

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

- AS1200-2000 Pressure Equipment
- AS1210-1997 Pressure Vessels
- AS1271-2003 Safety valves, other valves, liquid level gauges and other fittings for boilers and unfired pressure vessels
- 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

CONDENSING BOILER(s)

The Condensing Boilers(s) shall be of Hunt Boilers manufacture or equal approved and must comply to the following performance and construction criteria:

General

The Condensing Boiler(s) 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 Condensing Boiler(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 Condensing Boiler(s) shall be designed for a maximum Working Pressure of 570 kPa and Operating Pressure of 540 kPa.

The Condensing Boiler(s) shall have minimum efficiency at a maximum output of 94.5% when fired on natural gas and measured in accordance with BS7190 and BS 845, based on an inlet gas temperature to the Heat Recovery Condensing section of 200°C.

The Condensing Boiler(s) shall be designed such that the restriction imposed on the system is not sufficient to require the fitment of any additional powered flue fan, other than that already included with the burner package.

Construction

The Condensing Boiler(s) shall have a horizontal configuration in a single module package and of a standard design currently in volume production, with preference given to Australian built products.

The hot water heater section shall be manufactured from suitable grades of carbon steel and employ a reverse flame, three pass, wet back design methodology.

The heat recovery condensing section shall be manufactured from suitable grades of stainless steel and be provided with fin pitches on the heat exchanger tubes that limit deposition formation. All gas and condensate collectors associated with the heat recover condensing section shall also be manufactured from suitable grades of stainless steel to minimize corrosion effects of the gas and water products.

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SYDNEY (Hunt Boilers)

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The Condensing Boiler(s) shall include a hinged front door, bolted rear door complete with vertical flue outlet and other covers allowing full access to the furnace, fire tubes and heat recovery section for inspection and maintenance.

Burners and Burner Control

The burner shall be of packaged forced draught type designed.

The following burner control protocol shall apply:

(Standard) Condensing Boiler	High/Low Burner Operation
(Option) Condensing Boiler	Fully Modulating Burner Operation

Where the Condensing Boiler(s) includes the option to have a modulating burner, the burner shall automatically modulate to suit load conditions required of the plant.

Condensing Boiler Valves and Controls

The Condensing Boiler(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

Insulation

The Condensing Boiler(s) shall be fully insulated over all side and top surfaces using Glasswool or Rockwool insulation, selected to be suitable for the continuous operating temperature of the unit.

A suitable metal case shall cover over the insulation with all longitudinal and transverse joints lapped by a minimum of 40mm and all joints being made weatherproof with the application of a suitable sealant.

Documentation

The Condensing Boiler(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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HUNT ENVIROPAK Series CONDENSING BOILERS REVERSE FLAME – 200 kW to 4000 kW

General Capacity Specification

The Condensing Boiler(s) shall be provided as follows:

Model	Hunt ENVIROPAK or approved equal
Rated Continuous Capacity	?? MW
Transport Mass	?? tonne
Minimum Thermal Efficiency (As measured by BS7190 and BS 845)	94.5%
Maximum Operating Temperature	99°C
Design pressure	570 kPa
Maximum operating pressure	540 kPa
Hydrostatic Test Pressure	1650 kPa
Fuel type	Natural Gas
Burner	Saacke, Nu Way, Ecoflam packaged type or approved equal
Principle Design Standards	AS1200-2000, AS1210-1997, AS3920.1-1993, AS4343-2005 and AS4458-1997

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