5
Cooling circuits/Compressors		N°	2 / 4	2 / 4	2 / 4	2 / 4
Rated voltage		V~	400 . 3 460 . 3	400 . 3 460 . 3	400 . 3 460 . 3	400 . 3 460 . 3
Nominal Frequency		Hz	50 60	50 60	50 60	50 60
Height x Width x Depth		mm	2410x3100x2206	2410x4400x2206	2410x4400x2206	2410x4400x2206
Shipping weight		kg	2440	3119	3173	3219

CODE		M.U.	WPA160	WPA180	WPA200
Cooling Capacity	W15L32	kW	564,9	657,3	727,4
Absorbed Power	W15L32	kW	132,1	174,1	200,6
SEPR			5,84	5,79	6,18
Cooling Capacity	W7L35	kW	432	504	559,3
Absorbed Power	W7L35	kW	131,9	173,6	199,8
Refrigerant Gas			R410A	R410A	R410A
Refrigerant Gas charge		kg	69	80,5	89
Cooling circuits/Compressors		N°	2 / 4	2 / 6	2 / 6
Rated voltage		V~	400 . 3 460 . 3	400 . 3 460 . 3	400 . 3 460 . 3
Nominal Frequency		Hz	50 60	50 60	50 60
Height x Width x Depth		mm	2410x5770x2206	2410x5770x2206	2410x5770x2206
Shipping weight		kg	4158	4559	4561

WPA Free Cooling

CODE	M.U.	WPA060FC	WPA070FC	WPA080FC	WPA090FC	WPA100FC	WPA110FC
Cooling capacity	kW	188,1	214,4	241,6	267,5	290,3	341,3
FC Cooling capacity	kW	209,9	217,5	304,4	314,8	323,2	333,3
Absorbed Power	kW	50,4	59,4	69,3	78,6	88,6	94,5
Refrigerant Gas		R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant Gas charge	kg	18	17,5	17	18	15,5	22,5
Cooling circuits/Compressors	N°	2 / 4	2 / 4	2 / 4	2 / 4	2 / 4	2 / 4
Rated voltage	V~	400 . 3 460. 3	400 . 3 460. 3	400 . 3 460. 3	400 . 3 460. 3	400 . 3 460. 3	400 . 3 460. 3
Nominal Frequency	Hz	50 60	50 60	50 60	50 60	50 60	50 60
Height x Width x Depth	mm	2410x3140x2206	2410x3140x2206	2410x3140x2206	2410x3140x2206	2410x3140x2206	2410x4400x2206
Shipping weight	kg	3054	3089	3743	3932	3953	4145

WPA Low Noise

CODE	M.U.	WPA060SL	WPA070SL	WPA080SL	WPA090SL
Cooling capacity	W15L32 kW	203,6	228,3	274,9	303,2
Absorbed Power	W15L32 kW	54,7	67,5	75,2	86,7
SEPR		5,22	5,17	4,88	5,58
Cooling capacity	W7L35 kW	160,6	180,7	216,6	237,4
Absorbed Power	W7L35 kW	55,8	68,1	76,8	87,1
Refrigerant Gas		R410A	R410A	R410A	R410A
Refrigerant Gas charge	kg	18	17,5	17	18
Cooling circuits/Compressors	N°	2 / 4	2 / 4	2 / 4	2 / 4
Rated voltage	V~	400 . 3 460. 3	400 . 3 460. 3	400 . 3 460. 3	400 . 3 460. 3
Nominal Frequency	Hz	50 60	50 60	50 60	50 60
Height x Width x Depth	mm	2410x3100x2206	2410x3100x2206	2410x3100x2206	2410x3100x2206
Shipping weight	kg	2293	2323	2395	2420

CODE	M.U.	WPA100SL	WPA110SL	WPA120SL	WPA140SL
Cooling capacity	W15L32 kW	356,6	404,1	444,8	509,5
Absorbed Power	W15L32 kW	88,3	104,2	119,9	127,2
SEPR		5,82	5,82	5,44	5,86
Cooling capacity	W7L35 kW	276	310,3	342,6	391,7
Absorbed Power	W7L35 kW	88,9	104,2	119,1	126,7
Refrigerant Gas		R410A	R410A	R410A	R410A
Refrigerant Gas charge	kg	15,5	22,5	25	24,5
Cooling circuits/Compressors	N°	2 / 4	2 / 4	2 / 4	2 / 4
Rated voltage	V~	400 . 3 460. 3	400 . 3 460. 3	400 . 3 460. 3	400 . 3 460. 3
Nominal Frequency	Hz	50 60	50 60	50 60	50 60
Height x Width x Depth	mm	2410x3100x2206	2410x4400x2206	2410x4400x2206	2410x5770x2206
Shipping weight	kg	3095	3119	3173	3855

CODE	M.U.	WPA160SL	WPA180SL	WPA200SL
Cooling capacity	W15L32 kW	546,2	662,1	733,5
Absorbed Power	W15L32 kW	137,7	174,4	200,4
SEPR		5,72	5,83	6,23
Cooling capacity	W7L35 kW	419,5	507,3	563,4
Absorbed Power	W7L35 kW	136,6	174,2	199,9
Refrigerant Gas		R410A	R410A	R410A
Refrigerant Gas charge	kg	69	80,5	89
Cooling circuits/Compressors	N°	2 / 4	2 / 6	2 / 6
Rated voltage	V~	400 . 3 460. 3	400 . 3 460. 3	400 . 3 460. 3
Nominal Frequency	Hz	50 60	50 60	50 60
Height x Width x Depth	mm	2410x5770x2206	2410x7100x2206	2410x7100x2206
Shipping weight	kg	4256	5205	5211

WSA ErP - Techno Range

Ideal for cooling water or process fluids

WSA ErP is a range of **highly efficient and environmentally friendly** air-cooled liquid chillers with free-cooling technology and cooling capacities **from 290 to 1800kW**.

Designed for cooling process applications 24/7, 365 days a year, the new WSA ErPs feature one or two refrigeration circuits with screw compressors and utilise dry-expansion shell and tube evaporators with high exchange surface area.

Low environmental impact has been achieved thanks to **new HFO refrigerants with low Global Warming Potential R1234ze** (GWP 7). All models are also available with refrigerant R513A (GWP 572).

The WSA ErP range is characterised by high levels of energy efficiency (Class A or B) that allow it to comply with the limits required by the 2009/125/EC Ecodesign ErP 2021 Directive.

Thanks to the special W-shaped configuration of the heat exchanger coils and their sizing, it has been possible to achieve specific power levels (kW/plant area) at the top of the category.

Eco-friendly LOW GWP Version

WSA ErP units are available in two environmentally friendly versions that ensure a reduction in global warming potential:

- HFO refrigerant fluid R1234ze (GWP = 7) classified as A2L non-toxic, slightly flammable and zero impact on the ozone layer.
- Refrigerant fluid R513A (GWP = 572) classified as A1 non-toxic, non-flammable and zero impact on the ozone layer.

HT version for high temperature water applications (e.g. plastic)

The HT version's refrigeration circuit is specially designed to produce chilled water with evaporator outlet temperatures up to 25°C. The compressor has an oversized motor, which allows wide operating limits and high suction temperatures.

Free Cooling for energy savings

The WSA ErP chillers are available in an **integrated Free Cooling** version, which allows **significant energy savings**, especially in applications requiring high cooling fluid temperatures (plastic) and installation in areas with cold or temperate climates.

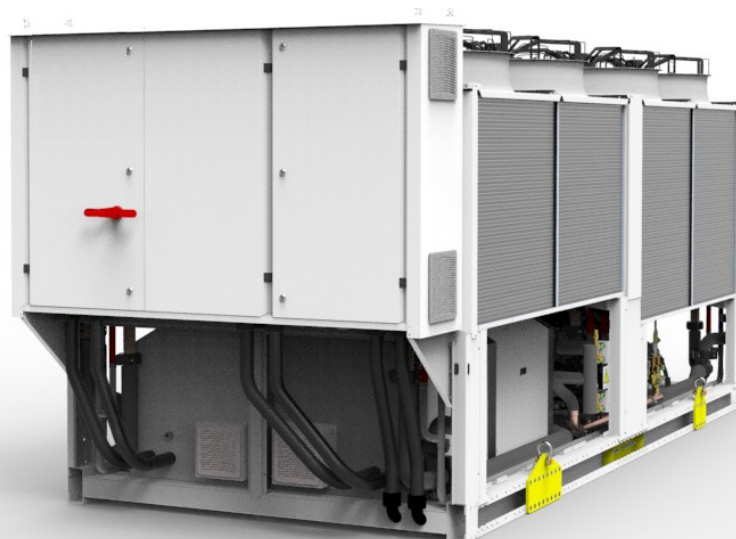
Taking advantage of the outside air to cool the fluid, the Free Cooling system can go so far as to replace the cooling circuit entirely, thus allowing the compressors to be switched off. The exchangers have been specifically dimensioned to achieve a Total Free-Cooling Temperature (TFT) 10°C lower than the set point temperature. WSA ErP units **can be combined with FCB free-cooling modules** to maximise free-cooling performance by increasing the TFT temperature.

Low Noise Version

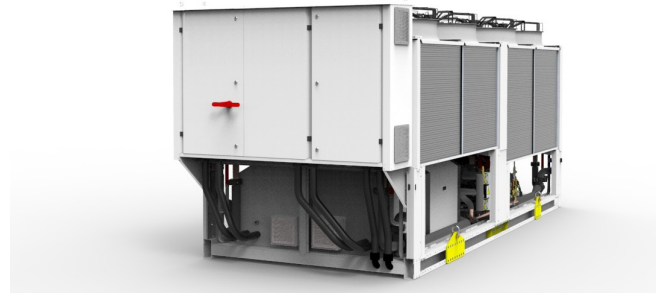
Even in the Low Noise version, which is ideal for installations near residential areas, our units maintain high performance and high energy savings, while guaranteeing low noise levels. The compressor enclosure effectively reduces transmitted noise thanks to a specific composite coating of sound-absorbing materials

Chiller LT version for ambient temperatures down to -20°C

Thanks to a sophisticated condensation control system based on the partialisation of the condensation surface and EC fan speed control, the CHILLER LT version is able to work with ambient temperatures as low as -20°C.



WSA R513A Standard AC



CODE	M.U.	WSA90	WSA110	WSA140	WSA160
Cooling Capacity	kW	192	243	289	358
Power Consumption W7/L35	kW	69	82	109	121
Refrigerant gas	Type	R513A	R513A	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	99	118	139	188
Max adsorbed current	A	173	197	229	311
Starting current	A	434	535	680	517
Height x Width x Depht	mm	2485x1140x4330	2485x2280x3205	2485x2280x3205	2485x2280x4330
Noise Level	dB(A)	56.3	61.1	60.3	58.8
Estimated weight	kg	-	-	-	3518

CODE	M.U.	WSA180	WSA200	WSA220	WSA250
Cooling Capacity	kW	397	442	501	542
Power Consumption W7/L35	kW	140	141	166	180
Refrigerant gas	Type	R513A	R513A	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	198	207	235	255
Max adsorbed current	A	347	340	394	422
Starting current	A	608	624	732	838
Height x Width x Depht	mm	2485x2280x4330	2485x2280x5875	2485x2280x5875	2485x2280x5875
Noise Level	dB(A)	58.7	62.7	64.1	62.9
Estimated weight	kg	3679	5018	5081	5118

CODE	M.U.	WSA280	WSA300	WSA320	WSA360
Cooling Capacity	kW	635	691	764	834
Power Consumption W7/L35	kW	211	231	236	279
Refrigerant gas	Type	R513A	R513A	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	281	281	333	373
Max adsorbed current	A	466	466	606	666
Starting current	A	917	917	762	821
Height x Width x Depht	mm	2485x2280x6955	2485x2280x6955	2485x2280x8080	2485x2280x8080
Noise Level	dB(A)	63.4	65.3	64.3	64.5
Estimated weight	kg	5763	5763	7114	7135

Evaporator water (in/out) 12/7 °C; Condenser air (in) 35 °C. Unit at full capacity.

Pumps contribution is not considered according to ISO 3744

WSA R513A Standard AC

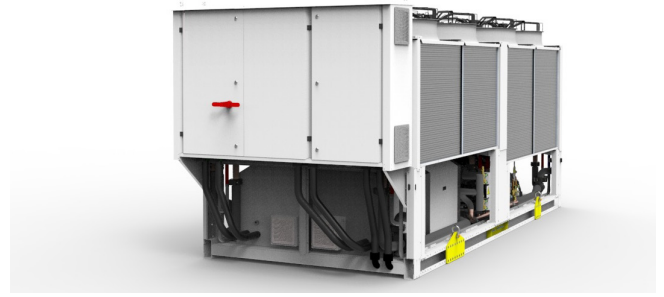
CODE	M.U.	WSA380	WSA420	WSA480	WSA560
Cooling Capacity	kW	952	983	1113	1165
Power Consumption W7/L35	kW	299	326	368	407
Refrigerant gas	Type	R513A	R513A	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	377	435	475	539
Max adsorbed current	A	673	693	781	887
Starting current	A	828	959	1071	1279
Height x Width x Depht	mm	2485x2280x9582	2485x2280x9582	2485x2280x10707	2485x2280x10707
Noise Level	dB(A)	65.9	64.9	65.7	66.5
Estimated weight	kg	7711	8190	8751	8971

CODE	M.U.	WSA640	WSA700
Cooling Capacity	kW	1287	1451
Power Consumption W7/L35	kW	443	480
Refrigerant gas	Type	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230
Max power consumption	kW	589	592
Max adsorbed current	A	962	970
Starting current	A	1432	1440
Height x Width x Depht	mm	2485x2280x11830	2485x2280x13330
Noise Level	dB(A)	67.1	68.5
Estimated weight	kg	9549	10094

Evaporator water (in/out) 12/7 °C; Condenser air (in) 35 °C. Unit at full capacity.

Pumps contribution is not considered according to ISO 3744

WSA R513A EC Free Cooling



CODE	M.U.	WSA90	WSA110	WSA140	WSA160
Cooling Capacity	kW	190	239	286	358
Power Consumption W7/L35	kW	70	84	109	123
Refrigerant gas	Type	R513A	R513A	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	101	120	141	191
Max adsorbed current	A	174	198	230	311
Starting current	A	435	536	681	517
Height x Width x Depht	mm				
Noise Level	dB(A)	56.6	61.2	60.5	59.2

CODE	M.U.	WSA180	WSA200	WSA220	WSA250
Cooling Capacity	kW	399	446	508	548
Power Consumption W7/L35	kW	145	146	171	185
Refrigerant gas	Type	R513A	R513A	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	201	212	240	260
Max adsorbed current	A	347	341	395	423
Starting current	A	608	625	733	839
Height x Width x Depht	mm				
Noise Level	dB(A)	59.1	62.9	64.3	63.1

CODE	M.U.	WSA280	WSA300	WSA320	WSA360
Cooling Capacity	kW	642	694	761	835
Power Consumption W7/L35	kW	217	237	242	284
Refrigerant gas	Type	R513A	R513A	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	288	288	341	381
Max adsorbed current	A	467	467	607	667
Starting current	A	918	918	763	822
Height x Width x Depht	mm				
Noise Level	dB(A)	63.6	65.4	64.5	64.7

Evaporator water (in/out) 12/7 °C; Condenser air (in) 35 °C. Unit at full capacity.

Pumps contribution is not considered according to ISO 3744

WSA R513A EC Free Cooling

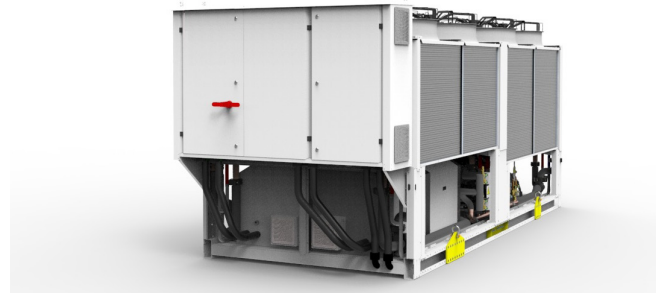
CODE	M.U.	WSA380	WSA420	WSA480	WSA560
Cooling Capacity	kW	955	992	1118	1164
Power Consumption W7/L35	kW	307	334	376	413
Refrigerant gas	Type	R513A	R513A	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	386	444	485	549
Max adsorbed current	A	675	695	782	888
Starting current	A	830	961	1072	1280
Height x Width x Depht	mm				
Noise Level	dB(A)	66.1	65.1	65.9	66.7

CODE	M.U.	WSA640	WSA700
Cooling Capacity	kW	1288	1450
Power Consumption W7/L35	kW	450	487
Refrigerant gas	Type	R513A	R513A
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230
Max power consumption	kW	600	605
Max adsorbed current	A	964	972
Starting current	A	1434	1442
Height x Width x Depht	mm		
Noise Level	dB(A)	67.3	68.7

Evaporator water (in/out) 12/7 °C; Condenser air (in) 35 °C. Unit at full capacity.

Pumps contribution is not considered according to ISO 3744

WSA R1234ze Standard AC



CODE	M.U.	WSA90	WSA110	WSA140	WSA160
Cooling Capacity	kW	178	196	227	257
Power Consumption W7/L35	kW	60	68	76	87
Working limits ambient temperature	C	-10/+48	-10/+48	-10/+48	-10/+48
Working limits water outlet temperature	C	-5/+25	-5/+25	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	116	126	139	163
Max adsorbed current	A	193	207	229	295
Starting current	A	531	623	680	451
Height x Width x Depht	mm	2485x1140x4330		2485x2280x3205	
Noise Level	dB(A)	62	60	60	61
Estimated weight	kg	-	-	-	-

CODE	M.U.	WSA180	WSA220	WSA250	WSA280
Cooling Capacity	kW	329	370	433	471
Power Consumption W7/L35	kW	104	122	130	153
Working limits ambient temperature	C	-10/+48	-10/+48	-10/+48	-10/+48
Working limits water outlet temperature	C	-5/+25	-5/+25	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	204	232	255	277
Max adsorbed current	A	333	387	422	458
Starting current	A	617	725	838	909
Height x Width x Depht	mm	2485x2280x4330	2485x2280x4330	2485x2280x5875	2485x2280x5875
Noise Level	dB(A)	63	64	63	63
Estimated weight	kg	4240	4412	5073	5125

CODE	M.U.	WSA300	WSA320	WSA360	WSA380
Cooling Capacity	kW	525	571	670	726
Power Consumption W7/L35	kW	165	172	199	210
Working limits ambient temperature	C	-10/+48	-10/+48	-10/+48	-10/+48
Working limits water outlet temperature	C	-5/+25	-5/+25	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	277	329	373	373
Max adsorbed current	A	458	598	666	666
Starting current	A	909	754	821	821
Height x Width x Depht	mm	2485x2280x5875	2485x2280x6955	2485x2280x8080	2485x2280x8080
Noise Level	dB(A)	65	64	64	66
Estimated weight	kg	5151	6438	7071	7090

Evaporator water (in/out) 12/7 °C; Condenser air (in) 35 °C. Unit at full capacity.

Pumps contribution is not considered according to ISO 3744

WSA R1234ze Standard AC

CODE	M.U.	WSA420	WSA480	WSA560
Cooling Capacity	kW	772	872	891
Power Consumption W7/L35	kW	232	266	293
Working limits ambient temperature	C	-10/+48	-10/+48	-10/+48
Working limits water outlet temperature	C	-5/+25	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230
Max power consumption	kW	431	467	535
Max adsorbed current	A	686	766	879
Starting current	A	952	1056	1271
Height x Width x Depht	mm	2485x2280x8080	2485x2280x8080	2485x2280x9582
Noise Level	dB(A)	65	66	67
Estimated weight	kg	7256	7361	8135

CODE	M.U.	WSA640	WSA700
Cooling Capacity	kW	985	1119
Power Consumption W7/L35	kW	317	334
Working limits ambient temperature	C	-10/+48	-10/+48
Working limits water outlet temperature	C	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230
Max power consumption	kW	585	589
Max adsorbed current	A	955	962
Starting current	A	1425	1432
Height x Width x Depht	mm	2485x2280x10707	2485x2280x11830
Noise Level	dB(A)	67	69
Estimated weight	kg	8676	9381

Evaporator water (in/out) 12/7 °C; Condenser air (in) 35 °C. Unit at full capacity.

Pumps contribution is not considered according to ISO 3744

WSA R1234ze EC Free Cooling



CODE	M.U.	WSA90	WSA110	WSA140	WSA160
Cooling Capacity	kW	182	198	229	261
Power Consumption W7/L35	kW	62	69	78	90
Working limits ambient temperature	C	-20/+48	-20/+48	-20/+48	-20/+48
Working limits water outlet temperature	C	-5/+25	-5/+25	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	118	128	141	165
Max adsorbed current	A	194	208	230	296
Starting current	A	532	624	681	452
Height x Width x Depth	mm	2485x1140x4330		2485x2280x3205	
Noise Level	dB(A)	62	60	60	61

CODE	M.U.	WSA180	WSA220	WSA250	WSA280
Cooling Capacity	kW	333	375	435	477
Power Consumption W7/L35	kW	108	125	136	158
Working limits ambient temperature	C	-20/+48	-20/+48	-20/+48	-20/+48
Working limits water outlet temperature	C	-5/+25	-5/+25	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	207	235	260	282
Max adsorbed current	A	333	387	423	459
Starting current	A	617	725	839	910
Height x Width x Depth	mm	2485x2280x4330	2485x2280x4330	2485x2280x5875	2485x2280x5875
Noise Level	dB(A)	63	64	63	63

CODE	M.U.	WSA300	WSA320	WSA360	WSA380
Cooling Capacity	kW	530	574	675	732
Power Consumption W7/L35	kW	169	179	207	218
Working limits ambient temperature	C	-20/+48	-20/+48	-20/+48	-20/+48
Working limits water outlet temperature	C	-5/+25	-5/+25	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230	230
Max power consumption	kW	282	336	381	381
Max adsorbed current	A	459	599	667	667
Starting current	A	910	755	822	822
Height x Width x Depth	mm	2485x2280x5875	2485x2280x6955	2485x2280x8080	2485x2280x8080
Noise Level	dB(A)	65	64	65	67

Evaporator water (in/out) 12/7 °C; Condenser air (in) 35 °C. Unit at full capacity.

Pumps contribution is not considered according to ISO 3744

WSA R1234ze EC Free Cooling

CODE	M.U.	WSA420	WSA480	WSA560
Cooling Capacity	kW	778	881	898
Power Consumption W7/L35	kW	239	273	301
Working limits ambient temperature	C	-20/+48	-20/+48	-20/+48
Working limits water outlet temperature	C	-5/+25	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230	230
Max power consumption	kW	439	475	544
Max adsorbed current	A	687	767	881
Starting current	A	953	1057	1273
Height x Width x Depth	mm	2485x2280x8080	2485x2280x8080	2485x2280x9582
Noise Level	dB(A)	66	66	67

CODE	M.U.	WSA640	WSA700
Cooling Capacity	kW	995	1128
Power Consumption W7/L35	kW	326	345
Working limits ambient temperature	C	-20/+48	-20/+48
Working limits water outlet temperature	C	-5/+25	-5/+25
Refrigerant gas	Type	R1234ze	R1234ze
Power supply	V/ph/Hz	400 / 3 / 50	400 / 3 / 50
Second Power supply	Vac	230	230
Max power consumption	kW	595	600
Max adsorbed current	A	956	964
Starting current	A	1426	1434
Height x Width x Depth	mm	2485x2280x10707	2485x2280x11830
Noise Level	dB(A)	67	69

Evaporator water (in/out) 12/7 °C; Condenser air (in) 35 °C. Unit at full capacity.

Pumps contribution is not considered according to ISO 3744

WSW - Techno Range

Ideal for cooling water or process fluids

Liquid chillers designed for process cooling 24/7, 365 days a year, water cooled with one or two refrigerant circuits and screw compressors optimized for the use of the environmentally friendly refrigerant R513A, dry expansion evaporators and shell and tube condensers and cooling capacity from 230 kW to 1530 kW.

Cosmotec experience in process cooling has led to the development of this range of industrial chillers capable of meeting the wide operating limits (both ambient and user side) required by the new technologies used for energy saving.

All the chillers in the WSW range are characterized by high levels of energy efficiency (Class A or B) and compliance with the limits required by the 2009/125/EC Ecodesign ErP 2021 Directive.

Even in the Low Noise model, WSW units with integral enclosures maintain high performance and energy efficiency, while ensuring low noise.

The HT version is designed (on request) for applications with high temperature water (up to +25°C) and includes screw compressors with oversized motor.

The Electronic Expansion Valve (EEV) optimizes temperature and pressure of gas evaporation, increasing the efficiency at partial loads on the user side and helping to extend the operating range of the unit.

Eco-friendly LOW GWP version

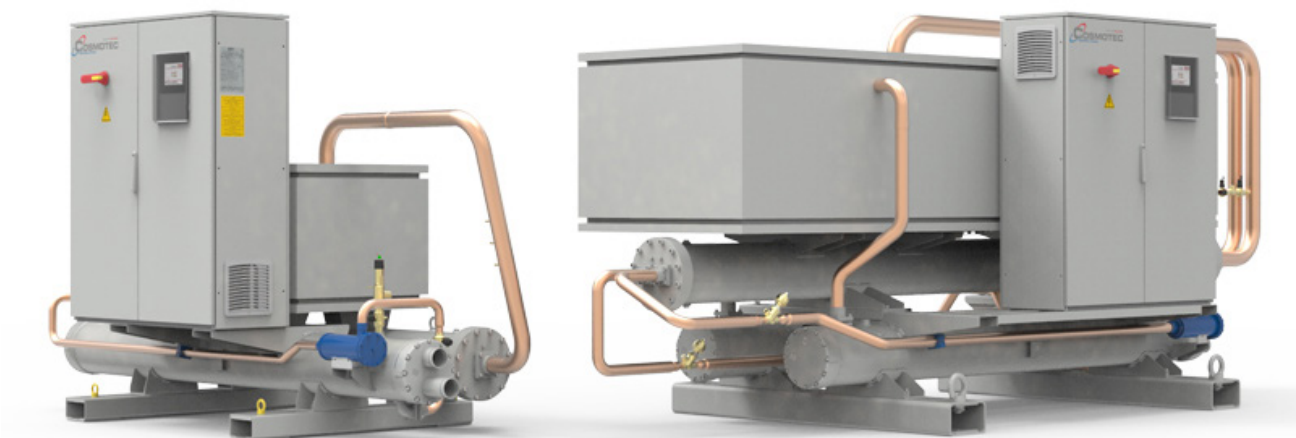
WSW units are available with environmentally friendly R513A refrigerant that provides a reduction in global warming potential (GWP = 572). Rated A1 R513A is non-toxic and non-flammable.

Free Cooling thanks to WFM module

Thanks to the integration of the main hydronic components (plate-type water/water exchanger, servo-controlled valves and one or more inverter-controlled pumps), the WFM CyberCool Free Cooling Booster module makes it possible to transform a system consisting of a WSW chiller and a drycooler into an energy-saving free cooling system.

These Free Cooling systems provide significant energy savings, especially in applications requiring high cooling fluid temperatures (plastics, data centers) and installation in areas with cold or temperate climates.

The CyberCool Free Cooling Booster control software monitors both outdoor and operating temperatures and adjusts the cooling capacity of the remote dry cooler: this ensures both optimal control of the WSW unit's condensing temperature and maximum Free Cooling effectiveness during mid-seasons, with low operating costs and minimal environmental impact.



WSW Standard



CODE	M.U.	WSW080		WSW090		WSW110		WSW125	
Cooling capacity	kW	228,7		283,9		308,3		350,8	
Absorbed Power	kW	45,4		55,4		60,4		69,5	
SEPR		8,1		8,22		7,92		8,02	
Refrigerant Gas		R134a		R134a		R134a		R134a	
Refrigerant Gas charge	kg	61		76		82		93	
Cooling circuits/Compressors	N°	1 / 1		1 / 1		1 / 1		1 / 1	
Rated voltage	V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency	Hz	50	60	50	60	50	60	50	60
Height x Width x Depth	mm	1880x1340x3010		1880x1340x3010		1880x1460x3306		1905x1340x3790	
Shipping weight	kg	2625		2992		3029		3166	

CODE	M.U.	WSW140		WSW160		WSW180		WSW220	
Cooling capacity	kW	426,4		457,1		566,1		612,6	
Absorbed Power	kW	83,6		90,7		110,7		120,8	
SEPR		7,93		8,31		8,55		8,16	
Refrigerant Gas		R134a		R134a		R134a		R134a	
Refrigerant Gas charge	kg	113		15 + 15		75 + 75		81 + 81	
Cooling circuits/Compressors	N°	1 / 1		2 / 2		2 / 2		2 / 2	
Rated voltage	V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency	Hz	50	60	50	60	50	60	50	60
Height x Width x Depth	mm	1905x1340x3790		1970x1871x4416		1970x1871x4916		2100x1871x4558	
Shipping weight	kg	3640		3818		4420		4735	

CODE	M.U.	WSW250		WSW265		WSW280		WSW320	
Cooling capacity	kW	701,3		777,2		852,7		969,7	
Absorbed Power	kW	139,1		154,1		167,2		189,1	
SEPR		8,24		7,99		8		8,11	
Refrigerant Gas		R134a		R134a		R134a		R134a	
Refrigerant Gas charge	kg	92 + 92		103 + 103		113 + 113		128 + 128	
Cooling circuits/Compressors	N°	2 / 2		2 / 2		2 / 2		2 / 2	
Rated voltage	V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency	Hz	50	60	50	60	50	60	50	60
Height x Width x Depth	mm	1970x1871x4916		1986x1871x5084		1986x1871x4745		1993x1931x4856	
Shipping weight	kg	5069		5555		6073		6487	

CODE	M.U.	WSW360		WSW420		WSW480		WSW560	
Cooling capacity	kW	1099,1		1254,5		1371		1523,8	
Absorbed Power	kW	213,2		240,7		272,1		300,1	
SEPR		8,32		8,24		8,14		8,19	
Refrigerant Gas		R134a		R134a		R134a		R134a	
Refrigerant Gas charge	kg	145 + 145		160 + 160		180 + 180		200 + 200	
Cooling circuits/Compressors	N°	2 / 2		2 / 2		2 / 2		2 / 2	
Rated voltage	V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency	Hz	50	60	50	60	50	60	50	60
Height x Width x Depth	mm	2026x1891x5278		2129x1951x4583		2165x1936x5096		2165x1931x5390	
Shipping weight	kg	6736		7194		7576		7800	

WSW Low Noise

CODE	M.U.	WSW080SL		WSW090SL		WSW110SL		WSW125SL	
Cooling capacity	kW	228,7		283,9		308,3		350,8	
Absorbed Power	kW	45,4		55,4		60,4		69,5	
SEPR		8,1		8,22		7,92		8,02	
Refrigerant Gas		R134a		R134a		R134a		R134a	
Refrigerant Gas charge	kg	61		76		82		93	
Cooling circuits/Compressors	N°	1 / 1		1 / 1		1 / 1		1 / 1	
Rated voltage	V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency	Hz	50	60	50	60	50	60	50	60
Height x Width x Depth	mm	1880x1340x3010		1880x1340x3010		1880x1460x3306		1905x1340x3790	
Shipping weight	kg	2650		3017		3054		3190	

CODE	M.U.	WSW140SL		WSW160SL		WSW180SL		WSW220SL	
Cooling capacity	kW	426,4		457,1		566,1		612,6	
Absorbed Power	kW	83,6		90,7		110,7		120,8	
SEPR		7,93		8,31		8,55		8,16	
Refrigerant Gas		R134a		R134a		R134a		R134a	
Refrigerant Gas charge	kg	113		15 + 15		75 + 75		81 + 81	
Cooling circuits/Compressors	N°	1 / 1		2 / 2		2 / 2		2 / 2	
Rated voltage	V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency	Hz	50	60	50	60	50	60	50	60
Height x Width x Depth	mm	1905x1340x3790		1970x1871x4416		1970x1871x4916		2100x1871x4558	
Shipping weight	kg	3665		3868		4470		4785	

CODE	M.U.	WSW250SL		WSW265SL		WSW280SL		WSW320SL	
Cooling capacity	kW	701,3		777,2		852,7		969,7	
Absorbed Power	kW	139,1		154,1		167,2		189,1	
SEPR		8,24		7,99		8		8,11	
Refrigerant Gas		R134a		R134a		R134a		R134a	
Refrigerant Gas charge	kg	92 + 92		103 + 103		113 + 113		128 + 128	
Cooling circuits/Compressors	N°	2 / 2		2 / 2		2 / 2		2 / 2	
Rated voltage	V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency	Hz	50	60	50	60	50	60	50	60
Height x Width x Depth	mm	1970x1871x4916		1986x1871x5084		2060x1871x4745		2050x1931x4856	
Shipping weight	kg	5119		5605		6123		6537	

CODE	M.U.	WSW360SL		WSW420SL		WSW480SL		WSW560SL	
Cooling capacity	kW	1099,1		1254,5		1371		1523,8	
Absorbed Power	kW	213,2		240,7		272,1		300,1	
SEPR		8,32		8,24		8,14		8,19	
Refrigerant Gas		R134a		R134a		R134a		R134a	
Refrigerant Gas charge	kg	145 + 145		160 + 160		180 + 180		200 + 200	
Cooling circuits/Compressors	N°	2 / 2		2 / 2		2 / 2		2 / 2	
Rated voltage	V~	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3	400 . 3	460 . 3
Nominal Frequency	Hz	50	60	50	60	50	60	50	60
Height x Width x Depth	mm	2100x1891x5278		2202x1951x4583		2232x1936x5096		2232x1931x5390	
Shipping weight	kg	6786		7244		7626		7850	

ORA

Oil industrial chiller

Oil cooling is indispensable in a variety of applications:

- machine tools: to control the temperature of the hydraulic oil or spindle oil, preventing deformation and resulting in better surface finish and accuracy of the finished product
- chip-removing machines: Cooling of the cutting oil improves the life of the machine tool and allows a better surface finish of the final product.
- in presence of oleodynamic circuits.

Thanks to their configurability and high thermodynamic performance, ORA oil chillers can perfectly meet the requirements of these industrial applications.

Main Features

- Cooling capacity between 2 and 16 kW
- Refrigerant fluid R134a (2÷4kW); R407C (6÷16kW)
- Non-ferrous hydraulic circuit and stainless steel plate evaporator to preserve oil quality
- Microprocessor control programmable with proprietary software
- piston or scroll compressors
- Fully configurable units with numerous options and accessories
- Compact design suitable for installation in small spaces close to the machine tool
- Structure designed for handling by eyebolts
- Axial fans with speed control (optional)
- 10 bar gear pump (optional)
- Zero oil pressure gauge – 25 bar in glycerine
- Automatic hydraulic bypass valve set at 10 bar
- The structure and design ensure complete accessibility to internal components for easy maintenance

Available Versions

- Direct exchange version with plate evaporator
- Direct exchange version with plate evaporator and gear pump
- ORA Process Chillers do not fall under the applicability of the regulations MT (Medium Temperature – EU 2015/1095) and HT (High Temperature – EU 2016/2281)
- Working range of the chilled fluid: +13°C ÷ +30°C



ORA20-34-43-58-70



CODE	M.U.	ORA20	ORA34	ORA43	ORA58	ORA70
Cooling capacity (1)	W	2100	3400	4300	5800	7000
Absorbed power (2)	W	600	1200	1300	1500	1900
Refrigerant Gas		R134a	R134a	R134a	R407C	R407C
Refrigerant Gas charge	kg	0.7	1.1	0.8	2.0	2.2
Cooling circuits/Compressors	N°	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
Power Supply	V-Hz	400-3-50 (460-3-60)	400-3-50 (460-3-60)	400-3-50 (460-3-60)	400-3-50 (460-3-60)	400-3-50 (460-3-60)
Auxiliaries feed	VAC	230 (24)	230 (24)	24	24	24
Connections		Morsettiera				
Fan Type/N°		Assiale /1				
Condenser fan air flow (free)	m³/h	1200	1800	1800	4100	4100
Total fan absorbed power	W	150	90	90	160	160
Hydraulic connections	Ø	½"	¾"	¾"	¾"	¾"
Noise Level (3)	dB(A)	44	45	45	48	52
Height x Width x Depth	mm	720x420x580	1146x570x740	1146x570x740	1146x570x740	1146x570x740
Shipping weight	kg	80	100	115	115	52

OPTIONAL PUMP	M.U.	ORA20	ORA34	ORA43	ORA58	ORA70
Pump absorbed power	W	370	370	370	550	550
Nominal flow	l / min	8,5	16	16	25	25
Available nom. head	bar	10	10	10	10	10

(1) Referred to oil ISO VG 32 at conditions inlet/outlet Temperature 38/30°C, ambient 32°C

(2) Referred to the compressor only at the following conditions: oil Temperature inlet/outlet 38/30°C, ambient Temperature 32°C

(3) Sound pressure level referred to free field at distance of 10m EN ISO 9614-2

ORA95-A3-A6



CODE	M.U.	ORA95	ORAA3	ORAA6
Cooling capacity (1)	W	10000	13000	16000
Absorbed power (2)	W	2600	3200	4100
Refrigerant Gas		R407C	R407C	R407C
Refrigerant Gas charge	kg	3,0	4,5	4,1
Cooling circuits/Compressors	N°	1 / 1	1 / 1	1 / 1
Power Supply	V-Hz	400-3-50 (460-3-60)	400-3-50 (460-3-60)	400-3-50 (460-3-60)
Auxiliaries feed	VAC	24	24	24
Connections		Morsettiera		
Fan Type/N°		Assiale /1		
Condenser fan air flow (free)	m³/h	9700	9700	9700
Total fan absorbed power	W	780	780	780
Hydraulic connections	Ø	1"	1"	1"
Noise Level (3)	dB(A)	58	58	62
Height x Width x Depth	mm	1500x735x926	1500x735x926	1500x735x926
Shipping weight	kg	200	220	250

OPTIONAL PUMP	M.U.	ORA95	ORAA3	ORAA6
Pump absorbed power	W	750	1500	1500
Nominal flow	L/min	38	50	50
Available nom. head	bar	10	10	10

(1) Referred to oil ISO VG 32 at conditions inlet/outlet Temperature 38/30°C, ambient 32°C

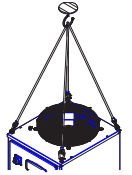
(2) Referred to the compressor only at the following conditions: oil Temperature inlet/outlet 38/30°C, ambient Temperature 32°C

(3) Sound pressure level referred to free field at distance of 10m EN ISO 9614-2

Accessories

Eyebolt

Stulz chillers are equipped with eyebolts for safe lifting operations



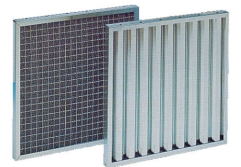
Wheels

For the handling of chillers is available a special wheel kit, consisting of loose parts required for the installation: two fixed wheels, two revolving wheels.



Air Filter

The installation of the filter prevent clogging of the condenser coil and the decreased efficiency of the chiller. The filters are washable and movable. The air filter is composed of a metal structure and a filtering body in polyurethane (for dusty environments) or aluminium (for environments with oily fumes).



Water Filter

The filter has to be installed in the chiller return pipe of the fluid, to protect the evaporator from any accumulation of processing residues. The filter is specific for each chiller, dimensioned according to the needs of filtration limit for the evaporator.



Flow Switch

The flow switch has to be installed on the chiller return pipe and must be electrically connected to the chiller to report any absence of fluid circulation.



Wall mounting kit

Supports for wall mounting of the cooler.
Maximum allowable weight of 140 kg
Only for WLA Compact



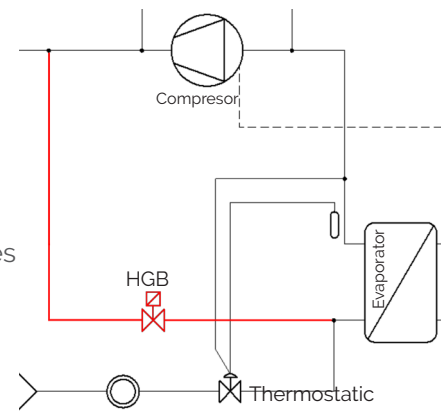
Optional

Laser Pack

Two kits are available:

- Laserpack 1K, to bring the precision from +/-2K to +/- 1K
- Laserpack 0,5K, to bring the precision from +/-2K to +/-0,5K

In both the kits are removed all ferrous parts that could release damaging particles in contact with the fluid.



Ambient following

It is possible to adjust the discharge temperature from cooler, following the ambient temperature with a fixed differential between the reading temperature and the setpoint of the fluid, preventing the drift to unwanted values. The kit comes with an external temperature probe, already connected to Stulz electronic controller.

Under user installation

The installation of the chiller in a lower level than the user requires the adoption of special devices to prevent emptying of the circuit when the pump stops. The kit is composed of a check valve installed in the discharge line and a normally closed solenoid valve connected to the pump and installed on the return line.

Multipolar connector

Pair of female-male electrical connectors for power supply quick connection. the female connectors are supplied already installed. IP65 protection degree.

Preheater

The preheater can be use to increase the fluid temperature in case of need (eg: processing cycle, ambient temperature). It is installed directly in contact with the fluid.

Electrical level Indicator

An electromagnetic level switch is installed on the lid of the tank to verify the presence of the fluid in the tank. A fluid lack activates an alarm that blocks the cooler to avoid damage to major components of the hydraulic/oleodynamic circuit and freezing of the evaporator.

Low ambient temperature

The installation in places that can reach temperature below 15°C needs a kit of low temperature environment. The kits consist of:

- -5°C, On/Off partialization system of the fan speed.
- -10°C, partialization system of the modulating fan.

The insulation of fluid pipes is not considered.

Fluid low temperature

For use at low temperatures (up to -5°C) are required:

- thermal insulation of fluid pipes and components in direct contact with the fluid
- installation of heaters in contact with the components which could be damaged by low temperatures

RAL special painting

It is possible to request a different color and painting of the chillers. There are two types of painting available to which is possible to apply the customer special RAL colour :

- paint with smooth finish
- paint with orange peel finish

Accessories

	WLA12 WLA15 WLA22	WLA23 WLA30 WLA34 WLA44	WRA35 WRA45 WRA58 WRA70 WRA85	WRA95 WRAA3 WRAA6	WRAA8 WRAA4 WRAA8 WRAA2	WRAC8 WRAD8	WLA8 WLA8	WLA10 WLA10 WLA17	WRA95	ORA20	ORA34 ORA43 ORA58 ORA70	ORA95 ORA43 ORA43 ORAA6
Polyurethane air filter with aluminum net	A_...FP_ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> (A)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aluminum air filter, thickness 14mm	A_...FM_ <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/> (A)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flow Switch	A_...FL_ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water Filter	A_...FW_ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Lifting kit with eyebolt	A_...EB_ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wheels Kit	A_...WH_ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wall mounting kit max 140 kg	A_...WM_ <input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Standard
 Not Available
 Optional
 (A) Condenser coil protective grill

Optional

	WLA12 WLA15 WLA22	WLA23 WLA30 WLA34 WLA44	WRA35 WRA45 WRA58 WRA70 WRA85	WRA95 WRAA3 WRAA6	WRAA8 WRAB4 WRAB8 WRAC2	WRAC8 WRAD8	WLAG2 WLAH8	WLAJ0 WLAJ0 WLAJ7	WRI95	ORA20	ORA34 ORA43 ORA58 ORA70	ORA95 ORA43 ORA70 ORAA6
Non Ferrous Unit With Temperature Tolerance +/- 0.5K And Low Temperature Device Modulating	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non Ferrous Circuit With Tolerance +/- 1K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Automatic Bypass	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Flow switch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multipolar Connector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electric Level Indicator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Non Ferrous Hydraulic Circuit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Standard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Not Available	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Optional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Only for configuration with pump	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Signal on terminal (doesn't stop the pump)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Optional

	WLA12 WLA15 WLA22	WLA23 WLA30 WLA34 WLA44	WRA35 WRA45 WRA58 WRA70 WRA85	WRA95 WRAA3 WRAA6	WRAA8 WRAA4 WRAA8 WRAA2	WRAC8 WRAD8	WLAAC8 WLAAD8	WLAG2 WLAH8	WLAJ0 WLAJ0 WLAJ7	WRI95	ORA20	ORA34 ORA43 ORA58 ORA70	ORA95 ORA43 ORA43 ORA46
High Pressure Pump	O_---PH_ x	x	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	x	x	x
Medium Pressure Pump	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	x	x	x	x	x
Preheater	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	x	x	x
Under User Installation	x	x	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	x	x	x
Ambient Following	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	x	x	x
Low Temperature Device On/Off -5°C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	x	x	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low Temperature Modulating Device -10°C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Standard	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Not Available	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Optional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Optional

	WLA12 WLA15 WLA22	WLA23 WLA30 WLA34 WLA44	WRA35 WRA45 WRA58 WRA70 WRA85	WRA95 WRAA3 WRAA6	WRAA8 WRAA4 WRAA8 WRAA2	WRAC8 WRAD8	WLA8 WLA8	WLAG2 WLAH8	WLA10 WLA10 WLA17	WRI95	ORA20	ORA34 ORA43 ORA58 ORA70	ORA95 ORA93 ORAA6
Outdoor Low Temperature Device On/ Off -5°C	O_---OM_ <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Outdoor Low Temperature Modulating Device -10°C	O_---OL_ <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Special Ral Painting Orange Peel	O_---PO_ <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special Ral Painting Smooth	O_---PS_ <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anti-Dust Tank At Atmospheric Pressure	O_---ST_ <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/> Standard	<input checked="" type="checkbox"/> Not Available	<input type="checkbox"/> Optional										

Electronic controllers

The electronic controllers ensure an efficient and correct operation of the chillers. The electronic controller has a software to command and verify the working of fans, compressors, pumps. Moreover the electronic controller reads the value of the temperature by the probes, the pressures of the cooling circuits and the flow by the flow switch.

The electronic controller has "ON-OFF remote" relay to put in standby or wake up the chiller. Also it has an warning relay, an general allarms relay, and (if installed) a flow signal.

For some electronic controllers is also available the ModBus protocol.

Tecnologic TLZ12



Carel EASY



Carel IR33



Carel µChiller 2 SE



STULZ Sec.blue



Dixell XW07K



	Tecnologic TLZ12	Carel Easy	Carel IR33	Carel µC2SE	Stulz C2020	Dixell XW05K
Outdoor	✓	✓	✓	✓	✓	✓
Protection Degree	IP65	IP65	IP65	IP55	IP30 /IP54	IP65
Dimensions	86x43x64 mm	81x33x39 mm	81x33x39 mm	75x33x74 mm	82x214x26 mm 111x239x26 mm	60x130x30 mm
Display	3 digit	3 digit	3 digit	3 digit	graphical display (blue-white)	3 digit
Max N° Refrigerant Circuits	1	1	1	1	2	1
Max N° Compressors	1	1	1	2	3 + 3	1

Certifications

LIQUID CHILLER	CE	EAC	UL LISTED	SB US
WLA Compact 12-15-22-23-30-34-44	✓	✗	○	○
WRA Vertical 35-45-70-85	✓	✗	○	○
WRA Vertical 95-A3-A6	✓	✗	○	○
WRA Vertical A8-B4-B8-C2	✓	✗	○	○
WRA Vertical C8-D8	✓	✗	○	○
WLA Precision C8-D8-G2-H8	✓	✗	○	○
WLA Precision J0-L0-M7	✓	✗	○	○
WRI 95	✓	✗	✗	✗
ORA 20-34-43-58-70	✓	✗	○	○
ORA 95-A3-A6	✓	✗	○	○
WPA Techno	✓	✓	on request	on request
WSA Techno	✓	✓	on request	on request
WSW Techno	✓	✓	on request	on request

✓ Standard ✗ Not Available ○ Optional

Correction factors

Correction Factors To Calculate The Cooling Capacity At Different Working Conditions WLA/WRA

Air Temperature	°C	15	20	25	27	30	32	35	40	45
F1 correction factor		1,15	1,12	1,07	1,05	1,02	1	0,96	0,89	0,81
Water leaving temperature	°C	8	10	15	20	25				
F2 correction factor		0,89	0,93	1	1,05	1,15				
Glycol	%	0	10	20	30	40				
F3 correction factor		1	0,99	0,98	0,97	0,96				

To calculate the cooling capacity at different conditions multiply the nominal cooling capacity P at condition (1) by the correction factors: $P \times F_1 \times F_2 \times F_3$

The cooling capacity calculated with the correction factors is estimated

Working limits: reference to the technical features

Protection Degree

IP classification

1 digit	Protection from solid foreign objects	2 digit	Protection against water ingress
0	No protection	0	No protection
1	Protection against the penetration of solid foreign objects with a diameter ≥ 50 mm	1	Protection against dripping water
2	Protection against the penetration of solid foreign objects with a diameter $\geq 12,5$ mm	2	Protection against dripping water when tilted up to 15°
3	Protection against the penetration of solid foreign objects with a diameter $\geq 2,5$ mm	3	Protection against spraying water
4	Protection against the penetration of solid foreign objects with a diameter ≥ 1 mm	4	Protection against splashing of water
5	Dust protection	5	Protection against water jets
6	Dust-tight	6	Protection against powerful water jets

NEMA ratings

TYPE	
4	For indoor or outdoor use, protected against windblown dust, rain, splashing water and sprayed water; also protected against external formation of ice on the enclosure
4X	Enclosures constructed for indoor or outdoor use protected against windblown dust and rain, splashing water, sprayed water and corrosion; also protected against external formation of ice on the enclosure
12	Enclosures constructed for indoor use protected against falling dirt, circulating dust and dripping, non-corrosive liquids

COSMOTEC

Industrial Cooling

STULZ S.p.A.
Via E. Torricelli 3
37067 Valeggio sul Mincio (VR)
Tel. +39 045.6331600
Fax +39 045.6331635

STULZ S.p.A. reserves the right to update the characteristics of the products (data/drawings) without notice. Any modification or print error won't entitle the reader to disputes.

WWW.COSMOTEC.IT
info@cosmotec-cooling.com

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