

HUNT TNAR Series HOT WATER HEATER REVERSE FLAME – 200 kW to 5MW

Supply and install Hot Water Heater(s), which shall be manufactured in Australia using skilled labour and proven materials, for optimum life and efficiency and will comply with the following Australian Standards:

AS1200-2000	Pressure Equipment
AS1210-2010	Pressure Vessels
AS1657-1992	Fixed platforms, walkways, stairways and ladders – Design, construction and installation
AS1853-1983	Automatic oil and gas burners – Mechanical draught
AS1271-2003	Safety valves, other valves, liquid level gauges and other fittings for boilers and unfired pressure vessels
AS3000-2007	Electrical Installations
AS3814-2009	Industrial and commercial gas-fired appliances
AS3920.1-1993	Assurance of Product Quality – Pressure Equipment Manufacture
AS3992-1998	Pressure equipment – Welding and brazing qualification
AS4037-1999	Pressure equipment – Examination and testing
AS4343-2005	Pressure equipment – Hazard levels
AS4458-1997	Pressure Equipment – Manufacture

HOT WATER HEATER(S)

The hot water heater(s) shall be of Hunt Boilers manufacture or equal approved and must comply with the following performance and construction criteria:

General

The hot water heater shall be designed and constructed in accordance to AS1210-1997 as a fired heater and be suitable for a pressurised system, constrained by the maximum operating pressure designated within this specification.

The hot water heater(s) shall be suitable to operate in a fully flooded state, where the water or other liquid is heated to a temperature below boiling point at normal atmospheric pressure.

The hot water heater(s) shall be designed for a maximum Working Pressure of 600 kPa and Operating Pressure of 570 kPa.

The hot water heater(s) shall have minimum efficiency at a maximum output of 87.5% when fired on natural gas and measured in accordance with BS7190 and BS 845.

The hot water heater(s) shall be suitable for the fitment of a suitable Heat Recovery Condensing Unit, packaged at the time of delivery, or for retrofit at a later time.

Construction

The hot water heater(s) shall have a horizontal configuration and of a standard design currently in volume production, with preference given to Australian built products.

It shall be manufactured from suitable grades of carbon steel and employ a reverse flame, three pass, wet back design methodology.

The hot water heater(s) shall include a hinged front door and a bolted rear door complete with horizontal flue outlet, allowing full access to the furnace and fire tubes for inspection and maintenance.

ADELAIDE

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MELBOURNE

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The hot water heater(s) will be provided with an adequate number of inspection openings to facilitate internal boiler inspection and cleaning as required by the design standards without the necessity to remove flow and return piping.

Burners and Burner Control

The burner shall be of packaged forced draught type designed.

The following burner control protocol shall apply:

Hot Water Heater with capacity of up to 5MW	High/Low Burner Operation
(Option) Hot Water Heater with capacity greater than 1MW	Fully Modulating Burner Operation

Where the hot water heater includes the option to have a modulating burner, the burner shall automatically modulate to suit load conditions required of the plant.

Hot Water Heater Valves and Controls

The hot water heater(s) shall be supplied complete with valves, fittings and controls including:

- High limit manual reset thermostat
- Remote stop/start input relay
- Boiler run output relay
- Common fault output relay
- Low water probe
- Safety relief valve(s)
- Flanged flow, return and vent connections.
- Flow connection temperature gauge.
- Heater pressure gauge

Refractory

Where possible a fibre type refractory shall be used to minimise weight and improve insulation effectiveness.

Documentation

The Hot Water Heater(s) shall be provided with a complete set of documentation as follows:

- Design Registration Statement
- Design verification Statement
- Manufacturer's Data Report
- Complete Instruction Manuals (2 sets - electronic)

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General Capacity Specification

The hot water Heater(s) shall be provided as follows:

Model	Hunt TNAR or approved equal
Rated Continuous Capacity	200 kW to 5 MW
Transport Mass	0.74 tonne to 16.5 tonne
Flooded Mass	1.08 tonne to 23.92
Minimum Thermal Efficiency (As measured by BS7190 and BS 845)	87.5%
Maximum Operating Temperature	99°C
Design pressure	600 kPa
Maximum operating pressure	570 kPa
Hydrostatic Test Pressure	982 kPa
Fuel type	Natural Gas
Burner	Riello, Saacke, or Nu Way, packaged type or approved equal
Principle Design Standards	AS1200, AS1228, AS2593, AS3920.1, AS3992, AS4343 and AS4458

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