



Integrating plastic technologies
since 1965

AIR-COOLED WATER CHILLERS

SIC-A-R2 Series



SIC-12A-R2

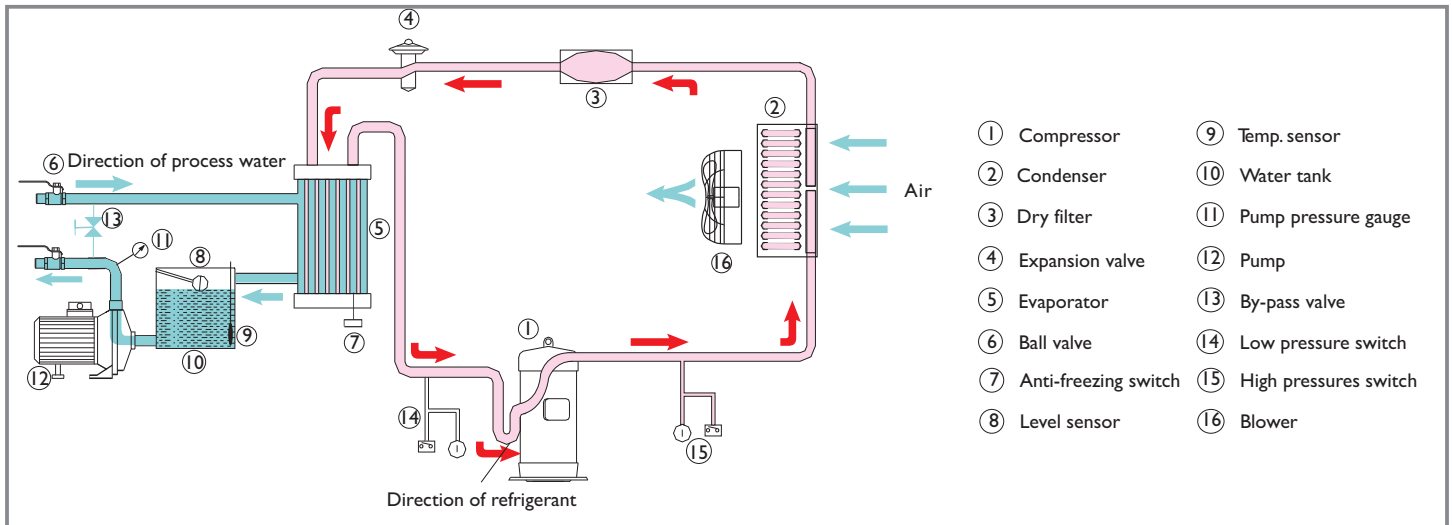
The SIC-A-R2 series of portable air-cooled water chillers provide a self-contained source of chilled water for your process needs and are portable from machine to machine. All units are equipped with a full cabinet enclosure that feature tool-less entry for ease of servicing.

The SIC-A-R2 series of portable air cooled chillers with a 7 - 35°C cooling range feature environmentally friendly R410A refrigerant. Designed with a vertical air discharge design that enhances comfort in your plant by carrying heat up and away from your process and your operators, the chillers have a $\pm 0.1^{\circ}\text{C}$ accuracy.

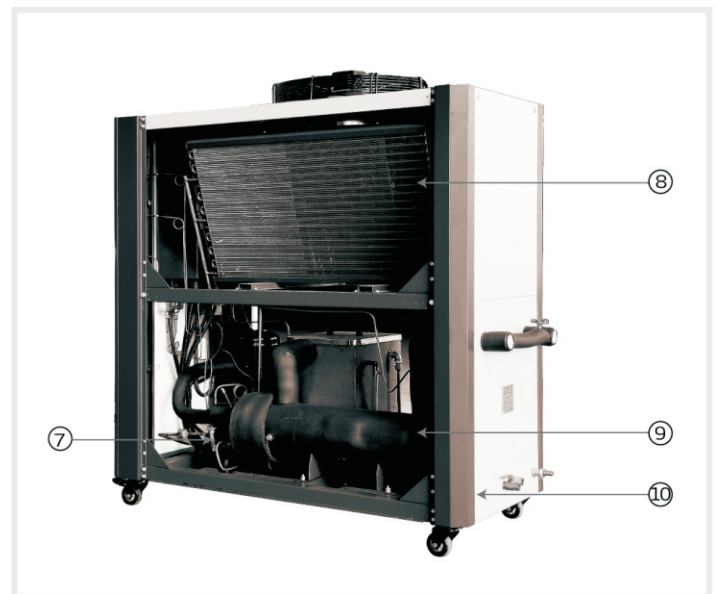
FEATURES:

- Cooling range 7-35°C
- Stainless steel insulated water tank
- Anti-freeze thermostat
- Uses ozone-friendly R410A refrigerant, which improves coefficient of performance
- Refrigerant loop controlled by high and low pressure switches to ensure stable operation
- Finger safe electrical components
- Fill diagnostics panel
- Brazed plate exchanger
- Compressor and pump overload protection
- Pressure gauges
- Hot gas by-pass valve
- Automatic fill valve
- Liquid line solenoid valve and shut-off valve
- Filter dryer and moisture indicator
- Head pressure control via fan motor cycling
- Main power disconnect
- PID temperature controller accurate to $\pm 0.1^{\circ}\text{C}$
- High quality fin style condenser
- Powder coated frame and enclosure
- Caster mounted

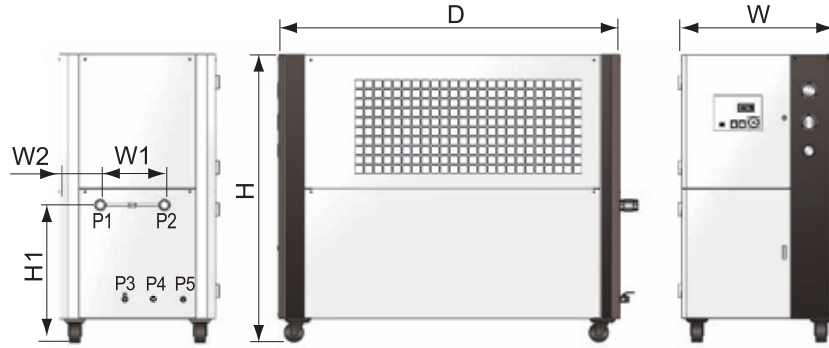
WORKING PRINCIPLE OF AIR-COOLED CHILLERS



STRUCTURE OF AIR-COOLED MODELS



- ① Stainless steel water tank for storage of circulating water.
- ② Big flow 3-phase pump ensures no blockage and high torque.
- ③ High/low pressure gauges to display system pressure.
- ④ Main power switch.
- ⑤ Pump pressure gauge to display pump pressure.
- ⑥ Scroll-type compressor(s) for super high efficiency and low noise.
- ⑦ Expansion valve for accurate adjustment of refrigerant flow.
- ⑧ Tube-fin condenser features quick heat transfer and heat radiation.
- ⑨ Shell-and-tube type evaporator ensures efficient cooling.
- ⑩ Powder coating coated frame and control box.



DIMENSIONS:

Model	H (mm)	H1 (mm)	W (mm)	W1 (mm)	W2 (mm)	D (mm)	P1 (inch) Cooling Water Inlet	P2 (inch) Cooling Water Outlet	P3 (inch) Water Tank Outlet Port	P4 (inch) Water Tank Overflow Port	P5 (inch) Water Tank Refill Port	Weight (kg)
SIC-7.5A-R2	1200	625	685	277	200	1190	1	1	1/2	1/2	1/2	305
SIC-12A-R2	1490	640	735	360	174	1320	1	1	1/2	1/2	1/2	315
SIC-18A -R2	1430	640	735	300	204	1610	1 1/2	1 1/2	1/2	1/2	1/2	400
SIC-24A -R2	1440	640	735	300	204	1610	1 1/2	1 1/2	1/2	1/2	1/2	420
SIC-28A -R2	1560	726	905	390	223	1782	2	2	1/2	1/2	1/2	530
SIC-38A -R2	1560	726	905	390	223	1782	2	2	1/2	1/2	1/2	540
SIC-48A -R2	1942	755	1208	400	257	2922	2	2	1	1/2	1/2	775
SIC-58A -R2	1942	755	1208	400	257	2922	2	2	1	1/2	1/2	800
SIC-75A -R2	1942	755	1208	418	257	2922	2 1/2	2 1/2	1	1/2	1/2	840
SIC-100A -R2	1942	641	1300	800	243	3475	2 1/2	2 1/2	1	1	1	1400
SIC-114A -R2	1942	641	1300	900	255	3475	2 1/2	2 1/2	1	1	1	1600

MODEL SELECTION:

Mould clamping force (T)	Moulding capacity (kg/hr)	Refrigeration Capacity (kW)
≤ 250	≤ 25	6
≤ 450	≤ 45	11
≤ 650	≤ 65	14
≤ 850	≤ 85	18
≤ 1300	≤ 130	27
≤ 1800	≤ 180	38
≤ 3000	≤ 300	62
≤ 4000	≤ 400	84
≤ 5000	≤ 500	104

SPECIFICATIONS:

Model SIC- Parameter		7.5A-R2	12A-R2	18A-R2	24A-R2	28A-R2	38A-R2	48A-R2	58A-R2	75A-R2	100A-R2	114A-R2
Item												
Refrigerant Capacity	kW (50Hz/60Hz)	7.5/8.5	12/15.5	18/22.5	24/30	28/35.5	38/45	48/60	58/71	75/90	100/120	114/135
	kcal/hr (50Hz/60Hz)	6,450/7,310	10,320/13,072	15,480/19,350	20,640/25,800	24,080/30,530	32,680/38,700	41,280/51,600	49,880/61,060	64,500/77,400	86,000/103,200	98,040/116,100
Compressor	Type	Scroll										
	Power (50Hz/60Hz)	2.9/3.17	4.2/5.28	6.5/7.8	8.72/10.2	9.36/11.73	12.25/14.8	17.44/20.4	18.72/23.76	24.86/29.6	33.58/39.8	37.29/44.4
Refrigerant	Filling Volume (kg)	3.5	5.0	5.5	5.5	9.0	12.5	11	15	20	25	30
	Control Mode	Thermostatic expansion valve										
	Type	R410A										
Evaporator	Type	Tube-in-shell style										
Condenser	Type	Fin style										
	Blower (kW) (50Hz/60Hz)	0.19/0.245	0.55/0.91	2×0.23/ 2×0.335	2×0.42/ 2×0.57	2×0.55/ 2×0.91	2×0.8/ 2×1.1	2×1.1/2×2.2	2×1.5/ 2×2.2	2×2.2+1.5 2×2.2+2.2	3×2.2/ 3×2.2	
Water Tank Capacity (L)		50	85	150	180	200	270	400				
Pump	Power (kW) (50Hz/60Hz)	0.75/0.75/1.1/ -0.75/1.5	1.1/1.1/1.1/ -1.1/1.1	1.1/1.5/2.2/ -2.2/2.2	2.2/3.0/4.0/ -3.0/3.0	4.0/3.0/4.0/ -5.5/5.5	4.0/4.0/5.5/ -5.5/5.5					
	Pump Flow (L/min) (50Hz/60Hz)	50/83/67/ -83/67	80/100/89/ -100/89	130/150/133/ -150/133	200/300/300/ 200/300/300	300/300/300/ 300/300/300	533/366/367/ 533/366/367					
	Working Pressure (kgf/cm ²) (50Hz/60Hz)	2.0/2.6/3.8/ -2.6/3.8	2.0/2.6/3.5/ -2.6/3.5	2.0/3.0/4.2/ -3.0/4.2	2.5/3.0/4.2/ 2.5/3.0/4.2	2.5/3.0/4.2/ 2.5/3.0/4.2	2.7/3.4/4.3/ 2.7/3.4/4.3					
Total Power (kW) (50Hz/60Hz)		3.85/ 3.9	5.5/ 5.86	8.06/ 8.47	10.6/ 12.44	11.66/ 15.74	15/ 19.2	21.84/ 27.8	23.12/ 30.86	31.86/ 39.5	43.48/ 51.9	47.89/ 53.51
Pipe Coupling (inch)	Chilled Water Outlet (inch) (50Hz/60Hz)	1/1	1 1/2 / 1 1/2	2/2	2.5/2.5							
	Chilled Water Inlet (inch) (50Hz/60Hz)	1/1	1 1/2 / 1 1/2	2/2	2.5/2.5							
	Water Tank Drainage Port	1/2	1									
	Water Tank Overflow Port	1/2	1									
Protective Devices	Compressor	Overload relay										
	Pump	Overload relay										
	Cooling Water Circuit	High and low pressure switches/Anti-freeze switch										
	Water Circuit	Flow switch/Water level switch (Optional)/By-pass valve										
Operation Noise dB(A)		78	75	74	78	81	86	84	82	86	90	90
Power(VAC)		3Φ 230/400/460/575VAC 50Hz/60Hz										
Measures Exchange		1 kW = 860 kcal/hr 1 RT = 3,024 kcal/hr 10,000 Btu/hr = 2,520 kcal/hr										