

Technical guide

CDU-S R02A1B

230V 1ph

1. Main product specifications
2. Product diagram
3. Cooling capacities
4. Electric power input

Nov 2020

100% CO₂ Condensing Units

ECO-FRIENDLY REVOLUTION



1. Main product specifications

		CDU-S R02A1B
		T°C evap -10°C
32°C ambient/ Maximum cooling capacity	(kW)	2,81
32°C amb / Max electric power input	(kW)	1,85
32°C amb / Minimum cooling capacity	(kW)	1,21
38°C amb / Maximum cooling capacity	(kW)	2,15
43°C amb / Maximum cooling capacity	(kW)	1,56
Seasonal performance SEPR		n/a
Maximum volume with associated evaporator	(L)	15 *
Maximum piping diameter with associated evaporator	(mm)	9,52 (3/8") **
Maximum length to evaporator	(m)	30

Evaporating temperature range (Min/Max)	(°C)	-10 ~ +5
Ambient temperature range (Min/Max)	(°C)	-25 ~ +43
Dimensions Height/Width/Depth	(mm)	670 / 950 / 281 ***
Weight	(kg)	57
Noise pressure level (1)	dB(A) @1m	46
Compressor (x1)		Inverter hermetic Scroll
Speed range	(Hz)	35 - 80
Gascooler	Type	Aluminium microchannel
Refrigerant	Type / GWP	R744 (CO2) / 1
Power supply		1ph+N / 230 VAC / 50/60 Hz
Communication	Standard	Modbus
PED	Category	1
Maximum working pressure	MWP	9MPa (LP) / 14 MPa (HP)
Valves dimensions	LP / HP	3/8" (9,52mm) / 1/4" (6,35mm)
Casing color /RAL		NW78-P (Pantone 406C)



(1) Conditions: ambient T°+32°C, Compressor Speed : 70Hz

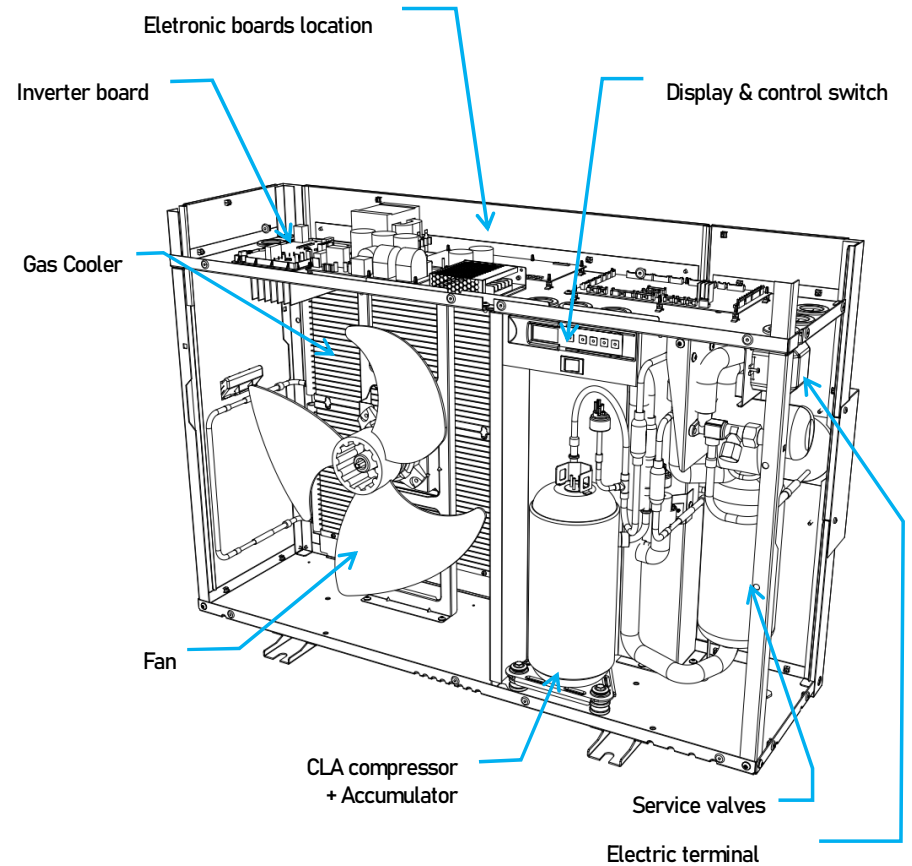
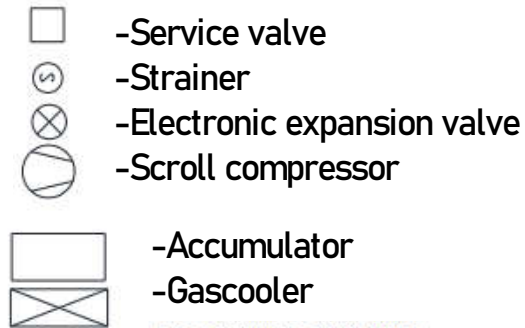
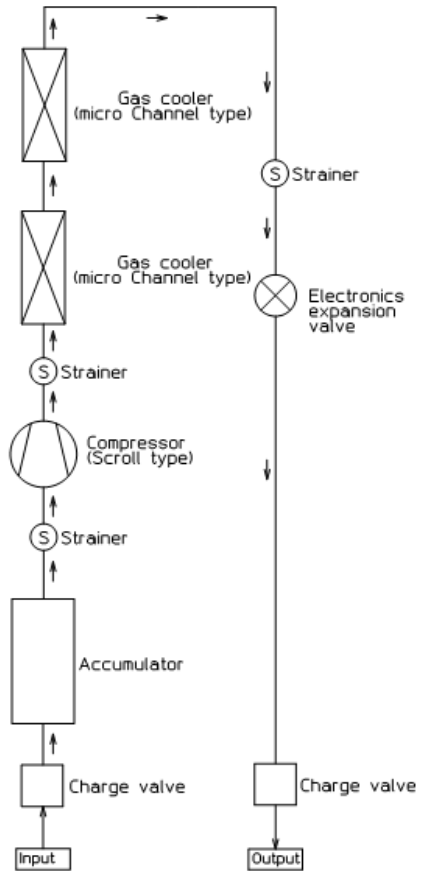
* Oil supplement PZ68-S recommended starting at 7 liters (positive)

** Piping diameter inside evaporator, connection excluded

*** without pipe cover

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2. Product diagram



3. Cooling capacities & installation sizing

1. Cooling capacities

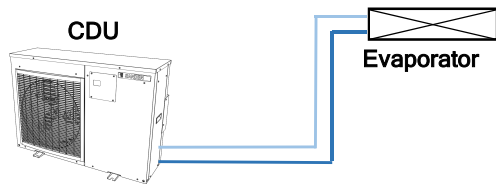
Ambient Temperature (°C)	CDU-S R02A1B Cooling Capacity (kW)			
	Evap Temperature MT (°C)			
	-10	-5	0	5
32	2,81	3,27	3,70	3,92
35	2,44	2,80	3,11	3,17
38	2,15	2,60	2,87	2,91
40	1,96	2,46	2,71	2,73

- Cooling capacity is linked to evaporating temperature and ambient temperature designed for the installation.
- We recommend to keep 10% margin between the cooling capacity and cooling needs required for the installation

2. Piping lenght and performance loss

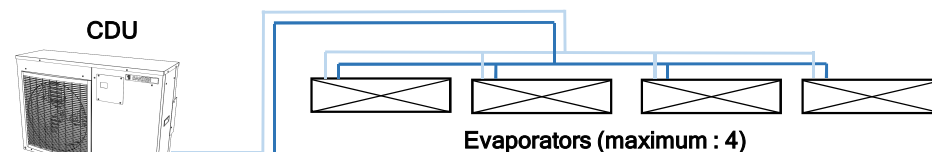
Single evaporator installation - positive temperature

Maximum distance 30m
(60m roundtrip, per loop)



Multi evaporators installation - Positive Temperature

Maximum piping length 60m roundtrip, per loop



Installation beyond these distances will result with poor performances and poor return of oil to the compressor

In addition, piping length has an impact on the cooling capacity. Opposite, the coefficients to be considered for a reduction in cooling capacity depending on the distance from the evaporator.

Length to the evaporator (m)	10	20	30
MT (positive @Te -5°C)	1,20%	2,40%	3,60%

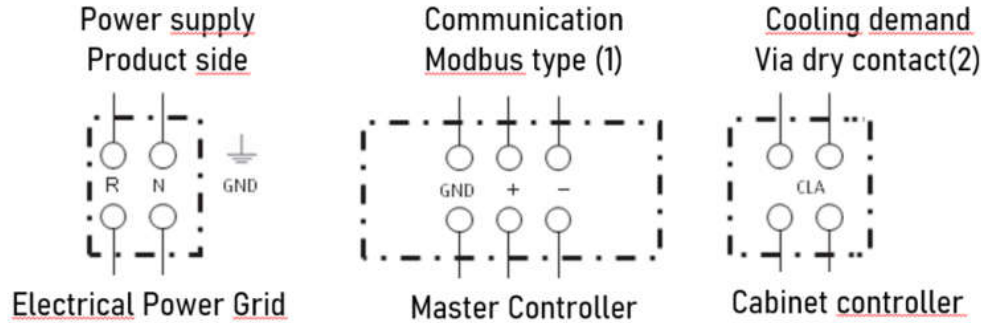
3. Evaporator volume

Medium Temperature: 15 liters maximum (bad oil return if > 15L), adding PZ68-S oil is recommended for a volume higher than 7Liters
Maximum piping diameter inside evaporator 9,52mm / 3/8" (connection excluded)

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4. Electric power input

Single Phase 230V Electrical connection



- (1) Use a shielded cable to connect the modbus
- (2) Cooling demand on dry contact

Rated Power	1,8kW
Voltage	230Vac / 1 phase
Frequency	50/60Hz
Electrical consumption	1,9kW
Rated current	8,4A
Electrical power	2,2kVA
Circuit breaker	12A