



SINCE 1967

2018

Aim at the future & Committed total quality



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KD

COMMITTED TOTAL QUALITY

company history

- 1967. 02. Company establishment : Kyung Dong
- 1984. 02. Acquired high pressure refrigerator manufacturing License
- 1984. 08. Member registered in Korea refrigeration association.
- 1985. 01. Member registered in Korea chamber of commerce and industry.
- 1987. 06. Corporate : Kyung Dong Industrial Co., Ltd.
- 1994. 06. Appoint 14 Representatives in nationwide
- 1999. 11. ISO 9001 certificated
- 1999. 12. New factory completion in Kwangtan, Paju (15,000m²)

- 2001. 01. Manufacturing license for high pressurized gas equipment
- 2001. 03. Commendation from The Vice-Premier & Ministry of Finance
- 2002. Export to Australia
- 2003. Export to Japan
- 2005. UL, cUL certificated
- 2005. Export to North America
- 2006. Export to U.A.E.
- 2006. 11. One Million Dollars Export
- 2007. Export to UK
- 2008. Export to Syria
- 2009. Premier Commendation of Exemplary small & medium company
- 2010. 11. Three Million Dollars Export
- 2011. 02. Export to Russia
- 2011. 02. CE, R-GOST certificated
- 2011. 10. Trademark Registration 
- 2012. 12. Five Million Dollars Export
- 2013. 08. Factory Expansion (33,000m²)
- 2014. 02. Appoint 40 Representatives in nationwide
- 2014. 02. Export to Finland
- 2014. 04. New Company Logo 
- 2014. 12. Ten Million Dollars Export
- 2015. 09. New Plant Construction (Area 30,000m²/Building 21,000m²)
- 2017. Export to Philippines
- 2017. Export to Hungary

UNIT COOLER STANDARD FEATURES

TSU-TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- Electric defrost (U-heater)
- PVC TERMINAL BOX (IP66)
- Backward air flow configuration



TDU-TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- Electric defrost (U-heater)
- PVC TERMINAL BOX (IP66)



MODEL NOMENCLATURE

TSU	0 2 0	H	1	2	5
Model	Equiv. HP		Phase	Power	Hz
TSU	0 0 5 = 0.5 HP	H = High Temp.	1 = 1Ph	2 = 220V	5 = 50Hz
TDU	0 0 8 = 0.75 HP	(0 ~ 10°C)			6 = 60Hz
	0 1 0 = 1.0 HP	M = Medium Temp.			
	0 1 5 = 1.5 HP	(-10 ~ -5°C)			
	0 2 0 = 2.0 HP	L = Low Temp.			
	0 3 0 = 3.0 HP	(-30 ~ -20°C)			
	0 4 0 = 4.0 HP				
	0 4 5 = 4.5 HP				
	0 5 0 = 5.0 HP				

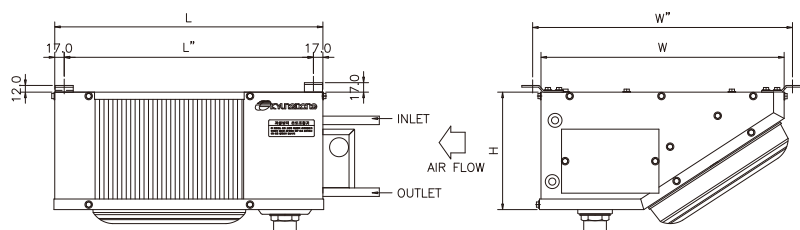
TSU Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A																			
Model	Fin			Air Surface	Air			Tube	Fan data			Connection			Defrost heater		Weight		
	spacing	t _a =0°C	t _a =8°C		t _a =-25°C	volume	throw		Sound	volume	Dia	Power input	Inlet	Outlet	Drain	Coil		Drain	Fan
	mm	W	W		W	m ²	m ³ /h		m	dB(A)5m	dm ³	Ø x St	W	Voltage	mm	mm		A	kW x No
TSU005H	4.2	755	529	-	2.7	437	5.0	44	0.6	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	11
TSU008H	4.2	917	644	-	3.4	307	5.0	44	0.7	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	12
TSU010H	4.2	1356	971	-	4.5	554	5.0	44	0.9	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.54kW x 1	0.38kW x 1	-	13
TSU015H	4.2	1880	1347	-	6.5	665	5.5	47	1.3	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.78kW x 1	0.52kW x 1	-	18
TSU020H	4.2	3025	2189	-	9.9	792	5.5	47	1.8	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.88kW x 1	0.59kW x 1	-	21
TSU030H	4.2	4547	3281	-	14.6	1150	6.5	49	2.5	250 x 3	141	230V 1Ph 50Hz	12.7	15.9	25	1.25kW x 1	0.83kW x 1	-	29
TSU040H	4.2	5305	3908	-	16.5	1432	6.5	49	2.8	250 x 3	141	230V 1Ph 50Hz	12.7	19.1	25	1.40kW x 1	0.92kW x 1	-	32
TSU045H	4.2	5758	4202	-	18.8	1331	7.5	50	3.2	250 x 4	188	230V 1Ph 50Hz	12.7	19.1	25	1.59kW x 1	1.03kW x 1	-	39
TSU050H	4.2	7167	5304	-	21.9	1910	7.5	50	3.7	250 x 4	188	230V 1Ph 50Hz	12.7	22.2	25	1.84kW x 1	1.18kW x 1	-	41
TSU005M	6.0	664	469	285	2.0	453	5.5	44	0.6	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	11
TSU008M	6.0	813	568	349	2.5	345	5.5	44	0.7	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	12
TSU010M	6.0	1186	851	546	3.3	576	5.5	44	0.9	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.54kW x 1	0.38kW x 1	-	13
TSU015M	6.0	1637	1178	760	4.7	716	6.0	47	1.3	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.78kW x 1	0.52kW x 1	-	18
TSU020M	6.0	2610	1909	1265	7.1	825	6.0	47	1.8	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.88kW x 1	0.59kW x 1	-	21
TSU030M	6.0	3898	2848	1922	10.5	1188	6.5	49	2.5	250 x 3	141	230V 1Ph 50Hz	12.7	15.9	25	1.25kW x 1	0.83kW x 1	-	29
TSU040M	6.0	4542	3375	2338	11.9	1457	6.5	49	2.8	250 x 3	141	230V 1Ph 50Hz	12.7	19.1	25	1.40kW x 1	0.92kW x 1	-	32
TSU045M	6.0	4971	3636	2470	13.6	1432	7.5	50	3.2	250 x 4	188	230V 1Ph 50Hz	12.7	19.1	25	1.59kW x 1	1.03kW x 1	-	39
TSU050M	6.0	6125	4569	3207	15.9	1942	7.5	50	3.7	250 x 4	188	230V 1Ph 50Hz	12.7	22.2	25	1.84kW x 1	1.18kW x 1	-	41
TSU005L	8.0	587	420	260	1.5	453	6.0	44	0.6	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	11
TSU008L	8.0	719	505	314	1.9	358	6.0	44	0.7	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	12
TSU010L	8.0	1041	756	493	2.6	576	6.0	44	0.9	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.54kW x 1	0.38kW x 1	-	13
TSU015L	8.0	1455	1039	678	3.6	767	6.5	47	1.3	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.78kW x 1	0.52kW x 1	-	18
TSU020L	8.0	2280	1674	1124	5.5	841	6.5	47	1.8	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.88kW x 1	0.59kW x 1	-	21
TSU030L	8.0	3420	2496	1718	8.2	1237	7.0	49	2.5	250 x 3	141	230V 1Ph 50Hz	12.7	15.9	25	1.25kW x 1	0.83kW x 1	-	29
TSU040L	8.0	3960	2934	2062	9.2	1481	7.0	49	2.8	250 x 3	141	230V 1Ph 50Hz	12.7	19.1	25	1.40kW x 1	0.92kW x 1	-	32
TSU045L	8.0	4337	3178	2171	10.6	1483	7.5	50	3.2	250 x 4	188	230V 1Ph 50Hz	12.7	19.1	25	1.59kW x 1	1.03kW x 1	-	39
TSU050L	8.0	5333	3965	2819	12.3	1975	7.5	50	3.7	250 x 4	188	230V 1Ph 50Hz	12.7	22.2	25	1.84kW x 1	1.18kW x 1	-	41

- Airthrow is measured at 0.25m/s of terminal velocity.

TSU Dimension Data

Dimensional Drawing



Model Outline dimension Anchor size

Model	Outline dimension			Anchor size	
	L	W	H	L"	W"
TSU005	485	437	211	448	467
TSU008	485	437	211	448	467
TSU010	575	437	211	538	467
TSU015	765	437	211	728	467
TSU020	845	437	211	808	467
TSU030	1145	437	211	1108	467
TSU040	1265	437	211	1228	467
TSU045	1415	437	211	1378	467
TSU050	1615	437	211	1578	467

TDU Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A																			
Model	Fin DT1=10KDT1=8K DT1=7K			Air			Tube			Fan data			Connection			Defrost heater		Weight	
	spacing	t _a =0°C	t _a =-8°C	t _a =-25°C	Surface	volume	throw	Sound	volume	Dia	Power input		Inlet	Outlet	Drain	Coil	Drain	Fan	
	mm	W	W	W	m ²	m ³ /h	m	dB(A)5m	dm ³	Ø x St	W	Voltage	mm	mm	A		kW x No		kg
TDU008H	4.2	959	684	-	3.4	774	6.0	44	0.7	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.50kW x 1	0.35kW x 1	-	12
TDU010H	4.2	1274	922	-	4.6	840	6.0	44	0.9	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.64kW x 1	0.45kW x 1	-	13
TDU015H	4.2	1949	1417	-	6.5	1570	7.0	47	1.3	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.62kW x 1	-	18
TDU020H	4.2	3060	2241	-	9.7	1482	7.0	47	1.8	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.62kW x 1	-	21
TDU030H	4.2	4664	3444	-	14.4	2223	8.0	49	2.5	250 x 3	141	230V 1Ph 50Hz	12.7	15.9	25	1.28kW x 1	0.85kW x 1	-	29
TDU040H	4.2	5233	3892	-	16.5	2322	8.0	49	2.8	250 x 3	141	230V 1Ph 50Hz	12.7	19.1	25	1.44kW x 1	0.95kW x 1	-	32
TDU045H	4.2	6176	4582	-	18.8	2920	9.0	50	3.2	250 x 4	188	230V 1Ph 50Hz	12.7	19.1	25	1.63kW x 1	1.06kW x 1	-	39
TDU050H	4.2	7068	5281	-	21.9	3096	9.0	50	3.7	250 x 4	188	230V 1Ph 50Hz	12.7	22.2	25	1.88kW x 1	1.21kW x 1	-	41
TDU008M	6.0	833	598	377	2.5	785	6.5	44	0.7	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.50kW x 1	0.35kW x 1	-	12
TDU010M	6.0	1086	792	518	3.4	840	6.5	44	0.9	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.64kW x 1	0.45kW x 1	-	13
TDU015M	6.0	1669	1227	821	4.7	1570	7.5	47	1.3	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.62kW x 1	-	18
TDU020M	6.0	2633	1939	1323	7.0	1504	7.5	47	1.8	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.62kW x 1	-	21
TDU030M	6.0	3983	2968	2064	10.4	2223	8.5	49	2.5	250 x 3	141	230V 1Ph 50Hz	12.7	15.9	25	1.28kW x 1	0.85kW x 1	-	29
TDU040M	6.0	4466	3322	2342	11.9	2355	8.5	49	2.8	250 x 3	141	230V 1Ph 50Hz	12.7	19.1	25	1.44kW x 1	0.95kW x 1	-	32
TDU045M	6.0	5291	3940	2789	13.6	2964	9.5	50	3.2	250 x 4	188	230V 1Ph 50Hz	12.7	19.1	25	1.63kW x 1	1.06kW x 1	-	39
TDU050M	6.0	6021	4497	3213	15.9	3140	9.5	50	3.7	250 x 4	188	230V 1Ph 50Hz	12.7	22.2	25	1.88kW x 1	1.21kW x 1	-	41
TDU008L	8.0	731	528	340	1.9	785	7.0	44	0.7	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.50kW x 1	0.35kW x 1	-	12
TDU010L	8.0	941	691	462	2.6	840	7.0	44	0.9	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.64kW x 1	0.45kW x 1	-	13
TDU015L	8.0	1459	1073	729	3.6	1592	8.0	47	1.3	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.62kW x 1	-	18
TDU020L	8.0	2292	1695	1172	5.5	1504	8.0	47	1.8	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.62kW x 1	-	21
TDU030L	8.0	3476	2587	1827	8.1	2256	9.0	49	2.5	250 x 3	141	230V 1Ph 50Hz	12.7	15.9	25	1.28kW x 1	0.85kW x 1	-	29
TDU040L	8.0	3864	2898	2063	9.2	2355	9.0	49	2.8	250 x 3	141	230V 1Ph 50Hz	12.7	19.1	25	1.44kW x 1	0.95kW x 1	-	32
TDU045L	8.0	4591	3428	2450	10.6	2964	10.0	50	3.2	250 x 4	188	230V 1Ph 50Hz	12.7	19.1	25	1.63kW x 1	1.06kW x 1	-	39
TDU050L	8.0	5201	3915	2821	12.3	3140	10.0	50	3.7	250 x 4	188	230V 1Ph 50Hz	12.7	22.2	25	1.88kW x 1	1.21kW x 1	-	41

- Airthrow is measured at 0.25m/s of terminal velocity.

TDU Dimension Data

Dimensional Drawing	Model	Outline dimension			Anchor size	
		L	W	H	L"	W"
	TDU008	518	256	351	334	305
	TDU010	628	256	351	444	305
	TDU015	838	256	351	654	305
	TDU020	838	256	351	654	305
	TDU030	1138	256	351	954	305
	TDU040	1258	256	351	1074	305
	TDU045	1408	256	351	1224	305
TDU050	1608	256	351	1424	305	

UNIT COOLER STANDARD FEATURES

CTS-TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- Electric defrost (U-heater)
- PVC TERMINAL BOX (IP66)
- Backward air flow configuration
- Energy saving EC (Electronically Commutated) motor



CTD-TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- Electric defrost (U-heater)
- PVC TERMINAL BOX (IP66)
- Energy saving EC (Electronically Commutated) motor



MODEL NOMENCLATURE

CTS	0 2 0	H	1	2	5
Model	Equiv. HP		Phase	Power	Hz
CTS	0 0 5 = 0.5 HP	H = High Temp.	1 = 1Ph	2 = 220V	5 = 50Hz
CTD	0 0 8 = 0.75 HP	(0 ~ 10°C)			6 = 60Hz
	0 1 0 = 1.0 HP	M = Medium Temp.			
	0 1 5 = 1.5 HP	(-10 ~ -5°C)			
	0 2 0 = 2.0 HP	L = Low Temp.			
	0 3 0 = 3.0 HP	(-30 ~ -20°C)			
	0 4 0 = 4.0 HP				
	0 4 5 = 4.5 HP				
	0 5 0 = 5.0 HP				

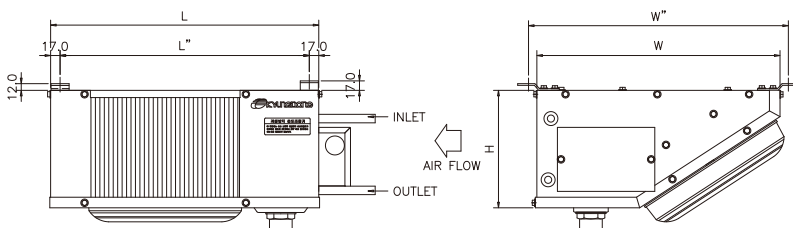
CTS Cooling Capacity & Electric Data - 50Hz

Model	Nominal capacity R404A															Weight kg			
	Fin DT1=10KDT1=8K DT1=7K			Air			Air		Tube		Fan data		Connection				Defrost heater		
	spacing mm	t=0°C W	t=8°C W	t=-25°C W	Surface m²	volume m³/h	throw m	Sound dB(A)5m	volume dm³	Dia Ø x St	Power input W	Voltage	Inlet mm	Outlet mm	Drain A		Coil 0.42kW x 1	Drain 0.30kW x 1	
CTS005H	4.2	755	529	-	2.7	437	5.0	44	0.6	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	11
CTS008H	4.2	917	644	-	3.4	307	5.0	44	0.7	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	12
CTS010H	4.2	1356	971	-	4.5	554	5.0	44	0.9	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.54kW x 1	0.38kW x 1	-	13
CTS015H	4.2	1880	1347	-	6.5	665	5.5	47	1.3	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.78kW x 1	0.52kW x 1	-	18
CTS020H	4.2	3025	2189	-	9.9	792	5.5	47	1.8	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.88kW x 1	0.59kW x 1	-	21
CTS030H	4.2	4547	3281	-	14.6	1150	6.5	49	2.5	250 x 3	72	230V 1Ph 50Hz	12.7	15.9	25	1.25kW x 1	0.83kW x 1	-	29
CTS040H	4.2	5305	3908	-	16.5	1432	6.5	49	2.8	250 x 3	72	230V 1Ph 50Hz	12.7	19.1	25	1.40kW x 1	0.92kW x 1	-	32
CTS045H	4.2	5758	4202	-	18.8	1331	7.5	50	3.2	250 x 4	96	230V 1Ph 50Hz	12.7	19.1	25	1.59kW x 1	1.03kW x 1	-	39
CTS050H	4.2	7167	5304	-	21.9	1910	7.5	50	3.7	250 x 4	96	230V 1Ph 50Hz	12.7	22.2	25	1.84kW x 1	1.18kW x 1	-	41
CTS005M	6.0	664	469	285	2.0	453	5.5	44	0.6	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	11
CTS008M	6.0	813	568	349	2.5	345	5.5	44	0.7	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	12
CTS010M	6.0	1186	851	546	3.3	576	5.5	44	0.9	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.54kW x 1	0.38kW x 1	-	13
CTS015M	6.0	1637	1178	760	4.7	716	6.0	47	1.3	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.78kW x 1	0.52kW x 1	-	18
CTS020M	6.0	2610	1909	1265	7.1	825	6.0	47	1.8	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.88kW x 1	0.59kW x 1	-	21
CTS030M	6.0	3898	2848	1922	10.5	1188	6.5	49	2.5	250 x 3	72	230V 1Ph 50Hz	12.7	15.9	25	1.25kW x 1	0.83kW x 1	-	29
CTS040M	6.0	4542	3375	2338	11.9	1457	6.5	49	2.8	250 x 3	72	230V 1Ph 50Hz	12.7	19.1	25	1.40kW x 1	0.92kW x 1	-	32
CTS045M	6.0	4971	3636	2470	13.6	1432	7.5	50	3.2	250 x 4	96	230V 1Ph 50Hz	12.7	19.1	25	1.59kW x 1	1.03kW x 1	-	39
CTS050M	6.0	6125	4569	3207	15.9	1942	7.5	50	3.7	250 x 4	96	230V 1Ph 50Hz	12.7	22.2	25	1.84kW x 1	1.18kW x 1	-	41
CTS005L	8.0	587	420	260	1.5	453	6.0	44	0.6	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	11
CTS008L	8.0	719	505	314	1.9	358	6.0	44	0.7	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.42kW x 1	0.30kW x 1	-	12
CTS010L	8.0	1041	756	493	2.6	576	6.0	44	0.9	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.54kW x 1	0.38kW x 1	-	13
CTS015L	8.0	1455	1039	678	3.6	767	6.5	47	1.3	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.78kW x 1	0.52kW x 1	-	18
CTS020L	8.0	2280	1674	1124	5.5	841	6.5	47	1.8	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.88kW x 1	0.59kW x 1	-	21
CTS030L	8.0	3420	2496	1718	8.2	1237	7.0	49	2.5	250 x 3	72	230V 1Ph 50Hz	12.7	15.9	25	1.25kW x 1	0.83kW x 1	-	29
CTS040L	8.0	3960	2934	2062	9.2	1481	7.0	49	2.8	250 x 3	72	230V 1Ph 50Hz	12.7	19.1	25	1.40kW x 1	0.92kW x 1	-	32
CTS045L	8.0	4337	3178	2171	10.6	1483	7.5	50	3.2	250 x 4	96	230V 1Ph 50Hz	12.7	19.1	25	1.59kW x 1	1.03kW x 1	-	39
CTS050L	8.0	5333	3965	2819	12.3	1975	7.5	50	3.7	250 x 4	96	230V 1Ph 50Hz	12.7	22.2	25	1.84kW x 1	1.18kW x 1	-	41

- Airthrow is measured at 0.25m/s of terminal velocity.

CTS Dimension Data

Dimensional Drawing



Model	Outline dimension			Anchor size	
	L	W	H	L''	W''
CTS005	485	437	211	448	467
CTS008	485	437	211	448	467
CTS010	575	437	211	538	467
CTS015	765	437	211	728	467
CTS020	845	437	211	808	467
CTS030	1145	437	211	1108	467
CTS040	1265	437	211	1228	467
CTS045	1415	437	211	1378	467
CTS050	1615	437	211	1578	467

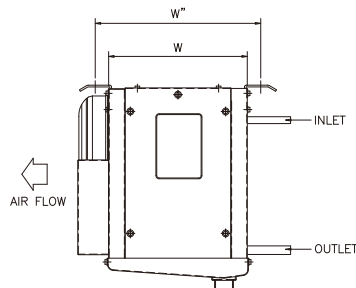
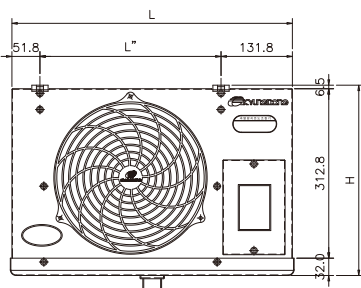
CTD Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A																			
Model	Fin DT1=10K DT1=8K DT1=7K			Air			Tube			Fan data			Connection			Defrost heater		Weight kg	
	spacing	t _a =0°C	t _a =8°C	t _a =-25°C	Surface	volume	throw	Sound	volume	Dia	Power input		Inlet	Outlet	Drain	Coil	Drain		Fan
	mm	W	W	W	m ²	m ³ /h	m	dB(A)5m	dm ³	Ø x St	W	Voltage	mm	mm	A	kW x 1	kW x No		
CTD008H	4.2	959	684	-	3.4	774	6.0	44	0.7	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.50kW x 1	0.26kW x 1	-	12
CTD010H	4.2	1274	922	-	4.6	840	6.0	44	0.9	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.64kW x 1	0.36kW x 1	-	13
CTD015H	4.2	1949	1417	-	6.5	1570	7.0	47	1.3	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.52kW x 1	-	18
CTD020H	4.2	3060	2241	-	9.7	1482	7.0	47	1.8	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.52kW x 1	-	21
CTD030H	4.2	4664	3444	-	14.4	2223	8.0	49	2.5	250 x 3	72	230V 1Ph 50Hz	12.7	15.9	25	1.28kW x 1	0.75kW x 1	-	29
CTD040H	4.2	5233	3892	-	16.5	2322	8.0	49	2.8	250 x 3	72	230V 1Ph 50Hz	12.7	19.1	25	1.44kW x 1	0.85kW x 1	-	32
CTD045H	4.2	6176	4582	-	18.8	2920	9.0	50	3.2	250 x 4	96	230V 1Ph 50Hz	12.7	19.1	25	1.63kW x 1	0.96kW x 1	-	39
CTD050H	4.2	7068	5281	-	21.9	3096	9.0	50	3.7	250 x 4	96	230V 1Ph 50Hz	12.7	22.2	25	1.88kW x 1	1.11kW x 1	-	41
CTD008M	6.0	833	598	377	2.5	785	6.5	44	0.7	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.50kW x 1	0.26kW x 1	-	12
CTD010M	6.0	1086	792	518	3.4	840	6.5	44	0.9	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.64kW x 1	0.36kW x 1	-	13
CTD015M	6.0	1669	1227	821	4.7	1570	7.5	47	1.3	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.52kW x 1	-	18
CTD020M	6.0	2633	1939	1323	7.0	1504	7.5	47	1.8	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.52kW x 1	-	21
CTD030M	6.0	3983	2968	2064	10.4	2223	8.5	49	2.5	250 x 3	72	230V 1Ph 50Hz	12.7	15.9	25	1.28kW x 1	0.75kW x 1	-	29
CTD040M	6.0	4466	3322	2342	11.9	2355	8.5	49	2.8	250 x 3	72	230V 1Ph 50Hz	12.7	19.1	25	1.44kW x 1	0.85kW x 1	-	32
CTD045M	6.0	5291	3940	2789	13.6	2964	9.5	50	3.2	250 x 4	96	230V 1Ph 50Hz	12.7	19.1	25	1.63kW x 1	0.96kW x 1	-	39
CTD050M	6.0	6021	4497	3213	15.9	3140	9.5	50	3.7	250 x 4	96	230V 1Ph 50Hz	12.7	22.2	25	1.88kW x 1	1.11kW x 1	-	41
CTD008L	8.0	731	528	340	1.9	785	7.0	44	0.7	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.50kW x 1	0.26kW x 1	-	12
CTD010L	8.0	941	691	462	2.6	840	7.0	44	0.9	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.64kW x 1	0.36kW x 1	-	13
CTD015L	8.0	1459	1073	729	3.6	1592	8.0	47	1.3	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.52kW x 1	-	18
CTD020L	8.0	2292	1695	1172	5.5	1504	8.0	47	1.8	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.90kW x 1	0.52kW x 1	-	21
CTD030L	8.0	3476	2587	1827	8.1	2256	9.0	49	2.5	250 x 3	72	230V 1Ph 50Hz	12.7	15.9	25	1.28kW x 1	0.75kW x 1	-	29
CTD040L	8.0	3864	2898	2063	9.2	2355	9.0	49	2.8	250 x 3	72	230V 1Ph 50Hz	12.7	19.1	25	1.44kW x 1	0.85kW x 1	-	32
CTD045L	8.0	4591	3428	2450	10.6	2964	10.0	50	3.2	250 x 4	96	230V 1Ph 50Hz	12.7	19.1	25	1.63kW x 1	0.96kW x 1	-	39
CTD050L	8.0	5201	3915	2821	12.3	3140	10.0	50	3.7	250 x 4	96	230V 1Ph 50Hz	12.7	22.2	25	1.88kW x 1	1.11kW x 1	-	41

- Airthrow is measured at 0.25m/s of terminal velocity.

CTD Dimension Data

Dimensional Drawing



Model	Outline dimension			Anchor size	
	L	W	H	L"	W"
CTD008	518	256	351	334	305
CTD010	628	256	351	444	305
CTD015	838	256	351	654	305
CTD020	838	256	351	654	305
CTD030	1138	256	351	954	305
CTD040	1258	256	351	1074	305
CTD045	1408	256	351	1224	305
CTD050	1608	256	351	1424	305

UNIT COOLER STANDARD FEATURES

TSS-TYPE

- High efficient inner grooved copper tube (DIA. 3/8")
- Powder painted aluminum case.
- Electric defrost (U-heater)
- Backward air flow configuration
- PVC terminal box (IP66)



TSE-TYPE

- Energy saving EC (Electronically Commutated) motor (TSE only)
- High efficient inner grooved copper tube (DIA. 3/8")
- Powder painted aluminum case.
- Electric defrost (U-heater)
- Backward air flow configuration
- PVC terminal box (IP66)



MODEL NOMENCLATURE

TSS	0 2 0	H	1	2	5
Model	Equiv. HP		Phase	Power	Hz
TSS	0 0 5 = 0.5 HP	H = High Temp.	1 = 1Ph	2 = 220V	5 = 50Hz
TSE	0 0 8 = 0.75 H	(0 ~ 10 °C)			6 = 60Hz
	0 1 0 = 1.0 HP	M = Medium Temp.			
	0 1 5 = 1.5 HP	(-10 ~ -5 °C)			
	0 2 0 = 2.0 HP	L = Low Temp.			
	0 3 0 = 3.0 HP	(-30 ~ -20 °C)			
	0 4 0 = 4.0 HP				
	0 4 5 = 4.5 HP				
	0 5 0 = 5.0 HP				

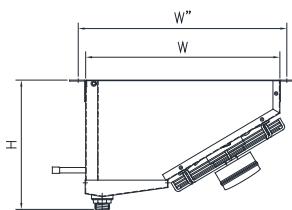
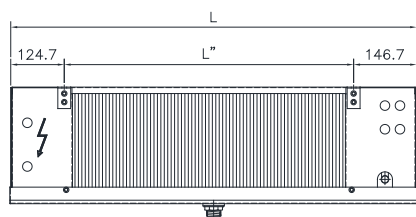
TSS Cooling Capacity & Electric Data - 50Hz

Model	Nominal capacity R404A															Coil	Defrost heater		Weight kg
	Fin spacing mm	DT1=10K DT1=8K DT1=7K			Air Surface m ²	Air volume m ³ /h	Air throw m	Tube Sound dB(A)5m	Tube volume dm ³	Fan data		Connection			Drain kW x No		Fan		
		to=0°C W	to=-8°C W	to=-25°C W						Dia Ø x St	Power input W	Voltage	Inlet mm	Outlet mm				Drain A	
TSS005H	4.2	1064	747	-	3.9	631	5.0	44	0.8	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	-	-	-	11
TSS008H	4.2	1340	950	-	4.7	585	5.0	44	1.0	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	-	-	-	12
TSS010H	4.2	1700	1214	-	5.9	548	5.0	44	1.2	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	-	-	-	13
TSS015H	4.2	2891	2094	-	9.5	1170	5.5	47	1.8	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	-	-	-	18
TSS020H	4.2	3636	2648	-	11.7	1096	5.5	47	2.1	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	-	-	-	21
TSS030H	4.2	4490	3287	-	14.2	1755	6.5	49	2.5	250 x 3	141	230V 1Ph 50Hz	12.7	15.9	25	-	-	-	29
TSS040H	4.2	5624	4135	-	17.6	1644	6.5	49	3.0	250 x 3	141	230V 1Ph 50Hz	12.7	19.1	25	-	-	-	32
TSS045H	4.2	6110	4502	-	19.0	2340	7.5	50	3.3	250 x 4	188	230V 1Ph 50Hz	12.7	19.1	25	-	-	-	39
TSS050H	4.2	7634	5644	-	23.4	2192	7.5	50	3.9	250 x 4	188	230V 1Ph 50Hz	12.7	22.2	25	-	-	-	41
TSS005M	6.0	937	664	405	2.8	641	5.5	44	0.8	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	11
TSS008M	6.0	1173	839	525	3.4	594	5.5	44	1.0	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	12
TSS010M	6.0	1484	1068	678	4.2	557	5.5	44	1.2	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	13
TSS015M	6.0	2176	1828	1208	6.8	752	6.0	47	1.8	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.70kW x 1	0.86kW x 1	-	18
TSS020M	6.0	3148	2306	1539	8.5	1115	6.0	47	2.1	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.70kW x 1	0.86kW x 1	-	21
TSS030M	6.0	3878	2854	1940	10.3	1783	6.5	49	2.5	250 x 3	141	230V 1Ph 50Hz	12.7	15.9	25	0.99kW x 1	1.16kW x 1	-	29
TSS040M	6.0	4849	3581	2452	12.7	1672	6.5	49	3.0	250 x 3	141	230V 1Ph 50Hz	12.7	19.1	25	0.99kW x 1	1.16kW x 1	-	32
TSS045M	6.0	5262	3894	2695	13.7	2377	7.5	50	3.3	250 x 4	188	230V 1Ph 50Hz	12.7	19.1	25	1.29kW x 1	1.45kW x 1	-	39
TSS050M	6.0	6565	4873	3390	16.9	2229	7.5	50	3.9	250 x 4	188	230V 1Ph 50Hz	12.7	22.2	25	1.29kW x 1	1.45kW x 1	-	41
TSS005L	8.0	831	593	370	2.2	641	6.0	44	0.8	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	11
TSS008L	8.0	1041	750	477	2.7	604	6.0	44	1.0	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	12
TSS010L	8.0	1307	947	614	3.3	557	6.0	44	1.2	250 x 1	47	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	13
TSS015L	8.0	2209	1619	1085	5.3	1207	6.5	47	1.8	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.70kW x 1	0.86kW x 1	-	18
TSS020L	8.0	2753	2026	1377	6.6	1115	6.5	47	2.1	250 x 2	94	230V 1Ph 50Hz	12.7	15.9	25	0.70kW x 1	0.86kW x 1	-	21
TSS030L	8.0	3403	2515	1730	8.0	1811	7.0	49	2.5	250 x 3	141	230V 1Ph 50Hz	12.7	15.9	25	0.99kW x 1	1.16kW x 1	-	29
TSS040L	8.0	4226	3133	2180	9.8	1672	7.0	49	3.0	250 x 3	141	230V 1Ph 50Hz	12.7	19.1	25	0.99kW x 1	1.16kW x 1	-	32
TSS045L	8.0	4608	3422	2393	10.6	2414	7.5	50	3.3	250 x 4	188	230V 1Ph 50Hz	12.7	19.1	25	1.29kW x 1	1.45kW x 1	-	39
TSS050L	8.0	5711	4253	3001	13.1	2229	7.5	50	3.9	250 x 4	188	230V 1Ph 50Hz	12.7	22.2	25	1.29kW x 1	1.45kW x 1	-	41

- Airthrow is measured at 0.25m/s of terminal velocity.

TSS Dimension Data

Dimensional Drawing



Model Outline dimension Anchor size
L W H L" W"

TSS005	625	452	301	354	486
TSS008	625	452	301	354	486
TSS010	625	452	301	354	486
TSS015	945	452	301	674	486
TSS020	945	452	301	674	486
TSS030	1265	452	301	994	486
TSS040	1265	452	301	994	486
TSS045	1585	452	301	1314	486
TSS050	1585	452	301	1314	486

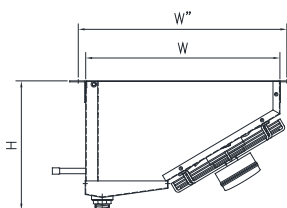
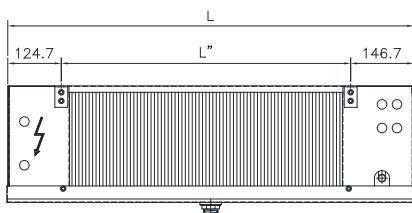
TSE Cooling Capacity & Electric Data - 50Hz

Model	Nominal capacity R404A																	Weight kg	
	Fin spacing mm	DT1=10K DT1=8K DT1=7K			Air Surface m ²	Air volume m ³ /h	Air throw m	Sound dB(A)5m	Tube volume dm ³	Dia Ø x St	Fan data		Connection			Defrost heater			
		t _a =0°C W	t _a =8°C W	t _a =25°C W							Power input W	Voltage	Inlet mm	Outlet mm	Drain A	Coil kW x No	Drain kW x No		
																			Fan data
TSE005H	4.2	1064	747	-	3.9	631	5.0	44	0.8	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	-	-	-	11
TSE008H	4.2	1340	950	-	4.7	585	5.0	44	1.0	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	-	-	-	12
TSE010H	4.2	1700	1214	-	5.9	548	5.0	44	1.2	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	-	-	-	13
TSE015H	4.2	2891	2094	-	9.5	1170	5.5	47	1.8	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	-	-	-	18
TSE020H	4.2	3636	2648	-	11.7	1096	5.5	47	2.1	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	-	-	-	21
TSE030H	4.2	4490	3287	-	14.2	1755	6.5	49	2.5	250 x 3	72	230V 1Ph 50Hz	12.7	15.9	25	-	-	-	29
TSE040H	4.2	5624	4135	-	17.6	1644	6.5	49	3.0	250 x 3	72	230V 1Ph 50Hz	12.7	19.1	25	-	-	-	32
TSE045H	4.2	6110	4502	-	19.0	2340	7.5	50	3.3	250 x 4	96	230V 1Ph 50Hz	12.7	19.1	25	-	-	-	39
TSE050H	4.2	7634	5644	-	23.4	2192	7.5	50	3.9	250 x 4	96	230V 1Ph 50Hz	12.7	22.2	25	-	-	-	41
TSE005M	6.0	937	664	405	2.8	641	5.5	44	0.8	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	11
TSE008M	6.0	1173	839	525	3.4	594	5.5	44	1.0	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	12
TSE010M	6.0	1484	1068	678	4.2	557	5.5	44	1.2	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	13
TSE015M	6.0	2176	1828	1208	6.8	752	6.0	47	1.8	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.70kW x 1	0.86kW x 1	-	18
TSE020M	6.0	3148	2306	1539	8.5	1115	6.0	47	2.1	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.70kW x 1	0.86kW x 1	-	21
TSE030M	6.0	3878	2854	1940	10.3	1783	6.5	49	2.5	250 x 3	72	230V 1Ph 50Hz	12.7	15.9	25	0.99kW x 1	1.16kW x 1	-	29
TSE040M	6.0	4849	3581	2452	12.7	1672	6.5	49	3.0	250 x 3	72	230V 1Ph 50Hz	12.7	19.1	25	0.99kW x 1	1.16kW x 1	-	32
TSE045M	6.0	5262	3894	2695	13.7	2377	7.5	50	3.3	250 x 4	96	230V 1Ph 50Hz	12.7	19.1	25	1.29kW x 1	1.45kW x 1	-	39
TSE050M	6.0	6565	4873	3390	16.9	2229	7.5	50	3.9	250 x 4	96	230V 1Ph 50Hz	12.7	22.2	25	1.29kW x 1	1.45kW x 1	-	41
TSE005L	8.0	831	593	370	2.2	641	6.0	44	0.8	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	11
TSE008L	8.0	1041	750	477	2.7	604	6.0	44	1.0	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	12
TSE010L	8.0	1307	947	614	3.3	557	6.0	44	1.2	250 x 1	24	230V 1Ph 50Hz	12.7	12.7	25	0.40kW x 1	0.57kW x 1	-	13
TSE015L	8.0	2209	1619	1085	5.3	1207	6.5	47	1.8	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.70kW x 1	0.86kW x 1	-	18
TSE020L	8.0	2753	2026	1377	6.6	1115	6.5	47	2.1	250 x 2	48	230V 1Ph 50Hz	12.7	15.9	25	0.70kW x 1	0.86kW x 1	-	21
TSE030L	8.0	3403	2515	1730	8.0	1811	7.0	49	2.5	250 x 3	72	230V 1Ph 50Hz	12.7	15.9	25	0.99kW x 1	1.16kW x 1	-	29
TSE040L	8.0	4226	3133	2180	9.8	1672	7.0	49	3.0	250 x 3	72	230V 1Ph 50Hz	12.7	19.1	25	0.99kW x 1	1.16kW x 1	-	32
TSE045L	8.0	4608	3422	2393	10.6	2414	7.5	50	3.3	250 x 4	96	230V 1Ph 50Hz	12.7	19.1	25	1.29kW x 1	1.45kW x 1	-	39
TSE050L	8.0	5711	4253	3001	13.1	2229	7.5	50	3.9	250 x 4	96	230V 1Ph 50Hz	12.7	22.2	25	1.29kW x 1	1.45kW x 1	-	41

- Airthrow is measured at 0.25m/s of terminal velocity.

TSE Dimension Data

Dimensional Drawing



Model	Outline dimension			Anchor size	
	L	W	H	L"	W"
TSE005	625	452	301	354	486
TSE008	625	452	301	354	486
TSE010	625	452	301	354	486
TSE015	945	452	301	674	486
TSE020	945	452	301	674	486
TSE030	1265	452	301	994	486
TSE040	1265	452	301	994	486
TSE045	1585	452	301	1314	486
TSE050	1585	452	301	1314	486

UNIT COOLER STANDARD FEATURES

CSA-TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- Detachable defrost heater from rear side of coil for installation at limited space (U-heater)
- Easy to replace socket/plug connection for motor.
- Adapted HACCP standard by NSF approved painting for powder coating.
- Motor voltage : 1PH 220V
- Voltage of heater : 1PH 220, 3PH 220/380V



MODEL NOMENCLATURE

CSA	0 1 5	H	1	2	5
Model	Equiv. HP	Temp. Range	Phase	Power	Hz
CSA	0 1 5 = 1.5 HP	H = High Temp.	1 = 1Ph	2 = 220V	5 = 50Hz
	0 2 0 = 2.0 HP	(0 ~ 10°C)			6 = 60Hz
	0 3 0 = 3.0 HP	M = Medium Temp.			
	0 4 0 = 4.0 HP	(-10 ~ -5°C)			
	0 5 0 = 5.0 HP	L = Low Temp.			
	0 6 0 = 6.0 HP	(-30 ~ -20°C)			
	0 7 5 = 7.5 HP				

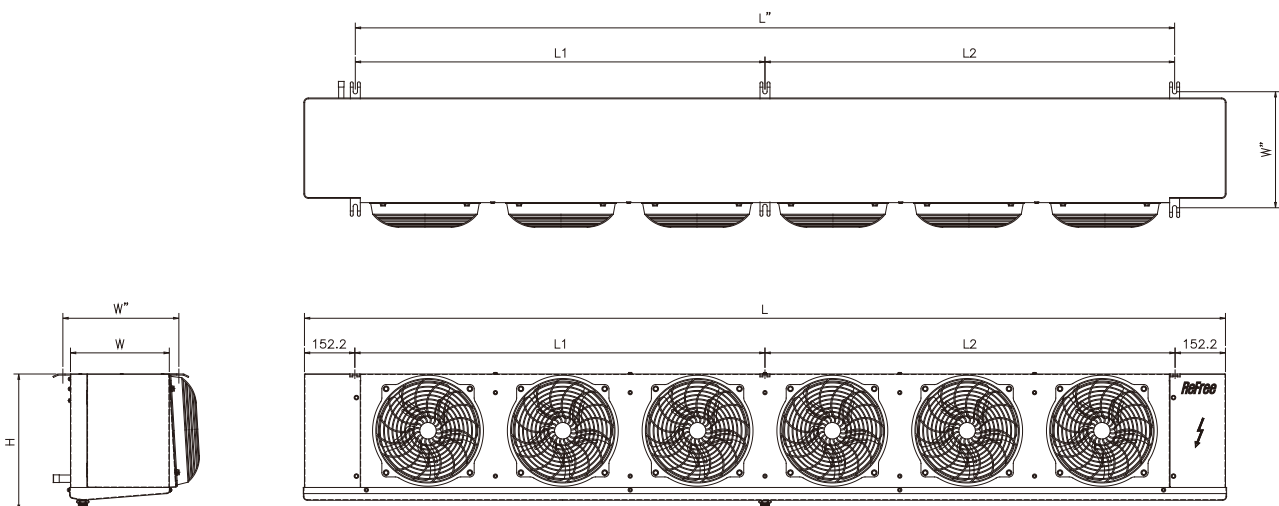
CSA Cooling Capacity & Electric Data - 50Hz

Model	Nominal capacity R404A										Connection			Defrost heater		Weight Fan kg			
	Fin spacing	DT1=10K	DT1=8K	DT1=7K	Air Surface	Air volume	Air throw	Tube Sound	Tube volume	Fan data	Inlet	Outlet	Drain	Coil	Drain				
	mm	t _a =0°C	t _a =8°C	t _a =25°C	m ²	m ³ /h	m	dB(A)5m	dm ³	Dia	Power input	mm	mm	A	Coil		Drain		
		W	W	W						Ø x St	W	Voltage					kW x No		
CSA015H	4.5	2334	1697	-	6.7	1565	6.0	43	1.4	300 x 1	80	230V 1Ph 50Hz	12.7	19.1	25	0.34kW x 2	0.34kW x 1	-	16
CSA020H	4.5	3482	2559	-	10.0	3165	7.0	46	1.9	300 x 2	160	230V 1Ph 50Hz	12.7	19.1	25	0.67kW x 2	0.67kW x 1	-	26
CSA030H	4.5	4889	3614	-	13.3	3130	7.0	46	2.5	300 x 2	160	230V 1Ph 50Hz	12.7	22.2	25	0.67kW x 2	0.67kW x 1	-	27
CSA040H	4.5	5346	3963	-	15.0	4747	8.0	48	2.7	300 x 3	240	230V 1Ph 50Hz	12.7	22.2	25	1.00kW x 2	1.00kW x 1	-	36
CSA050H	4.5	10088	7545	-	26.6	6260	9.0	49	4.7	300 x 4	320	230V 1Ph 50Hz	12.7	28.6	25	1.30kW x 2	1.30kW x 1	-	49
CSA060H	4.5	12714	9536	-	33.3	7825	10.0	50	5.8	300 x 5	400	230V 1Ph 50Hz	15.9	28.6	25	1.60kW x 2	1.60kW x 1	-	60
CSA075H	4.5	15346	11535	-	39.9	9390	11.0	51	6.9	300 x 6	480	230V 1Ph 50Hz	15.9	28.6	25	2.00kW x 2	2.00kW x 1	-	73
CSA015M	6.0	2091	1529	1013	5.1	1568	6.0	43	1.4	300 x 1	80	230V 1Ph 50Hz	12.7	19.1	25	0.34kW x 2	0.34kW x 1	-	16
CSA020M	6.0	3097	2287	1560	7.7	3171	7.0	46	1.9	300 x 2	160	230V 1Ph 50Hz	12.7	19.1	25	0.67kW x 2	0.67kW x 1	-	25
CSA030M	6.0	4360	3235	2244	10.3	3136	7.0	46	2.5	300 x 2	160	230V 1Ph 50Hz	12.7	22.2	25	0.67kW x 2	0.67kW x 1	-	26
CSA040M	6.0	4742	3529	2468	11.5	4756	8.0	48	2.7	300 x 3	240	230V 1Ph 50Hz	12.7	22.2	25	1.00kW x 2	1.00kW x 1	-	35
CSA050M	6.0	8964	6723	4828	20.5	6272	9.0	49	4.7	300 x 4	320	230V 1Ph 50Hz	12.7	28.6	25	1.30kW x 2	1.30kW x 1	-	47
CSA060M	6.0	11288	8488	6149	25.6	7839	10.0	50	5.8	300 x 5	400	230V 1Ph 50Hz	15.9	28.6	25	1.60kW x 2	1.60kW x 1	-	57
CSA075M	6.0	13616	10258	7478	30.8	9407	11.0	51	6.9	300 x 6	480	230V 1Ph 50Hz	15.9	28.6	25	2.00kW x 2	2.00kW x 1	-	71
CSA015L	8.0	1849	1360	915	4.0	1568	6.0	43	1.4	300 x 1	80	230V 1Ph 50Hz	12.7	19.1	25	0.34kW x 2	0.34kW x 1	-	15
CSA020L	8.0	2718	2016	1395	6.0	3171	7.0	46	1.9	300 x 2	160	230V 1Ph 50Hz	12.7	19.1	25	0.67kW x 2	0.67kW x 1	-	25
CSA030L	8.0	3836	2858	2006	8.0	3136	7.0	46	2.5	300 x 2	160	230V 1Ph 50Hz	12.7	22.2	25	0.67kW x 2	0.67kW x 1	-	25
CSA040L	8.0	4151	3101	2194	8.9	4756	8.0	48	2.7	300 x 3	240	230V 1Ph 50Hz	12.7	22.2	25	1.00kW x 2	1.00kW x 1	-	35
CSA050L	8.0	7861	5912	4282	15.9	6272	9.0	49	4.7	300 x 4	320	230V 1Ph 50Hz	12.7	28.6	25	1.30kW x 2	1.30kW x 1	-	46
CSA060L	8.0	9890	7456	5443	19.9	7839	10.0	50	5.8	300 x 5	400	230V 1Ph 50Hz	15.9	28.6	25	1.60kW x 2	1.60kW x 1	-	56
CSA075L	8.0	11923	9003	6609	23.9	9407	11.0	51	6.9	300 x 6	480	230V 1Ph 50Hz	15.9	28.6	25	2.00kW x 2	2.00kW x 1	-	68

- Airthrow is measured at 0.25m/s of terminal velocity.

CSA Dimensional Drawings

Model	Fan Number	Outline dimension			Anchor size			
		L	W	H	L"	W"	L1	L2
CSA015	1	748	299	412	443	350	-	-
CSA020	2	1155	299	412	850	350	-	-
CSA030	2	1155	299	412	850	350	-	-
CSA040	3	1560	299	412	1255	350	-	-
CSA050	4	1967	299	412	1662	350	-	-
CSA060	5	2375	299	412	2070	350	-	-
CSA075	6	2783	299	412	2478	350	1239	1239



UNIT COOLER STANDARD FEATURES

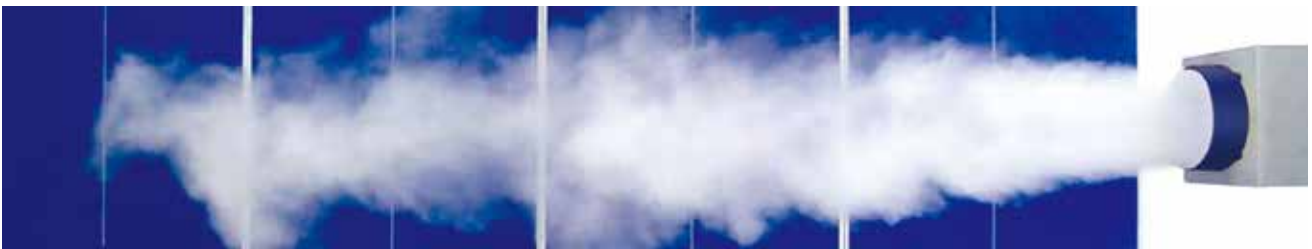
CSD35, 40 -TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- PVC TERMINAL BOX (IP66)
- Electric defrost (U-heater)
- Double drain pan.
- Easy to replace socket/plug connection for motor.
- Out-rotor motor fan for quiet operation (both noise and vibration reduced).
- Adapted HACCP standard by NSF approved painting for powder coating.
- Incredibly increased air throw using specially designed FAN GUARD GRILL.



AIR FLOW TEST



MODEL NOMENCLATURE

Model	FAN DIA.	Equiv. HP	Temp. Range	Phase	Power	Hz
CSD	35 = Ø350 40 = Ø400	0 2 0 = 2 HP 0 3 0 = 3 HP 0 4 0 = 4 HP 0 5 0 = 5 HP 0 7 5 = 7.5 HP 1 0 0 = 10 HP 1 2 0 = 12 HP 1 5 0 = 15 HP 2 0 0 = 20 HP	H = High Temp. (0 ~ 10°C) M = Medium Temp. (-10 ~ -5°C) L = Low Temp. (-30 ~ -20°C)	1 = 1Ph 3 = 3Ph	2 = 220V 3 = 380V	5 = 50Hz 6 = 60Hz

CSD35 Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A																			
Model	Fin spacing mm	DT1=10K DT1=8K DT1=7K			Air Surface m ²	Air volume m ³ /h	Air throw m	Air Sound dB(A)5m	Tube volume dm ³	Fan data			Connection			Defrost heater		Weight kg	
		t ₀ =0°C	t ₀ =-8°C	t ₀ =-25°C						Inlet mm	Outlet mm	Drain A	Coil kW x No	Drain kW x No	Fan				
		W	W	W												W	W		Voltage
CSD35-020H	4.5	4416	3263	-	12.6	2472	22.0	39	2.5	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	0.65kW x 2	0.65kW x 1	-	23
CSD35-030H	4.5	6830	5071	-	18.9	2249	20.0	39	3.7	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	0.65kW x 4	0.65kW x 1	-	27
CSD35-040H	4.5	9105	6802	-	25.2	4944	24.0	42	4.6	350 x 2	280	230V 1Ph 50Hz	15.9	22.2	25	1.16kW x 2	1.16kW x 1	-	40
CSD35-050H	4.5	11532	8639	-	31.5	4721	23.0	42	5.7	350 x 2	280	230V 1Ph 50Hz	15.9	28.6	25	1.16kW x 4	1.16kW x 1	-	43
CSD35-075H	4.5	13971	10459	-	37.8	4498	22.0	42	6.8	350 x 2	280	230V 1Ph 50Hz	15.9	34.9	25	1.16kW x 4	1.16kW x 1	-	47
CSD35-100H	4.5	21155	15892	-	56.6	6747	24.0	44	10.0	350 x 3	420	230V 1Ph 50Hz	22.2	34.9	25	1.67kW x 4	1.67kW x 1	-	67
CSD35-120H	4.5	23456	17683	-	62.9	9442	25.0	45	11.0	350 x 4	560	230V 1Ph 50Hz	22.2	41.3	25	2.18kW x 4	2.18kW x 1	-	80
CSD35-150H	4.5	28355	21343	-	75.5	8997	26.0	45	13.1	350 x 4	560	230V 1Ph 50Hz	22.2	41.3	25	2.18kW x 4	2.18kW x 1	-	86
CSD35-020M	6.0	3919	2907	2017	9.7	2494	23.0	39	2.5	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	0.65kW x 2	0.65kW x 1	-	23
CSD35-030M	6.0	6056	4508	3197	14.5	2271	21.0	39	3.7	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	0.65kW x 4	0.65kW x 1	-	26
CSD35-040M	6.0	8053	6032	4323	19.4	4989	25.0	42	4.6	350 x 2	280	230V 1Ph 50Hz	15.9	22.2	25	1.16kW x 2	1.16kW x 1	-	38
CSD35-050M	6.0	10199	7658	5535	24.2	4766	24.0	42	5.7	350 x 2	280	230V 1Ph 50Hz	15.9	28.6	25	1.16kW x 4	1.16kW x 1	-	41
CSD35-075M	6.0	12356	9265	6737	29.1	4543	23.0	42	6.8	350 x 2	280	230V 1Ph 50Hz	15.9	34.9	25	1.16kW x 4	1.16kW x 1	-	44
CSD35-100M	6.0	18689	14058	10333	43.6	6814	25.0	44	10.0	350 x 3	420	230V 1Ph 50Hz	22.2	34.9	25	1.67kW x 4	1.67kW x 1	-	63
CSD35-120M	6.0	20704	15633	11520	48.5	9531	26.0	45	11.0	350 x 4	560	230V 1Ph 50Hz	22.2	41.3	25	2.18kW x 4	2.18kW x 1	-	76
CSD35-150M	6.0	25035	18864	13952	58.2	9086	27.0	45	13.1	350 x 4	560	230V 1Ph 50Hz	22.2	41.3	25	2.18kW x 4	2.18kW x 1	-	81
CSD35-020L	8.0	3427	2558	1795	7.5	2494	24.0	39	2.5	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	0.65kW x 2	0.65kW x 1	-	22
CSD35-030L	8.0	5289	3959	2832	11.3	2271	22.0	39	3.7	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	0.65kW x 4	0.65kW x 1	-	25
CSD35-040L	8.0	7017	5285	3817	15.0	4989	26.0	42	4.6	350 x 2	280	230V 1Ph 50Hz	15.9	22.2	25	1.16kW x 2	1.16kW x 1	-	38
CSD35-050L	8.0	8886	6686	4865	18.8	4766	25.0	42	5.7	350 x 2	280	230V 1Ph 50Hz	15.9	28.6	25	1.16kW x 4	1.16kW x 1	-	41
CSD35-075L	8.0	10764	8111	5932	22.6	4543	24.0	42	6.8	350 x 2	280	230V 1Ph 50Hz	15.9	34.9	25	1.16kW x 4	1.16kW x 1	-	44
CSD35-100L	8.0	16263	12289	9074	33.9	6814	26.0	44	10.0	350 x 3	420	230V 1Ph 50Hz	22.2	34.9	25	1.67kW x 4	1.67kW x 1	-	62
CSD35-120L	8.0	18003	13614	10077	37.6	9531	27.0	45	11.0	350 x 4	560	230V 1Ph 50Hz	22.2	41.3	25	2.18kW x 4	2.18kW x 1	-	75
CSD35-150L	8.0	21773	16478	12234	45.1	9086	28.0	45	13.1	350 x 4	560	230V 1Ph 50Hz	22.2	41.3	25	2.18kW x 4	2.18kW x 1	-	80

- Airthrow is measured at 0.25m/s of terminal velocity.

CSD40 Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A																			
Model	Fin spacing mm	DT1=10K DT1=8K DT1=7K			Air Surface m ²	Air volume m ³ /h	Air throw m	Air Sound dB(A)5m	Tube volume dm ³	Fan data			Connection			Defrost heater		Weight kg	
		t ₀ =0°C	t ₀ =-8°C	t ₀ =-25°C						Inlet mm	Outlet mm	Drain A	Coil kW x No	Drain kW x No	Fan				
		W	W	W												W	W		Voltage
CSD40-030H	4.5	8111	6055	-	21.7	3660	29.0	44	4.1	400 x 1	230	400V 3Ph 50Hz	12.7	22.2	25	0.75kW x 4	0.75kW x 1	-	29
CSD40-040H	4.5	9921	7424	-	26.1	3600	28.0	44	5.0	400 x 1	230	400V 3Ph 50Hz	15.9	22.2	25	0.75kW x 4	0.75kW x 1	-	37
CSD40-050H	4.5	11970	8973	-	31.4	7344	32.0	47	5.7	400 x 2	460	400V 3Ph 50Hz	15.9	28.6	25	1.25kW x 2	1.25kW x 1	-	46
CSD40-075H	4.5	15245	11446	-	39.2	7200	31.0	47	7.1	400 x 2	460	400V 3Ph 50Hz	15.9	34.9	25	1.25kW x 4	1.25kW x 1	-	50
CSD40-100H	4.5	23090	17399	-	58.8	10800	33.0	49	10.3	400 x 3	690	400V 3Ph 50Hz	22.2	34.9	25	1.81kW x 4	1.81kW x 1	-	72
CSD40-120H	4.5	28108	21199	-	70.6	10577	32.0	49	12.4	400 x 3	690	400V 3Ph 50Hz	22.2	41.3	25	1.81kW x 4	1.81kW x 1	-	84
CSD40-150H	4.5	30953	23372	-	78.5	14400	35.0	50	13.6	400 x 4	920	400V 3Ph 50Hz	22.2	41.3	25	2.36kW x 4	2.36kW x 1	-	92
CSD40-200H	4.5	37655	28451	-	94.2	14102	34.0	50	16.3	400 x 4	920	400V 3Ph 50Hz	22.2	41.3	25	2.36kW x 4	2.36kW x 1	-	100
CSD40-030M	6.0	7201	5392	3850	16.7	3672	30.0	44	4.1	400 x 1	230	400V 3Ph 50Hz	12.7	22.2	25	0.75kW x 4	0.75kW x 1	-	28
CSD40-040M	6.0	8817	6615	4758	20.1	3612	29.0	44	5.0	400 x 1	230	400V 3Ph 50Hz	15.9	22.2	25	0.75kW x 4	0.75kW x 1	-	36
CSD40-050M	6.0	10631	7989	5777	24.2	7368	33.0	47	5.7	400 x 2	460	400V 3Ph 50Hz	15.9	28.6	25	1.25kW x 2	1.25kW x 1	-	44
CSD40-075M	6.0	13552	10195	7428	30.2	7224	32.0	47	7.1	400 x 2	460	400V 3Ph 50Hz	15.9	34.9	25	1.25kW x 4	1.25kW x 1	-	48
CSD40-100M	6.0	20503	15476	11403	45.3	10836	34.0	49	10.3	400 x 3	690	400V 3Ph 50Hz	22.2	34.9	25	1.81kW x 4	1.81kW x 1	-	68
CSD40-120M	6.0	24993	18878	13944	54.4	10620	33.0	49	12.4	400 x 3	690	400V 3Ph 50Hz	22.2	41.3	25	1.81kW x 4	1.81kW x 1	-	79
CSD40-150M	6.0	27469	20772	15404	60.4	14448	36.0	50	13.6	400 x 4	920	400V 3Ph 50Hz	22.2	41.3	25	2.36kW x 4	2.36kW x 1	-	87
CSD40-200M	6.0	33465	25318	18807	72.5	14160	35.0	50	16.3	400 x 4	920	400V 3Ph 50Hz	22.2	41.3	25	2.36kW x 4	2.36kW x 1	-	94
CSD40-030L	8.0	6315	4741	3415	13.0	3684	31.0	44	4.1	400 x 1	230	400V 3Ph 50Hz	12.7	22.2	25	0.75kW x 4	0.75kW x 1	-	28
CSD40-040L	8.0	7738	5821	4215	15.6	3624	30.0	44	5.0	400 x 1	230	400V 3Ph 50Hz	15.9	22.2	25	0.75kW x 4	0.75kW x 1	-	35
CSD40-050L	8.0	9314	7016	5110	18.8	7368	34.0	47	5.7	400 x 2	460	400V 3Ph 50Hz	15.9	28.6	25	1.25kW x 2	1.25kW x 1	-	43
CSD40-075L	8.0	11884	8968	6575	23.5	7224	33.0	47	7.1	400 x 2	460	400V 3Ph 50Hz	15.9	34.9	25	1.25kW x 4	1.25kW x 1	-	47
CSD40-100L	8.0	17960	13594	10067	35.2	10836	35.0	49	10.3	400 x 3	690	400V 3Ph 50Hz	22.2	34.9	25	1.81kW x 4	1.81kW x 1	-	67
CSD40-120L	8.0	21919	16602	12316	42.2	10620	34.0	49	12.4	400 x 3	690	400V 3Ph 50Hz	22.2	41.3	25	1.81kW x 4	1.81kW x 1	-	78
CSD40-150L	8.0	24048	18232	13579	46.9	14448	37.0	50	13.6	400 x 4	920	400V 3Ph 50Hz	22.2	41.3	25	2.36kW x 4	2.36kW x 1	-	86
CSD40-200L	8.0	29334	22250	16589	56.3	14160	36.0	50	16.3	400 x 4	920	400V 3Ph 50Hz	22.2	41.3	25	2.36kW x 4	2.36kW x 1	-	93

- Airthrow is measured at 0.25m/s of terminal velocity.

CSD35, 40 Dimensional Drawings

Fig A. CSD35 - 020, CSD35 - 030, CSD40 - 030, CSD40 - 040

Model	Outline dimension			Anchor size	
	L	W	H	L"	W"
CSD35-020	885	329	507	585	377
CSD35-030	885	329	507	585	377
CSD40-030	1000	386	576	700	434
CSD40-040	1000	386	576	700	434

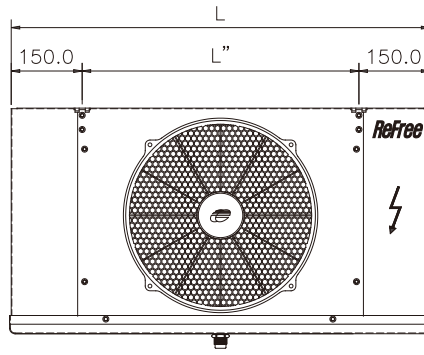
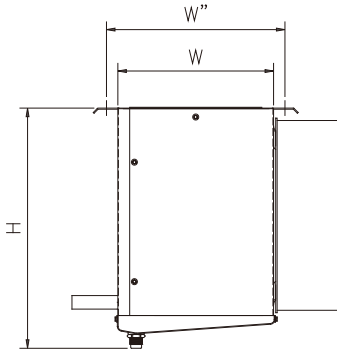
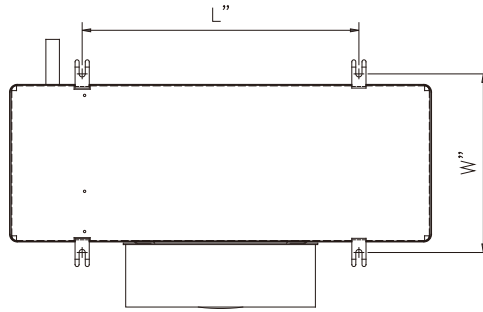
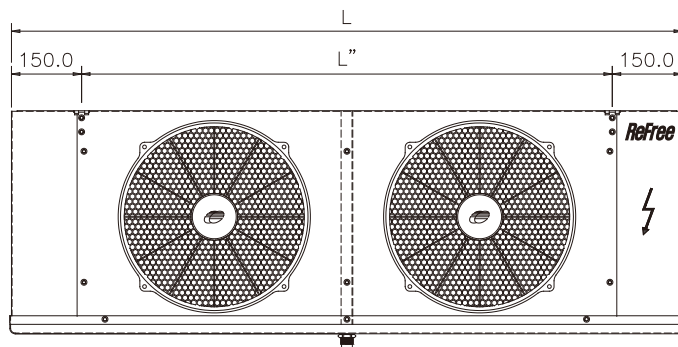
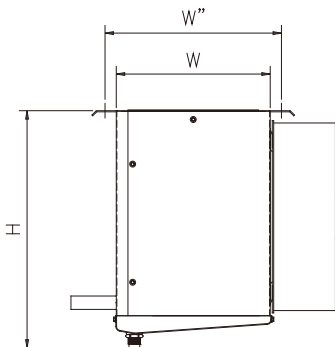
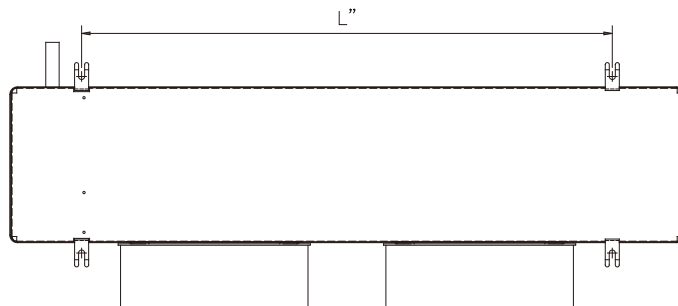


Fig B. CSD35 - 040, CSD35 - 050, CSD35 - 075, CSD40 - 050, CSD40 - 075

Model	Outline dimension			Anchor size	
	L	W	H	L"	W"
CSD35-040	1435	329	507	1135	377
CSD35-050	1435	329	507	1135	377
CSD35-075	1435	329	507	1135	377
CSD40-050	1535	386	576	1235	434
CSD40-075	1535	386	576	1235	434



CSD35, 40 Dimensional Drawings

Fig C. CSD35 - 100, CSD40 - 100, CSD40 - 120

Model	Outline dimension			Anchor size	
	L	W	H	L"	W"
CSD35-100	1985	329	507	1685	377
CSD40-100	2135	386	576	1835	434
CSD40-120	2135	386	576	1835	434

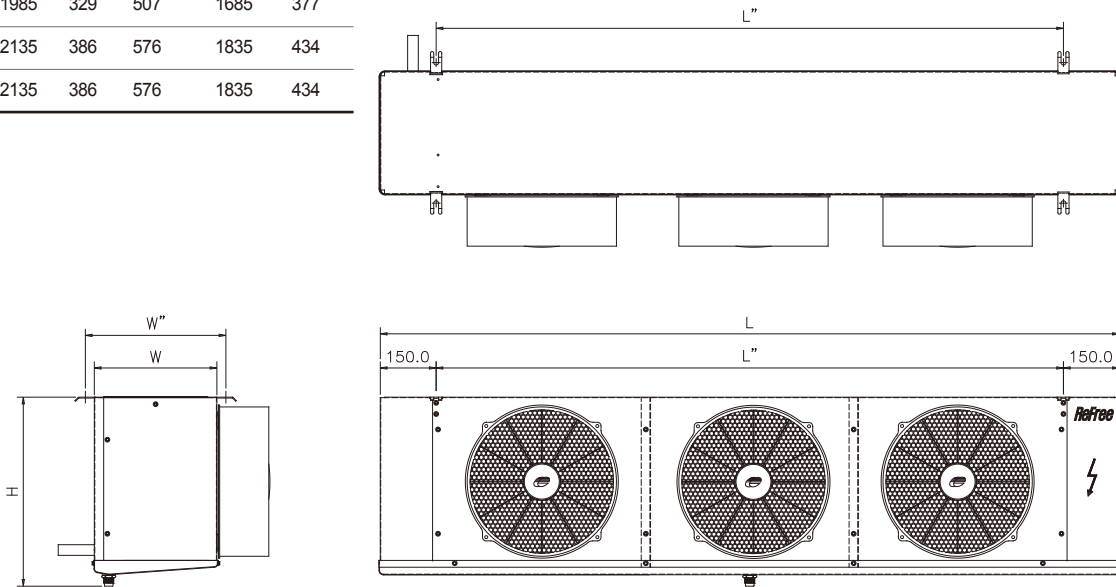
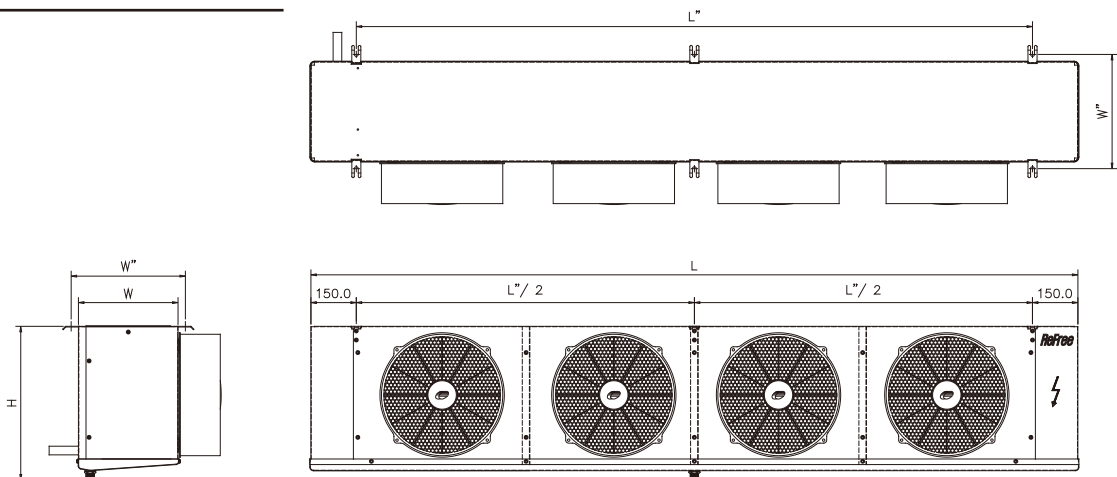


Fig D. CSD35 - 120, CSD35 - 150, CSD40 - 150, CSD40 - 200

Model	Outline dimension			Anchor size	
	L	W	H	L"	W"
CSD35-120	2535	329	507	2235	377
CSD35-150	2535	329	507	2235	377
CSD40-150	2735	386	576	2435	434
CSD40-200	2735	386	576	2435	434



UNIT COOLER STANDARD FEATURES

CSD45, 50 -TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 1/2").
- Powder painted galvanized coating case.
- PVC TERMINAL BOX (IP66)
- Electric defrost (U-heater)
- Double drain pan.
- Out-rotor motor fan for quiet operation (both noise and vibration reduced).
- Adapted HACCP standard by NSF approved painting for powder coating.
- Incredibly increased air throw using specially designed FAN GUIDE VANE.



MODEL NOMENCLATURE

Model	FAN DIA.	Cooling Capacity	Temp. Range	Phase	Power	Hz
CSD	45	1 2 0	H	3	3	5
CSD	45 = Ø450 50 = Ø500		H = High Temp. (0 ~ 10°C) M = Medium Temp. (-10 ~ -5°C) L = Low Temp. (-30 ~ -20°C)	3 = 3Ph	3 = 380V	5 = 50Hz 6 = 60Hz

CSD45 Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A																			
Model	Fin spacing mm	DT1=10K DT1=8K DT1=7K			Air Surface m ²	Air volume m ³ /h	Air throw m	Sound dB(A)5m	Tube volume dm ³	Fan data			Connection			Defrost heater		Weight kg	
		t ₀ =0°C	t ₀ =-8°C	t ₀ =-25°C						Dia Ø x St	Power input		Inlet mm	Outlet mm	Drain A	Coil kW x 6	Drain kW x No		Fan
		W	W	W							W	Voltage							
CSD45-120H	4.5	12824	9580	-	36.3	5880	33.0	49	9.8	450 x 1	540	400V 3Ph 50Hz	15.9	28.6	25	0.88kW x 6	0.52kW x 2	-	83
CSD45-160H	4.5	17067	12777	-	48.4	5292	32.0	49	13.0	450 x 1	540	400V 3Ph 50Hz	15.9	34.9	25	0.91kW x 6	0.52kW x 2	-	90
CSD45-240H	4.5	26117	19643	-	72.6	11760	35.0	52	18.1	450 x 2	1080	400V 3Ph 50Hz	22.2	34.9	25	1.60kW x 6	0.94kW x 2	-	130
CSD45-320H	4.5	34628	26063	-	96.8	10584	34.0	52	24.2	450 x 2	1080	400V 3Ph 50Hz	22.2	41.3	25	1.64kW x 6	0.94kW x 2	-	143
CSD45-360H	4.5	39471	29771	-	108.9	17640	38.0	54	26.5	450 x 3	1620	400V 3Ph 50Hz	22.2	41.3	25	2.33kW x 6	1.36kW x 2	-	182
CSD45-470H	4.5	52251	39416	-	145.2	15876	36.0	54	35.4	450 x 3	1620	400V 3Ph 50Hz	22.2	41.3	25	2.37kW x 6	1.36kW x 2	-	202
CSD45-510H	4.5	52850	39926	-	145.2	23520	40.0	55	34.9	450 x 4	2160	400V 3Ph 50Hz	22.2	54.0	25	3.06kW x 6	1.78kW x 2	-	229
CSD45-630H	4.5	69900	52795	-	193.6	21168	38.0	55	46.5	450 x 4	2160	400V 3Ph 50Hz	22.2	54.0	25	3.10kW x 6	1.78kW x 2	-	255
CSD45-065M	6.0	11605	8689	6227	28.0	5916	34.0	49	9.8	450 x 1	540	400V 3Ph 50Hz	15.9	28.6	25	0.88kW x 6	0.52kW x 2	-	81
CSD45-085M	6.0	15430	11568	8356	37.3	5364	33.0	49	13.0	450 x 1	540	400V 3Ph 50Hz	15.9	34.9	25	0.91kW x 6	0.52kW x 2	-	87
CSD45-130M	6.0	23595	17776	13009	55.9	11832	36.0	52	18.1	450 x 2	1080	400V 3Ph 50Hz	22.2	34.9	25	1.60kW x 6	0.94kW x 2	-	125
CSD45-170M	6.0	31264	23554	17302	74.5	10728	35.0	52	24.2	450 x 2	1080	400V 3Ph 50Hz	22.2	41.3	25	1.64kW x 6	0.94kW x 2	-	137
CSD45-190M	6.0	35634	26915	19876	83.9	17748	39.0	54	26.5	450 x 3	1620	400V 3Ph 50Hz	22.2	41.3	25	2.33kW x 6	1.36kW x 2	-	175
CSD45-260M	6.0	47148	35594	26334	111.8	16092	38.0	54	35.4	450 x 3	1620	400V 3Ph 50Hz	22.2	41.3	25	2.37kW x 6	1.36kW x 2	-	192
CSD45-270M	6.0	47693	36076	26778	111.8	23664	41.0	55	34.9	450 x 4	2160	400V 3Ph 50Hz	22.2	54.0	25	3.06kW x 6	1.78kW x 2	-	219
CSD45-340M	6.0	63053	47655	35400	149.1	21456	40.0	55	46.5	450 x 4	2160	400V 3Ph 50Hz	22.2	54.0	25	3.10kW x 6	1.78kW x 2	-	242
CSD45-040L	8.0	10372	7784	5613	21.7	5952	35.0	49	9.8	450 x 1	540	400V 3Ph 50Hz	15.9	28.6	25	0.88kW x 6	0.52kW x 2	-	80
CSD45-050L	8.0	13784	10336	7501	28.9	5436	34.0	49	13.0	450 x 1	540	400V 3Ph 50Hz	15.9	34.9	25	0.91kW x 6	0.52kW x 2	-	86
CSD45-075L	8.0	21052	15886	11677	43.4	11904	37.0	52	18.1	450 x 2	1080	400V 3Ph 50Hz	22.2	34.9	25	1.60kW x 6	0.94kW x 2	-	124
CSD45-100L	8.0	27890	21006	15477	57.8	10872	36.0	52	24.2	450 x 2	1080	400V 3Ph 50Hz	22.2	41.3	25	1.64kW x 6	0.94kW x 2	-	136
CSD45-110L	8.0	31770	24029	17807	65.1	17856	40.0	54	26.5	450 x 3	1620	400V 3Ph 50Hz	22.2	41.3	25	2.33kW x 6	1.36kW x 2	-	173
CSD45-150L	8.0	42035	31717	23519	86.8	16308	39.0	54	35.4	450 x 3	1620	400V 3Ph 50Hz	22.2	41.3	25	2.37kW x 6	1.36kW x 2	-	190
CSD45-160L	8.0	42504	32190	23964	86.8	23808	42.0	55	34.9	450 x 4	2160	400V 3Ph 50Hz	22.2	54.0	25	3.06kW x 6	1.78kW x 2	-	217
CSD45-200L	8.0	56197	42446	31589	115.7	21744	41.0	55	46.5	450 x 4	2160	400V 3Ph 50Hz	22.2	54.0	25	3.10kW x 6	1.78kW x 2	-	240

- Airthrow is measured at 0.25m/s of terminal velocity.

CSD50 Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A																			
Model	Fin spacing mm	DT1=10K DT1=8K DT1=7K			Air Surface m ²	Air volume m ³ /h	Air throw m	Sound dB(A)5m	Tube volume dm ³	Fan data			Connection			Defrost heater		Weight kg	
		t ₀ =0°C	t ₀ =-8°C	t ₀ =-25°C						Dia Ø x St	Power input		Inlet mm	Outlet mm	Drain A	Coil kW x 6	Drain kW x No		Fan
		W	W	W							W	Voltage							
CSD50-160H	4.5	18127	13606	-	51.1	8076	34.0	53	13.4	500 x 1	770	400V 3Ph 50Hz	15.9	34.9	25	1.06kW x 6	0.63kW x 2	-	103
CSD50-220H	4.5	24306	18271	-	68.1	7596	33.0	53	17.8	500 x 1	770	400V 3Ph 50Hz	22.2	34.9	25	1.09kW x 6	0.63kW x 2	-	113
CSD50-330H	4.5	36782	27758	-	102.1	16152	36.0	56	25.1	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	25	1.97kW x 6	1.15kW x 2	-	167
CSD50-440H	4.5	49174	37128	-	136.2	15192	35.0	56	33.5	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	25	2.00kW x 6	1.15kW x 2	-	186
CSD50-500H	4.5	55497	41977	-	153.2	24228	39.0	58	36.9	500 x 3	2310	400V 3Ph 50Hz	22.2	54.0	25	2.88kW x 6	1.68kW x 2	-	238
CSD50-660H	4.5	74105	56052	-	204.2	22788	38.0	58	49.2	500 x 3	2310	400V 3Ph 50Hz	28.6	66.7	25	2.91kW x 6	1.68kW x 2	-	265
CSD50-720H	4.5	74237	56222	-	204.2	32304	41.0	59	48.7	500 x 4	3080	400V 3Ph 50Hz	28.6	66.7	25	3.79kW x 6	2.20kW x 2	-	302
CSD50-890H	4.5	99063	75004	-	272.3	30384	40.0	59	64.9	500 x 4	3080	400V 3Ph 50Hz	28.6	66.7	25	3.82kW x 6	2.20kW x 2	-	339
CSD50-090M	6.0	16368	12308	8949	39.3	8112	35.0	53	13.4	500 x 1	770	400V 3Ph 50Hz	15.9	34.9	25	1.06kW x 6	0.63kW x 2	-	100
CSD50-120M	6.0	21951	16524	12089	52.4	7668	34.0	53	17.8	500 x 1	770	400V 3Ph 50Hz	22.2	34.9	25	1.09kW x 6	0.63kW x 2	-	109
CSD50-180M	6.0	33166	25064	18539	78.6	16224	37.0	56	25.1	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	25	1.97kW x 6	1.15kW x 2	-	160
CSD50-240M	6.0	44360	33526	24870	104.8	15336	36.0	56	33.5	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	25	2.00kW x 6	1.15kW x 2	-	177
CSD50-270M	6.0	50013	37872	28214	117.9	24336	40.0	58	36.9	500 x 3	2310	400V 3Ph 50Hz	22.2	54.0	25	2.88kW x 6	1.68kW x 2	-	227
CSD50-360M	6.0	66821	50584	37738	157.2	23004	39.0	58	49.2	500 x 3	2310	400V 3Ph 50Hz	28.6	66.7	25	2.91kW x 6	1.68kW x 2	-	252
CSD50-380M	6.0	66879	50702	37925	157.2	32448	42.0	59	48.7	500 x 4	3080	400V 3Ph 50Hz	28.6	66.7	25	3.79kW x 6	2.20kW x 2	-	288
CSD50-480M	6.0	89303	67664	50643	209.7	30672	41.0	59	64.9	500 x 4	3080	400V 3Ph 50Hz	28.6	66.7	25	3.82kW x 6	2.20kW x 2	-	320
CSD50-053L	8.0	14585	10988	8033	30.5	8130	36.0	53	13.4	500 x 1	770	400V 3Ph 50Hz	15.9	34.9	25	1.06kW x 6	0.63kW x 2	-	99
CSD50-070L	8.0	19547	14748	10836	40.7	7692	35.0	53	17.8	500 x 1	770	400V 3Ph 50Hz	22.2	34.9	25	1.09kW x 6	0.63kW x 2	-	108
CSD50-110L	8.0	29511	22332	16582	61.0	16260	38.0	56	25.1	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	25	1.97kW x 6	1.15kW x 2	-	159
CSD50-140L	8.0	39457	29878	22227	81.3	15384	37.0	56	33.5	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	25	2.00kW x 6	1.15kW x 2	-	175
CSD50-160L	8.0	44476	33718	25198	91.5	24390	41.0	58	36.9	500 x 3	2310	400V 3Ph 50Hz	22.2	54.0	25	2.88kW x 6	1.68kW x 2	-	225
CSD50-210L	8.0	59409	45505	33687	122.0	23076	40.0	58	49.2	500 x 3	2310	400V 3Ph 50Hz	28.6	66.7	25	2.91kW x 6	1.68kW x 2	-	249
CSD50-220L	8.0	59456	45121	33841	122.0	32520	43.0	59	48.7	500 x 4	3080	400V 3Ph 50Hz	28.6	66.7	25	3.79kW x 6	2.20kW x 2	-	286
CSD50-280L	8.0	79376	60241	45175	162.7	30768	42.0	59	64.9	500 x 4	3080	400V 3Ph 50Hz	28.6	66.7	25	3.82kW x 6	2.20kW x 2	-	317

- Airthrow is measured at 0.25m/s of terminal velocity.

CSD45, 50 Dimensional Drawings

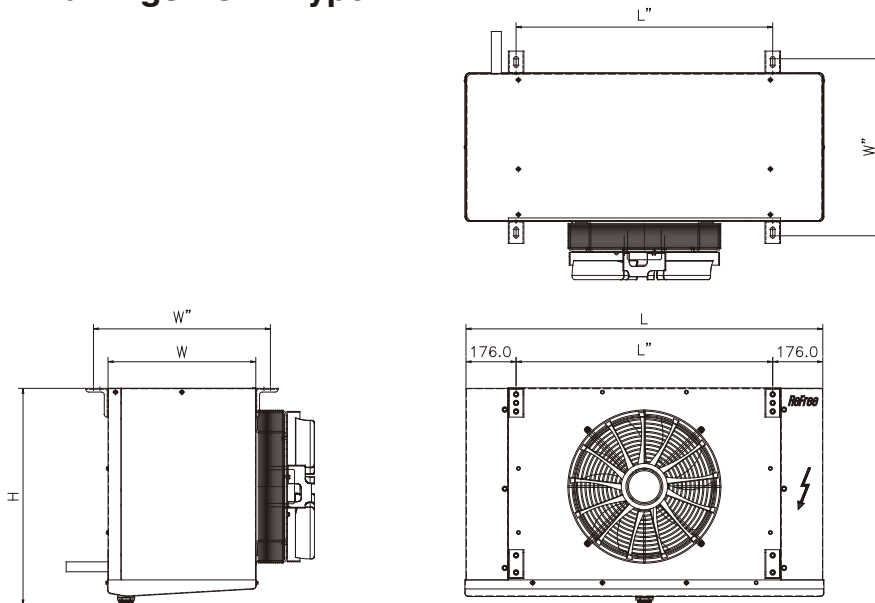
CSD45 Dimensional Data

Model	Unit type	Outline dimension			Anchor size			
		L	W	H	L"	W"	L1	L2
CSD45-120H	A	1080	519	684	731	621	-	-
CSD45-160H	A	1080	519	684	731	621	-	-
CSD45-240H	B	1760	519	684	1411	621	-	-
CSD45-320H	B	1760	519	684	1411	621	-	-
CSD45-360H	C	2440	519	684	2091	621	1391	700
CSD45-470H	C	2440	519	684	2091	621	1391	700
CSD45-510H	D	3120	519	684	2771	621	1386	1386
CSD45-630H	D	3120	519	684	2771	621	1386	1386
CSD45-065M	A	1080	519	684	731	621	-	-
CSD45-085M	A	1080	519	684	731	621	-	-
CSD45-130M	B	1760	519	684	1411	621	-	-
CSD45-170M	B	1760	519	684	1411	621	-	-
CSD45-190M	C	2440	519	684	2091	621	1391	700
CSD45-260M	C	2440	519	684	2091	621	1391	700
CSD45-270M	D	3120	519	684	2771	621	1386	1386
CSD45-340M	D	3120	519	684	2771	621	1386	1386
CSD45-040L	A	1080	519	684	731	621	-	-
CSD45-050L	A	1080	519	684	731	621	-	-
CSD45-075L	B	1760	519	684	1411	621	-	-
CSD45-100L	B	1760	519	684	1411	621	-	-
CSD45-110L	C	2440	519	684	2091	621	1391	700
CSD45-150L	C	2440	519	684	2091	621	1391	700
CSD45-160L	D	3120	519	684	2771	621	1386	1386
CSD45-200L	D	3120	519	684	2771	621	1386	1386

CSD50 Dimensional Data

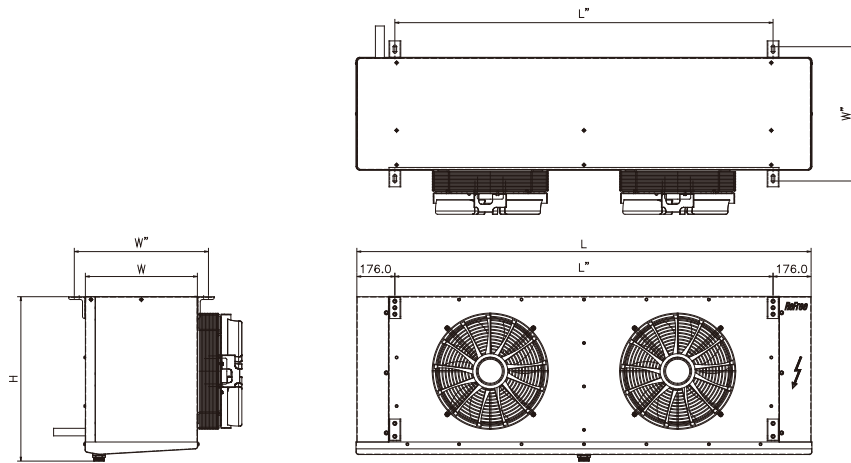
Model	Unit type	Outline dimension			Anchor size			
		L	W	H	L"	W"	L1	L2
CSD50-160H	A	1250	519	761	901	621	-	-
CSD50-220H	A	1250	519	761	901	621	-	-
CSD50-330H	B	2100	519	761	1751	621	-	-
CSD50-440H	B	2100	519	761	1751	621	-	-
CSD50-500H	C	2950	519	761	2601	621	1732	869
CSD50-660H	C	2950	519	761	2601	621	1732	869
CSD50-720H	D	3800	519	761	3451	621	1725	1725
CSD50-890H	D	3800	519	761	3451	621	1725	1725
CSD50-090M	A	1250	519	761	901	621	-	-
CSD50-120M	A	1250	519	761	901	621	-	-
CSD50-180M	B	2100	519	761	1751	621	-	-
CSD50-240M	B	2100	519	761	1751	621	-	-
CSD50-270M	C	2950	519	761	2601	621	1732	869
CSD50-360M	C	2950	519	761	2601	621	1732	869
CSD50-380M	D	3800	519	761	3451	621	1725	1725
CSD50-480M	D	3800	519	761	3451	621	1725	1725
CSD50-053L	A	1250	519	761	901	621	-	-
CSD50-070L	A	1250	519	761	901	621	-	-
CSD50-110L	B	2100	519	761	1751	621	-	-
CSD50-140L	B	2100	519	761	1751	621	-	-
CSD50-160L	C	2950	519	761	2601	621	1732	869
CSD50-210L	C	2950	519	761	2601	621	1732	869
CSD50-220L	D	3800	519	761	3451	621	1725	1725
CSD50-280L	D	3800	519	761	3451	621	1725	1725

Dimensional Drawings - Unit Type A

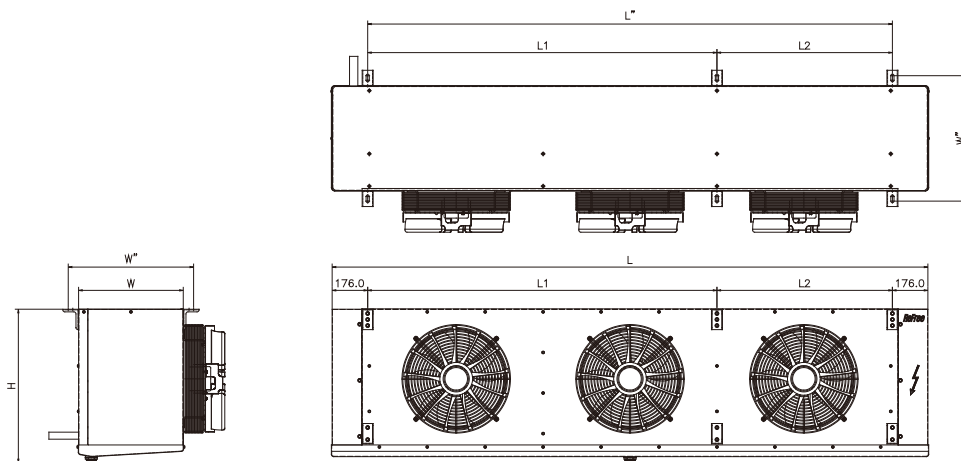


CSD45, 50 Dimensional Drawings

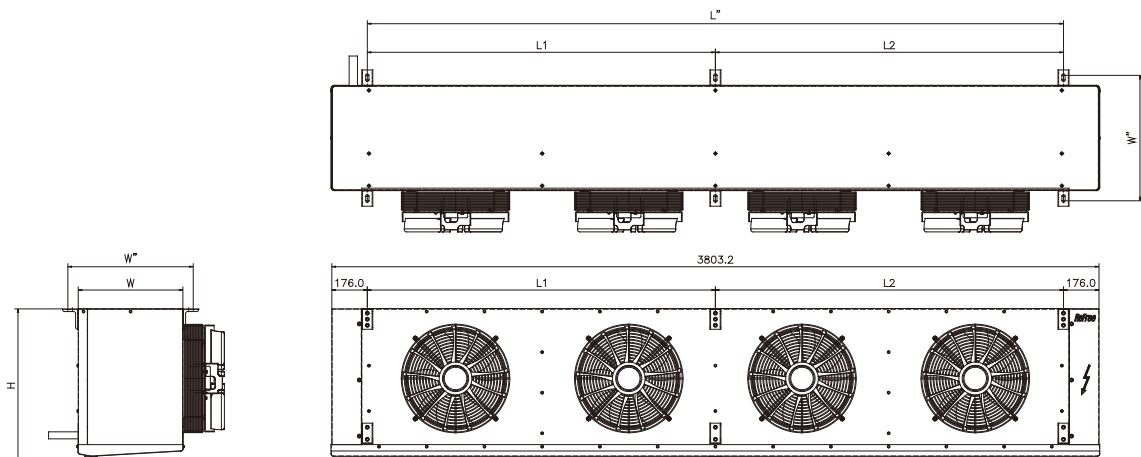
■ Dimensional Drawings - Unit Type B



■ Dimensional Drawings - Unit Type C



■ Dimensional Drawings - Unit Type D



UNIT COOLER STANDARD FEATURES

CTE-TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- Easy to replace socket/plug connection for motor.
- Adapted HACCP standard by NSF approved painting for powder coating.
- Motor voltage : 1PH 220V
- Voltage of heater : 1PH 220V



MODEL NOMENCLATURE

CTE	0 2 0	H	1	2	5
Model	Equiv. HP	Temp. Range	Phase	Power	Hz
CTE	0 2 0 = 2.0 HP	H = High Temp.	1 = 1Ph	2 = 220V	5 = 50Hz
	0 3 0 = 2.0 HP	(0 ~ 10°C)			6 = 60Hz
	0 4 0 = 3.0 HP	M = Medium Temp.			
	0 5 0 = 4.0 HP	(-10 ~ -5°C)			
	0 6 0 = 5.0 HP	L = Low Temp.			
		(-30 ~ -20°C)			

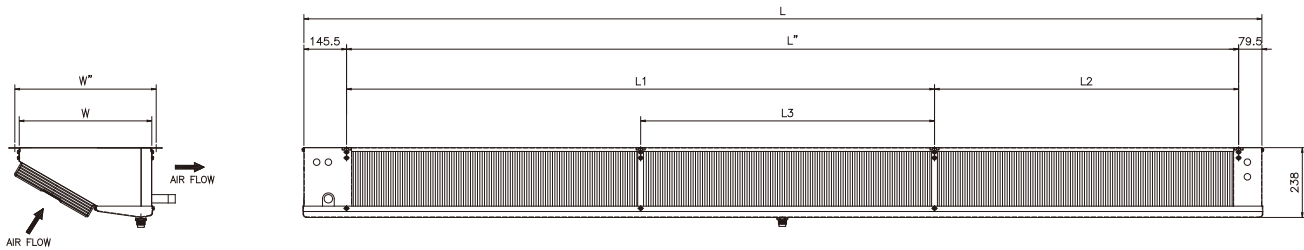
CTE Cooling Capacity & Electric Data - 50Hz

Model	Nominal capacity R404A																			
	Fin DT1=10K DT1=8K DT1=7K			Air			Air			Tube			Fan data		Connection			Defrost heater		Weight
	spacing	t _o =0°C	t _o =-8°C	t _o =-25°C	Surface	volume	throw	Sound	volume	Dia	Power input	Inlet	Outlet	Drain	Coil	Drain	Fan			
	mm	W	W	W	m ²	m ³ /h	m	dB(A)5m	dm ³	Ø x St	W	Voltage	mm	mm	A	kW x No	kg			
CTE020H	4.5	4175	3083	-	12.3	1628	5.0	46	2.2	250 x 2	160	230V 1Ph 50Hz	12.7	15.9	25	-	1.10kW x 1	-	20	
CTE030H	4.5	6395	4759	-	18.5	2442	5.5	48	3.3	250 x 3	240	230V 1Ph 50Hz	12.7	15.9	25	-	1.65kW x 1	-	28	
CTE040H	4.5	8628	6449	-	24.6	3256	6.0	49	4.3	250 x 4	320	230V 1Ph 50Hz	12.7	22.2	25	-	2.20kW x 1	-	37	
CTE050H	4.5	10870	8148	-	30.8	4069	6.5	50	5.3	250 x 5	400	230V 1Ph 50Hz	12.7	22.2	25	-	2.75kW x 1	-	45	
CTE060H	4.5	13115	9852	-	36.9	4883	7.0	51	6.4	250 x 6	480	230V 1Ph 50Hz	12.7	28.6	25	-	3.30kW x 1	-	53	
CTE020M	6.0	3682	2731	1896	9.5	1628	5.0	46	2.2	250 x 2	160	230V 1Ph 50Hz	12.7	15.9	25	-	1.10kW x 1	-	20	
CTE030M	6.0	5627	4201	2981	14.2	2442	5.5	48	3.3	250 x 3	240	230V 1Ph 50Hz	12.7	15.9	25	-	1.65kW x 1	-	28	
CTE040M	6.0	7582	5683	4085	19.0	3256	6.0	49	4.3	250 x 4	320	230V 1Ph 50Hz	12.7	22.2	25	-	2.20kW x 1	-	37	
CTE050M	6.0	9542	7171	5200	23.7	4069	6.5	50	5.3	250 x 5	400	230V 1Ph 50Hz	12.7	22.2	25	-	2.75kW x 1	-	45	
CTE060M	6.0	11506	8663	6321	28.4	4883	7.0	51	6.4	250 x 6	480	230V 1Ph 50Hz	12.7	28.6	25	-	3.30kW x 1	-	53	
CTE020L	8.0	3208	2394	1682	7.4	1628	5.0	46	2.2	250 x 2	160	230V 1Ph 50Hz	12.7	15.9	25	-	1.10kW x 1	-	20	
CTE030L	8.0	4890	3671	2630	11.0	2442	5.5	48	3.3	250 x 3	240	230V 1Ph 50Hz	12.7	15.9	25	-	1.65kW x 1	-	28	
CTE040L	8.0	6580	4956	3593	14.7	3256	6.0	49	4.3	250 x 4	320	230V 1Ph 50Hz	12.7	22.2	25	-	2.20kW x 1	-	37	
CTE050L	8.0	8274	6247	4563	18.4	4069	6.5	50	5.3	250 x 5	400	230V 1Ph 50Hz	12.7	22.2	25	-	2.75kW x 1	-	45	
CTE060L	8.0	9971	7540	5538	22.1	4883	7.0	51	6.4	250 x 6	480	230V 1Ph 50Hz	12.7	28.6	25	-	3.30kW x 1	-	53	

- Airthrow is measured at 0.25m/s of terminal velocity.

CTE Dimensional Drawings

Model	Fan	Outline dimension		Anchor size				
	Number	L	W	L"	W"	L1	L2	L3
CTE020	2	1263	452	1038	486	-	-	-
CTE030	3	1765	452	1540	486	-	-	-
CTE040	4	2267	452	2042	486	1004	1038	-
CTE050	5	2769	452	2544	486	1506	1038	-
CTE060	6	3271	452	3046	486	2008	1038	1004



UNIT COOLER STANDARD FEATURES

CME-TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- Easy to replace socket/plug connection for motor.
- Adapted HACCP standard by NSF approved painting for powder coating.
- Motor voltage : 1PH 220V
- Voltage of heater : 1PH 220V



MODEL NOMENCLATURE

CME	0 1 5	H	1	2	5
Model	Equiv. HP	Temp. Range	Phase	Power	Hz
CME	0 1 5 = 1.5 HP	H = High Temp.	1 = 1Ph	2 = 220V	5 = 50Hz
	0 1 8 = 1.8 HP	(0 ~ 10°C)			6 = 60Hz
	0 2 0 = 2 HP	M = Medium Temp.			
	0 3 0 = 3 HP	(-10 ~ -5°C)			
	0 3 5 = 3.5 HP	L = Low Temp.			
	0 4 0 = 4 HP	(-30 ~ -20°C)			
	0 5 0 = 5 HP				
	0 6 0 = 6 HP				
	0 7 5 = 7.5 HP				

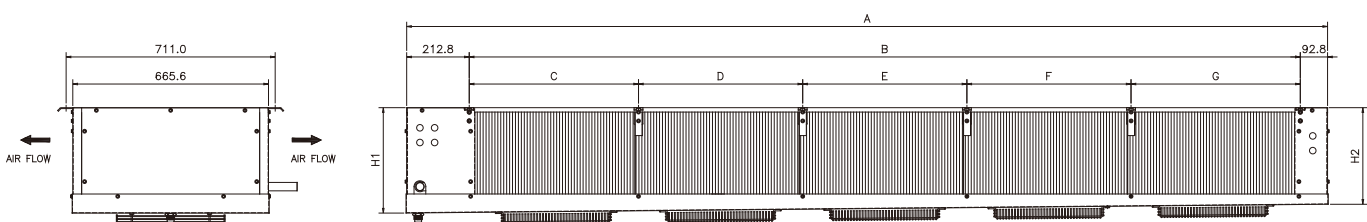
CME Cooling Capacity & Electric Data - 50Hz

Model	Nominal capacity R404A				Air Surface volume m ²	Air throw m	Air Sound dB(A)5m	Tube volume dm ³	Fan data			Connection			Defrost heater		Weight kg		
	Fin spacing	DT1=10K	DT1=8K	DT1=7K					Dia Ø x St	Power input		Inlet mm	Outlet mm	Drain A	Coil	Drain kW x No		Fan	
	to=0°C	to=-8°C	to=-25°C	W						Voltage									
	mm	W	W								W								
CME015H	4.5	4362	3248	-	14.6	1620	3.0	40	2.5	300 x 1	80	230V 1Ph 50Hz	12.7	22.2	25	-	-	-	30
CME018H	4.5	5829	4384	-	21.9	1626	3.0	40	3.8	300 x 1	80	230V 1Ph 50Hz	12.7	22.2	25	-	-	-	39
CME020H	4.5	7316	5517	-	24.6	3247	3.5	43	5.6	300 x 2	160	230V 1Ph 50Hz	12.7	22.2	25	-	-	-	49
CME030H	4.5	10697	8112	-	41.1	3258	3.5	43	8.5	300 x 2	160	230V 1Ph 50Hz	12.7	28.6	25	-	-	-	62
CME035H	4.5	12837	9734	-	49.3	3258	3.5	43	8.5	300 x 2	160	230V 1Ph 50Hz	12.7	28.6	25	-	-	-	64
CME040H	4.5	14772	11180	-	49.3	4870	3.5	45	8.5	300 x 3	240	230V 1Ph 50Hz	12.7	28.6	25	-	-	-	68
CME050H	4.5	16498	12510	-	54.8	6493	4.0	46	11.2	300 x 4	320	230V 1Ph 50Hz	12.7	28.6	25	-	-	-	85
CME060H	4.5	19797	15012	-	65.7	6493	4.0	46	11.2	300 x 4	320	230V 1Ph 50Hz	12.7	34.9	25	-	-	-	87
CME075H	4.5	24822	18845	-	82.1	8116	5.0	47	13.9	300 x 5	400	230V 1Ph 50Hz	12.7	34.9	25	-	-	-	105
CME015M	6.0	3777	2825	2003	11.2	1620	3.0	40	2.5	300 x 1	80	230V 1Ph 50Hz	12.7	22.2	25	-	1.06kW x 2	-	30
CME018M	6.0	4960	3742	2729	16.9	1626	3.0	40	3.8	300 x 1	80	230V 1Ph 50Hz	12.7	22.2	25	-	1.51kW x 2	-	39
CME020M	6.0	6280	4748	3490	19.0	3247	3.5	43	5.6	300 x 2	160	230V 1Ph 50Hz	12.7	22.2	25	-	1.51kW x 2	-	49
CME030M	6.0	9037	6866	5131	31.6	3258	3.5	43	8.5	300 x 2	160	230V 1Ph 50Hz	12.7	28.6	25	1.05kW x 2	1.05kW x 2	-	62
CME035M	6.0	10844	8240	6158	38.0	3258	3.5	43	8.5	300 x 2	160	230V 1Ph 50Hz	12.7	28.6	25	1.05kW x 2	1.05kW x 2	-	64
CME040M	6.0	12664	9604	7135	38.0	4870	3.5	45	8.5	300 x 3	240	230V 1Ph 50Hz	12.7	28.6	25	1.05kW x 2	1.05kW x 2	-	68
CME050M	6.0	14133	10737	8023	42.2	6493	4.0	46	11.2	300 x 4	320	230V 1Ph 50Hz	12.7	28.6	25	1.37kW x 2	1.37kW x 2	-	85
CME060M	6.0	16960	12884	9628	50.6	6493	4.0	46	11.2	300 x 4	320	230V 1Ph 50Hz	12.7	34.9	25	1.37kW x 2	1.37kW x 2	-	87
CME075M	6.0	21255	16164	12124	63.3	8116	5.0	47	13.9	300 x 5	400	230V 1Ph 50Hz	12.7	34.9	25	1.68kW x 2	1.68kW x 2	-	105
CME015L	8.0	3233	2427	1741	8.7	1620	3.0	40	2.5	300 x 1	80	230V 1Ph 50Hz	12.7	22.2	25	-	1.06kW x 2	-	30
CME018L	8.0	4178	3161	2325	13.1	1626	3.0	40	3.8	300 x 1	80	230V 1Ph 50Hz	12.7	22.2	25	-	1.51kW x 2	-	39
CME020L	8.0	5333	4042	2991	14.7	3247	3.5	43	5.6	300 x 2	160	230V 1Ph 50Hz	12.7	22.2	25	-	1.51kW x 2	-	49
CME030L	8.0	7563	5757	4325	24.6	3258	3.5	43	8.5	300 x 2	160	230V 1Ph 50Hz	12.7	28.6	25	1.05kW x 2	1.05kW x 2	-	62
CME035L	8.0	9076	6909	5190	29.5	3258	3.5	43	8.5	300 x 2	160	230V 1Ph 50Hz	12.7	28.6	25	1.05kW x 2	1.05kW x 2	-	64
CME040L	8.0	10740	8161	6096	29.5	4870	3.5	45	8.5	300 x 3	240	230V 1Ph 50Hz	12.7	28.6	25	1.05kW x 2	1.05kW x 2	-	68
CME050L	8.0	11979	9116	6843	32.7	6493	4.0	46	11.2	300 x 4	320	230V 1Ph 50Hz	12.7	28.6	25	1.37kW x 2	1.37kW x 2	-	85
CME060L	8.0	14374	10939	8212	39.3	6493	4.0	46	11.2	300 x 4	320	230V 1Ph 50Hz	12.7	34.9	25	1.37kW x 2	1.37kW x 2	-	87
CME075L	8.0	18008	13716	10330	49.1	8116	5.0	47	13.9	300 x 5	400	230V 1Ph 50Hz	12.7	34.9	25	1.68kW x 2	1.68kW x 2	-	105

- Airthrow is measured at 0.25m/s of terminal velocity.

CME Dimensional Drawings

Model	Fan		Outline dimension							
	Number	A	B	C	D	E	F	G	H1	H2
CME015	1	1456	1150.4	-	-	-	-	-	200	170
CME018	1	2015	1709.4	-	-	-	-	-	200	170
CME020	2	2015	1709.4	854.7	854.7	-	-	-	263.4	233.4
CME030	2	2015	1709.4	854.7	854.7	-	-	-	358.4	328.4
CME035	2	2015	1709.4	854.7	854.7	-	-	-	358.4	328.4
CME040	3	2015	1709.4	575.5	558.3	575.5	-	-	358.4	328.4
CME050	4	2574	2268.4	575.7	558.5	558.5	575.7	-	358.4	328.4
CME060	4	2574	2268.4	575.7	558.5	558.5	575.7	-	358.4	328.4
CME075	5	3132	2826.4	575.6	558.4	558.4	558.4	575.6	358.4	328.4



UNIT COOLER STANDARD FEATURES

CMS-TYPE

ReFree

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- Adapted HACCP standard by NSF approved painting for powder coating.
- Defrost type : H = air defrost, M = electric defrost
- Motor voltage : 1PH 220V
- Voltage of heater : 1PH 220V, 3PH 380V



MODEL NOMENCLATURE

CMS	0 2 0	H	1	2	5
Model	Equiv. HP	Temp. Range	Phase	Power	Hz
CMS	0 2 0 = 2 HP	H = High Temp. (0 ~ 15°C)	1 = 1Ph	2 = 220V	5 = 50Hz
	0 3 0 = 3 HP				6 = 60Hz
	0 4 0 = 4 HP	M = Medium Temp.			
	0 5 0 = 5 HP	(-10 ~ 0°C)			
	0 7 5 = 7.5 HP				
	1 0 0 = 10 HP				
	1 5 0 = 15 HP				

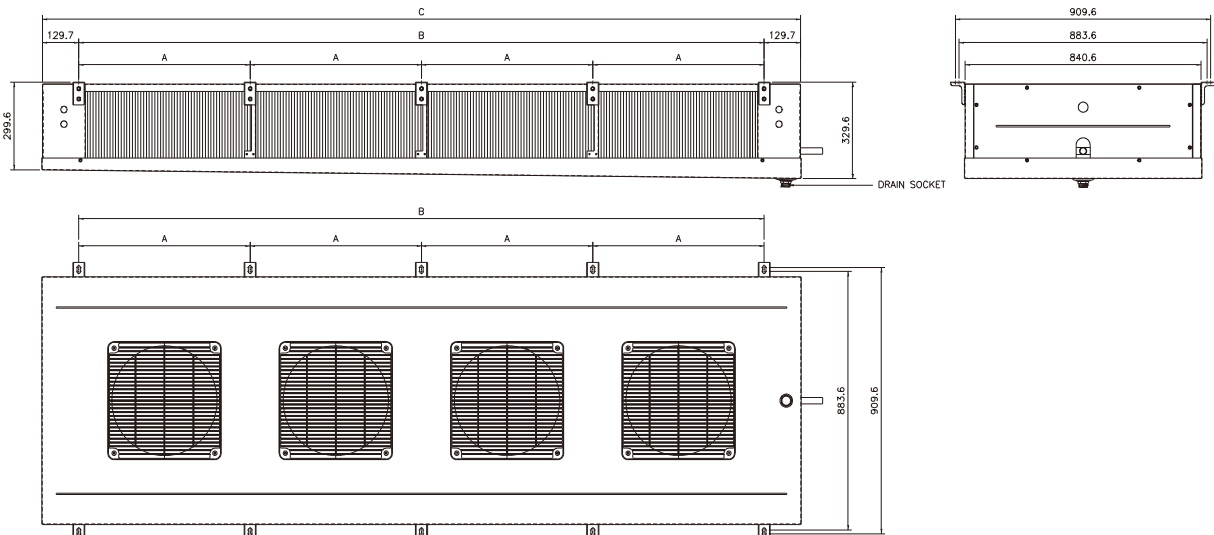
CMS Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A																			
Model	Fin spacing			Air				Tube		Fan data			Connection			Defrost heater		Weight	
	$t_o=3^{\circ}\text{C}$	$t_o=0^{\circ}\text{C}$	$t_o=-8^{\circ}\text{C}$	Surface	volume	throw	Sound	volume	Dia	Power input		Inlet	Outlet	Drain	Coil	Drain	Fan		
	mm	W	W	W	m^2	m^3/h	m	dB(A)5m	dm^3	$\text{Ø} \times \text{St}$	W	Voltage	mm	mm	A	Coil	Drain	Fan	
CMS020H	4.2	6835	5486	-	16.7	2650	3.0	39	2.8	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	-	-	-	30
CMS030H	4.2	10622	8543	-	25.1	2517	3.0	39	4.2	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	-	-	-	35
CMS040H	4.2	14019	11288	-	33.4	5301	4.0	42	5.4	350 x 2	280	230V 1Ph 50Hz	15.9	28.6	25	-	-	-	52
CMS050H	4.2	17961	14472	-	41.8	5033	4.0	42	6.8	350 x 2	280	230V 1Ph 50Hz	15.9	28.6	25	-	-	-	61
CMS075H	4.2	19883	16029	-	47.0	7951	5.0	44	7.6	350 x 3	420	230V 1Ph 50Hz	15.9	28.6	25	-	-	-	72
CMS100H	4.2	32712	26399	-	75.3	7550	5.0	44	12.1	350 x 3	420	230V 1Ph 50Hz	22.2	34.9	25	-	-	-	85
CMS150H	4.2	43794	35362	-	100.3	10066	6.0	45	16.0	350 x 4	560	230V 1Ph 50Hz	22.2	41.3	25	-	-	-	108
CMS020M	6.0	5845	4687	3499	12.1	2673	3.0	39	2.8	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	0.35kW x 4	0.38kW x 2	-	31
CMS030M	6.0	9090	7321	5481	18.1	2539	3.0	39	4.2	350 x 1	140	230V 1Ph 50Hz	12.7	22.2	25	0.35kW x 4	0.38kW x 2	-	35
CMS040M	6.0	11944	9604	7236	24.2	5345	4.0	42	5.4	350 x 2	280	230V 1Ph 50Hz	15.9	28.6	25	0.67kW x 4	0.74kW x 2	-	54
CMS050M	6.0	15339	12374	9313	30.2	5078	4.0	42	6.8	350 x 2	280	230V 1Ph 50Hz	15.9	28.6	25	0.67kW x 4	0.74kW x 2	-	62
CMS075M	6.0	16919	13618	10292	34.0	8018	5.0	44	7.6	350 x 3	420	230V 1Ph 50Hz	15.9	28.6	25	0.99kW x 4	1.10kW x 2	-	74
CMS100M	6.0	27889	22528	17030	54.4	7617	5.0	44	12.1	350 x 3	420	230V 1Ph 50Hz	22.2	34.9	25	0.99kW x 4	1.10kW x 2	-	86
CMS150M	6.0	37315	30157	22831	72.5	10155	6.0	45	16.0	350 x 4	560	230V 1Ph 50Hz	22.2	41.3	25	1.32kW x 4	1.46kW x 2	-	108

- Airthrow is measured at 0.25m/s of terminal velocity.

CMS Dimensional Drawings

Model	Fan		Outline dimension		
	Number	A	B	C	
CMS020H	1	-	642	901.4	
CMS030H	1	-	642	901.4	
CMS040H	2	621	1242	1501.4	
CMS050H	2	621	1242	1501.4	
CMS075H	3	614	1842	2101.4	
CMS100H	3	614	1842	2101.4	
CMS150H	4	610.5	2442	2701.4	



UNIT COOLER STANDARD FEATURES

COOLLY-TYPE



- High efficient Inner grooved copper tube (DIA. 3/8").
- It makes fresh and clean working condition
- Draining water pump
- Damper for suitable air supply.
- Bidirectional air supply.
- Manually adjusting damper angle.
- Adapted HACCP standard by NSF approved painting for powder coating.
- Electric application for fan motor is 1PH 220V 60Hz



MODEL NOMENCLATURE

COOLLY	0 5 7	1	2	5
Model	Cooling Capacity	Phase	Power	Hz
COOLLY		1 = 1Ph	2 = 220V	5 = 50Hz 6 = 60Hz

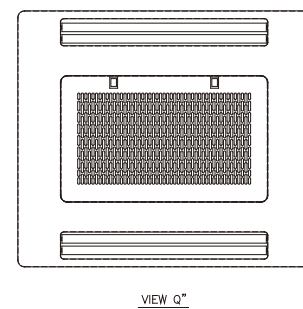
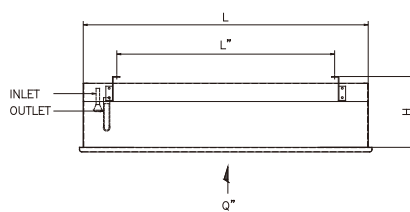
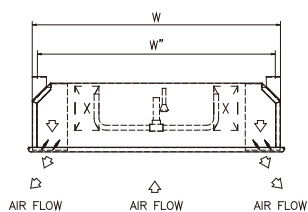
COOLLY Cooling Capacity & Electric Data - 50Hz

Model	Nominal capacity R404A																Weight kg			
	Fin spacing			Air Surface			Air throw			Tube			Fan data		Connection			Defrost heater		
	mm	W	W	W	m ²	m ³ /h	m	dB(A)5m	dm ³	Ø x St	W	Voltage	Inlet mm	Outlet mm	Drain A	Coil		Drain kW x No	Fan	
COOLLY057	4.0	7105	5722	-	13.8	2324	3.0	43	3.5	400 x 1	184	230V 1Ph 50Hz	12.7	22.2	12	-	-	-	63	
COOLLY087	4.0	10777	8697	-	21.7	2375	3.0	43	5.5	400 x 1	184	230V 1Ph 50Hz	15.9	28.6	12	-	-	-	78	
COOLLY115	4.0	12728	10226	-	22.8	3539	4.0	46	5.8	400 x 2	368	230V 1Ph 50Hz	15.9	28.6	12	-	-	-	95	
COOLLY131	4.0	14782	11909	-	26.6	4022	4.0	46	6.7	400 x 2	368	230V 1Ph 50Hz	15.9	28.6	12	-	-	-	113	

- Airthrow is measured at 0.25m/s of terminal velocity.

COOLLY Dimensional Drawings

Model	Fan Number	Outline dimension			Anchor size		Ceiling opening size	
		L	W	H	L"	W"	L1	W1
COOLLY057	1	1093	1126	321	788	1079	1103	1136
COOLLY087	1	1293	1126	321	988	1079	1303	1136
COOLLY115	2	1343	1126	321	1038	1079	1353	1136
COOLLY131	2	1513	1126	321	1208	1079	1523	1136



UNIT COOLER STANDARD FEATURES

S-TYPE

- High efficient inner grooved copper tube (DIA. 3/8").
- Powder painted aluminum case.
- PVC TERMINAL BOX (IP66)
- Electric defrost
- Out-rotor motor fan for quiet operation (both noise and vibration reduced).
- Adapted HACCP standard by NSF approved painting for powder coating.



MODEL NOMENCLATURE

S	0 2 0	M	1	2	5
Model	Equiv. HP	Temp. Range	Phase	Power	Hz
S	0 2 0 = 2.0 HP	M = Medium Temp. (-10 ~ -5°C)	1 = 1Ph	2 = 220V	5 = 50Hz
	0 3 0 = 3.0 HP				
	0 4 0 = 4.0 HP	L = Low Temp.			
	0 5 0 = 5.0 HP	(-30 ~ -20°C)			
	0 7 5 = 7.5 HP				
	1 0 0 = 10.0 HP				
	1 2 0 = 12.0 HP				
	1 5 0 = 15.0 HP				
	2 0 0 = 20.0 HP				

S Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A																			
Model	Fin	DT1=10K DT1=8K DT1=7K			Air	Air	Tube	Fan data			Connection			Defrost heater		Weight			
	spacing	t ₀ =0°C	t ₀ =-8°C	t ₀ =-25°C	Surface	volume	throw	Sound	volume	Dia	Power input		Inlet	Outlet	Drain		Coil	Drain	Fan
	mm	W	W	W	m ²	m ³ /h	m	dB(A)5m	dm ³	Ø x St	W	Voltage	mm	mm	A		kW x 2	0.61kW x 1	-
S020M	6.5	2796	2074	1430	7.0	2628	12.0	39	1.9	350 × 1	140	220V 1Ph 50Hz	12.7	19.1	25	0.67kW x 2	0.61kW x 1	-	20
S030M	6.5	3913	2909	2033	9.4	2539	12.0	39	2.6	350 × 1	140	220V 1Ph 50Hz	12.7	22.2	25	0.67kW x 2	0.61kW x 1	-	22
S040M	6.5	5102	3819	2741	13.1	2739	12.0	39	3.5	350 × 1	140	220V 1Ph 50Hz	12.7	22.2	25	0.87kW x 2	0.77kW x 1	-	26
S050M	6.5	7334	5492	3933	16.9	4855	14.0	42	4.3	350 × 2	280	220V 1Ph 50Hz	12.7	28.6	25	1.08kW x 2	0.92kW x 1	-	35
S075M	6.5	12310	9268	6762	28.1	4632	14.0	42	7.2	350 × 2	280	220V 1Ph 50Hz	15.9	34.9	25	1.16kW x 5	1.01kW x 1	-	47
S100M	6.5	17001	12840	9437	36.6	7200	15.0	47	9.1	400 × 2	400	220V 1Ph 50Hz	15.9	34.9	25	1.47kW x 5	1.24kW x 1	-	56
S120M	6.5	18603	14069	10404	41.1	7344	15.0	47	10.3	400 × 2	400	220V 1Ph 50Hz	15.9	41.3	25	1.47kW x 5	1.21kW x 1	-	61
S150M	6.5	26427	20019	14879	57.0	10872	16.0	49	14.0	400 × 3	600	220V 1Ph 50Hz	22.2	41.3	25	1.98kW x 5	1.63kW x 1	-	82
S200M	6.5	35595	26962	20105	76.0	10534	16.0	49	18.6	400 × 3	600	220V 1Ph 50Hz	22.2	41.3	25	2.00kW x 5	1.63kW x 1	-	96
S020L	8.5	2462	1828	1276	5.6	2650	12.0	39	1.9	350 × 1	140	220V 1Ph 50Hz	12.7	19.1	25	0.67kW x 2	0.61kW x 1	-	20
S030L	8.5	3441	2566	1816	7.4	2539	12.0	39	2.6	350 × 1	140	220V 1Ph 50Hz	12.7	22.2	25	0.67kW x 2	0.61kW x 1	-	22
S040L	8.5	4439	3342	2413	11.1	2338	12.0	39	3.9	350 × 1	140	220V 1Ph 50Hz	12.7	22.2	25	0.87kW x 2	0.77kW x 1	-	26
S050L	8.5	6465	4853	3500	13.4	4899	14.0	42	4.3	350 × 2	280	220V 1Ph 50Hz	12.7	28.6	25	1.08kW x 2	0.92kW x 1	-	35
S075L	8.5	10824	8164	5968	22.3	4677	14.0	42	7.2	350 × 2	280	220V 1Ph 50Hz	15.9	34.9	25	1.16kW x 5	1.01kW x 1	-	47
S100L	8.5	14998	11335	8380	28.9	7224	15.0	47	9.1	400 × 2	400	220V 1Ph 50Hz	15.9	34.9	25	1.47kW x 5	1.24kW x 1	-	56
S120L	8.5	16352	12387	9194	32.6	7368	15.0	47	10.3	400 × 2	400	220V 1Ph 50Hz	15.9	41.3	25	1.47kW x 5	1.21kW x 1	-	61
S150L	8.5	23269	17652	13157	45.1	10908	16.0	49	14.0	400 × 3	600	220V 1Ph 50Hz	22.2	41.3	25	1.98kW x 5	1.63kW x 1	-	82
S200L	8.5	33053	23777	17786	60.1	12390	16.0	49	18.6	400 × 3	600	220V 1Ph 50Hz	22.2	41.3	25	2.00kW x 5	1.63kW x 1	-	96

- Airthrow is measured at 0.25m/s of terminal velocity.

S Dimensional Drawings

Fig A. S020, S030, S040, S050

Model	Fan Number	Outline dimension			Anchor size	
		L	W	H	L"	W"
S020	1	840	327	590	535	396
S030	1	840	327	590	535	396
S040	2	1040	327	590	735	396
S050	2	1240	327	590	935	396

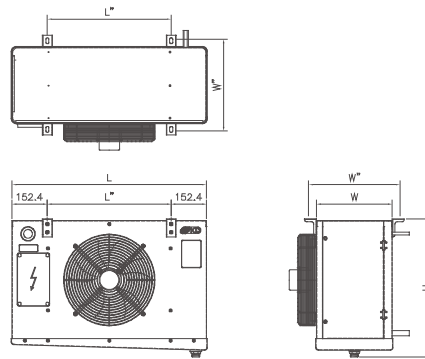
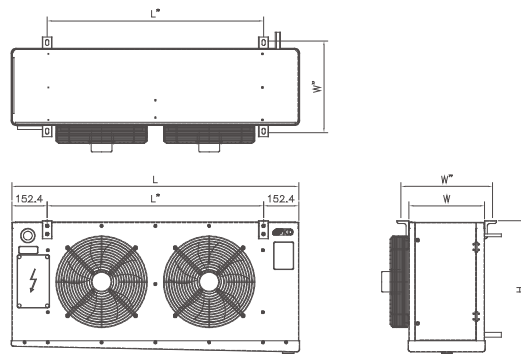


Fig B. S075, S100, S120, S150, S200

Model	Fan Number	Outline dimension			Anchor size	
		L	W	H	L"	W"
S075	2	1340	386	595	1035	455
S100	2	1640	386	595	1335	455
S120	2	1640	386	659	1335	455
S150	3	2140	386	659	1835	455
S200	3	2140	386	659	1835	455



UNIT COOLER STANDARD FEATURES

SDU-TYPE

- High efficient inner grooved copper tube (DIA. 3/8").
- Electric defrost (U-heater)
- Light weight aluminum case.
- Designed for light weight and compact
- Small and midium size cold room
- Round edge & Seamless drain panel for Leak-Free
- Front access terminal plate for easy to wiring service
- Machining processed venturi type of refrigerant distributor
- Specially designed FAN GUARD GRILL is available for option to increase air throw



MODEL NOMENCLATURE

SDU	0 2 0	M	1	2	5
Model	Equiv. HP	Temp. Range	Phase	Power	Hz
SDU	0 2 0 = 2.0 HP	M = Medium Temp. (-10 ~ -5°C)	1 = 1Ph	2 = 220V	5 = 50Hz
	0 3 0 = 3.0 HP		3 = 3Ph	3 = 380V	6 = 60Hz
	0 4 0 = 4.0 HP	L = Low Temp. (-30 ~ -20°C)			
	0 5 0 = 5.0 HP				
	0 7 5 = 7.5 HP				
	1 0 0 = 10.0 HP				
	1 2 0 = 12.0 HP				
	1 5 0 = 15.0 HP				

SDU Cooling Capacity & Electric Data - 50Hz

Nominal capacity R404A

Model	Fin				Air Surface m ²	Air volume m ³ /h	Air throw m	Air Sound dB(A)5m	Tube volume dm ³	Tube Dia Ø x St	Fan data		Connection			Defrost heater		Weight kg	
	spacing mm	DT1=10K DT1=8K DT1=7K									Power input W	Voltage	Inlet mm	Outlet mm	Drain A	Coil kW x No	Drain kW x No		Fan
		t ₀ =0°C W	t ₀ =-8°C W	t ₀ =-25°C W															
SDU020M	6.5	2713	2018	1404	7.2	2237	10.0	45	2.0	350 x 1	115	230V 1Ph 50Hz	12.7	19.1	25	0.80kW x 2	0.60kW x 1	-	22
SDU030M	6.5	3958	2953	2076	9.7	2455	10.0	43	2.7	400 x 1	122	230V 1Ph 50Hz	12.7	22.2	25	0.80kW x 2	0.60kW x 1	-	22
SDU040M	6.5	5095	3830	2758	13.7	2506	10.0	43	3.6	400 x 1	122	230V 1Ph 50Hz	12.7	22.2	25	1.08kW x 2	0.82kW x 1	-	27
SDU050M	6.5	7638	5736	4138	17.8	4881	12.0	46	4.6	400 x 2	244	230V 1Ph 50Hz	12.7	28.6	25	1.37kW x 2	1.03kW x 1	-	34
SDU075M	6.5	13402	10122	7448	31.1	4852	12.0	46	7.9	400 x 2	244	230V 1Ph 50Hz	15.9	34.9	25	1.29kW x 5	0.98kW x 1	-	48
SDU100M	6.5	17105	12929	9532	37.7	6854	13.0	48	9.5	450 x 2	460	380V 3Ph 50Hz	15.9	34.9	25	1.46kW x 5	1.10kW x 1	-	63
SDU120M	6.5	18469	13987	10348	41.8	6936	13.0	48	10.4	450 x 2	460	380V 3Ph 50Hz	15.9	41.3	25	1.62kW x 5	1.20kW x 1	-	76
SDU150M	6.5	27364	20768	15479	61.1	10373	14.0	50	15.1	450 x 3	690	380V 3Ph 50Hz	22.2	41.3	25	2.17kW x 5	1.61kW x 1	-	101
SDU020L	8.5	2368	1766	1245	5.7	2244	10.0	45	2.0	350 x 1	115	230V 1Ph 50Hz	12.7	19.1	25	0.80kW x 2	0.60kW x 1	0.20kW x 1	22
SDU030L	8.5	3471	2599	1848	7.6	2455	10.0	43	2.7	400 x 1	122	230V 1Ph 50Hz	12.7	22.2	25	0.80kW x 2	0.60kW x 1	0.20kW x 1	22
SDU040L	8.5	4413	3327	2416	10.8	2506	10.0	43	3.6	400 x 1	122	230V 1Ph 50Hz	12.7	22.2	25	1.08kW x 2	0.82kW x 1	0.26kW x 1	27
SDU050L	8.5	6699	5043	3667	14.1	4881	12.0	46	4.6	400 x 2	244	230V 1Ph 50Hz	12.7	28.6	25	1.37kW x 2	1.03kW x 1	0.34kW x 1	33
SDU075L	8.5	11721	8878	6562	24.6	4852	12.0	46	7.9	400 x 2	244	230V 1Ph 50Hz	15.9	34.9	25	1.29kW x 5	0.98kW x 1	0.31kW x 1	48
SDU100L	8.5	15031	11381	8432	29.8	6854	13.0	48	9.5	450 x 2	460	380V 3Ph 50Hz	15.9	34.9	25	1.46kW x 5	1.10kW x 1	0.36kW x 1	62
SDU120L	8.5	16192	12272	9121	33.1	6956	13.0	48	10.4	450 x 2	460	380V 3Ph 50Hz	15.9	41.3	25	1.62kW x 5	1.20kW x 1	0.39kW x 1	76
SDU150L	8.5	23992	18217	13629	48.4	10404	14.0	50	15.1	450 x 3	690	380V 3Ph 50Hz	22.2	41.3	25	2.17kW x 5	1.61kW x 1	0.56kW x 1	101

- Airthrow is measured at 0.25m/s of terminal velocity.

SDU Dimensional Drawings

Fig A. SDU020, SDU030, SDU040, SDU050

Model	Fan Number	Outline dimension			Anchor size	
		L	W	H	L"	W"
SDU020	1	735	299	614	535	342
SDU030	1	735	299	614	535	342
SDU040	1	950	299	614	750	342
SDU050	2	1170	299	614	970	342

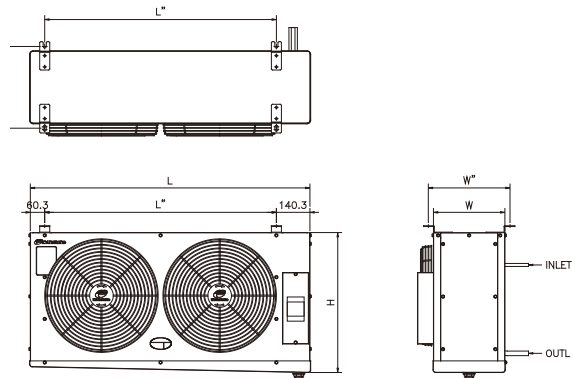
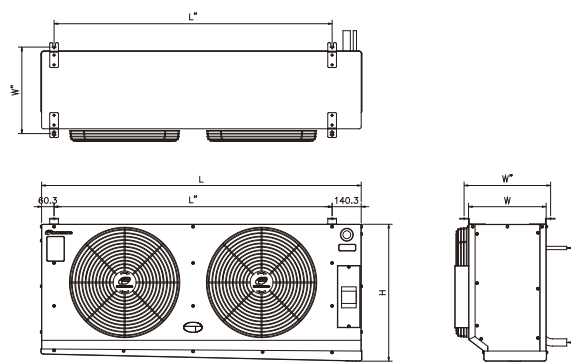


Fig B. SDU075, SDU100, SDU120, SDU150

Model	Fan Number	Outline dimension			Anchor size	
		L	W	H	L"	W"
SDU075	2	1260	375	656	1060	417
SDU100	2	1410	375	688	1210	417
SDU120	2	1540	375	688	1340	417
SDU150	3	1800	375	815	1600	417



UNIT COOLER STANDARD FEATURES

KDU-TYPE

- High efficient Inner grooved copper tube (DIA. 1/2").
- PIPE PITCH 33mm × 38.1mm.
- Electric defrost (U-heater)
- Voltage : 3Ph 380V 50Hz.
- Application for medium & large warehouse.
- THERMOSTAT to prevent over-heat.
(Dial type-user set)
- Easy to access terminal plate.



MODEL NOMENCLATURE

KDU	1 0 0	P	E	M	3	3	5
Model	Equiv. HP			Temp. Range	Phase	Power	Hz
KDU	1 0 0 = 10 HP	P = Pro. Fan	E = Electric	M = Medium Temp.	3 = 3Ph	3 = 380V	5 = 50Hz
	1 5 0 = 15 HP	A = Axial. Fan	Defrost	(-10 ~ -5°C)			6 = 60Hz
	2 0 0 = 20 HP			L = Low Temp.			
	2 5 0 = 25 HP			(-30 ~ -20°C)			
	3 0 0 = 30 HP			F = Freeze			
	3 5 0 = 35 HP			(-40 ~ -30°C)			
	4 0 0 = 40 HP						
	4 5 0 = 45 HP						
	5 0 0 = 50 HP						

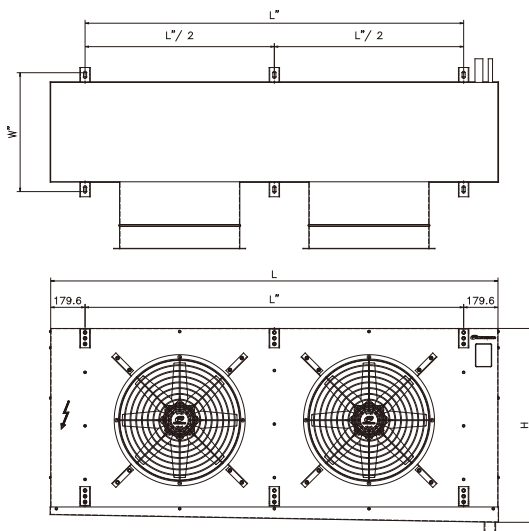
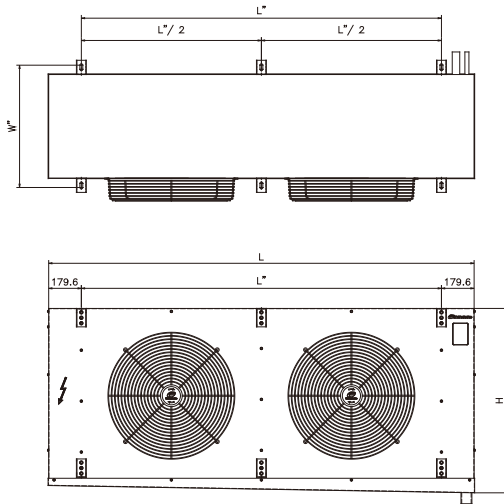
KDU Cooling Capacity & Electric Data - 50Hz

Model	Nominal capacity R404A																	Weight kg	
	Fin	DT1=8K	DT1=7K	DT1=6K	Air	Air	Tube	Fan data			Connection			Defrost heater		Fan			
	spacing	t _o =-8°C	t _o =-25°C	t _o =-40°C	Surface	volume	throw	Sound	volume	Dia	Power input		Inlet	Outlet	Drain		Coil		Drain
	mm	W	W	W	m ²	m ³ /h	m	dB(A)5m	dm ³	Ø x St	W	Voltage	mm	mm	A		kW x 3		kW x No
KDU100PEM	6.5	11319	8350	-	41.5	8291	15.0	50	14.5	500 x 2	1042	380V 3Ph 50Hz	15.9	34.9	40	1.77kW x 3	0.99kW x 2	0.60kW x 2	154
KDU150PEM	6.5	22048	16400	-	74.6	7737	15.0	50	26.1	500 x 2	1042	380V 3Ph 50Hz	22.2	41.3	50	1.77kW x 6	0.99kW x 2	0.60kW x 2	189
KDU200PEM	6.5	22998	17176	-	78.9	10929	17.0	51	27.1	550 x 2	1042	380V 3Ph 50Hz	22.2	41.3	50	2.20kW x 6	1.21kW x 2	0.65kW x 2	205
KDU250PEM	6.5	29371	21967	-	97.0	10754	17.0	51	33.5	550 x 2	1042	380V 3Ph 50Hz	22.2	41.3	50	2.04kW x 6	1.13kW x 2	0.65kW x 2	220
KDU300PEM	6.5	31209	23397	-	105.3	10827	17.0	51	36.2	550 x 2	1042	380V 3Ph 50Hz	22.2	54.0	65	2.20kW x 6	1.21kW x 2	0.65kW x 2	232
KDU350PEM	6.5	40544	30476	-	135.5	14251	19.0	52	46.4	600 x 2	1800	380V 3Ph 50Hz	22.2	54.0	65	2.35kW x 8	1.29kW x 2	0.75kW x 2	277
KDU400PEM	6.5	42758	32159	-	145.4	14367	19.0	52	49.6	600 x 2	1800	380V 3Ph 50Hz	28.6	66.7	65	2.52kW x 8	1.37kW x 2	0.75kW x 2	313
KDU450PEM	6.5	47522	35872	-	168.3	14542	19.0	52	57.2	600 x 2	1800	380V 3Ph 50Hz	28.6	66.7	65	2.68kW x 8	1.45kW x 2	0.75kW x 2	343
KDU500PEM	6.5	59769	45059	-	197.4	21289	20.0	54	66.5	600 x 3	2700	380V 3Ph 50Hz	28.6	66.7	65	3.11kW x 8	1.66kW x 2	0.75kW x 3	430
KDU100PEL	8.0	16927	12653	-	55.8	8204	15.0	50	23.3	500 x 2	1042	380V 3Ph 50Hz	15.9	34.9	40	1.89kW x 6	1.06kW x 2	0.60kW x 2	190
KDU150PEL	8.0	21709	16231	-	69.1	7941	15.0	50	29.0	500 x 2	1042	380V 3Ph 50Hz	22.2	41.3	50	1.77kW x 6	0.99kW x 2	0.60kW x 2	205
KDU200PEL	8.0	28325	21288	-	87.7	10841	17.0	51	36.2	550 x 2	1042	380V 3Ph 50Hz	22.2	41.3	50	2.2kW x 6	1.21kW x 2	0.65kW x 2	238
KDU250PEL	8.0	35757	26918	-	108.4	14193	17.0	52	44.7	600 x 2	1800	380V 3Ph 50Hz	22.2	41.3	50	2.27kW x 8	1.24kW x 2	0.75kW x 2	277
KDU300PEL	8.0	39461	29773	-	124.4	14397	17.0	52	50.8	600 x 2	1800	380V 3Ph 50Hz	22.2	54.0	65	2.58kW x 8	1.40kW x 2	0.75kW x 2	312
KDU350PEL	8.0	42936	32454	-	140.3	14542	19.0	52	57.2	600 x 2	1800	380V 3Ph 50Hz	22.2	54.0	65	2.68kW x 8	1.45kW x 2	0.75kW x 2	340
KDU400PEL	8.0	48932	37045	-	160.3	16437	19.0	53	64.9	550 x 3	1563	380V 3Ph 50Hz	28.6	66.7	65	3.04kW x 8	1.63kW x 2	0.65kW x 3	406
KDU450PEL	8.0	54279	41022	-	164.5	21289	19.0	54	66.5	600 x 3	2700	380V 3Ph 50Hz	28.6	66.7	65	3.11kW x 8	1.66kW x 2	0.75kW x 3	424
KDU500PEL	8.0	71483	54077	-	218.5	21158	20.0	54	88.1	600 x 3	2700	380V 3Ph 50Hz	28.6	66.7	65	3.3kW x 12	1.76kW x 2	0.75kW x 3	469
KDU100AEM	6.5	12988	9521	-	41.5	13283	20.0	62	14.5	500 x 2	1580	380V 3Ph 50Hz	15.9	34.9	40	1.77kW x 3	0.99kW x 2	0.6kW x 2	204
KDU150AEM	6.5	24911	18439	-	74.6	12024	20.0	62	26.1	500 x 2	1580	380V 3Ph 50Hz	22.2	41.3	50	1.77kW x 6	0.99kW x 2	0.6kW x 2	237
KDU200AEM	6.5	26997	20014	-	78.9	19475	22.0	64	27.1	550 x 2	2720	380V 3Ph 50Hz	22.2	41.3	50	2.2kW x 6	1.21kW x 2	0.65kW x 2	263
KDU250AEM	6.5	33896	25180	-	97.0	18328	22.0	64	33.5	550 x 2	2720	380V 3Ph 50Hz	22.2	41.3	50	2.04kW x 6	1.13kW x 2	0.65kW x 2	276
KDU300AEM	6.5	36325	27052	-	105.3	18781	22.0	64	36.2	550 x 2	2720	380V 3Ph 50Hz	22.2	54.0	65	2.2kW x 6	1.21kW x 2	0.65kW x 2	288
KDU350AEM	6.5	46881	35084	-	135.5	24010	24.0	66	46.4	600 x 2	3750	380V 3Ph 50Hz	22.2	54.0	65	2.35kW x 8	1.29kW x 2	0.75kW x 2	337
KDU400AEM	6.5	49615	37187	-	145.4	24285	24.0	66	49.6	600 x 2	3750	380V 3Ph 50Hz	28.6	66.7	65	2.52kW x 8	1.37kW x 2	0.75kW x 2	374
KDU450AEM	6.5	55608	41805	-	168.3	24749	24.0	66	57.2	600 x 2	3750	380V 3Ph 50Hz	28.6	66.7	65	2.68kW x 8	1.45kW x 2	0.75kW x 2	389
KDU500AEM	6.5	69014	51817	-	197.4	35843	25.0	68	66.5	600 x 3	5625	380V 3Ph 50Hz	28.6	66.7	65	3.11kW x 8	1.66kW x 2	0.75kW x 3	498
KDU100AEL	8.0	19661	14613	-	55.8	13054	20.0	62	23.3	500 x 2	1580	380V 3Ph 50Hz	15.9	34.9	40	1.89kW x 6	1.06kW x 2	0.6kW x 2	234
KDU150AEL	8.0	25031	18638	-	69.1	12516	20.0	62	29.0	500 x 2	1580	380V 3Ph 50Hz	22.2	41.3	50	1.77kW x 6	0.99kW x 2	0.6kW x 2	249
KDU200AEL	8.0	33470	24992	-	87.7	18810	22.0	64	36.2	550 x 2	2720	380V 3Ph 50Hz	22.2	41.3	50	2.2kW x 6	1.21kW x 2	0.65kW x 2	288
KDU250AEL	8.0	39639	29741	-	108.4	19786	22.0	64	44.7	550 x 2	2720	380V 3Ph 50Hz	22.2	41.3	50	2.27kW x 8	1.24kW x 2	0.65kW x 2	318
KDU300AEL	8.0	46531	34963	-	124.4	24400	22.0	66	50.8	600 x 2	3750	380V 3Ph 50Hz	22.2	54.0	65	2.58kW x 8	1.4kW x 2	0.75kW x 2	362
KDU350AEL	8.0	50945	38376	-	140.3	24773	24.0	66	57.2	600 x 2	3750	380V 3Ph 50Hz	22.2	54.0	65	2.68kW x 8	1.45kW x 2	0.75kW x 2	387
KDU400AEL	8.0	56193	42427	-	160.3	25076	24.0	66	64.9	600 x 2	3750	380V 3Ph 50Hz	28.6	66.7	65	3.04kW x 8	1.63kW x 2	0.75kW x 2	438
KDU450AEL	8.0	63576	47838	-	164.5	35878	24.0	68	66.5	600 x 3	5625	380V 3Ph 50Hz	28.6	66.7	65	3.11kW x 8	1.66kW x 2	0.75kW x 3	507
KDU500AEL	8.0	83737	63125	-	218.5	35490	25.0	68	88.1	600 x 3	5625	380V 3Ph 50Hz	28.6	66.7	65	3.3kW x 12	1.76kW x 2	0.75kW x 3	550
KDU100AEF 8/10	24257	18107	12964	68.0	12695	20.0	62	31.1	500 x 2	1580	380V 3Ph 50Hz	15.9	34.9	40	1.89kW x 6	1.06kW x 2	0.6kW x 2	255	
KDU150AEF 8/10	31915	23894	17195	89.7	12441	20.0	62	40.1	500 x 2	1580	380V 3Ph 50Hz	22.2	41.3	50	1.96kW x 9	1.09kW x 2	0.6kW x 2	286	
KDU200AEF 8/10	39057	29216	21034	102.0	18066	22.0	64	45.2	550 x 2	2720	380V 3Ph 50Hz	22.2	41.3	50	2.2kW x 9	1.21kW x 2	0.65kW x 2	315	
KDU250AEF 8/10	46373	34861	25259	126.2	19244	22.0	64	55.8	550 x 2	2720	380V 3Ph 50Hz	22.2	41.3	50	2.27kW x 12	1.24kW x 2	0.65kW x 2	351	
KDU300AEF 8/10	54524	41049	29788	144.7	23918	22.0	66	63.5	600 x 2	3750	380V 3Ph 50Hz	22.2	54.0	65	2.58kW x 12	1.4kW x 2	0.75kW x 2	399	
KDU350AEF 8/10	59757	45079	32841	163.2	24377	24.0	66	71.5	600 x 2	3750	380V 3Ph 50Hz	22.2	54.0	65	2.68kW x 12	1.45kW x 2	0.75kW x 2	429	
KDU400AEF 8/10	65971	49879	36441	186.5	24773	24.0	66	81.1	600 x 2	3750	380V 3Ph 50Hz	28.6	66.7	65	3.04kW x 12	1.63kW x 2	0.75kW x 2	485	
KDU450AEF 8/10	77961	58748	42828	203.4	35342	24.0	68	88.1	600 x 3	5625	380V 3Ph 50Hz	28.6	66.7	65	3.3kW x 12	1.76kW x 2	0.75kW x 3	571	
KDU500AEF 8/10	91121	68755	50186	239.5	34262	25.0	68	105.8	600 x 3	5625	380V 3Ph 50Hz	28.6	66.7	65	3.3kW x 14	1.76kW x 2	0.75kW x 3	605	

- Airthrow is measured at 0.25m/s of terminal velocity.

KDU Dimensional Drawings

Dimensional Drawings



Model	Fan Number	Outline dimension			Anchor size	
		L	W	H	L"	W"
KDU100PEM	2	1689	399.4	860.8	1330	502
KDU150PEM	2	1689	531.4	784.6	1330	634
KDU200PEM	2	2039	465.4	860.8	1680	568
KDU250PEM	2	1909	531.4	860.8	1550	634
KDU300PEM	2	2039	531.4	860.8	1680	634
KDU350PEM	2	2159	569.4	1013.2	1800	672
KDU400PEM	2	2289	569.4	1013.2	1930	672
KDU450PEM	2	2419	569.4	1089.4	2060	672
KDU500PEM	3	2769	569.4	1089.4	2410	672
KDU100PEL	2	1789	465.4	860.8	1430	568
KDU150PEL	2	1689	531.4	860.8	1330	634
KDU200PEL	2	2039	531.4	860.8	1680	634
KDU250PEL	2	2089	569.4	1013.2	1730	672
KDU300PEL	2	2339	569.4	1013.2	1980	672
KDU350PEL	2	2419	569.4	1089.4	2060	672
KDU400PEL	3	2709	531.4	1089.4	2350	634
KDU450PEL	3	2769	569.4	1089.4	2410	672
KDU500PEL	3	2919	635.4	1089.4	2560	738
KDU100AEM	2	1689	387.2	860.8	1330	489.8
KDU150AEM	2	1689	519.2	784.6	1330	621.8
KDU200AEM	2	2039	453.2	860.8	1680	555.8
KDU250AEM	2	1909	519.2	860.8	1550	621.8
KDU300AEM	2	2039	519.2	860.8	1680	621.8
KDU350AEM	2	2159	519.2	1013.2	1800	621.8
KDU400AEM	2	2289	519.2	1013.2	1930	621.8
KDU450AEM	2	2419	519.2	1089.4	2060	621.8
KDU500AEM	3	2769	519.2	1089.4	2410	621.8
KDU100AEL	2	1789	453.2	860.8	1430	555.8
KDU150AEL	2	1689	519.2	860.8	1330	621.8
KDU200AEL	2	2039	519.2	860.8	1680	621.8
KDU250AEL	2	2089	519.2	1013.2	1730	621.8
KDU300AEL	2	2339	519.2	1013.2	1980	621.8
KDU350AEL	2	2419	519.2	1089.4	2060	621.8
KDU400AEL	2	2709	519.2	1089.4	2350	621.8
KDU450AEL	3	2769	519.2	1089.4	2410	621.8
KDU500AEL	3	2919	585.2	1089.4	2560	687.8
KDU100AEF	2	1789	519.2	860.8	1430	621.8
KDU150AEF	2	1839	585.2	860.8	1480	687.8
KDU200AEF	2	2039	585.2	860.8	1680	687.8
KDU250AEF	2	2089	585.2	1013.2	1730	687.8
KDU300AEF	2	2339	585.2	1013.2	1980	687.8
KDU350AEF	2	2419	585.2	1089.4	2060	687.8
KDU400AEF	2	2709	585.2	1089.4	2350	687.8
KDU450AEF	3	2919	585.2	1089.4	2560	687.8
KDU500AEF	3	2919	651.2	1089.4	2560	753.8

UNIT COOLER STANDARD FEATURES

K-TYPE



- High efficient Inner grooved copper tube (DIA. 1/2").
- PIPE PITCH 33mm × 38.1mm.
- Electric defrost (U-heater)
- Voltage : 3Ph 380V 50Hz.
- Application for medium & large warehouse.
- THERMOSTAT to prevent over-heat.
- Easy to access terminal plate.



MODEL NOMENCLATURE

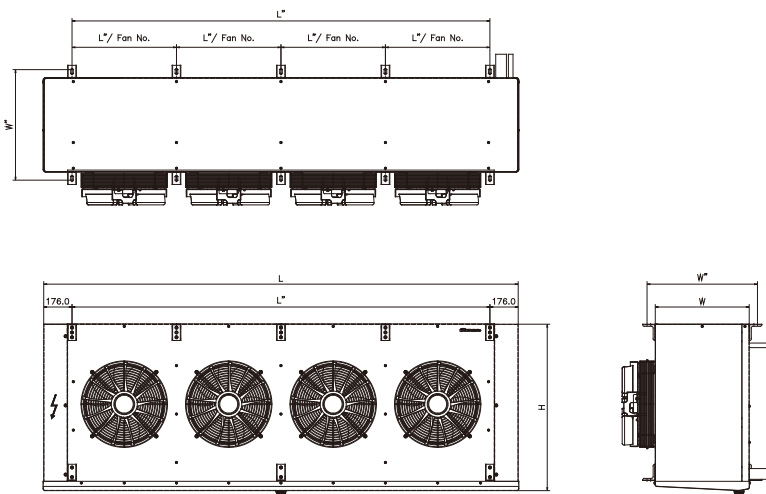
Model	Equiv. HP	Temp. Range	Phase	Power	Hz
K	1 0 0 = 10 HP	M = Medium Temp. (-10 ~ -5°C)	3 = 3Ph	3 = 380V	5 = 50Hz
	1 5 0 = 15 HP	L = Low Temp. (-30 ~ -20°C)			6 = 60Hz
	2 0 0 = 20 HP	F = Freeze (-40 ~ -30°C)			
	2 5 0 = 25 HP				
	3 0 0 = 30 HP				
	3 5 0 = 35 HP				
	4 0 0 = 40 HP				
	4 5 0 = 45 HP				
	5 0 0 = 50 HP				

K Cooling Capacity & Electric Data - 50Hz

Model	Fin spacing mm	Nominal capacity R404A			Surface m ²	Air volume m ³ /h	Air throw m	Sound dB(A)5m	Tube volume dm ³	Dia Ø x St	Fan data		Connection			Coil	Defrost heater Drain kW x No	Fan	Weight kg
		DT1=8K t ₀ =8°C W	DT1=7K t ₀ =25°C W	DT1=6K t ₀ =40°C W							Power input W	Voltage	Inlet mm	Outlet mm	Drain A				
K100EM	6.5	14257	10266	-	43.4	16632	32.0	56	15.1	500 x 2	1540	400V 3Ph 50Hz	15.9	34.9	40	1.90kW x 3	0.98kW x 2	0.60kW x 2	127
K150EM	6.5	21950	16163	-	65.1	15576	31.0	56	22.7	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	1.90kW x 6	0.98kW x 2	0.60kW x 2	152
K200EM	6.5	26529	19696	-	81.3	16709	32.0	56	27.9	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	2.33kW x 6	1.19kW x 2	0.60kW x 2	172
K250EM	6.5	32492	24122	-	97.6	15336	29.0	56	33.5	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	2.33kW x 6	1.19kW x 2	0.60kW x 2	185
K300EM	6.5	35642	26575	-	108.4	16044	30.0	56	37.2	500 x 2	1540	400V 3Ph 50Hz	22.2	54.0	40	2.33kW x 6	1.19kW x 2	0.60kW x 2	199
K350EM	6.5	43955	32648	-	130.1	21348	31.0	58	44.2	500 x 3	2310	400V 3Ph 50Hz	22.2	54.0	40	2.75kW x 6	1.40kW x 2	0.60kW x 3	243
K400EM	6.5	49139	36688	-	146.7	23076	32.0	58	49.5	500 x 3	2310	400V 3Ph 50Hz	28.6	66.7	40	3.07kW x 6	1.56kW x 2	0.60kW x 3	262
K450EM	6.5	55495	41647	-	169.2	24336	32.0	58	57.5	500 x 3	2310	400V 3Ph 50Hz	28.6	66.7	40	2.75kW x 8	1.40kW x 2	0.60kW x 3	292
K500EM	6.5	61157	45998	-	192.0	25121	32.0	58	64.4	500 x 3	2310	400V 3Ph 50Hz	28.6	66.7	40	3.07kW x 8	1.56kW x 2	0.60kW x 3	323
K100EL	8.0	20222	14943	-	54.2	15624	31.0	56	22.7	500 x 2	1540	400V 3Ph 50Hz	15.9	34.9	40	1.90kW x 6	0.98kW x 2	0.60kW x 2	152
K150EL	8.0	26816	19847	-	72.3	14280	30.0	56	30.2	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	1.90kW x 6	0.98kW x 2	0.60kW x 2	175
K200EL	8.0	32683	24423	-	90.4	16080	31.0	56	37.2	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	2.33kW x 6	1.19kW x 2	0.60kW x 2	199
K250EL	8.0	37763	28368	-	108.4	16901	30.0	56	44.7	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	2.33kW x 8	1.19kW x 2	0.60kW x 2	227
K300EL	8.0	47390	35477	-	129.2	23742	32.0	58	52.9	500 x 3	2310	400V 3Ph 50Hz	22.2	54.0	40	2.54kW x 8	1.29kW x 2	0.60kW x 3	278
K350EL	8.0	50860	38211	-	141.0	24390	32.0	58	57.5	500 x 3	2310	400V 3Ph 50Hz	22.2	54.0	40	2.75kW x 8	1.40kW x 2	0.60kW x 3	293
K400EL	8.0	55878	42101	-	158.9	25178	32.0	58	64.4	500 x 3	2310	400V 3Ph 50Hz	28.6	66.7	40	3.07kW x 8	1.56kW x 2	0.60kW x 3	317
K450EL	8.0	64508	48512	-	176.2	31872	33.0	59	71.1	500 x 4	3080	400V 3Ph 50Hz	28.6	66.7	40	3.38kW x 8	1.72kW x 2	0.60kW x 4	361
K500EL	8.0	80223	60265	-	221.5	30288	33.0	59	88.8	500 x 4	3080	400V 3Ph 50Hz	28.6	66.7	40	3.37kW x 12	1.72kW x 2	0.60kW x 4	427
K100EF	8/10	24492	18149	12868	66.0	14088	30.0	56	30.2	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	1.90kW x 6	0.98kW x 2	0.60kW x 2	174
K150EF	8/10	34487	25675	18366	94.6	14184	29.0	56	42.2	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	2.11kW x 9	1.08kW x 2	0.60kW x 2	214
K200EF	8/10	37949	28370	20433	105.1	15192	30.0	56	46.5	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	2.32kW x 9	1.19kW x 2	0.60kW x 2	229
K250EF	8/10	44127	33186	24076	126.2	16332	30.0	56	55.8	500 x 2	1540	400V 3Ph 50Hz	22.2	41.3	40	2.32kW x 11	1.19kW x 2	0.60kW x 2	261
K300EF	8/10	54778	41047	29713	150.3	22140	32.0	58	66.1	500 x 3	2310	400V 3Ph 50Hz	22.2	54.0	40	2.53kW x 12	1.29kW x 2	0.60kW x 3	319
K350EF	8/10	59151	44464	32274	164.0	23292	32.0	58	71.8	500 x 3	2310	400V 3Ph 50Hz	22.2	54.0	40	2.74kW x 12	1.40kW x 2	0.60kW x 3	337
K400EF	8/10	65214	49196	35862	184.9	24336	32.0	58	80.5	500 x 3	2310	400V 3Ph 50Hz	28.6	66.7	40	3.06kW x 12	1.56kW x 2	0.60kW x 3	365
K450EF	8/10	74660	56141	40813	205.0	29904	33.0	59	88.8	500 x 4	3080	400V 3Ph 50Hz	28.6	66.7	40	3.37kW x 12	1.72kW x 2	0.60kW x 4	415
K500EF	8/10	86369	64888	47041	242.8	28080	33.0	59	106.6	500 x 4	3080	400V 3Ph 50Hz	22.2	41.3	40	3.37kW x 14	1.72kW x 2	0.60kW x 4	482

- Airthrow is measured at 0.25m/s of terminal velocity.

K Dimensional Drawings



Model	Fan Number	Outline dimension			Anchor size	
		L	W	H	L"	W"
K100EM	2	1763.2	518.8	806.7	1411.2	621.4
K150EM	2	1763.2	518.8	806.7	1411.2	621.4
K200EM	2	2103.2	518.8	806.7	1751.2	621.4
K250EM	2	2103.2	518.8	730.5	1751.2	621.4
K300EM	2	2103.2	518.8	806.7	1751.2	621.4
K350EM	3	2443.2	518.8	806.7	2091.2	621.4
K400EM	3	2703.2	518.8	806.7	2351.2	621.4
K450EM	3	2443.2	518.8	1035.3	2091.2	621.4
K500EM	3	2703.2	518.8	1035.3	2351.2	621.4
K100EL	2	1763.2	518.8	806.7	1411.2	621.4
K150EL	2	1763.2	518.8	806.7	1411.2	621.4
K200EL	2	2103.2	518.8	806.7	1751.2	621.4
K250EL	2	2103.2	518.8	959.1	1751.2	621.4
K300EL	3	2273.2	518.8	1035.3	1921.2	621.4
K350EL	3	2443.2	518.8	1035.3	2091.2	621.4
K400EL	3	2703.2	518.8	1035.3	2351.2	621.4
K450EL	4	2953.2	518.8	1035.3	2601.2	621.4
K500EL	4	2953.2	584.8	1035.3	2601.2	687.4
K100EF	2	1763.2	518.8	806.7	1411.2	621.4
K150EF	2	1933.2	584.8	806.7	1581.2	687.4
K200EF	2	2103.2	584.8	806.7	1751.2	687.4
K250EF	2	2103.2	584.8	959.1	1751.2	687.4
K300EF	3	2273.2	584.8	1035.3	1921.2	687.4
K350EF	3	2443.2	584.8	1035.3	2091.2	687.4
K400EF	3	2703.2	584.8	1035.3	2351.2	687.4
K450EF	4	2953.2	584.8	1035.3	2601.2	687.4
K500EF	4	2953.2	650.8	1060	2601.2	753.4

UNIT COOLER STANDARD FEATURES

BF-TYPE



- 5/8" OD. copper tube and Aluminum fin.
- PIPE PITCH 43.3mm x 50mm
- Powder coated zinc-plated steel.
- Electric defrost.
- Voltage : 3Ph 380V 50Hz.
- Application for medium & large warehouse.
- Easy to access terminal plate.



MODEL NOMENCLATURE

BF	1 1 2	E	L	3	3	5
Model	Cooling Capacity		Temp. Range	Phase	Power	Hz
BF		E = Electric Defrost	L = Low Temp. (-30 ~ -20°C) F = Freeze (-40 ~ -30°C)	3 = 3Ph	3 = 380V	5 = 50Hz 6 = 60Hz

BF Cooling Capacity & Electric Data - 50Hz

Model	Nominal capacity R404A																Weight kg		
	Fin spacing	DT1=7K DT1=6K DT1=6K			Air surface	Air volume	Air throw	Sound	Tube volume	Fan data		Connection			Defrost heater				
	mm	W	W	W	m ²	m ³ /h	m	dB(A)5m	dm ³	Dia Ø x St	Power input W	Voltage	Inlet mm	Outlet mm	Drain A	Coil kW x No		Drain kW x No	Fan
BF112EL	10.0	14535	11245	10268	70.3	19872	23.0	58	34.0	560 x 2	2100	400V 3Ph 50Hz	22.2	41.3	65	0.54kW x 22	0.84kW x 3	0.65kW x 2	345
BF151EL	10.0	19493	15115	13890	93.7	18630	22.0	58	45.3	560 x 2	2100	400V 3Ph 50Hz	22.2	41.3	65	0.54kW x 33	0.84kW x 3	0.65kW x 2	381
BF230EL	10.0	29686	23099	21343	140.6	39744	25.0	61	62.6	560 x 4	4200	400V 3Ph 50Hz	28.6	54.0	65	1.03kW x 22	1.51kW x 3	0.65kW x 4	547
BF308EL	10.0	39642	30882	28652	187.4	37260	24.0	61	83.4	560 x 4	4200	400V 3Ph 50Hz	28.6	54.0	65	1.03kW x 33	1.51kW x 3	0.65kW x 4	612
BF350EL	10.0	44922	35040	32542	210.8	59616	27.0	63	91.1	560 x 6	6300	400V 3Ph 50Hz	22.2x2	41.28x2	65	1.53kW x 22	2.17kW x 3	0.65kW x 6	748
BF467EL	10.0	59879	46739	43542	281.1	55890	26.0	63	121.5	560 x 6	6300	400V 3Ph 50Hz	28.58x2	53.98x2	65	1.53kW x 33	2.17kW x 3	0.65kW x 6	845
BF626EL	10.0	80151	62632	58485	374.8	74520	28.0	64	159.7	560 x 8	8400	400V 3Ph 50Hz	28.58x2	53.98x2	65	2.03kW x 33	2.83kW x 3	0.65kW x 8	1075
BF095EF	12.0	13508	10462	9575	59.9	19872	23.0	58	34.0	560 x 2	2100	400V 3Ph 50Hz	22.2	41.3	65	0.54kW x 22	0.84kW x 3	0.65kW x 2	338
BF129EF	12.0	18106	14052	12927	79.9	18684	22.0	58	45.3	560 x 2	2100	400V 3Ph 50Hz	22.2	41.3	65	0.54kW x 33	0.84kW x 3	0.65kW x 2	372
BF198EF	12.0	27546	21451	19850	119.9	39744	25.0	61	62.6	560 x 4	4200	400V 3Ph 50Hz	28.6	54.0	65	1.03kW x 22	1.51kW x 3	0.65kW x 4	533
BF266EF	12.0	36778	28668	26608	159.8	37368	24.0	61	83.4	560 x 4	4200	400V 3Ph 50Hz	28.6	54.0	65	1.03kW x 33	1.51kW x 3	0.65kW x 4	594
BF302EF	12.0	41658	32514	30231	179.8	59616	27.0	63	91.1	560 x 6	6300	400V 3Ph 50Hz	22.2x2	41.28x2	65	1.53kW x 22	2.17kW x 3	0.65kW x 6	728
BF404EF	12.0	55526	43360	40400	239.7	56052	26.0	63	121.5	560 x 6	6300	400V 3Ph 50Hz	28.58x2	53.98x2	65	1.53kW x 33	2.17kW x 3	0.65kW x 6	818
BF542EF	12.0	74304	58083	54235	319.7	74736	28.0	64	159.7	560 x 8	8400	400V 3Ph 50Hz	28.58x2	53.98x2	65	2.03kW x 33	2.83kW x 3	0.65kW x 8	1039

- Airthrow is measured at 0.25m/s of terminal velocity.

BF Dimensional Drawings

Fig A. BF112EL, BF151EL, BF095EF, BF129EF

Model	Outline dimension			
	A	B	C	D
BF112EL	858	1246	850	1240
BF151EL	858	1246	850	1240
BF095EF	858	1246	850	1240
BF129EF	858	1246	850	1240

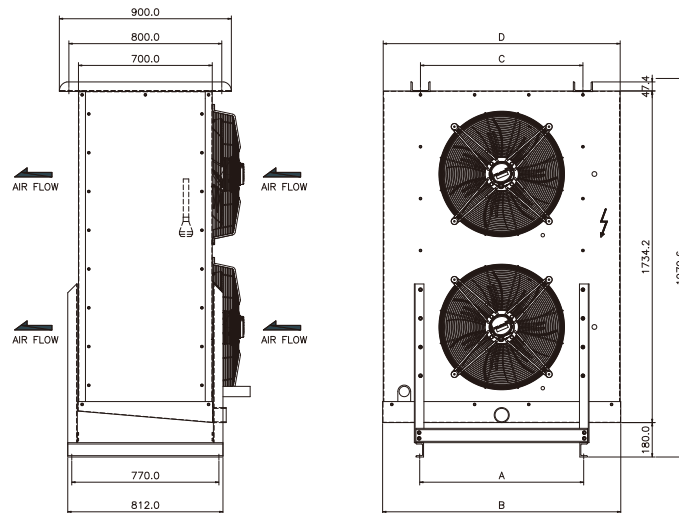
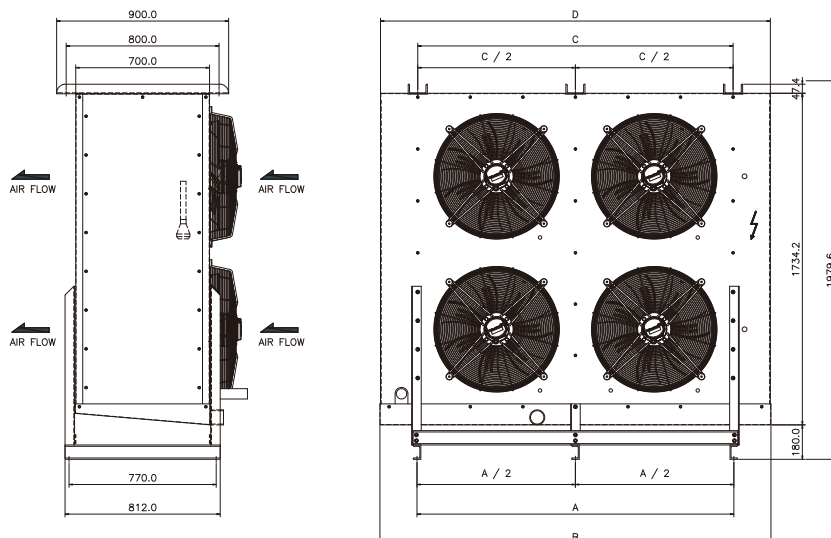


Fig B. BF230EL, BF308EL, BF198EF, BF266EF

Model	Outline dimension			
	A	B	C	D
BF230EL	1658	2046	1650	2040
BF308EL	1658	2046	1650	2040
BF198EF	1658	2046	1650	2040
BF266EF	1658	2046	1650	2040



BF Dimensional Drawings

Fig C. BF350EL, BF467EL, BF302EF, BF404EF

Model	Outline dimension			
	A	B	C	D
BF350EL	2458	2846	2450	2840
BF467EL	2458	2846	2450	2840
BF302EF	2458	2846	2450	2840
BF404EF	2458	2846	2450	2840

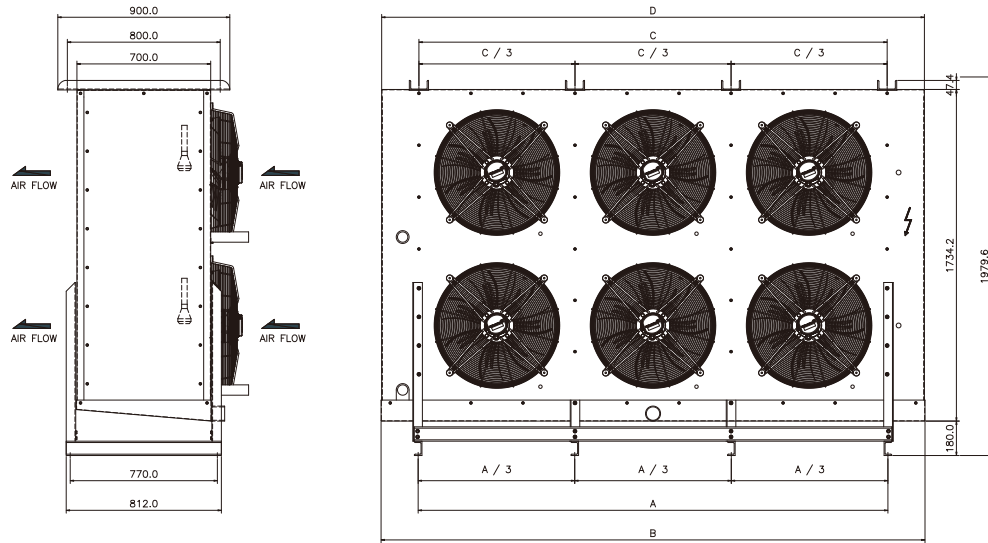
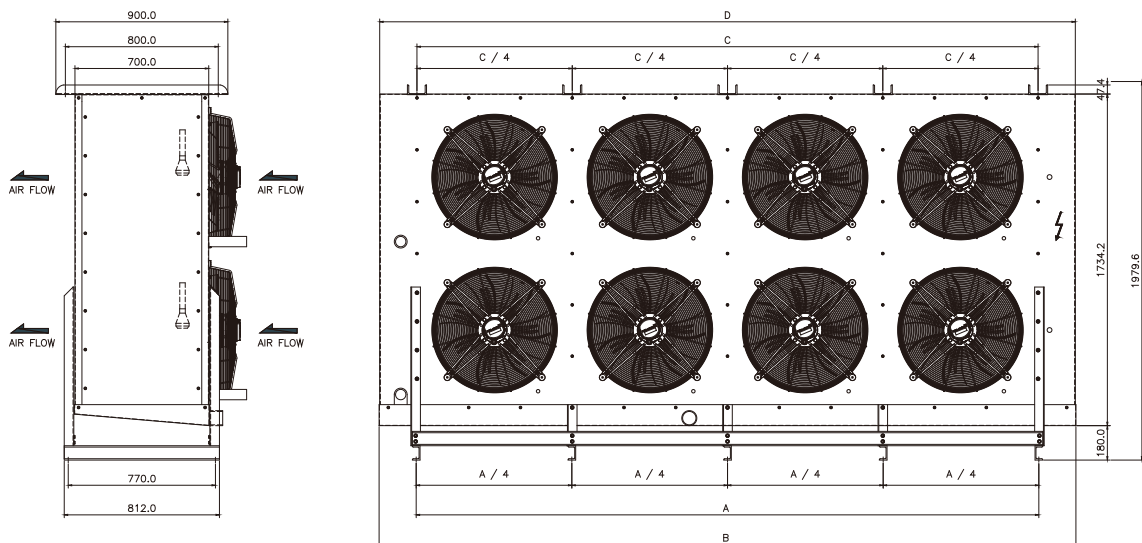


Fig D. BF626EL, BF542EF

Model	Outline dimension			
	A	B	C	D
BF626EL	3258	3646	3250	3640
BF542EF	3258	3646	3250	3640



MONOBLOCK SYSTEM



Top mount

Refrigerant pre-charged, factory run tested

Saving installation labor cost

Energy saving EC fanmotor(Evaporator)



MODEL NOMENCLATURE

S T	I	0 5 0	M	R404A	2
Model	Location	Equiv. HP	Temp.	Refrigerant	
S T	I = Indoor	0 3 5 = 1/2 HP	M = Medium Temp.	R404A	2 = 208-230V
	X = Outdoor	0 5 0 = 3/4 HP	L = Low Temp.		1PH 50Hz
		0 7 5 = 1 HP			3 = 208-230V
		1 0 0 = 1.5 HP			3PH 50Hz
		1 3 0 = 2 HP			
		0 2 2 = 1/3 HP			
		0 4 5 = 1/2 HP			
		0 5 5 = 1/2 HP			
		0 7 0 = 3/4 HP			

Performance Data - Medium Temperature Models, Air Defrost

Model	Capacity Watt (Ambient Temp)									
	25°C		30°C		35°C		40°C		45°C	
	Room Temperature °C.									
	2°C	5°C	2°C	5°C	2°C	5°C	2°C	5°C	2°C	5°C
ST*035M	1098	1191	1000	1103	900	1013	819	900	715	784
ST*050M	1655	1832	1508	671	1360	1541	1240	1377	1090	210
ST*075M	2468	2775	2180	2453	1954	2199	1731	1950	1456	1642
ST*100M	3617	4142	3262	3642	2824	3251	2399	2779	2149	2410
ST*130M	4020	4460	3569	3970	3221	3593	2793	3121	2448	2739

Performance Data - Low Temperature Models, Electric Defrost

Model	Capacity Watt (Ambient Temp)														
	25°C			30°C			35°C			40°C			45°C		
	Room Temperature °C.														
	-25°C	-15°C	-8°C	-25°C	-15°C	-8°C	-25°C	-15°C	-8°C	25°C	-15°C	-8°C	25°C	-15°C	-8°C
ST*022L	-	-	-	737	1049	1393	680	956	1240	610	847	1129	541	751	1008
ST*045L	1476	2379	3207	1299	2128	2876	1125	1879	2548	923	1634	2220	766	1395	1889
ST*055L	1624	2696	3760	1432	2442	3365	1211	2128	2958	1003	1879	2630	844	1573	2220
ST*070L	2324	3707	4999	2022	3355	4439	1780	2925	3998	1491	2588	3566	1265	2178	3035

Unit Specifications - Medium Temperature Models

Compressor												
Model Number	Part Number	Power Supply			Compressor				Unit	Evaporator	Dim.	Net Weight
		Volts	Ph	Hz	RLA	LRA	MCA	MOPD	Amps	CFM	Fig.	Kg
STI035MR404A2	SC10MLX	220	1	50	3.8	18.4	4.9	15	4.0	250	A	64
STI050MR404A2	SC15MLX	220	1	50	5.3	23.5	7.3	15	6.0	360	B	89
STI075MR404A2	NTU6232GKV	220	1	50	7.1	39.6	9.9	15	8.1	510	B	103
STI100MR404A2	CS10K6E-PFJ	220	1	50	10.1	55	14.4	20	11.9	890	C	141
STI130MR404A2	CS12K6E-PFJ	220	1	50	10.9	55	15.4	20	12.7	840	C	145
STX050MR404A2	SC15MLX	220	1	50	5.3	23.5	7.3	15	6.0	360	D	93
STX075MR404A2	NTU6232GKV	220	1	50	7.1	39.6	9.9	15	8.1	510	D	107
STX100MR404A2	CS10K6E-PFJ	220	1	50	10.1	55	14.4	20	11.9	890	E	145
STX130MR404A2	CS12K6E-PFJ	220	1	50	10.9	55	15.4	20	12.7	840	E	149

Unit Specifications - Low Temperature Models

Compressor												
Model Number	Part Number	Power Supply			Compressor				Unit	Evaporator	Dim.	Net Weight
		Volts	Ph	Hz	RLA	LRA	MCA	MOPD	Amps	CFM	Fig.	Kg
STI022LR404A2	AFT29C1E-CFZ	220	1	50	4	28	5.7	15	4.7	360	B	89
STI045LR404A3	CF06K6E-TFD	380	3	50	3.7	25.4	5.7	15	4.7	510	B	103
STI055LR404A3	CF06K6E-TFD	380	3	50	3.7	25.4	6.4	15	5.5	890	C	141
STI070LR404A3	CF09K6E-TFD	380	3	50	5.5	35.8	8.6	15	7.3	840	C	145
STX022LR404A2	AFT29C1E-CFZ	220	1	50	4	28	5.7	15	4.7	360	D	93
STX045LR404A3	CF06K6E-TFD	380	3	50	3.7	25.4	5.7	15	4.7	510	D	107
STX055LR404A3	CF06K6E-TFD	380	3	50	3.7	25.4	6.4	15	5.5	890	E	145
STX070LR404A3	CF09K6E-TFD	380	3	50	5.5	35.8	8.6	15	7.3	840	E	149

Dimensional Drawings

Fig A.



Fig B.

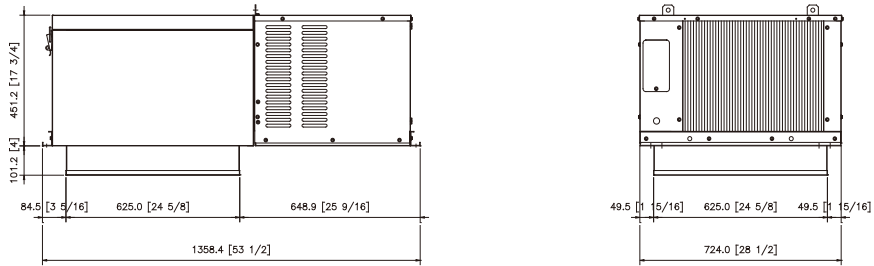


Fig C.

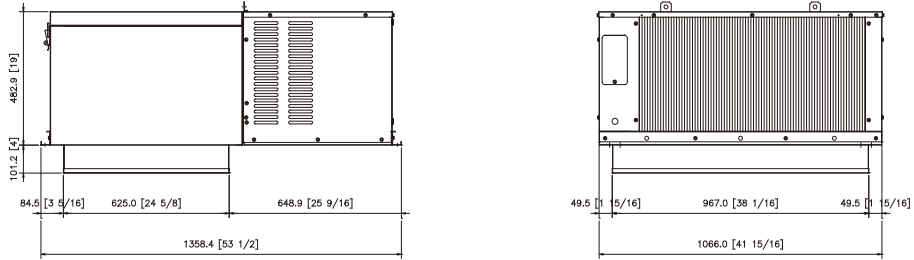


Fig D.

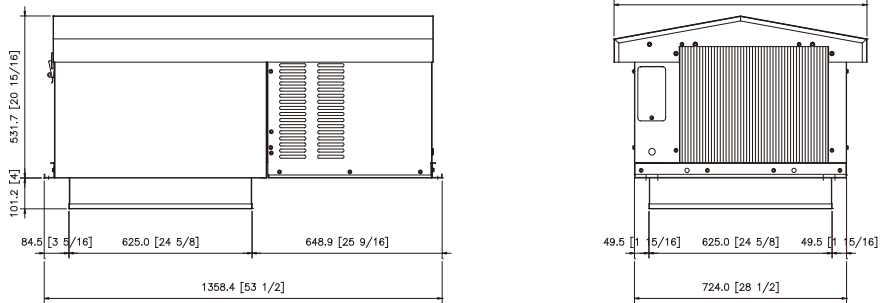
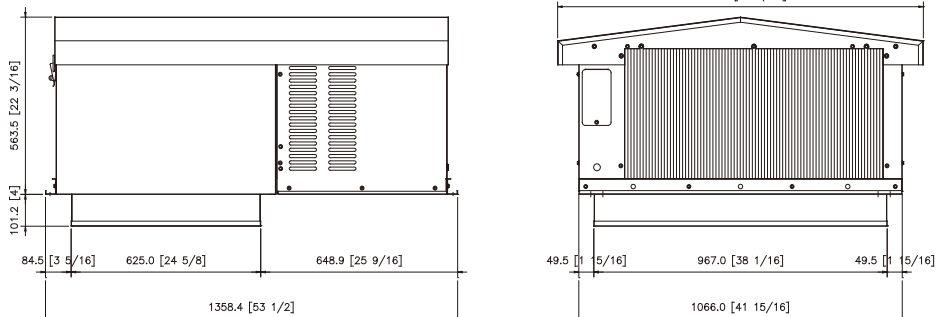


Fig E.



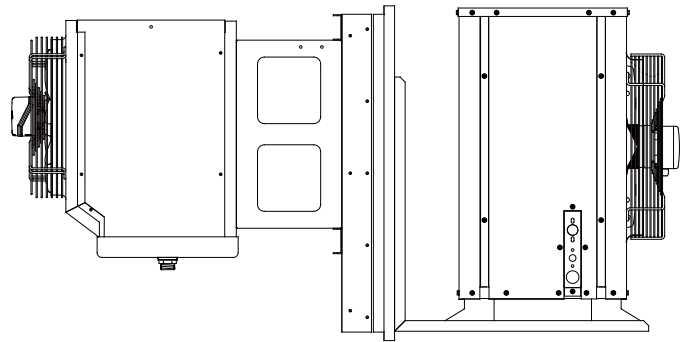
MONOBLOCK SYSTEM

SMART 7 - ECONOMY

Top mount, side mount
 Refrigerant pre-charged, factory run tested
 Saving installation labor cost



[Top mount]



[Side mount]

MODEL NOMENCLATURE

Model	Location	Equiv. HP	Temp.	
SMART 7 (ECONOMIC)	T = TOP MOUNT S = WALL MOUNT	0 1 0 = 1 HP 0 1 5 = 1.5 HP 0 2 0 = 2 HP 0 3 0 = 3 HP	M = Medium Temp. L = Low Temp.	2 = 208-230V 1PH 50Hz 3 = 208-230V 3PH 50Hz

Performance Data - Medium Temperature Models

Model	Comp.	Ambient temp (°C)	Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)											
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
SMART7 *010L	MX18TBa	45	Q						662	872	1128	1432	1789	2200
			P						903	1005	1106	1204	1300	1394
		35	Q						947	1219	1536	1899	2310	2769
			P						880	968	1053	1137	1218	1297
		25	Q						1237	1571	1948	2370	2836	3345
			P						858	930	1001	1070	1136	1201
SMART7 *015M	MS26TB	45	Q			396	602	867	1194	1589	2056	2600	3226	
			P			752	919	1084	1246	1405	1561	1715	1865	
		35	Q			705	1003	1361	1782	2269	2824	3449	4147	
			P			793	928	1061	1191	1317	1441	1562	1680	
		25	Q			1028	1418	1869	2381	2958	3600	4306	5077	
			P			834	937	1038	1135	1229	1321	1410	1495	
SMART7 *020M	MS34TB	45	Q						1322	1750	2252	2833	3497	4251
			P						1569	1747	1944	2159	2393	2645
		35	Q						1874	2431	3060	3762	4541	5397
			P						1486	1636	1805	1991	2197	2421
		25	Q						2437	3122	3876	4701	5595	6557
			P						1403	1525	1665	1824	2001	2196

Performance Data - Low Temperature Models

Model	Comp.	Ambient temp (°C)	Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)											
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
SMART7 *010L	MS30FB	45	Q	83	208	369	568	809	1094	1426				
			P	485	657	832	1011	1193	1378	1567				
		35	Q	231	434	676	958	1283	1652	2068				
			P	537	686	839	996	1155	1318	1485				
		25	Q	393	677	1001	1366	1773	2225	2721				
			P	588	715	846	980	1117	1258	1403				
SMART7 *020L	NTZ048-5	45	Q		245	486	785	1155	1608	2157				
			P		864	1100	1337	1577	1825	2083				
		35	Q	269	535	867	1273	1767	2359	3064				
			P	713	933	1146	1357	1568	1785	2009				
		25	Q	522	856	1271	1778	2388	3113	3966				
			P	782	976	1162	1342	1520	1700	1885				
SMART7 *030L	NTZ096-4	45	Q			1002	1573	2335	3327	4591				
			P			1854	2384	2974	3619	4314				
		35	Q	698	1150	1755	2543	3550	4812	6367				
			P	1198	1594	2033	2511	3024	3566	4133				
		25	Q	1185	1778	2550	3531	4756	6259	8074				
			P	1367	1734	2119	2517	2925	3337	3750				

Unit Specifications - Medium Temperature Models

Model Number	Part Number	Power Supply			Compressor				Unit Amps	Evaporator CFM	Dim. Fig.	Net Weight Kg
		Volts	Ph	Hz	RLA	LRA	MCA	MOPD				
SMART7 T010M	MX18TBa	220	1	50	9.0	34.5	11.3	21.1	9.9	1130	A	104
SMART7 T015M	MS26TB	220	1	50	11.5	38	14.4	27.0	12.6	1589	B	127
SMART7 T020M	MS34TB	220	1	50	17.5	41	21.9	40.5	18.6	1589	C	128
SMART7 S010M	MX18TBa	220	1	50	9.0	34.5	11.3	21.1	9.9	1130	E	116
SMART7 S015M	MS26TB	220	1	50	11.5	38	14.4	27.0	12.6	1589	F	160
SMART7 S020M	MS34TB	220	1	50	17.5	41	21.9	40.5	18.6	1589	G	165

Unit Specifications - Low Temperature Models

Model Number	Part Number	Power Supply			Compressor				Unit Amps	Evaporator CFM	Dim. Fig.	Net Weight Kg
		Volts	Ph	Hz	RLA	LRA	MCA	MOPD				
SMART7 T010L	MS30FB	220	1	50	9.5	30	11.9	21.4	10.4	1130	A	103
SMART7 T020L	NTZ048-5	220	1	50	11	37	13.8	24.8	12.2	1589	C	134
SMART7 T030L	NTZ096-4	400	3	50	10.1	32	12.6	22.7	11.9	1766	D	152
SMART7 S010L	MS30FB	220	1	50	9.5	30	11.9	21.4	10.4	1130	E	115
SMART7 S020L	NTZ048-5	220	1	50	11	37	13.8	24.8	12.2	1589	F	170
SMART7 S030L	NTZ096-4	220	1	50	10.1	32	12.6	22.7	11.9	1766	H	202

Dimensional Drawings

Fig A.

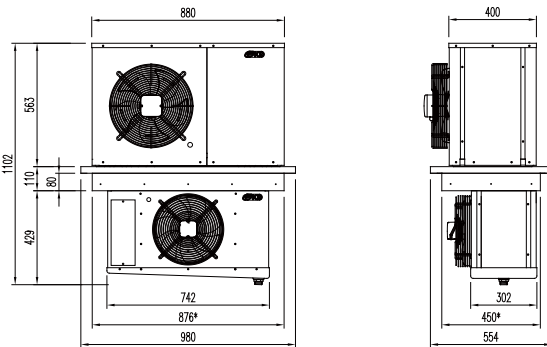


Fig B.

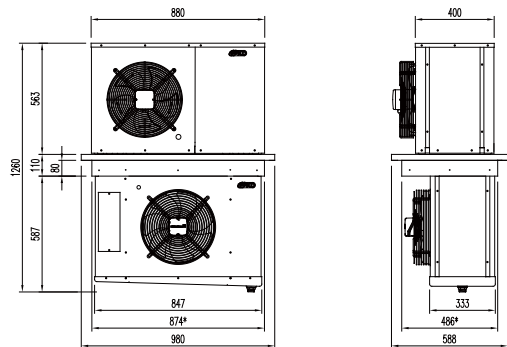


Fig C.

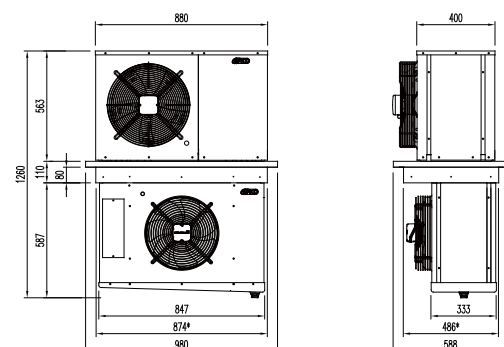
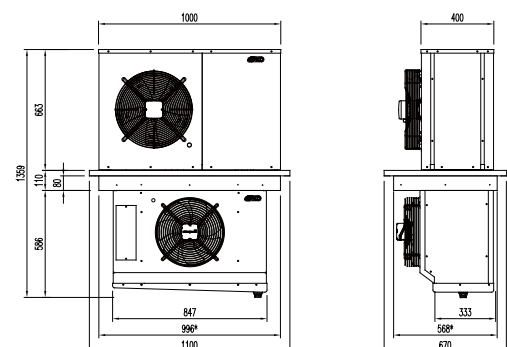


Fig D.



Dimensional Drawings

Fig E.

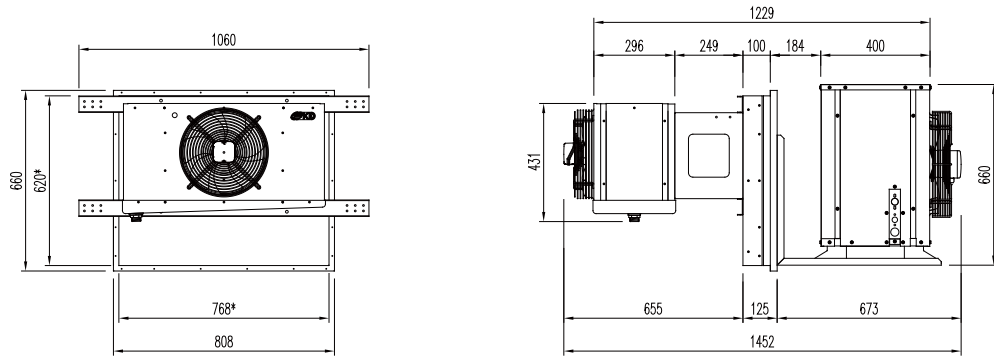


Fig F.

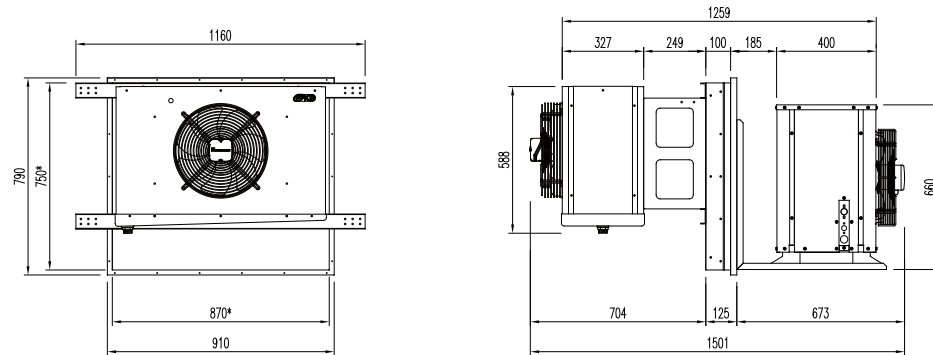


Fig G.

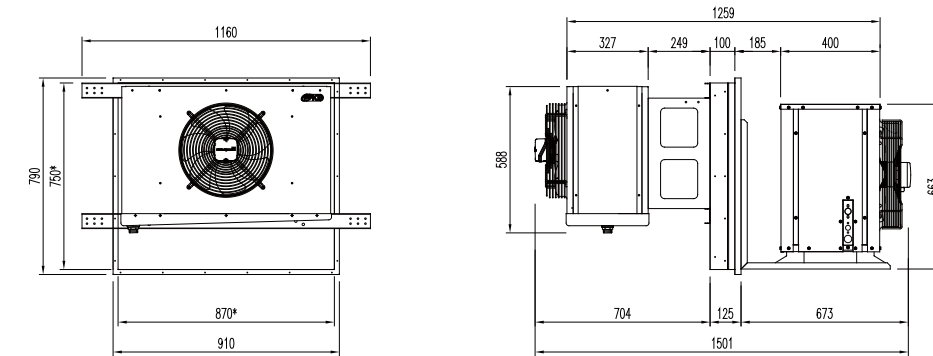
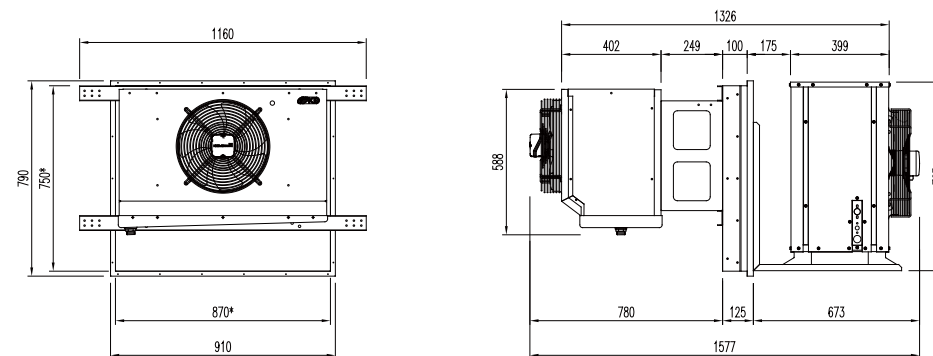


Fig H.



TOP MOUNT PACKAGE UNITS

Cellar Star - Wine Cellar system



Pre-fitted expansion valve
 LP safety switch fitted to cooler
 Digital electronic controller
 Room temp range : 4°C ~ 16°C
 Suitable for cooling beer, wine, flowers
 and fruit & vegetables.



Refrigerant R410A
 Liquid receiver
 Rotary compressor
 Acoustic insulation on outdoor
 unit compressor chamber
 Maximum pipe run for systems is 25m.

Performance Data (R-410A)

Model	Cooling Capacity Watt (Ambient Temp 32°C) Room Temperature °C.							
	4°C	6°C	8°C	10°C	12°C	12.7°C	14°C	16°C
SC030 / PAP010M1	2166	2311	2473	2564	2724	2824	2925	3025
SC040 / PAP015M1	2906	3099	3325	3462	3681	3836	3931	4084
SC045 / PAP020M1	3819	4083	4344	4503	4753	4940	5056	5242
SC050 / PAP025M1	4390	4737	5074	5203	5600	5749	5975	6116
SC050 / PAP028M1	5888	6247	6754	6911	7411	7592	7875	8047

Technical Data

Model	Cooling Capacity	Unit Airflow	Noise Level	System Pipe Sizes		Maximum Pipe Run		Power Supply	FLA	LRA	Inter Connecting Cable	Fuse Rating Amps
	Watt	m³/hr	dB(A)	Liquid	Suction	Length	Rise	V/Ph/Hz	Amps	Amps		
SC030	2824	3540		1/4"	3/8"	25	5	230/1/50	5.3	N/A	3 Core	12
PAP010M1		1800								21		
SC040	3836	3439		1/4"	1/2"	25	5	230/1/50	6.8	N/A	3 Core	16
PAP015M1		1800								24		
SC045	4940	3310		1/4"	1/2"	25	8	230/1/50	8.2	N/A	3 Core	20
PAP020M1		2400								36		
SC050	5749	3310		1/4"	5/8"	25	8	230/1/50	9.7	N/A	3 Core	25
PAP025M1		2520								39		
SC070	7592	3648		3/8"	5/8"	25	8	230/1/50	10.9	N/A	3 Core	25
PAP028M1		2460								62		

Criterion

Air throw of evaporator are 11m at the air velocity 0.25m/s.

The maximum pipe run must include the rise – the rise is not additional to the length.

PAP010M1	Condensing unit are pre-charged for up 25m pipe run (Pre-charged with 0.95kg R410A. Additional charge 22g per metre).
PAP015M1	Condensing unit are pre-charged for up 25m pipe run (Pre-charged with 0.95kg R410A. Additional charge 22g per metre).
PAP020M1	Condensing unit are pre-charged for up 13m pipe run (Pre-charged with 0.95kg R410A. Additional charge 22g per metre).
PAP025M1	Condensing unit are pre-charged for up 25m pipe run (Pre-charged with 1.5kg R410A. Additional charge 23g per metre).
PAP028M1	Condensing unit are pre-charged for up 8m pipe run (Pre-charged with 1.5kg R410A. Additional charge 52g per metre).

Technical Data

Model Indoor	Width (mm)	Depth (mm)	Height (mm)	Weight (Kg)
SC030	840	327	590	24
SC040	840	327	590	26
SC045	840	327	590	28
SC050	840	327	590	28
SC070	1040	327	590	41

Model Indoor	Width (mm)	Depth (mm)	Height (mm)	Weight (Kg)
PAP010M1	702	342	612	48
PAP015M1	702	342	612	48
PAP020M1	860	342	706	55
PAP025M1	860	342	810	59
PAP028M1	860	342	810	67

CELLAR COOLER Performance Data

Model	Comp.	Ambient temp (°C)		Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)							
				4°C	6°C	8°C	10°C	12°C	12.7°C	14°C	16°C
SC030 / PAP010M1	GKS113PA	45	Q	2006	2141	2316	2378	2553	2622	2719	2815
			P	785	806	813	830	837	853	855	857
		38	Q	2048	2185	2339	2427	2604	2676	2774	2871
			P	763	783	801	804	810	825	826	828
		35	Q	2109	2251	2408	2498	2677	2751	2850	2949
			P	732	749	765	767	771	785	786	786
		32	Q	2166	2311	2473	2564	2724	2824	2925	3025
			P	703	718	731	732	746	746	746	746
SC040 / PAP015M1	GKS151PA	45	Q	2556	2721	2917	3045	3235	3380	3447	3591
			P	1191	1224	1253	1258	1290	1293	1320	1324
		38	Q	2612	2839	3042	3172	3368	3448	3595	3741
			P	1171	1183	1212	1216	1246	1270	1273	1275
		35	Q	2764	2949	3219	3299	3500	3651	3802	3882
			P	1118	1145	1151	1173	1202	1203	1205	1229
		32	Q	2906	3099	3325	3462	3681	3836	3931	4084
			P	1066	1092	1114	1116	1140	1141	1161	1162
SC045 / PAP020M1	GJS189PA	45	Q	3385	3566	3870	3950	4253	4357	4536	4714
			P	1398	1439	1451	1483	1497	1528	1531	1535
		38	Q	3515	3705	3942	4096	4328	4509	4689	4792
			P	1353	1391	1426	1431	1469	1472	1475	1506
		35	Q	3639	3897	4146	4303	4546	4730	4843	5026
			P	1310	1323	1353	1356	1389	1390	1418	1420
		32	Q	3819	4083	4344	4503	4753	4940	5056	5242
			P	1246	1255	1281	1283	1313	1312	1338	1338
SC050 / PAP025M1	GJS222PA	45	Q	3975	4221	4517	4698	4981	5189	5397	5520
			P	1684	1731	1774	1782	1828	1832	1837	1876
		38	Q	4034	4350	4657	4842	5136	5349	5480	5690
			P	1656	1674	1714	1720	1764	1767	1804	1807
		35	Q	4212	4543	4865	5059	5368	5589	5727	5945
			P	1575	1588	1624	1628	1668	1669	1703	1705
		32	Q	4390	4737	5074	5203	5600	5749	5975	6116
			P	1493	1502	1534	1567	1571	1603	1603	1637
SC050 / PAP028M1	GPS290PA	45	Q	5325	5631	5995	6223	6572	6833	7095	7239
			P	2165	2230	2288	2299	2362	2368	2375	2423
		38	Q	5411	5814	6192	6426	6787	7055	7208	7473
			P	2133	2163	2217	2226	2285	2290	2335	2341
		35	Q	5652	6074	6475	6719	7105	7382	7550	7824
			P	2043	2067	2113	2120	2171	2173	2214	2218
		32	Q	5888	6247	6754	6911	7411	7592	7875	8047
			P	1954	2003	2011	2050	2061	2098	2098	2138



CONDENSER UNIT STANDARD FEATURES

I, IB-TYPE



MODEL NOMENCLATURE

I	0 2 0	1	2
Model	Equiv.HP	Phase	Power
I	0 0 2 = 1/4 HP 0 0 3 = 1/3 HP 0 0 4 = 1/2 H 0 0 5 = 3/4 H 0 1 0 = 1.0 H 0 1 5 = 1.5 H 0 2 0 = 2.0 H 0 3 0 = 3.0 H 0 4 0 = 4.0 H 0 5 0 = 5.0 H 0 7 5 = 7.5 H	1 = 1Ph 3 = 3Ph	2 = 220V 3 = 380V
IB	0 0 5 = 3/4 H 0 1 0 = 1.0 H 0 1 5 = 1.5 HP		

I, IB Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data			Connection		Outline Dimension	Weight
	Capacity	Surface	Volume	Volume	Dia	Power		Inlet	Outlet	(L x W x H x A)	
	W	m ²	m ³ /h	dm ³	∅ x St	W	Voltage	mm	mm	mm	Kg
I002	556	1.5	396	0.2	200 x 1	6	230V 1Ph 50Hz	7.94	7.94	300 x 110 x 267	2.3
I003	1082	2.1	396	0.3	200 x 1	6	230V 1Ph 50Hz	7.94	7.94	300 x 110 x 267	2.7
I004	1118	2.7	588	0.4	225 x 1	9	230V 1Ph 50Hz	7.94	7.94	380 x 110 x 267	3.3
I005	2516	4.4	786	0.7	250 x 1	16	230V 1Ph 50Hz	7.94	7.94	380 x 142 x 322	4.8
I010	3589	6.3	1080	0.9	300 x 1	66	230V 1Ph 50Hz	12.70	12.70	430 x 160 x 372	6.4
I015	4744	11.5	1080	1.1	300 x 1	66	230V 1Ph 50Hz	12.70	12.70	470 x 160 x 372	7.4
I020	6620	14.3	1476	1.4	350 x 1	100	230V 1Ph 50Hz	15.88	15.88	510 x 180 x 422	9.5
I030	9794	22.4	2214	2.2	400 x 1	127	230V 1Ph 50Hz	19.05	15.88	630 x 200 x 522	14.1
I040	10812	27.9	2214	2.7	400 x 1	127	230V 1Ph 50Hz	19.05	19.05	630 x 200 x 522	16.0
I050	17938	38.0	4428	3.7	400 x 2	127	230V 1Ph 50Hz	22.22	19.05	1050 x 200 x 522	24.8
I075	23145	62.0	4620	9.0	450 x 2	217	230V 1Ph 50Hz	28.58	22.22	1074 x 220 x 569	42.3
IB005	2638	4.8	786	0.7	250 x 1	16	230V 1Ph 50Hz	7.94	7.94	430 x 140 x 288	4.6
IB010	3837	6.5	1182	1.0	225 x 2	9	230V 1Ph 50Hz	12.70	12.70	570 x 141 x 280	6.4
IB015	4667	9.8	1182	1.5	225 x 2	9	230V 1Ph 50Hz	12.70	12.70	570 x 191 x 280	8.6

CONDENSER UNIT STANDARD FEATURES

PALS-TYPE



MODEL NOMENCLATURE

PALS	0 2 0	1	2	5
Model	Equiv.HP	Phase	Power	Hz
PALS	0 1 0 = 1.0 HP	1 = 1Ph	2 = 220V	5 = 50Hz
	0 1 5 = 1.5 HP	3 = 3Ph	3 = 380V	6 = 60Hz
	0 2 0 = 2.0 HP			
	0 3 0 = 3.0 HP			
	0 4 0 = 4.0 HP			

PALS Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data			Connection		Outline Dimension	Anchor Size	Weight
	Capacity W	Surface m ²	Volume m ³ /h	Volume dm ³	Dia ø × St	Power W	Power Voltage	Inlet mm	Outlet mm	(L × W × H × A) mm	(L" × W") mm	Kg
PALS010	4555	12.0	1440	0.8	350 x 1	90	230V 1Ph 50Hz	9.52	9.52	880 x 400 x 657 x 115	640 x 442	35
PALS015	4711	16.0	1440	1.3	350 x 1	90	230V 1Ph 50Hz	9.52	9.52	880 x 400 x 657 x 115	640 x 442	38
PALS020	6474	17.0	1980	1.4	400 x 1	125	230V 1Ph 50Hz	9.52	9.52	880 x 400 x 657 x 128	640 x 442	40
						130	380V 3Ph 50Hz					
PALS030	8605	25.0	2100	2.5	400 x 1	125	230V 1Ph 50Hz	12.7	12.7	1000 x 400 x 760 x 128	600 x 460	50
						130	380V 3Ph 50Hz					
PALS040	9337	33.0	1980	2.7	400 x 1	125	230V 1Ph 50Hz	12.7	12.7	1000 x 400 x 760 x 128	600 x 460	52
						130	380V 3Ph 50Hz					

CONDENSER UNIT STANDARD FEATURES

PAL-TYPE



MODEL NOMENCLATURE

PAL	0 2 0	1	2	5
Model	Equiv.HP	Phase	Power	Hz
PAL	0 2 0 = 2.0 HP	1 = 1Ph	2 = 220V	5 = 50Hz
	0 3 0 = 3.0 HP	3 = 3Ph	3 = 380V	6 = 60Hz
	0 4 0 = 4.0 HP			
	0 5 0 = 5.0 HP			
	0 7 5 = 7.5 HP			
	0 8 5 = 8.5 HP			
	1 0 0 = 10.0 HP			

PAL Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data			Connection		Outline Dimension	Anchor Size	Weight
	Capacity W	Surface m ²	Volume m ³ /h	Volume dm ³	Dia ø x St	Power W	Power Voltage	Inlet mm	Outlet mm	(L x W x H x A) mm	(L" x W") mm	Kg
PAL020	8115	21.7	2244	1.8	400 x 1	127	230V 1Ph 50Hz	15.88	12.7	1000 x 400 x 818 x 95	600 x 460	56
						100	380V 3Ph 50Hz					
PAL030	10457	27.7	2499	2.3	450 x 1	217	230V 1Ph 50Hz	19.05	15.88	1000 x 400 x 868 x 95	600 x 460	62
						200	380V 3Ph 50Hz					
PAL040	11959	36.9	2703	3.1	450 x 1	217	230V 1Ph 50Hz	19.05	15.88	1000 x 400 x 868 x 95	600 x 460	65
						200	380V 3Ph 50Hz					
PAL050	16751	38.8	4590	3.3	400 x 2	127	230V 1Ph 50Hz	19.05	15.88	1000 x 400 x 1170 x 95	600 x 460	84
						100	380V 3Ph 50Hz					
PAL075	21744	58.3	4488	7.9	400 x 2	100	380V 3Ph 50Hz	22.22	19.05	1123 x 458 x 1155 x 95	700 x 510	118
PAL085	26390	74.7	6171	10.1	450 x 2	200	380V 3Ph 50Hz	22.22	19.05	1323 x 458 x 1355 x 95	916 x 510	145
PAL100	30473	96.1	6171	12.7	450 x 2	200	380V 3Ph 50Hz	28.58	19.05	1573 x 458 x 1355 x 95	1166 x 510	165

CONDENSER UNIT STANDARD FEATURES

PA-TYPE



MODEL NOMENCLATURE

PA	0 3 0	1	2	5
Model	Equiv.HP	Phase	Power	Hz
PA	0 3 0 = 3.0 HP	1 = 1Ph	2 = 220V	5 = 50Hz
	0 5 0 = 5.0 HP	3 = 3Ph	3 = 380V	6 = 60Hz
	0 7 5 = 7.5 HP			
	1 0 0 = 10.0 HP			
	1 2 5 = 12.5 HP			
	1 5 0 = 15.0 HP			
	2 0 0 = 20.0 HP			
	2 5 0 = 25.0 HP			
	3 0 0 = 30.0 HP			
	3 5 0 = 35.0 HP			
	4 0 0 = 40.0 HP			
	5 0 0 = 50.0 HP			

PA Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data			Connection		Outline Dimension	Anchor Size	Weight
	Capacity W	Surface m ²	Volume m ³ /h	Volume dm ³	Dia ø x St	W	Power Voltage	Inlet mm	Outlet mm	(L x W x H x A) mm	(L" x W") mm	Kg
PA030	12639	32.0	3840	2.4	400 x 2	125 130	230V 1Ph 50Hz 380V 3Ph 50Hz	19.05	12.7	1280 x 549 x 1450 x 150	950 x 590	141
PA050	15837	47.0	5220	3.4	400 x 2	125 130	230V 1Ph 50Hz 380V 3Ph 50Hz	22.22	15.88	1280 x 600 x 1459 x 150	950 x 645	155
PA075	32212	62.0	9720	7.6	550 x 2	320	380V 3Ph 50Hz	22.22	19.05	1471 x 710 x 1448 x 190	1190 x 720	194
PA100	36346	81.0	9600	11.2	550 x 2	320	380V 3Ph 50Hz	28.58	19.05	1471 x 710 x 1498 x 190	1190 x 720	213
PA125	42774	108.0	10620	11.5	550 x 2	320	380V 3Ph 50Hz	28.58	19.05	1641 x 757 x 1598 x 190	1354 x 790	261
PA150	51588	108.0	14100	13.8	600 x 2	480	380V 3Ph 50Hz	34.92	22.22	1640 x 830 x 1761 x 200	1354 x 870	310
PA200	67532	133.0	18300	17.0	630 x 2	630	380V 3Ph 50Hz	34.92	28.58	1840 x 905 x 1811 x 205	1566 x 945	402
PA250	92318	171.0	26520	21.7	630 x 3	630	380V 3Ph 50Hz	41.28	28.58	2366 x 905 x 1763 x 205	2030 x 945	508
PA300	101300	197.0	27480	25.0	630 x 3	630	380V 3Ph 50Hz	41.28	28.58	2366 x 905 x 1912 x 205	2030 x 945	552
PA350	113186	223.0	27360	33.4	630 x 3	630	380V 3Ph 50Hz	41.28	28.58	2366 x 905 x 1912 x 205	2030 x 945	580
PA400	136670	320.0	30000	47.9	630 x 3	630	380V 3Ph 50Hz	41.28	28.58	2880 x 1020 x 2177 x 205	2574 x 1060	840
PA500	171267	421.0	36840	53.3	630 x 4	630	380V 3Ph 50Hz	53.98	28.58	3180 x 1020 x 2177 x 205	2874 x 1060	889

CONDENSER UNIT STANDARD FEATURES

SPA-TYPE



MODEL NOMENCLATURE

SPA	5 0 0	1	2	5
Model	Equiv.HP	Phase	Power	Hz
SPA	5 0 0 = 50.0 HP	1 = 1Ph	2 = 220V	5 = 50Hz
	6 0 0 = 60.0 HP	3 = 3Ph	3 = 380V	6 = 60Hz
	7 0 0 = 70.0 HP			
	8 0 0 = 80.0 HP			
	9 0 0 = 90.0 HP			
	1 0 0 0 = 100.0 HP			
	1 1 0 0 = 110.0 HP			
	1 2 0 0 = 120.0 HP			

SPA Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data			Connection		Outline Dimension	Anchor Size	Weight
	Capacity W	Surface m ²	Volume m ³ /h	Volume dm ³	Dia ø × St	W	Power Voltage	Inlet mm	Outlet mm	(L × W × H × A) mm	(L" × W") mm	Kg
SPA500	167887	379.0	39000	56.6	630 x 4	630	380V 3Ph 50Hz	53.98	28.58	1950 x 1850 x 2084 x 205	1854 x 1754	950
SPA600	229010	468.0	54960	69.7	630 x 6	630	380V 3Ph 50Hz	53.98	28.58	2680 x 1950 x 1941 x 205	2584 x 1854	1270
SPA700	251831	569.0	58500	84.7	630 x 6	630	380V 3Ph 50Hz	53.98	28.58	2680 x 1950 x 2082 x 205	2584 x 1854	1330
SPA800	320397	695.0	75660	103.4	630 x 8	630	380V 3Ph 50Hz	66.68	34.92	3400 x 1950 x 2061 x 205	3305 x 1854	1630
SPA900	358818	869.0	80280	129.2	630 x 8	630	380V 3Ph 50Hz	66.68	34.92	3400 x 1961 x 2264 x 205	3305 x 1864	1820
SPA1000	372495	876.0	94140	110.4	630 x 10	630	380V 3Ph 50Hz	66.68	34.92	4251 x 1961 x 2241 x 205	4155 x 1864	2245
SPA1100	390638	973.0	97080	122.6	630 x 10	630	380V 3Ph 50Hz	66.68	34.92	4251 x 1961 x 2337 x 205	4155 x 1864	2300
SPA1200	448523	1101.0	100320	163.5	630 x 10	630	380V 3Ph 50Hz	79.38	53.98	4251 x 1961 x 2337 x 205	4155 x 1864	2410

CONDENSER UNIT STANDARD FEATURES

KHV-TYPE Ø560



MODEL NOMENCLATURE

KHV	1 0 0	1	2	5
Model	Equiv.HP	Phase	Power	Hz
KHV	1 0 0 = 10.0 HP	1 = 1Ph	2 = 220V	5 = 50Hz
	1 5 0 = 15.0 HP	3 = 3Ph	3 = 380V	6 = 60Hz
	2 0 0 = 20.0 HP			
	2 5 0 = 25.0 HP			
	3 0 0 = 30.0 HP			
	4 0 0 = 40.0 HP			
	5 0 0 = 50.0 HP			

KHV Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data			ConnectionOutline		Dimension	Anchor Size	Weight	
	Capacity	Surface	Volume	Volume	Dia	Power	Inlet	Outlet	(L x W x H x A)	(L" x W")	Kg		
	W	m ²	m ³ /h	dm ³	ø x St	W	Voltage	mm	mm	mm	mm		
KHV100	(H)	41472	81.6	11460	11.02	560 x 2	340	380V 3Ph 50Hz	28.58	19.05	1995 x 799 x 900 x 155	1735 x 860	160
	(V)												
KHV150	(H)	57006	106.6	16200	14.21	560 x 3	340	380V 3Ph 50Hz	34.92	22.22	2515 x 799 x 900 x 155	2255 x 860	202
	(V)												
KHV200	(H)	70205	118.1	23100	18.38	560 x 4	340	380V 3Ph 50Hz	34.92	28.58	3195 x 799 x 900 x 155	2935 x 860	255
	(V)												
KHV250	(H)	82229	157.5	20520	24.51	560 x 4	340	380V 3Ph 50Hz	41.28	28.58	3195 x 799 x 900 x 155	2935 x 860	274
	(V)												
KHV300	(H)	103722	198.2	25920	30.65	560 x 5	340	380V 3Ph 50Hz	41.28	28.58	3945 x 799 x 900 x 155	3685 x 860	336
	(V)												
KHV400	(H)	126803	284.3	28740	37.89	560 x 6	340	380V 3Ph 50Hz	53.98	28.58	2515 x 1549 x 900 x 155	2255 x 1610	336
	(V)												
KHV500	(H)	164458	315.0	41040	49.02	560 x 8	340	380V 3Ph 50Hz	53.98	28.58	3195 x 1549 x 900 x 155	2935 x 1610	492
	(V)												

CONDENSER UNIT STANDARD FEATURES

KHV-TYPE Ø630



MODEL NOMENCLATURE

KHV	1 0 0	1	2	5
Model	Equiv.HP	Phase	Power	Hz
KHV	1 0 0 = 10.0 HP	1 = 1Ph	2 = 220V	5 = 50Hz
	1 5 0 = 15.0 HP	3 = 3Ph	3 = 380V	6 = 60Hz
	2 0 0 = 20.0 HP			
	2 5 0 = 25.0 HP			
	3 0 0 = 30.0 HP			
	4 0 0 = 40.0 HP			
	5 0 0 = 50.0 HP			

KHV Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data		ConnectionOutline		Dimension	Anchor Size	Weight
	Capacity	Surface	Volume	Volume	Dia	Power	Inlet	Outlet	(L x W x H x A)	(L" x W")	Kg
	W	m ²	m ³ /h	dm ³	ø x St	W Voltage	mm	mm	mm	mm	
K KHV100 (H) (V)	42708	69.1	18420	9.30	630 x 2	630 380V 3Ph 50Hz	28.58	19.05	2095 x 949 x 900 x 180	1835 x 1010	170
									2095 x 300 x 999 x 180	1835 x 890	
KHV150 (H) (V)	57654	103.7	16980	13.96	630 x 2	630 380V 3Ph 50Hz	34.92	22.22	2095 x 949 x 900 x 180	1835 x 1010	193
									2095 x 300 x 999 x 180	1835 x 890	
KHV200 (H) (V)	63397	119.3	17880	15.95	630 x 2	630 380V 3Ph 50Hz	34.92	28.58	2365 x 949 x 900 x 180	2105 x 1010	210
									2365 x 300 x 999 x 180	2105 x 890	
KHV250 (H) (V)	83124	146.9	24960	19.48	630 x 3	630 380V 3Ph 50Hz	41.28	28.58	2845 x 949 x 900 x 180	2585 x 1010	270
									2845 x 300 x 999 x 180	2585 x 890	
KHV300 (H) (V)	102124	166.1	35160	25.74	630 x 4	630 380V 3Ph 50Hz	41.28	28.58	3695 x 949 x 900 x 180	3435 x 1010	332
									3695 x 300 x 999 x 180	3435 x 890	
KHV400 (H) (V)	125670	261.2	29640	34.32	630 x 4	630 380V 3Ph 50Hz	53.98	28.58	3695 x 949 x 900 x 180	3435 x 1010	370
									3695 x 300 x 999 x 180	3435 x 890	
KHV500 (H) (V)	153187	249.2	52800	38.96	630 x 6	630 380V 3Ph 50Hz	53.98	28.58	2845 x 1849 x 900 x 180	2585 x 1910	500
									2845 x 300 x 1899 x 180	2585 x 890	

CONDENSER UNIT STANDARD FEATURES

VR-TYPE



MODEL NOMENCLATURE

VR	0 3 0	1	2	5
Model	Equiv.HP	Phase	Power	Hz
VR	0 3 0 = 3.0 HP	1 = 1Ph	2 = 220V	5 = 50Hz
	0 4 0 = 4.0 HP	3 = 3Ph	3 = 380V	6 = 60Hz
	0 5 0 = 5.0 HP			
	0 7 5 = 7.5 HP			
	0 8 5 = 8.5 HP			
	1 0 0 = 10.0 HP			
	1 5 0 = 15.0 HP			
	2 0 0 = 20.0 HP			
	2 5 0 = 25.0 HP			
	3 0 0 = 30.0 HP			
	4 0 0 = 40.0 HP			
	5 0 0 = 50.0 HP			
	6 0 0 = 60.0 HP			

VR Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data			Connection		Outline Dimension	Anchor Size	Weight
	Capacity W	Surface m²	Volume m³/h	Volume dm³	Dia ø × St	W	Power Voltage	Inlet mm	Outlet mm	(L × W × H × A) mm	(L" × W") mm	Kg
VR030	9158	23.8	3315	2.3	450 x 1	217	230V 1Ph 50Hz 380V 3Ph 50Hz	19.05	12.7	750 x 711 x 755 x 110	574 x 479	67
VR040	9236	29.5	3264	2.8	450 x 1	217	230V 1Ph 50Hz 380V 3Ph 50Hz	19.05	12.7	890 x 711 x 755 x 110	714 x 479	76
VR050	15454	37.6	6528	3.5	550 x 1	200	380V 3Ph 50Hz	22.22	15.88	890 x 811 x 900 x 120	714 x 500	84
VR075	20110	55.8	6681	8.4	450 x 2	200	380V 3Ph 50Hz	22.22	19.05	1270 x 753 x 906 x 110	1094 x 519	110
VR085	20786	70.0	6630	10.5	450 x 2	200	380V 3Ph 50Hz	22.22	19.05	1550 x 753 x 906 x 110	1373 x 519	125
VR100	30106	75.0	13158	11.3	550 x 2	200	380V 3Ph 50Hz	28.58	19.05	1550 x 813 x 953 x 120	1373 x 530	140
VR150	45042	119.9	12240	18.1	550 x 2	200	380V 3Ph 50Hz	34.92	22.22	1570 x 852 x 1006 x 120	1373 x 547	170
VR200	58751	146.0	17850	21.9	630 x 2	750	380V 3Ph 50Hz	34.92	28.58	1870 x 933 x 1006 x 120	1674 x 628	210
VR250	74537	191.2	25500	28.6	630 x 3	750	380V 3Ph 50Hz	41.28	28.58	2390 x 933 x 1007 x 120	2200 x 628	285
VR300	97995	260.7	24786	39.0	630 x 3	750	380V 3Ph 50Hz	41.28	28.58	2590 x 980 x 1000 x 120	2380 x 643	328
VR400	116581	296.5	32130	44.5	630 x 4	750	380V 3Ph 50Hz	53.98	28.58	2038 x 1773 x 1236 x 120	1718 x 853	537
VR500	130408	342.2	35190	51.2	550 x 6	400	380V 3Ph 50Hz	53.98	28.58	2338 x 1603 x 1236 x 120	2018 x 683	560
VR600	159197	416.7	45645	62.3	550 x 8	400	380V 3Ph 50Hz	53.98	34.92	2828 x 1603 x 1236 x 120	2508 x 683	650

CONDENSER UNIT STANDARD FEATURES

VL-TYPE



MODEL NOMENCLATURE

VL	1 0 0	1	2	5
Model	Equiv.HP	Phase	Power	Hz
VL	1 0 0 = 10.0 HP	1 = 1Ph	2 = 220V	5 = 50Hz
	1 5 0 = 15.0 HP	3 = 3Ph	3 = 380V	6 = 60Hz
	2 0 0 = 20.0 HP			
	2 5 0 = 25.0 HP			
	3 0 0 = 30.0 HP			
	4 0 0 = 40.0 HP			
	5 0 0 = 50.0 HP			

VL Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data			Connection		Outline Dimension	Anchor Size	Weight
	Capacity	Surface	Volume	Volume	Dia	Power		Inlet	Outlet	(L x W x H x A)	(L" x W")	Kg
	W	m ²	m ³ /h	dm ³	ø x St	W	Voltage	mm	mm	mm	mm	
VL100	40923	86.0	13920	11.7	560 x 2	340	380V 3Ph 50Hz	28.58	19.05	1640 x 977 x 879 x 195	1451 x 564	156
VL150	55637	138.0	13560	18.3	560 x 2	340	380V 3Ph 50Hz	34.92	22.22	1640 x 1030 x 934 x 195	1451 x 564	176
VL200	71145	141.0	20040	21.8	560 x 3	340	380V 3Ph 50Hz	34.92	28.58	2380 x 995 x 887 x 195	2181 x 564	228
VL250	78769	177.0	20880	27.2	560 x 3	340	380V 3Ph 50Hz	41.28	28.58	2380 x 1030 x 934 x 195	2181 x 564	245
VL300	95873	278.0	19320	36.3	560 x 3	340	380V 3Ph 50Hz	41.28	28.58	2380 x 1030 x 941 x 195	2181 x 564	286
VL400	123034	315.0	26820	48.2	560 x 4	340	380V 3Ph 50Hz	53.98	28.58	3110 x 1030 x 941 x 195	2911 x 564	354
VL500	149622	368.0	33240	56.2	560 x 5	340	380V 3Ph 50Hz	53.98	28.58	3840 x 995 x 894 x 195	3641 x 564	412

CONDENSER UNIT STANDARD FEATURES

VRS-TYPE



MODEL NOMENCLATURE

VRS	5 0 0	1	2	5
Model	Equiv.HP	Phase	Power	Hz
VRS	5 0 0 = 50.0 HP	1 = 1Ph	2 = 220V	5 = 50Hz
	6 0 0 = 60.0 HP	3 = 3Ph	3 = 380V	6 = 60Hz
	7 0 0 = 70.0 HP			
	8 0 0 = 80.0 HP			
	9 0 0 = 90.0 HP			
	1 0 0 0 = 100.0 HP			
	1 1 0 0 = 110.0 HP			
	1 2 0 0 = 120.0 HP			

VRS Capacity & Electric Data - 50Hz

Model	Condensing		Air	Tube	Fan Data			Connection		Outline Dimension	Anchor Size	Weight
	Capacity	Surface	Volume	Volume	Dia	Power		Inlet	Outlet	(L x W x H x A)	(L" x W")	Kg
	W	m ²	m ³ /h	dm ³	ø x St	W	Voltage	mm	mm	mm	mm	
VRS500	159036	427.7	33150	64.04	550 x 6	400	380V 3Ph 50Hz	53.98	28.58	2338 x 1644 x 1243 x 190	2018 x 723	693
VRS600	207518	520.9	44166	77.83	550 x 8	400	380V 3Ph 50Hz	53.98	34.92	2828 x 1644 x 1243x 190	2508 x 723	836
VRS700	251831	568.8	58500	84.68	630 x 6	630	380V 3Ph 50Hz	53.98	28.58	2679 x 1949 x 1511 x 205	2584 x 1854	1086
VRS800	320397	695.2	75660	103.37	630 x 8	630	380V 3Ph 50Hz	66.68	34.92	3400 x 1949 x 1439 x 205	3305 x 1856	1399
VRS900	358818	869.0	80280	129.22	630 x 8	630	380V 3Ph 50Hz	66.68	34.92	3400 x 1960 x 1642 x 205	3305 x 1864	1571
VRS1000	372495	876.1	94140	110.38	630 x 10	630	380V 3Ph 50Hz	66.68	34.92	4251 x 1961 x 1625 x 205	4155 x 1864	1787
VRS1100	390638	973.5	97080	122.65	630 x 10	630	380V 3Ph 50Hz	66.68	34.92	4251 x 1961 x 1720 x 205	4155 x 1864	1857
VRS1200	448523	1100.7	100320	163.53	630 x 10	630	380V 3Ph 50Hz	79.38	53.98	4251 x 1961 x 1720 x 205	4155 x 1864	1974

KYUNG-DONG OUTDOOR CONDENSING UNITS

TH / TS / TD-TYPE

- High efficient inner rippled copper tube
- Corrosion resisted blue coating fin.
- Motors rated for 50Hz application.
- Fan designed well matched with motor and coil to optimize air flow and cooling.
- Service valve for easy and quick installation.
- A receiver tank with fusible plug, liquid shutoff valve and charging port



- R-404 for low and extra low temperature application
- Quality proved Copeland compressor selected
- Reciprocation hermetic & Scroll: Copeland
- System designed suitable for high ambient
- Parts inside complied with global standard for easy local replacement

MODEL NOMENCLATURE

TH	0 1 5	D	R22	3
Model	Equiv. HP	Temp.	Refrigerant	Voltage
TH=Hermetic	0 1 5 = 1.5 HP	M = Medium Temp.		2=208/230/1/50
TS=Scroll	0 2 0 = 2 HP	L = Low Temp.		3=380/3/50
TD=Semi-hermetic	0 3 0 = 3 HP	X = Extra Low		
	0 4 0 = 4 HP			
	0 7 5 = 7.5 HP			
	1 0 0 = 10 HP			
	1 5 0 = 15 HP			

Performance Data - Hermetic Compressors (Copeland) R-404A

Model	Comp.	Ambient temp (°C)		Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)											
				-40	-35	-30	-25	-20	-15	-10	-5	-2	0	5	7.2
TH015L	CS10K6E	45	Q				476	923	1269	1766	2055	2393			
			P				691	913	1094	1276	1440	1530			
		35	Q			594	974	1370	1918	2301	2965	3200			
			P			654	824	981	1136	1280	1400	1486			
		25	Q			923	1440	1921	2383	3105	3742	4165			
			P			720	869	998	1130	1240	1340	1396			
TH020L	CS12K6E	45	Q			702	1113	1517	2109	2452	2803				
			P			807	1010	1218	1446	1650	1750				
		35	Q			777	1092	1532	2180	2672	3407	3633			
			P			752	887	1056	1250	1440	1590	1674			
		25	Q			1019	1521	2085	2656	3488	4165	4570			
			P			767	899	1064	1240	1380	1498	1538			
TH025L	CS14K6E	45	Q			1115	1619	2049	2672	3000	3384				
			P			1080	1300	1518	1740	1950	2070				
		35	Q			1180	1609	2115	2823	3337	4151	4419			
			P			951	1130	1320	1518	1720	1890	2000			
		25	Q			1506	2114	2740	3360	4279	5063	5565			
			P			974	1130	1298	1480	1630	1776	1856			
TH032L	CS20K6E	45	Q			1255	2010	2668	3642	4244	4919				
			P			1330	1690	2036	2412	2780	2990				
		35	Q			1429	2057	2798	3870	4674	6023	6521			
			P			1204	1480	1768	2084	2400	2690	2870			
		25	Q			2001	2907	3826	4744	6209	7507	8384			
			P			1270	1520	1778	2050	2290	2518	2650			
TH040L	CS27K6E	45	Q			2155	3023	3788	5042	5930	6988				
			P			2100	2500	2898	3330	3800	4080				
		35	Q			2221	3047	3960	5291	6360	8244	9065			
			P			1838	2180	2530	2886	3280	3660	3922			
		25	Q			2842	4035	5198	6372	8256	10093	11384			
			P			1860	2170	2476	2810	3100	3424	3620			
TH050L	CS33K6E	45	Q			2420	3395	4274	5719	6733	7919				
			P			2180	2770	3344	3938	4520	4810				
		35	Q			2672	3593	4605	6105	7256	9302	10163			
			P			1908	2360	2848	3368	3890	4320	4594			
		25	Q			3395	4756	6056	7349	9360	11244	12572			
			P			1980	2390	2836	3310	3710	4084	4266			

Technical Data - Hermetic Compressors (Copeland) R-404A

Compressor											
Model	Part	Power Supply			Compressor		Fan Motor			Receiver	Weight
Number	Number	Volts	Ph	Hz	RLA	LRA	Fan(s)	FLA	W	Liter	Kg
TH015LR404A2	CS10K6E-PFJ	220	1	50	10.1	55	2	0.47	110	4.5	88
TH020LR404A2	CS12K6E-PFJ	220	1	50	10.9	55	2	0.47	110	4.5	92
TH025LR404A2	CS14K6E-PFJ	220	1	50	12.5	58	2	0.47	110	4.5	94
TH032LR404A2	CS20K6E-PFZ	220	1	50	15.4	75.9	1	2.20	250	9	125
TH040LR404A2	CS27K6E-PFZ	220	1	50	21.5	111.3	1	2.20	250	9	127
TH050LR404A3	CS33K6E-TFD	380	3	50	9.9	45	1	2.20	250	9	142

Performance Data - Scroll Compressors (Copeland) R-404A

Model	Comp.	Ambient temp (°C)	Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)											
			-35	-30	-25	-23	-20	-15	-10	-5	0	5	7.2	10
TS015M	ZS11KAE	45	Q					1233	1567	1936	2323	2747	3214	3479
			P					1694	1736	1740	1766	1782	1792	1772
		35	Q				1451	1655	2041	2462	2920	3374	3949	4256
			P				1298	1322	1338	1350	1366	1422	1426	1416
		25	Q				1768	1994	2424	2907	3398	4009	4628	4907
			P				1022	1036	1049	1060	1102	1118	1150	1168
TS020M	ZB15KQE	45	Q					2021	2422	2875	3384	3942	4463	4798
			P					1876	1936	1978	2020	2066	2158	2148
		35	Q				2172	2422	2911	3465	4077	4758	5416	5819
			P				1502	1542	1584	1620	1658	1696	1772	1762
		25	Q				2527	2827	3407	4058	4721	5528	6423	6791
			P				1202	1228	1264	1300	1360	1390	1418	1440
TS025M	ZB19KQE	45	Q					2333	2790	3391	3988	4651	5400	5670
			P					2390	2464	2458	2504	2540	2582	2634
		35	Q				2555	2853	3430	4084	4814	5637	6563	6921
			P				1856	1902	1948	1986	2020	2060	2090	2134
		25	Q				2922	3315	4000	4785	5663	6556	7640	8091
			P				1508	1511	1544	1577	1600	1670	1700	1732
TS030M	ZB21KQE	45	Q					2981	3567	4230	4977	5805	6726	7249
			P					3048	3136	3206	3260	3320	3370	3350
		35	Q				3209	3642	4386	5221	6163	7212	8228	8851
			P				2422	2426	2478	2532	2580	2624	2726	2716
		25	Q				3740	4237	5112	6116	7137	8377	9626	10347
			P				1921	1921	1966	2007	2090	2130	2212	2202
TS040M	ZB29KQE	45	Q					3779	4628	5567	6605	7726	8949	9393
			P					3568	3676	3768	3860	3958	4056	4144
		35	Q				4070	4607	5628	6756	8009	9386	10686	11491
			P				2936	3004	3082	3160	3244	3328	3486	3498
		25	Q				4826	5444	6627	7965	9309	10935	12535	13465
			P				2418	2480	2536	2610	2734	2810	2950	2970
TS050M	ZB38KQE	45	Q					4651	5698	6740	7702	8981	10407	11233
			P					5270	5350	5430	5690	5770	5850	5800
		35	Q				5188	5791	6956	8267	9740	11163	12691	13660
			P				4116	4210	4316	4408	4492	4670	4858	4846
		25	Q				6105	6826	8226	9665	11433	13198	15128	15977
			P				3251	3330	3412	3566	3638	3790	3940	4010
TS060M	ZB45KQE	45	Q					5586	6674	7895	9270	10814	12198	13151
			P					5814	6050	6150	6300	6400	6600	6600
		35	Q				6188	6905	8302	9867	11637	13349	15465	16386
			P				4548	4664	4760	4870	4958	5180	5250	5330
		25	Q				7249	8108	9779	11493	13384	15698	18000	19023
			P				3604	3691	3770	3948	4118	4190	4354	4440

Technical Data - Scroll Compressors (Copeland) R-404A

Compressor											
Model	Part	Power Supply			Compressor		Fan Motor		Receiver	Weight	
Number	Number	Volts	Ph	Hz	RLA	LRA	Fan(s)	FLA	W	Liter	Kg
TS015MR404A2	ZS11KAE-PFJ	220	1	50	8.6	35	2	0.47	110	4.5	93
TS020MR404A2	ZB15KQE-PFJ	220	1	50	13.2	58	2	0.47	110	4.5	94
TS025MR404A2	ZB19KQE-PFJ	220	1	50	14.6	61	2	0.47	110	4.5	99
TS030MR404A2	ZB21KQE-PFJ	220	1	50	15.4	82	1	2.20	250	4.5	130
TS040MR404A2	ZB29KQE-PFJ	220	1	50	20.0	114	1	2.20	250	9	144
TS050MR404A3	ZB38KQE-TFD	380	3	50	10.0	65.5	1	2.20	250	9	144
TS060MR404A3	ZB45KQE-TFD	380	3	50	10.1	74	1	2.20	250	9	156

Dimension Data - Hermetic Compressors (Copeland) R-404A

Model Number	Compressor		Connections (Inch)		Dimensions (mm)						
	Part Number	Fig. *	Liquid	Suction	A	B	C	D	E	F	G
	TH015LR404A2	CS10K6E-PFJ	A	3/8"	5/8"	992	1012	978	377	563	714
TH020LR404A2	CS12K6E-PFJ	A	3/8"	7/8"	992	1012	978	377	563	714	454
TH025LR404A2	CS14K6E-PFJ	A	3/8"	7/8"	992	1012	978	377	563	714	454
TH032LR404A2	CS20K6E-PFZ	B	1/2"	7/8"	992	1012	978	616	613	764	693
TH040LR404A2	CS27K6E-PFZ	B	1/2"	1-1/8"	992	1012	978	616	613	764	693
TH050LR404A3	CS33K6E-TFD	B	1/2"	1-1/8"	992	1012	978	616	613	764	693

Dimension Data - Scroll Compressors (Copeland) R-404A

Model Number	Compressor		Connections (Inch)		Dimensions (mm)						
	Part Number	Fig. *	Liquid	Suction	A	B	C	D	E	F	G
	TS015MR404A2	ZS11KAE-PFJ	A	3/8"	5/8"	992	1012	978	377	563	714
TS020MR404A2	ZB15KQE-PFJ	A	3/8"	7/8"	992	1012	978	377	563	714	454
TS025MR404A2	ZB19KQE-PFJ	A	1/2"	7/8"	992	1012	978	504	563	714	581
TS030MR404A2	ZB21KQE-PFJ	B	1/2"	7/8"	992	1012	978	616	613	764	693
TS040MR404A2	ZB29KQE-PFJ	B	1/2"	1-1/8"	992	1012	978	616	613	764	693
TS050MR404A3	ZB38KQE-TFD	B	1/2"	1-1/8"	992	1012	978	616	613	764	693
TS060MR404A3	ZB45KQE-TFD	B	1/2"	1-1/8"	1092	1112	1078	678	613	764	756

Dimensional Drawings

Fig A.

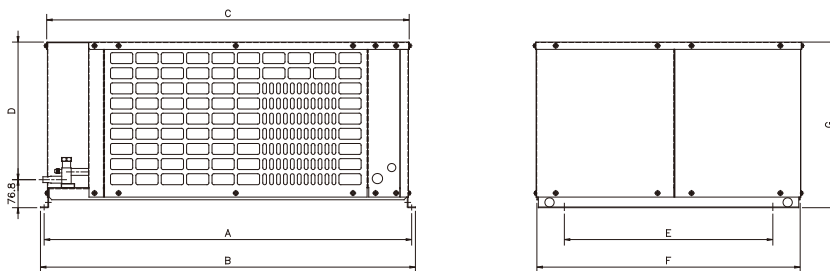
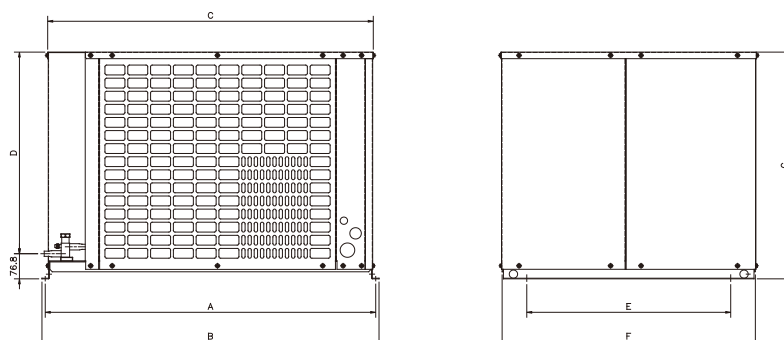


Fig B.



PAD / PAL / PAUP-TYPE

- High efficient inner rippled copper tube.
- Corrosion resisted blue coating fin.
- Motors rated for 50Hz application.
- Fan designed well matched with motor and coil to optimize air flow and cooling.
- Installed fan speed controller.



- Service valve for easy and quick installation.
- A receiver tank with fusible plug, liquid shutoff valve and charging port
- R-404 for low and medium temperature application
- Reciprocation hermetic & Scroll: Copeland
- Quality proved Danfoss & Copeland compressor selected



MODEL NOMENCLATURE

Model	Equiv. HP	Temp.	Voltage
PAL	0 1 5	M	1
PAD	0 0 8 = 0.75 HP	M = Medium	1=208/230/1/50
PAL	0 1 0 = 1 HP	L = Low	3=380/3/50
PAUP	0 1 2 = 1.2 HP		
	0 1 5 = 1.5 HP		
	0 2 0 = 2 HP		
	0 2 5 = 2.5 HP		
	0 3 0 = 3 HP		
	0 4 0 = 4 HP		
	0 5 0 = 5 HP		
	0 6 0 = 6 HP		

Performance Data - Hermetic Compressors (Danfoss) Medium Temp. R-404A

Model	Comp.	Ambient temp (°C)		Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)											
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
PAD005M	SC10MLX	45	Q						569	692	830	985	1122		
			P						500	547	596	645	703		
		35	Q				575	708	861	1035	1232	1418			
			P				432	471	510	551	594	645			
		25	Q				698	855	1024	1235	1474	1711			
			P				404	437	475	512	551	597			
PAD008M	MPT14RA	45	Q						732	906	1077	1310	1630		
			P						753	832	923	1010	662		
		35	Q				754	938	1155	1377	1626	1907			
			P				651	714	780	857	939	968			
		25	Q				929	1147	1404	1671	1974	2312			
			P				642	698	756	819	887	963			
PAD010M	MX18TBa	45	Q						855	1056	1254	1525			
			P						831	918	1018	1114			
		35	Q				881	1094	1346	1603	1892	2217			
			P				718	787	860	945	1035	1135			
		25	Q				1083	1336	1635	1945	2295	2687			
			P				708	769	833	903	977	1061			
PAD012M	MS26TB_T	45	Q												
			P												
		35	Q				1314	1657	2004	2391	2820				
			P				989	1105	1232	1367	1509				
		25	Q				1628	2034	2455	2928	3385	4043			
			P				946	1041	1149	1262	1398	1517			

Performance Data - Scroll Compressors (Danfoss) Medium Temp. R- 404A

Model	Comp.	Ambient temp (°C)	Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)												
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	7.2	10	12.5
PAL020M	MLZ015T	45	Q				1383	1906	2435	2981	3573	4218	4813	5055	5460
			P				2222	2229	2231	2226	2222	2229	2300	2343	2377
		35	Q			1396	1931	2459	3036	3670	4282	5047	5784	6214	6720
			P			1700	1722	1740	1748	1751	1808	1818	1879	1873	1912
		25	Q			1873	2385	2963	3616	4288	5106	5932	6836	7215	7821
			P			1284	1318	1340	1351	1394	1404	1450	1507	1544	1578
PAL025M	MLZ019T	45	Q				1993	2642	3279	3840	4534				
			P				2555	2634	2715	2849	2914				
		35	Q			2051	2699	3331	3949	4702	5452	6276	7335	7740	8238
			P			1952	2039	2131	2251	2306	2398	2492	2525	2572	2674
		25	Q			2487	3137	3803	4591	5405	6304	7300	8411	8887	9645
			P			1569	1654	1755	1804	1883	1958	2034	2109	2156	2199
PAL030M	MLZ021T	45	Q				2206	2887	3582	4267	5036	5911	6767		
			P				2694	2776	2853	2935	2998	3038	3119		
		35	Q			2236	2921	3590	4332	5160	5994	7038	8082	8527	9245
			P			2055	2125	2198	2266	2330	2438	2474	2551	2587	2608
		25	Q			2707	3381	4139	4998	5891	6980	8106	9349	9883	10730
			P			1669	1710	1755	1802	1897	1944	2025	2103	2136	2161
PAL036M	MLZ021T	45	Q				2690	3425	4289	5177	6005				
			P				3604	3781	3868	3951	4120				
		35	Q			2735	3491	4261	5143	6054	7185	8333	9608	10156	10842
			P			2733	2879	2965	3045	3192	3261	3413	3556	3627	3789
		25	Q			3275	4050	4891	5925	7021	8247	9614	10960	11596	12606
			P			2135	2206	2332	2401	2523	2648	2773	2963	3028	3090
PAL040M	MLZ030T	45	Q				3112	4023	5104	6217	7402				
			P				4173	4372	4465	4552	4634				
		35	Q			3242	4250	5143	6240	7365	8763	10168	11734	12402	13242
			P			3166	3256	3429	3519	3684	3758	3927	4087	4165	4347
		25	Q			3981	4942	5976	7243	8578	10067	11716	13350	14118	15340
			P			2478	2563	2708	2788	2926	3066	3208	3420	3494	3564
PAL050M	MLZ038T	45	Q				3730	4756	5985	7244	8377				
			P				4879	5094	5192	5289	5511				
		35	Q			3976	5066	6190	7465	8756	10174	11964	13722	14468	15674
			P			3740	3904	3984	4067	4250	4448	4553	4770	4880	5005
		25	Q			4876	5930	7221	8588	10266	11996	13908	15770	16647	18052
			P			2913	3043	3115	3267	3347	3517	3702	3984	4090	4201
PAL075M	MLZ048T	45	Q				4525	6262	7978	9487	11350				
			P				6380	6564	6764	7118	7338				
		35	Q			4898	6567	8198	9826	11830	13830	15990	18372	19372	20990
			P			5082	5206	5337	5603	5755	6041	6359	6688	6852	7039
		25	Q			6263	7866	9551	11592	13720	16052	18624	21450	22634	24150
			P			4100	4180	4368	4467	4680	4910	5159	5415	5556	5841
PAL100M	MLZ076T	45	Q				9158	11156	13130	14986	17128	19680	22776	23834	
			P				9221	9461	9708	9978	10253	10519	10762	10970	
		35	Q			8798	11248	13562	16070	18862	21570	25136	28600	30066	32510
			P			7358	7513	7670	7864	8101	8523	8769	9186	9384	9585
		25	Q			10053	12752	15650	18570	22048	25590	29512	34490	36417	38810
			P			6032	6091	6210	6516	6728	7097	7482	7722	7897	8225



Performance Data - Scroll Compressors (Copeland) Medium Temp. R-404A

Model	Comp.	Ambient temp (°C)	Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)											
			-35	-30	-25	-23	-20	-15	-10	-5	0	5	7.2	10
PAL015M	ZS11KAE	45	Q					1276	1619	1991	2390	2821	3298	3567
			P					1656	1692	1698	1720	1736	1748	1728
		35	Q				1488	1693	2082	2508	2977	3505	4102	4337
			P				1264	1288	1306	1320	1330	1354	1358	1382
		25	Q				1768	2023	2457	2907	3449	4072	4702	5070
			P				1022	1014	1027	1060	1076	1092	1124	1114
PAL020M	ZB15KQE	45	Q					2067	2479	2941	3463	4035	4681	4912
			P					1838	1894	1936	1978	2020	2066	2102
		35	Q				2210	2464	2962	3526	4151	4844	5621	5928
			P				1466	1508	1548	1586	1620	1658	1696	1724
		25	Q				2560	2864	3453	4115	4860	5612	6521	6895
			P				1176	1202	1238	1274	1300	1360	1386	1410
PAL025M	ZB19KQE	45	Q					2281	2724	3233	3795	4419	5130	5528
			P					2440	2522	2570	2624	2668	2706	2696
		35	Q				2511	2802	3372	4012	4723	5530	6312	6651
			P				1902	1948	1994	2030	2072	2110	2190	2230
		25	Q				2922	3272	3948	4721	5500	6456	7407	7837
			P				1508	1544	1577	1610	1680	1710	1780	1814
PAL030M	ZB21KQE	45	Q					2914	3481	4128	4851	5656	6553	6881
			P					3112	3208	3280	3340	3400	3450	3510
		35	Q				3209	3579	4309	5128	6047	6937	8067	8512
			P				2422	2484	2534	2590	2644	2752	2788	2840
		25	Q				3740	4181	5044	6035	7030	8251	9477	10021
			P				1921	1964	2008	2050	2140	2180	2260	2306
PAL036M	ZB26KQE	45	Q					2737	3360	4091	4953	5958	7119	7772
			P					4136	4190	4192	4186	4158	4106	4038
		35	Q				3191	3593	4293	5333	6407	7488	8700	9249
			P				3268	3304	3394	3320	3310	3364	3402	3430
		25	Q				3881	4372	5247	6451	7616	9070	10374	11242
			P				2588	2614	2686	2624	2680	2662	2758	2714
PAL040M	ZB29KQE	45	Q					3686	4512	5430	6440	7533	8726	9156
			P					3632	3748	3840	3940	4036	4134	4222
		35	Q				3988	4519	5523	6628	7856	9207	10477	11035
			P				2994	3062	3140	3224	3308	3392	3550	3630
		25	Q				4756	5367	6535	7847	9167	10770	12333	13033
			P				2462	2525	2580	2662	2786	2860	3006	3082
PAL050M PAUP050M	ZB38KQE	45	Q					4765	5698	6740	7914	9230	10698	11233
			P					5164	5350	5430	5560	5640	5720	5800
		35	Q				5188	5898	7093	8430	9740	11393	12967	13660
			P				4116	4116	4210	4304	4492	4566	4744	4846
		25	Q				6105	6826	8226	9812	11433	13419	15395	16256
			P				3251	3330	3412	3484	3638	3700	3850	3920
PAL075M	ZB48KQE	45	Q					6000	6998	8228	9656	11256		
			P					6560	6866	7112	7236	7350		
		35	Q				6570	7319	8786	10442	12035	13756	15651	16721
			P				5240	5372	5504	5620	5850	6108	6338	6308
		25	Q				7756	8672	10440	12279	14244	16430	18779	19744
			P				4140	4244	4348	4548	4746	4942	5130	5236
PAL100M	ZB76KQE	45	Q					9065	11174	13267	15674	18314		
			P					10300	10574	10970	11210	11450		
		35	Q				10244	11553	13756	16488	19070	21767	24651	25884
			P				8080	8300	8732	8972	9418	9884	10300	10520
		25	Q				12023	13535	16360	19302	22477	25907	29581	30581
			P				6576	6774	7014	7390	7804	8200	8588	8964



Performance Data - Scroll Compressors (Copeland) Low Temp. R-404A

Model	Comp.	Ambient temp (°C)	Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)													
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	7.2	10	12.5	
PAL030L	ZF09K4E	45	Q	1314	1662	2022	2469	2937	3440	4037	4709	5474				
			P	2170	2170	2228	2256	2350	2479	2608	2750	2906				
		35	Q	1528	1936	2372	2909	3484	4143	4891	5733	6566	7609	7980		
			P	1780	1790	1848	1896	2000	2112	2242	2380	2564	2728	2818		
		25	Q	1715	2178	2688	3279	3951	4719	5599	6588	7591	8698	9267		
			P	1460	1480	1549	1636	1741	1848	1980	2120	2292	2480	2530		
PAL035L	ZF11K4E	45	Q	1645	2046	2482	2957	3581	4172	4884	5576	6498				
			P	2540	2600	2692	2803	2883	3060	3230	3467	3658				
		35	Q	1940	2411	2933	3527	4209	4983	5863	6756	7887	9174	9612		
			P	2140	2200	2282	2393	2514	2660	2820	3030	3212	3410	3530		
		25	Q	2179	2720	3340	4040	4858	5791	6759	7844	10514	10514	11048		
			P	1800	1863	1936	2046	2164	2305	2490	2681	3106	3106	3214		
PAL040L	ZF13K4E	45	Q	1928	2343	2823	3456	4126	4853	5709	6684	7784				
			P	2780	2902	3034	3126	3279	3498	3680	3876	4082				
		35	Q	2176	2727	3358	4142	4986	5831	6884	8069	9398	10686	11395		
			P	2270	2382	2514	2596	2749	2965	3142	3327	3522	3780	3850		
		25	Q	2441	3102	3865	4719	5705	6808	7944	9321	10853	12360	12958		
			P	1870	1970	2082	2203	2350	2500	2713	2894	3093	3348	3466		
PAL050L PAUP050L	ZF15K4E	45	Q	2340	2884	3472	4149	4928	5756	6756	7908	9223				
			P	3260	3480	3706	3922	4164	4475	4730	5010	5334				
		35	Q	2650	3349	4135	5009	6009	7140	8435	9719	11356	12935	13547		
			P	2680	2880	3076	3282	3504	3740	3990	4320	4607	4998	5160		
		25	Q	3000	3824	4760	5821	7021	8272	9802	11528	13302	15200	15959		
			P	2210	2379	2550	2733	2934	3206	3447	3702	4040	4424	4587		
PAL060L PAUP060L	ZF18K4E	45	Q	2741	3426	4138	4951	5849	6802	7978	9333	10628				
			P	3983	4168	4375	4594	4820	5168	5445	5730	6100				
		35	Q	3230	4030	4917	5916	7058	8365	9693	11174	13056	14883	15642		
			P	3353	3528	3725	3934	4160	4402	4716	5050	5335	5740	5890		
		25	Q	3645	4570	5623	6819	8095	9652	11281	13079	15067	17267	18488		
			P	2840	2992	3166	3352	3614	3838	4127	4447	4788	5160	5230		
PAL075L	ZF24K4E	45	Q	3165	4085	5040	6064	7179	8028	9359	10872					
			P	5082	5469	5874	6225	6590	7090	7445	7850					
		35	Q	3851	4887	5919	7142	8498	9853	11547	13170	14940	16884	17651		
			P	4422	4739	5145	5460	5780	6160	6500	6970	7470	7960	8185		
		25	Q	4407	5576	6808	8265	9781	11626	13503	15600	17849	19907	20965		
			P	3802	4051	4380	4646	4996	5274	5690	6120	6575	7130	7360		
PAL100L	ZF33K4E	45	Q	4497	5733	7033	8440	9800	11326	13214	14953					
			P	6595	7100	7680	8210	8870	9515	10100	10800					
		35	Q	5345	6779	8358	9936	11858	13786	16233	18553	21047	23895	24953		
			P	5645	6100	6580	7175	7670	8260	8770	9405	10080	10725	11060		
		25	Q	6044	7648	9460	11506	13651	16279	18953	21837	25023	28651	29977		
			P	4926	5305	5710	6125	6650	7090	7600	8210	8820	9410	9695		

Technical Data - Hermetic Compressors (Danfoss) Medium Temp. R-404A

Model Number	Compressor Part Number	Power Supply			Compressor		Fan(s)	Fan Motor		Receiver Liter	Weight Kg
		Volts	Ph	Hz	RLA	LRA		FLA	W		
PAD005M1	SC10MLX	220	1	50	3.7	18.4	1	0.21	16	1.6	47
PAD008M1	MPT14RA	220	1	50	4.6	21.0	1	0.21	16	1.6	48
PAD010M1	MX18TBa	220	1	50	6.4	34.5	1	0.30	25	2.0	54
PAD012M1	MS26TB_T	220	1	50	8.2	38.0	1	0.47	40	2.0	61

Technical Data - Scroll Compressors (Danfoss) Medium Temp. R-404A

Model Number	Compressor Part Number	Power Supply			Compressor		Fan(s)	Fan Motor		Receiver Liter	Weight Kg
		Volts	Ph	Hz	RLA	LRA		FLA	W		
PAL020M1	MLZ015T5	220	1	50	12.2	60	1	0.41	88	2.4	92
PAL020M3	MLZ015T4	380	3	50	4.5	30	1	0.41	88	2.4	92
PAL025M1	MLZ019T5	220	1	50	14.7	97	1	0.41	88	2.4	92
PAL025M3	MLZ019T4	380	3	50	6.1	45	1	0.41	88	2.4	92
PAL030M1	MLZ021T5	220	1	50	16.0	97	1	0.52	119	2.4	99
PAL030M3	MLZ021T4	380	3	50	6.1	45	1	0.52	119	2.4	99
PAL036M1	MLZ026T5	220	1	50	16.7	97	1	0.52	119	3.4	99
PAL036M3	MLZ026T4	380	3	50	6.4	45	1	0.52	119	3.4	99
PAL040M3	MLZ030T4	380	3	50	8.3	60	1	0.52	119	3.4	120
PAL050M3	MLZ038T4	380	3	50	9.6	70	2	0.41	88	6.5	138
PAL075M3	MLZ048T4	380	3	50	10.3	87	2	0.41	88	7.8	175
PAL100M3	MLZ076T4	380	3	50	19.2	140	2	0.52	119	12.0	232

Technical Data - Scroll Compressors (Copeland) Medium Temp. R-404A

Model Number	Compressor Part Number	Power Supply			Compressor		Fan(s)	Fan Motor		Receiver Liter	Weight Kg
		Volts	Ph	Hz	RLA	LRA		FLA	W		
PAL015M1	ZS11KAE-PFJ	220	1	50	10.3	35	1	0.41	88	2.0	87
PAL020M1	ZB15KQE-PFJ	220	1	50	13.2	53	1	0.41	88	2.4	92
PAL020M3	ZB15KQE-TFD	380	3	50	5.0	26	1	0.41	88	2.4	92
PAL025M1	ZB19KQE-PFJ	220	1	50	14.6	56	1	0.41	88	2.4	92
PAL025M3	ZB19KQE-TFD	380	3	50	5.0	32	1	0.41	88	2.4	92
PAL030M1	ZB21KQE-PFJ	220	1	50	15.4	75	1	0.52	119	2.4	99
PAL030M3	ZB21KQE-TFD	380	3	50	7.4	40	1	0.52	119	2.4	99
PAL036M1	ZB26KQE-PFJ	220	1	50	17.9	97	1	0.52	119	3.4	99
PAL036M3	ZB26KQE-TFD	380	3	50	6.4	46	1	0.52	119	3.4	99
PAL040M3	ZB29KQE-TFD	380	3	50	8.6	49.3	1	0.52	119	3.4	120
PAL050M3	ZB38KQE-TFD	380	3	50	10.0	58.6	2	0.41	88	6.5	138
PAL075M3	ZB48KQE-TFD	380	3	50	13.6	90.5	2	0.41	88	7.8	175
PAL100M3	ZB76KQE-TFD	380	3	50	20.0	110	2	0.52	119	12.0	232
PAUP050M3	ZB38KQE-TFD	380	3	50	10.0	58.6	2	0.41	88	6.5	149

Technical Data - Scroll Compressors (Copeland) Low Temp. R-404A

Model Number	Compressor Part Number	Power Supply			Compressor		Fan(s)	Fan Motor		Receiver Liter	Weight Kg
		Volts	Ph	Hz	RLA	LRA		FLA	W		
PAL030L3	ZF09K4E-TFD	380	3	50	4.6	40	1	0.52	119	2.4	99
PAL035L3	ZF11K4E-TFD	380	3	50	5.7	46	1	0.52	119	3.4	99
PAL040L3	ZF13K4E-TFD	380	3	50	7.1	51.5	1	0.52	119	3.4	120
PAL050L3	ZF15K4E-TFD	380	3	50	8.6	58	2	0.41	88	6.5	138
PAL060L3	ZF18K4E-TFD	380	3	50	8.2	67	2	0.41	88	6.5	153
PAL075L3	ZF24K4E-TWD	380	3	50	13.2	89	2	0.41	88	7.8	175
PAUP050L3	ZF15K4E-TFD	380	3	50	8.6	64	2	0.41	88	6.5	149
PAUP060L3	ZF18K4E-TFD	380	3	50	8.2	74	2	0.41	88	6.5	162

Dimension Data - Hermetic Compressors (Danfoss) Medium Temp. R-404A

Model Number	Compressor Part Number	Fig. *	Connections (Inch)		Dimensions (mm)						
			Liquid	Suction	A	B	C	D	E	F	G
PAD005M1	SC10MLX	A	3/8	3/8	386	788	169	60	352	392	655
PAD008M1	MPT14RA	A	3/8	1/2	386	788	169	60	352	392	655
PAD010M1	MX18TBa	A	3/8	1/2	436	828	169	60	352	392	655
PAD012M1	MS26TB_T	A	3/8	5/8	496	878	169	60	382	422	705

Dimension Data - Scroll Compressors (Danfoss) Medium Temp. R-404A

Model Number	Compressor Part Number	Fig. *	Connections (Inch)		Dimensions (mm)						
			Liquid	Suction	A	B	C	D	E	F	G
PAL020M1	MLZ015T5	A	3/8	5/8	600	998	168	70	460	500	815
PAL020M3	MLZ015T4	A	3/8	5/8	600	998	168	70	460	500	815
PAL025M1	MLZ019T5	A	3/8	5/8	600	998	168	70	460	500	815
PAL025M3	MLZ019T4	A	3/8	5/8	600	998	168	70	460	500	815
PAL030M1	MLZ021T5	A	3/8	5/8	600	998	163	75	460	500	865
PAL030M3	MLZ021T4	A	3/8	5/8	600	998	163	75	460	500	865
PAL036M1	MLZ026T5	A	3/8	3/4	600	998	163	76	460	500	865
PAL036M3	MLZ026T4	A	3/8	3/4	600	998	163	76	460	500	865
PAL040M3	MLZ030T4	A	3/8	3/4	600	998	163	76	460	500	865
PAL050M3	MLZ038T4	B	1/2	7/8	600	998	165	91	460	500	1167
PAL075M3	MLZ048T4	B	5/8	7/8	880	1280	167	91	480	520	1164
PAL100M3	MLZ076T4	B	5/8	1-1/8	1270	1630	167	91	560	600	1364

Dimension Data - Scroll Compressors (Copeland) Medium Temp. R-404A

Model Number	Compressor Part Number	Fig. *	Connections (Inch)		Dimensions (mm)						
			Liquid	Suction	A	B	C	D	E	F	G
PAL015M1	ZS11KAE-PFJ	A	3/8	5/8	546	950	159	70	392	432	812
PAL020M1	ZB15KQE-PFJ	A	3/8	5/8	600	998	168	70	460	500	815
PAL020M3	ZB15KQE-TFD	A	3/8	5/8	600	998	168	70	460	500	815
PAL025M1	ZB19KQE-PFJ	A	3/8	5/8	600	998	168	70	460	500	815
PAL025M3	ZB19KQE-TFD	A	3/8	5/8	600	998	168	70	460	500	815
PAL030M1	ZB21KQE-PFJ	A	3/8	5/8	600	998	163	75	460	500	865
PAL030M3	ZB21KQE-TFD	A	3/8	5/8	600	998	163	75	460	500	865
PAL036M1	ZB26KQE-PFJ	A	3/8	3/4	600	998	163	76	460	500	865
PAL036M3	ZB26KQE-TFD	A	3/8	3/4	600	998	163	76	460	500	865
PAL040M3	ZB29KQE-TFD	A	3/8	3/4	600	998	163	76	460	500	865
PAL050M3	ZB38KQE-TFD	B	1/2	7/8	600	998	165	91	460	500	1167
PAL075M3	ZB48KQE-TFD	B	5/8	7/8	880	1280	167	91	480	520	1164
PAL100M3	ZB76KQE-TFD	B	5/8	1-1/8	1270	1630	167	91	560	600	1364
PAUP050M3	ZB38KQE-TFD	C	1/2	7/8	1132	1265	159	81	589	629	787

Dimension Data - Scroll Compressors (Copeland) Low Temp. R-404A

Model Number	Compressor Part Number	Fig. *	Connections (Inch)		Dimensions (mm)						
			Liquid	Suction	A	B	C	D	E	F	G
PAL030L3	ZF09K4E-TFD	A	3/8	3/4	600	998	163	75	460	500	865
PAL035L3	ZF11K4E-TFD	A	3/8	3/4	600	998	163	75	460	500	865
PAL040L3	ZF13K4E-TFD	A	3/8	7/8	600	998	163	91	460	500	865
PAL050L3	ZF15K4E-TFD	B	1/2	7/8	600	998	165	91	460	500	1167
PAL060L3	ZF18K4E-TFD	B	1/2	7/8	600	998	165	91	460	500	1167
PAL075L3	ZF24K4E-TWD	B	5/8	7/8	880	1280	167	91	480	520	1164
PAUP050L3	ZF15K4E-TFD	C	1/2	7/8	1132	1265	159	81	589	629	787
PAUP060L3	ZF18K4E-TFD	C	1/2	7/8	1132	1265	159	81	589	629	787

Dimensional Drawings

Fig A.

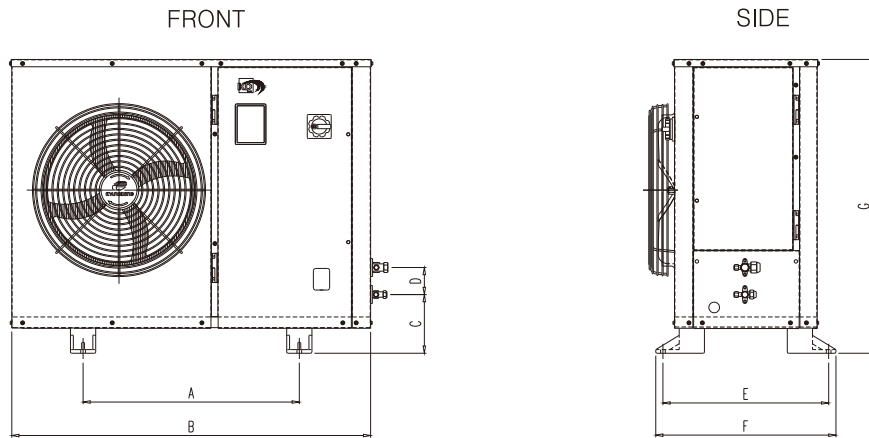


Fig B.

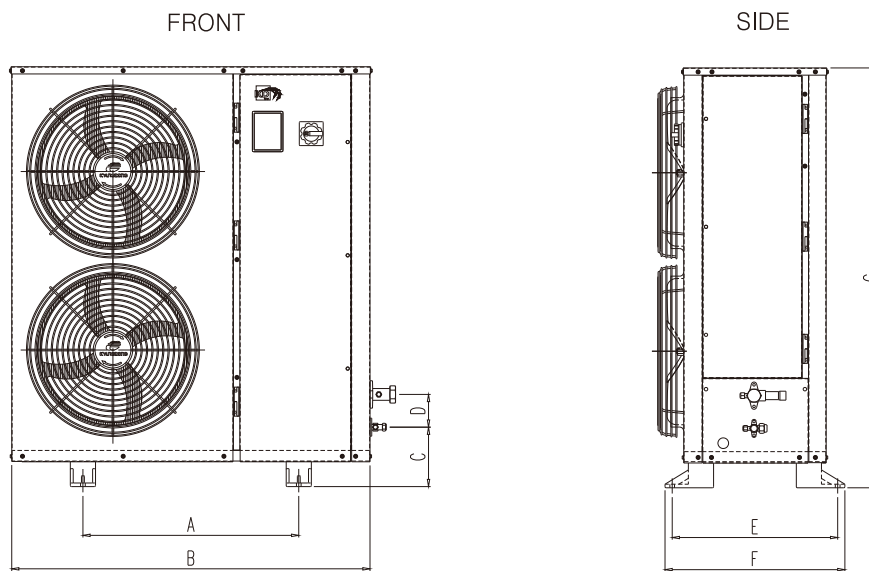
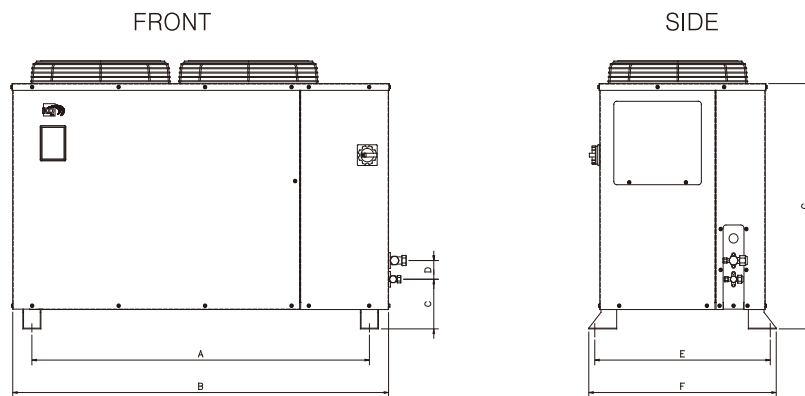


Fig C.



OUTDOOR CONDENSING UNITS

PA-TYPE

- High efficient inner rippled copper tube.
- Corrosion resisted blue coating fin.
- Motors rated for 50Hz application.
- Fan designed well matched with motor and coil to optimize air flow and cooling.
- R-404A for low and medium temperature application.
- Reciprocation Semi-hermetic : GEA BOCK



MODEL NOMENCLATURE

PA	0 3 0	S	L	G
Model	Equiv. HP	Comp.	Temp.	Comp Maker
PA	0 3 0 = 3 HP	S = Semi-hermetic	M = Medium Temp.	G = GEA BOCK
	0 5 0 = 5 HP		L = Low Temp.	
	0 7 5 = 7.5 HP		F = Freezing Temp.	
	1 0 0 = 10 HP			
	1 5 0 = 15 HP			
	2 0 0 = 20 HP			
	2 5 0 = 25 HP			
	3 0 0 = 30 HP			
	4 0 0 = 40 HP			

Performance Data (GEA BOCK Semi-hermetic Compressor Medium Temp.)

R-404A Model	Comp.	Ambient temp (°C)	Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)												
			-40	-35	-30	-25	-20	-15	-10	-5	0	5	7.5	10	12.5
PA030SMG	HGX22e/160-4S	45	Q			1880	2536	3212	4090						
			P			1868	2200	2546	2900						
		35	Q			2442	3264	4140	5234	6162	7308	8520	9810		
			P			1858	2164	2490	2804	3160	3492	3820	4140		
		25	Q			3110	4018	5066	6232	7510	8898	10200	11760		
			P			1812	2090	2374	2656	2950	3222	3530	3780		
PA050SMG	HGX34e/215-4S	45	Q			2520	3374	4384	5382	6730					
			P			2370	2820	3282	3764	4270					
		35	Q			3320	4412	5554	7010	8474	10112	11900	13920		
			P			2436	2844	3262	3690	4124	4574	5032	5504		
		25	Q			4108	5438	6850	8614	10434	12240	14400	16700		
			P			2422	2786	3160	3512	3872	4270	4642	5010		
PA075SMG	HGX34e/315-4S	45	Q			4040	5360	6874	8608	10600					
			P			3540	4222	4928	5644	6366					
		35	Q			5370	6852	8720	10940	13000	15680	18220	21000		
			P			3590	4194	4802	5412	6062	6660	7314	7984		
		25	Q			6532	8460	10580	13100	15640	18460	21580	24860		
			P			3486	3998	4542	5040	5580	6126	6674	7226		
PA100SMG	HGX34e/380-4S	45	Q			5390	7014	8854	10960	13000					
			P			4440	5282	6158	7050	8000					
		35	Q			6980	8768	11080	13600	16140					
			P			4410	5160	5928	6698	7528	8290	9130	9968		
		25	Q			8376	10740	13220	16200	19280	22620	26200	30640		
			P			4268	4884	5562	6200	6892	7594	8290	8854		
PA150SMG	HGX44e/565-4S	45	Q			8660	11186	13980	16740	20300					
			P			6790	7914	9092	10340	11500					
		35	Q			10856	13840	17220	20700	25080	29440	34200	39520		
			P			6592	7618	8660	9770	10780	11860	13000	14060		
		25	Q			13260	16460	20440	24580	29200	34900	40700	46240		
			P			6348	7268	8140	9064	9972	10660	11560	12500		
PA200SMG	HGX44e/665-4S	45	Q	4810	7072	9590	12460	15720	19440	23720					
			P	5498	6660	7920	9260	10620	12040	13500					
		35	Q	6746	9416	12500	16040	20060	24120	29300	34520	40180	47500		
			P	5392	6498	7670	8868	10050	11320	12500	13780	15100	16100		
		25	Q	8330	11600	15100	19120	23840	28800	34880	41040	47900	55440		
			P	5360	6370	7402	8432	9436	10500	11340	12340	13300	14280		
PA250SMG	HGX44e/770-4S	45	Q	5974	8628	11920	15300	19120	22900	27820	33400				
			P	6330	7678	9120	10600	12260	13940	15680	17300				
		35	Q	8202	11360	14900	18900	23540	28900	34300	41040	47700			
			P	6208	7494	8860	10240	11620	13000	14500	15860	17360			
		25	Q	10100	13800	18100	22500	27960	34180	40600	48560	56580			
			P	6160	7340	8510	9748	10900	11980	13160	14200	15240			
PA300SMG	HGX56e/995-4S	45	Q	6728	10526	14540	19100	24340	29400	35860	43200				
			P	6544	8902	11120	13400	15540	17840	20060	22200				
		35	Q	9746	13860	18500	23960	30280	37400	44500	53380	62040			
			P	7342	9254	11100	12960	14900	16720	18700	20520	22520			
		25	Q	12200	17100	22900	28820	36120	44480	52960	62340	73800			
			P	7630	9220	10700	12260	13820	15320	17000	18680	20120			
PA400SMG	HGX6/1410-4S	45	Q	11640	16000	21000	26860	32700	40080	48500					
			P	12280	15120	18300	21640	25200	28940	32700					
		35	Q	14640	19700	25680	32680	40700	48900	59020	69060	80000			
			P	12500	15100	17940	20900	24020	27400	30640	34160	37900			
		25	Q	17800	24000	31060	38620	47920	57620	69540	81580	94660			
			P	12500	14800	17280	19920	22520	25440	28100	31120	34140			

Performance Data (GEA BOCK Semi-hermetic Compressor Low Temp.)

Model	Comp.	Ambient temp (°C)		Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)													
				-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7.5	
PA030SLG	HGX34e/215-4	45	Q			1078	1630	2256	3090	3930							
			P			1426	1810	2236	2716	3230							
		35	Q	915	1430	2160	2984	3950	5044	6260	7376	8762					
			P	1154	1470	1848	2276	2740	3226	3734	4254	4758					
		25	Q	1220	1940	2756	3752	4920	6266	7604	9228	10754					
			P	1180	1490	1840	2234	2660	3100	3582	4042	4526					
PA050SLG	HGX34e/315-4	45	Q			1904	2840	3828	4936	6360							
			P			2224	2850	3508	4234	5000							
		35	Q	1758	2650	3776	5010	6410	7970	9684	11520	13140					
			P	1878	2400	2970	3580	4230	4912	5638	6378	7194					
		25	Q	2370	3404	4718	6172	7860	9770	11660	13860	15860					
			P	2010	2484	2994	3538	4108	4700	5358	5998	6714					
PA075SLG	HGX44e/475-4	45	Q			3406	4838	6566	8504	10400							
			P			3928	4780	5694	6674	7740							
		35	Q	2992	4650	6502	8398	10600	12900	15480	18360	21480					
			P	3108	3840	4650	5524	6450	7424	8432	9482	10500					
		25	Q	4110	5918	8004	10300	12760	15600	18800	22320	26220					
			P	3110	3814	4560	5348	6174	7016	7880	8746	9624					
PA100SLG	HGX44e/565-4	45	Q			4344	6076	8144	10470	12700							
			P			4646	5664	6772	7958	9250							
		35	Q	3826	5820	8034	10332	13100	15940	19080	22500	26260					
			P	3668	4550	5512	6566	7646	8810	9984	11200	12540					
		25	Q	5140	7304	9804	12440	15700	19180	22940	26660	31220					
			P	3660	4514	5408	6352	7310	8304	9332	10400	11460					
PA150SLG	HGX56e/850-4	45	Q			6524	9118	12280	15680	19100							
			P			6978	8516	10080	11880	13800							
		35	Q	5738	8720	12100	15520	19720	23960	28620	33800	39420					
			P	5496	6830	8288	9856	11440	13160	14900	16800	18620					
		25	Q	7710	10952	14740	18740	23600	28760	34440	40040	46920					
			P	5490	6776	8124	9548	10900	12400	13880	15580	17100					
PA200SLG	HGX56e/995-4	45	Q			6722	9800	13660	18020	22260							
			P			6524	8750	11040	13360	15660							
		35	Q	6004	9428	13400	17620	22880	28200	34100	40460	47460					
			P	5326	7276	9230	11140	13080	15200	17240	19420	21580					
		25	Q	8120	12200	16740	21580	27720	34060	41160	49000	56440					
			P	5940	7610	9220	10820	12420	14220	15980	17800	19860					
PA250SLG	HGX6/1240-4	45	Q			9656	13300	17540	22540	28280	33900						
			P			10020	12400	15200	18180	21340	24900						
		35	Q	8730	12500	17000	22320	27900	34940	42100	49860	58400					
			P	8120	10120	12400	14940	17680	20580	23660	26960	30400					
		25	Q	10700	15200	20420	26640	33300	41600	50140	59560	69840					
			P	8250	10200	12240	14520	16980	19400	22000	24820	27720					
PA300SLG	HGX6/1410-4	45	Q			11140	15500	20440	25940	32120	38100						
			P			11460	14600	17920	21620	25560	30100						
		35	Q	10164	14660	19900	25940	32160	39820	47380	55640						
			P	9414	11920	14700	17640	20900	24420	28320	32640						
		25	Q	12600	17900	23780	30760	38780	47200	56440	66580						
			P	9730	12000	14440	17000	19680	22800	26120	29840						

Performance Data (GEA BOCK 2-stage Semi-hermetic Compressor Freezing Temp.)

Model	Comp.	Ambient temp (°C)	Cooling capacity Q(W) & Power P(W) at Evap Temp (°C)												
			-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
PA250SFG	HGZX7/1620-4	45	Q	8424	10700	13380	16620	20520							
			P	12500	14700	16940	19320	21740							
		35	Q	9090	11500	14320	17800	21900	26700						
			P	11480	13400	15540	17660	19940	22400						
		25	Q	9400	11900	14940	18540	22860	28000	34060					
			P	10600	12300	14140	16080	18080	20300	22440					
PA300SFG	HGZX7/1860-4	45	Q	9676	12300	15360	19080	23560							
			P	14380	16900	19460	22160	24960							
		35	Q	10460	13200	16500	20400	25140	30760						
			P	13180	15400	17780	20300	22860	25460						
		25	Q	10800	13700	17140	21280	26300	32220	39120					
			P	12100	14100	16240	18460	20800	23160	25760					
PA400SFG	HGZX7/2110-4	45	Q	11020	14120	17700	21900	26960							
			P	16360	19040	21900	25000	28180							
		35	Q	11940	15060	18800	23280	28720	35220						
			P	14960	17440	20100	22900	25780	28740						
		25	Q	12300	15600	19600	24300	30000	36780	44880					
			P	13800	16000	18300	20800	23440	26080	28800					

Technical Data (GEA BOCK Semi-hermetic Compressor Medium Temp.)

Compressor						Outline								
Model Number	Part Number	Fig. *	Power Supply Volts	Ph	Hz	Compressor RLA	LRA	Fan Motor Fan(s)	W	Dimension (L x W x H)	Receiver Liter	Wt. Kg		
PA030SMG	HGX22e/160-4S	A	380	3	50	7.6	50	2	130	1280 549 1450	3.4	267		
PA050SMG	HGX34e/215-4S	A	380	3	50	10.5	76	2	130	1280 600 1459	6.5	296		
PA075SMG	HGX34e/315-4S	A	380	3	50	14.7	76	2	320	1471 710 1448	8.7	409		
PA100SMG	HGX34e/380-4S	A	380	3	50	18.0	76	2	320	1471 710 1498	14.8	415		
PA150SMG	HGX44e/565-4S	A	380	3	50	26.0	*133/171	2	480	1640 830 1761	26	563		
PA200SMG	HGX44e/665-4S	A	380	3	50	30.0	*133/171	2	630	1840 905 1811	26	631		
PA250SMG	HGX44e/770-4S	B	380	3	50	35.0	*133/171	3	630	2366 905 1763	39	760		
PA300SMG	HGX56e/995-4S	B	380	3	50	46.4	*149/246	3	630	2366 905 1912	39	834		
PA400SMG	HGX6/1410-4S	B	380	3	50	76.0	*204/250	3	630	2880 1020 2177	49	1058		

* Motor for Part-Winding start.

Technical Data (GEA BOCK Semi-hermetic Compressor Low Temp.)

Compressor						Outline								
Model Number	Part Number	Fig. *	Power Supply Volts	Ph	Hz	Compressor RLA	LRA	Fan Motor Fan(s)	W	Dimension (L x W x H)	Receiver Liter	Wt. Kg		
PA030SLG	HGX34e/215-4	A	380	3	50	8.1	50	2	130	1280 549 1450	3.4	289		
PA050SLG	HGX34e/315-4	A	380	3	50	12.2	64	2	130	1280 600 1459	6.5	299		
PA075SLG	HGX44e/475-4	A	380	3	50	19.0	*65/109	2	320	1471 710 1448	8.7	457		
PA100SLG	HGX44e/565-4	A	380	3	50	22.0	*65/109	2	320	1471 710 1498	14.8	476		
PA150SLG	HGX56e/850-4	A	380	3	50	32.6	*101/174	2	480	1640 830 1761	26	602		
PA200SLG	HGX56e/995-4	A	380	3	50	38.9	*125/209	2	630	1840 905 1811	26	668		
PA250SLG	HGX6/1240-4	B	380	3	50	33.0	*156/193	3	630	2366 905 1763	39	814		
PA300SLG	HGX6/1410-4	B	380	3	50	33.0	*156/193	3	630	2366 905 1912	39	848		

* Motor for Part-Winding start.

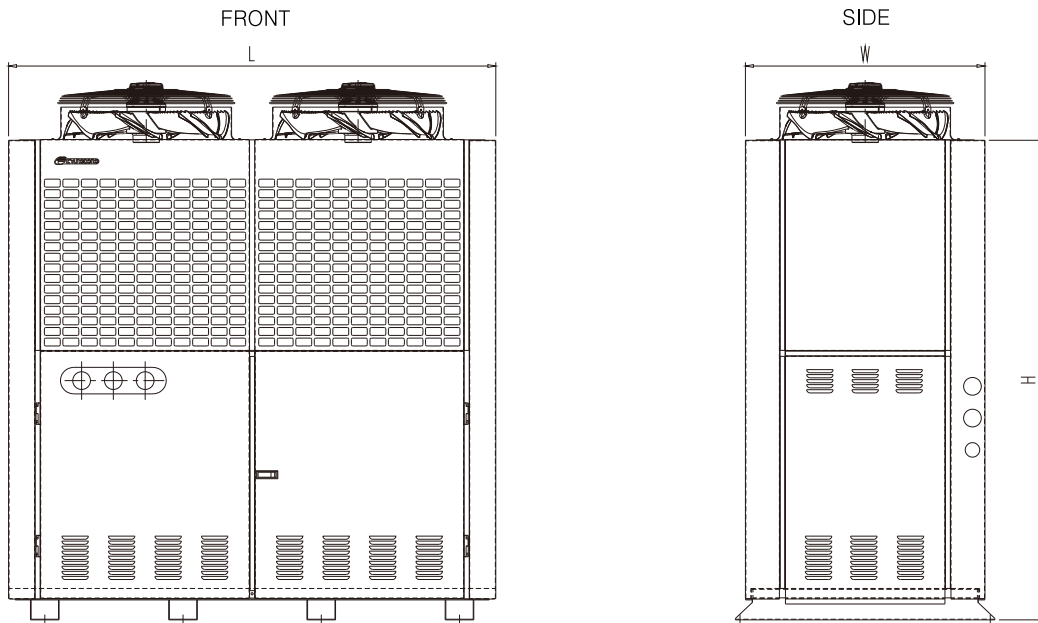
Technical Data (GEA BOCK 2-stage Semi-hermetic Compressor Freezing Temp.)

Compressor						Outline								
Model Number	Part Number	Fig. *	Power Supply Volts	Ph	Hz	Compressor RLA	LRA	Fan Motor Fan(s)	W	Dimension (L x W x H)	Receiver Liter	Wt. Kg		
PA250SFG	HGZX7/1620-4	B	380	3	50	50.0	*175/269	3	630	2366 905 1763	39	886		
PA300SFG	HGZX7/1860-4	B	380	3	50	55.0	*175/269	3	630	2366 905 1912	39	919		
PA400SFG	HGZX7/2110-4	B	380	3	50	68.0	*232/357	3	630	2880 1020 2177	49	1106		

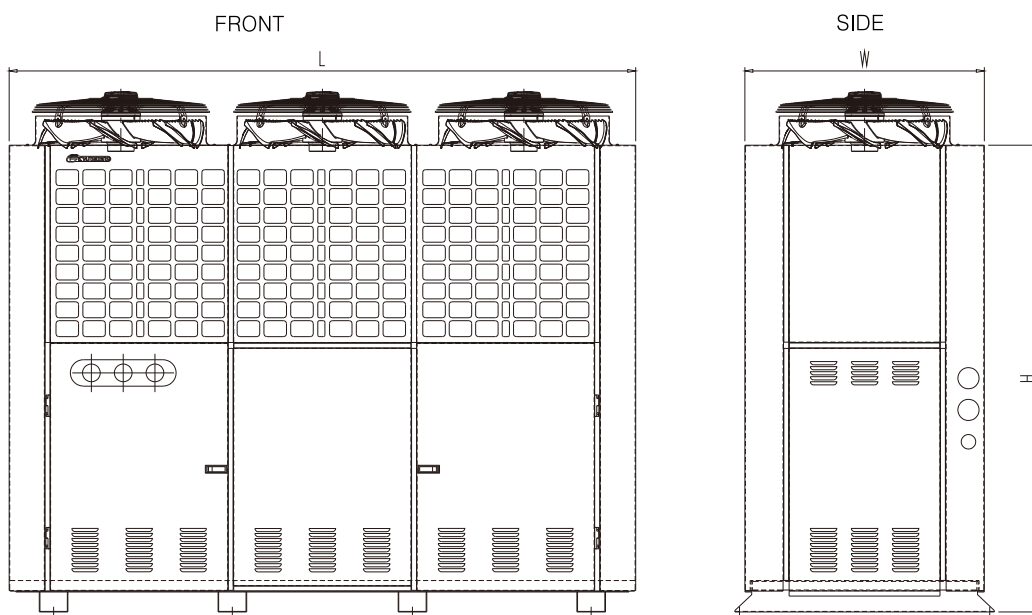
* Motor for Part-Winding start.

Dimensional Drawings

Fig A.



76 Fig B.



WATER & AIR COOLED CHILLER SYSTEMS

CPAS-TYPE

- Air cooled package chilling unit.
- Motors rated for 50Hz application.
- Shell & tube evaporator
- Air cooled condenser
- Refrigerant control by thermostatic expansion valve
- Quality proved Danfoss scroll compressor
- Electric galvanized sheed steel & Epoxy powder painted construction
- Fan designed well matched with motor and coil to optimize air flow and cooling.



CSPA-TYPE

- Air cooled package chilling unit.
- Motors rated for 50Hz application.
- Shell & tube evaporator
- Air cooled condenser
- ZIEHL-ABEGG out-rotor
- Refrigerant control by thermostatic expansion valve
- Quality proved Hanbell screw compressor
- Electric galvanized sheed steel & Epoxy powder painted construction



MODEL NOMENCLATURE

CPAS	0 3 0	L	H	D
Model	Capacity (Size x 100 = W)	Comp.	Temp.	Comp Maker
CPAS	0 7 0 = 7 0 0 0 W	L = Scroll	H = High Temp.	D = Danfoss
CSPA	1 1 0 = 1 1 0 0 0 W	W = Screw		H = Hanbell
	1 6 0 = 1 6 0 0 0 W			
	2 3 0 = 2 3 0 0 0 W			
	3 1 0 = 3 1 0 0 0 W			
	3 6 0 = 3 6 0 0 0 W			
	4 9 0 = 4 9 0 0 0 W			
	5 9 0 = 5 9 0 0 0 W			
	1 0 0 0 = 1 0 0 0 0 0 W			
	1 2 5 0 = 1 2 5 0 0 0 W			
	1 5 0 0 = 1 5 0 0 0 0 W			
	2 0 0 0 = 2 0 0 0 0 0 W			
	2 5 0 0 = 2 5 0 0 0 0 W			

CPAS-TYPE SPECIFICATIONS

Model No.		CPAS070LHD	CPAS110LHD	CPAS160LHD	CPAS230LHD	CPAS310LHD	CPAS360LHD	CPAS490LHD	CPAS590LHD
Cooling Capacity (W)		7239	11591	15785	22785	31592	35929	48927	58720
Power Input (kW)		2.77	4.23	5.87	8.70	11.21	13.32	17.25	22.64
Compressor	Type	Scroll							
	Model	HRP038T	HRP060T	SZ084	SZ120	SZ160	SZ185	SZ240	SZ300
	Starting Process	Direct On-Line							
	Lock Rotor Amps (A)	45	70	86	130	150	175	215	270
	Rated Load Amps (A)	7	9.6	12.1	20.7	22.1	26.6	35.7	49.3
	Motor Power Input (kW)	2.43	3.69	5.33	8.16	10.17	11.52	15.69	19.94
	Oil Type	PVE			POE				
	Oil Charge (ℓ)	1.06	1.57	3.25	3.25	4	6.2	8	8
Refrigerant Type	R-407C								
Condenser	Type	Fin & Tube							
	Ambient Temp. (°C)	35							
	Fan Type	Propeller							
	Fan Dia. (mm)	400 x 2	550 x 2	550 x 2	550 x 2	600 x 2	630 x 2	630 x 3	630 x 3
	Motor Rated Power (kW)	0.13 x 2	0.32 x 2	0.32 x 2	0.32 x 2	0.48 x 2	0.63 x 2	0.63 x 3	0.63 x 3
	Air Volume (CMM)	64	162	162	160	235	305	442	458
Evaporator	Type	Shell & Tube							
	Water Temp (°C)	Water Inlet temp. 12°C / Water Outlet temp. 7°C							
	Water Flow (m³/h)	1.25	1.99	2.72	3.92	5.43	6.18	8.42	10.10
	Water Connection Size (A)	32	32	40	40	50	50	50	65
Power Supply	Main Power	3Ph 380V 50Hz							
	Control	1Ph 230V 50Hz							
Dimensions	Length (mm)	1280	1471	1471	1471	1640	1840	2366	2366
	Width (mm)	550	710	710	710	830	905	905	905
	Height (mm)	1565	1625	1625	1685	1940	2015	1965	2115
Protection Device	Dual Pressure Switch	High : ON (manual) / OFF 2.6MPa , Low : ON 0.4MPa / OFF 0.2MPa							
	Condensing pressure control	ON 1.7MPa / OFF 1.4MPa							
	Fusible Plug	72°C ± 2°C							
	Low Temperature Switch	ON (manual) / OFF 2.0°C							
Weight (Kg)		225	300	328	380	535	676	872	953

CSPA-TYPE SPECIFICATIONS

Model No.		CSPA1000WHH	CSPA1250WHH	CSPA1500WHH	SPA2000WHH	CSPA2500WHH
Cooling Capacity (W)		97600	126100	141600	188200	257700
Power Input (kW)		40	50	56	74	96
Compressor	Type	Screw				
	Model	RC2-140B	RC2-180B	RC2-200B	RC2-260B	RC2-340B
	Starting Process	Y - Δ / PWS				
	Lock Rotor Amps (A)	310	465	465	690	1035
	Rated Load Amps (A)	91	121	128	171	220
	Motor Power Input (kW)	36	44	50	66	86
	Oil Type	SOLEST 68				
	Oil Charge (ℓ)	7	7	8	14	16
Refrigerant Type	R-407C					
Condenser	Type	Fin & Tube				
	Ambient Temp. (°C)	35				
	Fan Type	Propeller				
	Fan Dia. (mm)	630 x 4	630 x 6	630 x 6	630 x 8	630 x 10
	Motor Rated Power (kW)	0.90 x 4	0.90 x 6	0.90 x 6	0.90 x 8	0.90 x 10
	Air Volume (CMM)	650	916	975	1338	1618
Evaporator	Type	Shell & Tube				
	Water Temp (°C)	Water Inlet temp. 12°C / Water Outlet temp. 7°C				
	Water Flow (m³/h)	16.8	21.7	24.4	32.4	44.3
	Water Connection Size (A)	80	100	100	125	125
Power Supply	Main Power	3Ph 380V 50Hz				
	Control	1Ph 230V 50Hz				
Dimensions	Length (mm)	1950	2680	2680	3400	4251
	Width (mm)	1850	1950	1950	1961	1961
	Height (mm)	2289	2155	2287	2469	2542
Protection Device	Dual Pressure Switch	High : ON (manual) / OFF 2.6MPa , Low : ON 0.4MPa / OFF 0.2MPa				
	Condensing pressure control	ON 1.7MPa / OFF 1.4MPa				
	Fusible Plug	72°C ± 2°C				
	Low Temperature Switch	ON (manual) / OFF 2.0°C				
Weight (Kg)		1518	2041	2233	3042	3890

CONSTANT TEMPERATURE & HUMIDITY MACHINE

INTRODUCTION

Designed to provide environmental close control tolerances within the conditioned space, such as Telecommunication Facilities, Computer Rooms and Clean Rooms, Kyungdong CTH range is available with a choice of upflow, downflow configuration depending on position with direct expensing air cooled condensing unit includes quality proved and quite Copeland scroll compressor and comprises 13 models.

Full function units provide full control of temperature, humidity and filtration.

CTH-TYPE

- Motors rated for 50Hz application.
- Fin & tube evaporator.
- Electric Aerofin heater.
- Multi heating step system.
- Smart & user friendly Micro Controller operation.
- Sirocco fan for low noise.
- Cleanable cylinder & electrods humidifier.
- Upflow & downflow configuration available.
- Electric galvanized sheet steel & Epoxy powder painted construction.
- Refrigerant control by thermostatic expansion valve.
- Condensing unit with quality proved Copeland scroll compressor.



MODEL NOMENCLATURE

CTH	U	0 3 0	S
Model	Air flow	Equiv. HP	Matching Condensing Unit
CTH	U = Upflow	0 3 0 = 3 HP	S = Single
	D = Downflow	0 5 0 = 5 HP	D = Dual
		0 6 0 = 6 HP	
		0 7 5 = 7.5 HP	
		1 0 0 = 10 HP	
		1 5 0 = 15 HP	
		2 0 0 = 20 HP	

CTH-TYPE SPECIFICATIONS

Upflow Configuration		CTH*030S	CTH*050S	CTH*060D	CTH*075S	CTH*100D	CTH*150D	CTH*200D
Cooling Capacity(W)		7897	12809	15794	18300	25618	36600	51973
Power Supply	Main	3PH, 380V, 50Hz						
	Control	1PH, 200V, 50Hz						
Dimension	H	1950	1950	1950	1950	1950	1950	1950
	W	730	915	1243	1243	1413	1693	1963
	D	700	700	700	700	750	800	800
Construction		Electric Galvanised Sheet Steel, Epoxy Baked Powder Paint-Ivory						
Evaporator	Coil	Copper Tube/Corrugated Aluminum Fin						
	Face Area(m ²)	24	41	49	53	90	114	137
Compressor	Type	Scroll						
	Model	HRP038T	HRP060T	HRP038T	SZ084	HRP060T	SZ084	SZ120
	Qty	1	1	2	1	2	2	2
	Oil	PVE		POE		PVE		POE
Refrigerant		R-407C						
Refrigerant Control		Thermostatic Expansion Valve						
Holding Charge		Nitrogen charged						
Fan & Motor	Fan Type	Sirocco Fan Single						
	Size/Qty(kw)	0.3×1	0.5×1	0.3×2	0.4×2	0.5×2	0.75×2	1.1×2
	Airflow(CMM)	30	54	61	69	101	120	159
	Static Pressure(mmAq)	11-18						
Humidifier	Type	Cleanable Cylinder & Electrods						
	Electric(kw)	3.6	3.6	3.6	3.6	9.4	9.4	9.4
	Capacity(kg/hr)	5	5	5	5	13	13	13
Electric Heater	Type	Aerofin Heater						
	Capacity(kw)	7.5	10	12	14	16	20	24
	Heating Step		3	4	4	4	4	4 4
Protection Device		High/Low Pressure Switch Overcurrency Relay, Fuse Overheating Protector						
Connection	Suction	3/8"	1/2"	3/8"×2	5/8"	1/2"×2	5/8"×2	5/8"×2
	Discharge	5/8"	7/8"	5/8"×2	1 1/8"	7/8"×2	1 1/8"×2	1 1/8"×2
Included Accessories		Filter Drier, Sight Glass, Thermostatic Expansion Valve, Solenoid Valve, Air Filter High/Low Pressure Gauge, Polyurethan Insulation						
Micro Controller		Run/Standby Operation, Local/Remote Networking, Automatic Compressor Rotation Audio-Visual Alarm, Automatic Reset, Occupied/Unoccupied Set point, Duty Rotation(network units) Remote Monitoring(Optional), Remote On/Off(Optional)						
Matched Condensing Unit	Coil	Inner Rippled Copper Tube/Corrugated Aluminum Fin						
	Model No.	CNH030	CNH050	CNH030x2	CNH075	CNH050x2	CNH075x2	CNH100x2
		Single	Single	Dual	Single	Dual	Dual	Dual
	Fan	∅450×1	∅550×1	∅450×2	∅630×1	∅550×2	∅630×2	∅630×2
	Motor(kw)	0.2×1	0.2×1	0.2×2	0.4×1	0.2×2	0.4×2	0.4×2
Airflow(CMM)	54	102	54×2	145	102×2	145×2	158×2	
Applicable Condition	Entering Air	23±2°C						
	Ambient	35°C						
	RH	55±5%						

* : U - Up flow type , D - Down flow type

MEMO



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