

## HUNT ENVIROPAK Series CONDENSING BOILERS REVERSE FLAME – 200 kW to 3000 kW

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
AS1210-2010	Pressure Vessels
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

### 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.

#### ADELAIDE

599 Port Road, West Croydon SA 5008  
Ph: 61 8 8268 8877 Fax: 61 8 8347 1311

#### MELBOURNE

49 Lambeck Drive, Tullamarine Vic 3043  
Ph: 61 3 8336 1100 Fax: 61 3 8336 1177

#### MELBOURNE (Hunt Boilers)

11 Helen Kob Drive, Braeside Vic 3195  
Ph: 61 3 9580 9377 Fax: 61 3 9580 9411

#### BRISBANE (Hunt Boilers)

10/37 Mortimer Road, Acacia Ridge Qld 4110  
Ph: 61 7 3277 4730 Fax: 61 7 3277 9730

#### SYDNEY (Hunt Boilers)

4/38 Powers Road, Seven Hills NSW 2147  
Ph: 61 2 9674 1255 Fax: 61 2 9674 1877

#### PERTH (Hunt Boilers)

1/14 Baling Street, Cockburn Central WA 6164  
Ph: 61 8 9414 8787 Fax: 61 8 9414 8383

## HUNT ENVIROPAK Series CONDENSING BOILERS REVERSE FLAME – 200 kW to 3000 kW

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. 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	<b>High/Low Burner Operation</b>
(Option) Condensing Boiler	<b>Fully Modulating Burner Operation</b>

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

#### ADELAIDE

599 Port Road, West Croydon SA 5008  
Ph: 61 8 8268 8877 Fax: 61 8 8347 1311

#### MELBOURNE

49 Lambeck Drive, Tullamarine Vic 3043  
Ph: 61 3 8336 1100 Fax: 61 3 8336 1177

#### MELBOURNE (Hunt Boilers)

11 Helen Kob Drive, Braeside Vic 3195  
Ph: 61 3 9580 9377 Fax: 61 3 9580 9411

#### BRISBANE (Hunt Boilers)

10/37 Mortimer Road, Acacia Ridge Qld 4110  
Ph: 61 7 3277 4730 Fax: 61 7 3277 9730

#### SYDNEY (Hunt Boilers)

4/38 Powers Road, Seven Hills NSW 2147  
Ph: 61 2 9674 1255 Fax: 61 2 9674 1877

#### PERTH (Hunt Boilers)

1/14 Baling Street, Cockburn Central WA 6164  
Ph: 61 8 9414 8787 Fax: 61 8 9414 8383

## HUNT ENVIROPAK Series CONDENSING BOILERS REVERSE FLAME – 200 kW to 3000 kW

Complete Instruction Manuals (2 sets - electronic)

### General Capacity Specification

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

Model	<b>Hunt ENVIROPAK or approved equal</b>
Rated Continuous Capacity	<b>200 kilowatts to 3 MW</b>
Transport Mass	<b>1.15 tonne to 5.85 tonne</b>
Flooded Mass	<b>1.65 tonne to 8.83 tonne</b>
Minimum Thermal Efficiency (As measured by BS7190 and BS 845)	<b>94.5%</b>
Maximum Operating Temperature	<b>99°C</b>
Design pressure	<b>600 kPa</b>
Maximum operating pressure	<b>570 kPa</b>
Hydrostatic Test Pressure	<b>982 kPa</b>
Fuel type	<b>Natural Gas</b>
Burner	<b>Riello, Saacke, Nu Way packaged type or approved equal</b>
Principle Design Standards	<b>AS1200, AS1210, AS3920.1, AS3992, AS4343 and AS4458</b>

#### ADELAIDE

599 Port Road, West Croydon SA 5008  
Ph: 61 8 8268 8877 Fax: 61 8 8347 1311

#### MELBOURNE

49 Lambeck Drive, Tullamarine Vic 3043  
Ph: 61 3 8336 1100 Fax: 61 3 8336 1177

#### MELBOURNE (Hunt Boilers)

11 Helen Kob Drive, Braeside Vic 3195  
Ph: 61 3 9580 9377 Fax: 61 3 9580 9411

#### BRISBANE (Hunt Boilers)

10/37 Mortimer Road, Acacia Ridge Qld 4110  
Ph: 61 7 3277 4730 Fax: 61 7 3277 9730

#### SYDNEY (Hunt Boilers)

4/38 Powers Road, Seven Hills NSW 2147  
Ph: 61 2 9674 1255 Fax: 61 2 9674 1877

#### PERTH (Hunt Boilers)

1/14 Baling Street, Cockburn Central WA 6164  
Ph: 61 8 9414 8787 Fax: 61 8 9414 8383