

C02 Heat Pumps



Natural refrigerant gases
= Zero Ozone Depletion and
Low Global Warming Potential



Lower energy consumption
= higher COP than
similar systems



Renewable energy
= environmental
sustainability



Why choose Edson?

We are committed to sustainable practices and the conservation of finite resources. We believe it is our responsibility to provide quality products that are energy efficient, economical, and especially environmentally sustainable. With over 60 years experience refining our products we offer the best thermodynamic solutions designed to meet the highest standards for all domestic, commercial and industrial applications.

See our full range of products online at edsonglobal.com

Technology

An Edson heat pump can help reduce energy usage over time and reduce carbon emissions. Our Heat Pumps are designed to the highest quality using superior components including Copeland Scroll Compressors and Ziehlbehm fans. The combination of these technologies provides a quieter unit without compromising reliability and efficiency.

Efficiency

The evaporator consists of inner-grooved rifle bore copper tubes, which significantly increase heat transfer by up to 20% over smooth bore tubing. Slit aluminium fins provide even greater transfer of heat from the air to the refrigerant. Copper tubes with aluminium fins offer the best balance between cost and heat transfer capabilities. The evaporator coil is epoxy coated for enduring protection from corrosion.

Coefficient of Performance (COP) varies depending on ambient air conditions. Edson hot water heat pumps average a COP of over 4 which means more than 75% of the energy used to produce hot water is free.

Safety

Our standard units have a Single Wall Heat Exchanger. Heat exchanger upgrade options include double wall (vented) tube in tube /coaxial and double wall stainless steel flat plate heat exchangers, providing an inbuilt safety mechanism that prevents potential cross contamination of refrigerant into potable water. Water and refrigerant circulate in separate tubes with an air gap separating them.

Environment

Refrigerant Gases - Typical units are manufactured using Synthetic Refrigerant Gases which although they have a Zero Ozone Deletion Ratio, they have high Global Warming Potential - e.g. R134a has a Global Warming Potential of 1,430. Edson also offers its range of Heat Pumps utilising Natural Refrigerant Gases which have a Global Warming Potential as low as one (1) - a vast difference to 1,430. There are also significant energy efficiency gains when using Natural Refrigerant Gases.

Heat Recovery

Refrigerant heat recovery or de-superheating is available in our Edson heat pumps to provide hot water for secondary application. Heat recovery units are also available for direct connection to refrigeration plant, ranging from air conditioning units to large scale central plant.

Air to Water Heat Pumps

A heat pump transfers heat from air to water, using electricity to drive the compressor and the fan rather than a traditional electric resistance water heater that uses electricity to directly heat the water. This results in a highly efficient transfer of energy, dependent on the ambient temperature, and is faster at higher temperatures, however heat gain is even made in sub zero temperatures or overnight, providing the potential for year round heating.

Ground Source Heat Pumps

A Ground Source Heat Pump uses the ground as a heat source in winter or heat sink in summer to moderate the temperature of the buildings on it. It transfers heat from water within the ground heat exchanger to water inside the building.

Water to Water Heat Pumps

Water sources can vary from ground water to lakes, rivers and oceans. The water to water unit is compact, quiet and harnesses nature's energy for hot water and swimming pool heating.

Design Options

A range of design options are available in heat pump design and components, such as the use of copper or titanium heat exchangers and in unit casing material.

Heating Only Units:

The heating only heat pump provides high efficiency water heating, giving maximum operating cost reduction and reliability.

Heating & Cooling:

The reverse cycle heat pump provides water heating and cooling. This unique ability is often used at resorts in tropical locations for maintaining pool water at a comfortable swimming temperature. It is also used to provide space heating and cooling.

Twin Heat Exchanger Options:

The twin heat exchanger model provides automated heating between two separate tasks from the single unit, such as efficient split temperature heating between pool and spa. Twin Wall Heat Exchangers are available as an upgrade.



Edson is Australian owned

Our products are engineered using the latest English and Australian expertise, and they are manufactured to the highest standards. Our use and understanding of a wide and varied range of materials means the best materials selection is made to meet the individual requirements of performance and service life. We provide our clients with the world's best and most cost effective solutions to meet their needs and to that end we are constantly evaluating and researching the latest technological, scientific and environmental innovations.



Edson uses a natural refrigerant, CO2 because of its low environmental impact and excellent thermodynamic performance. It is non-toxic with zero ODP (Ozone Depletion Potential) and very low GWP (Global Warming Potential).



Protecting our environment. We live in it.

EDSON GLOBAL CO2 (R744) AIR SOURCE HEAT PUMP PARAMETERS

						
MODEL		FAC-6ZW	FAC-25ZW	FAC-40ZW	FAC-75ZW	FAC-120ZW
	Power	220V/50Hz	380V/50Hz/3Ph	380V/50Hz/3Ph	380V/50Hz/3Ph	380V/50Hz/3Ph
	Heating Type	One pass	One pass	One pass	One pass	One pass
Standard Condition: Water Inlet : 19 Water Outlet :60 Ambient Temp DB 20°C / WB 15°C	Heating Capacity kW	6.9	24	40	75.5	125.4
	Power Input kW	1.5	5.3	9	16.7	26.6
	COP	5.1	4.5	4.4	4.5	4.7
	Hot Water Output L/h	131	503.3	838.8	1572.8	2629.8
Low Temp Condition: Water Inlet : 14 Water Outlet :60 Ambient Temp DB 7°C / WB 6°C	Heating Capacity kW	6.3	20	35	64	95
	Power Input kW	1.5	5	9.4	16.8	24.3
	COP	4.5	4	3.7	3.8	3.9
	Hot Water Output L/h	106	373.8	654.2	1196.3	1775.7
Low Temp Condition: Water Inlet : 14 Water Outlet:60 Ambient Temp DB -7°C / WB -8°C	Heating Capacity kW	5.1	14	28	49	78
	Power Input kW	1.45	4.8	10.1	16.8	26
	COP	3.5	2.9	2.8	2.9	3
	Hot Water Output L/h	85	261.6	523.3	915.9	1315
	Max. Current A	18	10.6	26	46	57
	Weight (Kg)	80	480	525	980	1457.9
	Product Size (mm)	600×320 ×1520	1280×800 ×1500	1537×1000 ×1884	2039×1106 ×2300	2470×1340 ×2505
	Refrigerant	Co2 (R744)	Co2 (R744)	Co2 (R744)	Co2 (R744)	Co2 (R744)
	Water Connection	DN15	DN15	DN20	DN20	DN25
	Ambient Temp Available (°C)	-25~43	-25~43	-25~43	-68	-25~43
	Water Inlet Available (°C)	5~60	5~50	5~50	5~50	5~50
	Water Outlet Available (°C)	45~90	45~90	45~90	45~85	45~90
	Noise (dB)	38	42	49	54	65

1. Standard Condition: Water Inlet: 19 Water Outlet: 60 Ambient Temp DB 20°C / WB 15°C

2. Low Temp Condition: Water Inlet: 14 Water Outlet: 60 Ambient Temp DB 7°C / WB 6°C

3. Low Temp Condition: Water Inlet: 14 Water Outlet: 60 Ambient Temp DB -7°C / WB - 8°C



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