WONE

WATER-COOLED CHILLER / HEAT PUMP

R290 / R1270

WONE

Indoor and outdoor installation

Maximum flow temperature[1]: 65 °C (75 °C)

Cooling capacity range[2]:

from 40 kW to 234 kW

Heating capacity range[3]:

from 50 kW to 290 kW



[1] Up to 75 °C available on request

[2] Evaporator inlet/outlet water temperature 15/10 °C

[3] Condenser inlet/outlet water temperature 40/45 °C

EN 378 compliant
enclosed housing

FRIGOPLUS
NATURAL COOLING & HEATING

R290 R1270

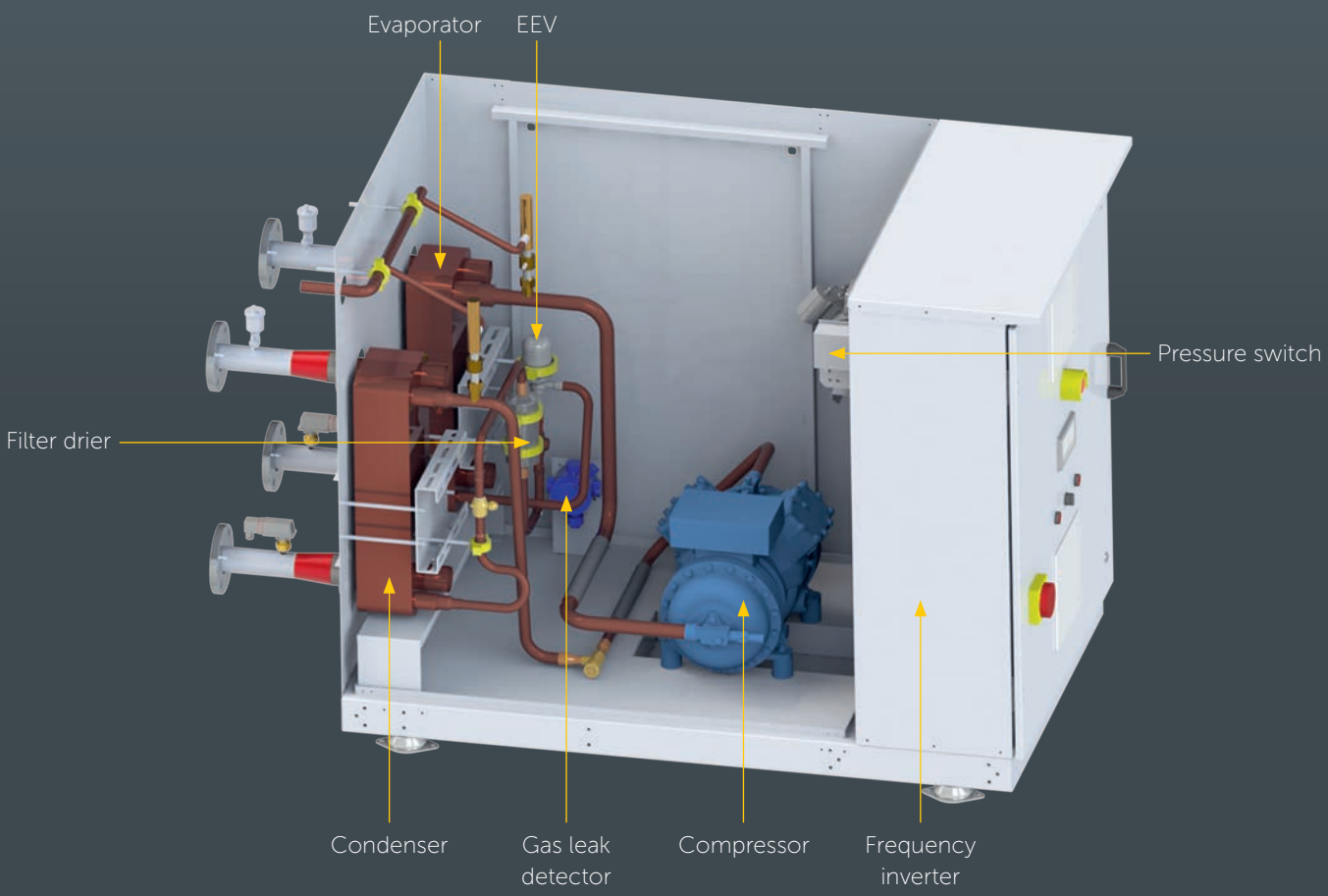
WONE

WATER-COOLED CHILLER / HEAT PUMP

WONE series consists of high-efficiency water-cooled units of compact design, suitable for indoor or outdoor installation. They are designed to meet heating and cooling demands from small to medium sized systems.

REFRIGERATION CIRCUIT

- Equipped with a semi-hermetic reciprocating compressor
- Brazed plate heat exchangers – Evaporator and condenser of highest quality and performance
- Electronic expansion valve (EEV)
- Selected ATEX-Certified components available on request



EN 378 compliant:

✓ Enclosed housing - All refrigerant circuit components installed inside the housing

✓ Safety strategy: refrigerant gas leak detector + differential air pressure switch + ATEX fan

✓ Refrigerant charge below 4,9 kg for indoor installation purposes

HYDRONIC CIRCUIT

Standard equipment:

- Stainless steel piping with thermal insulation
- Mechanical flow switches
- Drain valves
- Air vent valves
- Temperature probes



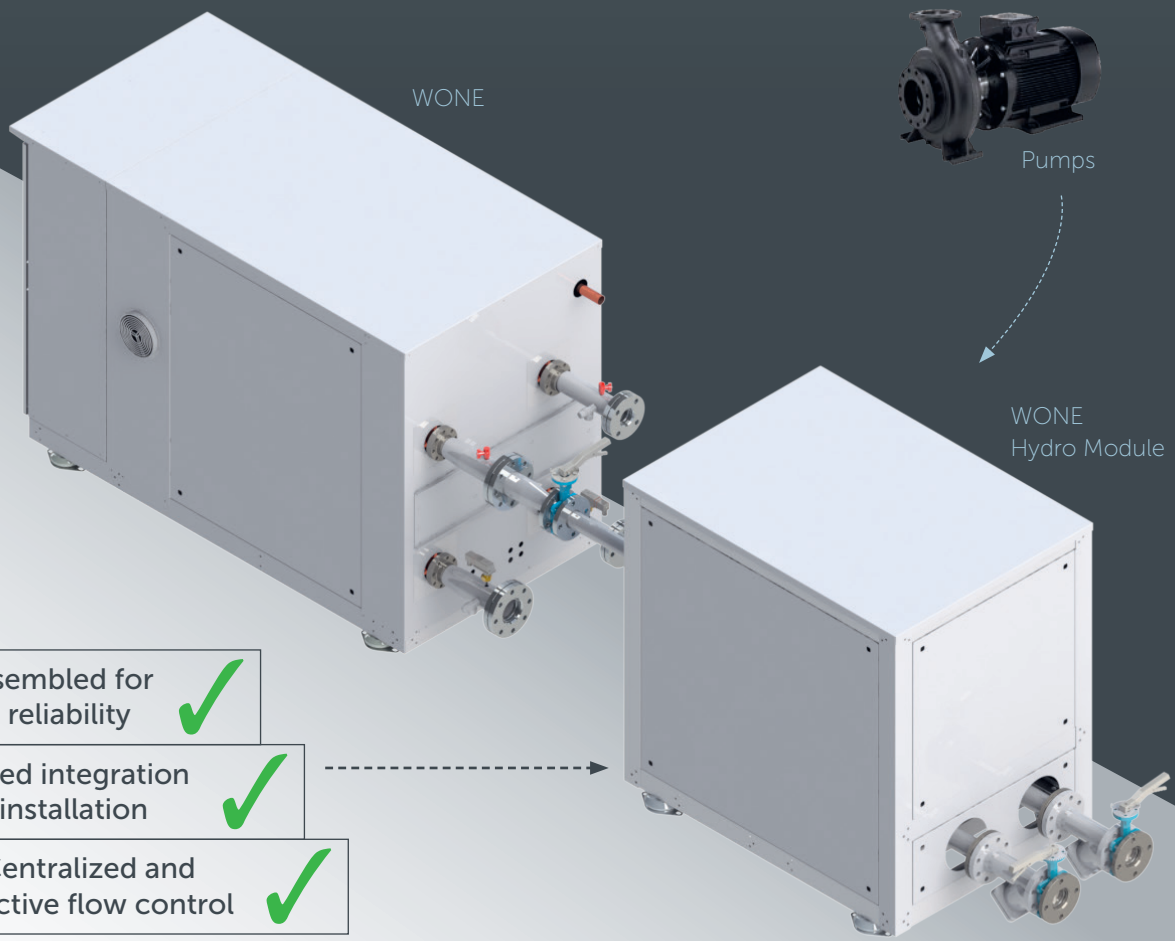
HYDRO MODULE

Standardized Hydro module:

- Primary pumps
- Buffer tank up to 2500 L
- Secondary pumps
- 3-way valve
- Flow meter

WONE Hydro Module:

- Only primary pumps (cold-side & hot-side)
- Designed to match the WONE unit footprint
- Simplified installation

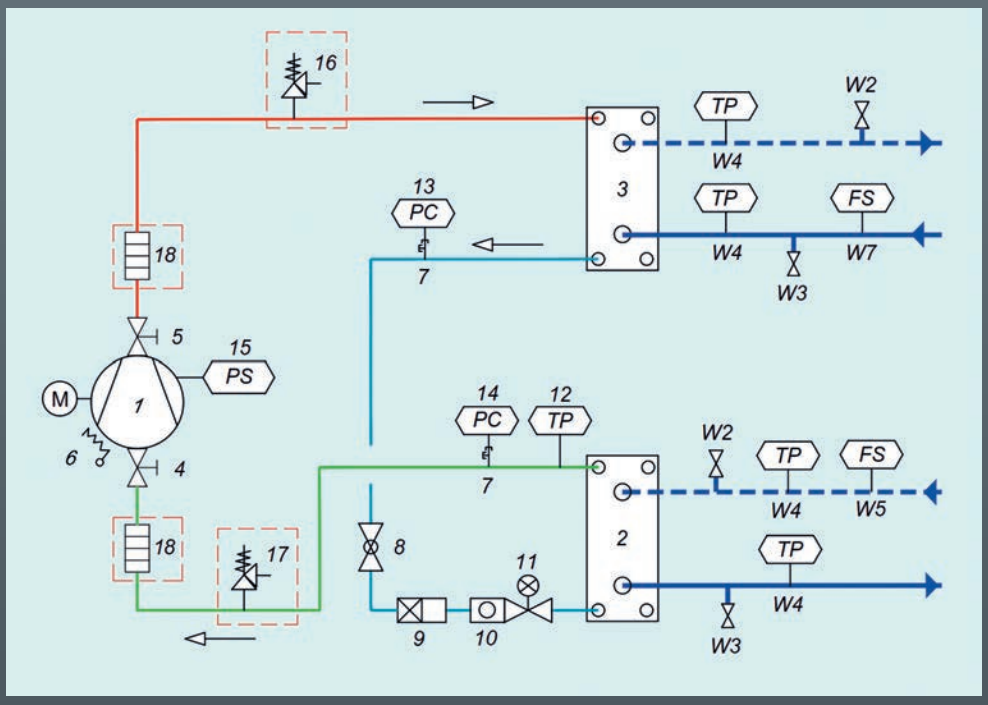


Factory-assembled for improved reliability ✓

Simplified integration and installation ✓

Centralized and effective flow control ✓

SIMPLIFIED P&ID



Pos.	Part name
1	Compressor
2	Evaporator (BPHE)
3	Condenser (BPHE)
4	Rotalock valve LP
5	Rotalock valve HP
6	Crankcase heater
7	Tee access fitting
8	Shut-off valve
9	Filter drier
10	Sight glass
11	El. expansion valve
12	Temperature probe
13	Pressure probe HP
14	Pressure probe LP
15	Pressure switch
16	Safety valve HP
17	Safety valve LP
18	Anti-vibration tube
20	Suction separator
W2	Air vent valve
W3	Drain valve
W4	Temperature probe
W5	Flow switch

ECOLOGY

Natural refrigerant: propane - R290

It belongs to the group of hydrocarbons with GWP_{100} = 0,02 which completely exempts it from the restrictions prescribed by the F-gas Regulation (EU) 2024/573.

ENERGY EFFICIENCY

Thanks to the ideal thermodynamic characteristics of the R290 refrigerant and the optimal selection of the key components of the refrigeration circuit, WONE units have high energy efficiency and meet the requirements of ECODESIGN REGULATIONS.

SAFETY & QUALITY

All units are designed in accordance with the highest safety standards and follow EN 378 for refrigerants from group A3.

- Units tested according to EN 14 511
- ISO 9001 : 2015
- Module A2 - Monitoring of Final Assessment, according to Directive 2014/68/EU

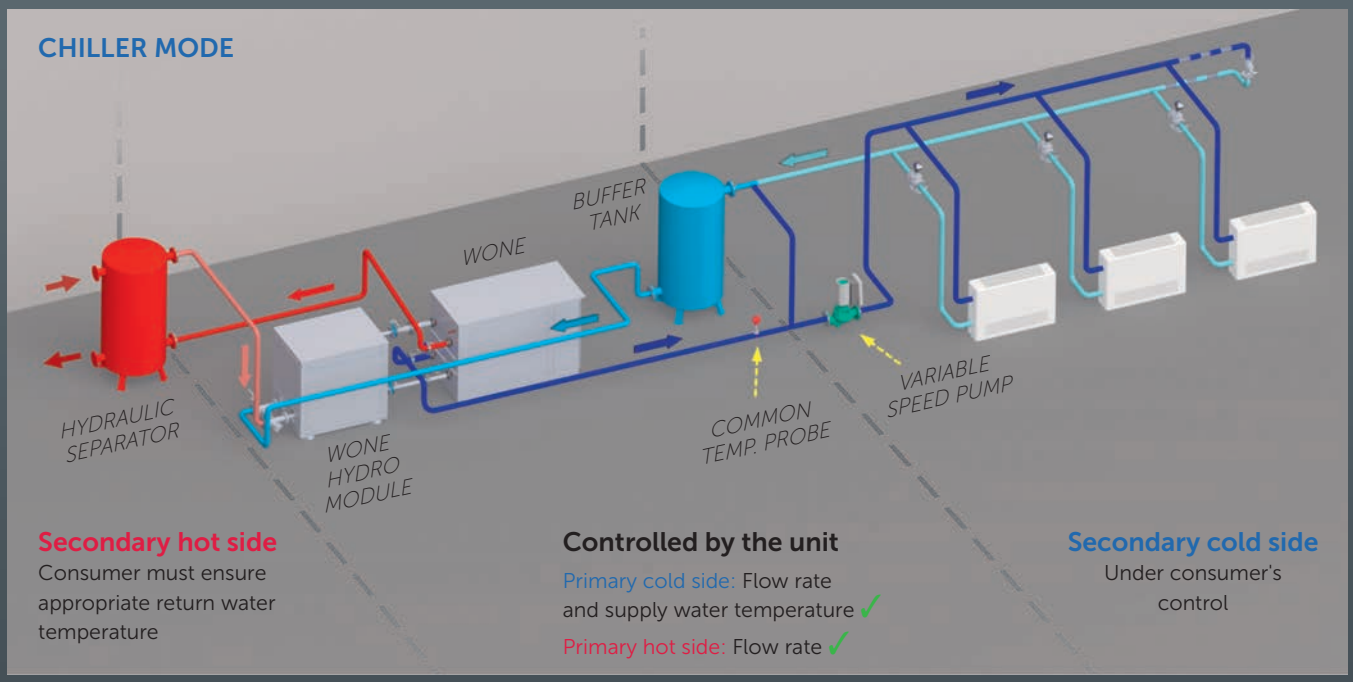
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INTEGRATION INTO HYDRONIC SYSTEMS

Whether the system consists of one or multiple units, the integrated controller regulates the supply temperature and flow rate on the controlled (i.e. regulated) side. The return temperature on the opposite side (hot side in chiller mode, cold side in heat pump mode) must be maintained by the external system within the unit's specified operating range.

CHILLER MODE

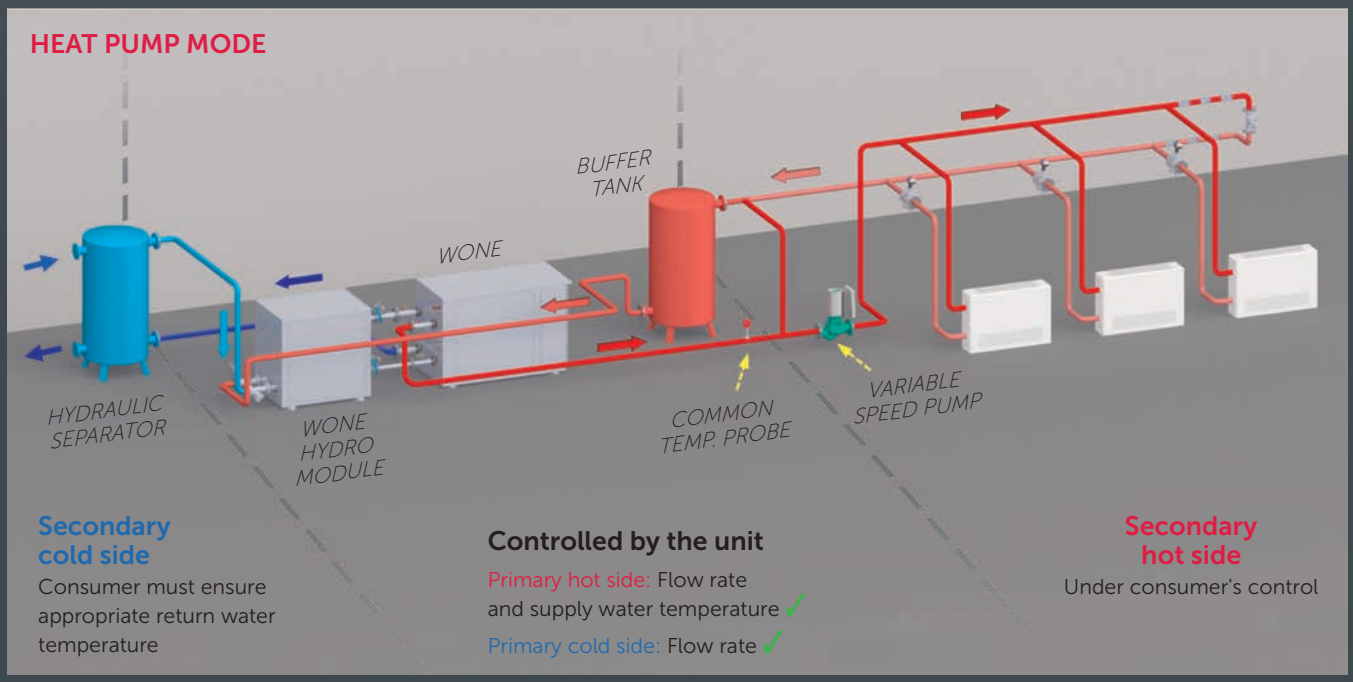


Secondary hot side
Consumer must ensure appropriate return water temperature

Controlled by the unit
Primary cold side: Flow rate and supply water temperature ✓
Primary hot side: Flow rate ✓

Secondary cold side
Under consumer's control

HEAT PUMP MODE



Secondary cold side
Consumer must ensure appropriate return water temperature

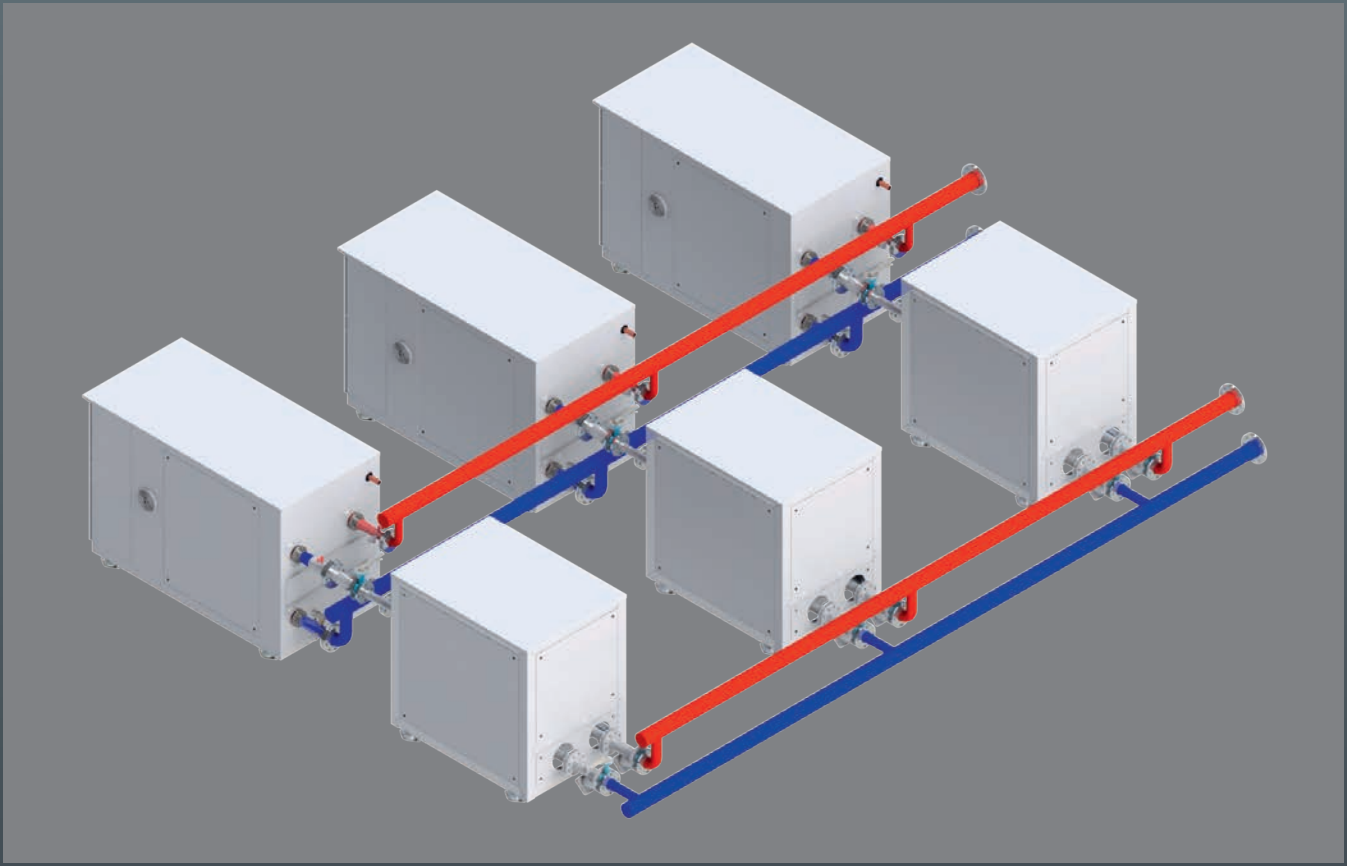
Controlled by the unit
Primary hot side: Flow rate and supply water temperature ✓
Primary cold side: Flow rate ✓

Secondary hot side
Under consumer's control

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PARALLEL CONFIGURATION

WONE units support parallel configuration, enabling scalable capacity, with the compact design further enhancing flexibility and efficiency of system layout.



Control is based on the leading-following principle, with one unit operating as the lead unit while others operate as follower units.

WHY PARALLEL?

SCALABLE CAPACITY
Capacity can be increased by simply adding units.

BUILT-IN REDUNDANCY
System remains operational even if one unit is unavailable.

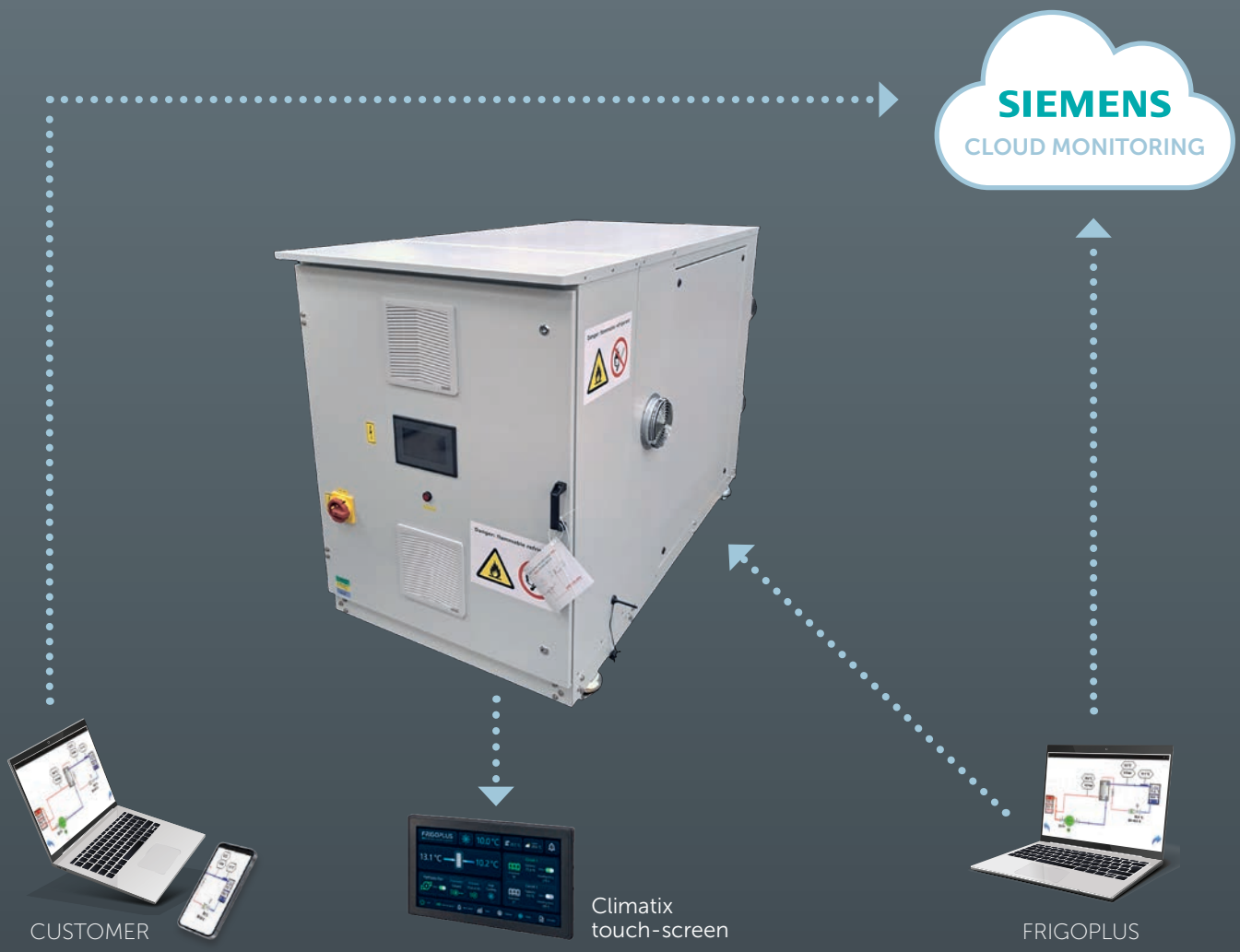
HIGH PART-LOAD EFFICIENCY
Only the required number of units operates, saving energy.

EASY SERVICE & MAINTENANCE
Individual units can be serviced with minimal impact on the system.

KEY FEATURES

- Lead/follow control strategy
- Automatic unit staging ON/OFF
- Variable-speed compressors for maximum efficiency
- Compact design saves space in the plant room
- Easy future expansion

ADVANCED MONITORING AND REGULATION



SIEMENS controller:

- Intuitive and user friendly touch-screen
- Advanced compressor frequency regulation depending on the required water temperature regime
- Electronic expansion valve & superheat control
- Primary circuit pump regulation
- Easy connectivity with standard MODBUS or BACnet protocols
- Unit protection and alarm management for safe and reliable operation

SIEMENS cloud:

Remote monitoring from a web interface:

- Live data tracking
- Data archiving
- Process variable comparison
- Energy efficiency measurement
- Alarm monitoring & diagnostics

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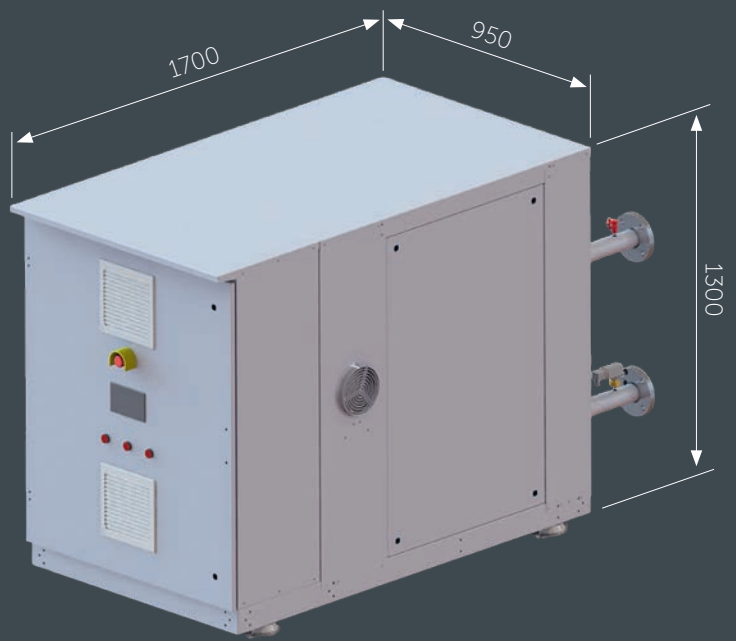
WONE B

		WN042	WN052	WN056	WN063
Cooling capacity (1)	kW	43	52	58	62
EER (1)	-	4,11	4,08	3,81	3,62
Heating capacity (2)	kW	53	65	73	79
COP (2)	-	5,11	5,08	4,81	4,62
Refrigerant charge (est.)	kg	3,1	3,2	3,2	3,2
Compressor		Semi-hermetic reciprocating			
Compressors / circuits	n°	1/1	1/1	1/1	1/1
Evaporator (cooling side)		Brazed plate heat exchanger			
Water flow rate	m^3/h	7,3	9,0	9,9	10,7
Head loss	-	Up to 40 kPa			
Type of connection	Flange	DN 50	DN 50	DN 50	DN 50
Condenser (heating side)		Brazed plate heat exchanger			
Water flow rate	m^3/h	9,2	11,3	12,6	13,8
Head loss	-	Up to 40 kPa			
Type of connection	Flange	DN 50	DN 50	DN 50	DN 50
Noise levels (3)					
Sound power lev.	dB(A)	71,0	73,0	75,0	75,0
Sound pressure lev. @10m	dB(A)	39,5	41,5	43,5	43,5
Dimensions					
Length	mm	1700			
Width	mm	950			
Height	mm	1300			
Weight (est.)	kg	510	520	540	550
Electrical characteristics					
Power supply	-	TN-S (400/3/50 + PE + N)			
Maximum current	A	22	29	36	38
Recommended dim. of power supply cable	mm^2	5x4	5x6	5x10	5x10
Capacity					
Heating capacity, B0/W45	kW	46	52	57	64
Heating capacity, B0/W55	kW	39	46	50	55

(1) - Evaporator inlet/outlet water temperature 15/10°C. Performance values determined in accordance with EN 14511.

(2) - Condenser inlet/outlet water temperature 40/45°C. Performance values determined in accordance with EN 14511.

(3) - Sound data is based on 7/40 °C operation and compressor frequency of 50 Hz.



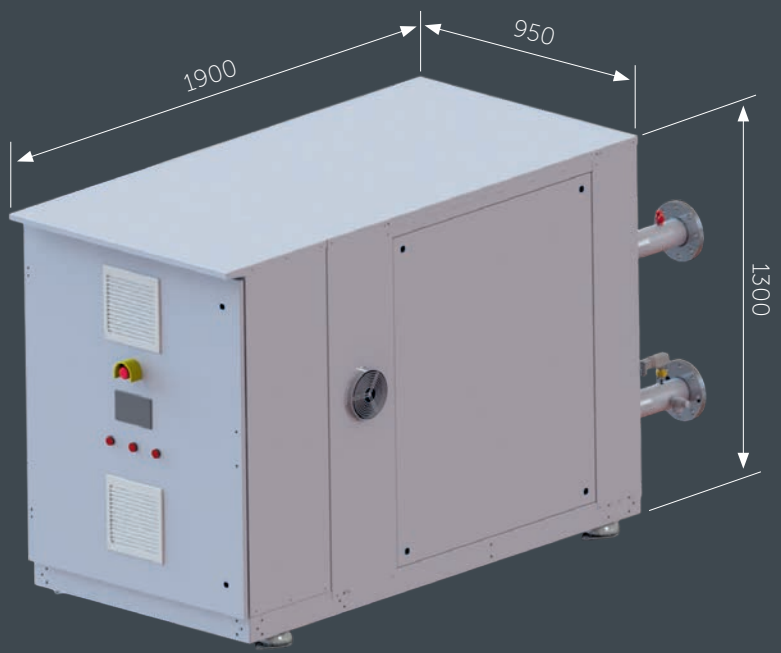
WONE C

		WN071	WN093	WN103	WN123
Cooling capacity (1)	kW	70	91	101	122
EER (1)	-	3,88	4,02	4,04	3,64
Heating capacity (2)	kW	87	113	126	156
COP (2)	-	4,88	5,02	5,04	4,64
Refrigerant charge (est.)	kg	3,2	3,4	3,5	4,2
Compressor		Semi-hermetic reciprocating			
Compressors / circuits	n°	1/1	1/1	1/1	1/1
Evaporator (cooling side)		Brazed plate heat exchanger			
Water flow rate	m^3/h	12,0	15,6	17,3	21,0
Head loss	-	Up to 50 kPa			
Type of connection	Flange	DN 50	DN 50	DN 50	DN 65
Condenser (heating side)		Brazed plate heat exchanger			
Water flow rate	m^3/h	15,2	19,7	21,9	27,1
Head loss	-	Up to 50 kPa			
Type of connection	Flange	DN 50	DN 65	DN 65	DN 65
Noise levels (3)					
Sound power lev.	dB(A)	74,5	77,0	78,0	79,0
Sound pressure lev. @10m	dB(A)	42,9	45,4	46,4	47,4
Dimensions					
Length	mm	1900			
Width	mm	950			
Height	mm	1300			
Weight (est.)	kg	670	690	700	730
Electrical characteristics					
Power supply	-	TN-S (400/3/50 + PE + N)			
Maximum current	A	37	43	47	70
Recommended dim. of power supply cable	mm^2	5x10	5x10	5x16	5x25
Capacity					
Heating capacity, B0/W45	kW	68	91	103	135
Heating capacity, B0/W55	kW	58	80	91	121

(1) - Evaporator inlet/outlet water temperature 15/10°C. Performance values determined in accordance with EN 14511

(2) - Condenser inlet/outlet water temperature 40/45°C. Performance values determined in accordance with EN 14511

(3) - Sound data is based on 7/40 °C operation and compressor frequency of 50 Hz.



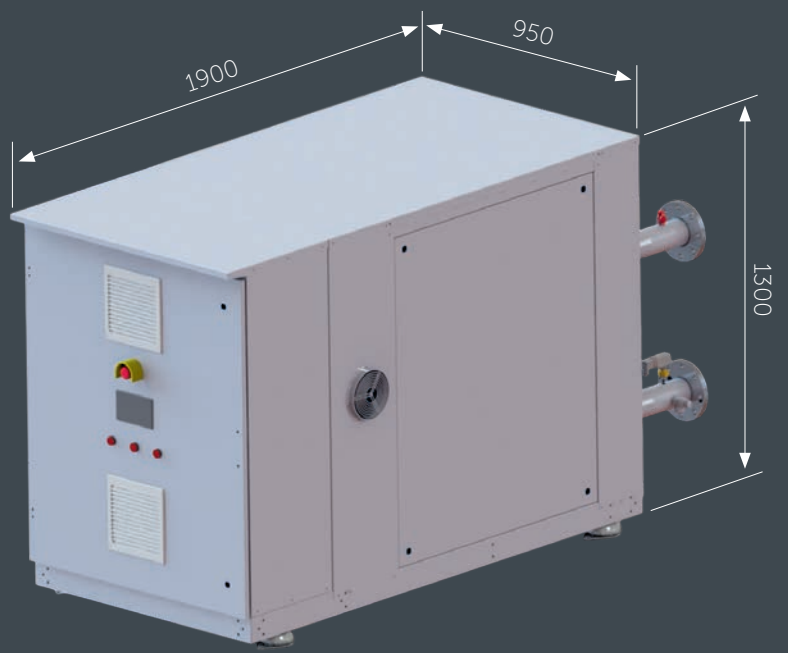
WONE D

		WN106	WN126	WN140	WN168
Cooling capacity (1)	kW	107	123	136	156
EER (1)	-	4,25	4,01	3,98	3,98
Heating capacity (2)	kW	133	154	170	195
COP (2)	-	5,25	5,01	4,98	4,98
Refrigerant charge (est.)	kg	3,9	4,2	4,2	4,9
Compressor		Semi-hermetic reciprocating			
Compressors / circuits	n°	1/1	1/1	1/1	1/1
Evaporator (cooling side)		Brazed plate heat exchanger			
Water flow rate	m^3/h	18,5	21,2	22,6	26,8
Head loss	-	Up to 60 kPa			
Type of connection	Flange	DN 65	DN 65	DN 65	DN 80
Condenser (heating side)		Brazed plate heat exchanger			
Water flow rate	m^3/h	23,1	26,8	28,6	33,9
Head loss	-	Up to 50 kPa			
Type of connection	Flange	DN 65	DN 80	DN 80	DN 80
Noise levels (3)					
Sound power lev.	dB(A)	79,0	80,5	80,0	80,0
Sound pressure lev. @10m	dB(A)	47,4	48,9	48,4	48,4
Dimensions					
Length	mm	1900			
Width	mm	950			
Height	mm	1300			
Weight (est.)	kg	990	1030	1040	1080
Electrical characteristics					
Power supply	-	TN-S (400/3/50 + PE + N)			
Maximum current	A	54	61	67	75
Recommended dim. of power supply cable	mm^2	5x16	5x25	5x25	5x35
Capacity					
Heating capacity, B0/W45	kW	113	132	135	155
Heating capacity, B0/W55	kW	100	116	119	136

(1) - Evaporator inlet/outlet water temperature 15/10°C. Performance values determined in accordance with EN 14511

(2) - Condenser inlet/outlet water temperature 40/45°C. Performance values determined in accordance with EN 14511

(3) - Sound data is based on 7/40 °C operation and compressor frequency of 50 Hz.



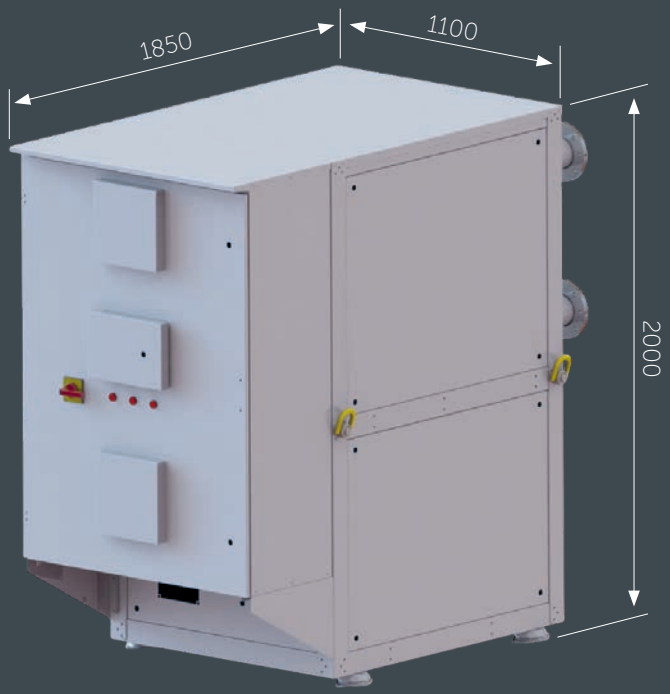
WONE E

		WN187	WN206	WN240	WN273
Cooling capacity (1)	kW	185	205	222	236
EER (1)	-	3,92	3,94	3,86	4,13
Heating capacity (2)	kW	232	257	280	295
COP (2)	-	4,92	4,94	4,86	5,13
Refrigerant charge (est.)	kg	5,4	6,0	6,8	7,4
Compressor		Semi-hermetic reciprocating			
Compressors / circuits	n°	1/1	1/1	1/1	1/1
Evaporator (cooling side)		Brazed plate heat exchanger			
Water flow rate	m^3/h	31,8	35,2	38,2	40,7
Head loss	-	Up to 60 kPa			
Type of connection	Flange	DN 80	DN 80	DN 80	DN 100
Condenser (heating side)		Brazed plate heat exchanger			
Water flow rate	m^3/h	40,3	44,7	48,6	51,3
Head loss	-	Up to 60 kPa			
Type of connection	Flange	DN 80	DN 100	DN 100	DN 100
Noise levels (3)					
Sound power lev.	dB(A)	84,5	85,0	86,0	83,0
Sound pressure lev. @10m	dB(A)	52,8	53,3	54,3	51,3
Dimensions					
Length	mm	1850			
Width	mm	1100			
Height	mm	2000			
Weight (est.)	kg	1360	1390	1400	1580
Electrical characteristics					
Power supply	-	TN-S (400/3/50 + PE + N)			
Maximum current	A	100	103	111	136
Recommended dim. of power supply cable	mm^2	5x50	5x50	5x50	5x70
Capacity					
Heating capacity, B0/W45	kW	199	202	220	219
Heating capacity, B0/W55	kW	171	175	188	198

(1) - Evaporator inlet/outlet water temperature 15/10°C. Performance values determined in accordance with EN 14511

(2) - Condenser inlet/outlet water temperature 40/45°C. Performance values determined in accordance with EN 14511

(3) - Sound data is based on 7/40 °C operation and compressor frequency of 50 Hz.



WATER COOLED CHILLERS / HEAT PUMPS

Water-cooled units are used for indirect cooling or heating for air conditioning of buildings, industrial processes, logistic centers for food retail, precision cooling of data centers etc. Heat transfer fluid can be water, mixture of water and ethylene/propylene glycol or some other secondary heat transfer fluid.

Refrigerant is propane (R290), which due to its excellent thermodynamic properties allows the use of the unit in the temperature range from -25 °C to 20 °C.

Producing natural cooling and heating systems since 2002.

FRIGOPLUS
NATURAL COOLING & HEATING

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