

HRU

HEAT RECOVERY UNIT (HEAT PUMP)



- Choose from 7kW, 10kW & 14kW
- 400 and 800 VDC options available
- Heat & cool glycol system
- Refrigerant cooling for driver / passenger
- Coolant cooling for battery / passenger
- Coolant mixture 50% water / 50% glycol
- Compact design
- Plug & Play installation
- Configurable for various applications
- CAN controlled
- External PTC coolant heater available

Our heat recovery units (HRU) are engineered to capture and repurpose waste heat from vehicles, transforming otherwise lost energy into a valuable resource, helping to reduce fuel consumption, cut emissions, and lower operational costs. Designed with a strong focus on efficiency, durability, and safety, these systems enable operators across industries to maximise energy utilisation while advancing their sustainability goals.

At Calatherm, we go beyond standard solutions by offering application-specific, vehicle-focused systems tailored to the unique thermal demands of each vehicle platform, ensuring optimal performance, extended battery life, and safe operation under all duty cycles.

By integrating advanced heat recovery technologies with tailored thermal management solutions, Calatherm supports customers in achieving both performance and environmental objectives, delivering value today while preparing for the energy challenges of tomorrow.

BENEFITS

- Improve system efficiency through repurposing waste heat from vehicle systems.
- Enhances the vehicle range and energy efficiency.
- Condenser outlet for heating coolant, optional HV coolant heater to boost coolant temperature.
- Various sensors on the refrigerant and coolant to allow safe operation and control.
- Optional cabin HVAC connection.
- Bespoke systems available – designed, built and supplied to suit customer specific requirements.

TECHNICAL SPECIFICATION

Model No		HRU-12-7-400-12-1-1	HRU-12-7-800-12-1-1	HRU-16-10-800-12-1-1	HRU-20-14-800-12-1-1	
Capacity	Displacement	34 cc	34 cc	46 cc	60 cc	
	Cooling	7 kW	7 kW	10 Kw	14 Kw	
	Heating	6~12 kW	6~12 kW	9~16 kW	10~20 kW	
Voltage Range		210~455 VDC	450~850 VDC	450~850 VDC	450~850 VDC	
Ambient Temperature		Dependent on radiator pack				
Fluid	Refrigerant	R1234yf + R134a	R1234yf + R134a	R1234yf + R134a	R1234yf + R134a	
	Battery Circuit	50% Water / 50% Glycol	50% Water / 50% Glycol	50% Water / 50% Glycol	50% Water / 50% Glycol	
Connection	HV Compressor	Hirschmann	Hirschmann	Hirschmann	Hirschmann	
	LV Connector	HDSCS	HDSCS	HDSCS	HDSCS	
	Water In/Out (Battery)	NW20				
	Water In/Out (AC)					
General	Communication	CAN	CAN	CAN	CAN	
	Mass	20.5 Kg (dry)	20.5 Kg (dry)	24 Kg (dry)	30 Kg (dry)	
	Dimensions	Length	424 mm	424 mm	443 mm	478 mm
		Width	310 mm	310 mm	310 mm	415 mm
		Height	289 mm	289 mm	270 mm	343 mm

OUTLINE DIMENSIONS

Note that the below image is representative of the 34cc variant.

