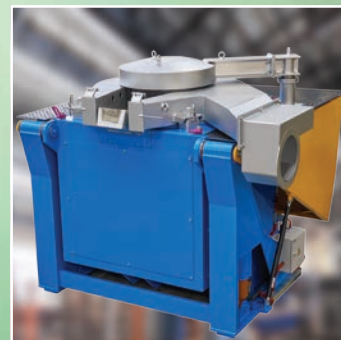


# JUPITER BoxLine

COMPACT MEDIUM-FREQUENCY CORELESS  
INDUCTION FURNACES

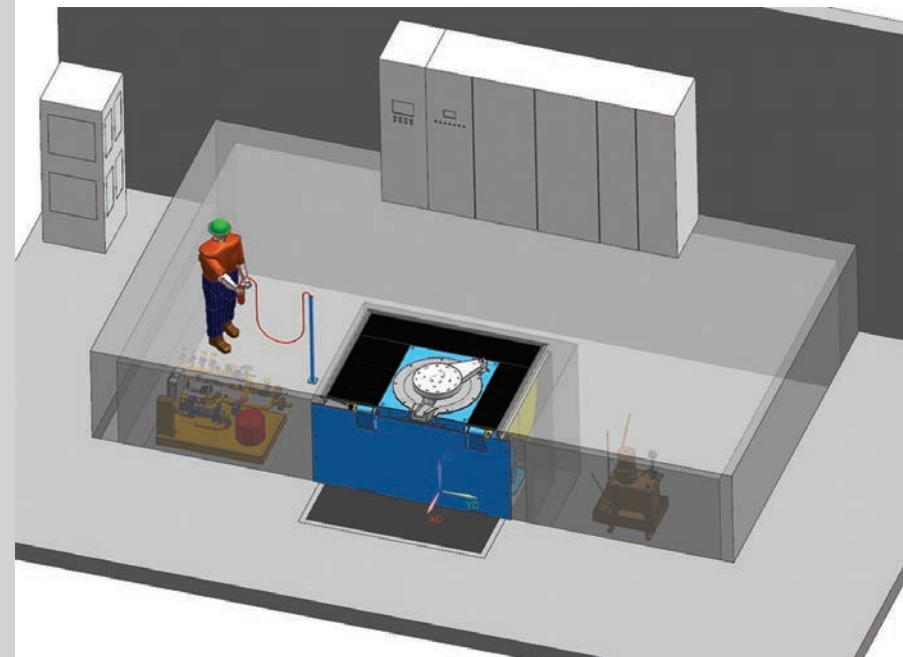


**MODULARIZATION THAT PAYS OFF!**

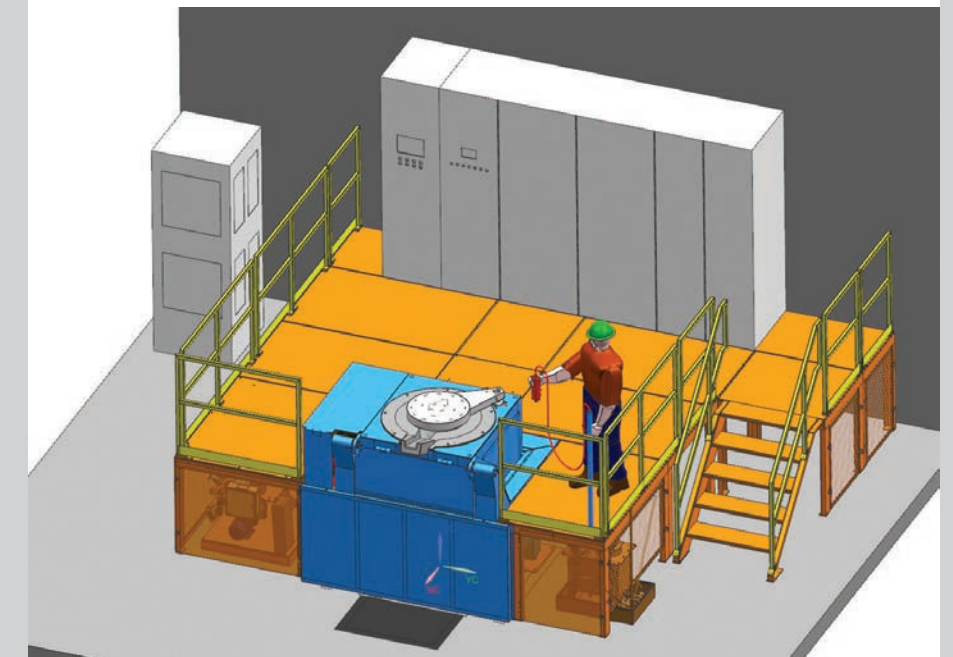
Jupiter BoxLine is a standardized line of compact medium frequency coreless induction furnaces designed to melt various metals. They embody the newest trends and utilize modern IGBT transistor converters as well as a control system based on a panel.

- Proven robust design
- Favorable price
- IGBT converter
- Low energy consumption
- Low external magnetic field
- Short delivery time
- Easy transportation
- Easy installation
- No (local) CO<sub>2</sub> emissions

LAYOUT PIT INSTALLATION



LAYOUT STEEL PLATFORM INSTALLATION



## Your benefits at a glance



### TIME

- Short planning times
- Fast delivery
- Very short installation times
- Minimum maintenance and servicing times



### QUALITY

- First-rate components
- Maximum product quality
- Designed and manufactured in the EU from components from leading EU manufacturers



### PERSONNEL AND ENVIRONMENT

- Resource-saving
- Low energy consumption
- Low NO<sub>x</sub> emissions
- No CO<sub>2</sub> emissions
- Safe working environment
- Maximum reduction of exposure to magnetic field



### COSTS

- Low investment costs
- Maximum reduction of costs for downtime and failures
- Low operating costs



### FLEXIBILITY

- Quick adaptation to process
- Individual system modules can be replaced, upgraded or extended at any time



### SERVICE

- User-friendly
- Maintenance-friendly
- Highly reliable

#### OTTOJUNKER ...

- Service hotline
- Spare parts stock
- Upgrades / retrofits
- Training



## Just add the desired options to your JUPITER BoxLine system...

**Water Recooling System ▲**

☐ Water-to-water heat exchanger
 ☐ Air-to-water heat exchanger
 ☐ Cooling tower

**IGBT Converter ▲**

☐ MONOMELT
 ☐ DUOCONTROL

**Exhaust System ▲**

☐ Ring Suction
 ☐ Extraction chimney single arm
 ☐ Extraction chimney double arm

**Operator Control ▲**

☐ Control column
 ☐ Control cubicle with remote control

## JUPITER BoxLine Types

type	iron & steel 1500 °C			aluminium 750 °C			copper & brass 1200 °C		
	capacity (kg)	power (kW)	melting rate (kg/h)	capacity (kg)	power (kW)	melting rate (kg/h)	capacity (kg)	power (kW)	melting rate (kg/h)
1	100	100	145	40	40	40	120	70	125
2	250	250	400	90	80	95	300	180	375
3	500	390	655	180	150	200	600	270	600
4	750	700	1230	250	200	280	900	450	1050
5	1000	800	1430	350	300	455	1250	500	1200
6	1500	1000	1860	500	400	650	1850	650	1640



## Maximum Availability and Flexibility by IGBT

JUPITER BoxLine line systems operate on the IGBT Power-Cube. This convertor technology offers multiple advantages:

- Highest availability thanks to reliable self-protection against peak values and variations of current and temperature.
- Constantly high power factor of 0.98 at input to converter across the entire power range, resulting in low electricity costs.
- Excellent reliability as the inverter is exposed to the active current only, not to the furnace current which is higher by a factor of 5–10 (parallel oscillating circuit converter).
- Easy maintenance access due to open and generously dimensioned design of the IGBT module.
- High operating times due to reduced servicing times. (50–100 operation hours per year more because of no SCR changes in the inverter).



*As constant  
as gravity*

## Induction coil

The proven design of our posted coil is also implemented in our JUPITER BoxLine products.

The posted coil design provides for very long service lives of the induction coil even in difficult conditions.

### Main advantages:

- The induction coil is highly stable in itself due to the fiberglass posts. This protects the coil turns from opening up even at elevated power densities.
- High efficiency thanks to highly conductive copper sections (oxygen-free copper) with a large crosssectional area.
- Superior focus of the magnetic field due to stainless steel cooling coils arranged at both ends.
- Improved service life due to rectangular coil profile.
- Very fast replacement of induction coil due to posted coil design.
- Bolted yokes for high stability, designed for optimal cooling. This prevents the laminated sheet stack from fanning open at their ends under the effect of eddy currents.



## JuMI basic – Junker Melting Interface basic

The JuMI basic system optimizes process control and provides safe and reliable monitoring of the complete melting operations. It is based on a PLC/Panel and thus works independently of a PC.

### The advantages of this solution are obvious:

- IT-related risks are minimized
- No need for operating system updates
- Your maintenance team has full insight into the furnace functionality at all times
- Users / authorization levels can be defined
- Option: JuMI online support with an optional LAN/VPN router

In addition to control and automation of all process sequences the solution also offers further advantages.

### With JuMI basic you have all relevant information and functions for operator at your fingertips:

- Clear presentation of all process-related measured values, parameters and states, e.g. for maintenance work
- Switching states of motors (e.g. water re cooler pumps)
- Analog indication of flowrates and temperatures for each individual cooling circuit
- Valve positions
- Status of cooling water (incl. conductivity)
- Currents and voltages in frequency converter
- Presentation of all relevant values in (trend) charts
- Alarm monitoring system and presentation of malfunctions including direct references to electrical drawings for minimized maintenance repair times
- Option: Display accurate the actual furnace weight on the screen with the optional weighing system

### Melting operations

- Melt-down of solid charge material by energy value entered
- Energy controlled holding on temperature
- Sequence controlled sintering
- Sequence controlled cold start

The proven OPC Unified Architecture permits interfacing with data. It also offers easy integration with your production and planning system.





## MODULARIZATION THAT PAYS OFF!



09/2025

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