



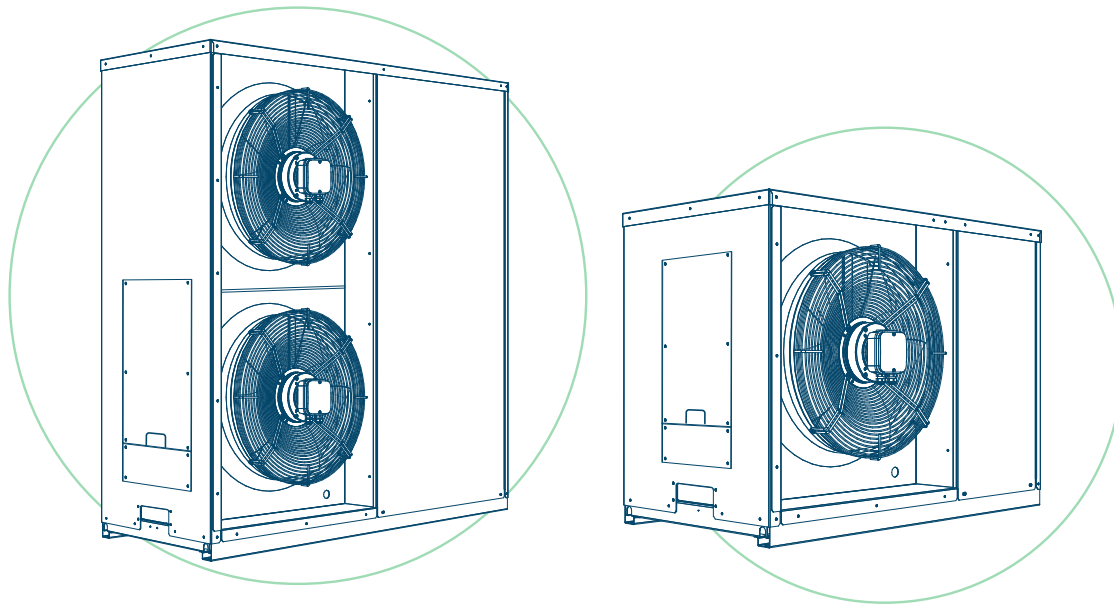
SUSTAINABLE COLD SOLUTIONS

Transcritical CO₂ndensing units










We know the art of achieving
a perfect temperature

BEIJER REF



Condensing unit for transcritical CO₂ applications equipped with TOSHIBA BLDC compressor(s) with inverter, integrated gas cooler and EC fans. This is a high-efficiency solution designed to ensure a small footprint and low noise.

MAIN ADVANTAGES

 <p>CO₂ REFRIGERANT</p>	 <p>EFFICIENT SOLUTION</p>	 <p>LOW NOISE</p>	 <p>SMALL FOOTPRINT</p>	 <p>EASY START-UP</p>	 <p>DC BRUSHLESS ROTARY COMPRESSOR</p>	 <p>GAS COOLER EQUIPPED</p>
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Cooling Capacity

Transcritical Condensing Units DX



Standard Accessories

- Toshiba BLDC compressors
- Carel controller
- Inverter modulation for capacity control 25 - 100%
- Integrated gas cooler with EC fan
- Design pressure 130 bar (high pressure side) 80 bar (liquid line) 80 bar (suction line)
- Liquid receiver 12 liters
- K65 connections

Accessories on Request

- Low noise frame (day operation 33 dB(A) @10m; night operation 30 dB(A))
- Oil management (oil separator + reservoir, oil level control, oil return solenoid valve)
- Winter kit (suggested for ambient temperature <-20°C)
- Epoxy or Electrofin gas cooler corrosion coil protection.
- Adiabatic Kit water spray, including controller

Software Calculation Tool

Select your unit and check its CO2 charge


Configuration ● Selection ● Verify

Serie

Serie

Options

Compressor brand



AT THE FOLLOWING LINK YOU CAN CHECK THE UNIT CHARGE.

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



Input data

Selection

Required Capacity kW

Tolerance %

Input

Evaporation temperature °C

Ambient temperature °C

There are no warnings ✓

Model

Series

Unit

Min Load kW

Max Load kW

Compressor Model

Options

Cofanatura standard

Cofanatura low noise

Carel controller

Inverter with modulation 25-100%

EC fans

Pressioni di design 130/80/80

Power supply 230V(1+N)50Hz

Liquid receiver 8 liters (PED II)

Ricevitore di liquido da 12 litri (PED II)

Adiabatic kit water spray

Epoxy treatment on air gas cooler

Separatore olio

Kit invernale

Working Point

Capacity kW

Absorbed power kW

COP

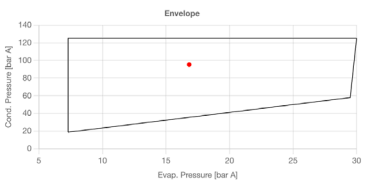
Flow Rate kg/h

Current A

Recommended protection

Discharge Temperature °C

Limits



Technical data Cubo₂ Smart (a)

LOW TEMPERATURE

Ambient Temperature [°C]		Evaporation Temperature [°C]											
		-35			-30			-25			-20		
		Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP
min	max	min	max		min	max		min	max				
UMTT N45 BTDX	40	694	1915	1,19	836	2299	1,38	975	2668	1,55	1148	3110	1,77
	38	709	1933	1,22	857	2318	1,42	1002	2687	1,60	1181	3129	1,83
	32	761	2004	1,38	926	2393	1,60	1090	2764	1,81	1288	3204	2,07
	25	815	2084	1,57	995	2477	1,83	1174	2850	2,07	1389	3289	2,38
	15	867	2163	1,81	1058	2561	2,10	1250	2935	2,39	1479	3373	2,76
	5	948	2277	2,24	1155	2684	2,63	1368	3061	3,02	1615	3497	3,53
Liquid receiver volume		12 liters			Sound pressure ^(b)			Standard / Low noise 40 / 37 dB(A)					
Weight		160 kg			MEPS ^(c)			1,91					
Low Noise Weight		204 kg			Annual Energy Consumption			7898 kWh/year					
Connections		Liquid / suction 1/2"			Power Supply			230 V / 1+N+PE / 50 Hz					
Ambient Temperature [°C]		Evaporation Temperature [°C]											
		-35			-30			-25			-20		
		Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP
min	max	min	max		min	max		min	max				
UMTT N67 BTDX	40	1125	3058	1,28	1366	3645	1,47	1601	4192	1,63	1871	4807	1,82
	38	1140	3074	1,32	1382	3668	1,51	1617	4221	1,69	1886	4843	1,89
	32	1196	3146	1,47	1440	3759	1,70	1675	4333	1,91	1943	4976	2,15
	25	1253	3234	1,68	1501	3865	1,95	1738	4457	2,20	2005	5117	2,49
	15	1308	3326	1,93	1560	3971	2,25	1799	4578	2,55	2067	5254	2,91
	5	1385	3458	2,41	1648	4126	2,85	1895	4755	3,27	2166	5455	3,79
Liquid receiver volume		12 liters			Sound pressure ^(b)			Standard / Low noise 41,8 / 33,3 dB(A)					
Weight		160 kg			MEPS ^(c)			2,05					
Low Noise Weight		204 kg			Annual Energy Consumption			11501 kWh/year					
Connections		Liquid / suction 1/2"			Power Supply			230 V / 1+N+PE / 50 Hz					
Ambient Temperature [°C]		Evaporation Temperature [°C]											
		-35			-30			-25			-20		
		Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP
min	max	min	max		min	max		min	max				
UMTT O67 BTDX	40	950	4380	0,88	1190	5320	1,07	1360	6030	1,18	1660	7210	1,41
	38	950	4380	0,91	1190	5320	1,07	1360	6030	1,18	1660	7210	1,50
	32	950	4380	1,09	1190	5320	1,20	1360	6030	1,37	1660	7210	1,57
	25	950	4380	1,22	1190	5320	1,35	1360	6030	1,54	1660	7210	1,69
	15	950	4380	1,70	1190	5320	1,90	1360	6030	2,15	1660	7210	2,37
	5	950	4380	1,97	1190	5320	2,23	1360	6030	2,50	1660	7210	2,79
Liquid receiver volume		12 liters			Sound pressure ^(b)			Standard / Low noise 44,7 / 34,7 dB(A)					
Weight		200 kg			MEPS ^(c)			1,64					
Low Noise Weight		244 kg			Annual Energy Consumption			19869 kWh/year					
Connections		Liquid / suction 1/2"			Power Supply			400 V / 3+N+PE / 50 Hz					
Ambient Temperature [°C]		Evaporation Temperature [°C]											
		-35			-30			-25			-20		
		Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP
min	max	min	max		min	max		min	max				
UMTT T 100 BTDX	40	1520	6540	0,91	1890	7900	1,09	2140	8940	1,18	2600	10650	1,41
	38	1520	6540	0,96	1890	7900	1,09	2140	8940	1,18	2600	10650	1,41
	32	1520	6540	1,18	1890	7900	1,27	2140	8940	1,43	2600	10650	1,58
	25	1520	6540	1,33	1890	7900	1,44	2140	8940	1,62	2600	10650	1,74
	15	1520	6540	1,93	1890	7900	2,11	2140	8940	2,35	2600	10650	2,54
	5	1520	6540	2,27	1890	7900	2,54	2140	8940	2,81	2600	10650	3,06
Liquid receiver volume		12 liters			Sound pressure ^(b)			Standard / Low noise 44,7 / 34,7 dB(A)					
Weight		200 kg			MEPS ^(c)			2,86					
Low Noise Weight		244 kg			Annual Energy Consumption			26181 kWh/year					
Connections		Liquid / suction 5/8"			Power Supply			400 V / 3+N+PE / 50 Hz					

NOTES

- (a) Inverter modulation from 25 - 100%, corresponding to 1500-6000 rpm
 (b) based on free field area weed semi-spherical sound emission in 10m distance; tolerance ± 2 dB(A)
 (c) Minimum Energy Performance Standards, calculated according to Ecodesign Directive EN 2009/125/EC

Technical data Cubo₂ Smart (a)

MEDIUM TEMPERATURE

Ambient Temperature [°C]		Evaporation Temperature [°C]														
		-15			-10			-5			0			5		
		Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP
min	max	min	max		min	max		min	max		min	max		min	max	
UMTT 030 MTDX	40	393	1720	1,24	388	2080	1,48	487	2500	1,75	600	2960	2,06	731	3490	2,42
	38	331	1880	1,35	424	2280	1,61	533	2730	1,92	658	3240	2,26	801	3820	2,65
	32	404	2120	1,74	509	2560	2,08	631	3050	2,48	773	3620	2,94	934	4270	3,47
	25	451	2270	2,06	563	2720	2,47	694	3250	2,94	845	3850	3,49	1020	4530	4,14
	15	608	2770	3,5	744	3300	4,21	902	3920	5,05	1080	4630	6,04	1290	5440	7,2
	5	739	3290	4,65	900	3910	5,6	1090	4640	6,73	1300	5480	8,06	-	-	-
Liquid receiver volume		12 liters						Sound pressure ^(b)			Standard / Low noise 40,3 / 33,4 dB(A)					
Weight		159 kg						MEPS ^(c)			3,41					
Low Noise Weight		203 kg						Annual Energy Consumption			4590 kWh/year					
Connections		Liquid / suction 1/2"						Power Supply			230 V / 1+N+PE / 50 Hz					
Ambient Temperature [°C]		Evaporation Temperature [°C]														
		-15			-10			-5			0			5		
		Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP
min	max	min	max		min	max		min	max		min	max		min	max	
UMTT 045 MTDX	40	517	2880	1,19	651	3430	1,41	807	4050	1,65	985	4740	1,93	1190	5520	2,24
	38	565	3150	1,3	712	3750	1,54	882	4430	1,81	1080	5190	2,11	1300	6050	2,45
	32	680	3490	1,68	844	4140	1,98	1030	4880	2,33	1250	5720	2,74	1500	6670	3,2
	25	751	3680	1,98	925	4360	2,34	1130	5130	2,76	1360	6020	3,25	1620	7030	3,81
	15	978	4350	3,36	1190	5140	4	1430	6060	4,76	1700	7110	5,64	2020	8310	6,67
	5	1180	5120	4,47	1420	6050	5,34	1710	7130	6,36	2040	8370	7,57	-	-	-
Liquid receiver volume		12 liters						Sound pressure ^(b)			Standard / Low noise 40,3 / 33,4 dB(A)					
Weight		159 kg						MEPS ^(c)			3,42					
Low Noise Weight		203 kg						Annual Energy Consumption			6945 kWh/year					
Connections		Liquid / suction 1/2"						Power Supply			230 V / 1+N+PE / 50 Hz					
Ambient Temperature [°C]		Evaporation Temperature [°C]														
		-15			-10			-5			0			5		
		Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP
min	max	min	max		min	max		min	max		min	max		min	max	
UMTT 067 MTDX	40	706	3820	1,08	903	4640	1,29	1130	5550	1,52	1380	6590	1,8	1680	7760	2,11
	38	775	4180	1,18	987	5070	1,41	1230	6080	1,67	1520	7220	1,97	1840	8510	2,31
	32	919	4720	1,52	1160	5690	1,81	1430	6800	2,16	1750	8060	2,56	2110	9490	3,02
	25	1010	5050	1,79	1270	6060	2,15	1560	7220	2,56	1890	8560	3,04	2280	10070	3,6
	15	1350	6160	3,05	1650	7350	3,67	2000	8720	4,40	2410	10300	5,26	2870	12110	6,26
	5	1640	7310	4,05	2000	8710	4,88	2420	10330	5,86	2900	12200	7,02	-	-	-
Liquid receiver volume		12 liters						Sound pressure ^(b)			Standard / Low noise 43,2/34,2 dB(A)					
Weight		160 kg						MEPS ^(c)			3,25					
Low Noise Weight		204 kg						Annual Energy Consumption			10778 kWh/year					
Connections		Liquid / suction 1/2"						Power Supply			230 V / 1+N+PE / 50 Hz					
Ambient Temperature [°C]		Evaporation Temperature [°C]														
		-15			-10			-5			0			5		
		Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP	Capacity [W]		COP
min	max	min	max		min	max		min	max		min	max		min	max	
UMTT 100 MTDX	40	1170	5840	1,1	1470	7030	1,29	1820	8360	1,51	2220	9870	1,76	2660	11560	2,04
	38	1280	6390	1,2	1610	7680	1,41	1990	9150	1,65	2430	10810	1,93	2920	12670	2,23
	32	1510	7170	1,55	1880	8580	1,83	2300	10180	2,15	2780	12010	2,51	3340	14080	2,92
	25	1660	7630	1,84	2040	9100	2,17	2490	10780	2,55	3000	12710	2,99	3590	14890	3,5
	15	2150	9180	3,18	2610	10890	3,77	3150	12870	4,47	3770	15150	5,29	4470	17750	6,25
	5	2600	10840	4,27	3140	12860	5,08	3780	15190	6,04	4510	17890	7,17	-	-	-
Liquid receiver volume		12 liters						Sound pressure ^(b)			Standard / Low noise 43,2/34,2 dB(A)					
Weight		160 kg						MEPS ^(c)			3,35					
Low Noise Weight		204 kg						Annual Energy Consumption			15746 kWh/year					
Connections		Liquid / suction 5/8"						Power Supply			400 V / 3+N+PE / 50 Hz					

NOTES

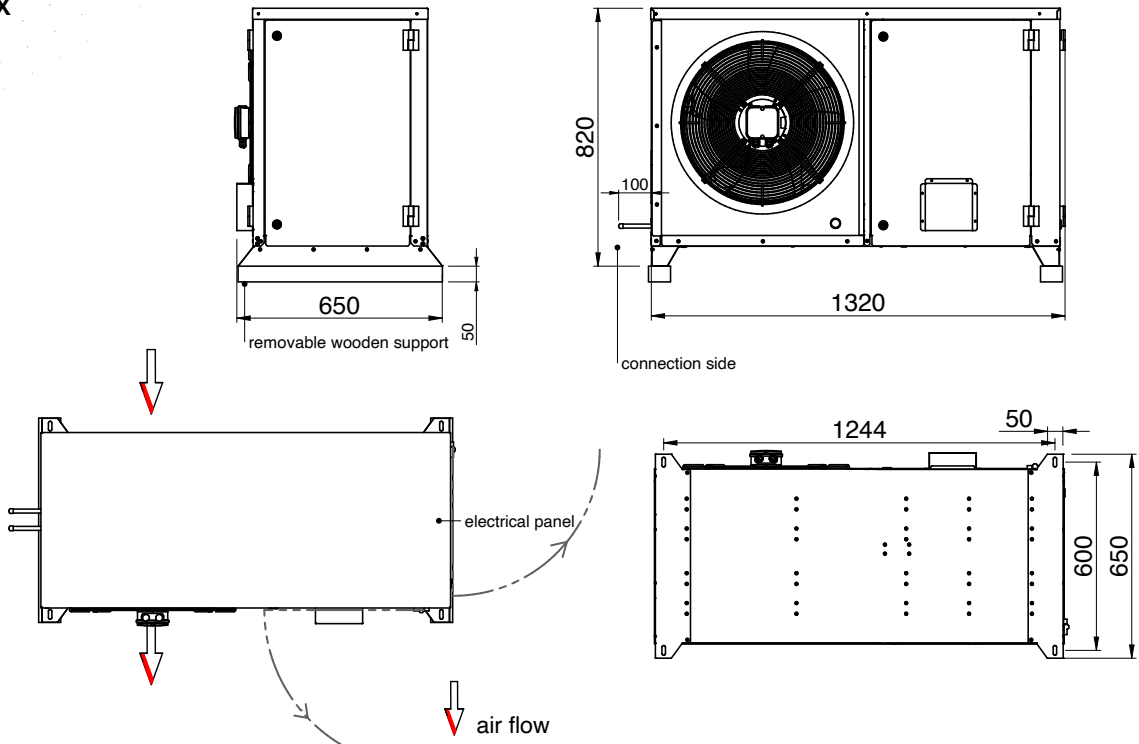
^(a) Inverter stage SST variable from -5 °C to 0°C according to operating conditions. Inverter modulation from 25 - 100%, corresponding to 1500-6000 rpm

^(b) based on free field area sound semi-spherical sound emission in 10m distance; tolerance ± 2 dB(A)

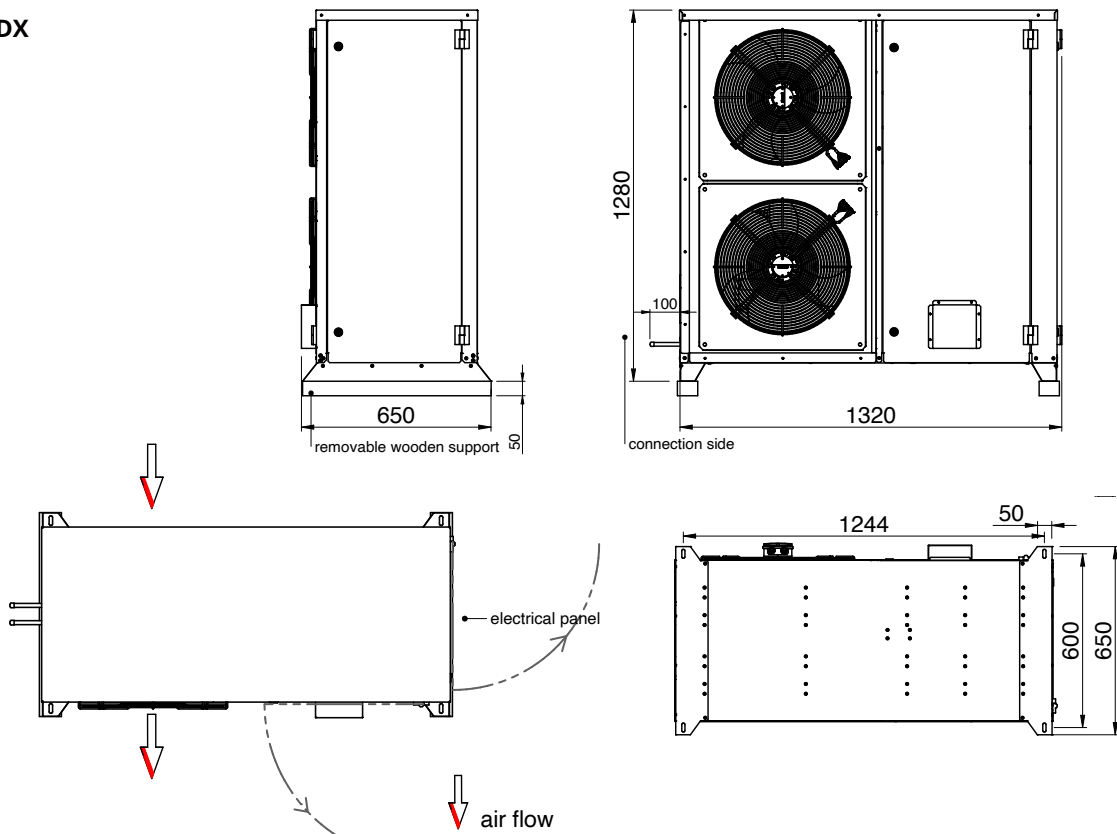
^(c) Minimum Energy Performance Standards, calculated according to Ecodesign Directive EN 2009/125/EC

Dimensional Data

BTDX - MTDX Standard

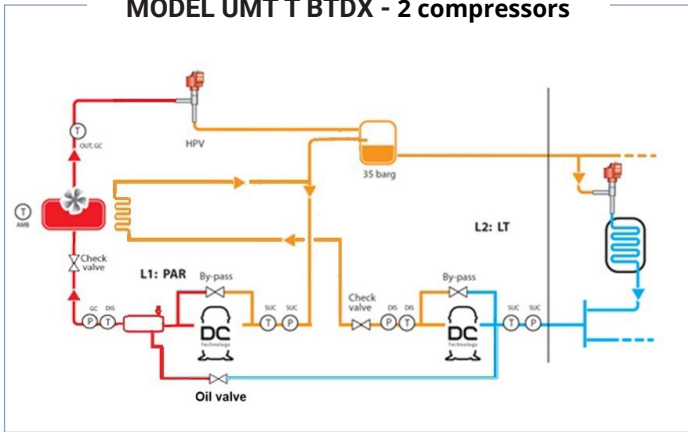


BTDX - MTDX Low Noise

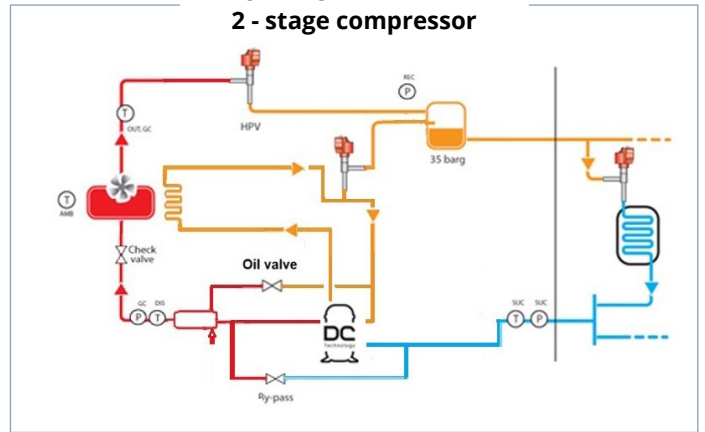


Unit Configuration

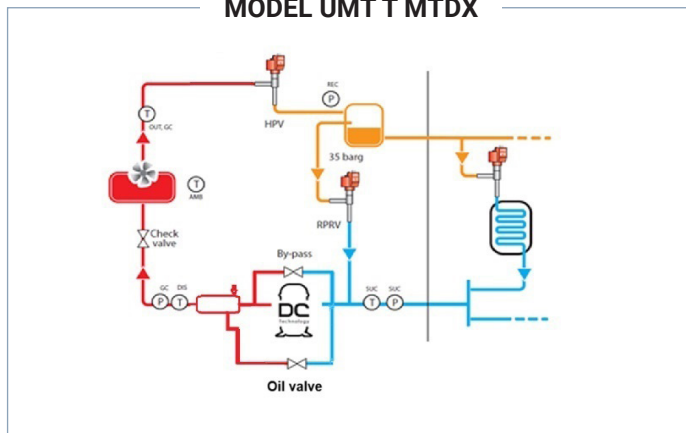
MODEL UMT T BTDX - 2 compressors



**MODEL UMT T N BTDX
2 - stage compressor**

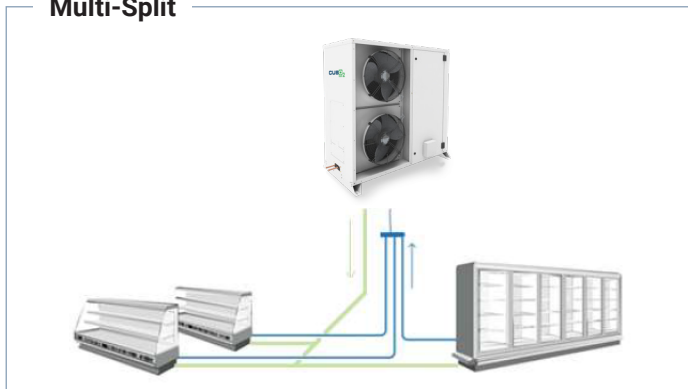


MODEL UMT T MTDX

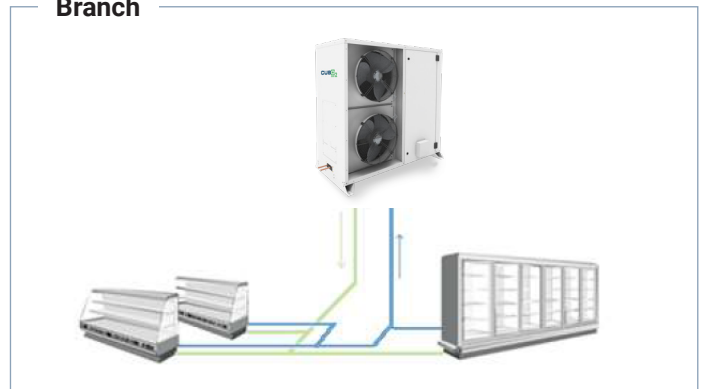


Installation Design

Multi-Split



Branch



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.

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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