



SUSTAINABLE COLD SOLUTIONS

# Transcritical CO<sub>2</sub>ndensing units

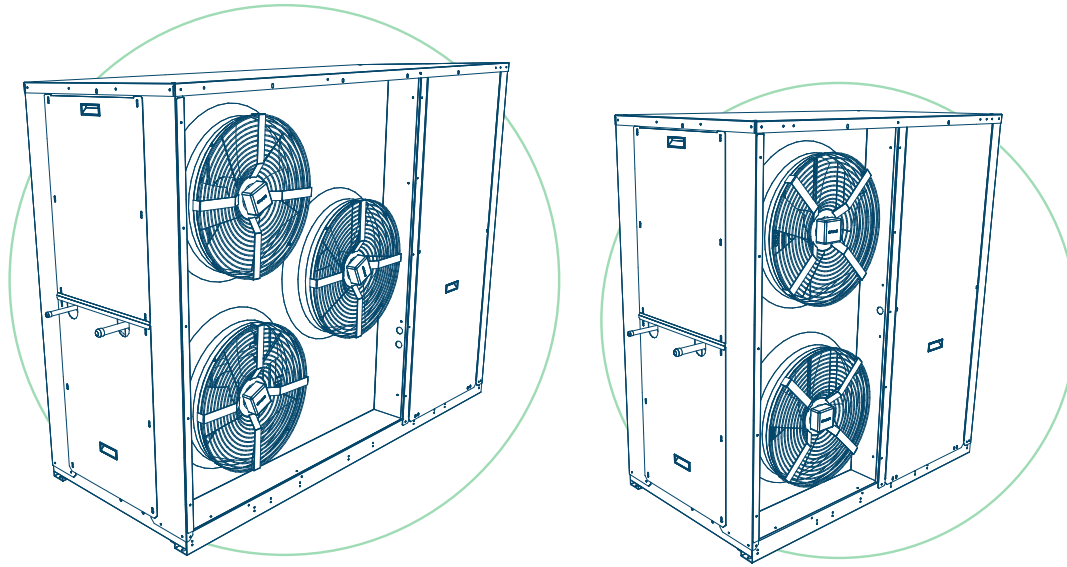


Available with  
VARISTEP  
CRII



We know the art of achieving  
*a perfect temperature*

**BEIJER REF**



Condensing unit for transcritical CO<sub>2</sub> applications equipped with BITZER/DORIN semi-hermetic piston compressors with frequency inverter or BITZER CR11, integrated air cooled gas cooler and EC fans. It is a high-efficiency solution designed for a small footprint and low noise.

**MAIN ADVANTAGES**

 <p>CO<sub>2</sub> REFRIGERANT</p>	 <p>EFFICIENT SOLUTION</p>	 <p>LOW NOISE</p>	 <p>SMALL FOOTPRINT</p>	 <p>EASY START-UP</p>	 <p>SEMI-HERMETIC RECIPROCATING COMPRESSOR</p>	 <p>GAS COOLER EQUIPPED</p>
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## Cooling Capacity

### Transcritical condensing units DX



# Standard Accessories

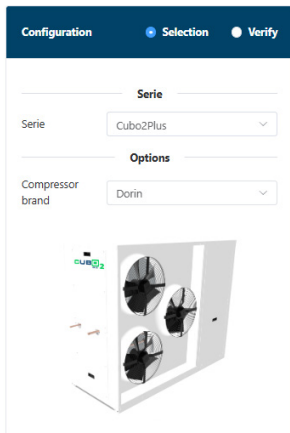
- Semihermetic reciprocating compressor
- Carel controller
- Inverter modulation for capacity control 60% - 140% or Bitzer crii for capacity modulation 10% - 100%
- Integrated gas cooler with EC fans
- Design pressure: 130 bar (high pressure side) | 80 bar (liquid line) | 80 bar (suction line)
- Power supply 400V/3+N/50Hz
- Liquid receiver 15 liters (PED III)
- K65 connections

# Accessories on Request

- Liquid receiver 37 liters (PED III)
- Adiabatic kit water spray, including controller
- RDM/Danfoss/Wurm controller
- Epoxy or Electrofin gas cooler corrosion coil protection

## Software Calculation Tool

Select your unit and check its CO2 charge



**Input data**

**Selection**

Required Capacity: kW [0,00]

Tolerance: % [10,00]

**Input**

Evaporation temperature: °C [-25,00]

Ambient temperature: °C [35,00]

**charged Calculation** Cubo2Plus UMT 055 BTDX

Ricevitore di liquido da 15 litri (PED III)

LIQUID LINE	m	kg
Liquid Line 3/8" (120 bar K65)	0,00	0,0000
Liquid Line 1/2" (120 bar K65)	0,00	0,0000
Liquid Line 5/8" (120 bar K65)	0,00	0,0000
Liquid Line 7/8" (120 bar K65)	0,00	0,0000
Sub Total Liquid		0,0000

SUCTION LINE	m	kg
Suction Line 3/8" (120 bar K65)	0,00	0,0000
Suction Line 1/2" (120 bar K65)	0,00	0,0000
Suction Line 5/8" (120 bar K65)	0,00	0,0000
Suction Line 7/8" (120 bar K65)	0,00	0,0000
Sub Total Suction		0,0000

EVAPORATORS	l	kg
Total evaporators volume	0,00	0,0000
Sub Total Evaps		0,0000

TOTALS	kg
Total Charge (minimum charge is 4kg)	4,1500
Pumpdown from EEV (MUST BE ≤ 25kg for 37L and ≤ 10 for 15L)	3,0000
Pumpdown from CU (MUST BE ≤ 25kg for 37L and ≤ 10 for 15L - if not fit ball valves on branch lines)	3,0000

STANDING CHARGE	kg
Receiver	3,0000
Gas Cooler/ PHE	1,1500
Sub Total CUBO	4,1500

**Oil approved: POE Reniso Fuchs C85E, Fuchs BSE 85 K**

AT THE FOLLOWING LINK YOU CAN CHECK THE UNIT CHARGE.

<https://cubo2calculation.scmfrigo.com/#/home>

# Technical data Cubo<sub>2</sub> Plus (a)

LOW TEMPERATURE  
Variable Speed Drive

Ambient temperature [°C]		Evaporation Temperature [°C]																
		-40				-35				-30				-25				
		Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	
min max		kW		min max		kW		min max		kW		min max		kW				
UMT 055 BTDX	Dorin CD2S 550	40	-	-	-	-	-	-	5,15	<b>10,30</b>	8,92	1,15	6,45	<b>12,90</b>	6,22	2,08		
		38	-	-	-	-	-	-	5,20	<b>10,39</b>	8,63	1,20	6,45	<b>12,90</b>	6,22	2,08		
		32	3,85	<b>7,70</b>	7,09	1,09	4,56	<b>9,12</b>	7,42	1,23	5,30	<b>10,60</b>	7,82	1,35	6,03	<b>12,06</b>	8,16	1,48
		25	3,94	<b>7,87</b>	6,40	1,23	4,60	<b>9,20</b>	6,70	1,37	5,40	<b>10,80</b>	7,02	1,54	6,21	<b>12,42</b>	7,32	1,70
		15	4,03	<b>8,05</b>	5,56	1,45	4,80	<b>9,60</b>	5,71	1,68	5,62	<b>11,24</b>	6,00	1,87	6,45	<b>12,90</b>	6,22	2,08
		5	4,18	<b>8,35</b>	4,62	1,81	4,97	<b>9,94</b>	4,82	2,06	5,80	<b>11,59</b>	4,98	2,33	-	-	-	-
N. of fans		2 x Ø 500 mm				MEPS <sup>(c)</sup>				1,80								
Weight		560 kg				Annual Energy Consumption				65817 kWh/year								
Sound pressure <sup>(b)</sup>		48 dB(A)				FLA/MRA/Pmax				18,9 A / 67,4 A / 9,4 kW								

Ambient temperature [°C]		Evaporation Temperature [°C]																
		-40				-35				-30				-25				
		Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	
min max		kW		min max		kW		min max		kW		min max		kW				
UMT 075 BTDX	Dorin CD2S 750	40	-	-	-	-	-	-	6,63	<b>13,26</b>	12,14	1,09	7,39	<b>14,78</b>	12,59	1,17		
		38	-	-	-	-	-	-	6,68	<b>13,36</b>	11,69	1,14	7,55	<b>15,10</b>	12,14	1,24		
		32	5,10	<b>10,20</b>	9,65	1,06	5,87	<b>11,75</b>	10,03	1,17	6,87	<b>13,74</b>	10,50	1,31	7,76	<b>15,53</b>	10,87	1,43
		25	5,18	<b>10,37</b>	8,58	1,21	6,03	<b>12,06</b>	8,94	1,35	6,96	<b>13,92</b>	9,29	1,50	8,12	<b>16,24</b>	9,48	1,71
		15	5,38	<b>10,75</b>	7,30	1,47	6,31	<b>12,62</b>	7,60	1,66	7,21	<b>14,42</b>	7,97	1,81	8,31	<b>16,62</b>	8,06	2,06
		5	5,53	<b>11,05</b>	6,04	1,83	6,55	<b>13,10</b>	6,26	2,09	7,53	<b>15,06</b>	6,47	2,33	-	-	-	-
N. of fans		2 x Ø 500 mm				MEPS <sup>(c)</sup>				1,85								
Weight		570 kg				Annual Energy Consumption				85345 kWh/year								
Sound pressure <sup>(b)</sup>		48 dB(A)				FLA/MRA/Pmax				23,9 A / 90,4 A / 12,1 kW								

Ambient temperature [°C]		Evaporation Temperature [°C]																
		-40				-35				-30				-25				
		Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	
min max		kW		min max		kW		min max		kW		min max		kW				
UMT 090 BTDX	Dorin CD2S 900	40	-	-	-	-	-	-	7,90	<b>15,80</b>	14,74	1,07	8,81	<b>17,62</b>	15,24	1,16		
		38	-	-	-	-	-	-	8,16	<b>16,32</b>	14,28	1,14	9,11	<b>18,23</b>	14,76	1,23		
		32	6,16	<b>12,32</b>	11,76	1,05	7,18	<b>14,36</b>	12,26	1,17	8,29	<b>16,58</b>	12,76	1,30	9,38	<b>18,76</b>	13,20	1,42
		25	6,26	<b>12,53</b>	10,46	1,20	7,38	<b>14,76</b>	10,91	1,35	8,51	<b>17,03</b>	11,32	1,50	9,62	<b>19,25</b>	11,66	1,65
		15	11,30	<b>13,01</b>	8,89	1,46	7,64	<b>15,28</b>	9,23	1,66	8,80	<b>17,59</b>	9,52	1,85	10,16	<b>20,33</b>	9,80	2,07
		5	6,70	<b>13,40</b>	7,34	1,83	7,84	<b>15,68</b>	7,57	2,07	9,11	<b>18,23</b>	7,84	2,33	-	-	-	-
N. of fans		3 x Ø 500 mm				MEPS <sup>(c)</sup>				1,87								
Weight		650 kg				Annual Energy Consumption				103011 kWh/year								
Sound pressure <sup>(b)</sup>		48 dB(A)				FLA/MRA/Pmax				29,6 A / 98,6 A / 14,8 kW								

Ambient temperature [°C]		Evaporation Temperature [°C]																
		-40				-35				-30				-25				
		Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	
min max		kW		min max		kW		min max		kW		min max		kW				
UMT 200 BTDX	Dorin CD2S 2000	40	-	-	-	-	-	-	9,79	<b>19,57</b>	16,82	1,16	11,15	<b>22,31</b>	17,64	1,26		
		38	-	-	-	-	-	-	8,50	<b>17,00</b>	15,36	1,11	9,88	<b>19,75</b>	16,28	1,21		
		32	7,39	<b>14,78</b>	13,39	1,10	8,66	<b>17,33</b>	14,08	1,23	10,07	<b>20,14</b>	14,78	1,36	11,60	<b>23,21</b>	15,52	1,50
		25	7,55	<b>15,10</b>	12,08	1,25	8,84	<b>17,68</b>	12,68	1,39	10,37	<b>20,74</b>	13,33	1,56	11,81	<b>23,62</b>	13,91	1,70
		15	7,81	<b>15,61</b>	10,44	1,50	9,21	<b>18,42</b>	10,94	1,68	10,79	<b>21,58</b>	11,45	1,88	12,39	<b>24,78</b>	11,88	2,09
		5	8,10	<b>16,20</b>	8,75	1,85	9,52	<b>19,04</b>	9,12	2,09	11,12	<b>22,24</b>	9,54	2,33	-	-	-	-
N. of fans		3 x Ø 500 mm				MEPS <sup>(c)</sup>				1,89								
Weight		655 kg				Annual Energy Consumption				125074 kWh/year								
Sound pressure <sup>(b)</sup>		50 dB(A)				FLA/MRA/Pmax				44,6 A / 183,6 A / 23,7 kW								

Ambient temperature [°C]		Evaporation Temperature [°C]																
		-40				-35				-30				-25				
		Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	
min max		kW		min max		kW		min max		kW		min max		kW				
UMT 250 BTDX	Dorin CD2S 2500	40	-	-	-	-	-	-	12,38	<b>24,77</b>	21,89	1,13	14,05	<b>28,10</b>	22,81	1,23		
		38	-	-	-	-	-	-	12,64	<b>25,27</b>	21,18	1,19	14,35	<b>28,69</b>	22,06	1,30		
		32	9,48	<b>18,96</b>	17,41	1,09	11,09	<b>22,18</b>	18,22	1,22	12,85	<b>25,69</b>	19,02	1,35	14,58	<b>29,16</b>	19,76	1,48
		25	9,74	<b>19,49</b>	15,49	1,26	11,40	<b>22,80</b>	16,31	1,40	13,04	<b>26,09</b>	16,94	1,54	14,97	<b>29,94</b>	17,58	1,70
		15	10,03	<b>20,05</b>	13,42	1,49	11,81	<b>23,62</b>	13,97	1,69	13,64	<b>27,28</b>	14,46	1,89	15,64	<b>31,27</b>	14,89	2,10
		5	10,33	<b>20,65</b>	11,17	1,85	12,13	<b>24,25</b>	11,56	2,10	14,14	<b>28,27</b>	11,99	2,36	-	-	-	-
N. of fans		3 x Ø 500 mm				MEPS <sup>(c)</sup>				1,90								
Weight		660 kg				Annual Energy Consumption				159585 kWh/year								
Sound pressure <sup>(b)</sup>		50 dB(A)				FLA/MRA/Pmax				51,6 A / 209,6 A / 27,6 kW								

## NOTES

<sup>(a)</sup> Inverter modulation from 30 to 60 Hz

<sup>(b)</sup> Based on free field area with semi-spherical sound emission in 10m distance; tolerance ± 2 dB(A)

<sup>(c)</sup> Minimum Energy Performance Standards, calculated according to Ecodesign Directive EN 2009/125/EC

# Technical data Cubo<sub>2</sub> Plus (a)

MEDIUM TEMPERATURE - DORIN

Variable Speed Drive

		Evaporation Temperature [°C]																				
		-15				-10				-5				0				5				
		Ambient temp. [°C]	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP		
UMT 036 MTDX	Dorin CD 036-2,4H	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	
		40	1,96	<b>3,93</b>	4,39	0,89	2,46	<b>4,92</b>	4,60	1,07	3,03	<b>6,05</b>	4,77	1,27	3,65	<b>7,30</b>	4,90	1,49	4,33	<b>8,65</b>	4,99	1,74
		38	2,07	<b>4,14</b>	4,32	0,96	2,59	<b>5,17</b>	4,51	1,15	3,18	<b>6,35</b>	4,66	1,36	3,83	<b>7,65</b>	4,77	1,60	4,53	<b>9,05</b>	4,83	1,88
		32	2,44	<b>4,88</b>	4,08	1,20	3,03	<b>6,06</b>	4,20	1,44	3,69	<b>7,39</b>	4,27	1,73	4,43	<b>8,85</b>	4,30	2,06	5,22	<b>10,44</b>	4,28	2,44
		25	2,90	<b>5,80</b>	4,04	1,44	3,60	<b>7,20</b>	3,98	1,81	4,39	<b>8,77</b>	4,21	2,08	5,26	<b>10,52</b>	4,23	2,49	6,21	<b>12,41</b>	4,19	2,96
		15	3,65	<b>7,29</b>	3,59	2,03	4,41	<b>8,81</b>	3,20	2,75	5,40	<b>10,80</b>	3,57	3,03	6,43	<b>12,86</b>	3,47	3,70	7,54	<b>15,08</b>	3,32	4,54
		5	4,46	<b>8,93</b>	3,00	2,97	5,41	<b>10,83</b>	2,63	4,12	6,48	<b>12,96</b>	2,78	4,67	7,66	<b>15,32</b>	2,58	5,95	8,93	<b>17,87</b>	2,31	7,75
N. of fans		2 x Ø 500 mm				MEPS <sup>(a)</sup>				2,56												
Weight		460 kg				Annual Energy Consumption				19150 kWh/year												
Sound pressure <sup>(b)</sup>		43 dB(A)				MRA/Pmax				15,9 A / 7,5 kW												
		Evaporation Temperature [°C]																				
		-15				-10				-5				0				5				
		Ambient temp. [°C]	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP		
UMT 075 MTDX	Dorin CD 4 75-4,7 H	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	
		40	4,10	<b>8,20</b>	7,71	1,06	5,01	<b>10,02</b>	8,04	1,25	5,99	<b>11,97</b>	8,28	1,45	6,98	<b>13,97</b>	8,45	1,65	7,96	<b>15,92</b>	8,52	1,87
		38	4,27	<b>8,55</b>	7,53	1,14	5,20	<b>10,40</b>	7,81	1,33	6,18	<b>12,36</b>	8,02	1,54	7,17	<b>14,33</b>	8,15	1,76	8,11	<b>16,22</b>	8,18	1,98
		32	4,81	<b>9,61</b>	6,91	1,39	5,68	<b>11,36</b>	7,08	1,60	6,51	<b>13,02</b>	7,17	1,82	7,25	<b>14,49</b>	7,16	2,02	7,89	<b>15,77</b>	7,05	2,24
		25	5,88	<b>11,77</b>	6,82	1,73	7,14	<b>14,28</b>	6,97	2,05	8,49	<b>16,98</b>	7,04	2,41	9,85	<b>19,70</b>	7,01	2,81	11,13	<b>22,25</b>	6,88	3,23
		15	7,12	<b>14,23</b>	5,86	2,43	8,41	<b>16,83</b>	5,85	2,88	9,57	<b>19,15</b>	5,74	3,34	10,43	<b>20,86</b>	5,53	3,77	11,50	<b>22,99</b>	5,22	4,41
		5	7,98	<b>15,96</b>	4,71	3,39	9,17	<b>18,33</b>	4,53	4,05	10,86	<b>21,73</b>	4,25	5,11	12,72	<b>25,44</b>	3,86	6,58	14,72	<b>29,43</b>	3,37	8,74
N. of fans		2 x Ø 500 mm				MEPS <sup>(a)</sup>				2,67												
Weight		470 kg				Annual Energy Consumption				26174 kWh/year												
Sound pressure <sup>(b)</sup>		45 dB(A)				MRA/Pmax				20,5 A / 10,4 kW												
		Evaporation Temperature [°C]																				
		-15				-10				-5				0				5				
		Ambient temp. [°C]	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP		
UMT 120 MTDX	Dorin CD4 90-6,4H	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	
		40	5,66	<b>11,32</b>	10,33	1,10	6,93	<b>13,86</b>	10,78	1,29	8,30	<b>16,60</b>	11,13	1,49	9,69	<b>19,38</b>	11,37	1,70	11,03	<b>22,05</b>	11,50	1,92
		38	5,91	<b>11,82</b>	10,08	1,17	7,21	<b>14,42</b>	10,48	1,38	8,58	<b>17,16</b>	10,78	1,59	9,94	<b>19,88</b>	10,97	1,81	11,21	<b>22,43</b>	11,04	2,03
		32	6,69	<b>13,37</b>	9,24	1,45	7,90	<b>15,80</b>	9,48	1,67	9,00	<b>18,00</b>	9,61	1,87	9,95	<b>19,90</b>	9,63	2,07	10,78	<b>21,56</b>	9,52	2,27
		25	8,10	<b>16,21</b>	9,11	1,78	9,86	<b>19,72</b>	9,33	2,11	11,73	<b>23,47</b>	9,43	2,49	13,58	<b>27,16</b>	9,41	2,89	15,20	<b>30,40</b>	9,27	3,28
		15	9,85	<b>19,71</b>	7,80	2,53	11,71	<b>23,42</b>	7,81	3,00	13,28	<b>26,57</b>	7,70	3,45	14,36	<b>28,72</b>	7,47	3,84	15,75	<b>31,49</b>	7,12	4,42
		5	11,74	<b>23,49</b>	6,27	3,75	12,55	<b>25,10</b>	6,08	4,13	14,86	<b>29,72</b>	5,79	5,13	17,38	<b>34,75</b>	5,38	6,46	20,08	<b>40,15</b>	4,88	8,24
N. of fans		2 x Ø 500 mm				MEPS <sup>(a)</sup>				2,75												
Weight		645 kg				Annual Energy Consumption				35268 kWh/year												
Sound pressure <sup>(b)</sup>		45 dB(A)				MRA/Pmax				26,3 A / 13,8 kW												
		Evaporation Temperature [°C]																				
		-15				-10				-5				0				5				
		Ambient temp. [°C]	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP		
UMT 150 MTDX	Dorin CD4 120-9,2H	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	
		40	8,09	<b>16,18</b>	14,79	1,09	9,95	<b>19,90</b>	15,46	1,29	12,01	<b>24,02</b>	16,00	1,50	14,21	<b>28,41</b>	16,40	1,73	16,45	<b>32,91</b>	16,66	1,98
		38	8,46	<b>16,91</b>	14,43	1,17	10,38	<b>20,76</b>	15,03	1,38	12,50	<b>24,99</b>	15,50	1,61	14,73	<b>29,46</b>	15,83	1,86	16,98	<b>33,95</b>	16,00	2,12
		32	9,72	<b>19,45</b>	13,24	1,47	13,61	<b>27,22</b>	16,92	1,61	15,10	<b>30,21</b>	17,08	1,77	14,13	<b>28,26</b>	13,98	2,02	17,77	<b>35,54</b>	13,94	2,55
		25	11,56	<b>23,13</b>	13,06	1,77	14,10	<b>28,21</b>	13,40	2,10	16,92	<b>33,85</b>	13,60	2,49	19,95	<b>39,91</b>	13,65	2,92	23,05	<b>46,11</b>	13,56	3,40
		15	14,10	<b>28,20</b>	11,24	2,51	17,03	<b>34,05</b>	11,30	3,01	20,22	<b>40,45</b>	11,23	3,60	23,48	<b>46,96</b>	11,05	4,25	26,44	<b>52,87</b>	10,75	4,92
		5	16,75	<b>33,51</b>	9,15	3,66	19,94	<b>39,88</b>	9,03	4,42	23,05	<b>46,10</b>	8,81	5,23	25,73	<b>51,47</b>	8,51	6,05	28,31	<b>56,61</b>	8,13	6,97
N. of fans		3 x Ø 500 mm				MEPS <sup>(a)</sup>				2,83												
Weight		560 kg				Annual Energy Consumption				51217 kWh/year												
Sound pressure <sup>(b)</sup>		44 dB(A)				MRA/Pmax				33,4 A / 18,6 kW												
		Evaporation Temperature [°C]																				
		-15				-10				-5				0				5				
		Ambient temp. [°C]	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP	Capacity [kW]	Pe	COP		
UMT 190 MTDX	Dorin CD 2000H	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	min	max	kW	COP	
		40	10,64	<b>21,29</b>	18,81	1,13	12,86	<b>25,72</b>	19,50	1,32	15,10	<b>30,21</b>	20,01	1,51	17,25	<b>28,75</b>	16,93	1,70	18,88	<b>31,47</b>	17,16	1,83
		38	11,05	<b>22,10</b>	18,27	1,21	13,25	<b>26,50</b>	18,88	1,40	15,42	<b>30,84</b>	19,31	1,60	17,44	<b>29,07</b>	16,24	1,79	18,86	<b>31,44</b>	16,38	1,92
		32	12,92	<b>25,84</b>	17,29	1,49	15,41	<b>30,81</b>	17,76	1,74	17,76	<b>35,52</b>	18,03	1,97	19,83	<b>33,05</b>	15,08	2,19	21,58	<b>35,97</b>	14,95	2,41
		25	15,23	<b>30,45</b>	16,31	1,87	18,22	<b>36,45</b>	16,62	2,19	21,08	<b>42,16</b>	16,74	2,52	22,78	<b>37,97</b>	13,64	2,78	24,42	<b>40,71</b>	13,48	3,02
		15	17,95	<b>35,91</b>	13,84	2,59	20,14	<b>40,29</b>	13,81	2,92	21,79	<b>43,58</b>	13,59	3,21	26,32	<b>43,86</b>	11,49	3,82	36,12	<b>60,20</b>	11,52	5,23
		5	19,84	<b>39,67</b>	11,05	3,59	23,73	<b>47,45</b>	10,71	4,43	28,03	<b>56,07</b>	10,20	5,50	30,99	<b>51,64</b>	9,63	5,36	35,21	<b>58,68</b>	9,68	6,07
N. of fans		3 x Ø 500 mm				MEPS <sup>(a)</sup>				2,85												
Weight		655 kg				Annual Energy Consumption				66470 kWh/year												
Sound pressure <sup>(b)</sup>		45 dB(A)				MRA/Pmax				42,4 A / 24 kW												

NOTES

<sup>(a)</sup> Inverter modulation from 30 to 60 Hz

<sup>(b)</sup> Based on free field area with semi-spherical sound emission in 10m distance; tolerance ± 2 dB(A)

<sup>(c)</sup> Minimum Energy Performance Standards, calculated according to Ecodesign Directive EN 2009/125/EC

# Technical data Cubo<sub>2</sub> Plus (a)

MEDIUM TEMPERATURE - BITZER

Variable Speed Drive

		Evaporation Temperature [°C]																				
		-15				-10				-5				0			5					
		Ambient temp. [°C]	Capacity [kW]	Pe [kW]	COP	Capacity [kW]	Pe [kW]	COP	Capacity [kW]	Pe [kW]	COP	Capacity [kW]	Pe [kW]	COP	Capacity [kW]	Pe [kW]	COP					
UMT 036 MTDX	Bitzer 2MTE-5K	40	2,85	<b>5,70</b>	5,23	1,09	3,48	<b>6,95</b>	5,93	1,17	4,19	<b>8,38</b>	6,13	1,37	4,98	<b>9,97</b>	6,29	1,58	5,91	<b>11,82</b>	6,39	1,85
		38	2,98	<b>5,97</b>	5,09	1,17	3,65	<b>7,29</b>	5,77	1,26	4,40	<b>8,81</b>	5,96	1,48	5,24	<b>10,48</b>	6,09	1,72	6,20	<b>12,40</b>	6,15	2,02
		32	3,46	<b>6,92</b>	4,64	1,49	4,24	<b>8,48</b>	5,26	1,61	5,11	<b>10,23</b>	5,37	1,91	6,03	<b>12,05</b>	5,40	2,23	6,94	<b>13,87</b>	5,36	2,59
		25	4,09	<b>8,18</b>	4,58	1,79	5,04	<b>10,08</b>	5,19	1,94	6,15	<b>12,31</b>	5,28	2,33	7,45	<b>14,90</b>	5,30	2,81	8,87	<b>17,75</b>	5,24	3,39
		15	4,97	<b>9,94</b>	3,57	2,78	6,05	<b>12,11</b>	4,03	3,00	7,19	<b>14,38</b>	4,02	3,58	8,45	<b>16,90</b>	3,96	4,27	9,80	<b>19,60</b>	3,81	5,14
		5	5,93	<b>11,86</b>	2,97	3,99	7,21	<b>14,42</b>	3,34	4,32	8,55	<b>17,11</b>	3,24	5,28	10,09	<b>20,17</b>	3,10	6,51	11,69	<b>23,37</b>	2,86	8,17
		N. of fans	2 x Ø 500 mm				MEPS <sup>(c)</sup>				2,75											
Weight	460 kg				Annual Energy Consumption				18927 kWh/year													
Sound pressure <sup>(b)</sup>	43 dB(A)				MRA/Pmax				15,9 A / 7,5 kW													
UMT 075 MTDX	Bitzer 2KTE-7K	40	4,11	<b>8,22</b>	7,88	1,04	5,05	<b>10,09</b>	8,24	1,23	6,13	<b>12,26</b>	8,54	1,44	7,35	<b>14,69</b>	8,77	1,68	8,65	<b>17,30</b>	8,91	1,94
		38	4,31	<b>8,62</b>	7,68	1,12	5,29	<b>10,58</b>	8,01	1,32	6,42	<b>12,83</b>	8,28	1,55	7,67	<b>15,33</b>	8,48	1,81	8,99	<b>17,97</b>	8,57	2,10
		32	5,00	<b>10,00</b>	7,04	1,42	6,09	<b>12,19</b>	7,27	1,68	7,25	<b>14,49</b>	7,42	1,95	8,36	<b>16,73</b>	7,49	2,23	9,37	<b>18,73</b>	7,43	2,52
		25	5,96	<b>11,92</b>	6,94	1,72	7,33	<b>14,65</b>	7,16	2,05	8,89	<b>17,78</b>	7,29	2,44	10,64	<b>21,28</b>	7,33	2,90	12,50	<b>25,00</b>	7,25	3,45
		15	7,11	<b>14,21</b>	5,58	2,55	8,48	<b>16,96</b>	5,67	2,99	9,99	<b>19,98</b>	5,70	3,51	11,64	<b>23,28</b>	5,64	4,12	13,43	<b>26,86</b>	5,50	4,88
		5	8,51	<b>17,02</b>	4,74	3,59	10,09	<b>20,18</b>	4,73	4,27	11,83	<b>23,66</b>	4,64	5,10	13,73	<b>27,47</b>	4,48	6,13	15,80	<b>31,60</b>	4,24	7,46
		N. of fans	2 x Ø 500 mm				MEPS <sup>(c)</sup>				2,78											
Weight	470 kg				Annual Energy Consumption				26966 kWh/year													
Sound pressure <sup>(b)</sup>	44 dB(A)				MRA/Pmax				20,5 A / 10,4 kW													
UMT 120 MTDX	Bitzer 4MTE-10K	40	5,39	<b>10,79</b>	10,33	1,04	6,70	<b>13,40</b>	11,02	1,22	8,13	<b>16,26</b>	11,50	1,41	9,64	<b>19,29</b>	11,78	1,64	11,18	<b>22,37</b>	11,87	1,88
		38	5,70	<b>11,39</b>	10,20	1,12	7,04	<b>14,08</b>	10,78	1,31	8,48	<b>16,95</b>	11,16	1,52	9,97	<b>19,94</b>	11,34	1,76	11,43	<b>22,87</b>	11,34	2,02
		32	6,61	<b>13,22</b>	9,53	1,39	7,88	<b>15,76</b>	9,81	1,61	9,05	<b>18,09</b>	9,92	1,82	10,10	<b>20,19</b>	9,84	2,05	11,06	<b>22,13</b>	9,63	2,30
		25	8,02	<b>16,04</b>	9,41	1,70	9,86	<b>19,71</b>	9,65	2,04	11,86	<b>23,72</b>	9,72	2,44	13,89	<b>27,79</b>	9,62	2,89	15,72	<b>31,45</b>	9,36	3,36
		15	9,26	<b>18,52</b>	7,65	2,42	11,02	<b>22,04</b>	7,73	2,85	12,95	<b>25,90</b>	7,73	3,35	15,05	<b>30,10</b>	7,64	3,94	17,33	<b>34,65</b>	7,47	4,64
		5	11,07	<b>22,14</b>	6,44	3,44	13,00	<b>26,00</b>	6,28	4,14	15,37	<b>30,74</b>	6,37	4,82	17,82	<b>35,64</b>	6,24	5,71	20,47	<b>40,95</b>	6,05	6,77
		N. of fans	2 x Ø 500 mm				MEPS <sup>(c)</sup>				2,68											
Weight	570 kg				Annual Energy Consumption				36104 kWh/year													
Sound pressure <sup>(b)</sup>	44 dB(A)				MRA/Pmax				26,3 A / 13,8 kW													
UMT 150 MTDX	Bitzer 4KTE-12K	40	8,18	<b>16,35</b>	15,20	1,08	10,13	<b>20,27</b>	15,80	1,28	12,24	<b>24,48</b>	16,32	1,50	14,44	<b>28,88</b>	16,72	1,73	16,64	<b>33,29</b>	16,96	1,96
		38	8,61	<b>17,22</b>	14,78	1,17	10,62	<b>21,23</b>	15,33	1,39	12,73	<b>25,47</b>	15,79	1,61	14,89	<b>29,78</b>	16,11	1,85	16,99	<b>33,98</b>	16,26	2,09
		32	9,80	<b>19,59</b>	13,45	1,46	11,66	<b>23,31</b>	13,82	1,69	13,35	<b>26,69</b>	14,06	1,90	14,86	<b>29,72</b>	14,11	2,11	16,25	<b>32,51</b>	13,95	2,33
		25	11,96	<b>23,92</b>	13,25	1,80	14,73	<b>29,47</b>	13,60	2,17	17,70	<b>35,41</b>	13,79	2,57	20,66	<b>41,33</b>	13,80	2,99	23,29	<b>46,58</b>	13,58	3,43
		15	13,83	<b>27,66</b>	10,80	2,56	16,41	<b>32,82</b>	11,01	2,98	19,26	<b>38,51</b>	11,10	3,47	22,38	<b>44,76</b>	11,06	4,05	25,79	<b>51,58</b>	10,85	4,76
		5	16,93	<b>33,87</b>	9,19	3,69	19,80	<b>39,61</b>	9,22	4,30	23,00	<b>45,99</b>	9,13	5,04	26,55	<b>53,09</b>	8,90	5,97	30,44	<b>60,87</b>	8,53	7,14
		N. of fans	3 x Ø 500 mm				MEPS <sup>(c)</sup>				2,74											
Weight	645 kg				Annual Energy Consumption				52347 kWh/year													
Sound pressure <sup>(b)</sup>	45 dB(A)				MRA/Pmax				33,4 A / 18,6 kW													
UMT 190 MTDX	Bitzer 4HTE-20K	40	10,63	<b>21,27</b>	18,66	1,14	12,80	<b>25,60</b>	19,60	1,31	15,11	<b>27,67</b>	18,61	1,49	17,40	<b>29,00</b>	17,31	1,67	19,60	<b>32,67</b>	17,53	1,86
		38	11,12	<b>22,25</b>	18,20	1,22	13,26	<b>26,53</b>	19,01	1,40	15,49	<b>28,38</b>	17,96	1,58	17,65	<b>29,41</b>	16,62	1,77	19,68	<b>32,80</b>	16,75	1,96
		32	13,13	<b>26,25</b>	17,29	1,52	13,73	<b>27,46</b>	17,01	1,61	17,29	<b>31,67</b>	16,42	1,93	20,14	<b>33,56</b>	15,33	2,19	23,11	<b>38,51</b>	15,64	2,46
		25	15,54	<b>31,08</b>	16,32	1,90	18,47	<b>36,93</b>	16,70	2,21	21,40	<b>39,19</b>	15,46	2,54	23,92	<b>39,87</b>	14,02	2,84	25,97	<b>43,29</b>	13,85	3,13
		15	17,08	<b>34,16</b>	13,50	2,53	20,02	<b>40,04</b>	13,75	2,91	23,31	<b>42,70</b>	12,75	3,35	26,87	<b>44,78</b>	11,67	3,84	30,70	<b>51,17</b>	11,68	4,38
		5	20,22	<b>40,44</b>	11,58	3,49	23,66	<b>47,33</b>	11,65	4,06	27,51	<b>50,39</b>	10,72	4,70	31,63	<b>52,72</b>	9,76	5,40	36,05	<b>60,08</b>	9,74	6,17
		N. of fans	3 x Ø 500 mm				MEPS <sup>(c)</sup>				2,71											
Weight	655 kg				Annual Energy Consumption				62283 kWh/year													
Sound pressure <sup>(b)</sup>	45 dB(A)				MRA/Pmax				42,4 A / 24 kW													

## NOTES

<sup>(a)</sup> Inverter modulation from 30 to 60 Hz

<sup>(b)</sup> Based on free field area with semi-spherical sound emission in 10m distance; tolerance ± 2 dB(A)

<sup>(c)</sup> Minimum Energy Performance Standards, calculated according to Ecodesign Directive EN 2009/125/EC

# Technical data Cubo<sub>2</sub> Plus (a)

MEDIUM TEMPERATURE - BITZER

Stepless capacity regulation

		Evaporation Temperature [°C]																				
		-15				-10				-5				0				5				
		Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	Capacity [kW]		Pe	COP	
Ambient temp. [°C]	min	max	kW		min	max	kW		min	max	kW		min	max	kW		min	max	kW			
UMT 075 VS MTDX	Bitzer 4PTE-7K	40	0,69	<b>6,85</b>	6,26	1,10	0,84	<b>8,42</b>	6,55	1,29	1,02	<b>10,25</b>	6,81	1,51	1,23	<b>12,35</b>	7,00	1,76	1,47	<b>14,71</b>	7,13	2,06
		38	0,72	<b>7,18</b>	6,09	1,18	0,88	<b>8,84</b>	6,36	1,39	1,08	<b>10,75</b>	6,59	1,63	1,29	<b>12,94</b>	6,76	1,92	1,54	<b>15,39</b>	6,85	2,25
		32	0,84	<b>8,36</b>	5,55	1,51	1,03	<b>10,28</b>	5,74	1,79	1,24	<b>12,45</b>	5,88	2,12	1,48	<b>14,82</b>	5,94	2,50	1,72	<b>17,19</b>	5,91	2,91
		25	0,99	<b>9,93</b>	5,47	1,82	1,22	<b>12,21</b>	5,65	2,16	1,48	<b>14,84</b>	5,77	2,57	1,78	<b>17,84</b>	5,81	3,07	2,12	<b>21,22</b>	5,75	3,69
		15	1,22	<b>12,23</b>	4,23	2,89	1,46	<b>14,64</b>	4,28	3,42	1,73	<b>17,30</b>	4,28	4,05	2,02	<b>20,24</b>	4,21	4,81	2,34	<b>23,45</b>	4,07	5,76
		5	1,46	<b>14,64</b>	3,51	4,18	1,74	<b>17,41</b>	3,47	5,02	2,05	<b>20,48</b>	3,37	6,07	2,39	<b>23,88</b>	3,21	7,44	2,76	<b>27,59</b>	2,98	9,26
		N. of fans	2 x Ø 500 mm				MEPS <sup>(c)</sup>				3,14											
Weight	470 kg				Annual Energy Consumption				20096 kWh/year													
Sound pressure <sup>(b)</sup>	44 dB(A)				MRA/Pmax				20,5 A / 10,4 kW													
UMT 120 VS MTDX	Bitzer 4MTE-10K	40	0,90	<b>8,99</b>	8,61	1,04	1,12	<b>11,17</b>	9,18	1,22	1,35	<b>13,55</b>	9,59	1,41	1,61	<b>16,07</b>	9,82	1,64	1,86	<b>18,64</b>	9,89	1,88
		38	0,95	<b>9,50</b>	8,50	1,12	1,17	<b>11,73</b>	8,98	1,31	1,41	<b>14,13</b>	9,30	1,52	1,66	<b>16,61</b>	9,45	1,76	1,91	<b>19,06</b>	9,45	2,02
		32	1,10	<b>11,02</b>	7,94	1,39	1,31	<b>13,13</b>	8,18	1,61	1,51	<b>15,08</b>	8,26	1,82	1,68	<b>16,83</b>	8,20	2,05	1,84	<b>18,44</b>	8,02	2,30
		25	1,34	<b>13,37</b>	7,84	1,70	1,64	<b>16,43</b>	8,04	2,04	1,98	<b>19,77</b>	8,10	2,44	2,32	<b>23,16</b>	8,01	2,89	2,62	<b>26,21</b>	7,80	3,36
		15	1,54	<b>15,43</b>	6,37	2,42	1,84	<b>18,37</b>	6,44	2,85	2,16	<b>21,58</b>	6,44	3,35	2,51	<b>25,09</b>	6,37	3,94	2,89	<b>28,88</b>	6,23	4,64
		5	1,85	<b>18,45</b>	5,37	3,44	2,17	<b>21,66</b>	5,23	4,14	2,56	<b>25,61</b>	5,31	4,82	2,97	<b>29,70</b>	5,20	5,71	3,41	<b>34,12</b>	5,04	6,77
		N. of fans	2 x Ø 500 mm				MEPS <sup>(c)</sup>				2,68											
Weight	570 kg				Annual Energy Consumption				30081 kWh/year													
Sound pressure <sup>(b)</sup>	44 dB(A)				MRA/Pmax				26,3 A / 13,8 kW													
UMT 150 VS MTDX	Bitzer 4KTE-12K	40	1,36	<b>13,63</b>	12,67	1,08	1,69	<b>16,89</b>	13,17	1,28	2,04	<b>20,40</b>	13,60	1,50	2,89	<b>28,88</b>	13,94	2,07	3,33	<b>33,29</b>	14,14	2,35
		38	1,43	<b>14,35</b>	12,31	1,17	1,77	<b>17,69</b>	12,77	1,39	2,12	<b>21,22</b>	13,16	1,61	2,98	<b>29,78</b>	13,43	2,22	3,40	<b>33,98</b>	13,55	2,51
		32	1,63	<b>16,33</b>	11,21	1,46	1,94	<b>19,43</b>	11,52	1,69	2,22	<b>22,25</b>	11,72	1,90	2,97	<b>29,72</b>	11,76	2,53	3,25	<b>32,51</b>	11,63	2,80
		25	1,99	<b>19,93</b>	11,05	1,80	2,46	<b>24,56</b>	11,33	2,17	2,95	<b>29,51</b>	11,49	2,57	4,13	<b>41,33</b>	11,50	3,59	4,66	<b>46,58</b>	11,32	4,11
		15	2,31	<b>23,05</b>	9,00	2,56	2,74	<b>27,35</b>	9,18	2,98	3,21	<b>32,09</b>	9,25	3,47	4,48	<b>44,76</b>	9,21	4,86	5,16	<b>51,58</b>	9,04	5,71
		5	2,82	<b>28,22</b>	7,66	3,69	3,30	<b>33,01</b>	7,68	4,30	3,83	<b>38,33</b>	7,61	5,04	5,31	<b>53,09</b>	7,41	7,16	6,09	<b>60,87</b>	7,11	8,56
		N. of fans	3 x Ø 500 mm				MEPS <sup>(c)</sup>				2,80											
Weight	645 kg				Annual Energy Consumption				42608 kWh/year													
Sound pressure <sup>(b)</sup>	45 dB(A)				MRA/Pmax				33,4 A / 18,6 kW													
UMT 190 VS MTDX	Bitzer 4HTE-20K	40	1,77	<b>17,72</b>	15,55	1,14	2,13	<b>21,33</b>	16,33	1,31	2,52	<b>25,16</b>	16,92	1,49	2,90	<b>29,00</b>	17,31	1,67	3,27	<b>32,67</b>	17,53	1,86
		38	1,85	<b>18,54</b>	15,17	1,22	2,21	<b>22,11</b>	15,84	1,40	2,58	<b>25,80</b>	16,33	1,58	2,94	<b>29,41</b>	16,62	1,77	3,28	<b>32,80</b>	16,75	1,96
		32	2,19	<b>21,88</b>	14,41	1,52	2,29	<b>22,88</b>	14,17	1,61	2,88	<b>28,79</b>	14,93	1,93	3,36	<b>33,56</b>	15,33	2,19	3,85	<b>38,51</b>	15,64	2,46
		25	2,59	<b>25,90</b>	13,60	1,90	3,08	<b>30,78</b>	13,91	2,21	3,56	<b>35,63</b>	14,05	2,54	3,99	<b>39,87</b>	14,02	2,84	4,33	<b>43,29</b>	13,85	3,13
		15	2,85	<b>28,47</b>	11,25	2,53	3,34	<b>33,36</b>	11,46	2,91	3,88	<b>38,82</b>	11,59	3,35	4,48	<b>44,78</b>	11,67	3,84	5,12	<b>51,17</b>	11,68	4,38
		5	3,37	<b>33,70</b>	9,65	3,49	3,94	<b>39,44</b>	9,71	4,06	4,58	<b>45,81</b>	9,74	4,70	5,27	<b>52,72</b>	9,76	5,40	6,01	<b>60,08</b>	9,74	6,17
		N. of fans	3 x Ø 500 mm				MEPS <sup>(c)</sup>				2,71											
Weight	655 kg				Annual Energy Consumption				51896 kWh/year													
Sound pressure <sup>(b)</sup>	45 dB(A)				MRA/Pmax				42,4 A / 24 kW													

## NOTES

<sup>(a)</sup> Varistep modulation from 10 to 100 % of the capacity @ 50 Hz

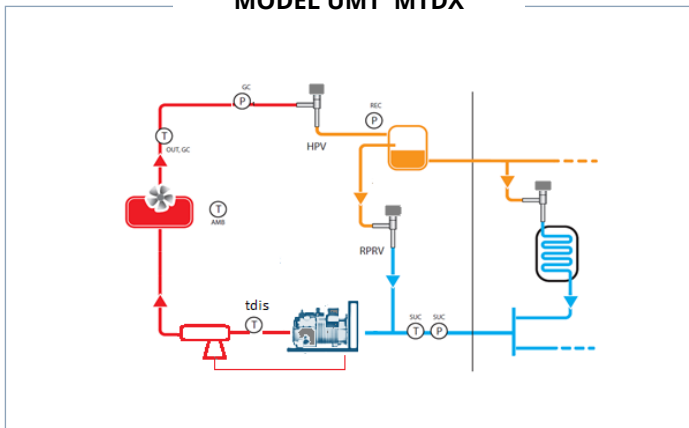
<sup>(b)</sup> Based on free field area with semi-spherical sound emission in 10m distance; tolerance ± 2 dB(A)

<sup>(c)</sup> Minimum Energy Performance Standards, calculated according to Ecodesign Directive EN 2009/125/EC



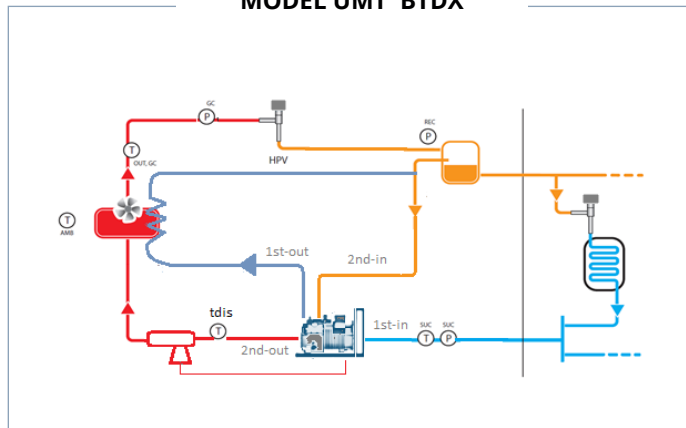
# Unit Configuration

**MODEL UMT MTDX**



- One Semihermetic Compressor
- Oil management with: oil separator, oil reservoir, traxoil
- Receiver Pressure: Fixed SetPoint, adjustable by parameter (Factory Setting = 40 bar). Receiver pressure is managed by the flash valve.

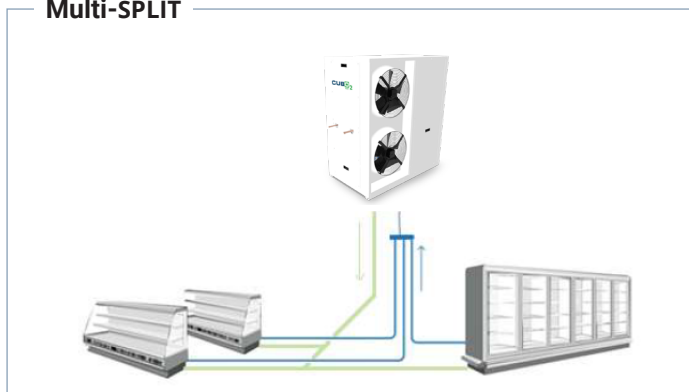
**MODEL UMT BTDX**



- One semihermetic compressor double stage
- Air cooled intercooler integrated in the gas cooler coil
- Oil management with: oil separator, oil reservoir, traxoil
- Receiver Pressure: variable pressure according to the operating conditions and to the model compressor (Open Flash Tank System)

# Installation Design

**Multi-SPLIT**

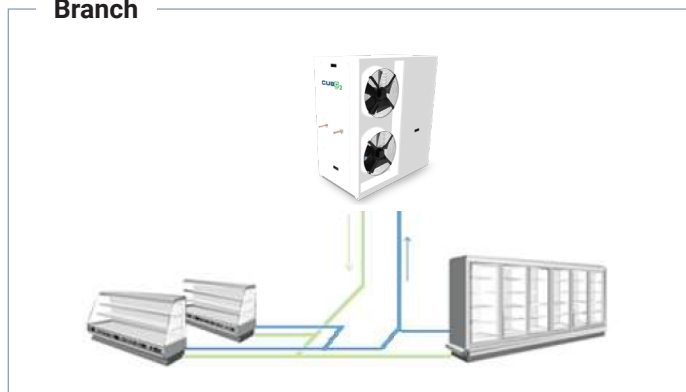


## Pipe Connections (Multi-Split or Branch)

The connection between the Condensing Unit and more remote evaporators can be the same one used for Multi-Split or branch system.

The preferred one is the one is able to guarantee the highest gas velocity in the suction line (for a good oil return) with a low pressure drop.

**Branch**



For Multi-Split layout, the system requires a dedicated suction line for each evaporator that will be collected by a manifold installed close to the condensing unit.

Please refer to the example reported in the pictures.

- Liquid line must be properly sized to supply the farther evaporators (liquid velocity < 1 m/s is suggested).
- Suction line must be properly sized to have a good oil return with a low pressure drop (gas velocity min 5m/s).







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