

Technical Guide

CDU-L R06A2B

400V 3ph

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Nov 2020

Unités de condensation 100% CO₂

**ECO-FRIENDLY
REVOLUTION**



1. Main product specifications

		CDU-L R06A2B	
		T°C evap -35°C	T°C evap -10°C
32°C ambient/ Maximum cooling capacity	(kW)	3,55	8,73
	<i>Per loop (1)</i> (kW)	1,78	4,37
32°C amb / Max electric power input	(kW)	3,89	5,48
32°C amb / Minimum cooling capacity	(kW)	1,74	4,23
	<i>Per loop (1)</i> (kW)	0,87	2,12
38°C amb / Maximum cooling capacity	(kW)	2,94	7,05
	<i>Per loop (1)</i> (kW)	1,47	3,53
43°C amb / Maximum cooling capacity	(kW)	2,17	5,11
	<i>Per loop (1)</i> (kW)	1,09	2,56
Seasonal performance SEPR		1,47	2,78
Maximum volume with associated evaporator	(L)	5*	15*
Maximum piping diameter with associated evaporator	(mm)	9,52 (3/8") **	9,52 (3/8") **
Maximum length to evaporator	(m)	20	30

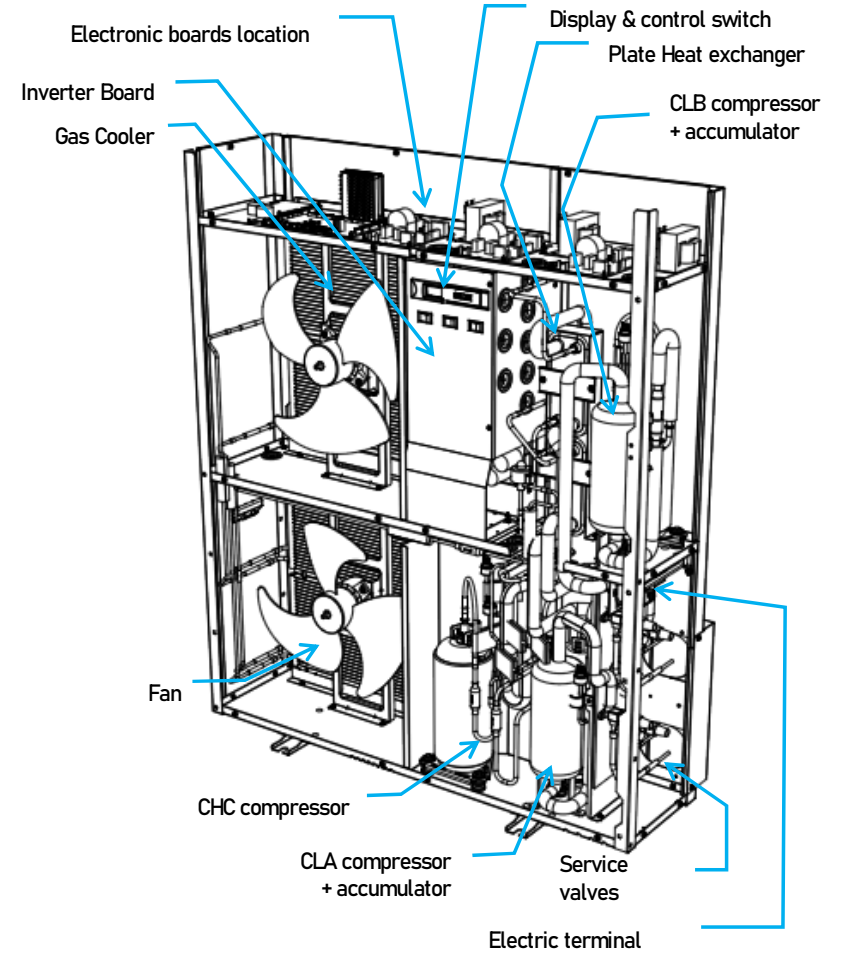
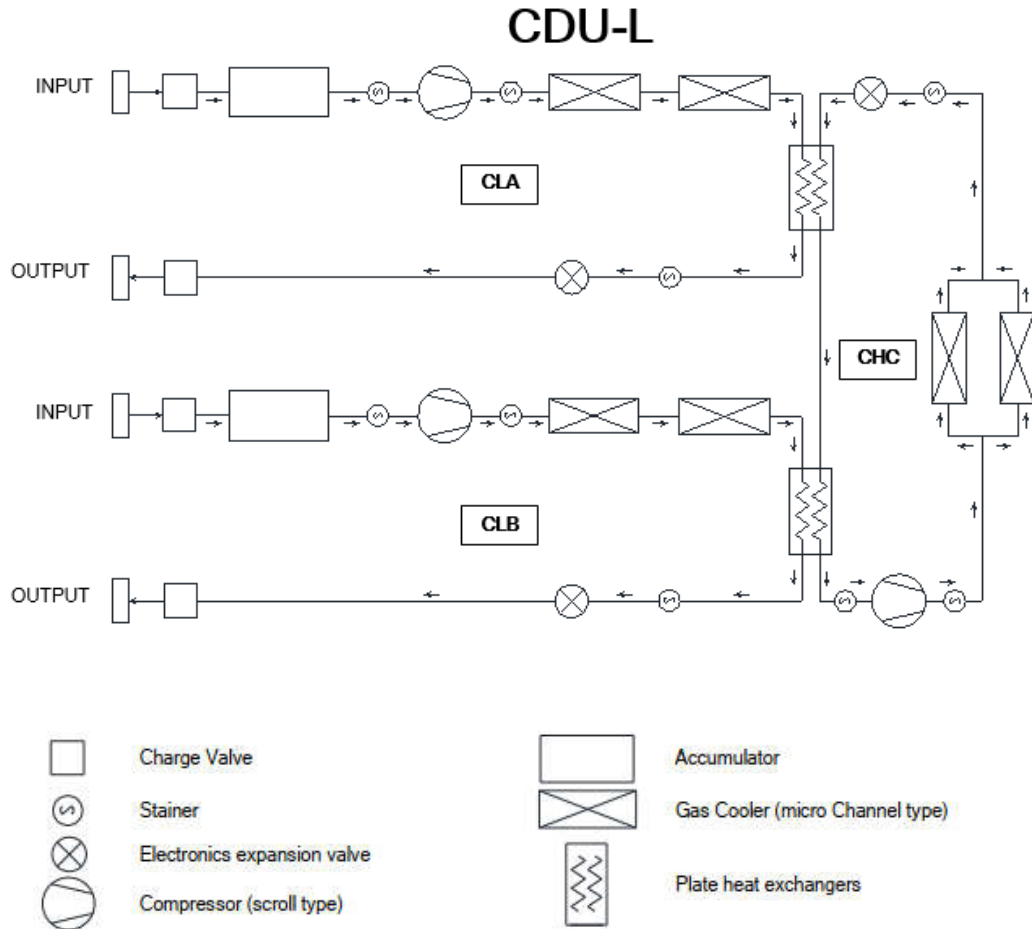
Evaporating temperature range (Min/Max)	(°C)	-35 ~ +5
Ambient temperature range (Min/Max)	(°C)	-25 ~ +43
Dimensions Height/Width/Depth	(mm)	1300 / 1100 / 281 ***
Weight	(kg)	135
Noise pressure level (2)	dB(A) @1m	49
Compressor (x3)		Inverter hermetic Scroll
<i>Speed range</i>	(Hz)	35- 80
Gascooler	Type	Aluminium microchannel
Refrigerant	Type / GWP	R744 (CO2) / 1
Power supply		3ph+N / 400 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) Cooling capacity distributed on 2 independent loops
- (2) Conditions: ambient T°+32°C, Compressor Speed : 70Hz
- *Addition of oil PZ68-S recommended starting at 3,3 liters LT & 7 liters MT
- **Piping diameter inside evaporator, connection excluded
- **without pipe cover

CDU-L R06A2B

2. Product diagram



3.1 Cooling capacities & installation sizing

1. Cooling capacity

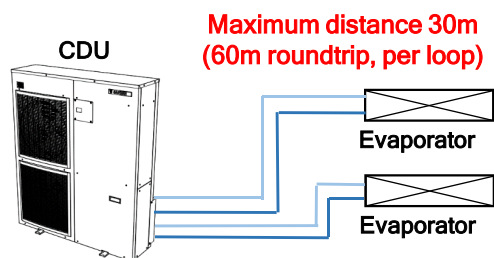
Ambient Temperature (°C)		CDU-L R06A2B Cooling Capacity (kW)						
		Evap Temperature LT (°C)			Evap Temperature MT (°C)			
		-35	-30	-25	-10	-5	0	5
32	total	3,55	4,11	4,42	8,73	9,10	9,45	9,73
	<i>per loop</i>	<i>1,78</i>	<i>2,06</i>	<i>2,21</i>	<i>4,37</i>	<i>4,55</i>	<i>4,73</i>	<i>4,87</i>
35	total	3,45	3,87	3,99	8,25	8,55	9,00	9,25
	<i>per loop</i>	<i>1,73</i>	<i>1,94</i>	<i>2,00</i>	<i>4,13</i>	<i>4,28</i>	<i>4,50</i>	<i>4,63</i>
38	total	3,34	3,62	3,56	7,77	8,00	8,55	8,77
	<i>per loop</i>	<i>1,67</i>	<i>1,81</i>	<i>1,78</i>	<i>3,89</i>	<i>4,00</i>	<i>4,28</i>	<i>4,38</i>
40	total	2,61	3,03	3,28	6,25	6,43	6,64	6,96
	<i>per loop</i>	<i>1,31</i>	<i>1,52</i>	<i>1,64</i>	<i>3,13</i>	<i>3,22</i>	<i>3,32</i>	<i>3,48</i>

- 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
- Cooling capacity distributed on two independant loops
- Consider performance loss depending on the distance between the evaporator and the condensing unit (see next page)

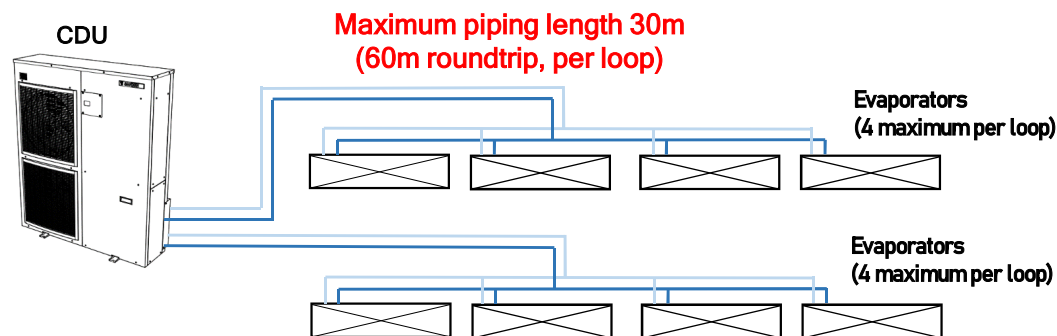
3.2 Cooling capacities & installation sizing

2. Piping length and performance loss

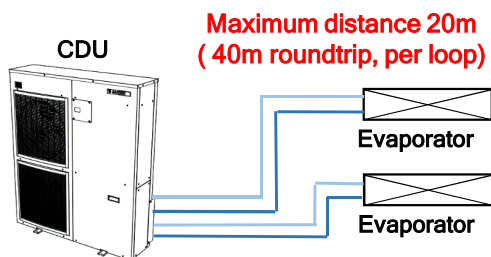
Single evaporator installation – positive temperature



Multi evaporators installation – Positive Temperature



Single evaporator installation – Low temperature



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. See below, 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%
LT (négative @Te -30°C)	2,30%	4,50%	x

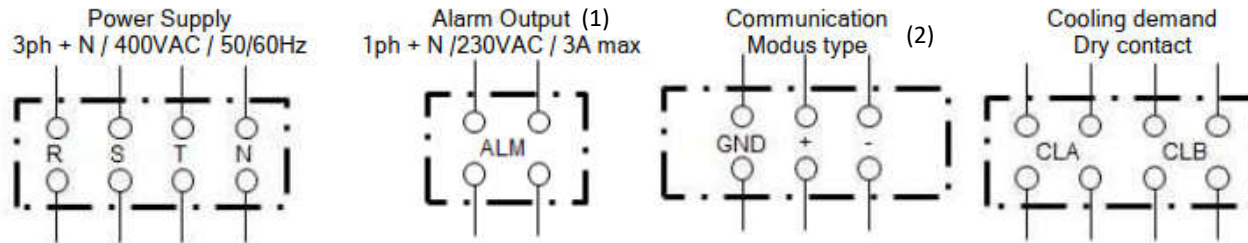
3. Evaporator volume

Medium Temperature: 15 liters maximum (risk of bad oil return if >15L. Addition of PZ68-S oil is recommended for a volume exceeding 7liters)

Low temperature: 5 liters maximum (risk of bad oil return if > 5L), Addition of PZ68-S oil is recommended for a volume exceeding 3,3 liters

Maximum piping diameter inside evaporator 9,52mm / 3/8" (connection excluded)

4. Electric power input



- (1) Alarm delivering 230V in case of error
- (2) Use a shielded cable to connect the modbus

Rated Power	5,4kW
Voltage	400Vac / 3 phases
Frequency	50/60Hz
Electrical consumption	5,5kW
Rated current	8,5A
Electrical power	6,9kVA
Circuit breaker	10A

