



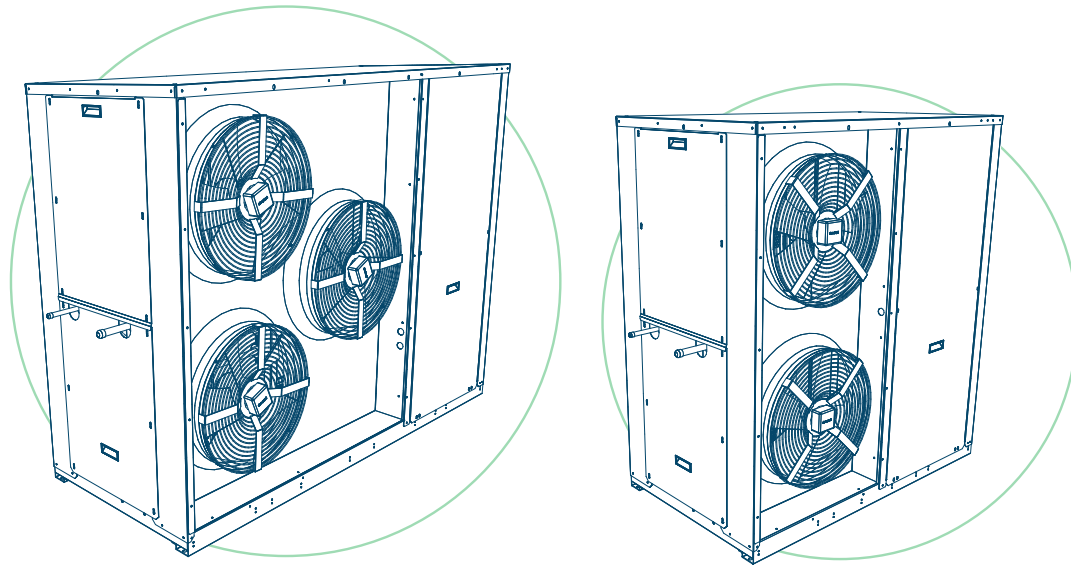
SUSTAINABLE COLD SOLUTIONS

Transcritical CO₂ndensing units










We know the art of achieving
a perfect temperature

BEIJER REF



Condensing unit for transcritical CO₂ applications equipped with BITZER or 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>CO₂ 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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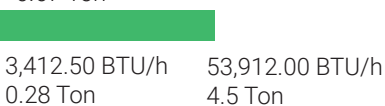
Cooling Capacity

Transcritical condensing units DX

UMT MTDX



UMT BTDX

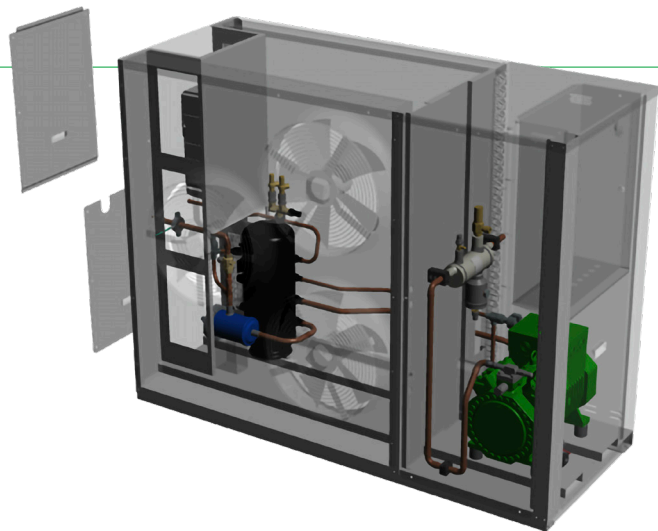


Standard Accessories

- Semi-hermetic 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 / 1885 PSI (high pressure side) | 80 bar / 1160 PSI (liquid line) | 80 bar / 1160 PSI (suction line)
- Power supply 460V / 3Ph + PE /60 Hz
- ASME Liquid receiver - 0.53 ft³
- UL Certified equipment
- K65 connections

Accessories on Request

- ASME Liquid receiver - 1.31 ft³
- Adiabatic system (suggested for ambient temperature > + 100.4°F)
- RDM/Danfoss controller
- Epoxy or electrofin gas cooler corrosion coil protection



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 Plus (a)

LOW TEMPERATURE

Variable Speed Drive

		Evaporation Temperature [°F]																
		-40			-31			-22			-13							
		Capacity [kBTU/h]	Pe	COP	Capacity [kBTU/h]	Pe	COP	Capacity [kBTU/h]	Pe	COP	Capacity [kBTU/h]	Pe	COP					
Ambient temperature [°F]	min	max	kW	min	max	kW	min	max	kW	min	max	kW	min	max	kW	COP		
UMT 055 BTDX	Dorin CD25 550	104	-	-	-	-	-	-	-	17.57	35.13	8,92	1,15	22.01	44.02	6,22	2,08	
		100	-	-	-	-	-	-	-	17.73	35.46	8,63	1,20	22.001	44.02	6,22	2,08	
		90	13.14	26.29	7,09	1,09	15.56	31.12	7,42	1,23	18.08	36.15	7,82	1,35	20.58	41.15	8,16	1,48
		77	13.43	26.86	6,40	1,23	15.70	31.40	6,70	1,37	18.43	36.85	7,02	1,54	21.19	42.38	7,32	1,70
		59	13.74	27.47	5,56	1,45	16.38	32.76	5,71	1,68	19.16	38.36	6,00	1,87	22.01	44.02	6,22	2,08
		41	14.25	28.50	4,62	1,81	16.95	33.90	4,82	2,06	19.78	39.55	4,98	2,33	-	-	-	-
		N. of fans	2 x Ø 500 mm			MEPS (c)			1,80			Annual Energy Consumption			65,817 kWh/year			
Weight	1,235 lbs			FLA/MRA/Pmax			18,9 A / 67,4 A / 9,4 kW			Sound pressure (b)			48 dB(A)					
UMT 075 BTDX	Dorin CD25 750	104	-	-	-	-	-	-	-	22.62	45.24	12,14	1,09	25.22	50.44	12,59	1,17	
		100	-	-	-	-	-	-	-	19.78	39.55	11,11	1,04	22.79	45.57	11,69	1,14	
		90	17.40	34.80	9,65	1,06	20.04	40.09	10,03	1,17	23.44	46.88	10,50	1,31	26.49	52.98	10,87	1,43
		77	17.69	35.38	8,58	1,21	20.57	41.15	8,94	1,35	23.75	47.50	9,29	1,50	27.70	55.40	9,48	1,71
		59	18.34	36.69	7,30	1,47	21.54	43.07	7,60	1,66	24.61	49.22	7,97	1,81	28.35	56.71	8,06	2,06
		41	18.85	37.71	6,04	1,83	22.36	44.71	6,26	2,09	25.69	51.39	6,47	2,33	-	-	-	0,00
		N. of fans	2 x Ø 500 mm			MEPS (c)			1,85			Annual Energy Consumption			85,345 kWh/year			
Weight	1,257 lbs			FLA/MRA/Pmax			23,9 A / 90,4 A / 12,1 kW			Sound pressure (b)			48 dB(A)					
UMT 090 BTDX	Dorin CD25 900	104	-	-	-	-	-	-	-	26.96	53.92	14,74	1,07	30.05	60.11	15,24	1,16	
		100	-	-	-	-	-	-	-	24.16	48.32	13,58	1,04	27.84	55.69	14,28	1,14	
		90	21.03	42.05	11,76	1,05	24.51	49.01	12,26	1,17	28.29	56.59	12,76	1,30	32.00	64.00	13,20	1,42
		77	21.37	42.75	10,46	1,20	25.18	50.36	10,91	1,35	29.05	58.10	11,32	1,50	32.84	65.68	11,66	1,65
		59	38.57	44.38	8,89	1,46	26.06	52.12	9,23	1,66	30.03	60.03	9,52	1,85	34.68	69.36	9,80	2,07
		41	22.87	45.74	7,34	1,83	26.76	53.52	7,57	2,07	31.10	62.20	7,84	2,33	-	-	-	-
		N. of fans	3 x Ø 500 mm			MEPS (c)			1,87			Annual Energy Consumption			103,011 kWh/year			
Weight	1,433 lbs			FLA/MRA/Pmax			29,6 A / 98,6 A / 14,8 kW			Sound pressure (b)			48 dB(A)					
UMT 200 BTDX	Dorin CD25 2000	104	-	-	-	-	-	-	-	33.39	66.78	16,82	1,16	38.06	76.12	17,64	1,26	
		100	-	-	-	-	-	-	-	29.01	58.02	15,36	1,11	33.70	67.40	16,28	1,21	
		90	25.22	50.44	13,39	1,10	29.56	59.13	14,08	1,23	34.35	68.71	14,78	1,36	39.59	79.19	15,52	1,50
		77	25.75	51.51	12,08	1,25	30.16	60.31	12,68	1,39	35.38	70.75	13,33	1,56	40.29	80.58	13,91	1,70
		59	26.63	53.27	10,44	1,50	31.43	62.85	10,94	1,68	36.81	73.62	11,45	1,88	42.28	84.55	11,88	2,09
		41	27.64	55.28	8,75	1,85	32.49	64.98	9,12	2,09	37.94	75.87	9,54	2,33	-	-	-	-
		N. of fans	3 x Ø 500 mm			MEPS (c)			1,89			Annual Energy Consumption			125,074 kWh/year			
Weight	1,444 lbs			FLA/MRA/Pmax			44,6 A / 183,6 A / 23,7 kW			Sound pressure (b)			50 dB(A)					
UMT 250 BTDX	Dorin CD25 2500	104	-	-	-	-	-	-	-	42.26	84.51	21,89	1,13	47.95	95.89	22,81	1,23	
		100	-	-	-	-	-	-	-	37.26	74.52	20,24	1,08	43.12	86.23	21,18	1,19	
		90	32.35	64.69	17,41	1,09	37.83	75.67	18,22	1,22	43.83	87.66	19,02	1,35	49.75	99.50	19,76	1,48
		77	33.25	66.50	15,49	1,26	38.90	77.80	16,31	1,40	44.51	89.02	16,94	1,54	51.08	102.16	17,58	1,70
		59	34.21	68.42	13,42	1,49	40.29	80.58	13,97	1,69	46.53	93.07	14,46	1,89	53.35	106.70	14,89	2,10
		41	35.23	70.47	11,17	1,85	41.38	82.75	11,56	2,10	48.23	96.47	11,99	2,36	-	-	-	-
		N. of fans	3 x Ø 500 mm			MEPS (c)			1,90			Annual Energy Consumption			159,585 kWh/year			
Weight	1,455 lbs			FLA/MRA/Pmax			51,6 A / 209,6 A / 27,6 kW			Sound pressure (b)			50 dB(A)					

NOTES

- (a) Inverter modulation from 30 to 60 Hz except / cooling capacity min @30Hz - @60Hz except** @60Hz
- (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 Plus (a)

MEDIUM TEMPERATURE - DORIN

Variable Speed Drive

		Evaporation Temperature[°F]																			
		5			14			23			32			41							
		Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
Ambient temp [°F]	min	max	kW	min	max	kW	min	max	kW	min	max	kW	min	max	kW	EER					
UMT 036 MTDX Dorin CD 360H	104	6.70	13.40	4.39	3.05	8.40	16.80	4.60	3.65	10.33	20.66	4.77	4.33	12.46	24.92	4.60	5.08	14.76	29.52	4.99	5.92
	100	7.06	14.11	4.32	3.26	8.83	17.66	4.51	3.91	10.83	21.67	4.66	4.65	13.05	26.11	4.77	5.48	15.45	30.89	4.83	6.40
	90	8.32	16.64	4.08	4.08	10.33	20.66	4.20	4.92	12.60	25.20	4.27	5.90	15.10	30.21	4.30	7.02	17.80	35.67	4.28	8.33
	77	9.90	19.80	4.04	4.91	12.28	24.65	3.98	6.17	14.97	29.94	4.21	7.11	17.95	35.89	4.23	8.49	21.18	42.35	4.19	10.10
	59	12.44	24.88	3.59	6.93	15.04	30.08	3.20	9.39	18.43	36.86	3.57	10.33	21.93	43.87	3.47	12.63	23.73	51.46	3.32	15.51
	41	15.23	30.46	3.00	10.14	18.47	36.95	2.63	14.06	22.12	44.23	2.78	15.92	26.13	52.26	2.58	20.29	30.48	60.96	2.31	26.43
N. of fans	2 x Ø 500 mm						MEPS (c)						2.56								
Weight	1,014 lbs						Annual Energy Consumption						19,150 kWh/year								
Sound pressure (b)	43 dB(A)						MRA/Pmax						15.9 A / 7.5 kW								
		Evaporation Temperature[°F]																			
		5			14			23			32			41							
		Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
Ambient temp [°F]	min	max	kW	min	max	kW	min	max	kW	min	max	kW	min	max	kW	EER					
UMT 075 MTDX Dorin CD 4 75-4.7 H	104	13.98	27.97	7.71	3.63	17.09	34.19	8.04	4.25	20.42	40.85	8.28	4.93	23.83	47.66	8.45	5.64	27.16	54.33	8.52	6.38
	100	14.58	29.17	7.53	3.88	17.75	35.5	7.81	4.54	21.09	42.18	8.02	5.26	24.45	48.91	8.15	6.00	27.67	55.33	8.18	6.77
	90	16.4	32.8	6.91	4.75	19.39	38.77	7.08	5.47	22.21	44.41	7.17	6.20	24.73	49.45	7.16	6.91	26.91	53.82	7.05	7.64
	77	20.08	40.15	6.82	5.89	24.37	48.74	6.97	6.99	28.97	57.94	7.04	8.23	33.61	67.23	7.01	9.59	37.96	75.93	6.88	11.04
	59	24.28	48.57	5.86	8.28	28.71	57.42	5.85	9.82	32.67	65.34	5.74	11.38	35.6	71.19	5.53	12.87	39.23	78.46	5.22	15.04
	41	27.24	54.47	4.71	11.57	31.28	62.55	4.53	13.81	37.07	74.13	4.25	17.45	43.4	86.8	3.86	22.47	50.21	100.42	3.37	29.81
N. of fans	2 x Ø 500 mm						MEPS (c)						2.67								
Weight	1,433 lbs						Annual Energy Consumption						26,174 kWh/year								
Sound pressure (b)	45 dB(A)						MRA/Pmax						20.5 A / 10.4 kW								
		Evaporation Temperature[°F]																			
		5			14			23			32			41							
		Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
Ambient temp [°F]	min	max	kW	min	max	kW	min	max	kW	min	max	kW	min	max	kW	EER					
UMT 120 MTDX Dorin CD 4 90-6.4H	104	19.31	38.61	10.33	3.74	23.63	47.31	10.78	4.39	28.32	56.64	11.13	5.09	33.06	66.12	11.37	5.81	37.62	75.24	11.5	6.54
	100	20.16	40.32	10.08	4.00	24.6	49.19	10.48	4.69	29.28	58.55	10.78	5.43	33.92	67.85	10.97	6.19	38.26	76.54	11.04	6.93
	90	22.82	45.63	9.24	4.94	26.95	53.90	9.48	5.69	30.71	61.41	9.61	6.39	33.96	67.91	9.63	7.05	36.79	73.57	9.52	7.73
	77	27.65	55.31	9.11	6.07	33.64	67.28	9.33	7.21	40.04	80.08	9.43	8.49	46.34	92.67	9.41	9.84	51.87	103.74	9.27	11.19
	59	33.62	67.25	7.80	8.62	39.95	79.90	7.81	10.23	45.33	90.66	7.70	11.78	49.00	97.99	7.47	13.12	53.73	107.45	7.12	15.09
	41	40.07	80.13	6.27	12.78	42.83	85.65	6.08	14.08	50.7	101.39	5.79	17.52	59.29	118.58	5.38	22.03	68.5	137.01	4.88	28.10
N. of fans	2 x Ø 500 mm						MEPS (c)						2.75								
Weight	1,257 lbs						Annual Energy Consumption						35,268 kWh/year								
Sound pressure (b)	45 dB(A)						MRA/Pmax						26.3 A / 13.8 kW								
		Evaporation Temperature[°F]																			
		5			14			23			32			41							
		Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
Ambient temp [°F]	min	max	kW	min	max	kW	min	max	kW	min	max	kW	min	max	kW	EER					
UMT 150 MTDX CD 4 120-9.2H	104	27.6	55.2	14.79	3.73	33.95	67.91	15.46	4.39	40.98	81.97	16.00	5.12	48.48	96.96	16.4	5.91	56.14	112.29	16.66	6.74
	100	28.86	57.71	14.43	4.00	35.42	70.84	15.03	4.71	42.64	85.27	15.50	5.50	50.25	100.51	15.83	6.35	57.93	115.86	16.00	7.24
	90	33.18	66.36	13.24	5.01	46.44	92.89	16.92	5.49	51.53	103.07	17.08	6.03	48.22	96.44	13.89	6.90	60.63	121.26	13.94	8.70
	77	39.46	78.91	13.06	6.04	48.12	96.24	13.4	7.18	57.75	115.49	13.60	8.49	68.08	136.16	13.65	9.97	78.66	157.32	13.56	11.6
	59	48.11	96.22	11.24	8.56	58.10	116.2	11.30	10.28	69.01	138.01	11.23	12.28	80.12	160.25	11.05	14.51	90.21	180.41	10.75	16.79
	41	57.17	114.34	9.15	12.50	68.04	136.07	9.03	15.07	78.65	157.29	8.81	17.85	87.81	175.62	8.51	20.64	96.58	193.17	8.13	23.77
N. of fans	3 x Ø 500 mm						MEPS (c)						2.83								
Weight	1,235 lbs						Annual Energy Consumption						51,217 kWh/year								
Sound pressure (b)	44 dB(A)						MRA/Pmax						33.4 A / 18.6 kW								
		Evaporation Temperature[°F]																			
		5			14			23			32			41							
		Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
Ambient temp [°F]	min	max	kW	min	max	kW	min	max	kW	min	max	kW	min	max	kW	EER					
UMT 190 MTDX Dorin CD 2000H	104	36.32	72.63	18.81	3.86	43.89	87.77	19.5	4.5	51.54	103.08	20.01	5.15	58.86	98.1	16.93	5.79	64.42	107.37	17.16	6.26
	100	37.7	75.4	18.27	4.13	45.21	90.41	18.88	4.79	52.61	105.22	19.31	5.45	59.51	99.18	16.24	6.11	64.36	107.27	16.38	6.55
	90	44.09	88.18	17.29	5.1	52.56	105.13	17.76	5.92	60.59	121.18	18.03	6.72	67.67	112.78	15.08	7.48	73.64	122.74	14.95	8.21
	77	51.95	103.9	16.31	6.37	62.18	124.36	16.62	7.48	71.92	143.85	16.74	8.6	77.73	129.78	13.64	9.5	83.33	138.89	13.48	10.3
	59	61.26	122.53	13.84	8.85	68.73	137.47	13.81	9.95	74.35	148.7	13.59	10.94	89.9	149.67	11.49	13.02	123.25	205.42	11.52	17.83
	41	67.69	135.37	11.05	12.25	80.95	161.91	10.71	15.12	95.66	191.31	10.2	18.75	105.73	176.21	9.63	18.31	120.13	200.22	9.68	20.7
N. of fans	3 x Ø 500 mm						MEPS (c)						2.85								
Weight	1,444 lbs						Annual Energy Consumption						66,470 kWh/year								
Sound pressure (b)	45 dB(A)						MRA/Pmax						42.4 A / 24 kW								

NOTES

- (a) Inverter modulation from 30 to 60 Hz except / cooling capacity min @30Hz - @60Hz except** @60Hz
- (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 Plus (a)

MEDIUM TEMPERATURE - BITZER

Variable Speed Drive

		Evaporation Temperature[°F]																				
		5			14			23			32			41								
		Ambient temp [°F]	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
	min	max	kW		min	max	kW		min	max	kW		min	max	kW							
UMT 036 MTDX	Bitzer 2MTE-5K	104	9.72	19.44	5.23	3.72	11.86	23.72	5.93	4	14.3	28.6	6.13	4.66	17	34.01	6.29	5.4	20.16	40.33	6.39	6.32
		100	10.18	20.36	5.09	4	12.44	24.89	5.77	4.31	15.03	30.05	5.96	5.04	17.88	35.76	6.09	5.87	21.15	42.31	6.15	6.88
		90	11.81	23.61	4.64	5.09	14.47	28.94	5.26	5.5	17.45	34.9	5.37	6.5	20.56	41.13	5.4	7.61	23.67	47.34	5.36	8.83
		77	13.96	27.91	4.58	6.1	17.21	34.41	5.19	6.63	20.99	41.99	5.28	7.95	25.42	50.84	5.3	9.59	30.28	60.55	5.24	11.55
		59	16.95	33.9	3.57	9.49	20.66	41.31	4.03	10.25	24.53	49.06	4.02	12.21	28.84	57.67	3.96	14.56	33.43	66.86	3.81	17.53
		41	20.23	40.47	2.97	13.61	24.6	49.2	3.34	14.74	29.19	58.38	3.24	18.02	34.41	68.83	3.1	22.22	39.88	79.75	2.86	27.88
N. of fans		2 x Ø 500 mm						MEPS (c)			2.75											
Weight		1,014 lbs						Annual Energy Consumption			18,927 kWh/year											
Sound pressure (b)		43 dB(A)						MRA/Pmax			15.9 A / 7.5 kW											
		Evaporation Temperature[°F]																				
		5			14			23			32			41								
		Ambient temp [°F]	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
	min	max	kW		min	max	kW		min	max	kW		min	max	kW							
UMT 075 MTDX	Bitzer 2KTE-7K	104	14.02	28.05	7.88	3.56	17.22	34.44	8.24	4.18	20.91	41.82	8.54	4.9	25.06	50.13	8.77	5.72	29.51	59.02	8.91	6.62
		100	14.7	29.4	7.68	3.83	18.06	36.11	8.01	4.51	21.89	43.79	8.28	5.29	26.15	52.31	8.48	6.17	30.66	61.33	8.57	7.15
		90	17.06	34.12	7.04	4.85	20.79	41.58	7.27	5.72	24.72	49.44	7.42	6.66	28.54	57.07	7.49	7.62	31.96	63.92	7.43	8.6
		77	20.34	40.69	6.94	5.86	25	50	7.16	6.99	30.33	60.67	7.29	8.32	36.3	72.6	7.33	9.9	42.65	85.3	7.25	11.76
		59	24.25	48.5	5.58	8.69	28.93	57.86	5.67	10.2	34.08	68.17	5.7	11.97	39.72	79.45	5.64	14.07	45.82	91.65	5.5	16.65
		41	29.04	58.09	4.74	12.25	34.43	68.85	4.73	14.57	40.36	80.72	4.64	17.39	46.86	93.72	4.48	20.9	53.92	107.83	4.27	25.46
N. of fans		2 x Ø 500 mm						MEPS (c)			2.78											
Weight		1,036 lbs						Annual Energy Consumption			26,966 kWh/year											
Sound pressure (b)		44 dB(A)						MRA/Pmax			20.5 A / 10.4 kW											
		Evaporation Temperature[°F]																				
		5			14			23			32			41								
		Ambient temp [°F]	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
	min	max	kW		min	max	kW		min	max	kW		min	max	kW							
UMT 120 MTDX	Bitzer 4MTE-10K	104	18.4	36.8	10.33	3.65	22.86	45.73	11.02	4.15	27.74	55.47	11.5	4.82	32.91	65.82	11.78	5.59	38.16	76.32	11.87	6.43
		100	19.44	38.88	10.2	3.81	24.01	48.03	10.78	4.46	28.93	57.85	11.16	5.19	34.01	68.03	11.34	6	39.02	78.03	11.34	6.88
		90	22.55	45.1	9.53	4.73	26.88	53.76	9.81	5.48	30.87	61.74	9.92	6.23	34.45	68.9	9.84	7	37.75	75.51	9.63	7.84
		77	27.37	54.74	9.41	5.82	33.63	67.27	9.65	6.97	40.47	80.93	9.72	8.33	47.41	94.82	9.62	9.86	53.66	107.31	9.36	11.47
		59	31.6	63.2	7.65	8.26	37.61	75.22	7.73	9.73	44.18	88.37	7.73	11.43	51.36	102.72	7.64	13.44	59.12	118.24	7.47	15.83
		41	37.78	75.56	6.44	11.73	44.35	88.7	6.28	14.13	52.44	104.87	6.37	16.46	60.81	121.61	6.24	19.49	69.86	139.71	6.05	23.09
N. of fans		2 x Ø 500 mm						MEPS (c)			2.68											
Weight		1,257 lbs						Annual Energy Consumption			36,104 kWh/year											
Sound pressure (b)		44 dB(A)						MRA/Pmax			26.3 A / 13.8 kW											
		Evaporation Temperature[°F]																				
		5			14			23			32			41								
		Ambient temp [°F]	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
	min	max	kW		min	max	kW		min	max	kW		min	max	kW							
UMT 150 MTDX	Bitzer 4KTE-12K	104	27.9	55.8	15.2	3.67	34.58	69.16	15.8	4.38	41.76	83.52	16.32	5.12	49.26	98.53	16.72	5.89	56.79	113.59	16.96	6.7
		100	29.38	58.75	14.78	3.98	36.22	72.45	15.33	4.73	43.45	86.9	15.79	5.5	50.81	101.61	16.11	6.31	57.97	115.95	16.26	7.13
		90	33.42	66.85	13.45	4.97	39.78	79.55	13.82	5.76	45.54	91.08	14.06	6.48	50.71	101.41	14.11	7.19	55.46	110.91	13.95	7.95
		77	40.81	81.62	13.25	6.16	50.28	100.55	13.6	7.4	60.41	120.81	13.79	8.76	70.5	141.01	13.8	10.22	79.47	158.94	13.58	11.7
		59	47.19	94.39	10.8	8.74	55.99	111.99	11.01	10.17	65.7	131.41	11.1	11.83	76.37	152.74	11.06	13.81	88	176.01	10.85	16.23
		41	57.78	115.56	9.19	12.58	67.57	135.14	9.22	14.66	78.46	156.93	9.13	17.19	90.58	181.16	8.9	20.36	103.85	207.71	8.53	24.35
N. of fans		3 x Ø 500 mm						MEPS (c)			2.74											
Weight		1,422 lbs						Annual Energy Consumption			52,347 kWh/year											
Sound pressure (b)		45 dB(A)						MRA/Pmax			33.4 A / 18.6 kW											
		Evaporation Temperature[°F]																				
		5			14			23			32			41								
		Ambient temp [°F]	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER	Capacity[kBTU/h]	Pe	EER					
	min	max	kW		min	max	kW		min	max	kW		min	max	kW							
UMT 190 MTDX	Bitzer 4HTE-20K	104	36.29	72.57	18.66	3.89	43.67	87.35	19.6	4.46	51.55	94.42	18.61	5.07	59.37	98.95	17.31	5.71	66.87	111.46	17.53	6.36
		100	37.96	75.92	18.2	4.17	45.26	90.52	19.01	4.76	52.86	96.82	17.96	5.39	60.21	100.35	16.62	6.04	67.15	111.92	16.75	6.68
		90	44.79	89.58	17.29	5.18	46.84	93.69	17.01	5.51	59	108.06	16.42	6.58	68.71	114.52	15.33	7.47	78.84	131.4	15.64	8.4
		77	53.02	106.04	16.32	6.5	63.01	126.02	16.7	7.55	73.01	133.72	15.46	8.65	81.62	136.03	14.02	9.7	88.62	147.7	13.85	10.66
		59	58.28	116.55	13.5	8.63	68.31	136.61	13.75	9.94	79.55	145.7	12.75	11.43	91.67	152.78	11.67	13.09	104.75	174.9	11.68	14.95
		41	69	138	11.58	11.92	80.75	161.49	11.65	13.86	93.87	171.93	10.72	16.04	107.92	179.87	9.76	18.44	123	204.99	9.74	21.04
N. of fans		3 x Ø 500 mm						MEPS (c)			2.71											
Weight		1,444 lbs						Annual Energy Consumption			62,283 kWh/year											
Sound pressure (b)		45 dB(A)						MRA/Pmax			42.4 A / 24 kW											

NOTES

- (a) Inverter modulation from 30 to 60 Hz except / cooling capacity min @30Hz - @60Hz except** @60Hz
- (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 Plus (a)

MEDIUM TEMPERATURE - BITZER

Stepless capacity regulation

		Evaporation Temperature[°F]																				
		5				14				23				32				41				
		Ambient temp [°F]	Capacity[kBTU/h]	Pe kW	EER	Capacity[kBTU/h]	Pe kW	EER	Capacity[kBTU/h]	Pe kW	EER	Capacity[kBTU/h]	Pe kW	EER	Capacity[kBTU/h]	Pe kW	EER	Capacity[kBTU/h]	Pe kW	EER		
UMT 075 VS MTDX	Bitzer 4PTE-7K	min	max		min	max		min	max		min	max		min	max		min	max				
		104	2.34	23.37	6.26	1.1	2.87	28.73	6.55	1.29	3.5	34.96	6.81	1.51	4.21	42.14	7	1.76	5.02	50.21	7.13	2.06
		100	2.45	24.51	6.09	1.18	3.01	30.15	6.36	1.39	3.67	36.69	6.59	1.63	4.42	44.17	6.76	1.92	5.25	52.51	6.85	2.25
		90	2.85	28.54	5.55	1.51	3.51	35.06	5.74	1.79	4.25	42.48	5.88	2.12	5.06	50.56	5.94	2.5	5.86	58.64	5.91	2.91
		77	3.39	33.9	5.47	1.82	4.17	41.67	5.65	2.16	5.06	50.62	5.77	2.57	6.09	60.86	5.81	3.07	7.24	72.41	5.75	3.69
		59	4.17	41.74	4.23	2.89	4.99	49.94	4.28	3.42	5.9	59.04	4.28	4.05	6.91	69.06	4.21	4.81	8	80	4.07	5.76
	41	5	49.97	3.51	4.18	5.94	59.41	3.47	5.02	6.99	69.88	3.37	6.07	8.15	81.46	3.21	7.44	9.42	94.15	2.98	9.26	
	N. of fans	2 x Ø 500 mm				MEPS (c)				3.14												
	Weight	1,036 lbs				Annual Energy Consumption				20,096 kWh/year												
	Sound pressure (b)	44 dB(A)				MRA/Pmax				20.5 A / 10.4 kW												
UMT 120 VS MTDX	Bitzer 4MTE-10K	min	max		min	max		min	max		min	max		min	max		min	max				
		104	3.07	30.67	8.61	3.56	3.81	38.11	9.18	4.15	4.62	46.23	9.59	4.82	5.48	54.85	9.82	5.59	6.36	63.6	9.89	6.43
		100	3.24	32.4	8.5	3.81	4	40.02	8.98	4.46	4.82	48.21	9.3	5.19	5.67	56.69	9.45	6	6.5	65.03	9.45	6.88
		90	3.76	37.58	7.94	4.73	4.48	44.8	8.18	5.48	5.14	51.45	8.26	6.23	5.74	57.41	8.2	7	6.29	62.92	8.02	7.84
		77	4.56	45.62	7.84	5.82	5.61	56.06	8.04	6.97	6.74	67.44	8.1	8.33	7.9	79.02	8.01	9.86	8.94	89.43	7.9	11.47
		59	5.27	52.66	6.37	8.26	6.27	62.68	6.44	9.73	7.36	73.64	6.44	11.43	8.56	85.6	6.37	13.44	9.85	98.54	6.23	15.83
	41	6.3	62.97	5.37	11.73	7.39	73.92	5.23	14.13	8.74	87.4	5.31	16.46	10.13	101.34	5.2	19.49	11.64	116.43	5.04	23.09	
	N. of fans	2 x Ø 500 mm				MEPS (c)				2.68												
	Weight	1,257 lbs				Annual Energy Consumption				30,081 kWh/year												
	Sound pressure (b)	44 dB(A)				MRA/Pmax				26.3 A / 13.8 kW												
UMT 150 VS MTDX	Bitzer 4KTE-12K	min	max		min	max		min	max		min	max		min	max		min	max				
		104	4.65	46.5	12.67	3.67	5.76	57.63	13.17	4.38	6.96	69.6	13.6	5.12	9.85	98.53	13.94	7.07	11.36	113.59	14.14	8.04
		100	4.9	48.96	12.31	3.98	6.04	60.37	12.77	4.73	7.24	72.42	13.16	5.5	10.16	101.61	13.43	7.57	11.59	115.95	13.55	8.56
		90	5.57	55.71	11.21	4.97	6.63	66.29	11.52	5.76	7.59	75.9	11.72	6.48	10.14	101.41	11.76	8.62	11.09	110.91	11.63	9.54
		77	6.8	68.02	11.05	6.16	8.38	83.8	11.33	7.4	10.07	100.68	11.49	8.76	14.1	141.01	11.5	12.26	15.89	158.94	11.32	14.04
		59	7.87	78.66	9	8.74	9.33	93.32	9.18	10.17	10.95	109.51	9.25	11.83	15.27	152.74	9.21	16.58	17.6	176.01	9.04	19.47
	41	9.63	96.3	7.66	12.58	11.26	112.62	7.68	14.66	13.08	130.77	7.61	17.19	18.12	181.16	7.41	24.43	20.77	207.71	7.11	29.22	
	N. of fans	2 x Ø 500 mm				MEPS (c)				2.80												
	Weight	1,421 lbs				Annual Energy Consumption				42,608 kWh/year												
	Sound pressure (b)	45 dB(A)				MRA/Pmax				33.4 A / 18.6 kW												
UMT 190 MTDX	Bitzer 4HTE-20K	min	max		min	max		min	max		min	max		min	max		min	max				
		104	6.05	60.48	15.55	3.89	7.28	72.79	16.33	4.46	8.58	85.83	16.92	5.07	9.89	98.95	17.31	5.71	11.15	111.46	17.53	6.36
		100	6.33	63.26	15.17	4.17	7.54	75.44	15.84	4.76	8.8	88.02	16.33	5.39	10.04	100.35	16.62	6.04	11.19	111.92	16.75	6.68
		90	7.46	74.65	14.41	5.18	7.81	78.07	14.17	5.51	9.82	98.24	14.93	6.58	11.45	114.52	15.33	7.47	13.14	131.4	15.64	8.4
		77	8.84	88.36	13.6	6.5	10.5	105.02	13.91	7.55	12.16	121.56	14.05	8.65	13.6	136.03	14.02	9.7	14.77	147.7	13.85	10.66
		59	9.71	97.13	11.25	8.63	11.38	113.84	11.46	9.94	13.25	132.45	11.59	11.43	15.28	152.78	11.67	13.09	17.46	174.59	11.68	14.95
	41	11.5	115	9.65	11.92	13.46	134.58	9.71	13.86	15.63	156.3	9.74	16.04	17.99	179.87	9.76	18.44	20.5	204.99	9.74	21.04	
	N. of fans	3 x Ø 500 mm				MEPS (c)				2.71												
	Weight	1,444 lbs				Annual Energy Consumption				51,896 kWh/year												
	Sound pressure (b)	44 dB(A)				MRA/Pmax				42.4 A / 24 kW												

NOTES

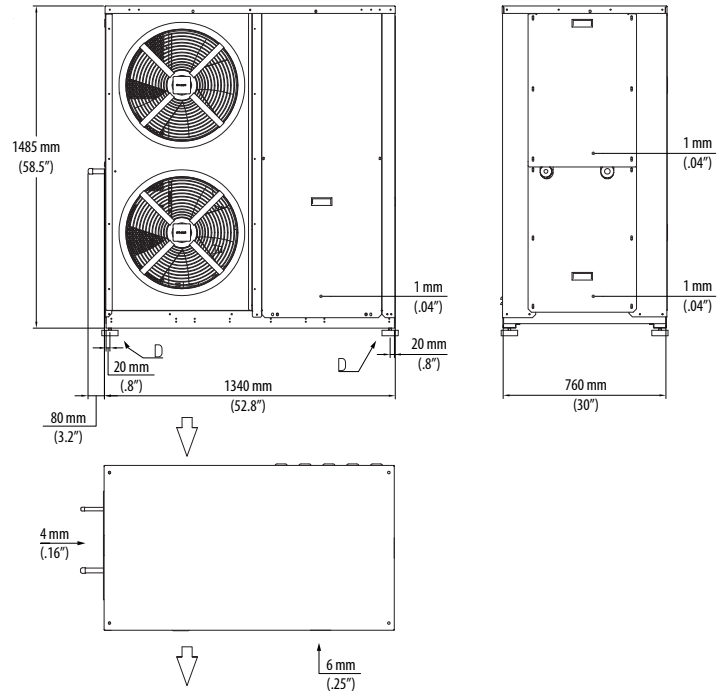
(a) Varistep modulation from 10 to 100 % of the capacity @ 60 Hz

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

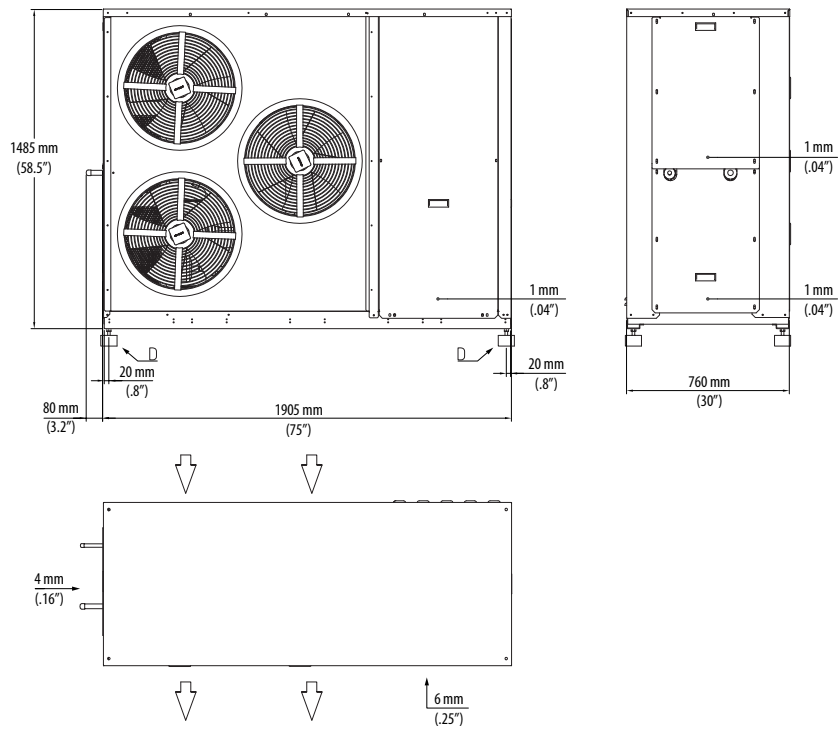
(c) Minimum Energy Performance Standards, calculated according to Ecodesign Directive EN 2009/125/EC

Dimensional Data

2 fans

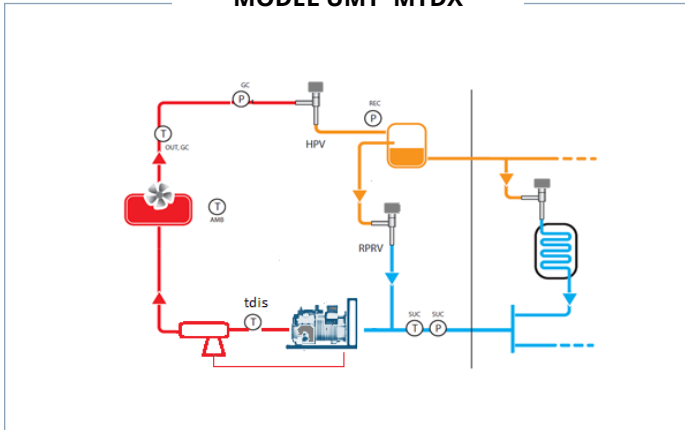


3 fans



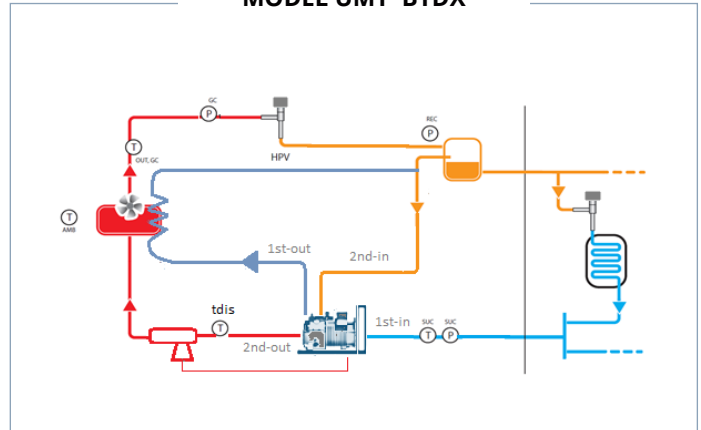
Unit Configuration

MODEL UMT MTDX



- One semi-hermetic Compressor
- Oil management with: oil separator, oil reservoir, TraxOil, Level Control
- Receiver Pressure: Fixed set point, adjustable by parameter (Factory Setting = 40 bar/580psi). Receiver pressure is managed by the flash valve.

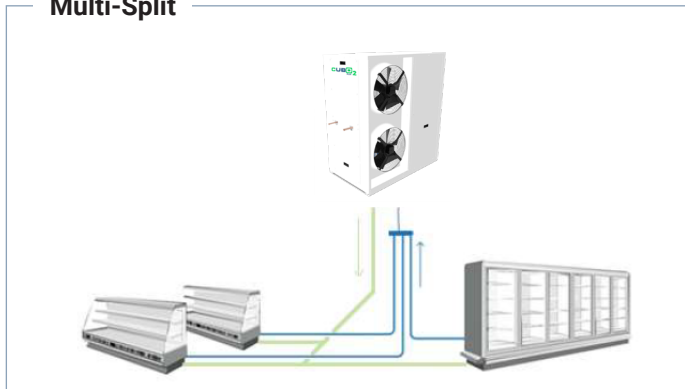
MODEL UMT BTDX



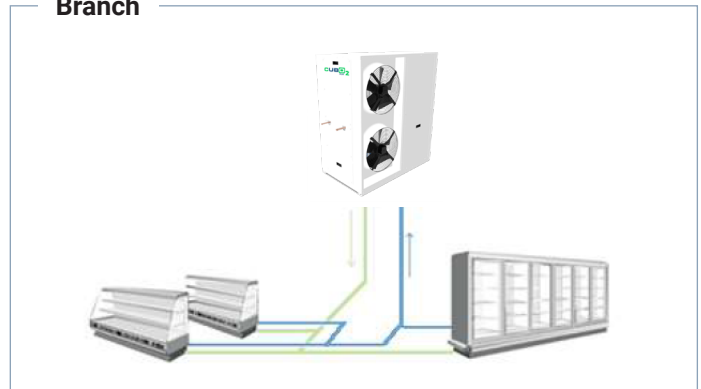
- One semi-hermetic compressor 2-Stage
- Air cooled intercooler integrated in the gas cooler coil
- Oil management with: oil separator, oil reservoir, TraxOil, Level Control
- Receiver Pressure: variable pressure according to the operating conditions and to the model compressor (Open Flash Tank System)

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 as used for Multi-Split or branch systems.

The preference is the one that 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 <3.2 ft/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).

Pressure/Temperature saturation table for CO₂/R744

Temp °F	CO ₂ (R-744) Pressure		Temp °C
	psi(g)	bar(g)	
-39	134.2	9.3	-39.4
-38	137.2	9.5	-38.9
-37	140.3	9.7	-38.3
-36	143.5	9.9	-37.8
-35	146.7	10.1	-37.2
-34	149.9	10.3	-36.7
-33	153.2	10.6	-36.1
-32	156.5	10.8	-35.6
-31	159.9	11.0	-35.0
-30	163.3	11.3	-34.4
-29	166.8	11.5	-33.9
-28	170.3	11.7	-33.3
-27	173.9	12.0	-32.8
-26	177.5	12.2	-32.2
-25	181.2	12.5	-31.7
-24	185.0	12.8	-31.1
-23	188.7	13.0	-30.6
-22	192.6	13.3	-30.0
-21	196.5	13.5	-29.4
-20	200.4	13.8	-28.9
-19	204.4	14.1	-28.3
-18	208.5	14.4	-27.8
-17	212.6	14.7	-27.2
-16	216.7	14.9	-26.7
-15	221.0	15.2	-26.1
-14	225.2	15.5	-25.6
-13	229.6	15.8	-25.0
-12	234.0	16.1	-24.4
-11	238.4	16.4	-23.9
-10	242.9	16.7	-23.3
-9	247.5	17.1	-22.8
-8	252.1	17.4	-22.2
-7	256.8	17.7	-21.7
-6	261.5	18.0	-21.1
-5	266.3	18.4	-20.6
-4	271.2	18.7	-20.0
-3	276.1	19.0	-19.4
-2	281.1	19.4	-18.9
-1	286.1	19.7	-18.3
0	291.2	20.1	-17.8
1	296.4	20.4	-17.2
2	301.7	20.8	-16.7
3	307.0	21.2	-16.1

Typical Low Temp Suction

Temp °F	CO ₂ (R-744) Pressure		Temp °C
	psi(g)	bar(g)	
4	312.3	21.5	-15.6
5	317.8	21.9	-15.0
6	323.2	22.3	-14.4
7	328.8	22.7	-13.9
8	334.4	23.1	-13.3
9	340.1	23.5	-12.8
10	345.9	23.8	-12.2
11	351.7	24.3	-11.7
12	357.6	24.7	-11.1
13	363.6	25.1	-10.6
14	369.7	25.5	-10.0
15	375.8	25.9	-9.4
16	382.0	26.3	-8.9
17	388.2	26.8	-8.3
18	394.5	27.2	-7.8
19	400.9	27.6	-7.2
20	407.4	28.1	-6.7
21	414.0	28.5	-6.1
22	420.6	29.0	-5.6
23	427.3	29.5	-5.0
24	434.0	29.9	-4.4
25	440.9	30.4	-3.9
26	447.8	30.9	-3.3
27	454.8	31.4	-2.8
28	461.9	31.8	-2.2
29	469.0	32.3	-1.7
30	476.3	32.8	-1.1
31	483.6	33.3	-0.6
32	491.0	33.9	0.0
33	498.5	34.4	0.6
34	506.0	34.9	1.1
35	513.6	35.4	1.7
36	521.4	35.9	2.2
37	529.2	36.5	2.8
38	537.1	37.0	3.3
39	545.0	37.6	3.9
40	553.1	38.1	4.4
41	561.2	38.7	5.0
42	569.5	39.3	5.6
43	577.8	39.8	6.1
44	586.2	40.4	6.7
45	594.7	41.0	7.2
46	603.2	41.6	7.8

Typical Medium Temp Suction

Temp °F	CO ₂ (R-744) Pressure		Temp °C
	psi(g)	bar(g)	
47	611.9	42.2	8.3
48	620.7	42.8	8.9
49	629.5	43.4	9.4
50	638.5	44.0	10.0
51	647.5	44.6	10.6
52	656.7	45.3	11.1
53	665.9	46.0	11.7
54	675.2	46.6	12.2
55	684.6	47.2	12.8
56	694.2	47.9	13.3
57	703.8	48.5	13.9
58	713.5	49.2	14.4
59	723.3	49.9	15.0
60	733.3	50.6	15.6
61	743.3	51.2	16.1
62	753.4	51.9	16.7
63	763.6	52.7	17.2
64	774.0	53.4	17.8
65	784.4	54.1	18.3
66	795.0	54.8	18.9
67	805.7	55.5	19.4
68	816.4	56.3	20.0
69	827.3	57.0	20.6
70	838.3	57.8	21.1
71	849.4	58.6	21.7
72	860.7	59.3	22.2
73	872.0	60.1	22.8
74	883.5	60.9	23.3
75	895.1	61.7	23.9
76	906.9	62.5	24.4
77	918.7	63.3	25.0
78	930.7	64.2	25.6
79	942.8	65.0	26.1
80	955.1	65.9	26.7
81	967.5	66.7	27.2
82	980.0	67.6	27.8
83	992.7	68.4	28.3
84	1005.6	69.3	28.9
85	1018.6	70.2	29.4
86	1031.8	71.1	30.0
87	1045.1	72.1	30.6
87.8	1055.5	72.8	31.0

Transcritical Gas Cooler Pressure & Temperature Correlations

Approximate gas cooler pressures a system may experience at various dropleg temps listed below.

Dropleg Temp °F	Gas Cooler CO ₂		Dropleg Temp °C
	psi(g)	bar(g)	
81	1037	71.5	27.2
82	1055	72.8	27.8
83	1073	74.0	28.3
84	1091	75.2	28.9
85	1109	76.2	29.4
86	1127	77.7	30.0
87	1145	79.0	30.6
88	1163	80.2	31.1
89	1180	81.4	31.7
90	1198	82.6	32.2
91	1216	83.9	32.8
92	1234	85.1	33.3
93	1252	86.3	33.9
94	1270	87.6	34.4
95	1288	88.8	35.0
96	1306	90.1	35.6
97	1323	91.2	36.1
98	1341	92.5	36.7
99	1359	93.7	37.2
100	1377	95.0	37.8
101	1395	96.2	38.3
102	1413	97.4	38.9
103	1431	98.7	39.4
104	1449	99.9	40.0
104+	1450	100.0	40.0+



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