

JUPITER Line

MEDIUM-FREQUENCY CORELESS INDUCTION FURNACES



MODULARIZATION THAT PAYS OFF!

JUPITER Line

Combining standardized components...

JUPITER Line

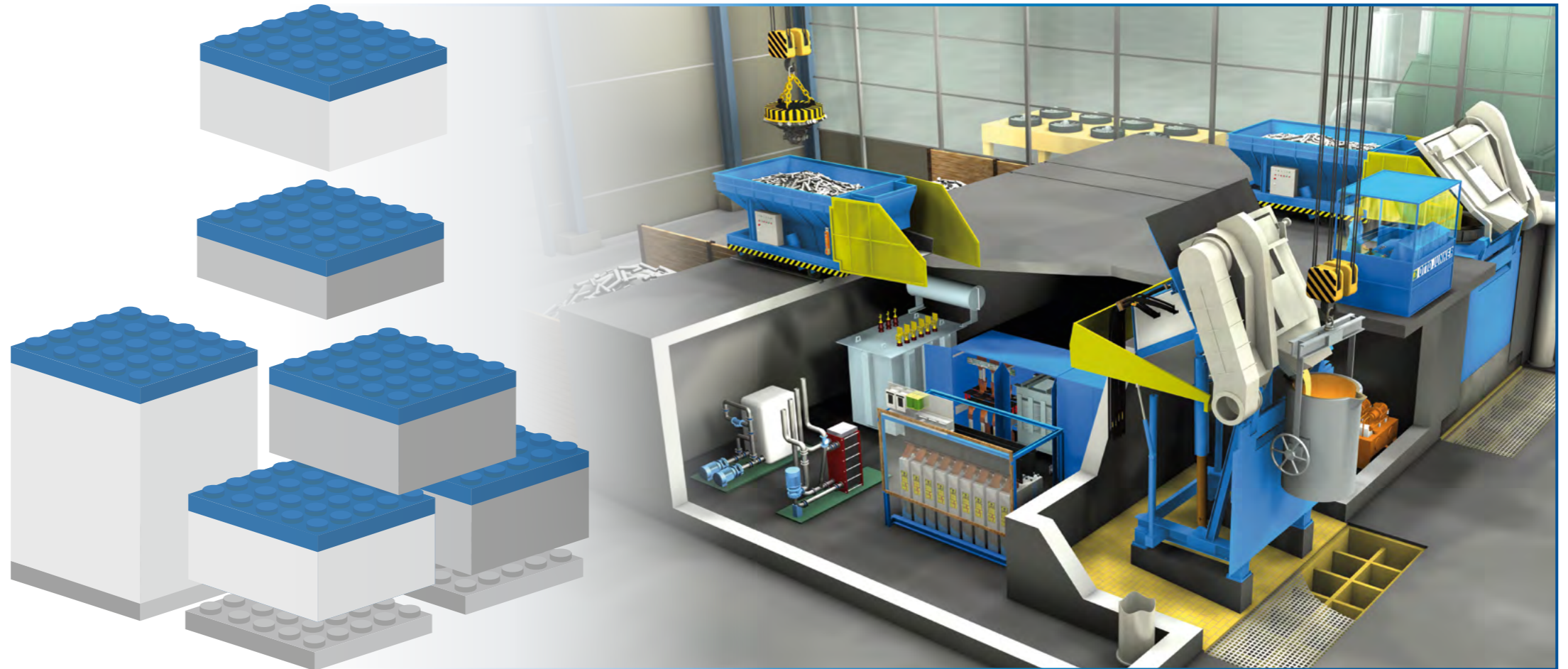
...into a customized system

JUPITER Line is the standardized, sustainable furnace range by OTTOJUNKER.

JUPITER Line furnaces are composed of proven, highly-engineered modules that perfectly harmonize with each other and can be individually combined.

The JUPITER Line system of building blocks offers enormous flexibility, quality, rapidity and sustainability at attractive prices.

JUPITER Line offers you exactly the system you need!



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
- All modules 'Made in Germany' in our own factory



PERSONNEL AND ENVIRONMENT

- Resource-saving
- Low energy consumption
- Low NOx emissions
- No CO2 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 ...

- 24/7 Service hotline
- Spare parts stock
- Upgrades / retrofits
- Training

JUPITER Line

Choice of modules for a JUPITER Line furnace

JUPITER Line

Compact, flexible, sustainable, efficient



Just add the desired options to your JUPITER Line system...

Water Recooling System ▲	IGBT PowerCube ▲	Exhaust System ▲	Operator Control ▲
<input type="radio"/> Water-to-water heat exchanger	<input type="radio"/> MONOMELT	<input type="radio"/> Hood tiltable in one direction	<input type="radio"/> Operator control desk
<input type="radio"/> Air-to-water heat exchanger	<input type="radio"/> DUOMELT	<input type="radio"/> Hood tiltable in two directions	<input type="radio"/> Operator control cabinet + tilt
<input type="radio"/> Glycol-free air-to-water heat exchanger	<input type="radio"/> DUOCONTROL		
<input type="radio"/> Cooling tower			

JUPITER Line Sizes

Capacity (kg)	approx. melting rate (kg/h) – 1.500 °C cast iron					
2,000	3,000					
3,000		5,800				
4,000		5,800	6,300			
5,000			6,300	9,600		
6,000				9,600	11,800	
8,000				9,600	11,800	13,000
Power (kW)	1,600	2,800	3,200	4,800	5,800	6,400

IGBT PowerCube

JUPITER Line line systems operate on the IGBT PowerCube. This converter 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.
- Full production reliability: the modular design (> 2,000 kW) enables the IGBT PowerCube to continue running at reduced power if a module fails.
- 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 PowerCube.
- High operating times due to reduced servicing times.
- The separate capacitor rack has a very compact footprint to make maximum use of the available space.

Induction coil

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

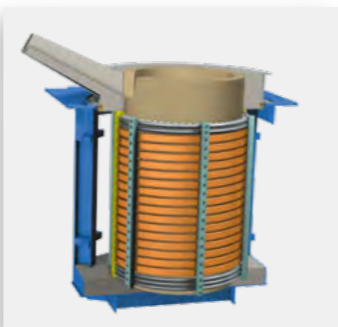
The posted coil design provides for very long service lives of the induction coil even in difficult conditions.

Main advantages:

- The induction coil is highly stable in itself due to the fibreglass 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 cross-sectional 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 stacks from fanning open at their ends under the effect of eddy currents.



As constant as gravity



JuMI – Junker Melting Interface

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

The advantages of this solution are obvious:

- IT-related risks are minimized
- JuMI online support
- No need for operating system updates
- Your maintenance team has full insight into the furnace functionality at all times
- Users and authorization levels can be freely defined

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

With JuMI you have all relevant information at your fingertips:

- Accurate charge weight data, even with tilted furnace
- Clear presentation of all process-related measured values, parameters and states, e.g. for maintenance work
- Switching states of motors (e.g. water recoler pumps)
- Analog or digital indication of flowrates and temperatures for each individual cooling circuit – at your discretion
- Valve positions
- Status of cooling water (incl. conductivity)
- Currents and voltages in frequency converter
- Presentation of all relevant values in (trend) charts
- Determination of average crucible wear and calculated remaining lining thickness
- Alarm monitoring system and presentation of malfunctions including direct references to drawings and circuit diagrams for minimized maintenance and repair times

JuMI also offers numerous functions for enhanced operator comfort:

- Automatic melting operations
- Melt-down of solid charge material to specified target temperature
- Automatic injection of calculated energy
- Calculation of melt temperature
- Calculation of remaining melting time
- Automatic holding at temperature
 - temperature-controlled
 - energy-controlled
- Automatic sintering
- Automatic cold start
- Monitoring and integration of charge cars

JuMI also provides options for uninterrupted record-keeping:

- Heat reports, shift reports, monthly reports

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





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