

yeten combustion

industrial burners & control equipments



NON-FERROUS INDUSTRY ALUMINIUM & COPPER

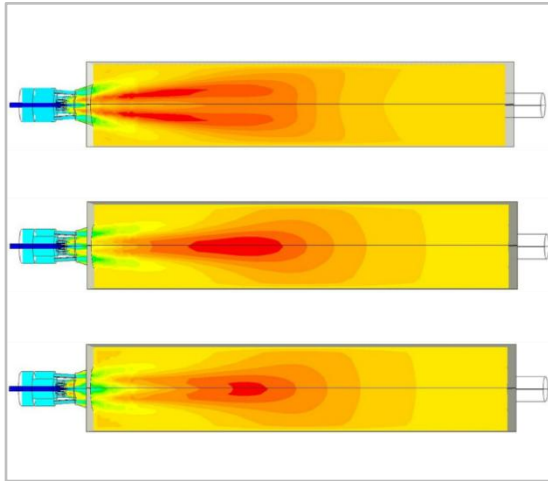
YETEN Combustion & Energy Technologies Ltd. Co.

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YETEN COMBUSTION provides complete solutions for the needs of industry in combustion and heating processes since 1987. As an industrial manufacturer company, we are investing our R&D activities to answer our customers' requests with more efficient, more reliable and more eco - friendly solutions.

R&D DEPARTMENT



CFD ANALYSIS



BURNER TEST FACILITY



COMBUSTION SEMINARS



TRAINING

YETEN BURNER TEST FURNACES

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A.T. BURNER TEST FURNACE - FEATURES

Dimensions: 5.3 m x 1.2 m x 1 m

Fuel: Natural Gas and Other Industrial Gases

Heat Input: 1500 kW - Direct

Oxydator: Ambient Air / Preheated Combustion Air / Pure Oxygen

Working Temperature: Max. 1500 °C

Furnace Cooling: With Water Cooling System



H.T. BURNER TEST FURNACE - FEATURES

Dimensions: 3.1 m x 1 m x 1.5 m

Fuel: Natural Gas and Other Industrial Gases

Heat Input: 500 kW - Direct / 300 kW - Indirect

Oxydator: Ambient Air / Preheated Combustion Air

Working Temperature: Max. 1100 °C

Furnace Cooling: With Water Cooling System

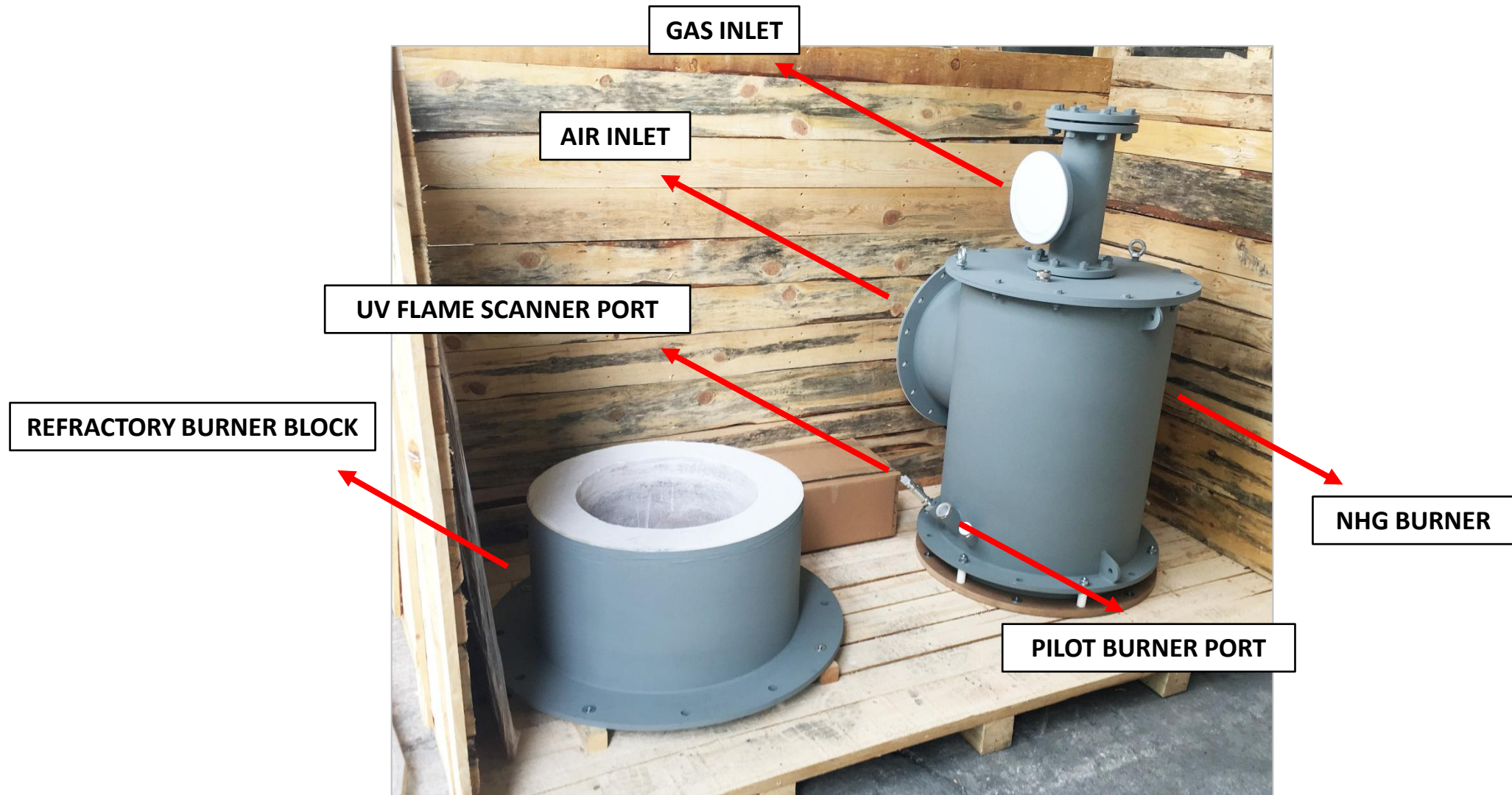


NHG INDUSTRIAL GAS BURNERS

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- ✓ **Capacities:** 400 kW - 20 MW
- ✓ **Working Temperature:** Max. 1600 °C
- ✓ **Fuels:** Natural Gas, LPG, Propane, COG, etc.
- ✓ **Ignition:** YETEN PB 01 Pilot Burner
- ✓ **Flame Supervision:** UV Flame Scanner
- ✓ Operation with 10 % excess air.
- ✓ Low flame exit velocity for melting furnaces.
- ✓ Robust design (refractory insides), long service life.
- ✓ Proper prices and short delivery times (Approx. 6 weeks).



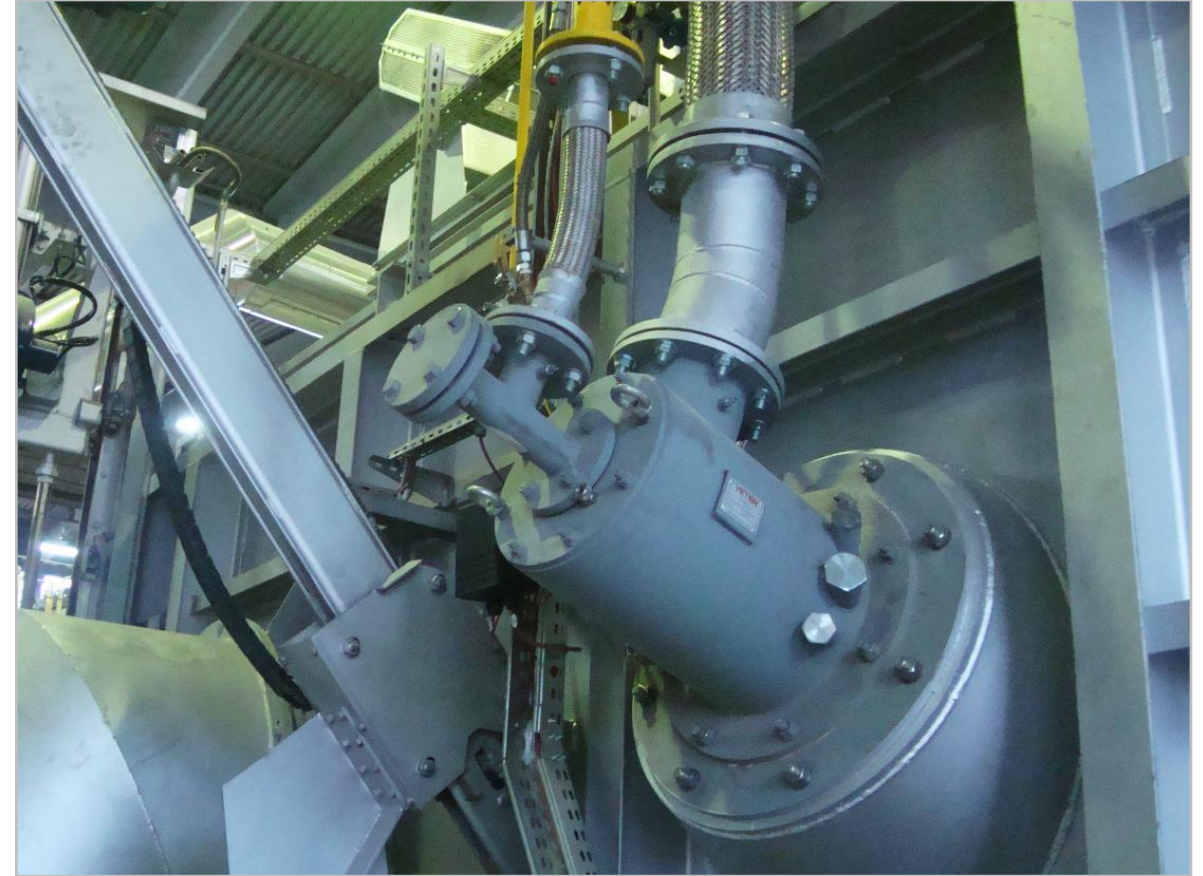


ALUMINIUM MELTING FURNACES

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NHG BURNERS - ALUMINIUM MELTING FURNACE

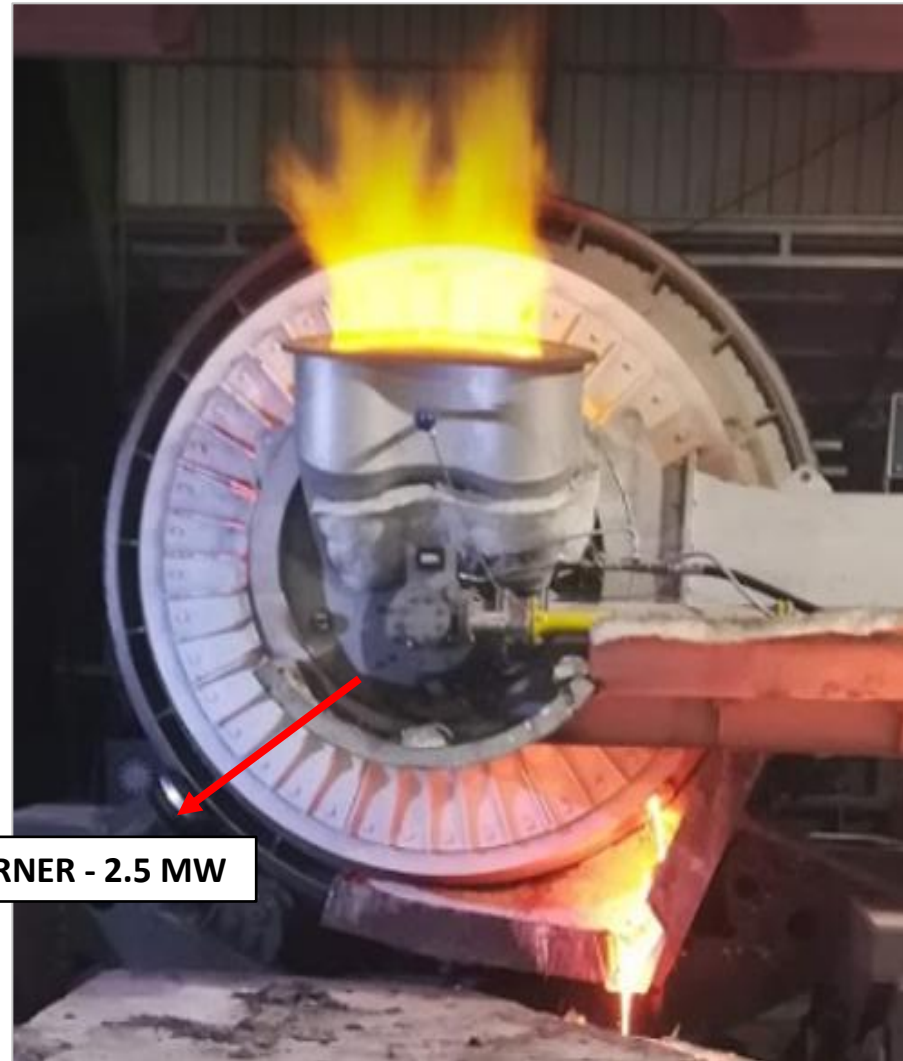


NHG 150 BURNER - 1500 kW



COPPER ROTARY TILTING FURNACES

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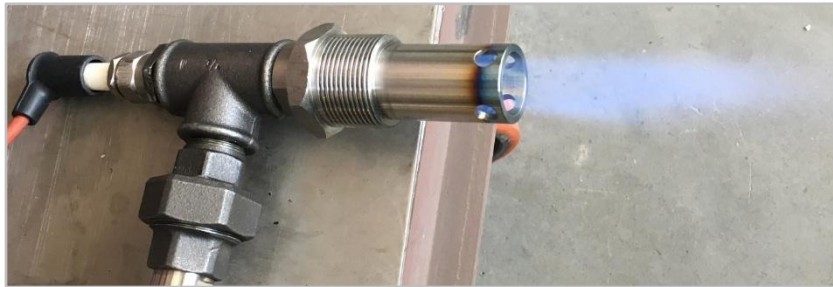


NHG 250 BURNER - 2.5 MW

PB PILOT BURNERS

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- ✓ **Capacities:** 23 kW
- ✓ **Fuels:** Natural Gas, LPG, Propane, etc.
- ✓ To be used for ignition of YETEN Burners.
- ✓ Adjustable nozzle length up to 500 mm.



NOZZLE LENGTH - STANDARD

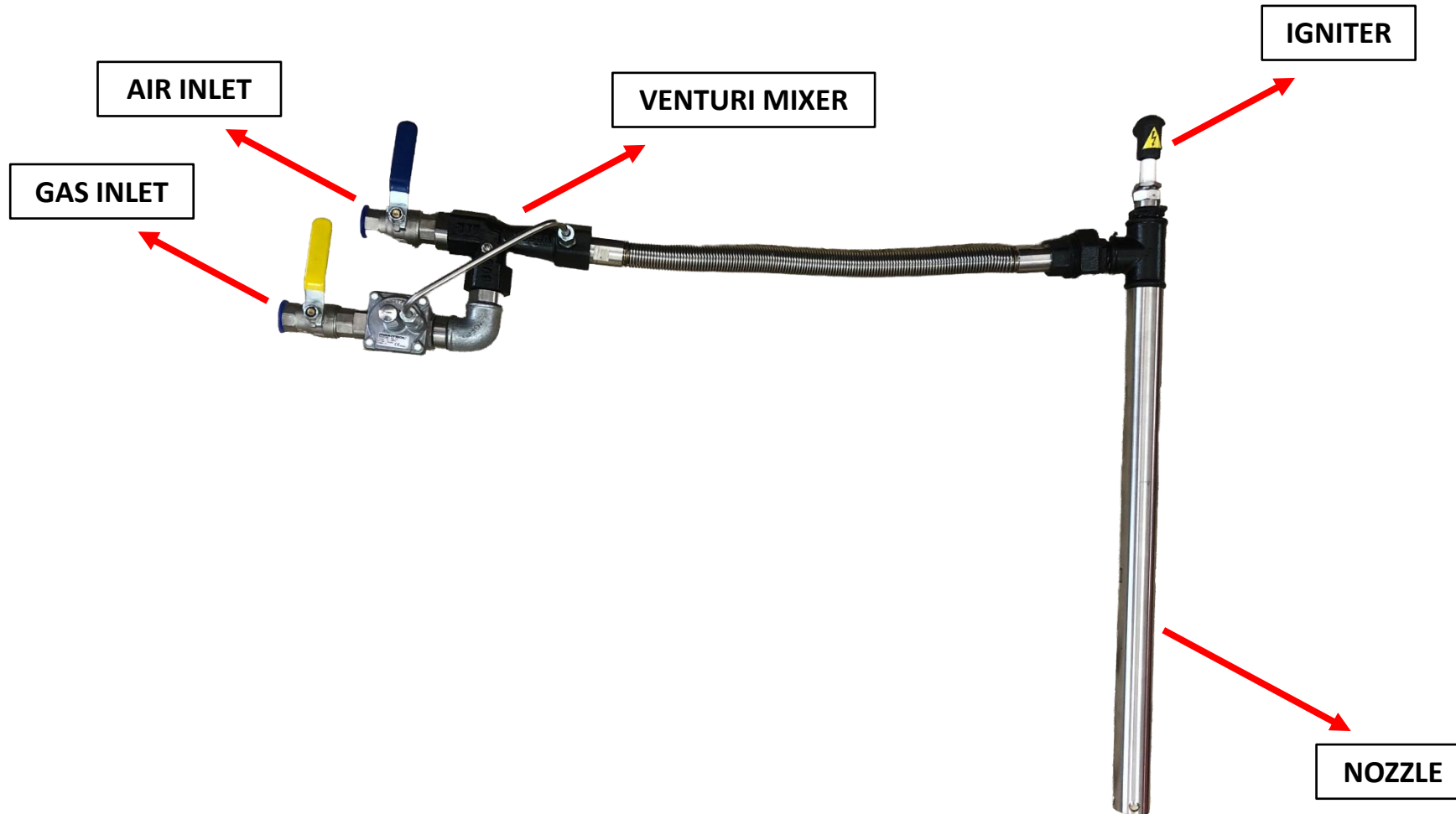


NOZZLE LENGTH - 300 MM



PB PILOT BURNERS

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NHD GAS - OIL COMBINED BURNERS

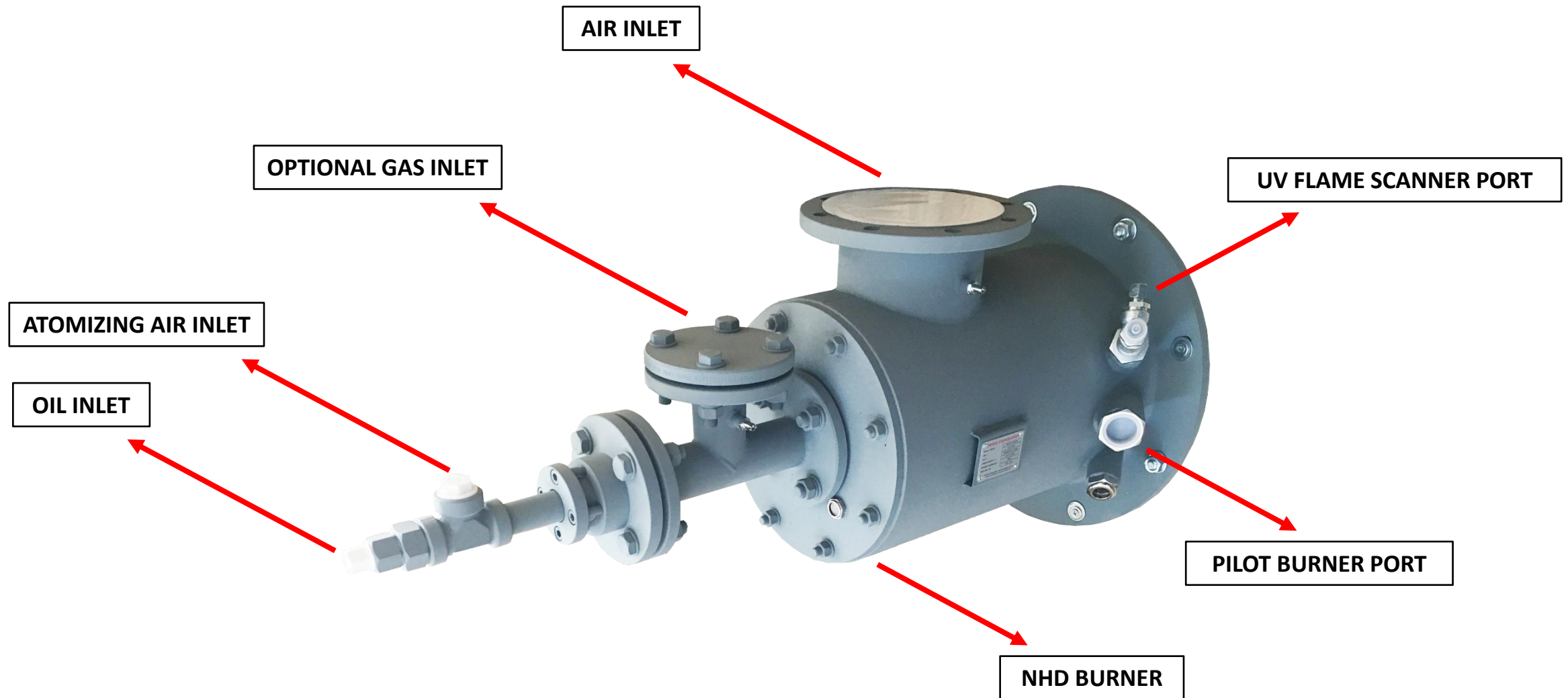
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- ✓ **Capacities:** 600 - 6500 Kw
- ✓ **Working Temperature:** Max. 1600 °C
- ✓ **Fuels:** Natural Gas, LPG, COG, Oil - No: 2, 4, 6 and Others
- ✓ **Ignition:** YETEN PB 01 Pilot Burner
- ✓ **Flame Supervision:** UV Flame Scanner



NHD GAS - OIL COMBINED BURNERS

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ALUMINIUM ROTARY MELTING FURNACES

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NHD 200 GAS - OIL COMBINED BURNER - 2 MW

MSB HIGH & MEDIUM VELOCITY BURNERS

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- ✓ **Capacity:** 90 kW .. 3 MW
- ✓ **Fuels:** Natural Gas, LPG, Propane, Butane and Others
- ✓ **Working Temperature:** Max. 1600 °C
- ✓ **Combustion Air Temperature:** Max. 350 °C
- ✓ **Turndown Ratio:** 1:50
- ✓ Rich ($\lambda = 40$) & Lean ($\lambda = 0.7$) Combustion Options

WORKING TEMPERATURES

- ✓ **Metal Flame Tube (AISI 310):** Max. 900 °C
- ✓ **SiC Flame Tube:** Max. 1380 °C
- ✓ **Refractory Block:** Max. 1600 °C

FLAME EXIT VELOCITY

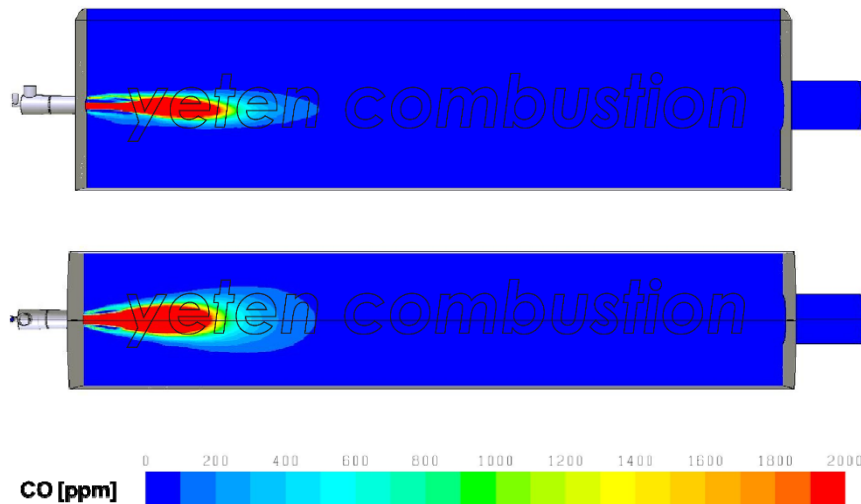
- ✓ **Medium Velocity:** 90 - 100 m/s
- ✓ **High Velocity:** 135 - 150 m/s



MSB HIGH & MEDIUM VELOCITY BURNERS

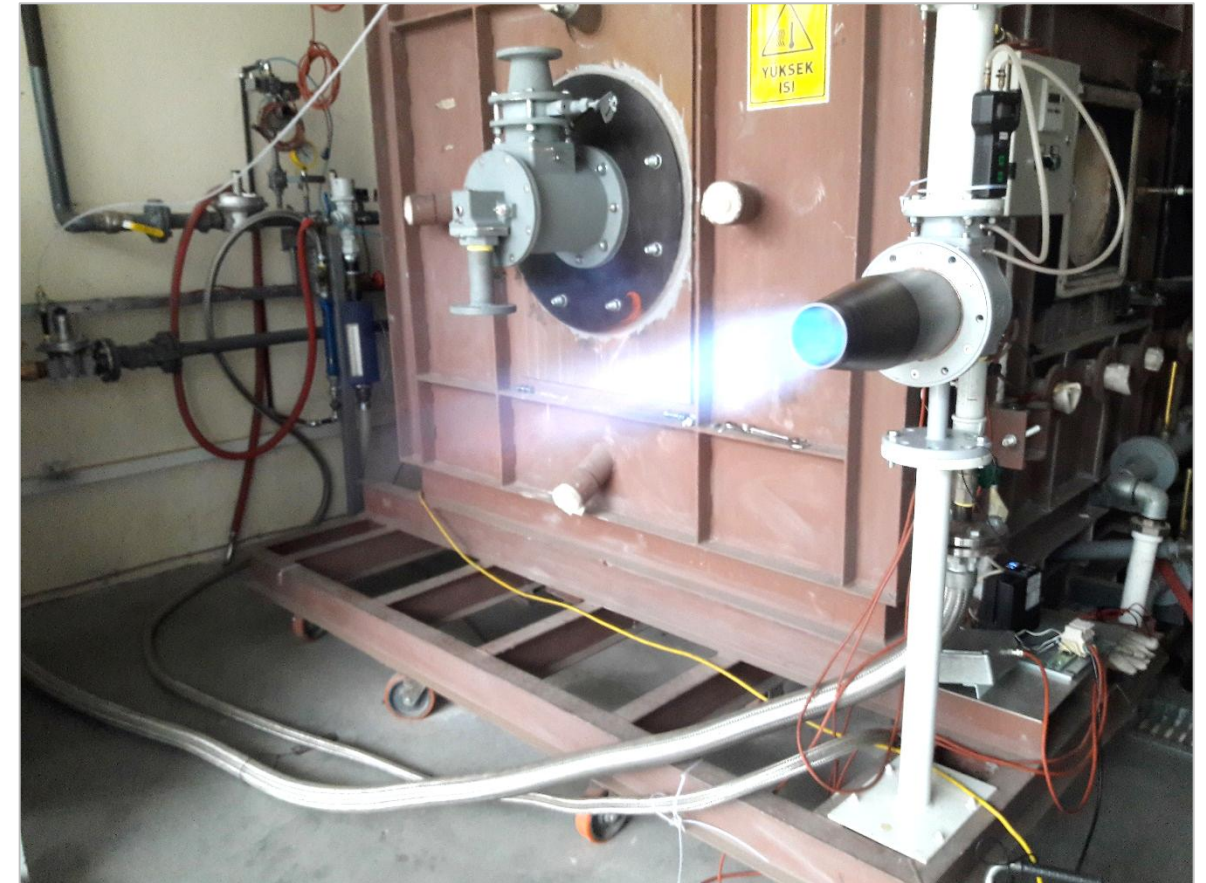
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Optimized in cooperation with GWI, Gas und Wärme
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Projektleiter Brennstoff- und Gerätetechnik



MSB Burner's Performance Tests on YETEN Burner Test Facility

MSB HIGH & MEDIUM VELOCITY BURNERS

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METAL FLAME TUBE

MAX. 900 °C



SiC FLAME TUBE

MAX. 1380 °C



REFRACTORY BLOCK

MAX. 1600 °C

MSB HIGH & MEDIUM VELOCITY BURNERS

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ALUMINIUM HOLDING FURNACES

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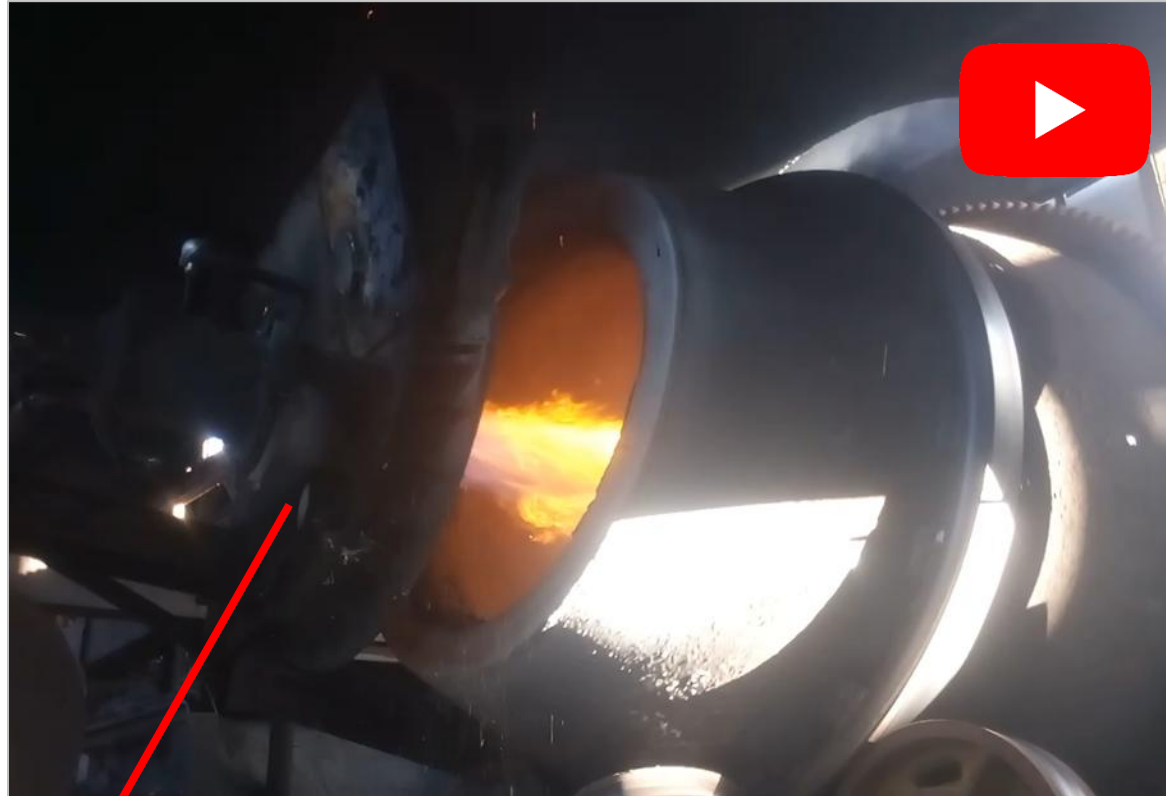


MSB 100 HIGH VELOCITY BURNERS - 1000 kW



ALUMINIUM ROTARY TILTING FURNACES

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MSB 100 MEDIUM VELOCITY BURNER - 1000 kW

MSB REFRACTORY DRY - OUT BURNERS

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- ✓ **Capacities:** 90 kW .. 4500 kW
- ✓ **Lambda - λ :** 40 (1 m³/h Gas, 395 m³/h Air)
- ✓ High Xs Air Operation
- ✓ Manual or Automatic Temperature Control
- ✓ User Friendly Compact Design

**MSB REFRACTORY DRY - OUT BURNERS ARE
USED TO DRY - OUT FRESHLY INSTALLED
REFRACTORIES OF ALUMINIUM FURNACES.**



HIGH XS AIR OPERATION

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- ✓ Burner operates with little amount of gas against furnace back pressure and vacuum.
- ✓ Burner is used to pressurize the furnace inside atmosphere.
- ✓ With high flame velocity, burner circulates the furnace atmosphere.
- ✓ Temperature uniformity achieved and refractory service life is elongated.



USER FRIENDLY COMPACT DESIGN

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Individual parts of the system such as,

- ✓ Burner
- ✓ Gas Train
- ✓ Combustion Air Fan
- ✓ Control Cabinet
- ✓ Air Trim Valve
- ✓ Gas & Air Flex Hoses
- ✓ Signal Cables and etc. are all located inside the transport car.



- ✓ During the operation and maintenance, every instrument of the gas train can be reached and detached easily.

System is controlled automatically by a **Temperature Controller** acc. to the given temperature profile. Temperature controller adjusts the gas regulating valve to arrange the heat input.

SAFETY CHAIN ELEMENTS

- ✓ System Design Acc. to ISO 13577-2 (Previously EN 746-2)
- ✓ Emergency Stop Button
- ✓ Min. - Max. Gas Pressure Switches
- ✓ Tightness Control
- ✓ Air Purging
- ✓ Combustion Air Pressure Switch and Air Flow Switch
- ✓ Flame Safety by UV Flame Scanner
- ✓ Burner Control Unit



BURNER CONTROL CABINET

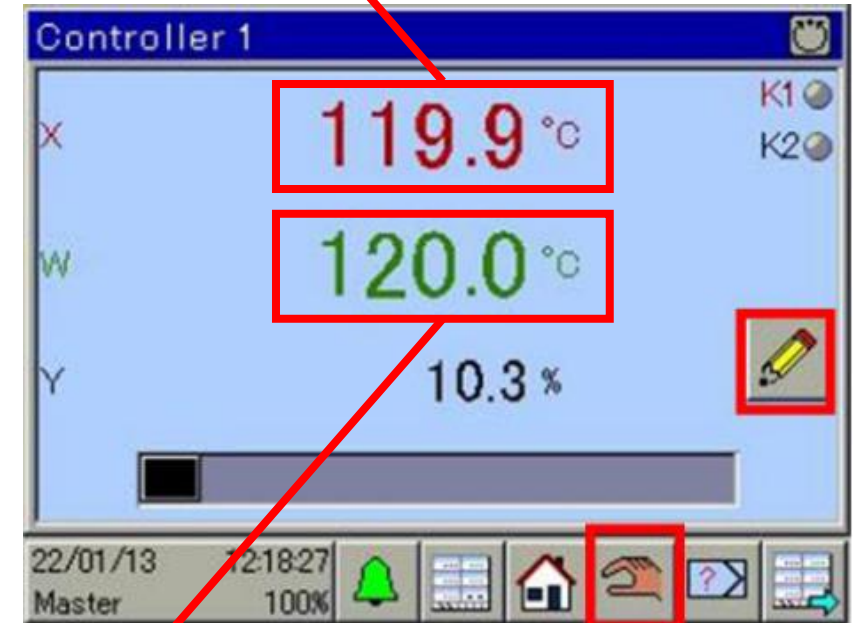
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TEMPERATURE
CONTROLLER

BURNER CONTROL
UNIT DISPLAY

MEASURED
TEMPERATURE



SET
TEMPERATURE

ALUMINUM FURNACES DRY - OUT

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**MSB DRY 250 DRY - OUT
BURNER - 2.2 MW**

OTHER PRODUCTS

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PRE-ASSEMBLED GAS TRAINS



CE CERTIFIED BURNER CONTROL CABINETS



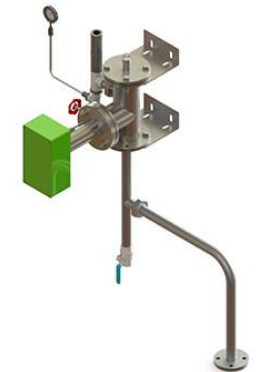
COMBUSTION AIR FANS



GAS & AIR ORIFICE METERS



GAS & AIR FLOW MEASUREMENT SYSTEMS



OXYGEN ANALYZERS

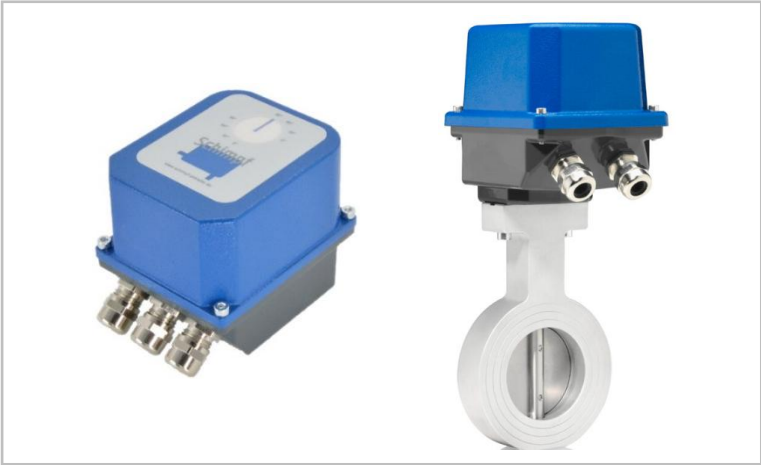
OTHER PRODUCTS



NATURAL GAS BALL VALVES



HIGH TEMPERATURE BUTTERFLY VALVES



ACTUATORS & VALVES



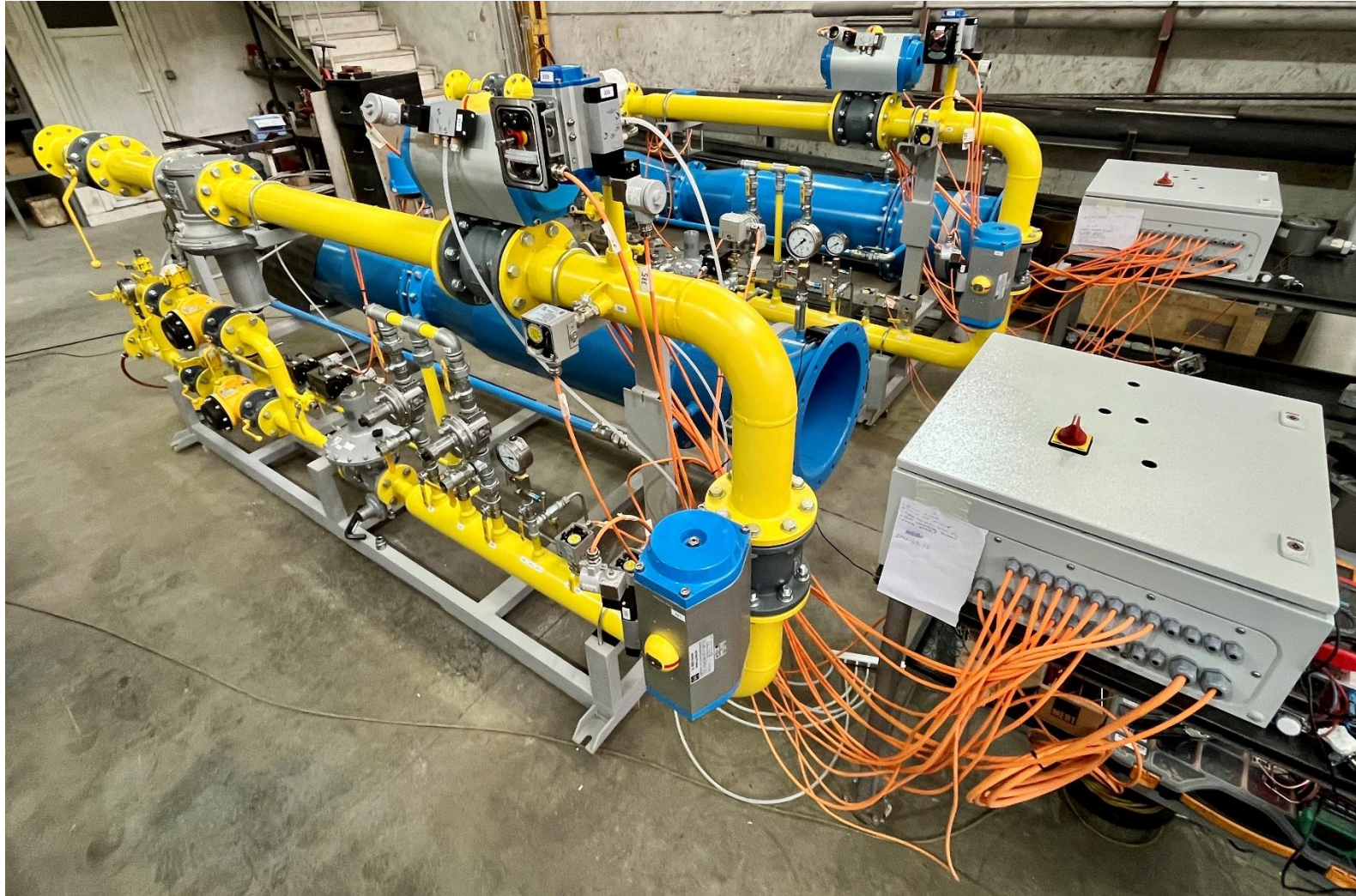
PNEUMATIC VALVES



FURNACE INSIDE PRESSURE TRANSMITTERS



IGNITION BOXES



TESTING OF WHOLE COMBUSTION SYSTEM WITH BURNER CONTROL CABINET

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THANK YOU FOR YOUR INTEREST!

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