3. TECHNICAL SPECIFICATIONS

3.1 Technical Data

	Units	*WCC400*
Performance Data		
Design Capacity;	kW	409.6
Design Operation Fluid Temperature IN / OUT; °C	degC	12/6
Design Ambient Temperature; °C	degC	30
Minimum / Maximum Outlet Fluid Temperature; °C	degC	-12/+15
Minimum / Maximum Ambient Temperature; °C	degC	-18/+40
Compressor		
Number of Compressors		2
No 1 Compressor Types / Model / Part Number		GP2 Screw - COM677E
No 2 Compressor Types / Model / Part Number		GP2 Screw - COM677E
Variable Loading Steps.	%	100 to 17%
Evaporator Data		
Evaporator Type / Model / Part Number		Shell & Tube
Evaporator Material		Steel/Copper
Design Flow	Litres/s	16.2
Minimum / Maximum Flow	Litres/s	7.3 / 24.8
Chiller Barrel Capacity; Litres	Litres	222
Chiller Barrel Maximum Working Pressure	Bar	10
Deign Chiller Barrel Pressure Drop	Bar	0.58
Recommended System Water Volume	Litres	2000
Pressure Drop Factor 10 l/s/ kPa	P.U.	22.1
Condenser Data		
Condenser materials; tubes / fins / coating		Cu Tubes / Al Fins / Black Epoxy
Number of Condenser Fans		6
Fan Type / Model / Part Number		BZ 771602
Installed kW per Fan	kW	2.05
Total Air Volume	M^3/h	9720
Maximum External Static Pressure	Pa	0
Refrigerant Data		
Refrigerant Type		R134a
Number of Circuits		2
Refrigerant Charge Circuit 1 / 2; Kg / Kg		35/36
Type of Compressor Oil; Trane 00048		Oil 048E
Oil Charge Circuit 1 / 2; Litre/Litre		8/8
Electrical Data		
Design Electrical Supply Voltage; 400 3ph 50Hz	Volts/Phase/Hz	400V 3Ph 50Hz
Design Electrical Rating; kVA / kW	kVA / kW	168 / 135
Nominal current at Design Conditions: Amps	Amps	195
Maximum Operating Current;	Amps	323
Starting Current; Amps	Amps	359
Pre-Heating Supply	Volts/kW	220 / 2,0
Electrical Connection	Type	Stud M10
Noise Data		
Sound Pressure Level at 10 Metres - Lp (A)	dB(A)	65
Sound Power Level - Lw (A)	dB(A)	97.4
Physical Data		
Overall Length; Metres	metres	4.570
Overall Width; Metres	metres	2.438
Overall Height; Metre	metres	2.500
Weight; kg (dry) ? (wet operational)	kg	5570 / 5785
Fluid coupling size	mm	100

3.2 Unit Performance

CALCULATED PERFORMANCE CHARTS

Leaving Water Temp -12 °C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	10.8	10.2	9.6	9.0	8.3
Cooling Capacity kW	237.3	223.9	210.2	196.1	181.4
Power Input kW	88.6	95.4	103.1	111.7	121.4

Leaving Water Temp -8 °C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	12.4	11.8	11.1	10.3	9.6
Cooling Capacity kW	279.5	264.4	248.5	232.0	215.1
Power Input kW	93.3	100.3	108.4	117.5	127.6

Leaving Water Temp -4 °C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	14.1	13.3	12.5	11.7	10.9
Cooling Capacity kW	326.2	309.0	290.7	271.7	252.4
Power Input kW	99.0	106.3	114.6	124.1	134.8

Leaving Water Temp 0°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	15.8	14.9	14.0	13.1	12.2
Cooling Capacity kW	377.2	357.2	336.4	314.6	292.5
Power Input kW	105.5	113.1	121.8	131.8	142.9

Leaving Water Temp 4°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	17.5	16.5	15.6	14.6	13.6
Cooling Capacity kW	431.7	408.9	385.3	360.7	335.7
Power Input kW	112.9	120.9	130.0	140.4	151.9

Leaving Water Temp 5°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	17.7	16.7	15.8	14.8	13.7
Cooling Capacity kW	446.5	422.9	398.3	373.4	347.3
Power Input kW	115.0	123.1	132.3	142.7	154.3

Leaving Water Temp 6°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	18.2	17.3	16.3	15.2	14.2
Cooling Capacity kW	460.6	436.3	409.6	385.3	358.6
Power Input kW	117.0	125.2	135.1	145.0	156.8

Leaving Water Temp 7°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	18.8	17.8	16.8	15.7	14.6
Cooling Capacity kW	475.0	450.0	424.0	397.3	369.8
Power Input kW	119.1	127.4	136.8	147.4	159.2

Leaving Water Temp 8°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	19.4	18.4	17.3	16.2	15.1
Cooling Capacity kW	489.7	463.7	437.0	409.6	381.1
Power Input kW	121.2	129.6	139.1	149.8	161.8

Leaving Water Temp 9°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	20.0	18.9	17.8	16.7	15.6
Cooling Capacity kW	504.1	477.8	450.4	421.9	392.7
Power Input kW	123.4	131.9	141.5	152.3	164.4

Leaving Water Temp 10°C					
Ambient Ttemp °C	20	25	30	35	40
Flow Rate L/s	20.6	19.5	18.4	17.2	16.0
Cooling Capacity kW	519.3	491.8	463.4	434.5	404.3
Power Input kW	125.6	134.2	143.9	154.9	167.0

Leaving Water Temp 11°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	21.2	201.	18.9	17.7	16.5
Cooling Capacity kW	534.0	505.9	477.1	446.8	416.2
Power Input kW	127.9	136.6	146.4	157.4	169.6

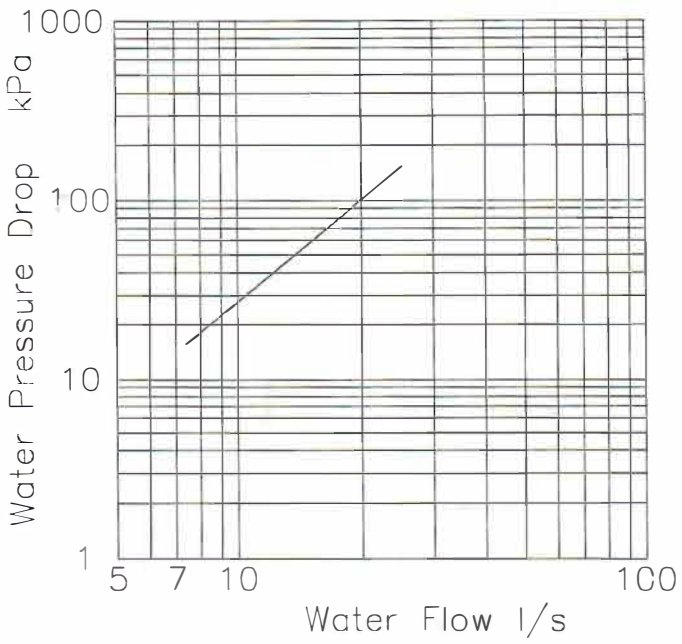
Leaving Water Temp 12°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	21.8	20.7	19.5	18.2	17.0
Cooling Capacity kW	549.5	520.3	490.4	459.8	428.2
Power Input kW	130.3	139.0	19.5	160.1	172.4

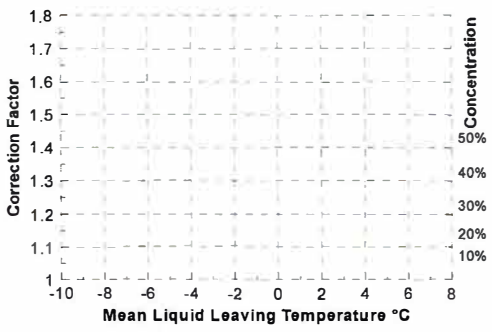
Leaving Water Temp 13°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	22.4	21.2	20.0	18.8	17.4
Cooling Capacity kW	564.6	534.7	504.1	472.5	438.8
Power Input kW	132.7	141.5	151.5	162.7	174.1

Leaving Water Temp 14°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	23.0	21.8	20.6	19.3	17.5
Cooling Capacity kW	580.1	549.5	517.9	485.5	440.9
Power Input kW	135.1	144.1	154.2	165.4	170.8

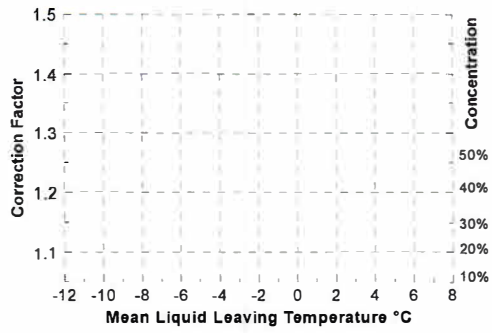
Leaving Water Temp 15°C					
Ambient Temp °C	20	25	30	35	40
Flow Rate L/s	23.7	22.4	21.1	19.8	17.7
Cooling Capacity kW	595.6	564.3	531.9	498.5	444.7
Power Input kW	137.6	146.7	156.9	168.2	168.2

3.3 Evaporator Pressure Drop





Pressure Drop Correction Factors for Propylene Glycol



Pressure Drop Correction Factors for Ethylene Glycol

3.4 Unit Dimensions

INSTALLATION AND DIMENSIONS