

**BURNERTECH COMBUSTION
ENGINEERING LTD.**

INVERTERJET[®] BURNER SERIES

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- Inverterjet[®] / HME series
- Safety feature
- Cylindrical burner problem
- Standard pre-mix burner problem
- Inverterjet[®] solution
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INTRODUCTION

The Inverterjet® - Bringing a revolutionary new concept of inward flame technology as opposed to the outward firing flame of a traditional cylindrical premix burner resulting in a more compact, easily accessible design suitable for use in all types of boilers including reverse pass designs.

The Inverterjet® system incorporates three of the most technologically advanced components in the combustion industry:

- The Inverterjet HM burner head,
- The fully electronics SV2 valve with its touch screen control, and
- The dual microprocessor Burner management unit.

The low NOx Inverterjet® HME is one of the most innovative burner systems available today.



INVERTERJET® EVOLUTION

- ▶ Inverterjet® HM
 - Bringing a revolutionary new concept into reality.
 - Using traditional pneumatic gas controls.



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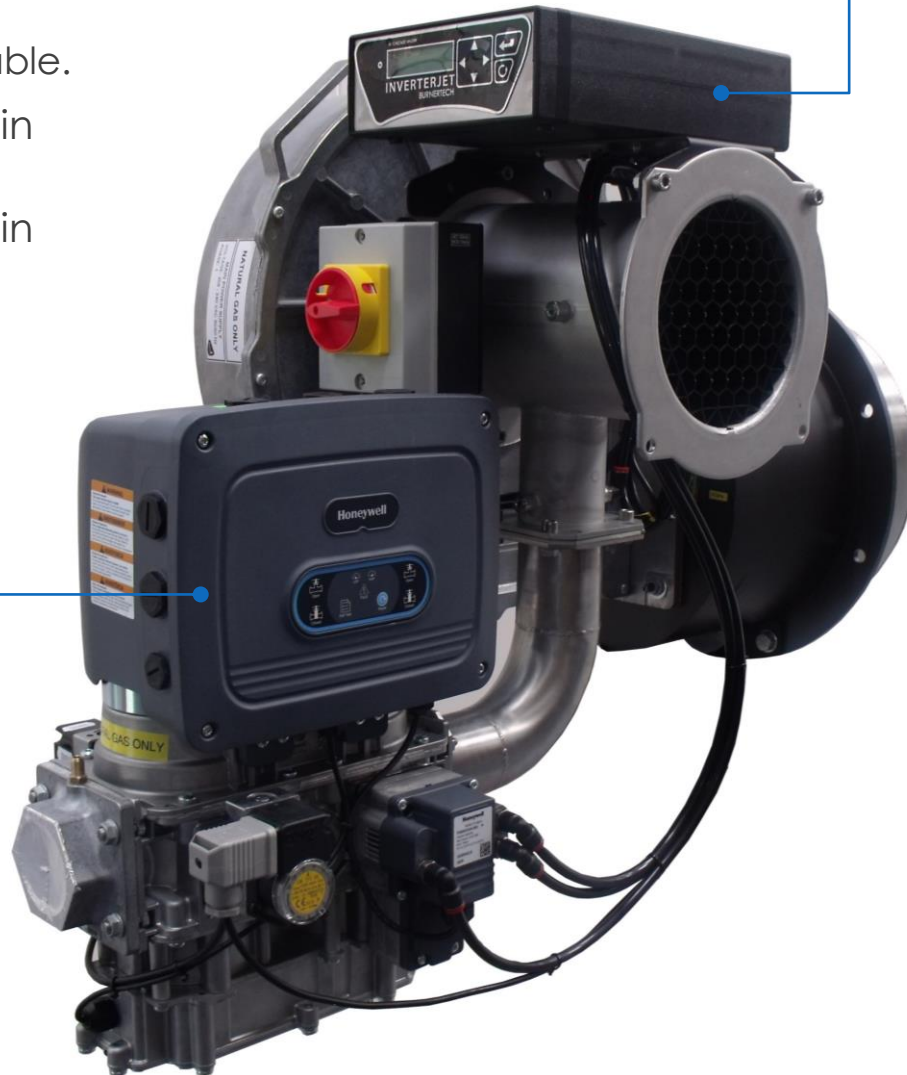
- ▶ The fully electronic SV2 valve
 - Gives perfect precise control of air/gas ratio, throughout a large modulation range by utilising its integrated stepper motor and mass airflow sensors.
 - Additional ability for O₂ trim, VPS and Modbus.
- ▶ Powerful HMI touch screen commissioning tool for the SV2 gas valve
- ▶ The heart of the system is the dual micro processor controller with its powerful and adaptable inputs and outputs.
 - Advanced cascading functionality
 - Can sequence 16 appliances providing the ability to control up to a massive 20MW of power.

INVERTERJET® / HME SERIES

- One of the most innovative and futuristic pre-mixed burner in the world.
- Made in the UK

- ▶ 400kW to 1.2MW available.
- Up to 2MW available in 2019
- Up to 3MW available in late 2019.

- ▶ The fully electronic SV2 valve.

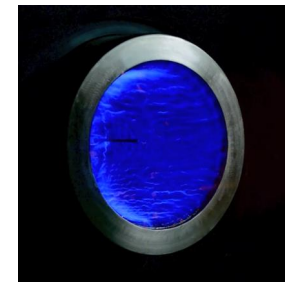


- ▶ The heart of the system is the dual micro processor controller with its powerful and adaptable inputs and outputs.

- Advanced cascading functionality:
 - Can sequence 16 appliances providing the ability to control up to a massive 20MW of power.

- ▶ Patented Inverterjet® Inward firing burner.

- Stable and clean combustion with ultra low NOx emission.



SAFETY FEATURE

- ▶ Factory pre-set enables full electronic control of the gas/air mixture across the modulation range.
- ▶ Mechanical adjustment of the gas valve impossible thus eliminating any human error by untrained engineer
- ▶ Adjustment on site is only possible with the touch screen interface by a fully qualified commissioning engineer



PROBLEM: CYLINDRICAL BURNER

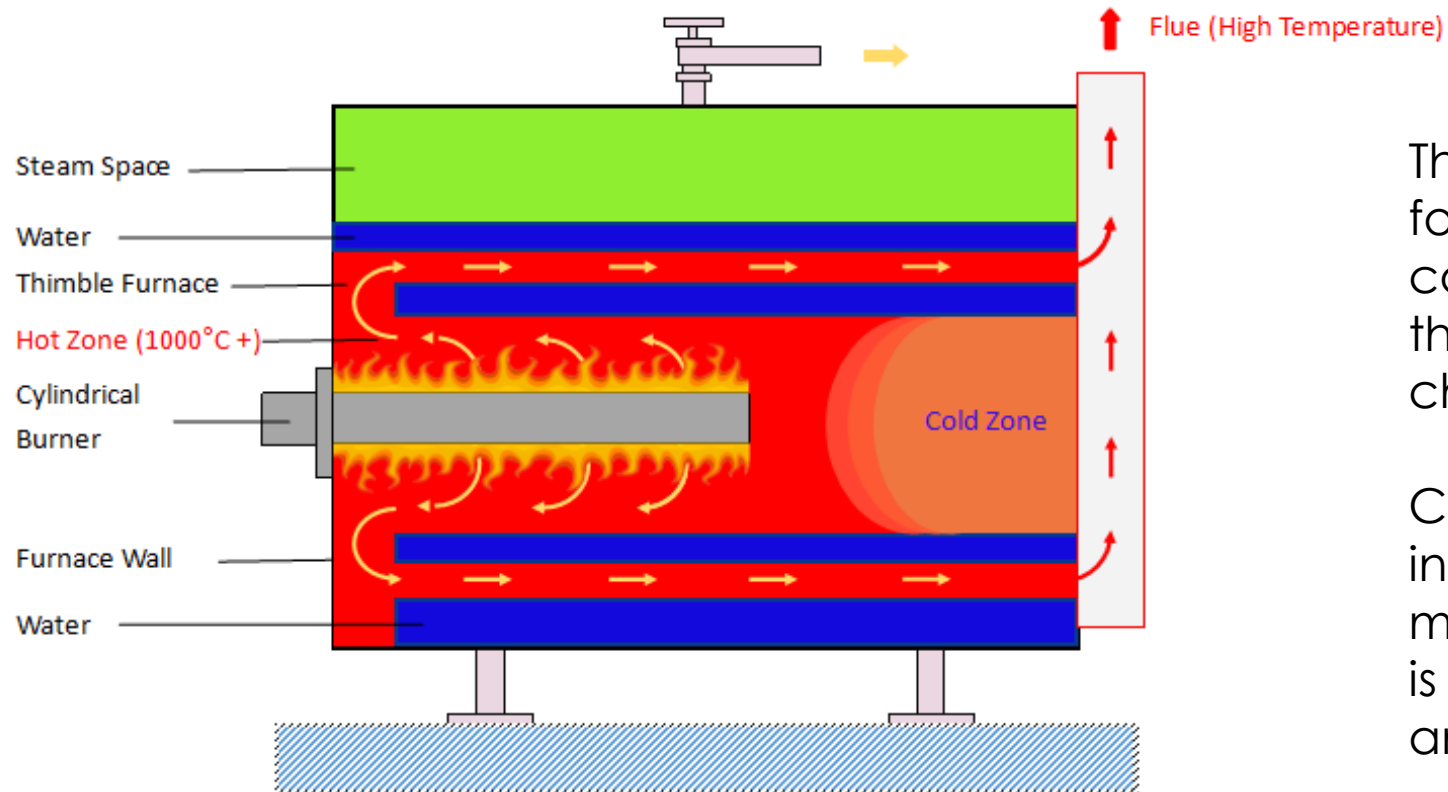


Fig.1 Cylindrical Burner in Boiler: Uneven temperature distribution

The Cold zone formation can lead to condensation inside the combustion chamber.

Cold zone formation inside the burner also means that the system is less efficient than if an Inverterjet® is used.

PROBLEM: STANDARD PRE-MIX BURNER

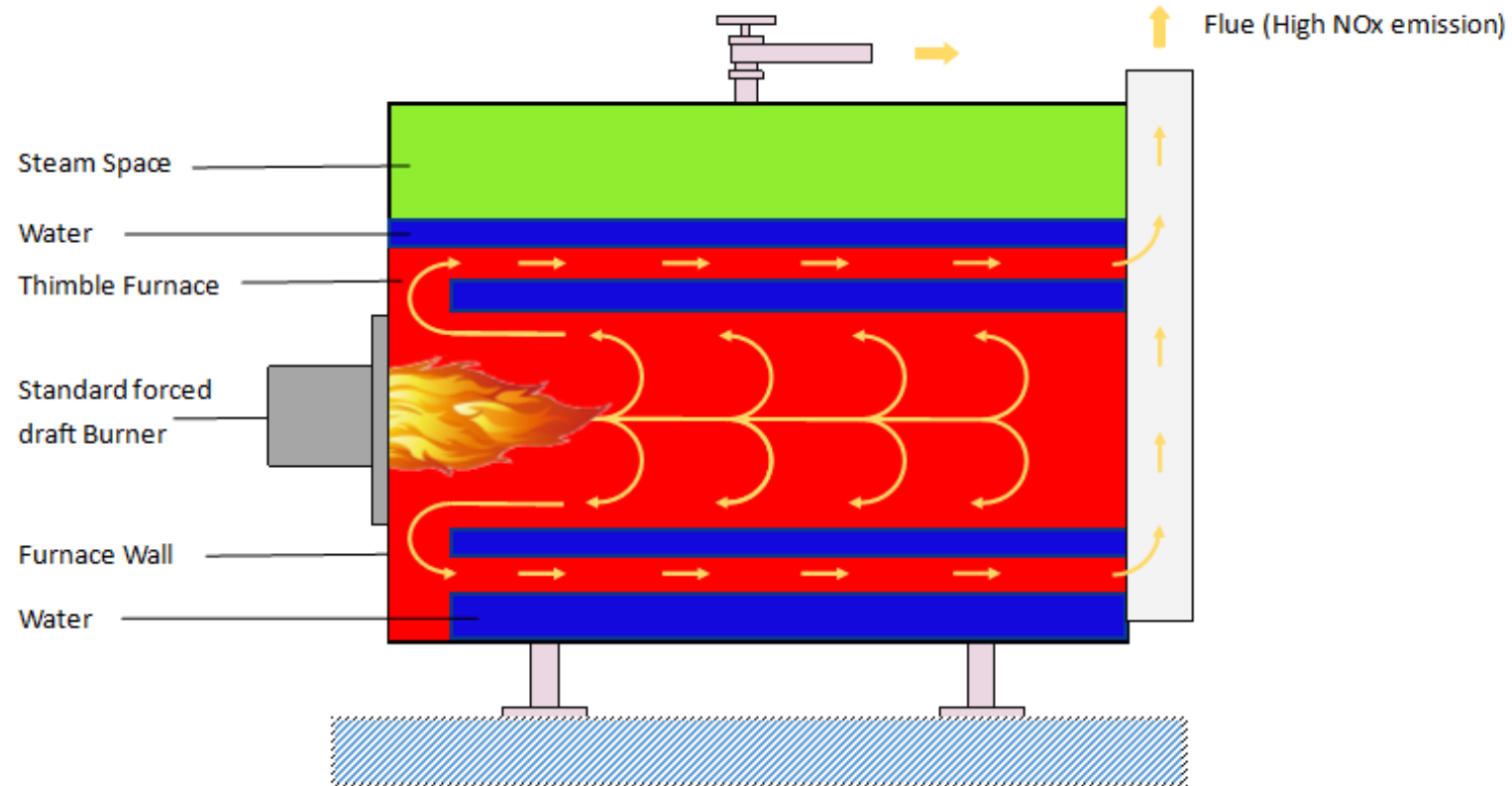


Fig.2 Traditional forced draft burner with High NOx levels

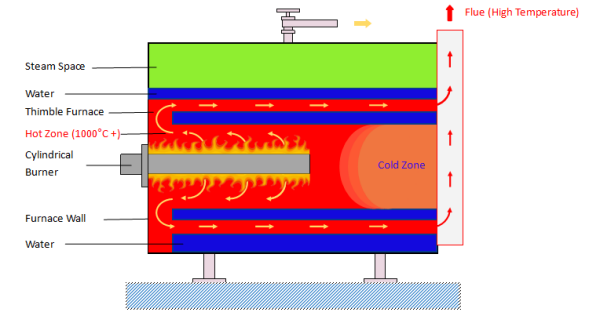


Fig.1 Cylindrical Burner in Boiler: Uneven temperature distribution

SOLUTION: INVERTERJET®

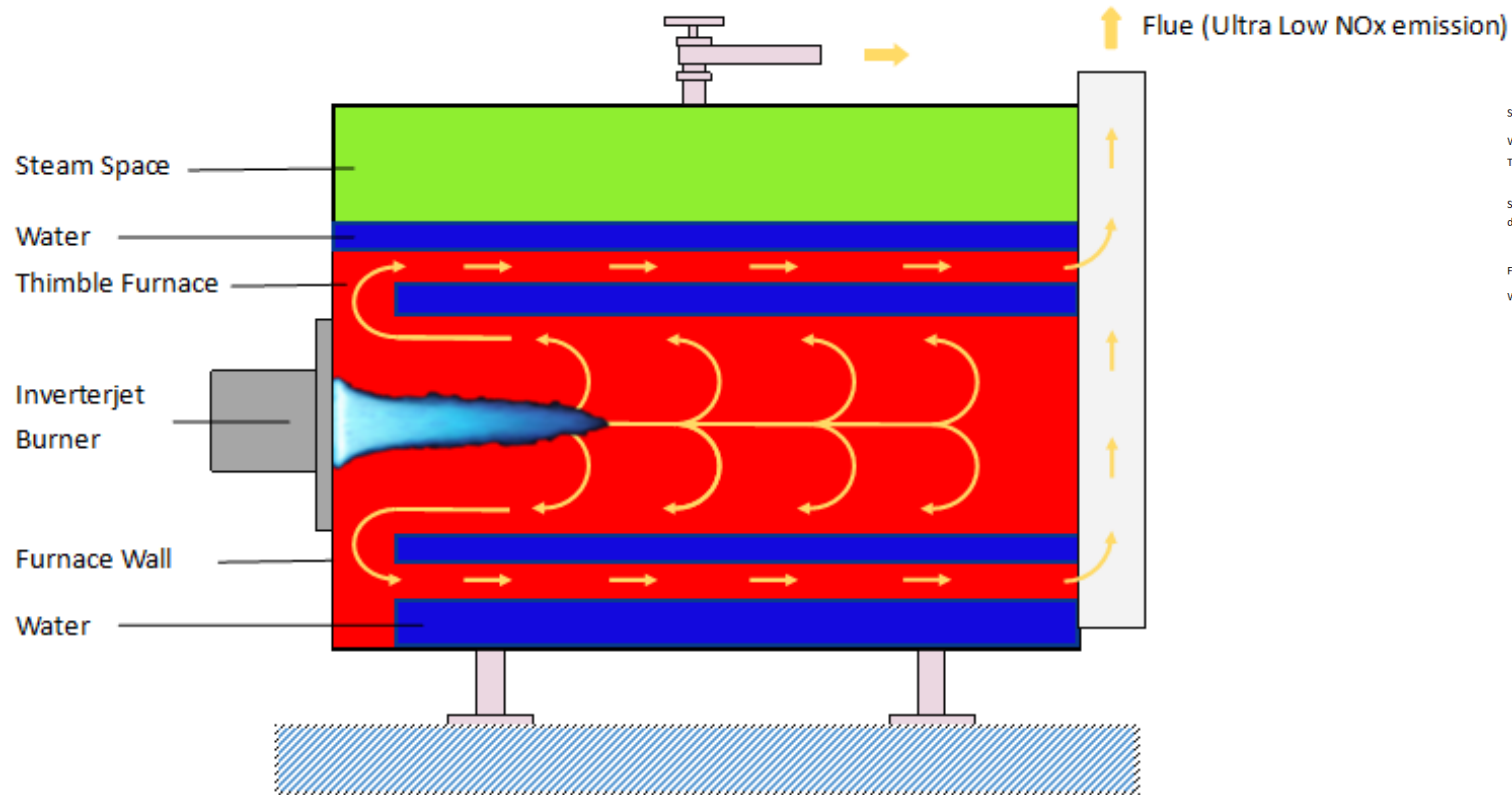


Fig.3 Burnertech's revolutionary advanced Inverterjet® burner with Ultra low NOx

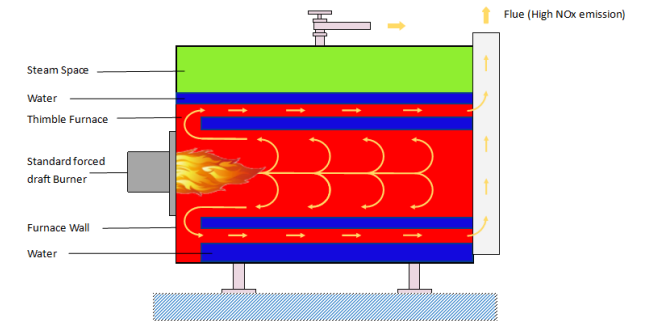


Fig.2 Traditional forced draft burner with High NOx levels

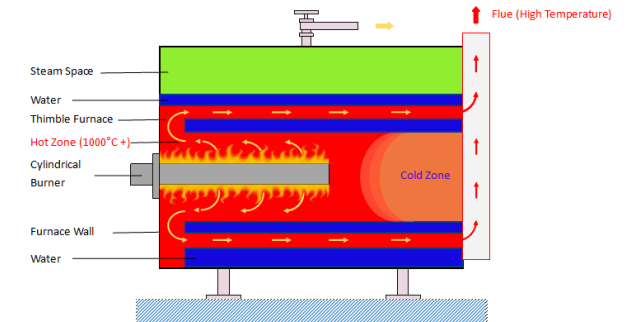


Fig.1 Cylindrical Burner in Boiler: Uneven temperature distribution



PROBLEM: CYLINDRICAL BURNER

With a typical cylindrical premix burner, it is impossible to open the boiler door without removing the cylindrical burner head

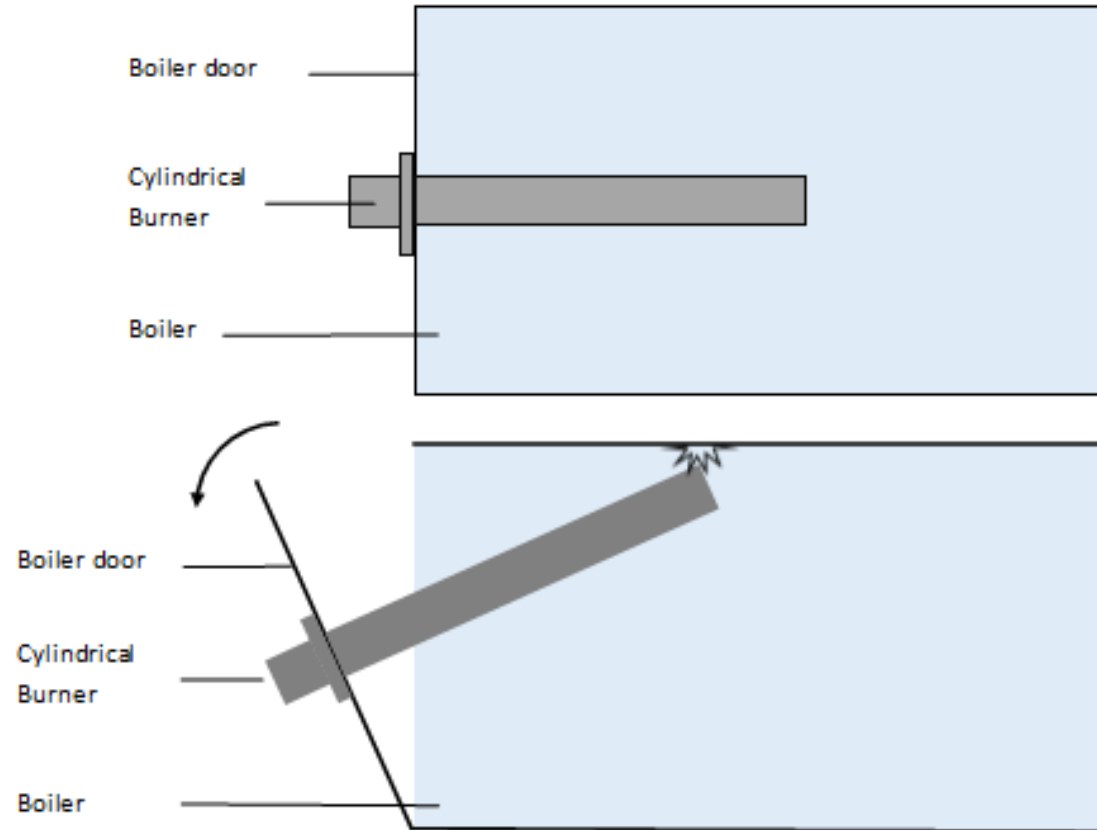


Fig.4 Typical cylindrical premix burner with its deep penetration

SOLUTION: INVERTERJET®

The Inverterjet® with its low penetration inward firing burner head facilitates easy access to both the boiler and the burner

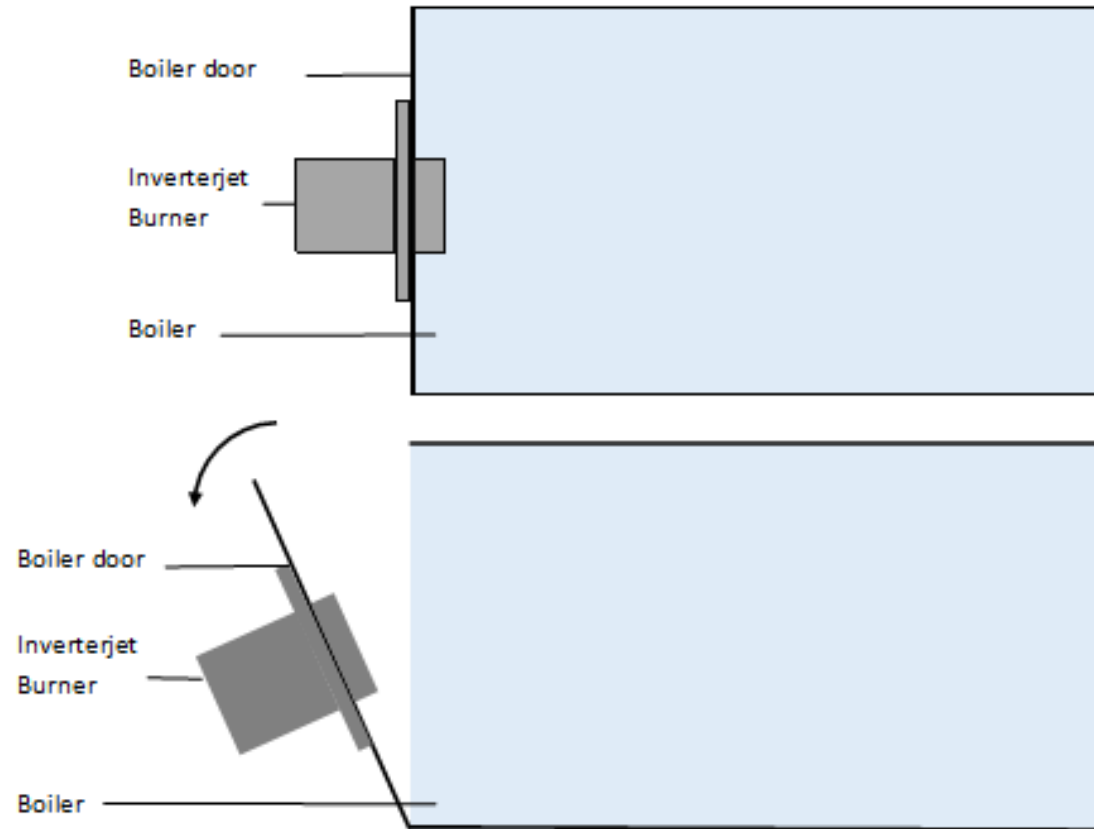


Fig.5 Inverterjet® Burner with it's low penetration inward firing burner head

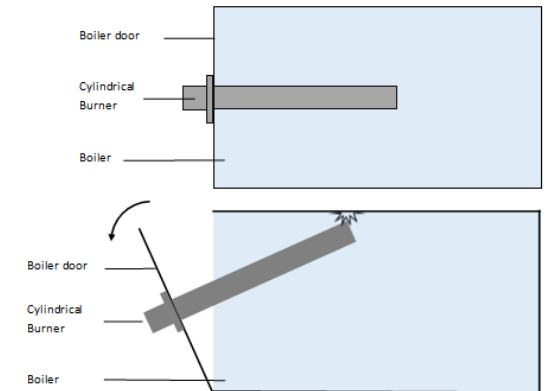
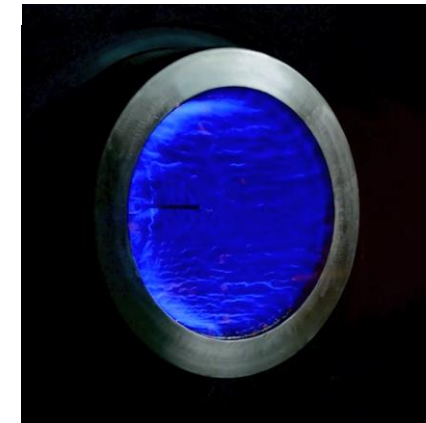


Fig.4 Typical cylindrical premix burner with its deep penetration

CONCLUSION: INVERTERJET®

- Stable and clean combustion with ultra low NOx.
- Easy to maintain
- Full electronic control
- Advance safety features
- Powerful HMI touch screen commissioning tool for the SV2 gas valve
- Advance cascading functionality



THANK YOU

E: info@burnertech.co.uk

T: +44 1204 393 222

