USA

SCM FRIGO USA

CUBO2 SMART 2

SUSTAINABLE COLD SOLUTIONS

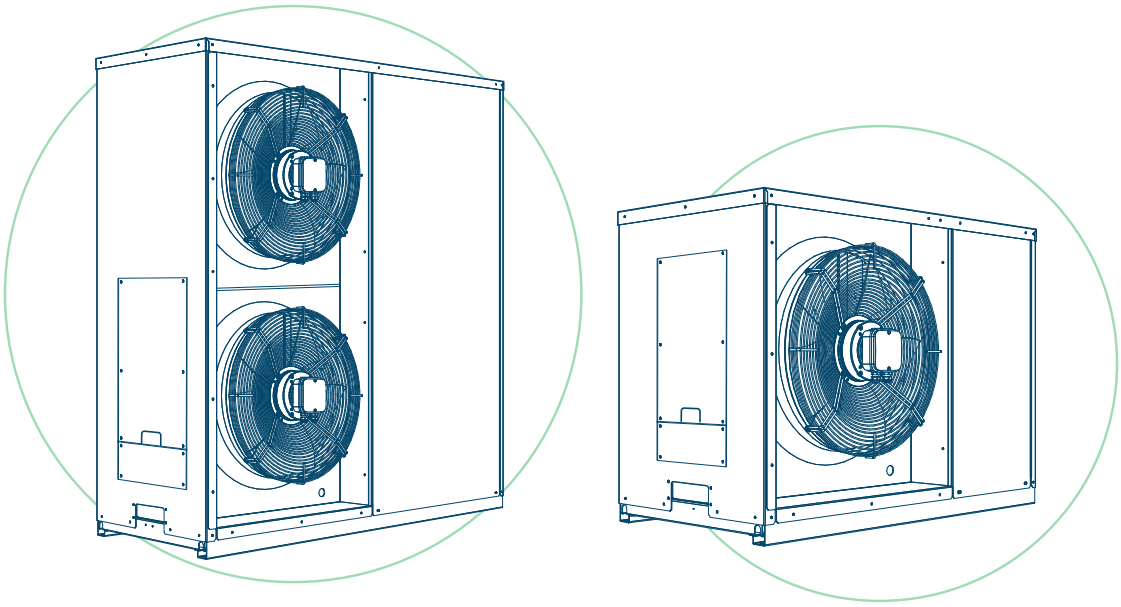
Transcritical CO_2 ndensing units

UL CERTIFIED

ECOdesign Compliant

SCM FRIGO We know the art of achieving *a perfect temperature*

BEIJER REF



Condensing unit for transcritical CO2 applications equipped with TOSHIBA BLDC compressor(s) with inventer, 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 0.28ft^3 or 0.42ft^3 depending on model
- 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 Cubo$_2$ Smart [a]

LOW TEMPERATURE

UMT T N45 BTDX

Ambient Temperature [°F]	Evaporation Temperature[°F] -40 Capacity [BTU/h] min	-40 Capacity [BTU/h] max	-40 COP	-31 Capacity [BTU/h] min	-31 Capacity [BTU/h] max	-31 COP	-22 Capacity [BTU/h] min	-22 Capacity [BTU/h] max	-22 COP	-13 Capacity [BTU/h] min	-13 Capacity [BTU/h] max	-13 COP
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	0.28ft^3	**MEPS** [c]	1.91
Weight	352.7 lbs	**Annual Energy Consumption**	7898 kWh/year
Connections	Liquid / suction 1/2"	**Power Supply**	230 V / 1+N+PE / 60 Hz
Sound pressure [b]	41.8 dB(A)		

UMT T N67 BTDX

Ambient Temperature [°F]	Evaporation Temperature[°F] -40 Capacity [BTU/h] min	-40 Capacity [BTU/h] max	-40 COP	-31 Capacity [BTU/h] min	-31 Capacity [BTU/h] max	-31 COP	-22 Capacity [BTU/h] min	-22 Capacity [BTU/h] max	-22 COP	-13 Capacity [BTU/h] min	-13 Capacity [BTU/h] max	-13 COP
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	0.28ft^3	**MEPS** [c]	2.05
Weight	352.7 lbs	**Annual Energy Consumption**	11501 kWh/year
Connections	Liquid / suction 1/2"	**Power Supply**	230 V / 1+N+PE / 60 Hz
Sound pressure [b]	41.8 dB(A)		

UMT T 067 BTDX

Ambient Temperature [°F]	Evaporation Temperature[°F] -40 Capacity [BTU/h] min	-40 Capacity [BTU/h] max	-40 COP	-31 Capacity [BTU/h] min	-31 Capacity [BTU/h] max	-31 COP	-22 Capacity [BTU/h] min	-22 Capacity [BTU/h] max	-22 COP	-13 Capacity [BTU/h] min	-13 Capacity [BTU/h] max	-13 COP
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	0.42ft^3	**MEPS** [c]	1.64
Weight	440.9 lb	**Annual Energy Consumption**	19869 kWh/year
Connections	Liquid / suction 1/2"	**Power Supply**	400 V / 3+N+PE / 60 Hz
Sound pressure [b]	44.7 dB(A)		

UMT T 100 BTDX

Ambient Temperature [°F]	Evaporation Temperature[°F] -40 Capacity [BTU/h] min	-40 Capacity [BTU/h] max	-40 COP	-31 Capacity [BTU/h] min	-31 Capacity [BTU/h] max	-31 COP	-22 Capacity [BTU/h] min	-22 Capacity [BTU/h] max	-22 COP	-13 Capacity [BTU/h] min	-13 Capacity [BTU/h] max	-13 COP
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	0.42ft^3	**MEPS** [c]	1.86
Weight	440.9 lbs	**Annual Energy Consumption**	26181 kWh/year
Connections	Liquid / suction 5/8"	**Power Supply**	460Y/277V 3Ph+N+GND/60 Hz
Sound pressure [b]	44.7 dB(A)		

NOTES

[a] Insterstage 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 Cubo$_2$ Smart [a]

MEDIUM TEMPERATURE

UMT T 030 MTDX

Ambient Temperature [°F]	Evaporation Temperature[°F] 5 Capacity [BTU/h] min	5 Capacity [BTU/h] max	5 COP	14 Capacity [BTU/h] min	14 Capacity [BTU/h] max	14 COP	23 Capacity [BTU/h] min	23 Capacity [BTU/h] max	23 COP	32 Capacity [BTU/h] min	32 Capacity [BTU/h] max	32 COP	41 Capacity [BTU/h] min	41 Capacity [BTU/h] max	41 COP
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	0.28ft³	**MEPS** [c]	3.41
Weight	350.5 lbs	**Annual Energy Consumption**	4590 kWh/year
Connections	Liquid / suction 1/2"	**Power Supply**	280 V / 3+N+PE / 60 Hz
Sound pressure [b]	40.3 dB(A)		

UMT T 045 MTDX

Ambient Temperature [°F]	Evaporation Temperature[°F] 5 Capacity [BTU/h] min	5 Capacity [BTU/h] max	5 COP	14 Capacity [BTU/h] min	14 Capacity [BTU/h] max	14 COP	23 Capacity [BTU/h] min	23 Capacity [BTU/h] max	23 COP	32 Capacity [BTU/h] min	32 Capacity [BTU/h] max	32 COP	41 Capacity [BTU/h] min	41 Capacity [BTU/h] max	41 COP
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	0.28ft³	**MEPS** [c]	3.42
Weight	350.5 lbs	**Annual Energy Consumption**	6945 kWh/year
Connections	Liquid / suction 1/2"	**Power Supply**	280 V / 3+N+PE / 60 Hz
Sound pressure [b]	40.3 dB(A)		

UMT T 067 MTDX

Ambient Temperature [°F]	Evaporation Temperature[°F] 5 Capacity [BTU/h] min	5 Capacity [BTU/h] max	5 COP	14 Capacity [BTU/h] min	14 Capacity [BTU/h] max	14 COP	23 Capacity [BTU/h] min	23 Capacity [BTU/h] max	23 COP	32 Capacity [BTU/h] min	32 Capacity [BTU/h] max	32 COP	41 Capacity [BTU/h] min	41 Capacity [BTU/h] max	41 COP
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	**MEPS** [c]	3.25
Weight	352.7 lbs	**Annual Energy Consumption**	10778 kWh/year
Connections	Liquid / suction 1/2"	**Power Supply**	280 V / 3+N+PE / 60 Hz
Sound pressure [b]	43.2 dB(A)		

UMT T 100 MTDX

Ambient Temperature [°F]	Evaporation Temperature[°F] 5 Capacity [BTU/h] min	5 Capacity [BTU/h] max	5 COP	14 Capacity [BTU/h] min	14 Capacity [BTU/h] max	14 COP	23 Capacity [BTU/h] min	23 Capacity [BTU/h] max	23 COP	32 Capacity [BTU/h] min	32 Capacity [BTU/h] max	32 COP	41 Capacity [BTU/h] min	41 Capacity [BTU/h] max	41 COP
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	**MEPS** [c]	3.35
Weight	352.7 lbs	**Annual Energy Consumption**	15746 kWh/year
Connections	Liquid / suction 5/8"	**Power Supply**	460 V / 3+N+PE / 60 Hz
Sound pressure [b]	43.2 dB(A)		

NOTES

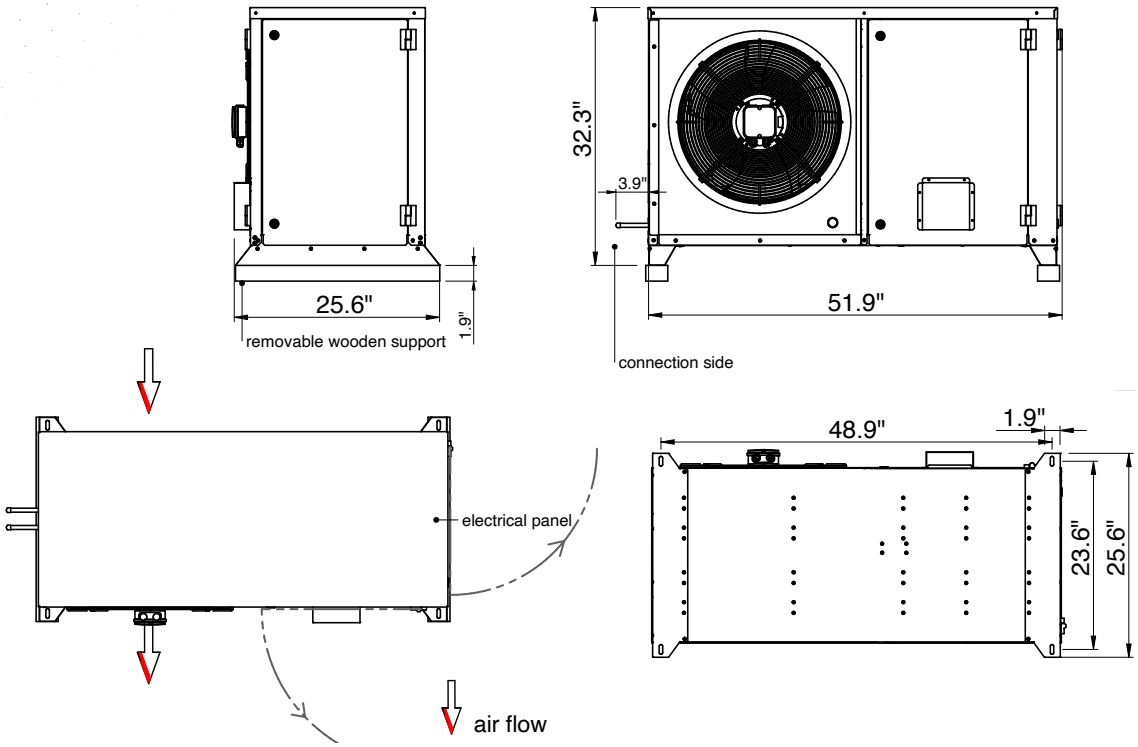
[a] Insterstage SST variable from 23°F to 32°F

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

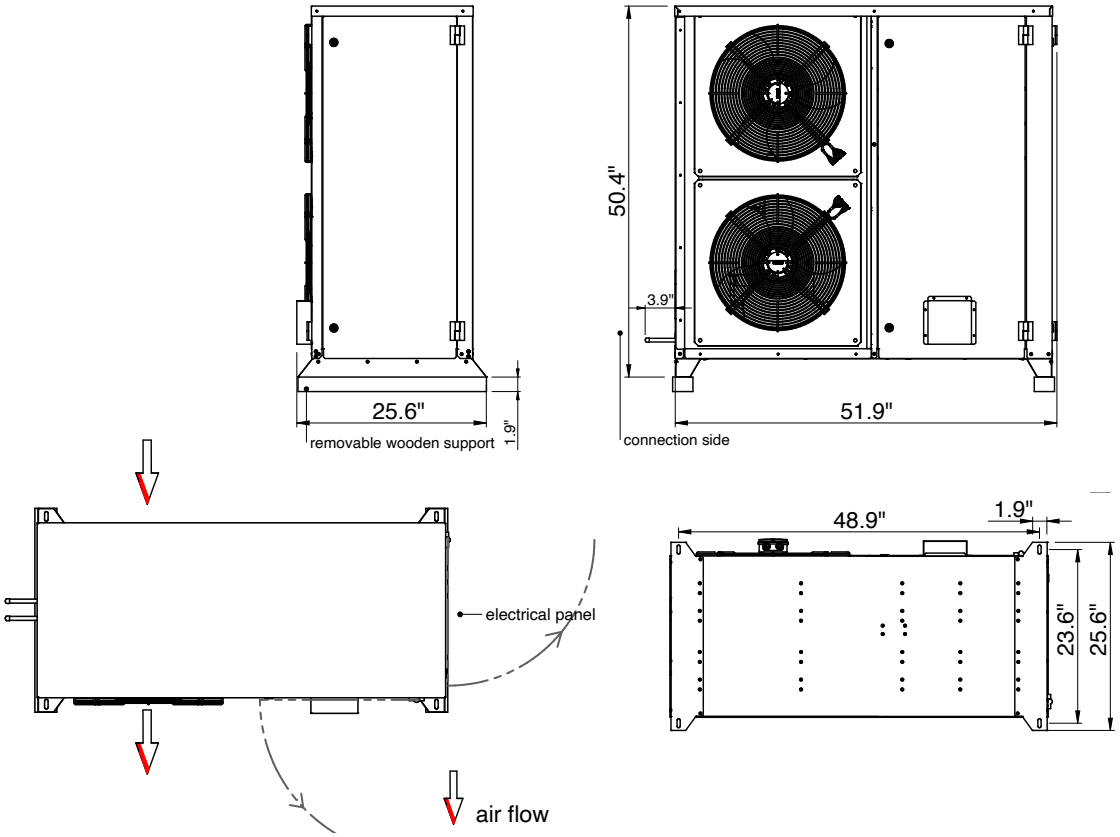
[c] Minimum Energy Performance Standards, calculated according to Ecodesign Directive EN 2009/125/EC

Dimensional Data

BTDX - MTDX
Standard

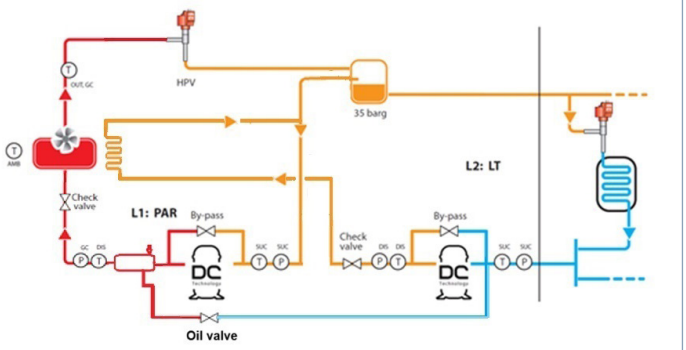


BTDX - MTDX
Low Noise

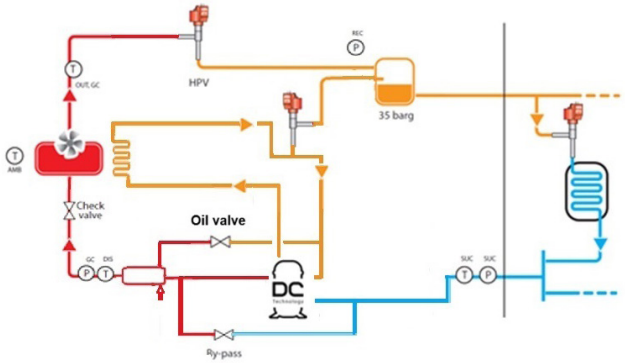


Unit Configuration

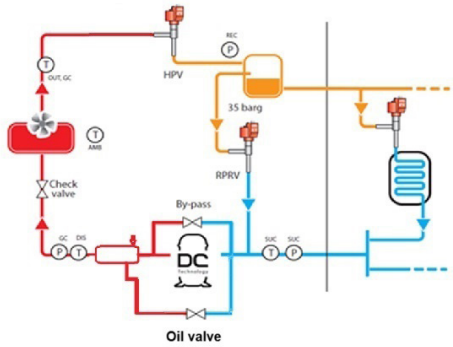
MODEL UMT T BTDX - 2 compressors



MODEL UMT T BTDX
2 - stage compressor

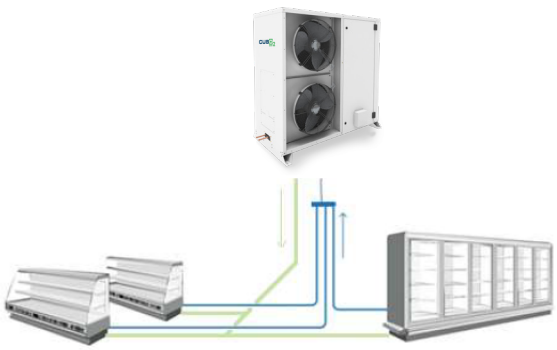


MODEL UMT T MTDX



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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