Klima Alfa™

Sustaining Nature & Powering Future

KLIMA ALFA
HEAT PUMP SYSTEMS

"Let your worries go - your hot water won't cost a dime."

ENERGY EFFICIENT HEATING & COOLING SOLUTIONS

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ABOUT US

KLIMA ALFA is a distinguished brand under the umbrella of **ALFANIAH GROUP** based in **UAE,** renowned as one of the Middle East's most trusted and innovative HVAC solutions providers. Over two decades of expertise, we have established ourselves as industry leaders, delivering top-tier heating, ventilation, and air conditioning systems that cater to diverse client needs.

At **KLIMA ALFA**, we excel in providing highly customized heat recovery heat pump systems designed specifically for industrial heating applications. Our solutions are engineered to optimize energy efficiency, reduce carbon emissions, and support sustainable business operations, aligning perfectly with modern industry demands.

In addition to our industrial offerings, **KLIMA ALFA**'s advanced heat pump hot water solutions represent a greener and more cost-effective approach to water heating. By integrating our innovative technology, clients can enjoy substantial savings on hot water expenses while contributing to a more sustainable and eco-friendly future.

Choose **KLIMA ALFA** for reliable, efficient, and environmentally responsible HVAC solutions tailored to your unique requirements.

Heat Pump Applications:

» Residences
» Hotels
» Hospitals
» Resorts
» Health Clubs
» Industrial
» Food processing units
» Restaurant
» Pharmaceutical industries
» Swimming pools
» Laundry
» Canteens
» Serviced apartments

Environmental Friendly Choice
the carbon foot print Environmental friendly refrigerant R134a

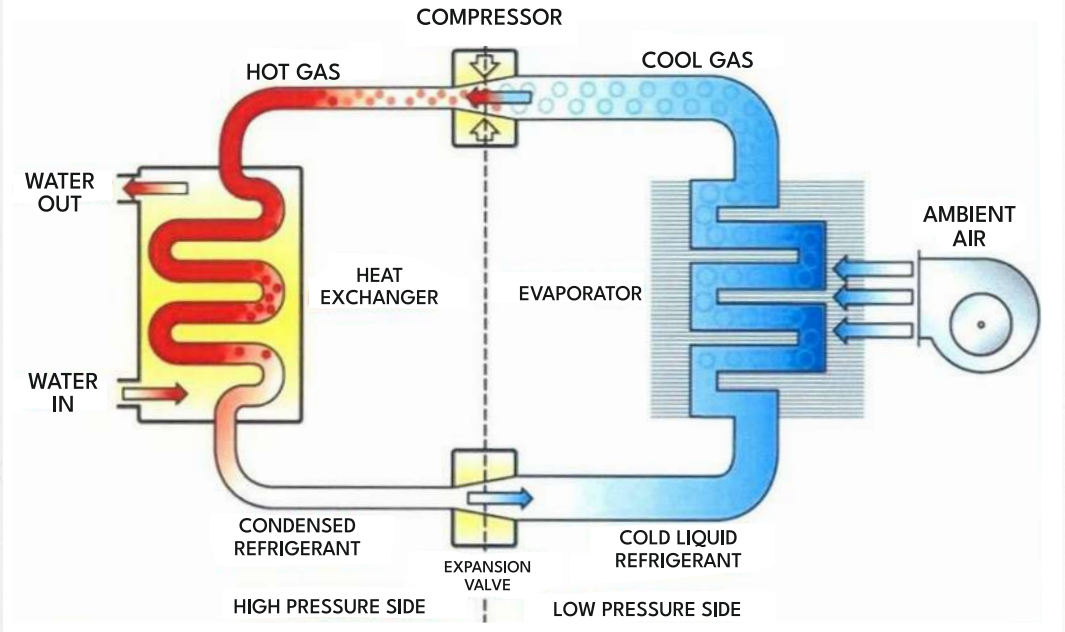
How Heat Pumps Work

» Absorb heat from the air using refrigerants.
» Compress the refrigerant to increase its temperature.
» Transfer the heat to water via a heat exchanger.

The COMPRESSOR, where it is compressed, which has the effect of upgrading the gas to a much higher temperature. The electrical energy that is used to drive the compressor is also absorbed by the refrigerant gas. The hot gas now enters:

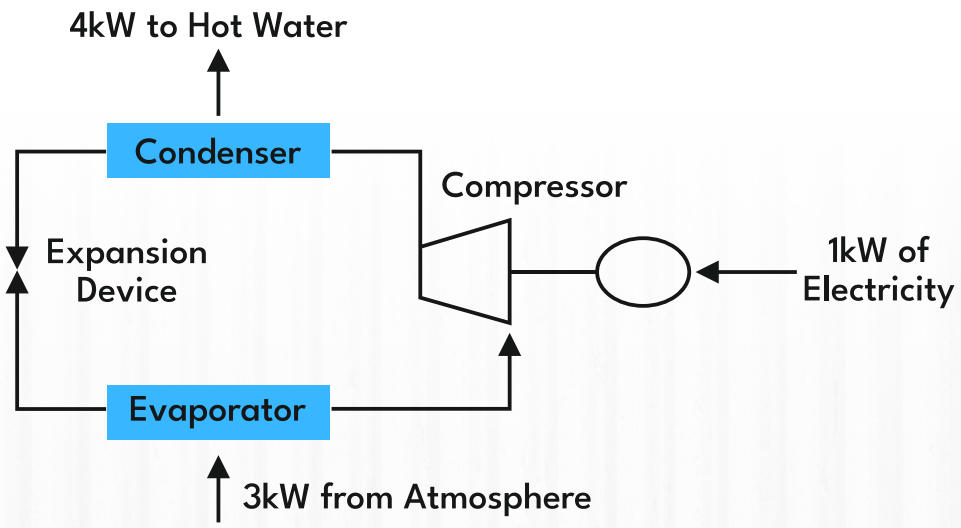
The EVAPORATOR collects the heat from the air. This is either atmospheric air, which has been heated by the sun, or internal air, which has been heated by heat lost from another process. In Calorex heat pumps, high volumes of air are drawn into the unit by the fan and passed across the evaporator fins. The evaporator has liquid refrigerant passing through it, which is at a considerably lower temperature than the ambient air. Therefore the air gives up its heat to the refrigerant which then vaporises to a gas. This pre-heated refrigerant gas then passes to:

THE HEAT PUMP CYCLE



The HEAT EXCHANGER (or CONDENSER), where it is surrounded by the water to be heated in adjacent tubes. The refrigerant vapour, at a higher temperature, gives up its heat to the water which is returned to a storage tank. As the refrigerant cools it returns back to its liquid state, i.e. it condenses, but remains under high pressure from the compressor. The pressure is released by passing me liquid refrigerant through:

The EXPANSION DEVICE and from there, now at normal pressure, it is returned to the evaporator and the cycle starts again.



COMPARISON WITH OTHER HEATING METHODS

Why a heat pump in preference to a traditional water heater

HPWH/Traditional Water Heaters Economy Comparisons
Heating 1000lt water from 20˚C to 55˚C requires 35000Kcal

Heater Type	Coal Boiler	Fuel Boiler	Gas	Resistance	Electric-Boosted Solar	HPWH
Energy Source	Coal	Diesel	Gas	Electricity	Solar & Electricity	Electricity & Air
Pollution	Very High	High	Moderate	None	None	None
Life Span	5 years	8 years	8 years	8 years	8 years	15 years
Hazard	Moderate	High	Very High	Moderate	Moderate	None
Fuel Value	5000 kcal/kg	8550 kcal/kg	26000 kcal/kg	860 kcal/kWh	860 kcal/kWh	860 kcal/kWh
COP Value	0.55	0.65	0.65	0.96	3.3	3.8
Heat Value	2750 kcal/kg	6630 kcal/kg	16900 kcal/kg	826 kcal/kWh	2838 kcal/kWh	3268 kcal/kWh

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ELECTRIC HEATERS → High energy consumption and operational costs.
GAS HEATERS → Faster heating but less efficient and higher emissions.
SOLAR HEATERS → Eco-friendly but dependent on sunlight availability.

COMMERCIAL HEAT PUMP HOT WATER SOLUTIONS

Klima Alfa's Commercial Heat Pump Hot Water Solutions are meticulously designed to deliver outstanding quality, efficiency, and durability. Each unit features advanced heat exchange technology and intelligent controls that ensure precise temperature regulation while optimizing energy use. Crafted with premium materials and modern design aesthetics, these systems integrate seamlessly into commercial mechanical rooms. Rigorous testing and robust engineering guarantee consistent performance and reliability, while their energy-saving operation helps businesses meet their sustainability goals and reduce operational costs.

KLIMA ALFA - Heat Pump Features:

1. Galvanized powder coated steel Shell.
2. High efficiency coaxial type heat exchanger.
3. Automatic unit on/off timer clock.
4. Insufficient water flow protection.
5. High/Low pressure protection.
6. Full sealed control box with water proof level IPX5.
7. Intelligent controller, with LCD display control panel.
8. Automatic reversing defrosting function.
9. Hot water pump inside (optional).
10. Auxiliary electric heater (optional).

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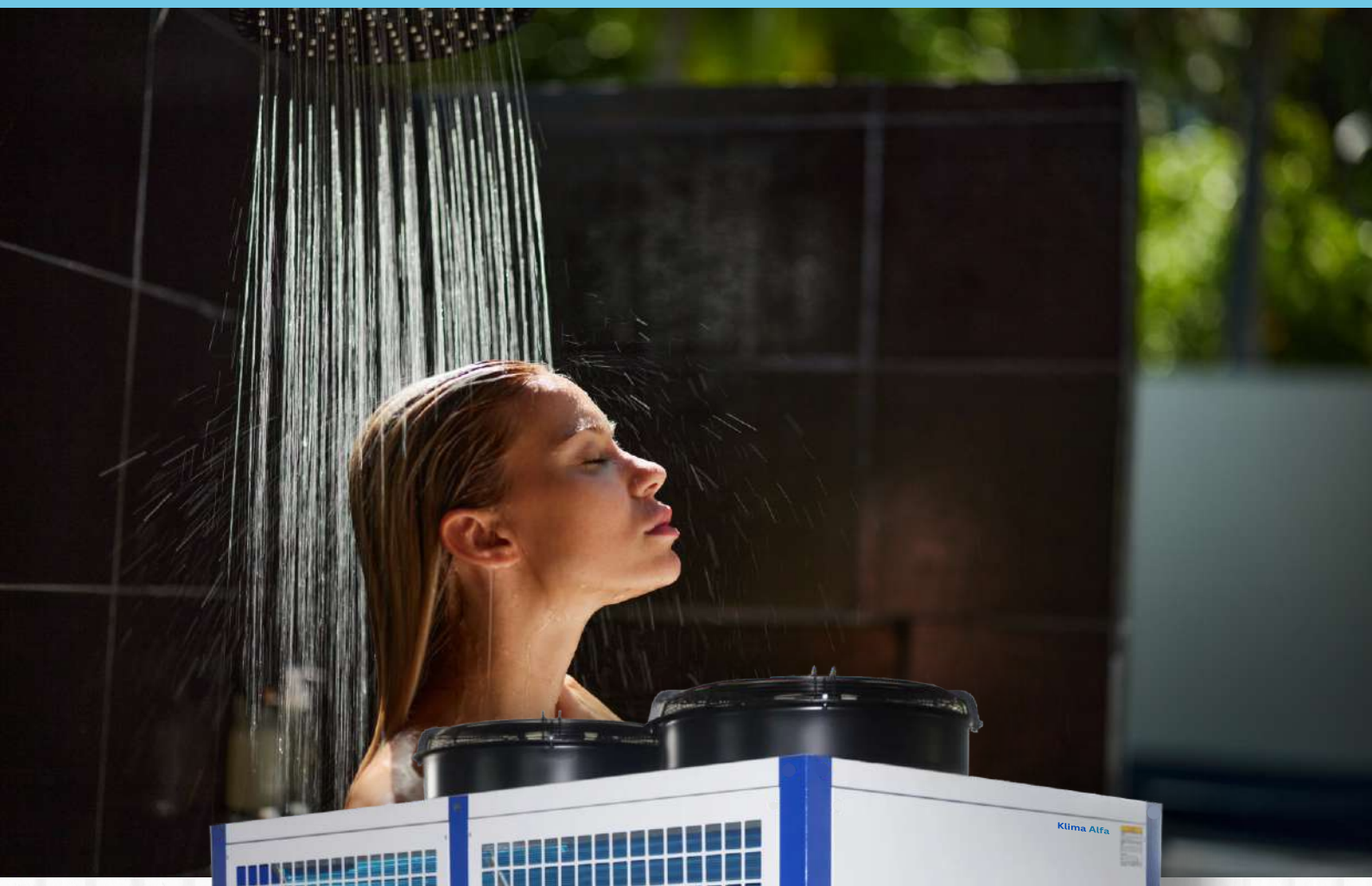

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COMMERCIAL HEAT PUMP 10 – 200 KW HEATING SPECIFICATIONS

Model	UNIT	KLIMA ALFA 10 S	KLIMA ALFA 20 S	KLIMA ALFA 40 S	KLIMA ALFA 70 S
Heating capacity*	kW	9	17	35	70
Water Heating	LPH	250	500	1000	2000
Electrical supply	V/Hz/phase	220/50 Hz/1Ph	415/50/3 ph	415/50/3 ph	415/50/3 ph
Recommended Tank	Ltrs	1000 Ltrs	2000 Ltrs	4000 Ltrs	2 X4000 Ltrs
Max water temperature	Deg C	60 Deg C	60 Deg C	60 Deg C	60 Deg C
Power consumption (Input)	kW	2.5	4.5	9	18
COP		3.6	3.8	3.9	3.9
Full load current	Amps	12	8	25	35
Refrigerant type		R134a	R134a	R134a	R134a
Compressor Type		Scroll/reciprocating	Scroll	Scroll	Scroll
Heat exchanger		Shell and coil	Shell and coil	Shell and coil	Shell and Coil
Fans		Axial type Direct drive, 4 blade 1 no	Axail Type Direct drive, 4 blade 1 no	Axial type Direct drive, 4 blade 2 nos	Axail Type Direct drive, 4 blade 3 nos
Water circulation rate	Lt./min	30 LPM	40 LPM	75 LPM	180 LPM
Diameter of pipe connections	mm / inch	25mm / 1"	25mm / 1"	25mm / 1"	37mm / 1.5"
Housing Dimensions		GI - powder coat finish	GI - powder coat finish	GI - powder coat finish	GI Powder coat
Height	mm	1100	1450	1700	1800
Width	mm	750	950	1200	1700
Depth	mm	450	450	850	950
Weight	Kg	150	180	300	500

Model	UNIT	KLIMA ALFA100 S	KLIMA ALFA 130 S	KLIMA ALFA 170 S	KLIMA ALFA 210 S
Heating capacity*	kW	100	130	170	210
Water Heating	LPH	2500	3250	4250	5250
Electrical supply	V/Hz/phase	415/50 Hz/3 Ph	415/50/3 ph	415/50/3 ph	415/50/3 ph
Recommended Tank	Ltrs	2 x4000 Ltrs	2 x 5000 Ltrs	3 x 4000 Ltrs	4 X4000 Ltrs
Max water temperature	Deg C	60 Deg C	60 Deg C	60 Deg C	60 Deg C
Power consumption (Input)	kW	27	35	43	52
COP		3.6	3.7	3.9	4.0
Full load current	Amps	12	75	109	127
Refrigerant type		R134a	R134a	R134-A	R134a
Compressor Type		Scroll/reciprocating	Scroll	Scroll	Scroll
Heat exchanger		Shell and Tube	Shell and Tube	Shell and Tube	Shell and Tube
Fans		Axial type Direct drive, 4 blade 1 no	Axail Type Direct drive, 8 blade 1 no	Axial type Direct drive, 4 blade 2 nos	Axail Type Direct drive, 4 blade 3 nos
Water circulation rate	Lt./min	330 LPM	360 LPM	420 LPM	500 LPM
Diameter of pipe connections	mm / inch	75mm / 3"	75mm / 3"	100mm / 4"	100mm / 4"
Housing Dimensions		GI - powder coat finish	GI - powder coat finish	GI - powder coat finish	GI Powder coat
Height	mm	2100	2450	2700	2800
Width	mm	850	950	1200	2700
Depth	mm	1450	1450	1500	1500
Weight	Kg	650	980	1100	1500

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KLIMA ALFA - High Temperature Heat Pump Features:

1. New Type compressor special designed with special accessories for high water temperature. Upto 80 Deg C
2. Galvanized powder coated steel shell.
3. High efficiency coaxial type heat exchanger.
4. Automatic unit on/off timer clock.
5. Insufficient water flow protection.
6. High/Low pressure protection.
7. Full sealed control box with water proof level IPX5.
B. Intelligent controller, with LCD display control panel.
9. Automatic reversing defrosting function enables units to work reliably in chilling climates.
10. Hot water pump inside (optional).
11. Auxiliary electric heater (optional).

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KLIMA ALFA HIGH TEMPERATURE HEAT PUMPS

Model	UNIT	KLIMA ALFA 6 HT	KLIMA ALFA 12 HT	KLIMA ALFA 24 HT	KLIMA ALFA 45 HT
Heating capacity*	kW	6	12	23	45
Electrical supply	V/Hz/phase	220/50 Hz/1 Ph	415/50/3 ph	415/50/3 ph	415/50/3 ph
Max water temperature	Deg C	75 Deg C	75 Deg C	75 Deg C	75 Deg C
Power consumption (Input)	kW	2.5	4.5	9	18
COP		2.4	2.6	2.55	2.55
Full load current	Amps	12	8	25	35
Refrigerant type		HFC blend	HFC blend	HFC blend	HFC blend
Compressor Type		Scroll/reciprocating	Scroll	Scroll	Scroll
low/ high pressure switch	bar	0.5/28	0.5/28	0.5/28	0.5/28
Heat exchanger		SS Shell and coil/BPHE	SS Shell and coil/BPHE	SS Shell and coil/BPHE	SS Shell and coil/BPHE
Fans		Axial type Direct drive, 4 blade 1 no	Axail Type Direct drive, 4 blade 1 no	Axail Type Direct drive, 4 blade 2 nos	Axail Type Direct drive, 4 blade 3 nos
Water circulation		Pump built in	Pump built in	pump built in	Pump Built in
water circulation rate	Lt./min	30 LPM	40 LPM	75 LPM	180 LPM
Diameter of pipe connections	mm / inch	25mm / 1"	25mm / 1"	25mm / 1"	37mm / 1.5"
Housing Dimensions		GI - powder coat finish	GI - powder coat finish	GI - powder coat finish	GI - powder coat finish
Height	mm	1100	1450	1700	1800
Width	mm	750	950	1200	1700
Depth	mm	450	450	850	950

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KLIMA ALFA COMMERCIAL SWIMMING POOL HEAT PUMPS

Features:

1. The advanced titanium heat exchanger, can withstand the erosion of chloride ions in water, using shell quality double-sided galvanized steel plate, durability.
2. LCD display control panel.
3. Automatic unit on/off timer clock.
4. Insufficient water flow protection.
5. High/Low pressure protection.
6. Automatic reversing defrosting function enables units to work reliably in chilling climates.

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KLIMA ALFA Swimming Pool Heat pumps are energy-efficient devices designed to maintain optimal water temperatures in swimming pools.They extract heat from the surrounding air and transfer it to the pool water, ensuring year-round comfort.

1. Energy Efficiency

- **KLIMA ALFA** Heat pumps consume significantly less energy compared to electric or gas heaters.
- Coefficient of Performance (COP) values of **KLIMA ALFA** Pool Heat Pumps can reach up to 5.0, meaning they deliver five times the energy they consume

2. **KLIMA ALFA** Pool Heat Pumps are Environmentally Friendly

- **KLIMA ALFA** heat Pumps Use eco-friendly refrigerants like R410A.
- Produce no direct emissions.

3. Durability

- **KLIMA ALFA** Equipped with titanium heat exchangers to resist corrosion from pool chemicals

4. Versatility

- **KLIMA ALFA** Pool Heat Pumps Operate efficiently in a wide range of ambient temperatures (0˚C to 45˚C

5. **KLIMA ALFA** Heat Pumps operate with Low Noise

- Advanced noise-reduction technology ensures quiet operation

ADVANTAGES FOR KLIMA ALFA POOL HEAT PUMPS

- Quick heating and consistent temperature maintenance.
- Compact size and easy installation.
- Robust performance for large-scale operations.
- Cost-effective heating solution for high water volumes.
- KLIMA ALFA Heat pumps are the most efficient and sustainable choice for swimming pool heating.
- Their adaptability to various pool sizes and environmental conditions makes them a preferred option for commercial applications.

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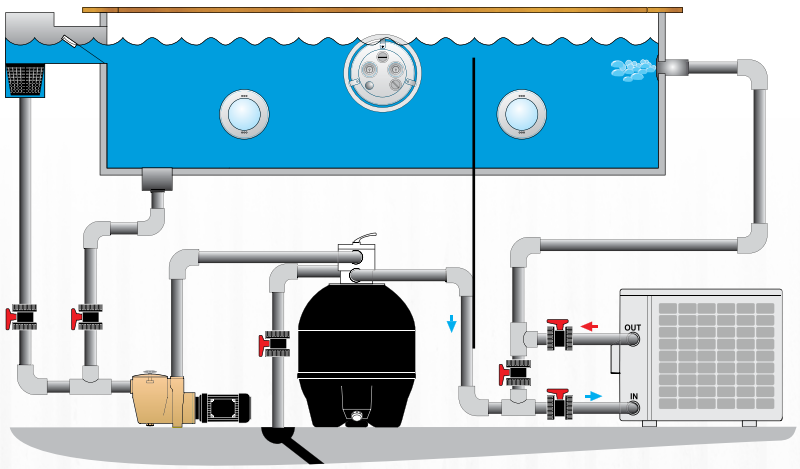

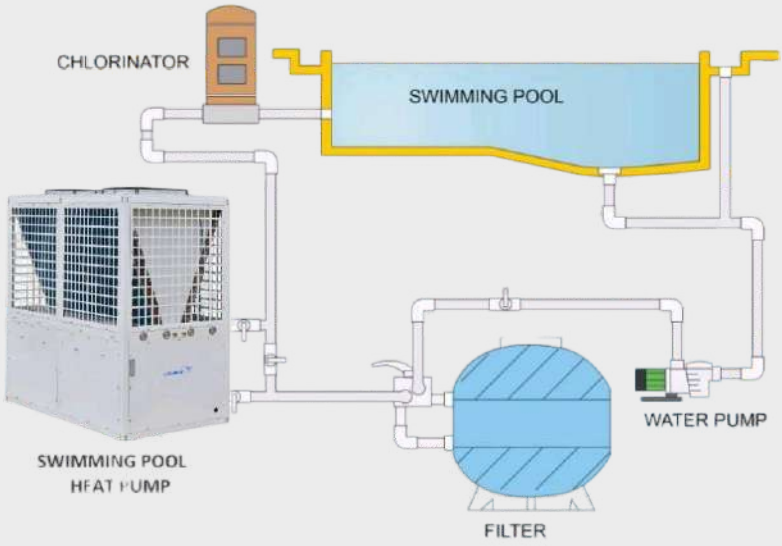

KLIMA ALFA APPLICATION OF 40 KW AND 80 KW HEAT PUMPS

1. 40 kW Heat Pump:

- Suitable for pools with capacities up to 40,000 liters
- Ideal for small commercial pools or residential setups.
- Energy-efficient with a COP of approximately 5.0 "1").

2. 80 kW Heat Pump:

- Designed for larger pools using multiple Heat Pumps [with capacities up to 400,000 liters.
- Perfect for resorts, clubs, and large-scale commercial pools.
- High heating capacity ensures rapid temperature maintenance

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SWIMMING POOL HEAT PUMP SPECIFICATION

Model	UNIT	KLIMA ALFA 20 SW	KLIMA ALFA 30 SW	KLIMA ALFA 40 SW	KLIMA ALFA 80 SW
Heating capacity*	kW	20	30	40	80
Electrical supply	V/Hz/phase	415/50 Hz/3 Ph	415/50/3 ph	415/50/3 ph	415/50/3 ph
Recommended Pool	Ltrs	50000 Ltrs	80000 Ltrs	1 lakh Ltrs	2 lakh Ltrs
Max water temperature	Deg C	40 Deg C	40 Deg C	40 Deg C	40 Deg C
Power consumption (Input)	kW	3.5	5	6.8	14
COP		5.7	6	5.9	5.7
Full load current	Amps	14	20	27	52
Refrigerant type		R407c	R407c	R407c	R407c
Compressor Type		Scroll/reciprocating	Scroll	Scroll	Scroll X 2 NOS
Heat exchanger		PVC Shell and Titanium coil	PVC Shell and Titanium coil	PVC Shell and Titanium coil	PVC Shell and Titanium coil
Fans		Axial type Direct drive, 4 blade 1 no	Axail Type Direct drive, 4 blade 1 no	Axail Type Direct drive, 4 blade 2 nos	Axail Type Direct drive, 4 blade 3 nos
Water circulation		Pump built in	Pump built in	pump built in	Pump Built in
Water circulation rate	Lt./min	130 LPM	200 LPM	300 LPM	580 LPM
Diameter of pipe connections	mm / inch	37mm/1.5"	37mm/1.5"	50 / 2"	50 / 2"
Housing Dimensions		GI - powder coat finish	GI - powder coat finish	GI - powder coat finish	GI Powder coat
Height	mm	1100	1700	1700	1800
Width	mm	900	1200	1400	1700
Depth	mm	900	950	950	950
Weight	Kg	150	180	300	500

* Nominal Heating capacity at rated conditions A15 / W 26 DEG C

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HEATING AND COOLING DC INVERTER SWIMMING POOL HEAT PUMP

COMFORTABLE TEMPERATURE CONTROL FOR SWIMMING POOL, WATER PARK, THEME PARK FOR SUMMER AND WINTER CONDITIONS

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Model	UNIT	KA SW I 50	KA SW I 100	KA SW I 160	KA SW I 190
Heating Capacity A15/W26	kW	18-56	31 - 102	53-165	60-195
Input Power	kW	2.5 - 12.5	4 - 23	6.8 - 40	8 - 46
COP		4.4 - 7.8	4.4 - 7.7	4.2 - 7.7	4.2 - 7
Cooling Capacity A45/W20	kW	9 - 30	18 - 60	30 - 100	35 -120
Input Power	kW	3 - 14	6 - 28	11 - 47	12 - 57
COP		2.1 - 2.7	2.1 - 2.7	2.1 - 2.7	2.1 - 2.7
Refrigerant	R410A				
Power Supply	380 V/ 3 PH 50HZ				
Max Power	KW	16	32	55	65
Max Current	AMP	30	60	104	123
Water Flow	M3/HR	27	54	90	108
Noise Level		65	75	86	85
Dimension	mm	1600 x 900x 1600	2200 x 1200 x 2200	2200 x 1200 2500	2400 x 1200 x 2800
Weight	KGS	400	600	800	1100

* Specifications may change due to continuous Improvements

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KLIMA ALFA HEAT PUMP DRYER SYSTEMS

CUSTOMISED HEAT PUMP DRYER SOLUTIONS FOR DRYING FOOD AND AGRICULTURAL PRODUCE

For Drying Cardamom, Pepper , Coconut , Jack fruit , Turmeric and other spices

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KLIMA HEAT RECOVERY HEAT PUMP SYSTEMS

KLIMA ALFA CUSTOMISED HEAT RECOVERY SYSTEMS

For industrial applications

COMPLETED PROJECTS:

(Special Machines) DUBAI AIRPORT MARHABA LOUNGE - 2014

As KLIMA ALFA we supplied Special conventional cooling unit for DUBAI AIRPORT - DXB upgraded from 0.68 lt/sec of chilled water to 29 tr reversible cycle units with special AHU. Specialized Solutions for Airports: Successfully designed, supplied, and installed advanced HVAC systems tailored for the extreme climate of Dubai and Abu Dhabi, ensuring optimal indoor air quality and passenger comfort in high-traffic airport environments.

Compliance with UAE Standards: Delivered projects adhering to stringent UAE energy efficiency and environmental standards, ensuring sustainable, high-performance HVAC systems for Dubai and Abu Dhabi airports.

Specialized Ground Support Systems: Delivered tailored HVAC and heating/chilled water piping solutions for ground support equipment, ensuring operational reliability under the region's extreme conditions.

COMPLETED PROJECTS:(Residential)

Heat pump unit supplied for His Highness Mr. JASEM MOHAMMED SAEED HUMAID ALNUAIMI

for Ajman Palace (40kW x 1, 80kW x 1 - 2 units) - 2024

Proven Track Record in High-Stakes Environments: Successfully completed mission-critical projects under tight deadlines, ensuring seamless integration with reputed clients.

COMPLETED PROJECTS:

(Special Machines) Heating/Cooling Systems for Pharma and Operation Theatres

As **KLIMA ALFA** we supplied Special conventional cooling unit for Al-Ain hospitals (New Medical Centre) to ensure the cooling of theatres to avoid humidity issues, heat pumps have been installed with single package nose mounted units to maintain RH and to reduce the power input.

Integrated Smart Controls: Advanced Building Management Systems (BMS) and PLC-based controls enable real-time monitoring of temperature, humidity, and pressure, ensuring automated adjustments and GMP compliance.

Klima Alfa™

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We make saving ENERGY easy. The sooner you call the faster you'll start saving money.

CALL AN ENERGY SAVINGS EXPERT TODAY!

WE DESIGN BUILD, INSTALL AND DELIVER
TOTAL HEATING & COOLING SOLUTIONS FOR LARGE PROJECTS

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