

**Unical<sup>®</sup>**

# STEEL BOILERS

General introduction



Professional Range

# STEEL BOILERS FAMILY



MODAL



ELLPREX



TRISTAR



TRIOPREX N



TRISTAR 3G 2S





# MODAL

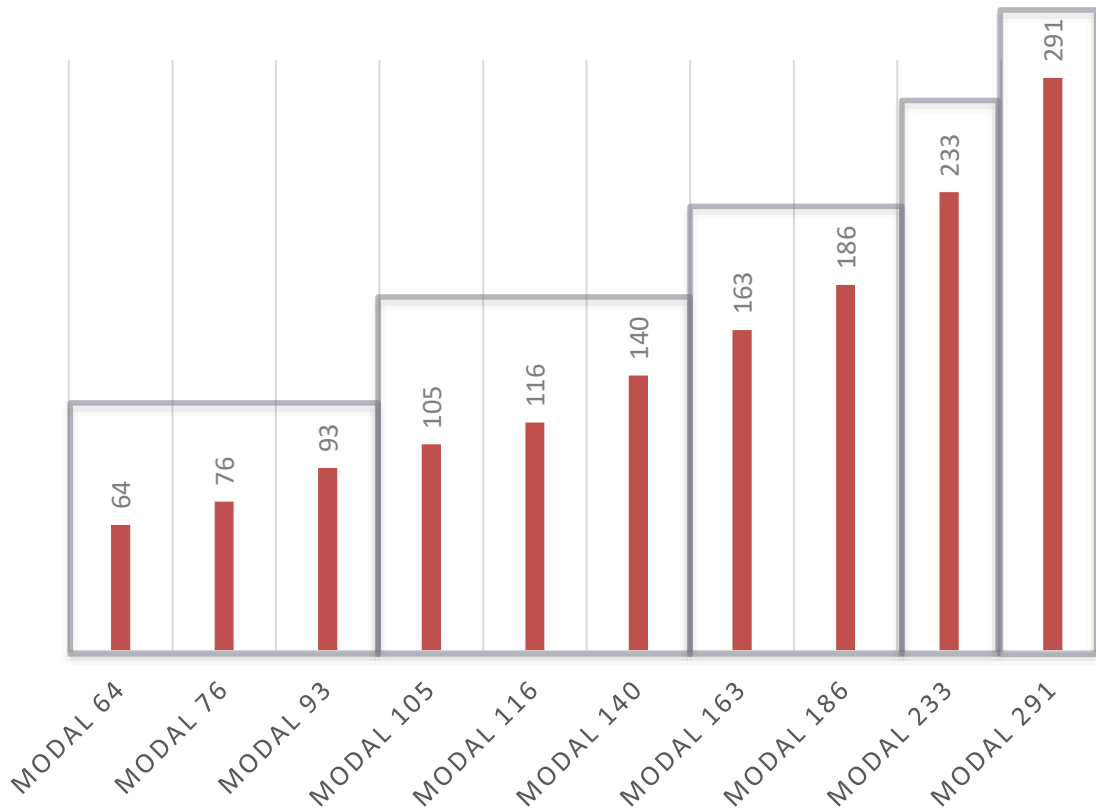
Pressurized steel boilers for pressure jet gas or oil burner



- REVERSED FLAME combustion chamber
- TUBE BUNDLE upwards decentralized to avoid the condensation
- HIGH THICKNESS SMOKE PIPES with anti-condensing effect
- TURBULATORS in the smoke pipes to increase thermal exchange
- Boiler body with 60 mm of ROCK WOOL INSULATION
- ADJUSTABLE DOOR with double opening side with self-centering locking
- Separate PANEL BOARD
- Maximum WORKING PRESSURE: 6 bar (up to 10 bar on request)

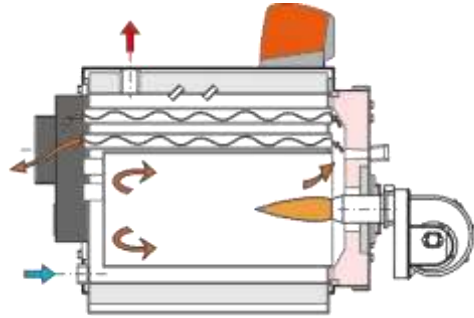


# MODAL Power Range

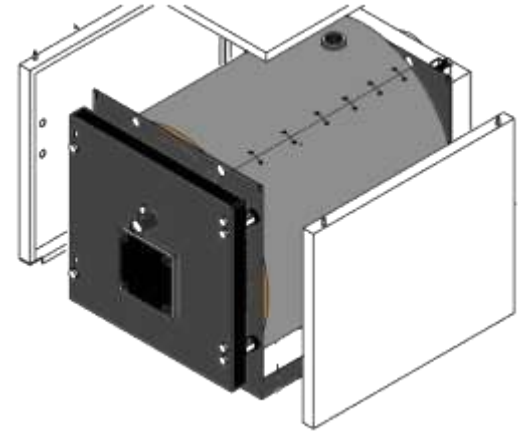


All indicated capacities are in kW.

# MODAL



Reversed flame combustion chamber



60 mm insulation with rock wool



Furnace misalignment against the outer shell



## Pressurized steel boilers for pressure jet gas or oil burner

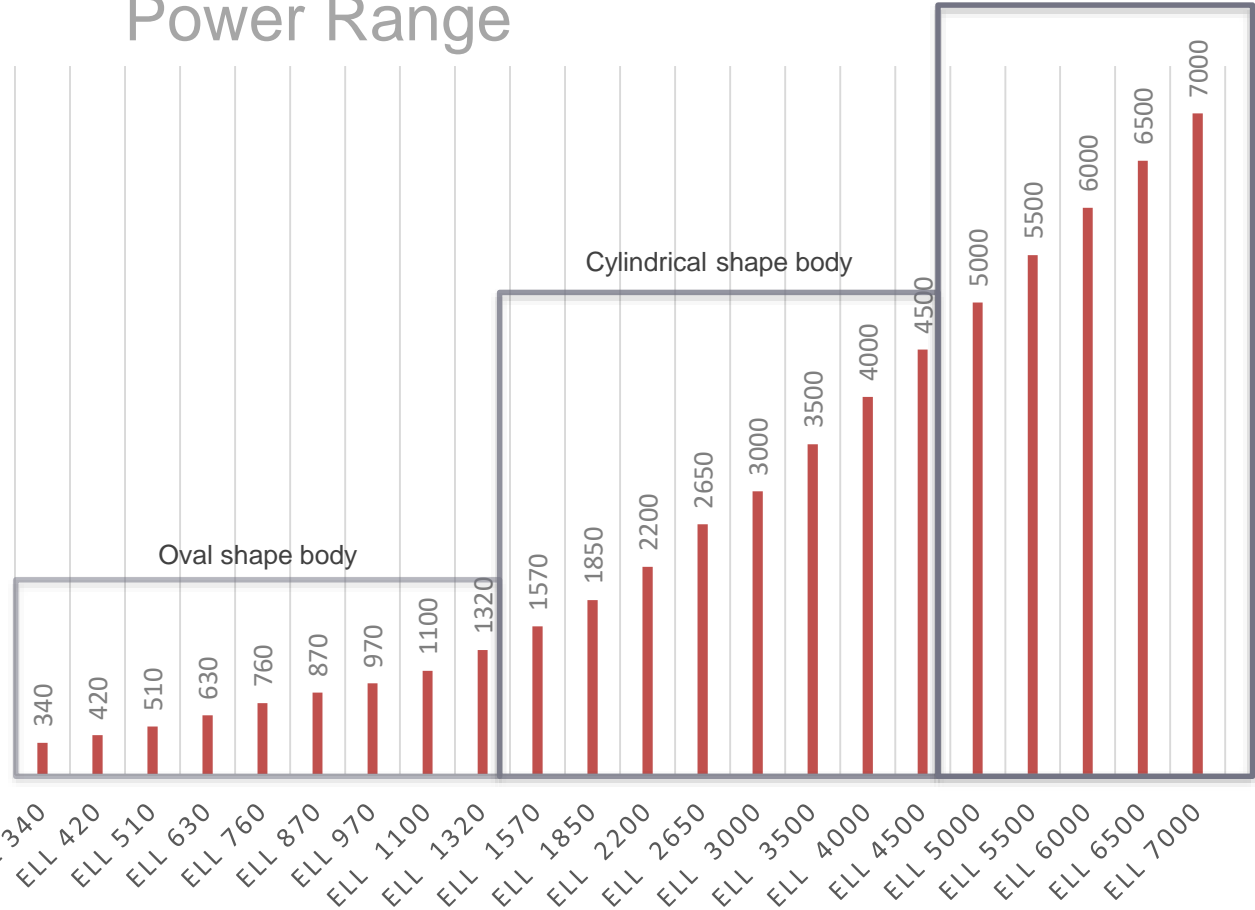


- Outer shell of elliptic shape up to 970 kW to allow the access into the boiler room through standard doors.
- CYLINDRICAL OUTER CASING, UNICAL STEAMER style, for models starting from 4500 kW
- ADJUSTABLE DOOR with double opening side with self-centering locking
- Anti-condensate fin effect on the welding seams of the smoke pipes to the rear tube plate (UNICAL Patent)
- Floating furnace from the model 760 and so on
- TURBULATORS in the smoke pipes to increase thermal exchange
- Boiler body with 80 mm of ROCK WOOL INSULATION and door with ultra-light concrete insulation up to 970 kW.
- Thermostatic or electronic CONTROL PANELS
- Easy installation
- Construction according to EN 303 Part 1 – carbon steel pipes according to EN 10028



# ELLPREX

## Power Range

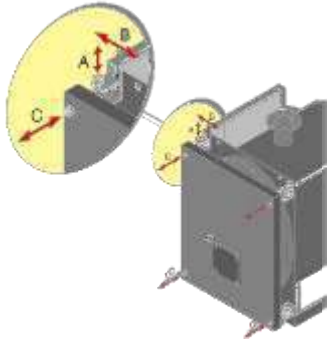


All indicated capacities are in kW.

# ELLPREX



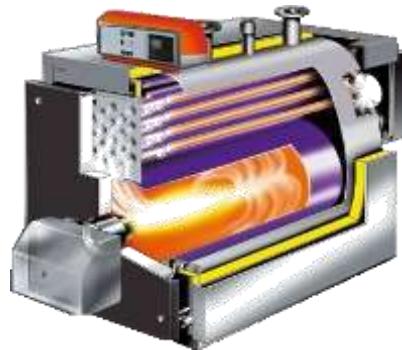
Pressurized steel boilers for pressure jet gas or oil burner



Adjustable door with double opening sides



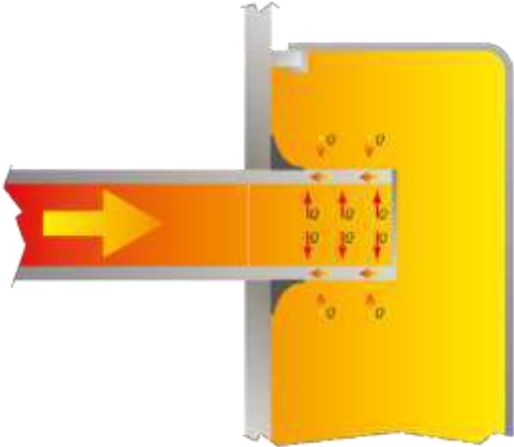
Outer shell with oval shape. Models up to 630 kW can pass through a 800 mm wide door.



Reversed flame combustion chamber

# ELLPREX

## Tab effect



- REDUCE OF THE ACID CONDENSATION
- INCREASE THE BOILER LIFE

Tab effect is obtained raising the smoke pipes length over the rear plate.

The accumulated heat to the protruding pipe section avoids the condensation deposit on the welding seam.

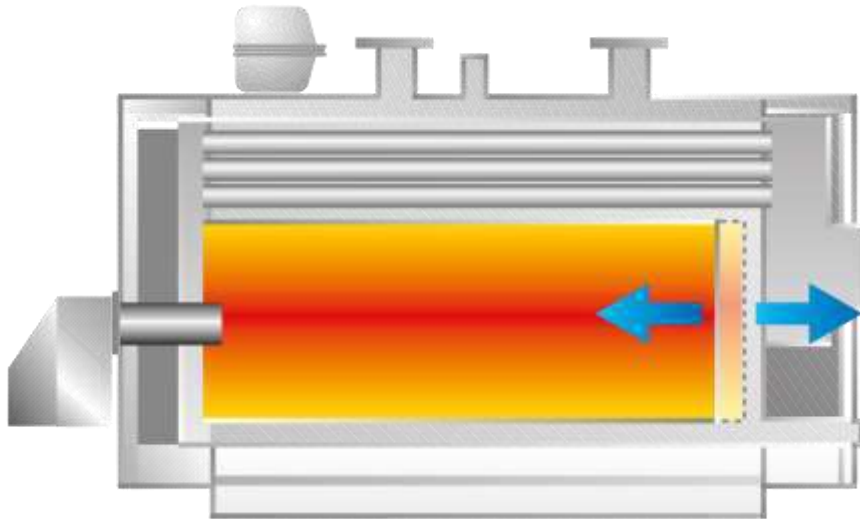


# ELLPREX

## Floating Furnace



Thanks to an extremely fine and long tested technology, the furnace is let free to naturally dilate in longitudinal direction



- Starting from 760 kW size
- Furnace is welded ONLY to the frontal plate
- OPERATING ELASTICITY GUARANTEED
- RELIABILITY IMPROVED

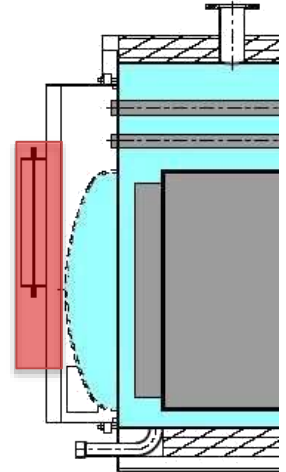


# ELLPREX

## High Pressure Resistance

Thanks to a special reinforced furnace bottom and rear boiler plate

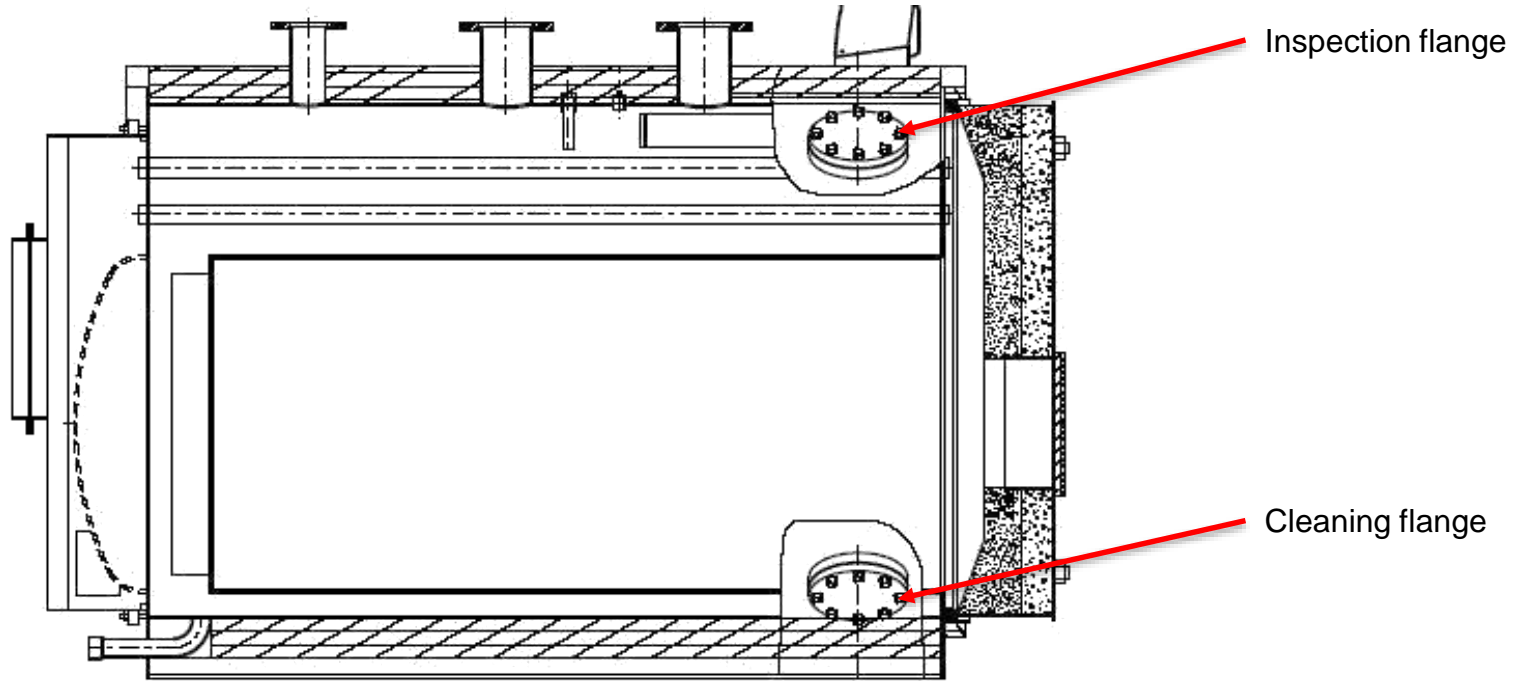
- Starting from 1570 kW size
- For boiler with cylindrical body
- Furnace welded ONLY to the frontal plate





# ELLPREX

## Inspection and cleaning flanges



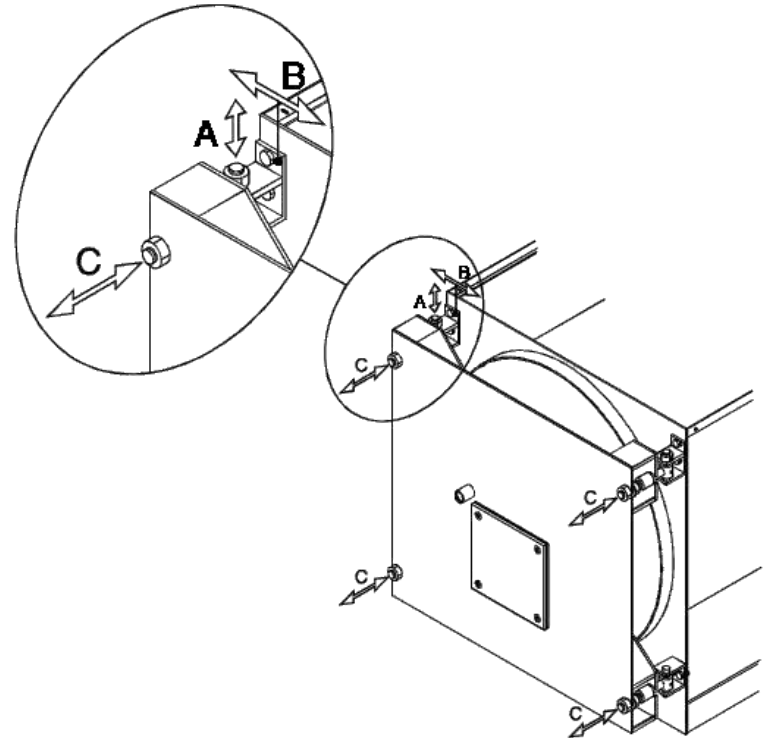
# ELLPREX

## Adjustable door



- A. Vertical adjustment:** rotating the nut after removal of the grub screw.
- B. Transversal adjustment:** loosening the hinges fixed to the front of the boiler and moving them a sideways.
- C. Axial adjustment:** for a further adjustment of the door position related to the combustion chamber, regulating nuts and counter nuts.

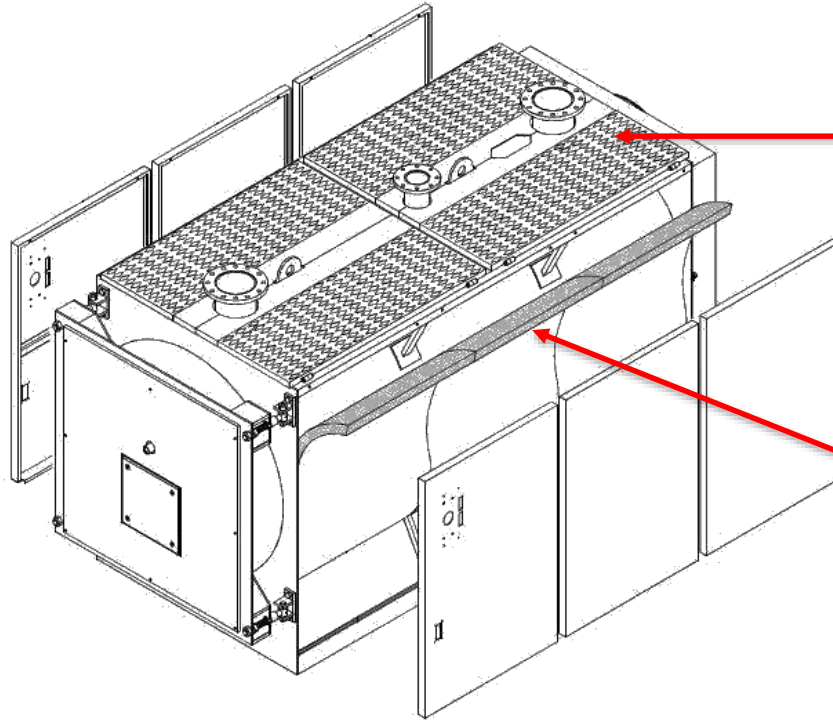
***All the boilers are equipped with a reversible hinged door***





# ELLPREX

## Other features



Walking system on boilers:  
ELLPREX 3000, 3500 and 4000 kW

Strong boiler body with 80 mm rock  
wool insulation

# TRISTAR 2S

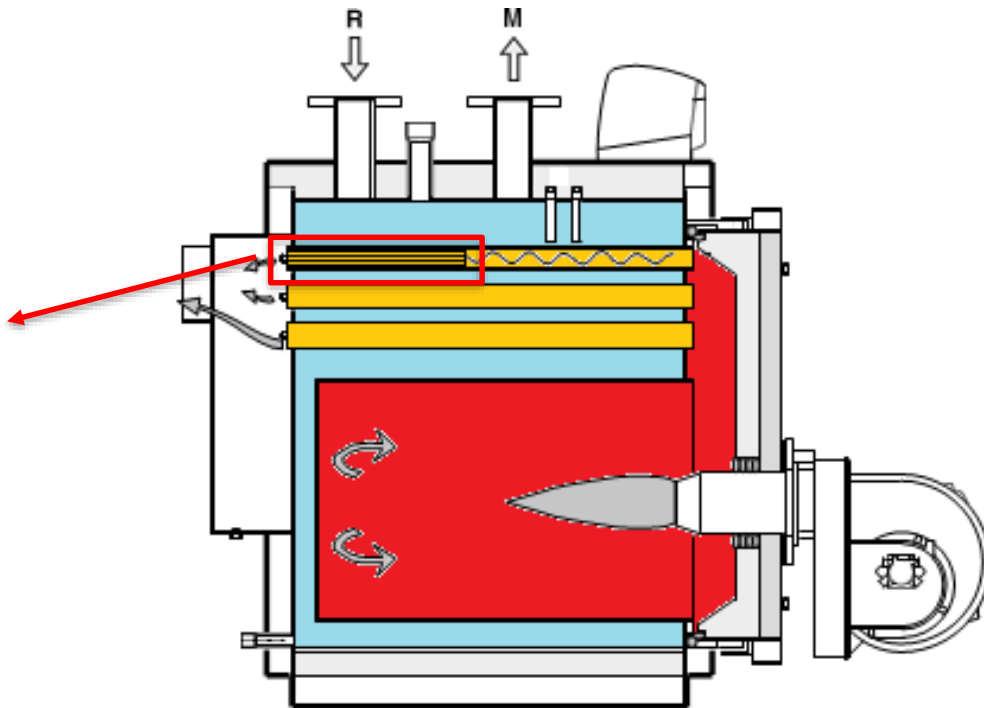


Pressurized steel boilers for pressure jet gas burner

BREVETTO  
**Unical**  
PATENT

**EASY STREAM  
SPECIAL SMOKE PIPES**

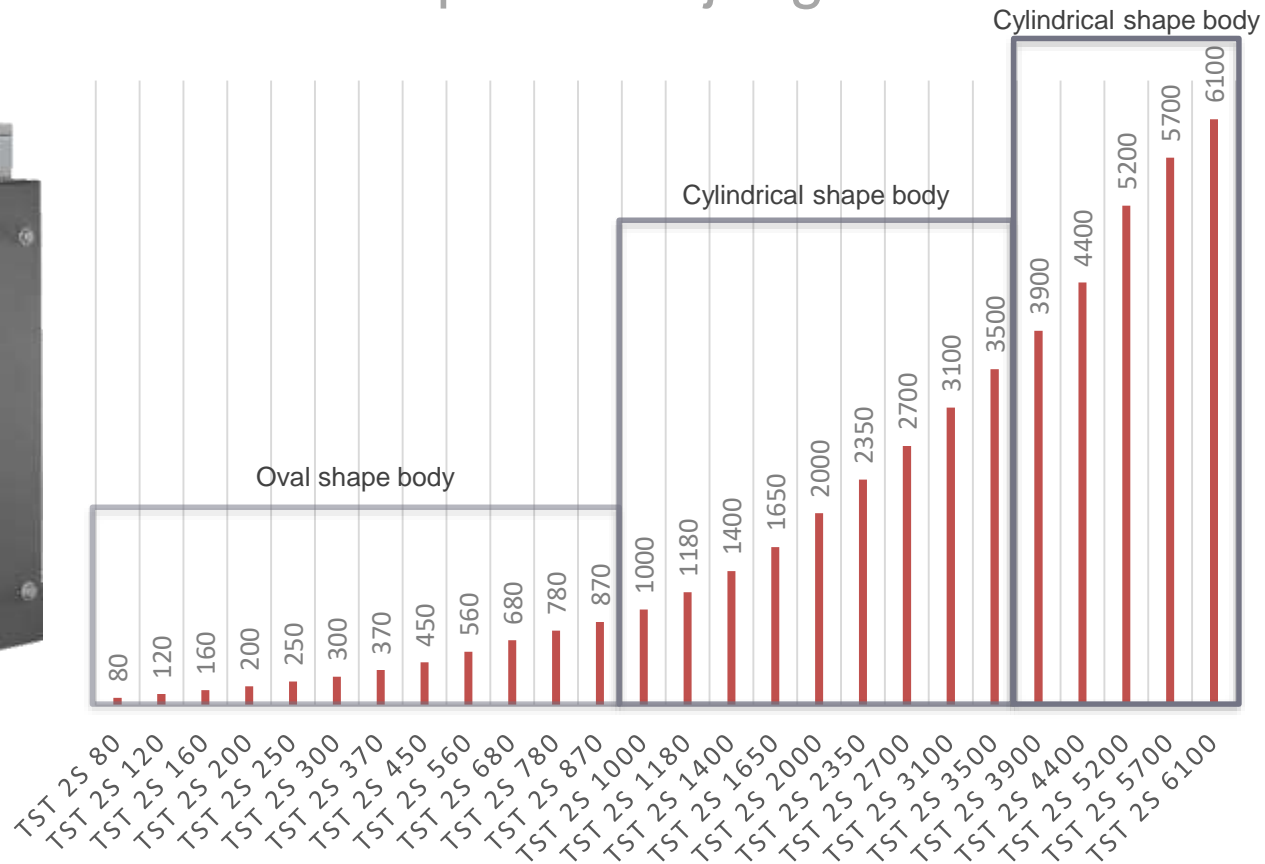
$\eta > 95\%$



# TRISTAR 2S



Pressurized steel boilers for pressure jet gas burner



All indicated capacities are in kW.

# TRIOPREX N



THREE PASS steel boiler for pressure jet gas or oil burner

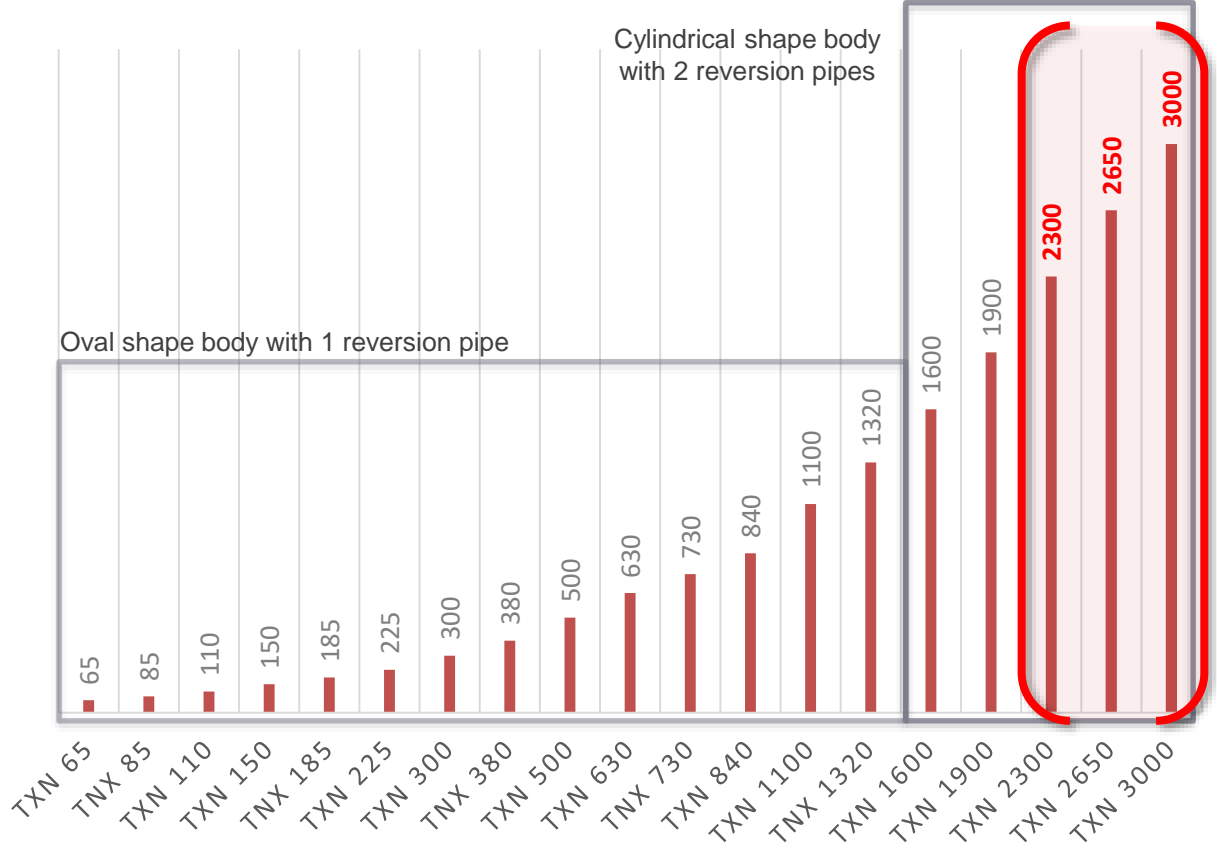
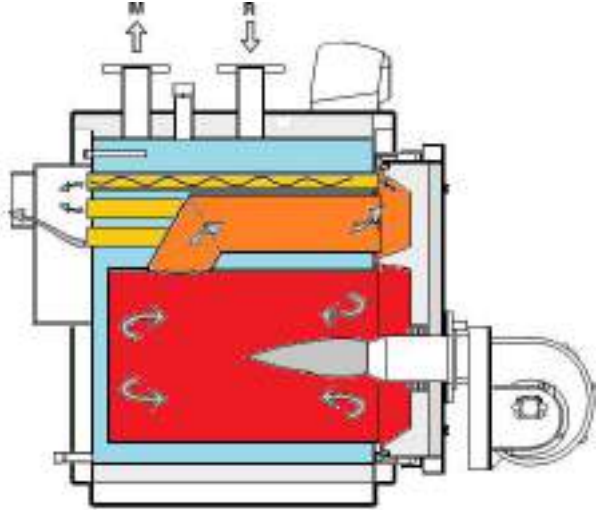


- THREE REAL SMOKE passages
- TUBE BUNDLE upwards decentralized to avoid the condensation
- HIGH THICKNESS SMOKE PIPES with anti-condensing effect
- TURBULATORS in the smoke pipes to increase thermal exchange
- Boiler body with 80 mm of ROCK WOOL INSULATION
- ADJUSTABLE DOOR with double opening side with self-centering locking
- Dedicated PANEL BOARD
- Maximum WORKING PRESSURE: 6 bar (up to 10 bar on request)

# TRIOPREX N



## THREE PASS steel boilers for pressure jet gas or oil burner





## NEW MODELS ON THE FAMILY



- **TRIOPREX N 2300**
- **TRIOPREX N 2650**
- **TRIOPREX N 3000**

Unical

# TRISTAR 3G 2S



THREE PASS steel boiler for pressure jet gas burner



REDUCED NO<sub>x</sub> EMISSION:  $< 100 \text{ mg}/\text{kWh}$

$P \leq 1900 \text{ kW}$

$P \geq 2300 \text{ kW}$



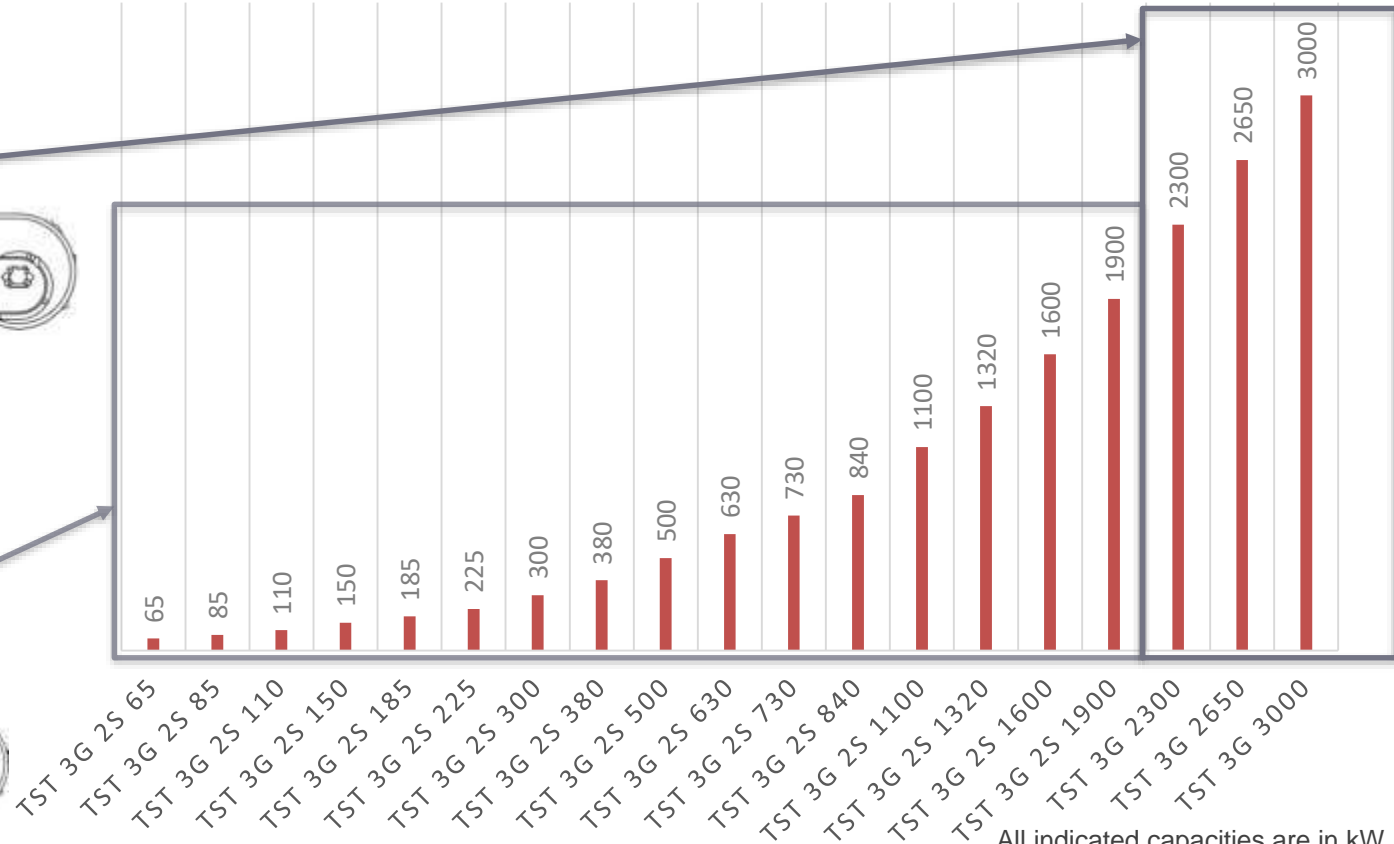
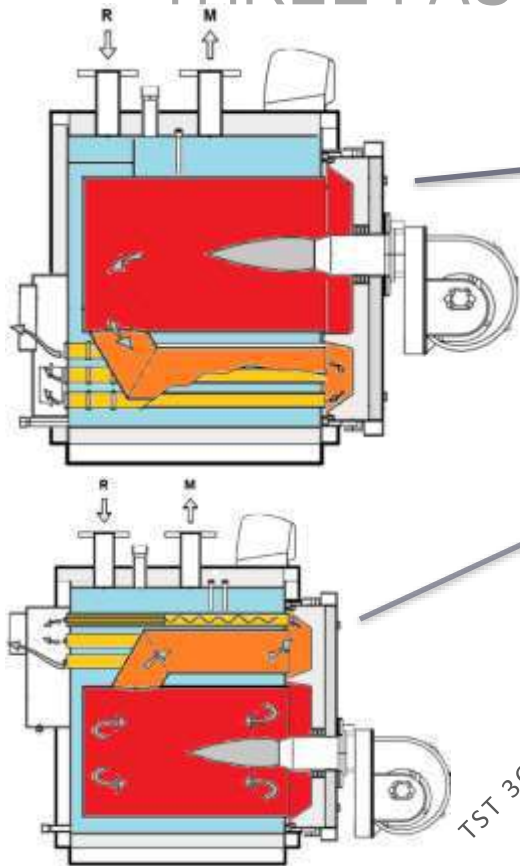
BREVETTO  
**Unical**  
PATENT

**EASY STREAM  
SPECIAL SMOKE PIPES**



# TRISTAR 3G (2S)

THREE PASS steel boiler for pressure jet gas burner



All indicated capacities are in kW.



# Production site

Carbonara di Po (MN) - ITALY

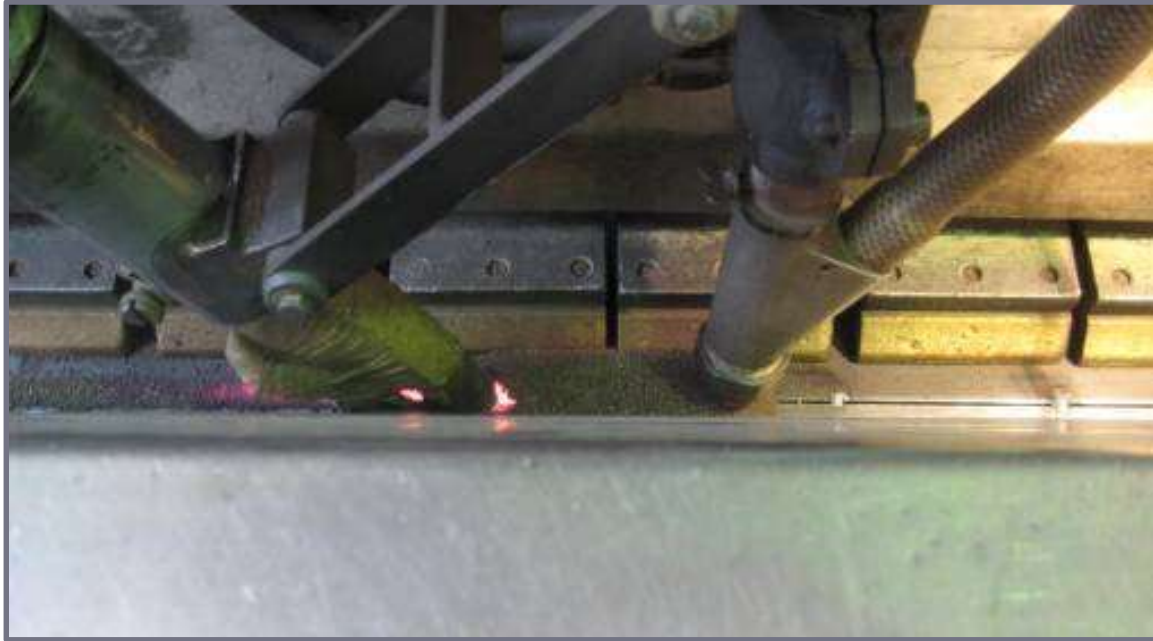


Quality control  
incoming material

Special machine to fold up oval shape



**Unical** Production site - Submerged arc welding  
Carbonara di Po (MN) - ITALY



# Production site – Manual welding

Carbonara di Po (MN) - ITALY



Highly specialized and certified welders

# Production site

Carbonara di Po (MN) - ITALY



# Production site

Carbonara di Po (MN) - ITALY



# Production site- Robotic welding

Carbonara di Po (MN) - ITALY



# Production site – testing area

Carbonara di Po (MN) - ITALY



Pressure test according to EN 303-1:

- $P_t = 1,3 \cdot P_w \rightarrow T_t \geq 10 \text{ min}$

where:  $P_t$  = Test Pressure

$P_w$  = Max Working Pressure

$T_t$  = Test Time

Pressure test according to UNICAL :

- $P_t = 1,5 \cdot P_w \rightarrow T_t \geq 4 \text{ h}$



# Production site – end line

Carbonara di Po (MN) - ITALY



# Production site – storage

Carbonara di Po (MN) - ITALY





# References

Carbonara di Po (MN) - ITALY



# Unical References – Container installation

## Siberia - Russia



# References – 2 x Trioprex

Ministry of Defence – Republic of Latvia



**Unical<sup>®</sup>**

THANKS FOR YOUR ATTENTION



Professional Range