

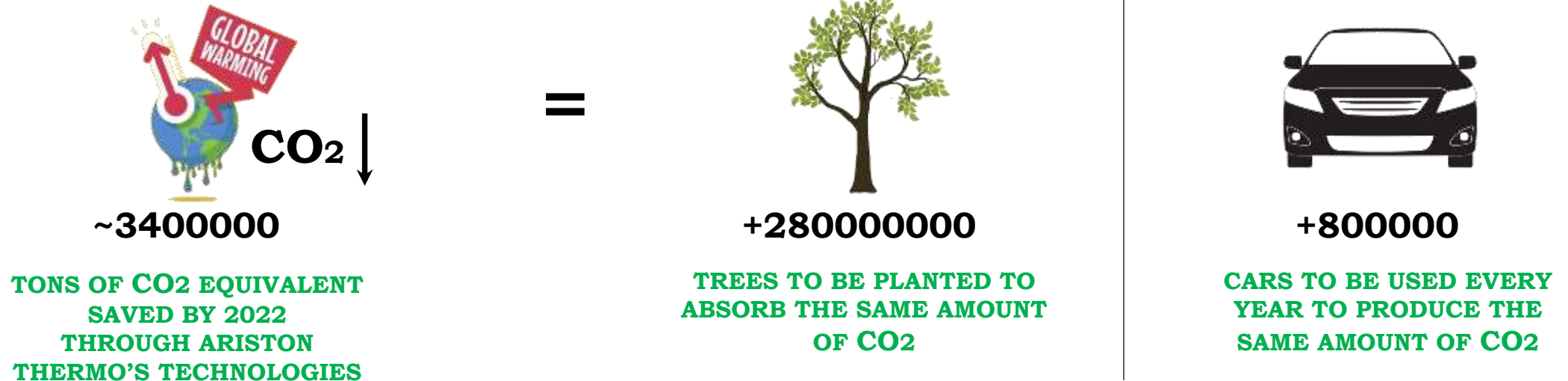


# **RACOLD – DOMESTIC HEAT PUMPS WATER HEATERS**

**90 years of experience in providing Innovative Thermic Solutions for Domestic, Commercial and Industrial spaces across the Globe.** Company is providing the Water heating Solutions to Domestic, Commercial and Industrial spaces under the Brand name of **“Racold”** in India

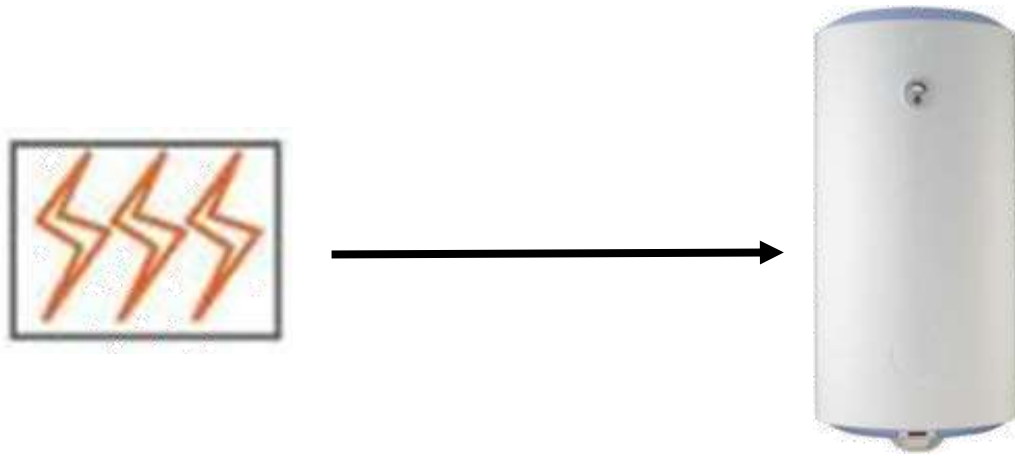
## COMMITTED TO HIGHLY ENERGY EFFICIENT SOLUTIONS

The Group has estimated that replacing Low-Efficiency Products with Ariston Thermo’s **New High-efficiency Technologies will allow curbing Carbon Dioxide Emissions by more than 3 million tons Globally by 2022**

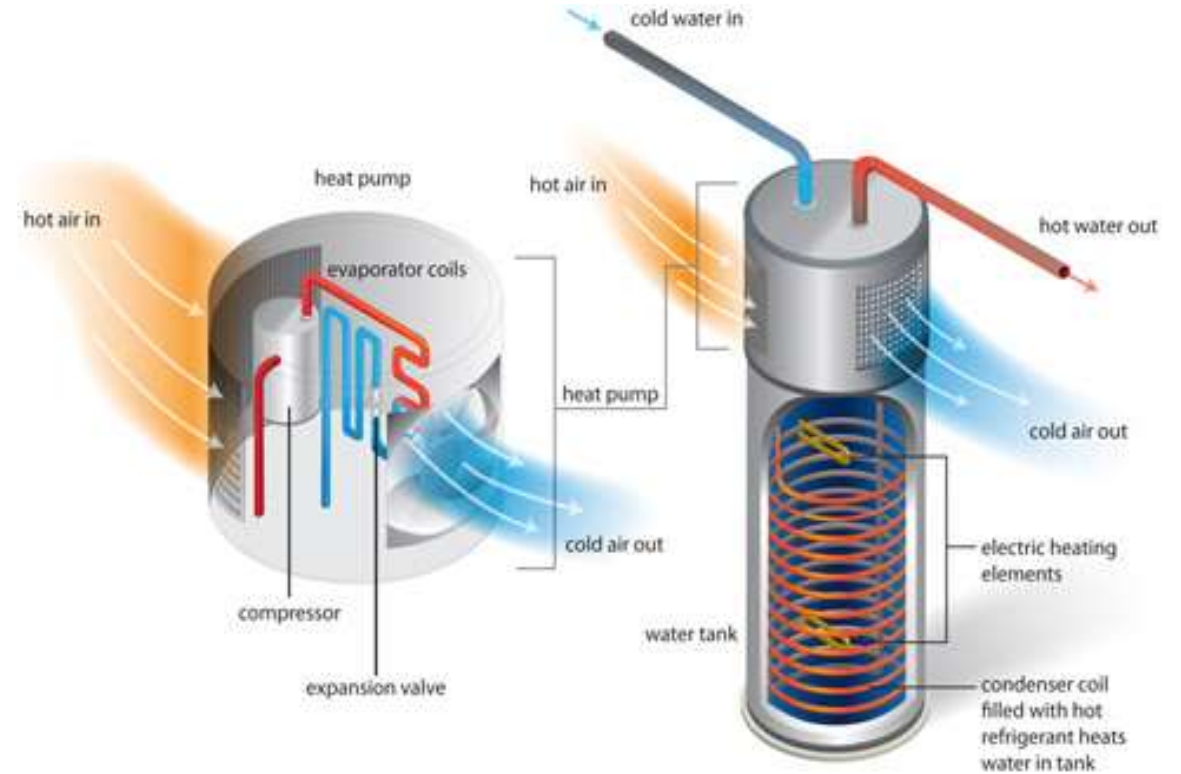


## POWER CONSUMPTION COMPARISON

### ELECTRIC HEATER AND AIR SOURCE HEAT PUMP



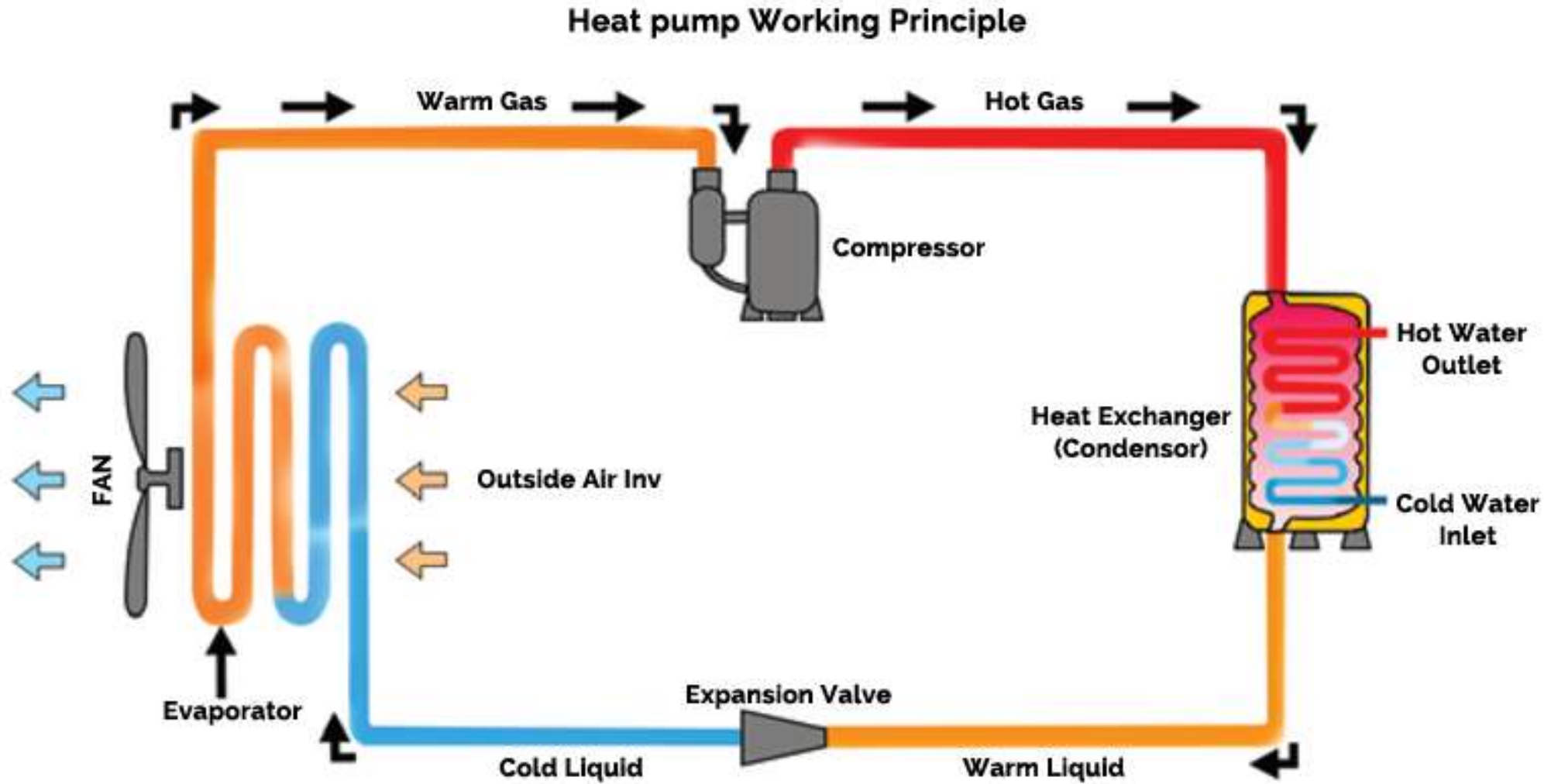
**1X Power Input** → **Lesser than 1X Heat Output**



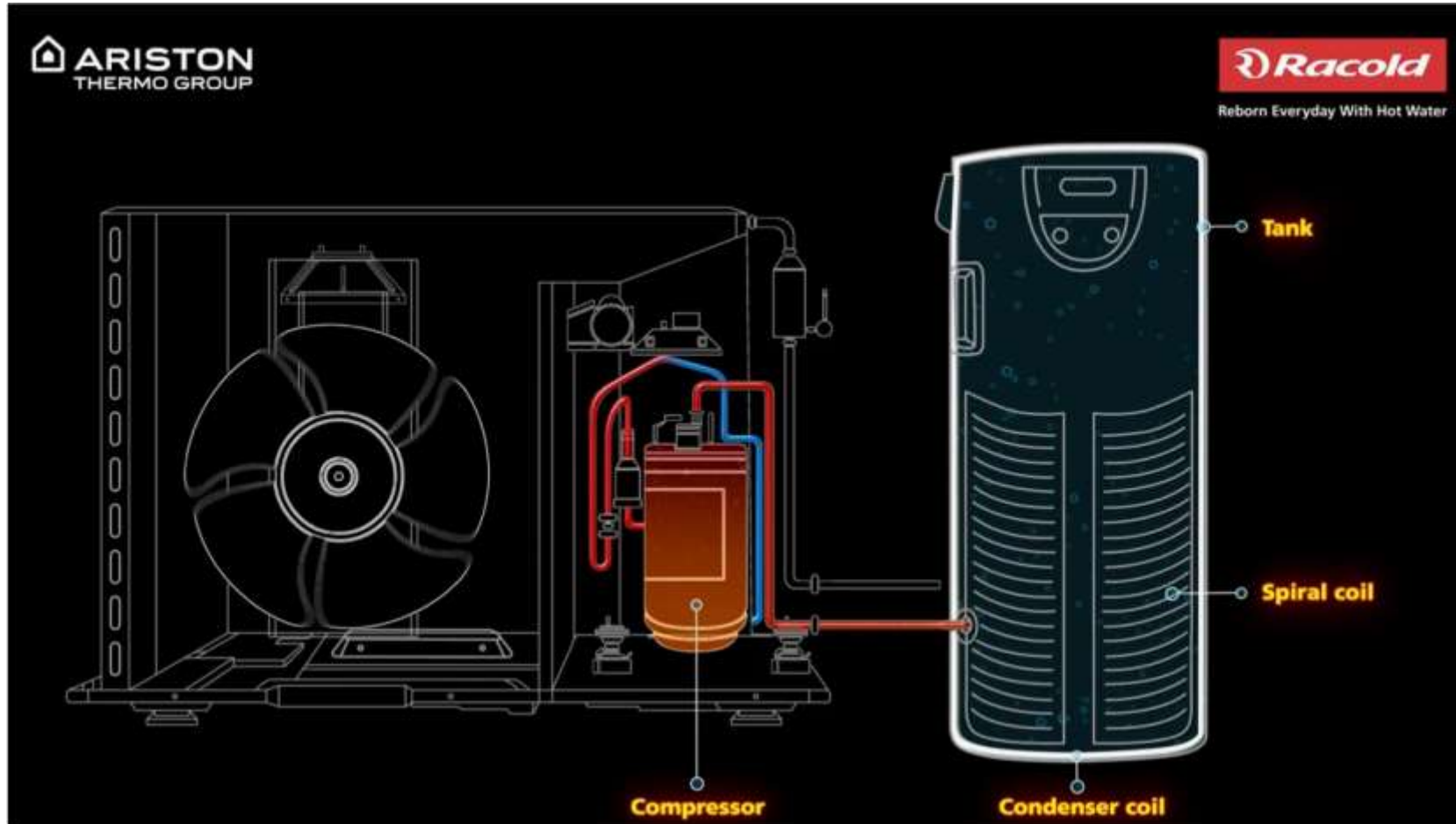
**1X Power Input** → **Heat Pump extracts Energy from ambient air to deliver upto 4X Heat Output**

# HOW AIR SOURCE HEAT PUMP WORKS

SCHEMATIC SHOWN FOR UNDERSTANDING PURPOSE ONLY



## RACOLD HEAT PUMP WATER HEATER WORKING:



[https://www.youtube.com/watch?v=iC\\_HQemsp7I](https://www.youtube.com/watch?v=iC_HQemsp7I)

## WHY RACOLD HEAT PUMP



### Reliable Water Temperature Outlet

The max. outlet water temperature of the unit is up to 75°C, always supplying reliable and sufficient hot water.



### State of art Technology Product

High efficiency Highly make Compressor, Titanium enamel coated Inner Tank to ensure greater corrosion resistance to hard water, isolated safe condenser, Magnesium Anode,



### Intelligent Controller with 7 modes of Operation

Adapts heat pump operation as per Customer need to meet 24X7 hot water demand in most efficient way



### Easy Installation, Less Maintenance

Easy to install, occupies less space



### Safer than Combustion based System



### Lower Running Cost – Saves upto 70%\* Energy



### Best in Class CoP of 4.2



### Longer Warranty Policy, Long Life Span

RACOLD products are of reliable quality and provide 5 years warranty on compressor, Hot water Storage Tank & 2 years on Product.



### Reduce your Carbon Foot Prints



# RACOLD DOMESTIC HEAT PUMP MODELS TECHNICAL SPECIFICATIONS:



RACOLD		MODEL		
<b>Comfort</b>	<i>Models</i>	HF150	HF200	HSF 300
	<i>Type</i>	Split	Split	Split
	<i>Capacity [liter]</i>	150	200	300
	<i>Voltage/Phase/Frequency</i>	220 / 1N / 50Hz	220 / 1N / 50Hz	220 / 1N / 50Hz
	<i>Heating capacity [kW]</i>	2.6	2.6	2.85
	<i>Max Heat Pump Power Input [kW]</i>	0.72	0.72	0.62
	<i>Heating Element [kW]</i>	1.8	1.8	1.5+1
	<i>sound power dB(A)</i>	52	52	52
	<i>Max. température on HP mode [°C]</i>	55	55	62
	<i>Max. temperature on HE mode [°C]</i>	75	75	75
<b>Hot Water Production</b>	<i>Rated Hot Water Output*</i>	112	100	101
<b>Heating Time</b>	<i>*Heating Time (h:mm) Heat Pump</i>	2:20	3:20	4:47
	<i>*Heating Time (h:mm) Heat Pump + Heating Elements</i>	1:20	2:00	2:57
<b>Efficiency (Erp)</b>	<i>Working pressure [bar]</i>	8	8	8
	<i>Working range</i>	7- 43°C	7- 43°C	-7- 43°C
	<i>COP</i>	3.8	3.8	4.25
<b>Durability</b>	<i>Anode</i>	Magnesium anode	Magnesium anode	Active + Magnesium
	<i>Heating element</i>	Immersed	Immersed	Immersed
<b>Ease of use</b>	<i>HMI / Special functions</i>	<b>6 modes of Operation</b>	<b>6 modes of Operation</b>	<b>7 modes of Operation</b>
<b>Warranty Periode</b>	<i>Tank [year]</i>	5	5	5
	<i>Compressor [year]</i>	5	5	5
	<i>Heating Element [year]</i>	2	2	2
	<i>Other accessories [year]</i>	2	2	2
<b>Refrigerant Type</b>		R134a	R134a	R134a
<b>Weight</b>	<i>Tank net weight - without water (Kgs)</i>	50	75	100

# Environment DB/WB 20/15°C, Water Temperature ranges from 15°C/55°C, The calculated heating time is considering inlet water Temperature @ 20°C





## CALCULATION OF ENERGY & COST SAVINGS:



Parameters of Comparison	Heat Pump Water Heating 100% Capacity utilization			Electric Heating 100% Capacity Utilization			Diesel Hot Water Generator 100% Capacity Utilization			LPG Hot Water Generator 100% Capacity Utilization			CNG Hot Water Generator 100% Capacity Utilization		
	150	200	300	150	200	300	150	200	300	150	200	300	150	200	300
Hot water Consumption Capacity [liter/ day]	150	200	300	150	200	300	150	200	300	150	200	300	150	200	300
Approx. Power Consumption using Heat Pump Heating Annum (KWH)	586	781	1258	2227.1	2969	5345	2394	3194	4788	2482	3285	4947	2394	3194	4788
Approx. Electricity Cost for water heating per Annum (Rs)	5861	7813	12576	22271	29690	53450	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fuel Consumption Per Annum							239 litre	319 litre	478 litre	196 Kg	260 Kg	391 Kg	182.7 Kg	243.8 Kg	365.5 Kg
Cost of Fuel per Annum (Rs)							22485	29999	44970	13875	18364	27655	15077	20115	30153
<b>Excess Cost of heating compared to Heat Pump Heating (Rs) / annum</b>				<b>16410</b>	<b>21877</b>	<b>40874</b>	<b>16624</b>	<b>22186</b>	<b>32394</b>	<b>8014</b>	<b>10551</b>	<b>15078</b>	<b>9216</b>	<b>12302</b>	<b>17577</b>

Assumptions considered while calculating the Energy, Cost Saving:

1. Water circulation: Inlet Water Temperature: 20°C to Target Outlet Water Temperature: 55°C
2. Heat Pump operation is considered to be in Green Mode (which is most energy efficient way of water heating)
3. Accumulated Standing heat loss through Hot water storage Tank considered negligible
4. Diesel / LPG / CNG Hot Water Generator efficiency considered to 93%, 90%, 93%
5. Cost of Diesel 94 Rs/litre, cost of LPG 70.66 Rs/Kg, cost of CNG 82.5 Rs/Kg considered
6. Cost of Electricity considered to be 10 Rs/KWH
7. The above Energy and cost savings calculations are based on running cost only



## CALCULATION OF ENERGY & COST SAVINGS:



Parameters of Comparison	Heat Pump Water Heating 80% Capacity utilization			Electric Heating 80% Capacity Utilization			Diesel Hot Water Generator 80% Capacity Utilization			LPG Hot Water Generator 80% Capacity Utilization			CNG Hot Water Generator 80% Capacity Utilization		
	120	160	240	120	160	240	120	160	240	120	160	240	120	160	240
Hot water Consumption Capacity [liter/ day]	120	160	240	120	160	240	120	160	240	120	160	240	120	160	240
Approx. Power Consumption using Heat Pump Heating Annum (KWH)	469	625	938	1782	2376	3563	1913	2555	3830	1980	2640	3959	1916	2555	3831
Approx. Electricity Cost for water heating per Annum (Rs)	4690	6253	9376	17822	23762	35630	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fuel Consumption Per Annum							191 litre	255 litre	383 litre	157 Kg	209 Kg	313 Kg	146.3 Kg	195.0 Kg	292.5 Kg
Cost of Fuel per Annum (Rs)							17968	23997	35973	11070	14759	22131	12069	16091	24128
<b>Excess Cost of heating compared to Heat Pump Heating (Rs) / annum</b>				<b>13132</b>	<b>17509</b>	<b>26254</b>	<b>13278</b>	<b>17744</b>	<b>26596</b>	<b>6380</b>	<b>8506</b>	<b>12755</b>	<b>7379</b>	<b>9838</b>	<b>14751</b>

Assumptions considered while calculating the Energy, Cost Saving:

1. Water circulation: Inlet Water Temperature: 20°C to Target Outlet Water Temperature: 55°C
2. Heat Pump operation is considered to be in Green Mode (which is most energy efficient way of water heating)
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# THANK YOU

For any Product related Queries, services, Complaints, we are just call away **020 6734 2288**  
or also connect through **whatsapp chatbot 7362 888 999**

Got something to say? Write to us & we will get back to you [Customer.care@racold.com](mailto:Customer.care@racold.com)

