AWAL GULF™
MANUFACTURING

MARSHAL®

HIGHER CAPACITY
CONDENSING UNIT

AIR CONDITIONERS

Capacity 30-120TR

30DH - 50Hz

R410A

صنع في البحرين
Made in Bahrain

TABLE OF CONTENTS

INTRODUCTION

Higher Capacity Condensing Units units have been developed & produced to provide not only the ultimate indoor comfort, but also to guarantee long & trouble free operations.

Here lies the reason for the choice of only the highest quality components and design strategist to meet the most important objective such as:

- EFFICIENCY
- RELIABILITY
- FLEXIBILITY
- EASY INSTALLABILITY
- SERVICEABILITY
- AFFORDABILITY

FEATURES

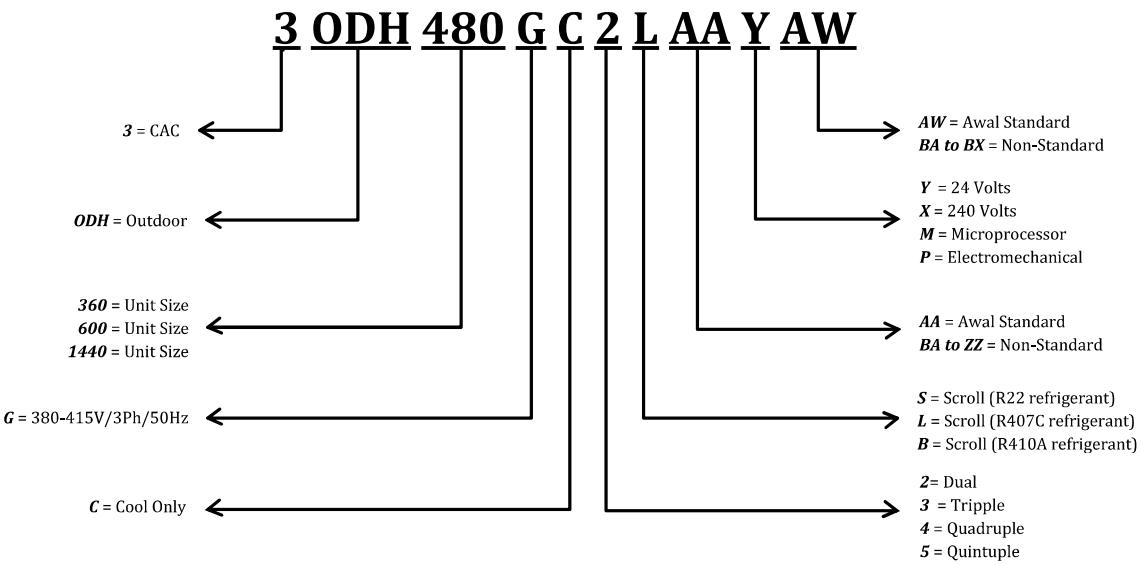
Standard Features

- Refrigerant: R410A.
- Power supply: 380-415V/3Ph/50Hz.
- High pressure & low pressure cut out.
- Weather resistant steel cabinet, qualified for 1,000 hours of Salt Spray Test.
- Fully hermetic Scroll compressors.
- Factory wired with with Single Point Power Input.
- Coils are leak tested & Pressure tested for 550psig.
- Condenser fans are Propeller type direct drive, draw through Vertical Discharge with fan guard mounted to the panel.
- All units are provided with Compressor Lockout either by locking Relays or by High Pressure control trip with manual reset switch.
- Coils are with copper tubes & aluminium fins.
- Condenser motor is with IP55 construction and with Class F insulation.
- Power controller, High/Low voltage, Phase loss/Reversal protection.
- All units are designed to operate with 24V Universal Thermostat.
- Internal motor protection for outdoor motors.
- Compressor protection against High Discharge Temperature.
- Unit can operate at 52°C ambient without tripping as per ARI conditions.
- Filter drier loose item.

Optional Features

- Sight glass
- Crank case heater
- Copper fins for condenser coils.
- Heresite coating on the condenser coils.
- Overload external protection for compressor & condenser fan.
- Compressor alternating switch.
- Hour run meter.
- Fan cycling switch.
- Low ambient switch.
- Rotolock compressor.
- Circuit breaker (MCB) for Compressor & Condenser fans.
- Pump down system.
- Dual adjustable switch.
- Hot gas bypass.
- Pressure gauges.
- PCB controller.
- Advanced Microprocessor Controller.
- Adjustable voltage monitor.
- Adjustable pressure switch.
- Volt free contacts for compressor, ON/OFF/Trip status.

MODEL DECODING



	Description	WITH 14,15TH LETTERS OF DECODING			
		YAW	XAW	MAW	PAW
		ELECTRO MECHANICAL	ELECTRO MECHANICAL	MICROPROCESSOR BASED CONTROLLER	PCB CONTROLLER
FEATURES	MAIN CONTROL	24V Thermostat/ 24V DDC	240V Thermostat/ 240V DDC	With room unit HMI	24V Thermostat/ 24V DDC
	HP CONTROL	Manual reset swicth	Manual reset switch	Auto reset switch with Lockout in Controller	Auto reset switch with lockout in PCB Controller
	LP CONTROL	Auto reset switch	Auto reset switch	Auto reset switch (Selectable reset type) After that lockout in controller	Auto reset switch (3 times Auto reset) After that lockout in PCB Controller)
	TIMERS	Fixed separate timer	Fixed separate timer	Adjustable inbuilt Microprocessor timers	Fixed inbult PCB timers
	COMPRESSOR ANTI RECYCLING	With fixed timers	With fixed timers	With adjustable timers	With fixed timers
	FAULT IDENTIFICATION	Physical check required	Physical check required	Fault codes/MSG in HMI	Fault LEDS in PCB
	LEAD LAG CONTROL	Optional	Optional	Selectable inbult feature	Inbuit feature (Compressor 1 Lead/ Balanced)
	VOLT FREE FOR BMS	Optional	Optional	Compressor ON/OFF status Compressor Trip status Remote ON/OFF CMD inbuilt	Compressor ON/OFF status Compressor Trip status Remote ON/OFF CMD inbuilt
	SW BMS (MODBUS/BACNET VIA RS485)	-	-	Optional	-

ENGINEERING SPECIFICATIONS

360K - 840K

TECHNICAL SPECIFICATIONS							
Description		**Unit of measurement**	**Engineering Specifications Higher Capacity Condensing Units**				
			3ODH360GC2B	**3ODH420GC2B**	**3ODH480GC2B**	**3ODH540GC2B**	**3ODH600GC2B**
Nominal Cooling Capacity @ 35°C (T_1)		Btu/Hr	357,945	419,944	459,037	526,257	589,459
Power Consumption @ 35°C (T_1)		kW	33.1	37.4	44.5	52.5	59.4
Nominal Cooling Capacity @ 46°C (T_3)		Btu/Hr	298,958	344,308	460,527	475,785	496,551
Power Consumption @ 46°C (T_3)		kW	36.8	39.5	49.5	61.1	71.8
Compressor	Power supply	----	380V/3Ph/50Hz				
	Type	----	Fully Hermetic Scroll				
	Quantity	nos	2				
	Protection	----	Internal				
Condenser Fan	Type	----	Propeller Direct Drive				
	Size (Dia)/Qty	----	30"/ 4 nos				
	Airflow	CFM	28,000	28,000	28,000	28,000	28,000
		l/s	13,215	13,215	13,215	13,215	13,215
Condenser Motor	Type	----	Totally enclosed, Air over Class F insulation and IP55 protection				
	Power supply	----	380V/3Ph/50Hz				
	Size/Qty	----	1.5HP/4 nos				
Condenser Coil	Coil Type	----	Air cooled coil with ⅜" dia Inner Grooved Copper tube & Corrugated Aluminium fins				
	Rows/FPI	----	3 or 4 number of rows with 16FPI or 14FPI fin spacing				
	Face Area	m^2	4.32	4.32	7.68	7.68	7.68
		ft^2	46.48	46.48	82.67	82.67	82.67
Total Refrigerant Operating Charge		kg	20.5	30.0	38.0	40.0	44.0
		lbs	45.2	66.1	83.8	88.2	97.0
Number of Refrigeration Circuits		nos	2	2	2	2	2
Unit Dimensions (LxWXH)		mm	2000 x 2050 x 1675		2097 x 2214 x 2506		
Approximate Unit Weight		kg	1,400	1,500	2,135	2,161	2,225
		lbs	3,086	3,307	4,707	4,764	4,905

Description		**Unit of measurement**	**Engineering Specifications Higher Capacity Condensing Units**			
			3ODH660GC3B	**3ODH720GC3B**	**3ODH780GC3B**	**3ODH840GC3B**
Nominal Cooling Capacity @ 35°C (T_1)		Btu/Hr	654,703	709,899	773,453	830,187
Power Consumption @ 35°C (T_1)		kW	64.6	66.6	72.7	80.7
Nominal Cooling Capacity @ 46°C (T_3)		Btu/Hr	573,126	712,806	724,382	733,164
Power Consumption @ 46°C (T_3)		kW	69.6	74.2	84.1	95.7
Compressor	Power supply	----	380V/3Ph/50Hz			
	Type	----	Fully Hermetic Scroll			
	Quantity	nos	3			
	Protection	----	Internal			
Condenser Fan	Type	----	Propeller Direct Drive			
	Size (Dia)/Qty	----	30"/ 6 nos			
	Airflow	CFM	42,000	42,000	42,000	42,000
		l/s	19,822	19,822	19,822	19,822
Condenser Motor	Type	----	Totally enclosed, Air over Class F insulation and IP55 protection			
	Power supply	----	380V/3Ph/50Hz			
	Size/Qty	----	1.5HP/6 nos			
Condenser Coil	Coil Type	----	Air cooled coil with ⅜" dia Inner Grooved Copper tube & Corrugated Aluminium fins			
	Rows/FPI	----	3 or 4 number of rows with 16FPI or 14FPI fin spacing			
	Face Area	m^2	11.52	11.52	11.52	11.52
		ft^2	124.01	124.01	124.01	124.01
Total Refrigerant Operating Charge		kg	85.0	93.0	100.0	108.0
		lbs	187.4	205.0	220.5	238.1
Number of Refrigerantion Circuits		nos	3	3	3	3
Unit Dimensions (LxWXH)		mm	3362 x 2212 x 2420			
Approximate Unit Weight		kg	3,270	3,340	3,440	3,460
		lbs	7,209	7,363	7,584	7,628

- Cooling capacity at 95°F (35°C) ambient temperature according to AHRI-365.
- Cooling capacity at high ambient temperature of 115°F (46.1°C) condenser entering air temperature & SST of 45°F (7.2°C).
- Only the Condensing unit is charged with the refrigerant and does not include refrigerant pipe lines and evaporator coil.
- Specifications are subjected to change without notice in accordance with our policy of continuous research and product development.

ENGINEERING SPECIFICATIONS

900K - 1440K

TECHNICAL SPECIFICATIONS

Description		Unit of measurement	Engineering Specifications Higher Capacity Condensing Units			
			3ODH900GC4B	3ODH960GC4B	3ODH1020GC4B	3ODH1080GC4B
Nominal Cooling Capacity @ 35°C (T_1)		Btu/Hr	890,085	919,305	1,010,105	1,069,049
Power Consumption @ 35°C (T_1)		kW	87.5	89.6	97.6	106.0
Nominal Cooling Capacity @ 46°C (T_3)		Btu/Hr	803,040	919,888	954,569	963,798
Power Consumption @ 46°C (T_3)		kW	95.0	99.4	111.1	123.5
Compressor	Power supply	----	380V/3Ph/50Hz			
	Type	----	Fully Hermetic Scroll			
	Quantity	nos	4			
	Protection	----	Internal			
Condenser Fan	Type	----	Propeller Direct Drive			
	Size (Dia)/Qty	----	30"/ 8 nos			
	Airflow	CFM	56,000	56,000	56,000	56,000
		l/s	26,429	26,429	26,429	26,429
Condenser Motor	Type	----	Totally enclosed, Air over Class F insulation and IP55 protection			
	Power supply	----	380V/3Ph/50Hz			
	Size/Qty	----	1.5HP/8 nos			
Condenser Coil	Coil Type	----	Air cooled coil with ⅜" dia Inner Grooved Copper tube & Corrugated Aluminium fins			
	Rows/FPI	----	3 or 4 number of rows with 16FPI or 14FPI fin spacing			
	Face Area	m^2	15.36	15.36	15.36	15.36
		ft^2	165.35	165.35	165.35	165.35
Total Refrigerant Operating Charge		kg	115.0	123.0	131.0	139.0
		lbs	253.5	271.2	288.8	306.4
Number of Refrigeration Circuits		nos	4	4	4	4
Unit Dimensions (LxWXH)		mm	4400 x 2085 x 2503			
Approximate Unit Weight		kg	3,580	3,600	3,745	3,765
		lbs	7,893	7,937	8,256	8,300

Description		Unit of measurement	Engineering Specifications Higher Capacity Condensing Units			
			3ODH1140GC4B	3ODH1200GC5B	3ODH1320GC5B	3ODH1440GC5B
Nominal Cooling Capacity @ 35°C (T_1)		Btu/Hr	1,125,759	1,165,468	1,312,392	1,419,564
Power Consumption @ 35°C (T_1)		kW	110.4	114.6	130.2	142.5
Nominal Cooling Capacity @ 46°C (T_3)		Btu/Hr	981,504	1,178,699	1,105,768	1,194,766
Power Consumption @ 46°C (T_3)		kW	131.5	129.1	156.7	172.2
Compressor	Power supply	----	380V/3Ph/50Hz			
	Type	----	Fully Hermetic Scroll			
	Quantity	nos	4	5		
	Protection	----	Internal			
Condenser Fan	Type	----	Propeller Direct Drive			
	Size (Dia)/Qty	----	30"/ 8 nos	30"/ 10 nos		
	Airflow	CFM	56,000	70,000	70,000	70,000
		l/s	26,429	33,036	33,036	33,036
Condenser Motor	Type	----	Totally enclosed, Air over Class F insulation and IP55 protection			
	Power supply	----	380V/3Ph/50Hz			
	Size/Qty	----	1.5HP/8 nos	1.5HP/10 nos		
Condenser Coil	Coil Type	----	Air cooled coil with ⅜" dia Inner Grooved Copper tube & Corrugated Aluminium fins			
	Rows/FPI	----	3 or 4 number of rows with 16FPI or 14FPI fin spacing			
	Face Area	m^2	15.36	19.20	19.20	19.20
		ft^2	165.35	206.68	206.68	206.68
Total Refrigerant Operating Charge		kg	146	155.0	165.0	175.0
		lbs	321.9	341.7	363.8	385.8
Number of Refrigeration Circuits		nos	4	5	5	5
Unit Dimensions (LxWXH)		mm	4400 x 2085 x 2503	5475 x 2085 x 2503		
Approximate Unit Weight		kg	3,785	4,409	4,520	4,600
		lbs	8,344	9,720	9,965	10,141

- Cooling capacity at 95°F (35°C) ambient temperature according to AHRI-365.
- Cooling capacity at high ambient temperature of 115°F (46.1°C) condenser entering air temperature & SST of 45°F (7.2°C).
- Only the Condensing unit is charged with the refrigerant and does not include refrigerant pipe lines and evaporator coil.
- Specifications are subjected to change without notice in accordance with our policy of continuous research and product development.

COOLING PERFORMANCE DATA

360K - 660K

MODEL:	3ODH360GC2B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	322.8	25.3	305.0	26.9	280.3	28.1	249.7	29.0	232.3	29.4
40.00	349.8	26.0	332.3	27.9	307.0	29.5	275.2	30.8	257.1	31.4
45.00	375.3	26.4	357.9	28.7	332.0	30.7	299.0	32.4	280.1	33.2
50.00	398.4	26.7	381.1	29.3	354.6	31.6	320.7	33.7	301.1	34.6
55.00	418.2	26.7	401.2	29.6	374.6	32.1	340.2	34.4	320.4	35.5

MODEL:	3ODH420GC2B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	379.4	29.5	359.1	30.3	327.6	30.2	287.3	29.6	264.2	29.1
40.00	410.7	30.4	391.7	31.8	359.7	32.4	317.9	32.5	293.7	32.4
45.00	437.8	30.9	419.9	33.0	387.6	34.3	344.3	35.1	319.2	35.3
50.00	458.3	31.0	442.3	33.7	410.2	35.6	366.3	36.9	340.6	37.5
55.00	470.0	30.3	457.4	33.6	427.0	36.0	383.8	37.8	358.3	38.6

MODEL:	3ODH480GC2B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	374.7	33.8	369.5	35.5	362.4	36.4	353.6	36.5	348.5	36.3
40.00	411.7	35.1	414.9	37.9	413.8	39.8	409.0	40.9	405.3	41.2
45.00	447.9	36.3	459.0	40.1	462.9	43.0	460.5	45.1	457.3	45.9
50.00	480.9	37.2	498.8	41.8	505.8	45.5	503.9	48.4	500.1	49.6
55.00	507.6	37.3	530.6	42.6	538.7	46.8	535.2	50.1	529.9	51.6

MODEL:	3ODH540GC2B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	457.6	40.4	435.7	43.7	412.3	46.9	387.4	50.1	551.5	61.4
40.00	501.6	42.1	480.9	45.9	457.8	49.7	432.3	53.5	418.7	55.4
45.00	546.5	43.8	526.3	48.1	502.6	52.4	475.8	56.7	461.1	59.0
50.00	591.0	45.3	570.4	50.0	545.3	54.7	516.0	59.5	499.8	61.9
55.00	634.0	46.5	611.8	51.4	584.2	56.4	551.5	61.4	533.4	63.9

MODEL:	3ODH600GC2B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	537.6	46.8	500.8	51.9	462.2	57.8	421.9	64.3	401.0	67.9
40.00	584.2	48.2	544.2	53.4	502.3	59.2	458.4	65.8	435.6	69.4
45.00	632.9	49.8	589.5	55.0	544.0	60.8	496.6	67.4	471.8	71.0
50.00	683.4	51.5	636.4	56.7	587.4	62.6	536.0	69.2	509.3	72.7
55.00	735.5	53.3	684.9	58.6	632.0	64.5	576.7	71.1	547.9	74.7

MODEL:	3ODH660GC3B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	571.1	50.9	549.1	52.8	512.7	53.3	464.6	52.6	436.6	51.9
40.00	620.9	52.4	604.6	55.6	570.4	57.4	522.0	58.1	493.2	58.1
45.00	665.6	53.4	654.7	58.0	622.2	61.1	573.1	63.0	543.4	63.7
50.00	701.6	53.7	696.2	59.4	665.6	63.6	616.2	66.7	585.8	67.9
55.00	724.9	52.9	726.0	59.6	698.3	64.6	649.8	68.5	619.3	70.2

Notes:

1. Cooling capacity at 95°F (35°C) ambient temperature according to AHRI-365.
2. Cooling capacity at high ambient temperature of 115°F (46.1°C) condenser entering air temperature & SST of 45°F (7.2°C).
3. Only the Condensing unit is charged with the refrigerant and does not include refrigerant pipe lines and evaporator coil.
4. The power is compressor power only
5. The specifications and data can change without notice due to constant scope of design and development.

COOLING PERFORMANCE DATA

720K - 1020K

MODEL:	3ODH720GC3B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	580.0	50.5	572.1	53.2	561.3	54.6	547.7	54.8	539.9	54.4
40.00	636.7	52.5	641.9	56.7	640.5	59.6	633.2	61.4	627.5	61.8
45.00	692.3	54.3	709.9	60.0	716.2	64.4	712.8	67.6	707.9	68.8
50.00	742.8	55.5	771.3	62.5	782.6	68.2	779.9	72.6	774.1	74.4
55.00	783.9	55.7	820.4	63.7	833.5	70.1	828.3	75.2	819.9	77.4

MODEL:	3ODH780GC3B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	661.1	55.9	636.8	60.1	609.8	63.8	580.3	67.1	564.6	68.6
40.00	724.1	57.9	705.2	63.2	681.8	68.0	653.9	72.5	638.4	74.6
45.00	787.8	59.9	773.5	66.1	752.1	72.0	724.4	77.5	708.1	80.2
50.00	850.4	61.6	838.9	68.6	817.8	75.3	788.1	81.7	770.1	84.9
55.00	909.1	62.7	898.5	70.3	875.6	77.4	841.8	84.3	821.0	87.7

MODEL:	3ODH840GC3B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	734.6	62.7	694.6	68.5	652.0	74.5	606.9	81.0	583.3	84.4
40.00	802.3	65.0	761.8	71.3	717.8	78.0	670.3	85.1	645.2	88.8
45.00	872.0	67.3	830.2	74.1	783.9	81.4	733.2	89.1	706.0	93.1
50.00	942.6	69.5	898.5	76.8	848.8	84.5	793.7	92.6	763.9	96.9
55.00	1,012.8	71.6	965.3	79.1	911.1	87.1	850.5	95.5	817.8	99.9

MODEL:	3ODH900GC4B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	764.4	68.3	739.3	71.0	698.0	71.9	643.2	71.3	611.2	70.4
40.00	833.5	70.5	817.8	75.1	781.0	77.9	727.3	79.1	694.8	79.2
45.00	897.0	72.3	890.1	78.7	856.8	83.2	803.0	86.2	769.6	87.2
50.00	950.0	73.0	951.4	81.1	921.2	87.1	867.0	91.6	832.4	93.4
55.00	986.9	72.3	997.0	81.6	970.1	88.7	916.1	94.3	880.8	96.6

MODEL:	3ODH960GC4B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	748.9	67.8	738.3	71.2	723.9	72.9	706.0	73.0	695.8	72.4
40.00	824.2	70.7	829.9	76.2	827.1	79.9	816.9	82.0	809.2	82.5
45.00	898.3	73.4	919.3	80.8	925.8	86.5	919.9	90.6	912.8	92.1
50.00	966.3	75.3	1,000.1	84.5	1,012.0	91.8	1,006.2	97.5	997.5	99.9
55.00	1,021.7	75.8	1,064.6	86.3	1,077.7	94.6	1,067.7	101.2	1,055.3	104.0

MODEL:	3ODH1020GC4B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	852.0	74.3	823.7	79.1	792.0	83.0	757.0	86.1	738.3	87.4
40.00	937.3	77.7	917.4	84.0	891.1	89.6	858.8	94.4	840.5	96.6
45.00	1,023.3	80.9	1,010.1	88.8	986.9	95.8	954.6	102.3	935.2	105.3
50.00	1,106.2	83.7	1,097.1	92.8	1,074.0	101.1	1,038.5	108.7	1,016.3	112.4
55.00	1,181.7	85.4	1,173.4	95.3	1,147.0	104.3	1,105.1	112.6	1,078.8	116.6

Notes:

1. Cooling capacity at 95°F (35°C) ambient temperature according to AHRI-365.
2. Cooling capacity at high ambient temperature of 115°F (46.1°C) condenser entering air temperature & SST of 45°F (7.2°C).
3. Only the Condensing unit is charged with the refrigerant and does not include refrigerant pipe lines and evaporator coil.
4. The power is compressor power only
5. The specifications and data can change without notice due to constant scope of design and development.

COOLING PERFORMANCE DATA

1080K - 1440K

MODEL:	3ODH1080GC4B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	930.7	81.5	885.9	87.9	837.9	94.3	786.7	100.7	759.7	103.9
40.00	1,020.1	85.0	977.4	92.6	929.7	100.2	877.0	107.8	848.7	111.7
45.00	1,111.2	88.6	1,069.0	97.2	1,019.8	105.9	963.8	114.7	933.1	119.2
50.00	1,201.5	91.9	1,157.9	101.3	1,105.1	110.8	1,043.6	120.5	1,009.3	125.5
55.00	1,288.1	94.6	1,240.8	104.5	1,182.3	114.5	1,043.6	120.5	1,074.5	129.8

MODEL:	3ODH1140GC4B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	1,004.3	86.0	945.9	94.3	884.0	103.2	818.6	113.0	784.3	118.2
40.00	1,095.4	89.0	1,034.7	97.9	969.6	107.5	900.0	117.9	863.3	123.4
45.00	1,189.7	92.2	1,125.8	101.6	1,056.4	111.7	981.5	122.7	941.7	128.6
50.00	1,285.7	95.4	1,217.5	105.2	1,142.8	115.8	1,061.4	127.3	1,018.0	133.4
55.00	1,382.1	98.4	1,308.4	108.5	1,227.1	119.4	1,138.2	131.2	1,090.8	137.4

MODEL:	3ODH1200GC5B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	959.0	87.8	947.3	93.2	930.3	96.1	908.7	96.9	896.2	96.4
40.00	1,046.6	90.6	1,057.9	98.7	1,058.1	104.3	1,048.2	107.9	1,039.8	108.9
45.00	1,131.4	92.9	1,165.5	103.6	1,180.4	112.0	1,178.7	118.1	1,172.3	120.5
50.00	1,207.8	94.2	1,262.6	107.4	1,288.3	117.9	1,289.8	126.3	1,282.7	129.8
55.00	1,269.0	94.0	1,340.8	108.8	1,372.3	120.8	1,371.6	130.4	1,361.1	134.6

MODEL:	3ODH1320GC5B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	1,197.4	101.9	1,115.8	112.8	1,029.8	125.3	939.6	139.2	892.6	146.8
40.00	1,300.5	104.8	1,211.9	115.9	1,118.7	128.4	1,020.9	142.3	969.8	149.9
45.00	1,408.3	108.0	1,312.4	119.2	1,211.6	131.7	1,105.8	145.7	1,050.5	153.2
50.00	1,520.5	111.5	1,416.9	122.8	1,308.1	135.3	1,193.8	149.3	1,134.2	156.9
55.00	1,636.2	115.3	1,524.6	126.6	1,407.5	139.3	1,284.5	153.3	1,220.5	160.9

MODEL:	3ODH1440GC5B									
SST (°F)	85.00		95.00		105.00		115.00		120.00	
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
35.00	1,296.3	112.0	1,208.1	124.1	1,115.2	138.0	1,017.4	153.6	966.2	162.2
40.00	1,407.5	115.5	1,311.6	127.7	1,210.7	141.5	1,104.3	157.2	1,048.7	165.8
45.00	1,523.5	119.2	1,419.6	131.5	1,310.1	145.5	1,194.8	161.2	1,134.4	169.8
50.00	1,643.7	123.3	1,531.3	135.8	1,412.9	149.9	1,288.1	165.6	1,222.6	174.3
55.00	1,767.4	127.8	1,646.1	140.4	1,518.4	154.6	1,383.5	170.5	1,313.0	179.2

Notes:

1. Cooling capacity at 95°F (35°C) ambient temperature according to AHRI-365.
2. Cooling capacity at high ambient temperature of 115°F (46.1°C) condenser entering air temperature & SST of 45°F (7.2°C).
3. Only the Condensing unit is charged with the refrigerant and does not include refrigerant pipe lines and evaporator coil.
4. The power is compressor power only
5. The specifications and data can change without notice due to constant scope of design and development.

ELECTRICAL DATA

380-415V-3PH-50HZ ("G" VOLTAGE) POWER SUPPLY

Model	Operating Voltage		Compressor			Condenser Motor			MCA	MOCP
	Min	Max	RLA	LRA	Qty	HP	FLA	Qty	Cool	Cool
3ODH360GC2B	342	456	33.90	225.00	1	1.5	3	4	82	116
			27.90	173.00	1					
3ODH420GC2B	342	456	33.90	225.00	2	1.5	3	4	88	122
3ODH480GC2B	342	456	46.70	272.00	2	1.5	3	4	117	164
3ODH540GC2B	342	456	60.71	310.00	1	1.5	3	4	135	195
			46.70	272.00	1					
3ODH600GC2B	342	456	60.71	310.00	2	1.5	3	4	149	209
3ODH660GC3B	342	456	46.70	272.00	1	1.5	3	6	144	191
			33.90	225.00	2					
3ODH720GC3B	342	456	46.70	272.00	3	1.5	3	6	170	216
3ODH780GC3B	342	456	60.71	310.00	1	1.5	3	6	187	248
			46.70	272.00	2					
3ODH840GC3B	342	456	60.71	310.00	2	1.5	3	6	201	262
			46.70	272.00	1					
3ODH900GC4B	342	456	33.90	225.00	2	1.5	3	8	197	244
			46.70	272.00	2					
3ODH960GC4B	342	456	46.70	272.00	4	1.5	3	8	222	269
3ODH1020GC4B	342	456	60.71	310.00	1	1.5	3	8	240	301
			46.70	272.00	3					
3ODH1080GC4B	342	456	46.70	272.00	2	1.5	3	8	254	315
			60.71	310.00	2					
3ODH1140GC4B	342	456	60.71	310.00	3	1.5	3	8	268	329
			46.70	272.00	1					
3ODH1200GC5B	342	456	46.70	272.00	5	1.5	3	10	275	322
3ODH1320GC5B	342	456	60.71	310.00	2	1.5	3	10	307	367
			46.70	272.00	3					
3ODH1440GC5B	342	456	60.71	310.00	4	1.5	3	10	335	395
			46.70	272.00	1					

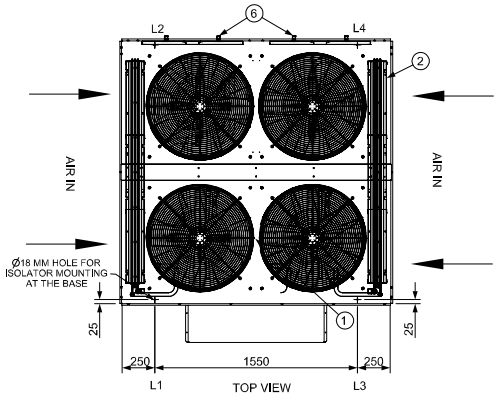
Legends:

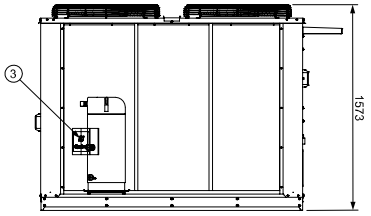
RLA : Rated Load Ampere.
LRA: Locked Rotor Ampere.
FLA: Full Load Amperes.

GENERAL ARRANGEMENT DRAWINGS

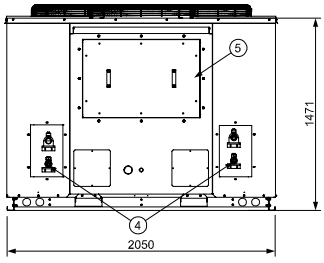
30TR - 35TR

S.NO	LEGENDS
1	COND. FAN, MOTOR & GRILL
2	CONDENSOR COIL
3	COMPRESSOR
4	SERVICE VALVES
5	CONTROL PANEL ACCESS
6	COMPRESSOR ACCESS

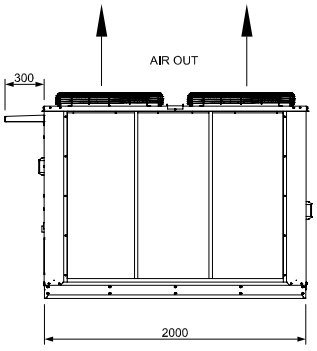




LHS VIEW



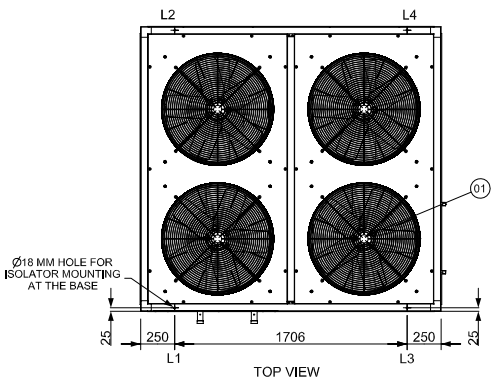
FRONT VIEW

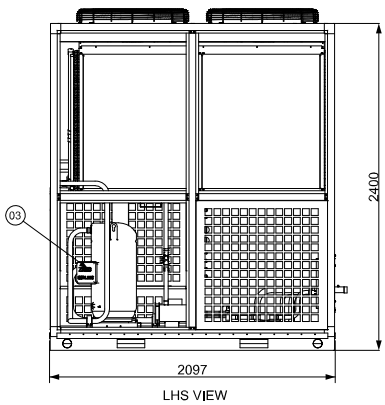


RHS VIEW

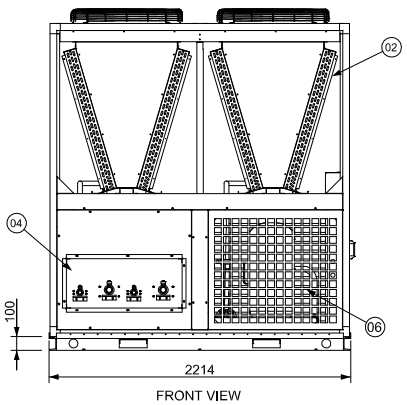
40TR - 45TR - 50TR

S.NO	LEGENDS
1	COND.FAN, MOTOR & GRILL
2	CONDENSOR COIL
3	COMPRESSORS
4	SERVICE VALVES
5	CONTROL PANEL ACCESS
6	COMPRESSOR ACCESS

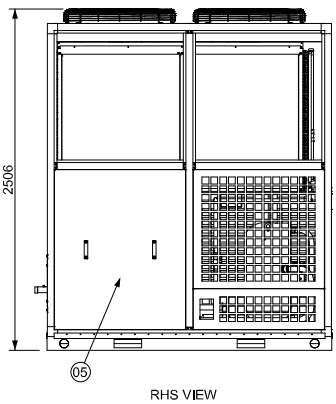




LHS VIEW



FRONT VIEW

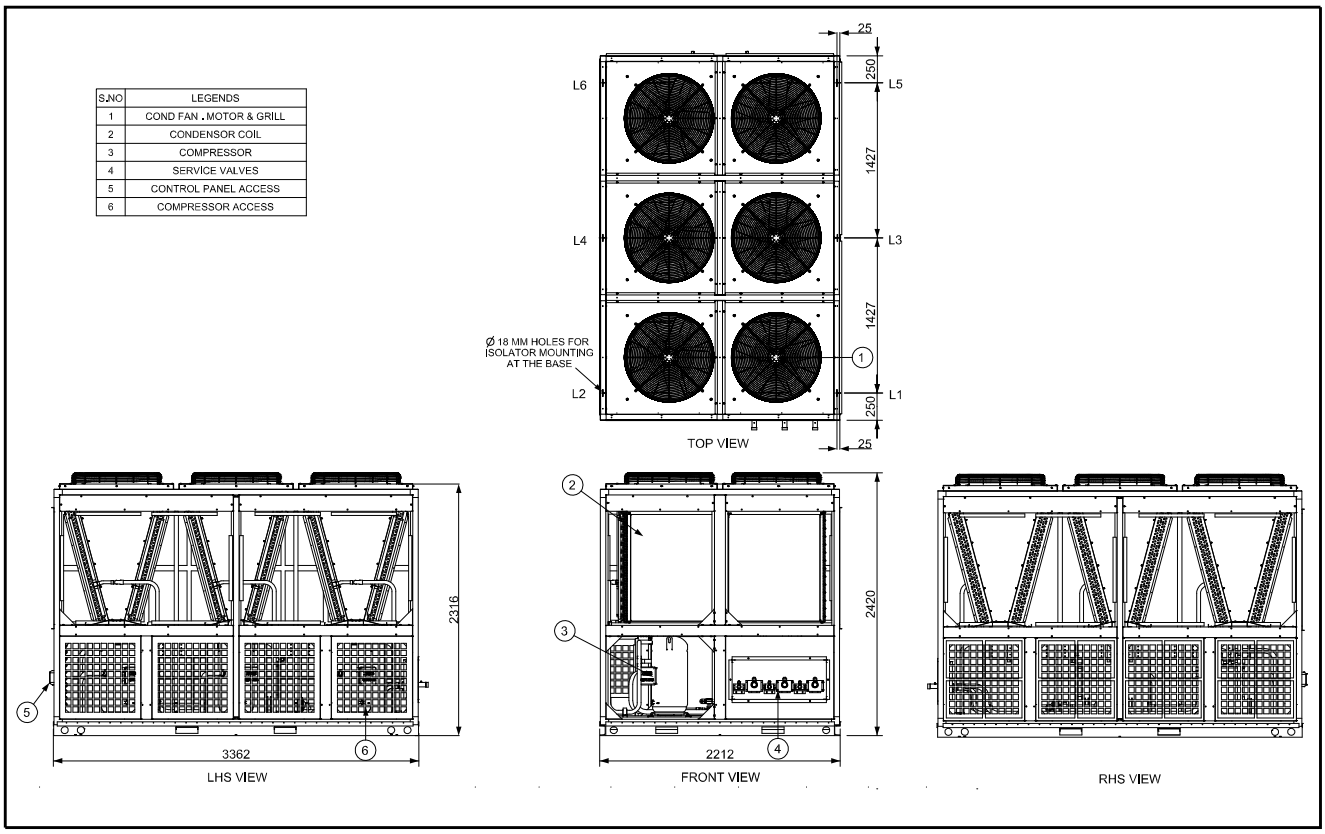


RHS VIEW

GENERAL ARRANGEMENT DRAWINGS

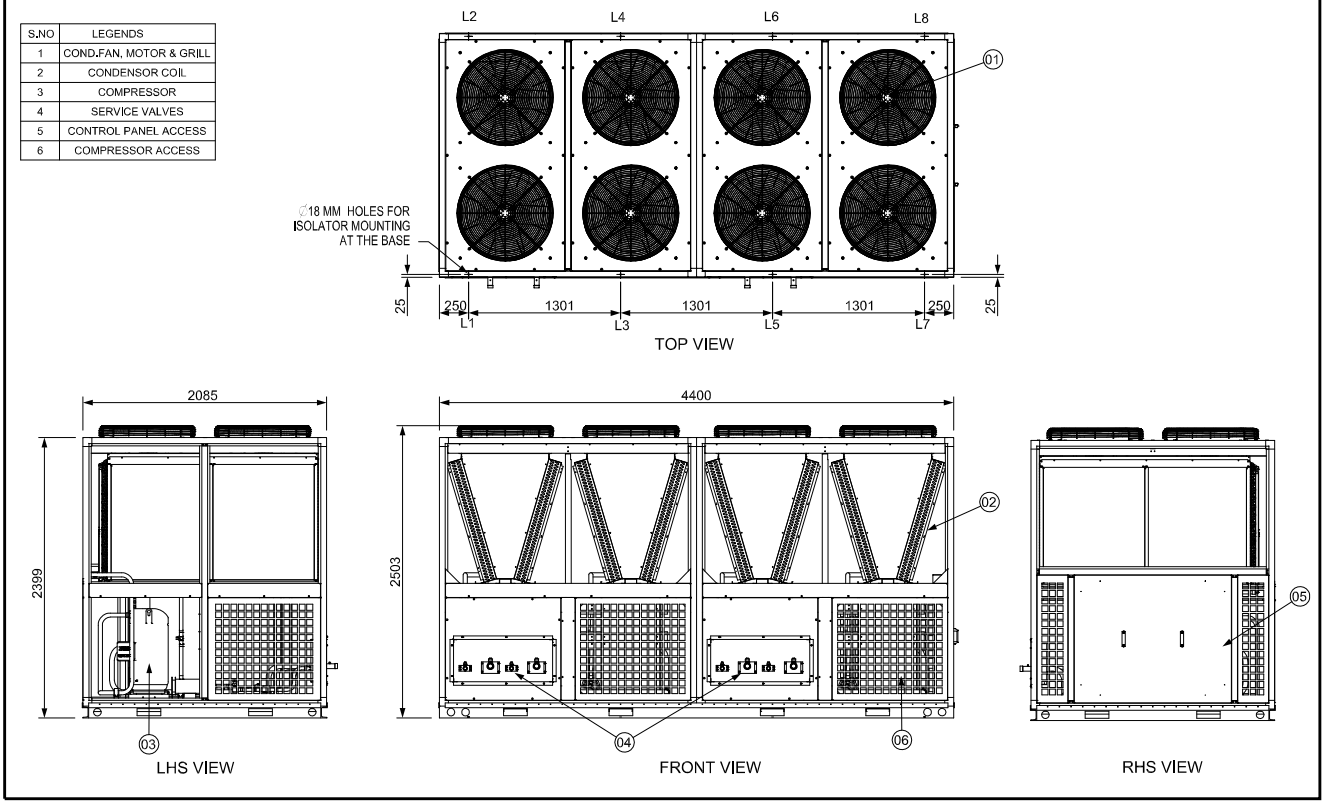
55TR - 60TR - 65TR - 70TR

S.NO	LEGENDS
1	COND FAN , MOTOR & GRILL
2	CONDENSOR COIL
3	COMPRESSOR
4	SERVICE VALVES
5	CONTROL PANEL ACCESS
6	COMPRESSOR ACCESS



75TR - 80TR - 90TR - 95TR

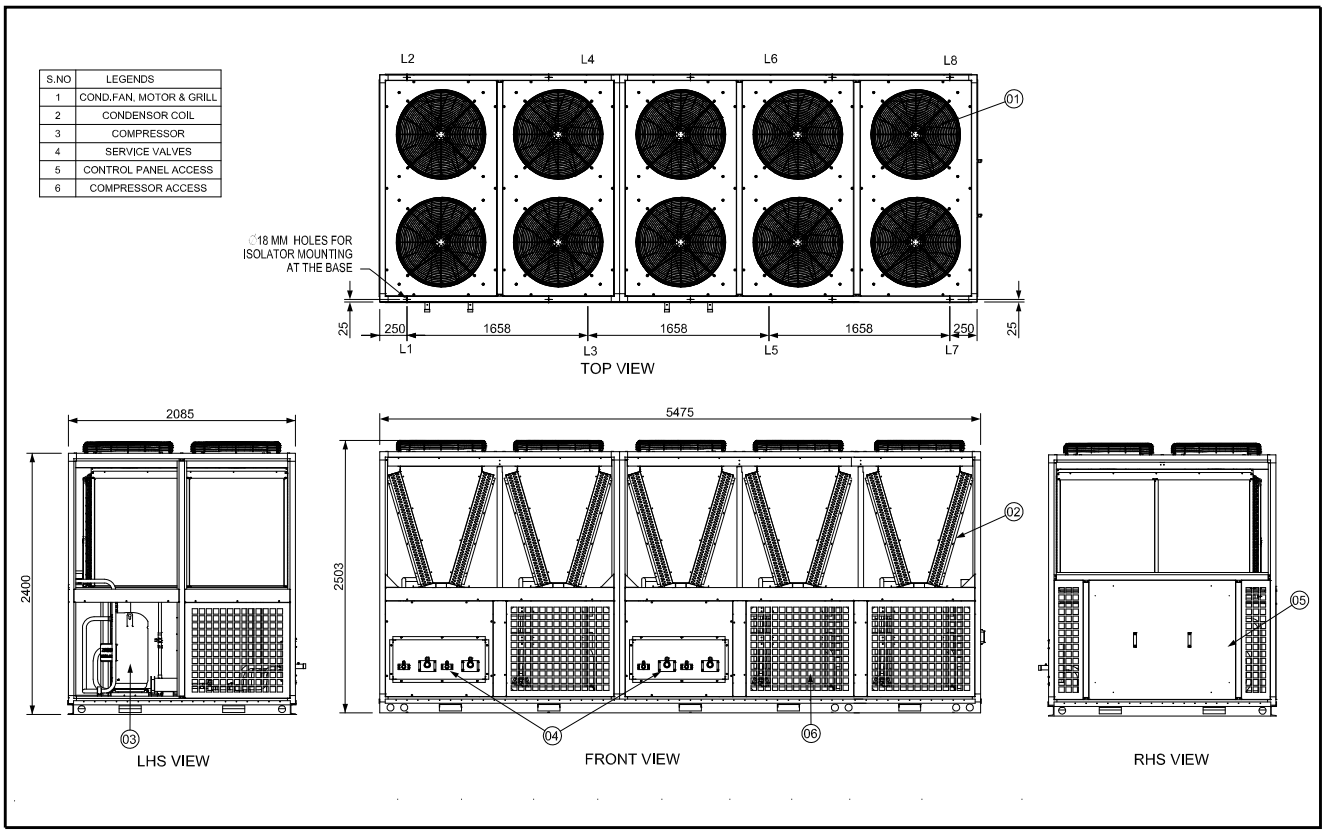
S.NO	LEGENDS
1	COND.FAN, MOTOR & GRILL
2	CONDENSOR COIL
3	COMPRESSOR
4	SERVICE VALVES
5	CONTROL PANEL ACCESS
6	COMPRESSOR ACCESS



GENERAL ARRANGEMENT DRAWINGS

100TR - 105TR - 110TR - 115TR - 120TR

S.NO	LEGENDS
1	COND.FAN, MOTOR & GRILL
2	CONDENSOR COIL
3	COMPRESSOR
4	SERVICE VALVES
5	CONTROL PANEL ACCESS
6	COMPRESSOR ACCESS



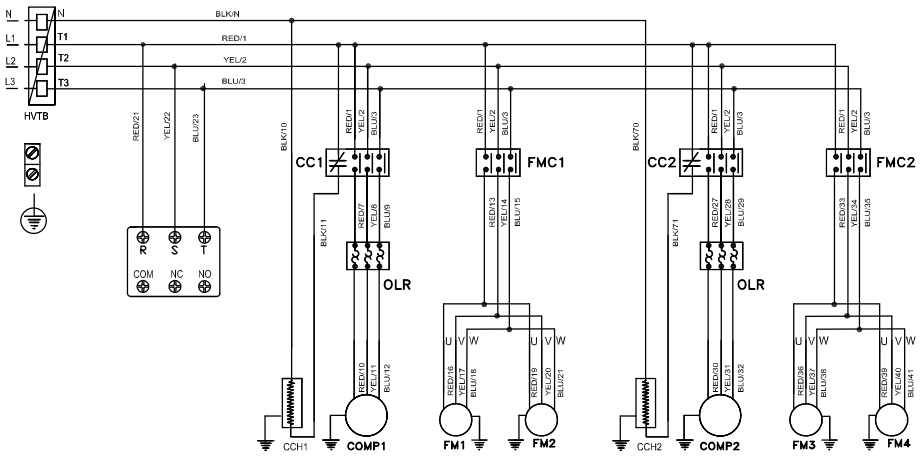
WIRING DIAGRAM
2 REFRIGERATION CIRCUITS

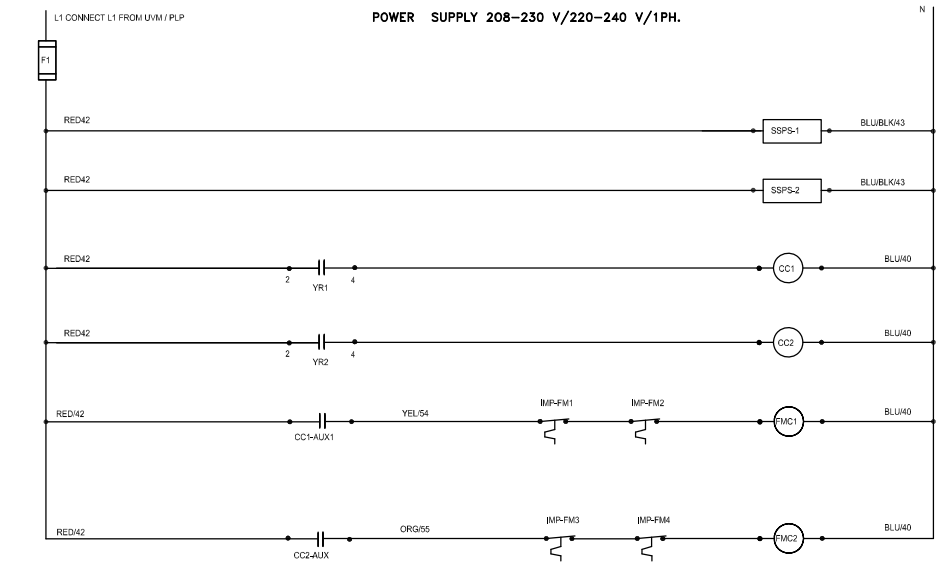
POWER SUPPLY
THIS WIRING DIAGRAM SUITS
380–415 V / 3 PH / 50 HZ WITH NEUTRAL
380–400 V / 3 PH / 60 HZ WITH NEUTRAL
PL. REFER UNIT NAME PLATE FOR YOUR UNIT'S POWER SUPPLY

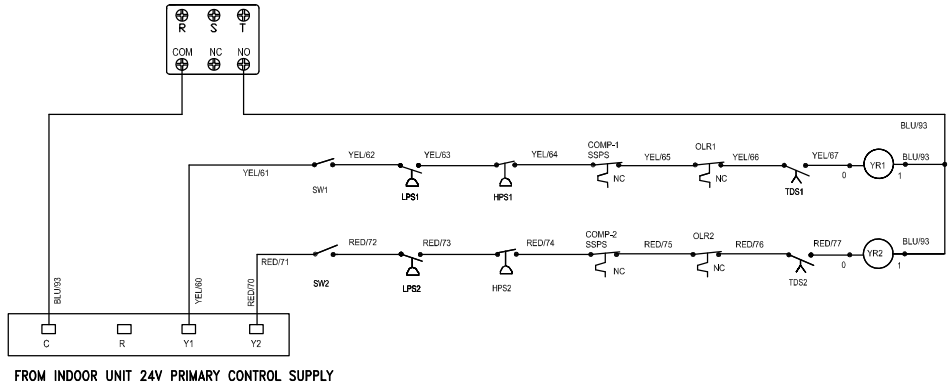
WIRING DIAGRAM FOR OUTDOOR UNIT

AWAL GULF MANUFACTURING Co. BSC (C)
SITRA, BAHRAIN.

WARNING
THIS UNIT IS BUILT AND WIRED ACCORDING TO COMPANY STANDARDS AND / OR JOB ORDER'S SPECIFICATIONS. ANY UNAUTHORISED CHANGE OR MODIFICATION WILL MAKE WARRANTY NULL & VOID.







FROM INDOOR UNIT 24V PRIMARY CONTROL SUPPLY

LEGEND

BLK	- BLACK
BLU	- BLUE
BRN	- BROWN
CCH	- CRANK CASE HEATER
COMP	- COMPRESSOR
F	- FUSE
CC	- COMP CONTACTOR
FM	- FAN MOTOR
FMC	- FAN MOTOR CONTACTOR
HPS	- HIGH PRESSURE SWITCH
HTR	- HEATER
HVTB	- HIGH VOLTAGE TERMINAL BLOCK
L	- LINE
LPS	- LOW PRESSURE SWITCH
LVTB	- LOW VOLTAGE TERMINAL BLOCK
N	- NEUTRAL
NC	- NORMALLY CLOSED
NO	- NORMALLY OPEN
OHT	- OVER HEAT THERMOSTAT
OLR	- OVER LOAD RELAY
OPT	- OPTIONAL
PLP	- PHASE LOSS PROTECTION
RED	- RED
SSPS	- SOLID STATE PROTECTION SYS.
SW	- SWITCH ON/ OFF
TDS	- TIME DELAY SWITCH
TRANS	- TRANSFORMER
UVM	- UNDER VOLTAGE MONITOR
YEL	- YELLOW
— — —	- FIELD WIRING
•	- TERMINAL / SPLICE
- - - - -	- OPTIONAL MARKING
⏚	- EARTHING

NOTES:

1) ANY WIRE REPLACEMENT SHOULD BE OF 90°C TYPE OR EQUALENT AND COPPER CONDUCTOR ONLY.

2) POWER MUST BE SUPPLIED TO CRANK CASE HEATER FOR A MINIMUM OF 12 HOURS PRIOR TO START UP. IF THE POWER SUPPLY HAS BEEN INTERRUPTED FOR LONGER PERIOD THEN AGAIN CRANK CASE HEATER MUST BE ENERGIZED FOR MINIMUM OF 12 HOURS BEFORE STARTING OF COMPRESSOR.

3) FUSED DISCONNECT SWITCH OR CIRCUIT BREAKER TO BE PROVIDED BY THE USER WITH RELEVENT RATING.

4) PLEASE ALLOW 2 TO 3 MINUTES BEFORE STARTING OF COMPRESSOR.

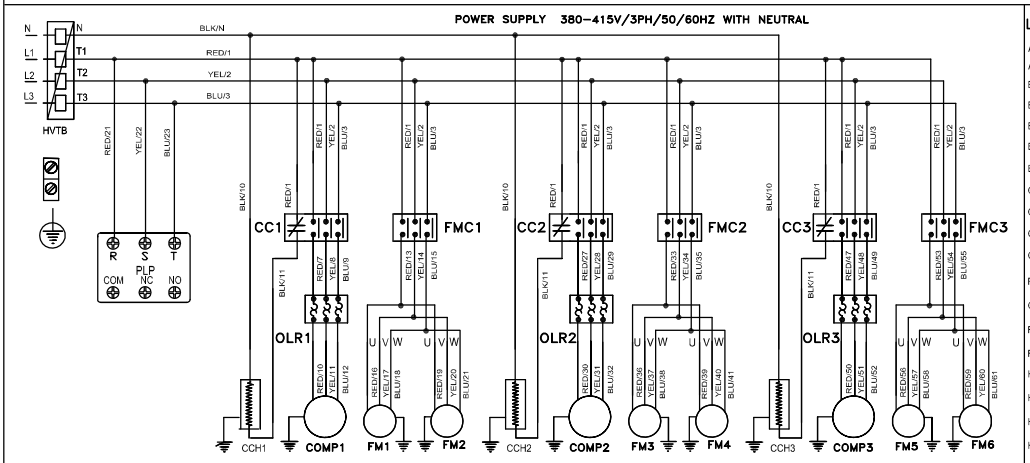
5) COMPRESSOR IS PROVIDED WITH INTERNAL OVERLOAD PROTECTION.

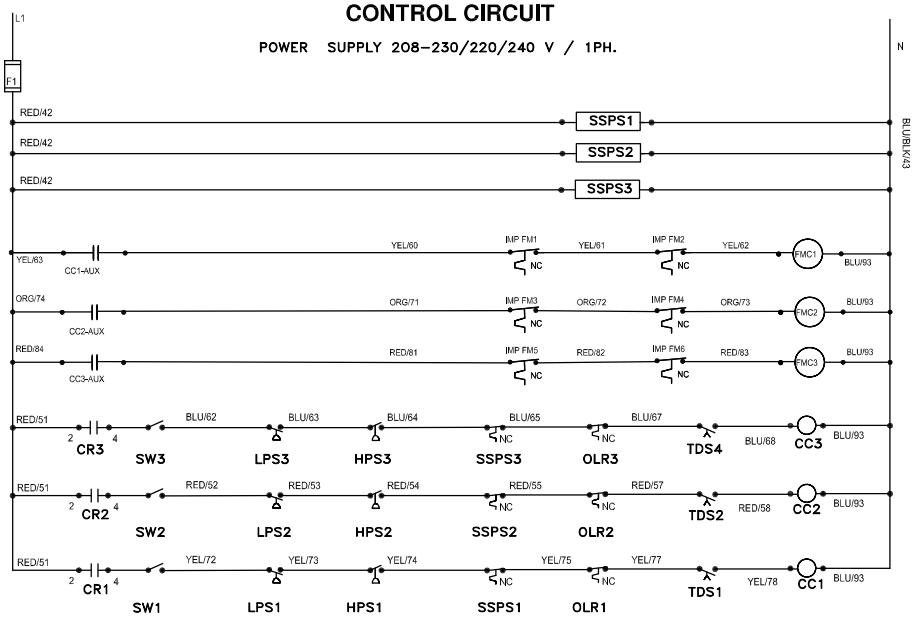
6) REFER INSTRUCTIONS WITH THE COMPONENTS FOR STAR/DELTA CONNECTIONS.

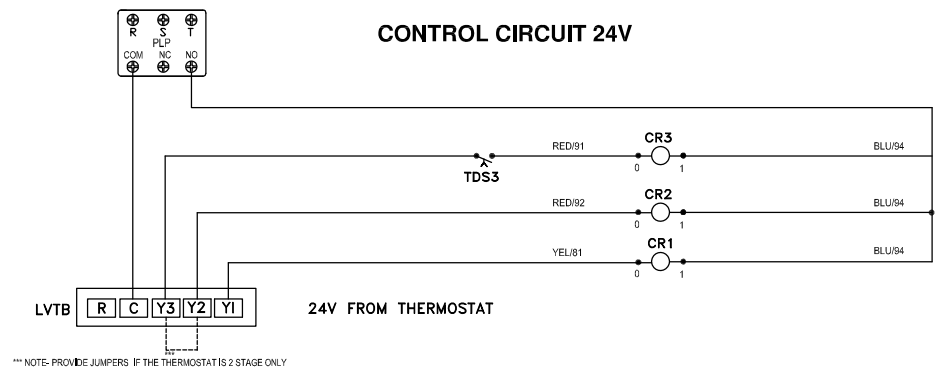
WIR. DIA–ODU–2COMP–4FM–SPL		
C240287	1BC011B28	03

WIRING DIAGRAM
3 REFRIGERATION CIRCUITS

POWER SUPPLY	OUTDOOR UNIT WIRING DIAGRAM	AWAL GULF MANUFACTURING Co. BSC (C) SITRA, BAHRAIN.
THIS WIRING DIAGRAM SUITS 380–415 V / 3 PH / 50 HZ WITH NEUTRAL 380–400 V / 3 PH / 60 HZ WITH NEUTRAL PL. REFER UNIT NAME PLATE FOR YOUR UNIT'S POWER SUPPLY	WARNING THIS UNIT IS BUILT AND WIRED ACCORDING TO COMPANY STANDARDS AND / OR JOB ORDER'S SPECIFICATIONS. ANY UNAUTHORISED CHANGE OR MODIFICATION WILL MAKE WARRANTY NULL & VOID.	







LEGEND

AFS	- AIR FLOW SWITCH
AI	- ANTI ICE
BLK	- BLACK
BLU	- BLUE
BM	- BLOWER MOTOR
BMC	- BLOWER MOTOR CONTACTOR
BRN	- BROWN
CCH	- CRANK CASE HEATER
CB	- CIRCUIT BREAKER
COMP	- COMPRESSOR
CR	- COOLING RELAY
F	- FUSE
CC	- COMP CONTACTOR
FM	- FAN MOTOR
FMC	- FAN MOTOR CONTACTOR
HC	- HEATER CONTACTOR
HPS	- HIGH PRESSURE SWITCH
HTR	- HEATER
HVTB	- HIGH VOLTAGE TERMINAL BLOCK
IMP	- INTERNAL MOTOR PROTECTION
L	- LINE
LPS	- LOW PRESSURE SWITCH
LVTB	- LOW VOLTAGE TERMINAL
N	- NEUTRAL
NC	- NORMALLY CLOSED
NO	- NORMALLY OPEN
OHT	- OVER HEAT THERMOSTAT
OLR	- OVER LOAD RELAY
OPT	- OPTIONAL
PLP	- PHASE LOSS PROTECTION
RED	- RED
SSPS	- SOLID STATE PROTECTION SYS.
SW	- SWITCH ON/ OFF
TDS	- TIME DELAY SWITCH
UVM	- UNDER VOLTAGE MONITOR
YEL	- YELLOW
— — —	- FIELD WIRING
•	- TERMINAL / SPLICE
- - - - -	- OPTIONAL MARKING
⏚	- EARTHING

NOTES:

1) ANY WIRE REPLACEMENT SHOULD BE OF 90°C TYPE OR EQUALENT AND COPPER CONDUCTOR ONLY.

2) POWER MUST BE SUPPLIED TO CRANK CASE HEATER FOR A MINIMUM OF 12 HOURS PRIOR TO START UP. IF THE POWER SUPPLY HAS BEEN INTERRUPTED FOR LONGER PERIOD THEN AGAIN CRANK CASE HEATER MUST BE ENERGISED FOR MINIMUM OF 12 HOURS BEFORE STARTING OF COMPRESSOR.

3) FUSED DISCONNECT SWITCH OR CIRCUIT BREAKER TO BE PROVIDED BY THE USER WITH RELEVENT RATING.

4) PLEASE ALLOW 2 TO 3 MINUTES BEFORE STARTING OF COMPRESSOR.

5) COMPRESSOR IS PROVIDED WITH INTERNAL OVERLOAD PROTECTION.

6) REFER INSTRUCTIONS WITH THE COMPONENTS FOR STAR/DELTA CONNECTIONS.

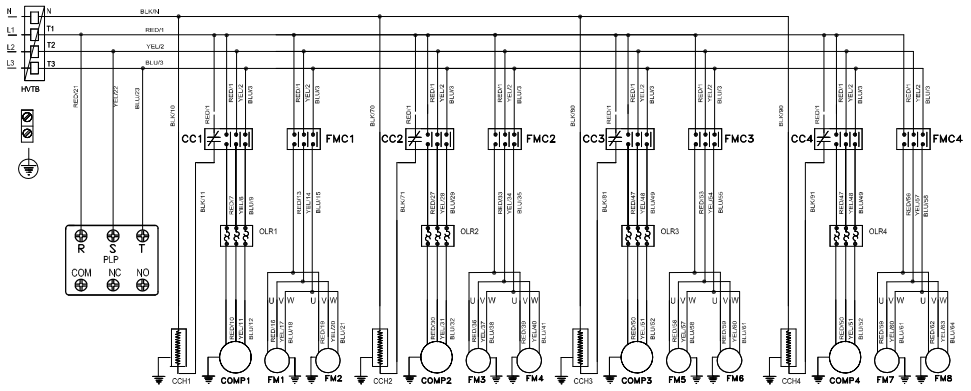
WIR. DIA–ODU–3 COMP		
C240219	1BCO11A15	02

WIRING DIAGRAM
4 REFRIGERATION CIRCUITS

POWER SUPPLY	OUTDOOR UNIT WIRING DIAGRAM	AWAL GULF MANUFACTURING Co. BSC (C)
THIS WIRING DIAGRAM SUITS 380–415 V / 3 PH / 50 HZ WITH NEUTRAL 380–400 V / 3 PH / 60 HZ WITH NEUTRAL PL. REFER UNIT NAME PLATE FOR YOUR UNIT'S POWER SUPPLY		SITRA, BAHRAIN.

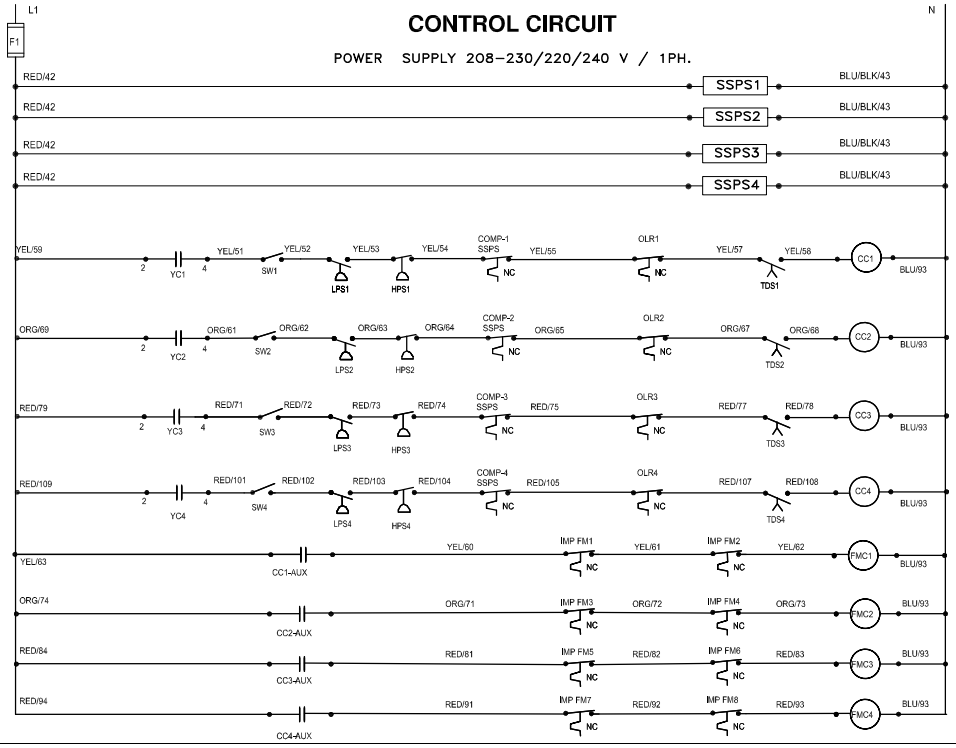
WARNING
THIS UNIT IS BUILT AND WIRED ACCORDING TO COMPANY STANDARDS AND / OR JOB ORDER'S SPECIFICATIONS. ANY UNAUTHORISED CHANGE OR MODIFICATION WILL MAKE WARRANTY NULL & VOID.

POWER SUPPLY 380–415V/3PH/50/60HZ WITH NEUTRAL

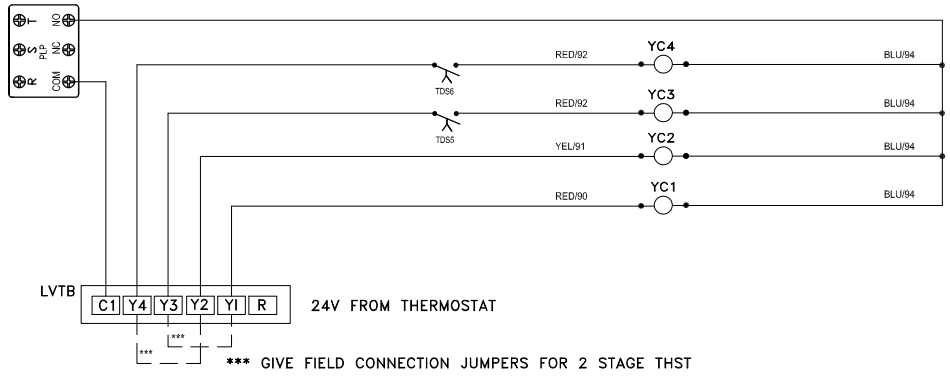


CONTROL CIRCUIT

POWER SUPPLY 208–230/220/240 V / 1PH.



CONTROL CIRCUIT 24V



LEGEND

AFS	- AIR FLOW SWITCH
AI	- ANTI ICE
BLK	- BLACK
BLU	- BLUE
BM	- BLOWER MOTOR
BMC	- BLOWER MOTOR CONTACTOR
BRN	- BROWN
CCH	- CRANK CASE HEATER
CB	- CIRCUIT BREAKER
COMP	- COMPRESSOR
CR	- COOLING RELAY
F	- FUSE
CC	- COMP CONTACTOR
FM	- FAN MOTOR
FMC	- FAN MOTOR CONTACTOR
HC	- HEATER CONTACTOR
HPS	- HIGH PRESSURE SWITCH
HTR	- HEATER
HVTB	- HIGH VOLTAGE TERMINAL BLOCK
IMP	- INTERNAL MOTOR PROTECTION
L	- LINE
LPS	- LOW PRESSURE SWITCH
LVTB	- LOW VOLTAGE TERMINAL BLOCK
N	- NEUTRAL
NC	- NORMALLY CLOSED
NO	- NORMALLY OPEN
OHT	- OVER HEAT THERMOSTAT
OLR	- OVER LOAD RELAY
OPT	- OPTIONAL
PLP	- PHASE LOSS PROTECTION
RED	- RED
SSPS	- SOLID STATE PROTECTION SYS.
SW	- SWITCH ON/ OFF
TDS	- TIME DELAY SWITCH
UVM	- UNDER VOLTAGE MONITOR
YEL	- YELLOW
— — —	- FIELD WIRING
•	- TERMINAL / SPLICE
- - - - -	- OPTIONAL MARKING
⏚	- EARTHING

NOTES:

1) ANY WIRE REPLACEMENT SHOULD BE OF 90°C TYPE OR EQUALENT AND COPPER CONDUCTOR ONLY.

2) POWER MUST BE SUPPLIED TO CRANK CASE HEATER FOR A MINIMUM OF 12 HOURS PRIOR TO START UP. IF THE POWER SUPPLY HAS BEEN INTERRUPTED FOR LONGER PERIOD THEN AGAIN CRANK CASE HEATER MUST BE ENERGIZED FOR MINIMUM OF 12 HOURS BEFORE STARTING OF COMPRESSOR.

3) FUSED DISCONNECT SWITCH OR CIRCUIT BREAKER TO BE PROVIDED BY THE USER WITH RELEVENT RATING.

4) PLEASE ALLOW 2 TO 3 MINUTES BEFORE STARTING OF COMPRESSOR.

5) COMPRESSOR IS PROVIDED WITH INTERNAL OVERLOAD PROTECTION.

WIR. DIA–ODU–4COMP		
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WIRING DIAGRAM
5 REFRIGERATION CIRCUITS

POWER SUPPLY
THIS WIRING DIAGRAM SUITS

380–415 VOLTS / 3 PH / 50 HZ WITH NEUTRAL

380–400 VOLTS / 3 PH / 60 HZ WITH NEUTRAL

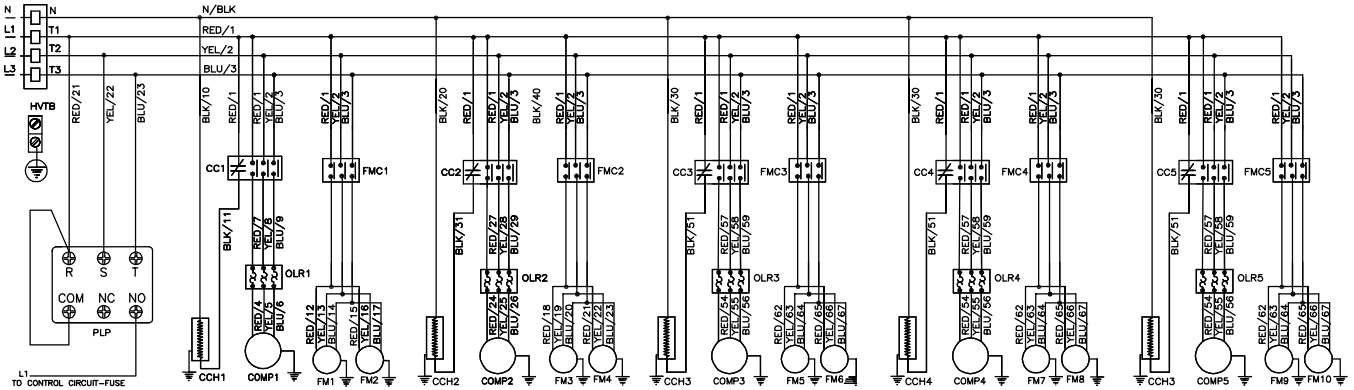
PL. REFER UNIT NAME PLATE FOR YOUR UNIT'S POWER SUPPLY

WIRING DIAGRAM FOR OUTDOOR UNIT

WARNING

THIS UNIT IS BUILT AND WIRED ACCORDING TO COMPANY STANDARDS AND / OR JOB ORDER'S SPECIFICATIONS. ANY UNAUTHORISED CHANGE OR MODIFICATION OR SETTING OF ROOM THERMOSTAT TEMPERATURE BELOW 60 F WILL MAKE WARRANTY NULL & VOID.

POWER SUPPLY (SEE NOTE 6)



LEGEND

BLK	– BLACK	HVTB	– HIGH VOLTAGE TERMINAL BLOCK	SSPS	– SOLID STATE PROTECTION SYS.
BLU	– BLUE	L	– LINE	SW	– SWITCH ON/ OFF
BM	– BLOWER MOTOR	LPS	– LOW PRESSURE SWITCH	TRANS	– TRANSFORMER
BRN	– BROWN	LVTB	– LOW VOLTAGE TERMINAL BLOCK	T.STAT	– THERMOSTAT
CC	– COMPRESSOR CONTACTOR	N	– NEUTRAL	YEL	– YELLOW
CCH	– CRANK CASE HEATER	NC	– NORMALLY CLOSED	WHT	– WHITE
CB	– CIRCUIT BREAKER	NO	– NORMALLY OPEN	— —	– FIELD WIRING
COMP	– COMPRESSOR	OLR	– OVER LOAD RELAY	•	– TERMINAL / SPLICE
F	– FUSE	OPT	– OPTIONAL	———	– OPTIONAL MARKING
CC	– COMP CONTACTOR	PLP	– PHASE LOSS PROTECTION	⏚	– EARTHING
FM	– FAN MOTOR	PRI	– PRIMARY		
FMC	– FAN MOTOR CONTACTOR	RED	– RED		
HC	– HEATER CONTACTOR	SEC	– SECONDARY		
HPS	– HIGH PRESSURE SWITCH				

OPTIONS

OPT1 – ANTIFREEZE TEMPERATURE SENSOR

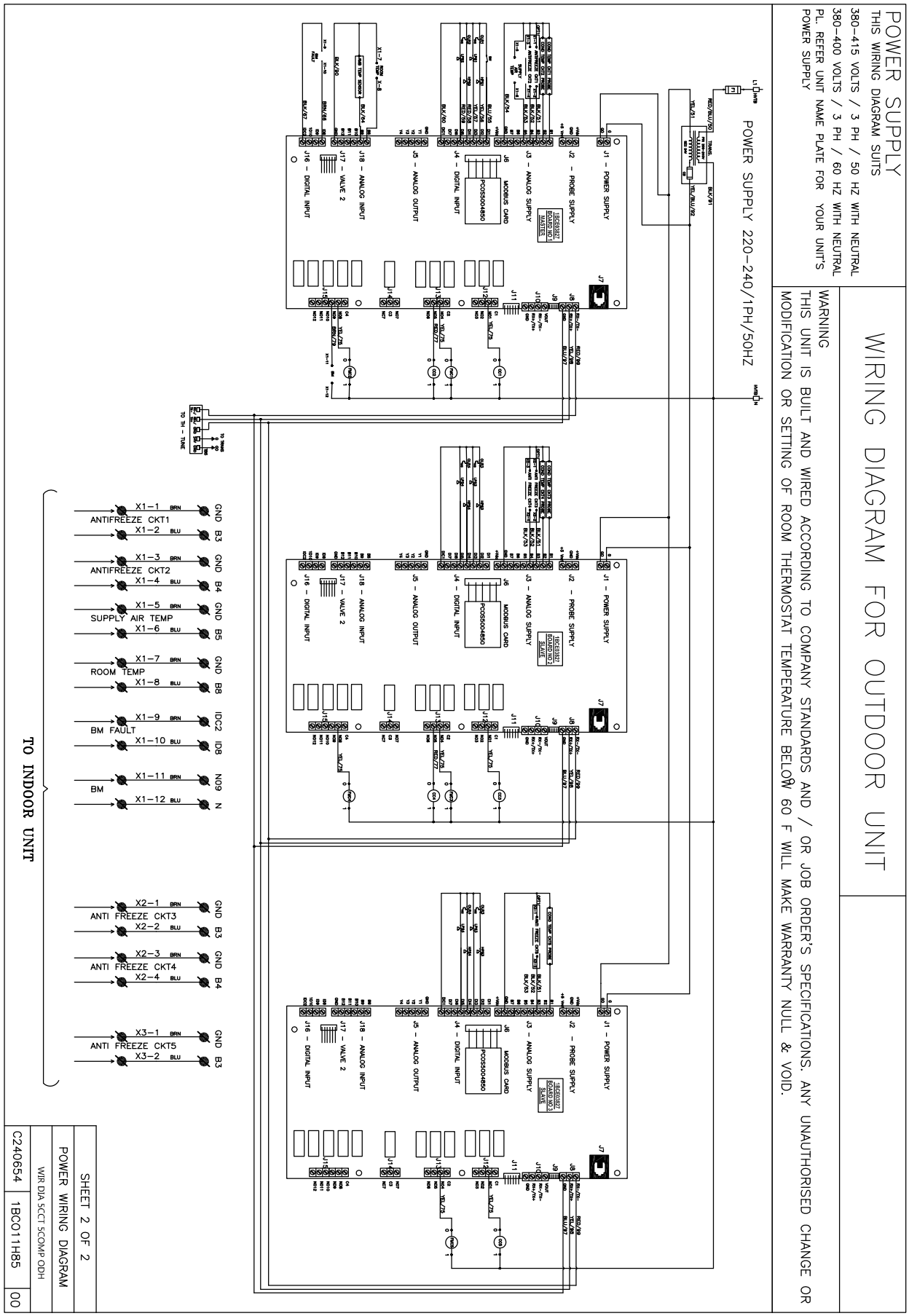
NOTES

1) ANY WIRE REPLACEMENT SHOULD BE OF 90° C TYPE OR EQUALENT AND COPPER CONDUCTOR ONLY.
2) POWER MUST BE SUPPLIED TO CRANK CASE HEATER FOR A MINIMUM OF 12 HOURS PRIOR TO START UP. IF THE POWER SUPPLY HAS BEEN INTERRUPTED FOR LONGER PERIOD THEN AGAIN CRANK CASE HEATER MUST BE ENERGIZED FOR MINIMUM OF 12 HOURS BEFORE STARTING OF COMPRESSOR.
3) FUSED DISCONNECT SWITCH OR CIRCUIT BREAKER TO BE PROVIDED BY THE USER WITH RELEVANT RATING.
4) PLEASE ALLOW 2 TO 3 MINUTES BEFORE STARTING OF COMPRESSOR.
5) COMPRESSOR IS PROVIDED WITH INTERNAL OVERLOAD PROTECTION.
6) POWER CIRCUIT FOR:
   1) 380–415V / 3PH / 50 Hz WITH NEUTRAL
   2) 380–400V / 3PH / 60 Hz WITH NEUTRAL
7) REFER INSTRUCTIONS WITH THE COMPONENTS FOR STAR / DELTA CONNECTIONS
8) COOLING FAN SHOULD BE CONNECTED INDEPENDENTLY AND NOT THROUGH VARIABLE FREQUENCE DRIVE POWER SUPPLY

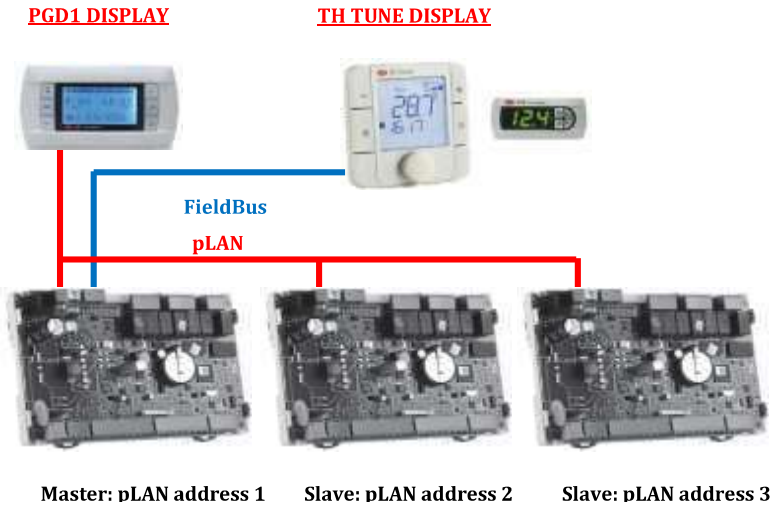
SHEET 1 OF 2		
POWER WIRING DIAGRAM		
WIR DIA 5CCT 5COMP ODH		
C240654	1BC011H85	00

WIRING DIAGRAMS

5 REFRIGERATION CIRCUITS



For units with ***5 numbers of refrigeration circuits(3ODH1200, 3ODH1320, 3ODH1440)***, we would be using controller.



Usability and display - Package unit control, developed in line with the new CAREL usability standards, assists the manufacturer in the configuration of the installation. The menu-based system (available on the pGD1, Th-tune) allows the application to be configured as a tool for instant diagnostics. All this is possible by the immediately accessible overview screens and the commissioning tool.

Quick menus - information on the status of the package unit is accessible directly from the main menu, without needing to access the submenus. Configuration, active function and operating temperature information are arranged in loops of screens, scrolled by pressing the DOWN button from the main screen.

Main features	Up to 5 compressors
	Management of freecooling and energy saving (Optional)
	Humidifier (Optional)
	EEV (Optional)
User interface	pGD1
	Th-tune
Languages	English
Unit of measure	Temperature: °C
	Pressure: bar
	Date format selectable between: dd/mm/yy, mm/dd/yy, yy.mm.dd
Control	P, PI, PID on room temperature
	P, PI, PID on room humidity
Compressor rotation	FIFO
	LIFO
	By time
Scheduling by th-Tune	6 time band for each day
	Weekend control
Dampers control	Fresh air damper (Optional)
	Mixing damper(Optional)
Prevention	High pressure
	Low pressure
	Antifreeze(Optional)
	Low air temperature supply limit(Optional)
Alarms	Automatic and manual management
	Log from application
Supervisor protocol*	Carel(Optional)
	Modbus (Optional)
	BACNET (Optional)

LOAD POINTS

Model	Unit of Measurement	Loading Points								Total Weight
		L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	
3ODH360GC2B	kg	396	444	396	444	----	----	----	----	1,680
	lbs	873	979	873	979	----	----	----	----	3,704
3ODH420GC2B	kg	396	504	396	504	----	----	----	----	1,800
	lbs	873	1,111	873	1,111	----	----	----	----	3,968
3ODH480GC2B	kg	606	666	624	666	----	----	----	----	2,562
	lbs	1,336	1,468	1,376	1,468	----	----	----	----	5,648
3ODH540GC2B	kg	606	681.6	624	681.6	----	----	----	----	2,593
	lbs	1,336	1,503	1,376	1,503	----	----	----	----	5,717
3ODH600GC2B	kg	606	720	624	720	----	----	----	----	2,670
	lbs	1,336	1,587	1,376	1,587	----	----	----	----	5,886
3ODH660GC3B	kg	630	666	618	666	648	696	----	----	3,924
	lbs	1,389	1,468	1,362	1,468	1,429	1,534	----	----	8,651
3ODH720GC3B	kg	642	684	630	684	660	708	----	----	4,008
	lbs	1,415	1,508	1,389	1,508	1,455	1,561	----	----	8,836
3ODH780GC3B	kg	642	726	630	726	660	744	----	----	4,128
	lbs	1,415	1,601	1,389	1,601	1,455	1,640	----	----	9,101
3ODH840GC3B	kg	642	732	630	732	660	756	----	----	4,152
	lbs	1,415	1,614	1,389	1,614	1,455	1,667	----	----	9,154
3ODH900GC4B	kg	516	552	504	552	516	552	534	570	4,296
	lbs	1,138	1,217	1,111	1,217	1,138	1,217	1,177	1,257	9,471
3ODH960GC4B	kg	516	558	504	558	516	558	534	576	4,320
	lbs	1,138	1,230	1,111	1,230	1,138	1,230	1,177	1,270	9,524
3ODH1020GC4B	kg	534	582	522	582	534	582	552	606	4,494
	lbs	1,177	1,283	1,151	1,283	1,177	1,283	1,217	1,336	9,908
3ODH1080GC4B	kg	534	588	522	588	534	588	552	612	4,518
	lbs	1,177	1,296	1,151	1,296	1,177	1,296	1,217	1,349	9,960
3ODH1140GC4B	kg	534	594	522	594	534	594	552	618	4,542
	lbs	1,177	1,310	1,151	1,310	1,177	1,310	1,217	1,362	10,013
3ODH1200GC5B	kg	636	708	624	708	636	708	544.8	726	5,291
	lbs	1,402	1,561	1,376	1,561	1,402	1,561	1,201	1,601	11,664
3ODH1320GC5B	kg	636	714	624	714	636	714	654	732	5,424
	lbs	1,402	1,574	1,376	1,574	1,402	1,574	1,442	1,614	11,958
3ODH1440GC5B	kg	648	726	636	726	648	726	666	744	5,520
	lbs	1,429	1,601	1,402	1,601	1,429	1,601	1,468	1,640	12,170

RECOMMENDED SPACE CLEARANCE

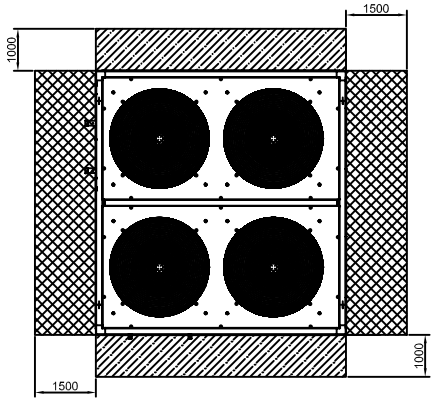
The Condensing units are with Vertical Airflow design and thus precautions to be taken during installation and also there is should not be any obstruction on the airflow.

Arrange the unit such that the winds are flowing parallel to the unit for a better heat exhange thus reducing the condensing pressure and enhancing the performance of the unit. If positioning of the unit is not possible as mentioned then wind deflecting shield to be considered.

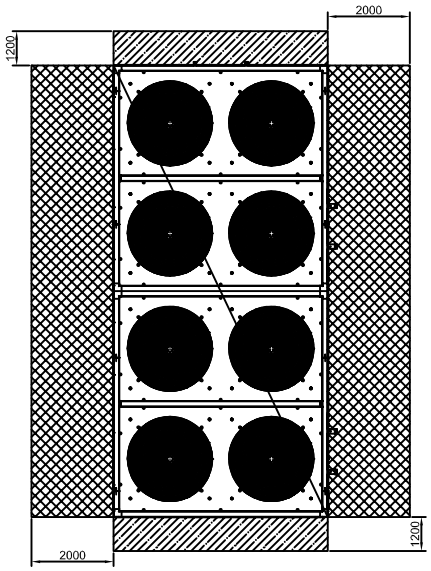
In addition, it is also essential to provide adequate clearances on all sides of the unit for serviciability and adequate performance of the unit.

Space Clearance for Single Unit

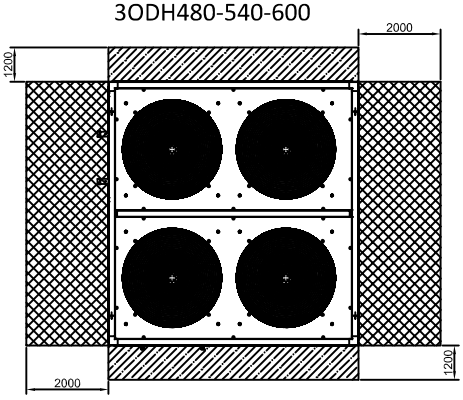
3ODH360-420



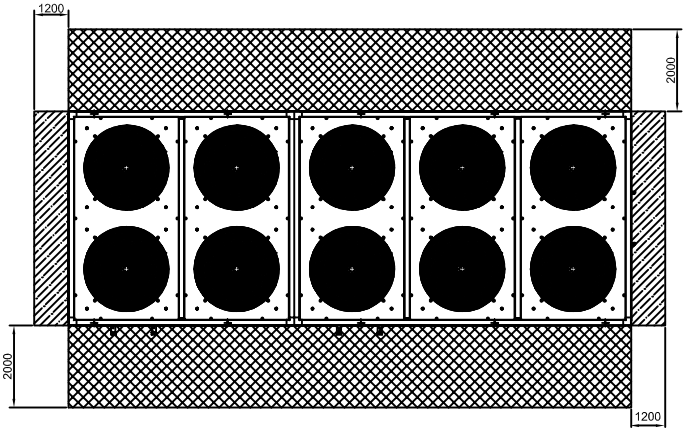
3ODH900-960-1020-1080-1140



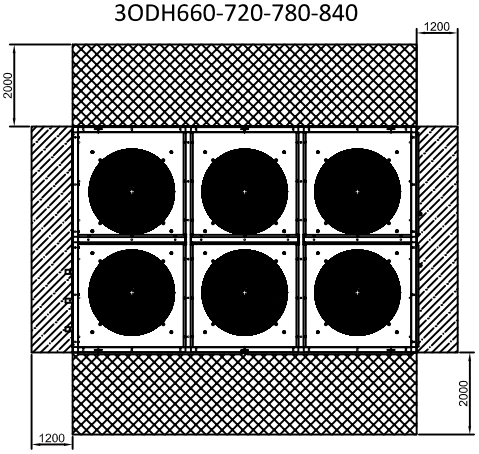
3ODH480-540-600



3ODH1200-1320-1440



3ODH660-720-780-840



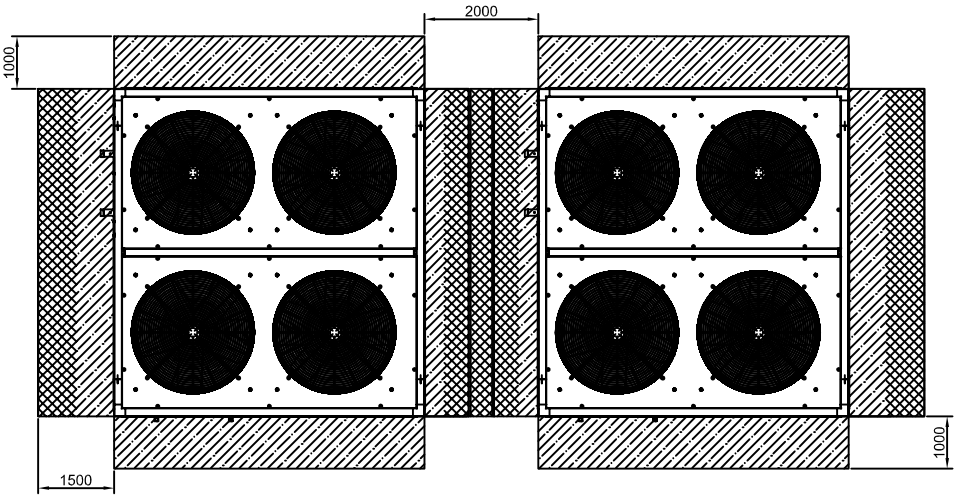
RECOMMENDED SPACE CLEARANCE

Space Clearance for Multiple Units

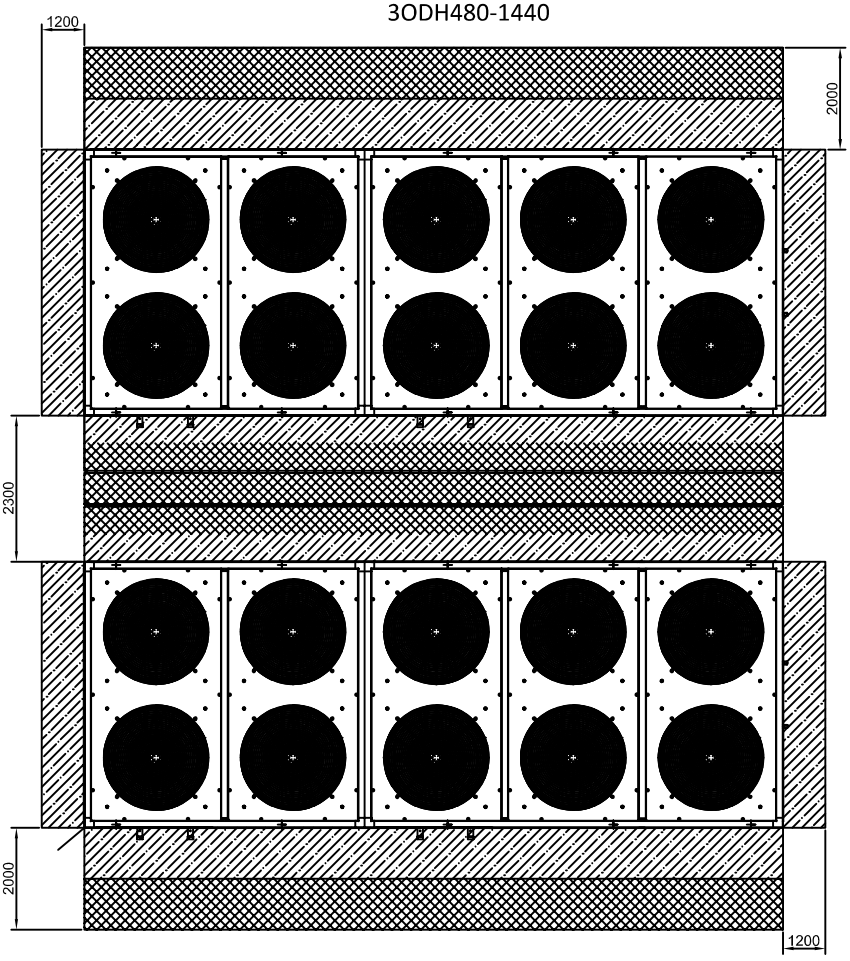
AIR FLOW AREA

SERVICES AREA

3ODH360-420



3ODH480-1440



RECOMMENDED REFRIGERANT PIPE SIZES

R410A

Model	Circuit	Liquid Line Size (Inches)					Suction Line Size (Inches)				
		STD	25ft	50ft	75ft	100ft	**STD**	25ft	50ft	75ft	100ft
3ODH360GC2B	Circuit 1	**⅞**	⅞	⅞	⅞	⅞	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝
	Circuit 2	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅜	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	1 ⅝
3ODH420GC2B	Circuit 1 & 2	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅜	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	1 ⅝
3ODH480GC2B	Circuit 1 & 2	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅜	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	1 ⅝
3ODH540GC2B	Circuit 1 & 2	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	2 ⅛
3ODH600GC2B	Circuit 1 & 2	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	2 ⅛
3ODH660GC2B	Circuit 1 & 2	**1 ⅜**	1 ⅜	1 ⅜	1 ⅝	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	2 ⅛	2 ⅛
3ODH720GC3B	Circuit 1,2 & 3	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅜	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	1 ⅝
3ODH780GC3B	Circuit 1,2 & 3	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	2 ⅛
3ODH840GC3B	Circuit 1,2 & 3	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	2 ⅛
3ODH900GC4B	Circuit 1,2,3 & 4	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅜	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	1 ⅝
3ODH960GC4B	Circuit 1,2,3 & 4	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅜	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	1 ⅝
3ODH1020GC4B	Circuit 1,2,3 & 4	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	2 ⅛
3ODH1080GC4B	Circuit 1,2,3 & 4	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	2 ⅛
3ODH1140GC4B	Circuit 1,2,3 & 4	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	2 ⅛
3ODH1200GC5B	Circuit 1,2,3,4 & 5	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅜	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	1 ⅝
3ODH1320GC5B	Circuit 1,2,3,4 & 5	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	2 ⅛
3ODH1440GC5B	Circuit 1,2,3,4 & 5	**1 ⅜**	1 ⅜	1 ⅜	1 ⅜	1 ⅝	**1 ⅝**	1 ⅝	1 ⅝	1 ⅝	2 ⅛

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