



Air Cooled Water Chillers



Safario is a quality manufacturer of Sapphire water chillers for domestic, industrial process cooling and speciality HVAC systems. The Sapphire chillers offer an unparalleled range of cooling capacities, with wide options that allow customers to select a chiller best suited to their needs.

Designed with reliability, flexibility and ease of use, the Sapphire range of water chillers have earned a quality reputation, trusted around the Middle East to provide reliable cooling solutions for heating process applications.

Sapphire offers a complete range of packaged liquid chillers from 2 tons to 100 tons and above. Sapphire chillers are used in industries such as plastics processing, thermal spray, printing processes, oil coolers, pharmaceutical processing, confectionaries and various other industrial manufacturing processes. These chillers can also be applied to HVAC systems where direct expansions systems are not practical.

Major Components



(Heresite Coating Optional)



Sapphire air cooled water chillers meet high standard of engineering and performance. Unit capacities in these series have a broad range depending on design requirements. An extensive choice of chillers capacities and options are available to meet the precise designs, as per clients requirements.

TECHNICAL SPECIFICATIONS						
Model No.		SM-SW018	SM-SW024	SM-SW036	SM-SW060	SSAC-060-RC-SS
Cooling Capacity	BTU/Hr (kW)	18000 (5.25)	24000 (7.0)	36000 (10.5)	60000 (17.5)	60000 (17.5)
Compressor	Qty	1	1	1	1	1
	Type	Rotary/Reciprocating			Scroll/Reciprocating	
	V/Ph/Hz	220-230/1/50			380-420/3/50	
Axial Fan (Condenser)	Qty	1	1	1	1 in Top throw - 2 in side throw	1
	V/Ph/Hz	220-230/1/50				380-420/3/50
Evaporator	Heat Exchanger	S.S. Shell & Copper Tubes				
Water Flow Rate ($\Delta T=4^{\circ}C$)	GPM	3.75	5.0	7.5	12.5	12.5
Max Water Temp. (Tank Inlet)	$^{\circ}C$	45 $^{\circ}C$ - 50 $^{\circ}C$				
Water Temp. (Tank Outlet) Variable	$^{\circ}C$	8 $^{\circ}C$ to 10 $^{\circ}C$				
Condenser	Coil	Copper Pipes with Aluminum Fins				
Max. Refrigerant Working Pressure Low/High	PSIG	75/300				
Test Pressure	PSIG	150/450				
Refrigerant (Optional)	Gas	R22				
Unit Voltage	V/Ph/Hz	220-230/1/50			380-420/3/50	
Unit Power	kW	2.25	3.0	4.5	7.5	7.5
Water Pump	Hp	1/2	1/2	1/2	1/2	1/2
Water Connection In/Out	Inches	3/4	3/4	3/4	1	1
Dimension	CM L x W x H	84x36.5x106.5	84x36.5x106.5	90.5x38x121.5	top throw 92x132.5x75 side throw 96.5x43x173	top throw 101.6x76.2.5x134.6
Unit Tank Weight	kg	73	79	107	123/133	200
Water Tank Capacity Min/Max.	Gallons	50 - 150	100 - 200	150 - 300	300 - 500	300 - 500

Note: As per clients requirement, refrigerant gas can be changed. Accordingly, the technical specifications will also change. * Upto 5 ton capacity the shell is made of SS and tube is copper. Above 5 ton the shell is of MS and tubes are copper. * Optional SS Shell and SS tubes can be made as per customer's design requirement at additional cost. * pumps are supplied along with the chillers from 1.5 ton to 25 ton. * For chillers 30 tons and above, pumps are not supplied along with the chillers. *Specifications mentioned are subject to changes for product improvement.



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TECHNICAL SPECIFICATIONS						
Model No.		SSAC-100RC-SS	SSAC-120RC-DS	SSAC-200RC-DS	SSAC-240RC-DS	SSAC-300RC-DS
Cooling Capacity	BTU/Hr (kW)	90,000 (26.25)	120,000 (35.0)	180,000 (52.0)	240,000 (70.0)	300,000(87.5)
Compressor	Qty	1	2	2	2	2
	Type	Reciprocating / Scroll				
	V/Ph/Hz	380-420/3/50				
Axial Fan (Condenser)	Qty	2	2	2	3	3
	Size (Dia) mm	550		630		
	RPM	900				
	Air Volume m ³ /hr	6500		9500		
	V/Ph/Hz	380-420/3/50				
Evaporator	Heat Exchanger	M.S. Shell & Copper Tubes				
Water Flow Rate (ΔT-4°C)	GPM	18.75	25.0	37.5	50.0	62.5
Max Water Temp. (Tank Inlet)	°C	45°C - 50°C				
Water Temp. (Tank Outlet) Variable	°C	8°C to 10°C				
Condenser	Coil	Copper Pipes with Aluminum Fins				
Max. Refrigerant Working Pressure Low/High	PSIG	75/300				
Test Pressure	PSIG	150/450				
Refrigerant (Optional)	Gas	R22				
Unit Voltage	V/Ph/Hz	380-420/3/50				
Unit Power	kW	11.25	15.0	22.50	30.0	37.5
Water Pump	Hp	0.75	1.0	1.5	2.0	2.5
Water Connection In/Out	Inches	1½	1½	1½	2.5	2.5
Dimension	CM L x W x H	162.5 x 106.6 x 151.1			238.7.6 x 117.4 x 169.2	
Unit Tank Weight	kg	350	415	475	800	950
Water Tank Capacity Min/Max.	Gallons	500 - 750	800 - 1,000	1,000 - 1,500	1,500 - 2,000	2,000 - 2,500

TECHNICAL SPECIFICATIONS						
Model No.		SSAC-400SH-SS	SSAC-600SH-DS	SSAC-800SH-DS	SSAC-1200SH-FS	SSAC-1600SH-FS
Cooling Capacity	BTU/Hr (kW)	360,000 (105.0)	600,000 (175.0)	720,000 (210.0)	1,200,000 (350.0)	1,440,000 (420.0)
Compressor	Qty	1	2	2	4	4
	Type	Semi - Hermetic				
	V/Ph/Hz	380-420/3/50				
Axial Fan (Condenser)	Qty	3	6	6	8	8
	Size (Dia) mm	630		710		
	RPM	900				
	Air Volume m ³ /hr	9500		14800		
	V/Ph/Hz	380-420/3/50				
Evaporator	Heat Exchanger	M.S. Shell & Copper Tubes				
Water Flow Rate (ΔT-4°C)	GPM	75.0	125.0	150.5	250.0	300.0
Max Water Temp. (Tank Inlet)	°C	45°C - 50°C				
Water Temp. (Tank Outlet) Variable	°C	8°C to 10°C				
Condenser	Coil	Copper Pipes with Aluminum Fins				
Max. Refrigerant Working Pressure Low/High	PSIG	75/300				
Test Pressure	PSIG	150/450				
Refrigerant (Optional)	Gas	R22				
Unit Voltage	V/Ph/Hz	380-420/3/50				
Unit Power	kW	45	75	90.0	150	180
Water Pump	Hp	3.0	5.0	6.0	10.0	12.0
Water Connection In/Out	Inches	3.0	4.0	4.0	6.0	6.0
Dimension	CM L x W x H	238.7x117.4x162.4	330.2 x 117.8 x 186.8		475.0 x 232.8 x 212.3	
Unit Tank Weight	kg	950	1,900	2,000	3,600	4,100
Water Tank Capacity Min/Max.	Gallons	2,000 - 3,000	3,000 - 5,000	4,000 - 6,500	6,000 - 10,000	8,000 - 13,000



AIR COOLED WATER CHILLER



COOLING TOWER



DRY COOLER

Sapphire Chillers are designed for simplicity and ease of use:

- * "Cycling" refrigeration circuit.
- * Integrated centrifugal circulation pump.
- * Microprocessor controls (Optional).
- * Single point power connection.
- * High efficiency, stainless steel, brazed tube heat exchangers (Optional).
- * Heavier frame construction, greater resistance to shipping, handling & operation abuse.
- * Standard weatherproof enclosures on all models 10 tons & above.
- * Removable access panels for easy service and maintenance.
- * Standard high-pressure and low-pressure refrigeration gauges on 10 tons and above models.
- * Suitable for high & low ambient temperature.
- * Low noise level.

Sapphire Cooling Towers are made from tough fibreglass reinforced plastic (FRP) and have excellent structural strength to withstand high velocities and vibration. Sapphire cooling towers are designed in vertical induced draft counter-flow with uniform water distribution and optimum heat transfer.

Sapphire Dry Coolers are designed for high performance cooling applications. They are energy efficient and cost effective. Sapphire Cooling Towers and Dry Coolers are designed as per clients' requirement to complement Chillers.

Cooling tower and dry coolers are additional units that can be installed to reduce heat load on the chillers, thereby reducing power consumption. Suitable for industrial process cooling system.