

USA



CUBO₂
SMART

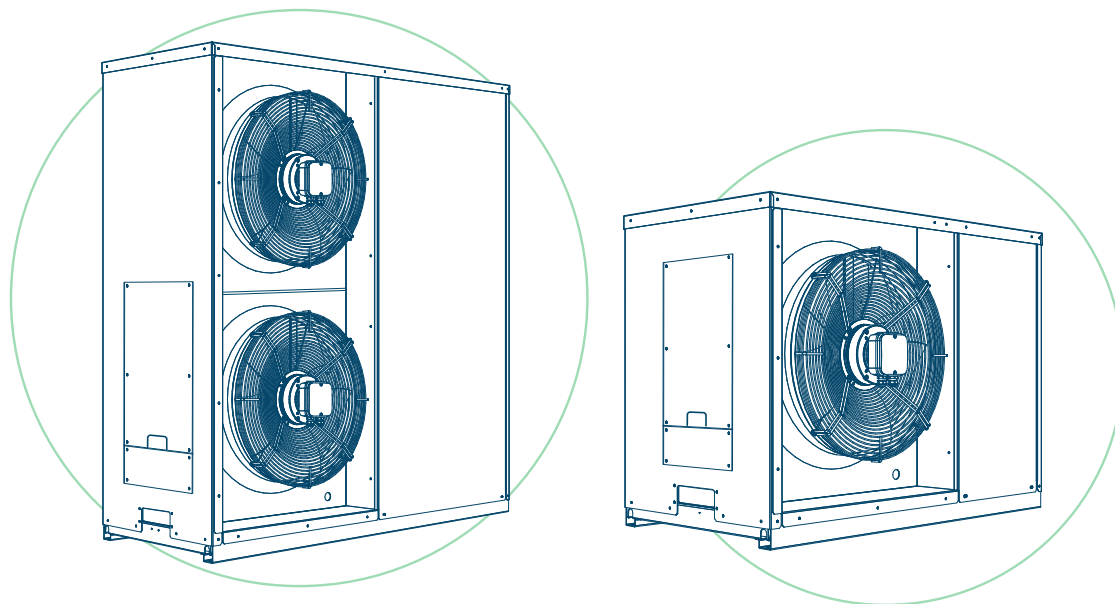
SUSTAINABLE COLD SOLUTIONS

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



CO₂ REFRIGERANT



EFFICIENT SOLUTION



LOW NOISE



SMALL FOOTPRINT



EASY START-UP



DC BRUSHLESS ROTARY
COMPRESSOR



GAS COOLER
EQUIPPED

Cooling Capacity

Transcritical Condensing Units DX

UMT T MTDX

2,153 BTU/h
0.18 Ton

34,736 BTU/h
2.9 Ton

UMT T BTDX

3,160 BTU/h
0.26 Ton

26,956 BTU/h
2.24 Ton

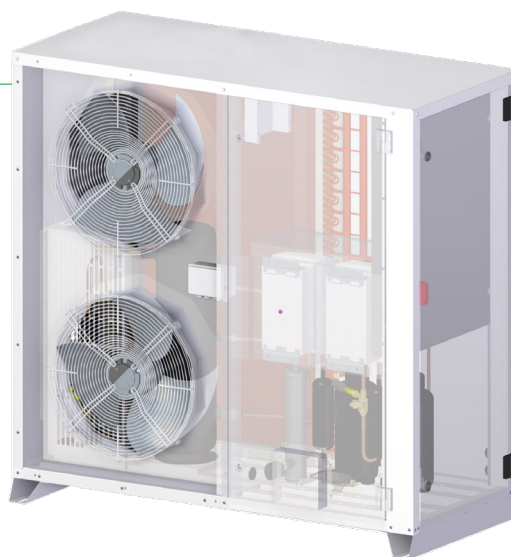
Standard Accessories

- Toshiba BLDC compressors
- Carel controller
- Inverter modulation for capacity control 25-100%
- Integrated gas cooler with EC fan
- Design pressure 130 bar / 1885 PSI (high pressure side), 80 bar / 1160 PSI (liquid line), 80 bar / 1160 PSI (suction line)
- Liquid receiver 0.42ft³
- UL Certified equipment
- K65 connections

Accessories on Request

- Low noise frame (day operation 33 dB(A) @10m (~33ft); night operation 30 dB(A))
- Oil management (oil separator + reservoir, oil level control, oil return solenoid valve)
- Winter kit (suggested for ambient temperature <-4°F)
- Epoxy or Electrofin gas cooler corrosion coil protection.
- Adiabatic Kit water spray, including controller

Additional Features & Benefits



1 Service accessibility

Easy access panels for fast maintenance and reduced downtime.

2 Compact footprint

Save space in mechanical rooms or rooftops.

3 Condenser fan control

Variable speed fan optimizes performance and energy efficiency, reducing operating costs.

4 Control board access

Safe and user-friendly access to electronic components for simplified commissioning and diagnostics.

5 Integrated monitoring system

Real-time performance tracking and remote diagnostics.

6 Horizontal discharge

Ideal for compact installations or areas with height restrictions; improves airflow management.

7 Self-leveling feet

Quick installation on uneven surfaces; improves unit stability and alignment.

8 Standard coils

Optimized heat transfer; customizable fin density ensures performance across different climates and applications.

Technical data Cubo₂ Smart (a)

LOW TEMPERATURE

Evaporation Temperature[°F]													
Ambient Temperature [°F]		-40		-31		-22		-13					
		Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP			
		min	max		min	max		min	max				
UMT N45 BTDX	104	2368	6534	1.19	2853	7845	1.38	3327	9104	1.55	2368	6534	1.77
	100.4	2419	6596	1.22	2924	7909	1.42	3419	9168	1.60	2419	6596	1.83
	89.6	2597	6838	1.38	3160	8165	1.60	3719	9431	1.81	2597	6838	2.07
	77	2781	7111	1.57	3395	8452	1.83	4006	9725	2.07	2781	7111	2.38
	59	2958	7380	1.81	3610	8738	2.10	4265	10015	2.39	2958	7380	2.76
	41	3235	7769	2.24	3941	9158	2.63	4668	10445	3.02	3235	7769	3.53
	Liquid receiver volume		0.42ft³		Sound pressure ^(b)		41.8 dB(A)						
Weight		352.7 lbs		MEPS ^(c)		1.91							
Low noise Weight		449.7 lbs		Annual Energy Consumption		7898 kWh/year							
Connections		Liquid / suction 1/2"		Power Supply		230 V / 1+N+PE / 60 Hz							
Evaporation Temperature[°F]													
Ambient Temperature [°F]		-40		-31		-22		-13					
		Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP			
		min	max		min	max		min	max				
UMT N67 BTDX	104	3839	10434	1.28	4661	12437	1.47	5463	14304	1.63	6384	16402	1.82
	100.4	3890	10489	1.32	4716	12516	1.51	5517	14403	1.69	6435	16525	1.89
	89.6	4081	10735	1.47	4913	12826	1.70	5715	14785	1.91	6630	16979	2.15
	77	4275	11035	1.68	5122	13188	1.95	5930	15208	2.20	6841	17460	2.49
	59	4463	11349	1.93	5323	13550	2.25	6138	15621	2.55	7053	17927	2.91
	41	4726	11799	2.41	5623	14078	2.85	6466	16225	3.27	7391	18613	3.79
	Liquid receiver volume		0.42ft³		Sound pressure ^(b)		41.8 dB(A)						
Weight		352.7 lbs		MEPS ^(c)		2.05							
Low noise Weight		449.7 lbs		Annual Energy Consumption		11501 kWh/year							
Connections		Liquid / suction 1/2"		Power Supply		230 V / 1+N+PE / 60 Hz							
Evaporation Temperature[°F]													
Ambient Temperature [°F]		-40		-31		-22		-13					
		Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP			
		min	max		min	max		min	max				
UMT O67 BTDX	104	3242	14945	0.88	4060	18153	1.07	4641	20575	1.18	5664	24602	1.41
	100.4	3242	14945	0.91	4060	18153	1.07	4641	20575	1.18	5664	24602	1.50
	89.6	3242	14945	1.09	4060	18153	1.20	4641	20575	1.37	5664	24602	1.57
	77	3242	14945	1.22	4060	18153	1.35	4641	20575	1.54	5664	24602	1.69
	59	3242	14945	1.70	4060	18153	1.90	4641	20575	2.15	5664	24602	2.37
	41	3242	14945	1.97	4060	18153	2.23	4641	20575	2.50	5664	24602	2.79
	Liquid receiver volume		0.42ft³		Sound pressure ^(b)		44.7 dB(A)						
Weight		440.9 lb		MEPS ^(c)		1.64							
Low noise Weight		537.9 lbs		Annual Energy Consumption		19869 kWh/year							
Connections		Liquid / suction 1/2"		Power Supply		400 V / 3+N+PE / 60 Hz							
Evaporation Temperature[°F]													
Ambient Temperature [°F]		-40		-31		-22		-13					
		Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP			
		min	max		min	max		min	max				
UMT T100 BTDX	104	5186	22315	0.91	6449	26955.906	1.09	7302	30505	1.18	8872	36339	1.41
	100.4	5186	22315	0.96	6449	26955.906	1.09	7302	30505	1.18	8872	36339	1.41
	89.6	5186	22315	1.18	6449	26955.906	1.27	7302	30505	1.43	8872	36339	1.58
	77	5186	22315	1.33	6449	26955.906	1.44	7302	30505	1.62	8872	36339	1.74
	59	5186	22315	1.93	6449	26955.906	2.11	7302	30505	2.35	8872	36339	2.54
	41	5186	22315	2.27	6449	26955.906	2.54	7302	30505	2.81	8872	36339	3.06
	Liquid receiver volume		0.42ft³		Sound pressure ^(b)		44.7 dB(A)						
Weight		440.9 lbs		MEPS ^(c)		1.86							
Low noise Weight		537.9 lbs		Annual Energy Consumption		26181 kWh/year							
Connections		Liquid / suction 5/8"		Power Supply		460Y/277V 3Ph+N+GND/60 Hz							

NOTES

^(a) Interstage SST variable from 23°F to 32°F

^(b) Based on free field area with semi-spherical sound emission in 10m (~33ft) 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

Evaporation Temperature[°F]																
Ambient Temperature [°F]	5			14			23			32			41			
	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	
	min	max		min	max		min	max		min	max		min	max		
UMT T 030 MTDX	104	1341	5869	1.24	1324	7097	1.48	1662	8530	1.75	2047	10100	2.06	2494	11908	2.42
	100.4	1129	6415	1.35	1447	7780	1.61	1819	9315	1.92	2245	11055	2.26	2733	13034	2.65
	89.6	1379	7234	1.74	1737	8735	2.08	2153	10407	2.48	2638	12352	2.94	3187	14570	3.47
	77	1539	7746	2.06	1921	9281	2.47	2368	11089	2.94	2883	13137	3.49	3480	15457	4.14
	59	2075	9452	3.5	2539	11260	4.21	3078	13376	5.05	3685	15798	6.04	4402	18562	7.2
	41	2522	11226	4.65	3071	13341	5.6	3719	15832	6.73	4436	18699	8.06	-	-	-
Liquid receiver volume		0.42ft³					Sound pressure ^(b)					40.3 dB(A)				
Weight		350.5 lbs					MEPS ^(c)					3.41				
Low noise Weight		447.5 lbs					Annual Energy Consumption					4590 kWh/year				
Connections		Liquid / suction 1/2"					Power Supply					280 V / 3+N+PE / 60 Hz				
Evaporation Temperature[°F]																
Ambient Temperature [°F]	5			14			23			32			41			
	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	
	min	max		min	max		min	max		min	max		min	max		
UMT T 045 MTDX	104	1764	9827	1.19	2221	11704	1.41	2754	13819	1.65	3361	16174	1.93	4060	18835	2.24
	100.4	1928	10748	1.3	2429	12796	1.54	3010	15116	1.81	3685	17709	2.11	4436	20643	2.45
	89.6	2320	11908	1.68	2880	14126	1.98	3515	16651	2.33	4265	19517	2.74	5118	22759	3.2
	77	2563	12557	1.98	3156	14877	2.34	3856	17504	2.76	4641	20541	3.25	5528	23987	3.81
	59	3337	14843	3.36	4060	17538	4	4879	20678	4.76	5801	24260	5.64	6893	28355	6.67
	41	4026	17470	4.47	4845	20643	5.34	5835	24329	6.36	6961	28560	7.57	-	-	-
Liquid receiver volume		0.42ft³					Sound pressure ^(b)					40.3 dB(A)				
Weight		350.5 lbs					MEPS ^(c)					3.42				
Low noise Weight		447.5 lbs					Annual Energy Consumption					6945 kWh/year				
Connections		Liquid / suction 1/2"					Power Supply					280 V / 3+N+PE / 60 Hz				
Evaporation Temperature[°F]																
Ambient Temperature [°F]	5			14			23			32			41			
	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	
	min	max		min	max		min	max		min	max		min	max		
UMT T 067 MTDX	104	2409	13034	1.08	3081	15832	1.29	3856	18937	1.52	4709	22486	1.8	5732	26478	2.11
	100.4	2644	14263	1.18	3368	17300	1.41	4197	20746	1.67	5186	24636	1.97	6278	29037	2.31
	89.6	3136	16105	1.52	3958	19415	1.81	4879	23203	2.16	5971	27502	2.56	7200	32381	3.02
	77	3446	17231	1.79	4333	20678	2.15	5323	24636	2.56	6449	29208	3.04	7780	34360	3.6
	59	4606	21019	3.05	5630	25079	3.67	6824	29754	4.40	8223	35145	5.26	9793	41321	6.26
	41	5596	24943	4.05	6824	29720	4.88	8257	35247	5.86	9895	41628	7.02	-	-	-
Liquid receiver volume		0.42ft³					Sound pressure ^(b)					43.2 dB(A)				
Weight		352.7 lbs					MEPS ^(c)					3.25				
Low noise Weight		449.7 lbs					Annual Energy Consumption					10778 kWh/year				
Connections		Liquid / suction 1/2"					Power Supply					280 V / 3+N+PE / 60 Hz				
Evaporation Temperature[°F]																
Ambient Temperature [°F]	5			14			23			32			41			
	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	Capacity [BTU/h]		COP	
	min	max		min	max		min	max		min	max		min	max		
UMT T 100 MTDX	104	3992	19927	1.1	5016	23987	1.29	6210	28525	1.51	7575	33678	1.76	9076	39444	2.04
	100.4	4368	21804	1.2	5494	26205	1.41	6790	31221	1.65	8292	36885	1.93	9963	43232	2.23
	89.6	5152	24465	1.55	6415	29276	1.83	7848	34736	2.15	9486	40980	2.51	11397	48043	2.92
	77	5664	26035	1.84	6961	31050	2.17	8496	36783	2.55	10236	43368	2.99	12250	50807	3.5
	59	7336	31323	3.18	8906	37158	3.77	10748	43914	4.47	13	51694	5.29	15252	60565	6.25
	41	8872	36988	4.27	10714	43880	5.08	12898	51830	6.04	15389	61043	7.17	-	-	-
Liquid receiver volume		0.42ft³					Sound pressure ^(b)					43.2 dB(A)				
Weight		352.7 lbs					MEPS ^(c)					3.35				
Low noise Weight		449.7 lbs					Annual Energy Consumption					15746 kWh/year				
Connections		Liquid / suction 5/8"					Power Supply					460 V / 3+N+PE / 60 Hz				

NOTES

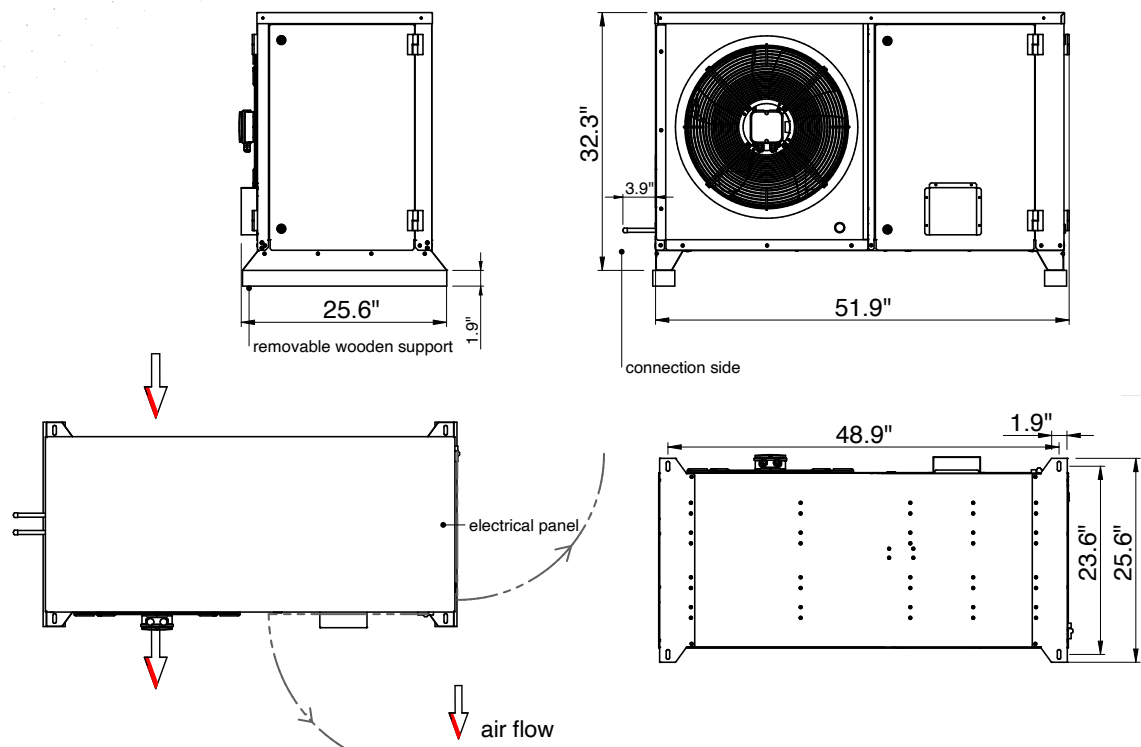
(a) Interstage SST variable from 23°F to 32°F

(b) Based on free field area with semi-spherical sound emission in 10m (~33ft) distance; tolerance ± 2 dB(A)

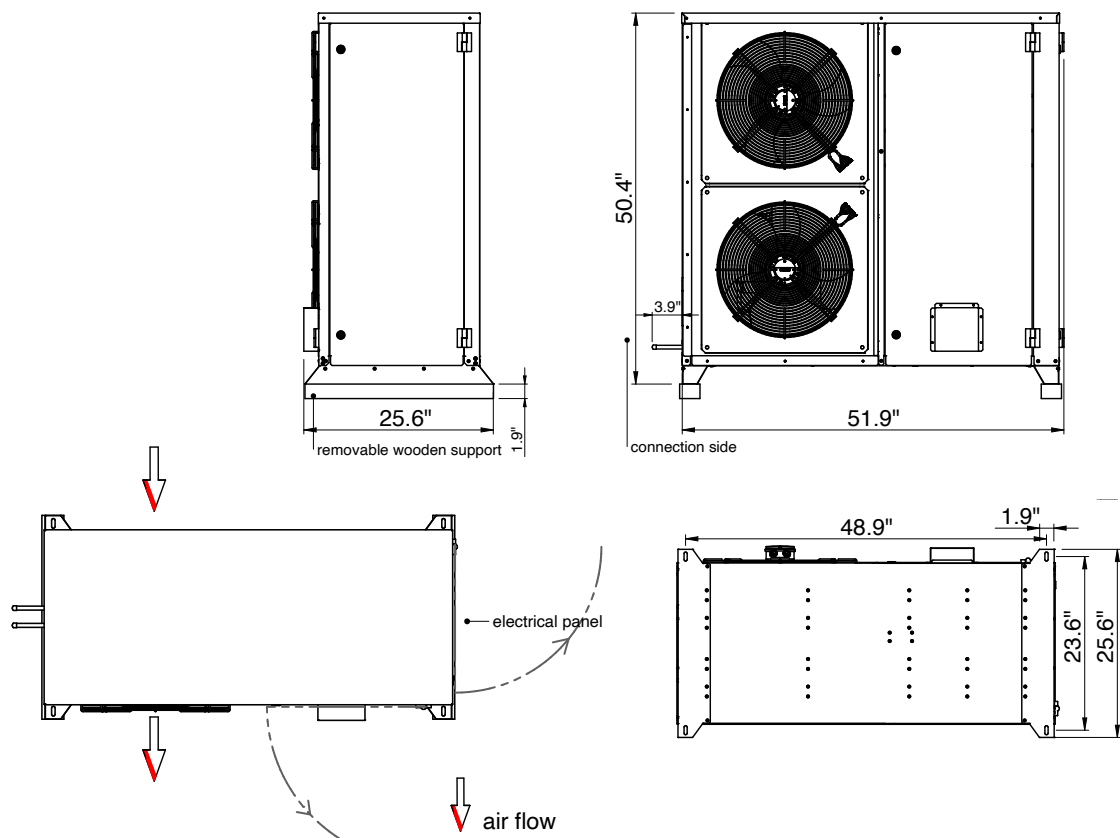
(c) Minimum Energy Performance Standards, calculated according to Ecodesign Directive EN 2009/125/EC

Dimensional Data

BTDX - MTDX
Standard

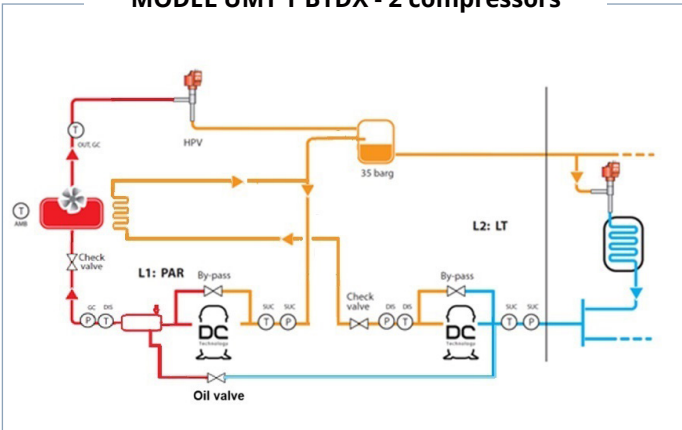


BTDX - MTDX
Low Noise

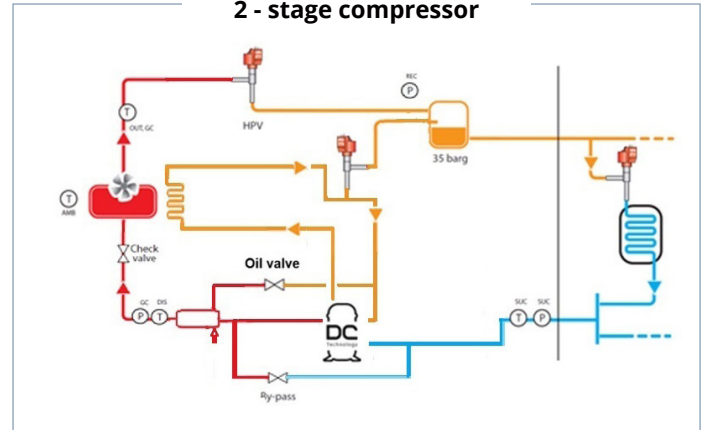


Unit Configuration

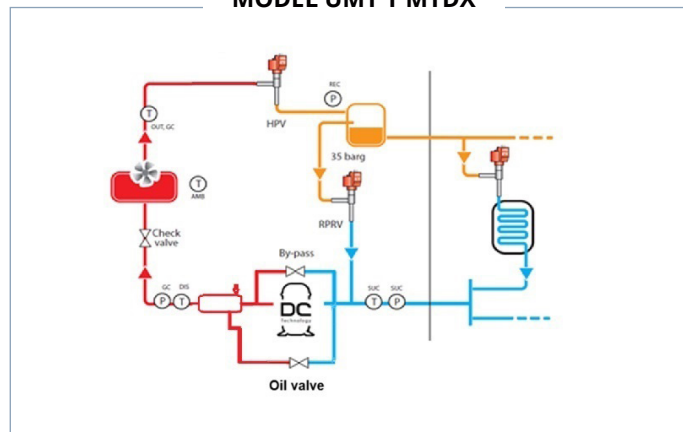
MODEL UMT T BTDX - 2 compressors



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

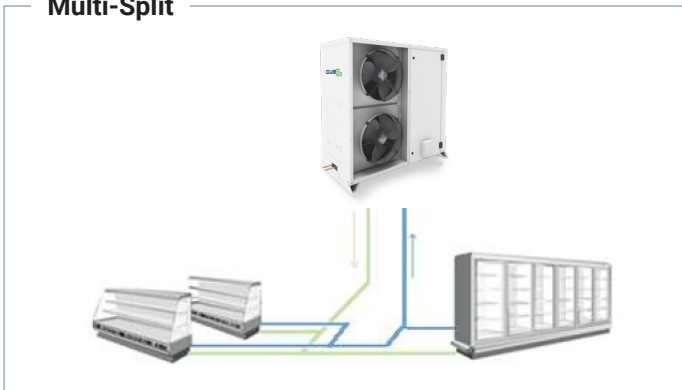


MODEL UMT T MTDX



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 < 3.2ft/s is suggested).
- Suction line must be properly sized to have a good oil return with a low pressure drop (gas velocity min 16.4 ft/s).



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