ELECTRIC ARC FURNACES

CONTROL SYSTEMS

COMTERM

We make high-performance melting appliances

ORE THERMAL ELECTRIC FURNACES

ore thermal furnace (capacity: 63 MVA) construction of VNIIETO

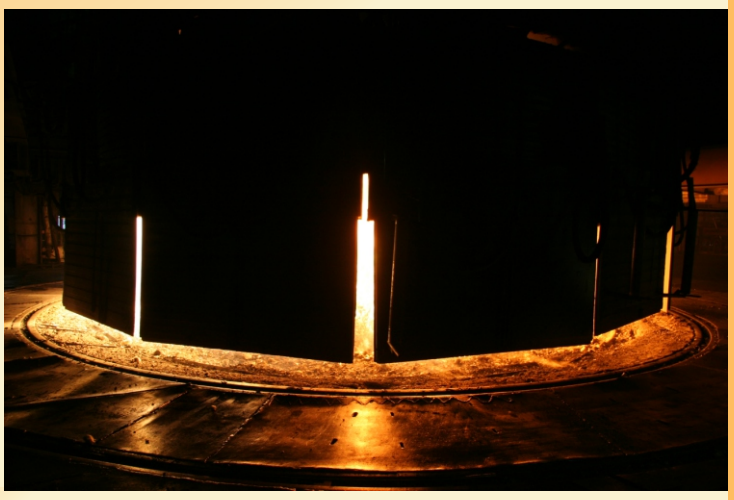
AUTOMATION OF ALL TYPES OF FURNACES

PRODUCTION OF SPARE PARTS

DESIGN FEATURES OF ORE THERMAL FURNACES

1. Closed furnaces with pressed electrodes in the "roof", 3 phases. Round furnaces with three RKZ-type electrodes and rectangular RPZ-type furnaces with six RPZ-type electrodes, 1 phase, with two electrodes.

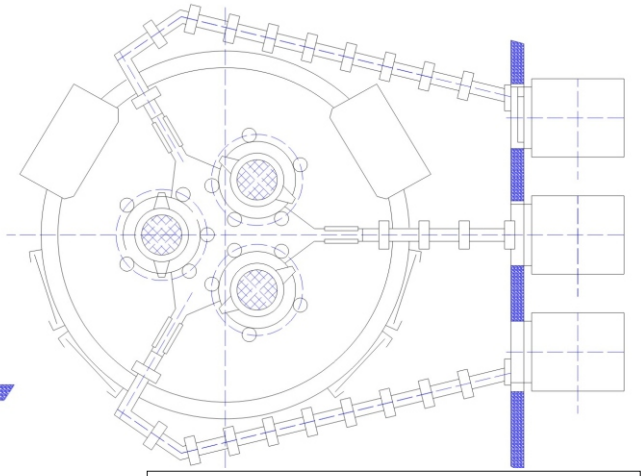
2. Open RKO-type furnaces with low roof hood, round, with three electrodes, and RPO-type furnaces, rectangular, three phases, with six electrodes, and rectangular, one phase, with two electrodes.

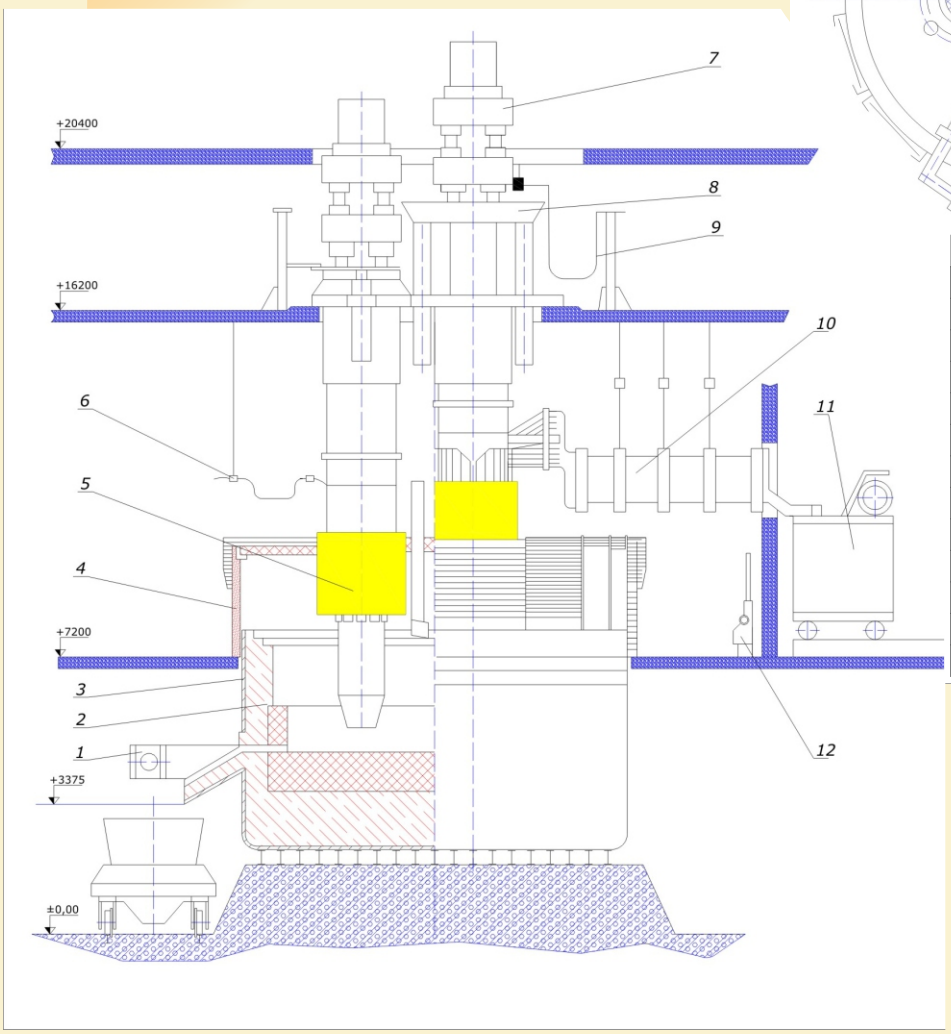


RKO-25 ore thermal furnace (capacity: 25 MVA) for production of high-grade ferrosilicium and silicon (construction of VNIIETO)

3. Semi-enclosed, three phases, batch loading into hoppers around the electrode, RKP-type, round, with two electrodes, and RPP, rectangular, with six electrodes.

4. Direct current furnaces with conducting hearth, with one or two electrodes, closed, open, and semi-enclosed, with round and rectangular tanks, type DP-R.





List of principal nodes	
No.	Item
1	Appliances for tap-hole burning
2	Refractory
3	Cover
4	Roof hood
5	Current lead
6	Contact plates clamping hydraulic system
7	Electrode slipping appliance
8	Electrove moving appliance
9	Pipelines
10	Low-voltage circuit
11	Transformer
12	Water cooling system

Ore thermal furnace (capacity: 16.5 MVA) for production of high-grade ferrosilicium, type RKZ-16.5

No.	MANGANESE FERROALLOYS									
	Types of alloys	Brand of alloy	Content of leading element, %	Type of electric furnace			Unit capacity, MVA	Remarks		
				Closed	Semi-enclosed	Open		Content, %		
								C	Si	P
1	Ferromanganese, carbonaceous	FMn 78 A, K	Mn 78-82	X	X	-	16.5; 25.0; 63.0	6-7	1-2.0	0.05
2	Medium-carbon	FMn 1.0; 1.5; 2.0	Mn 85-75	-	-	X	3.5; 5.0	1.0	1.5	0.1-0.3
3	Low-carbon	FMn 0.5	Mn 85.0	-	-	X	3.5	0.5	2.0	0.3
4	Silicomanganese	CMn 20, 17	SI 20.19	-	X	-	16.5; 63.0	1.0-1.7	-	0.1
CHROME FERROALLOYS										
5	Ferrochrome, carbonaceous	FCr 650, 800	Cr 65-60	-	X	-	16.5; 25.0; -- 40.0	6.5-8.0	2.0	0.03-0.05
6	Medium-carbon	FCr 100, 200, 400	Cr 65.0	-	-	X	3.5; 5.0	1-4	2.0	0.03-0.05
7	Low-carbon	FCr 001-0.50	Cr 68-65	-	-	X	3.5	0.01-0.05	0.8-2.0	0.02-0.05
8	Ferrosilicochrome	FCr 13-48	Si 10-45	-	-	X	16.5; 25.0			
SILICON FERROALLOYS										
9	High-silicon ferrosilicium	FS 65, 75	Si 63-80	-	-	X	16.5; 25.0	0.1	-	0.04-0.05
10	Ferrosilicium	FS 45-25	Si 44-27	-	X	X	16.5	01.-0.6	-	0.05-0.06

I.Furnaces for production of ferroalloys.

A. Manganese ferroalloys
- Ferromanganese (high-carbon and medium-carbon)
- Silicomanganese

B. Chromous ferroalloys
- Carbonaceous and medium-carbon, charge ferrochrome

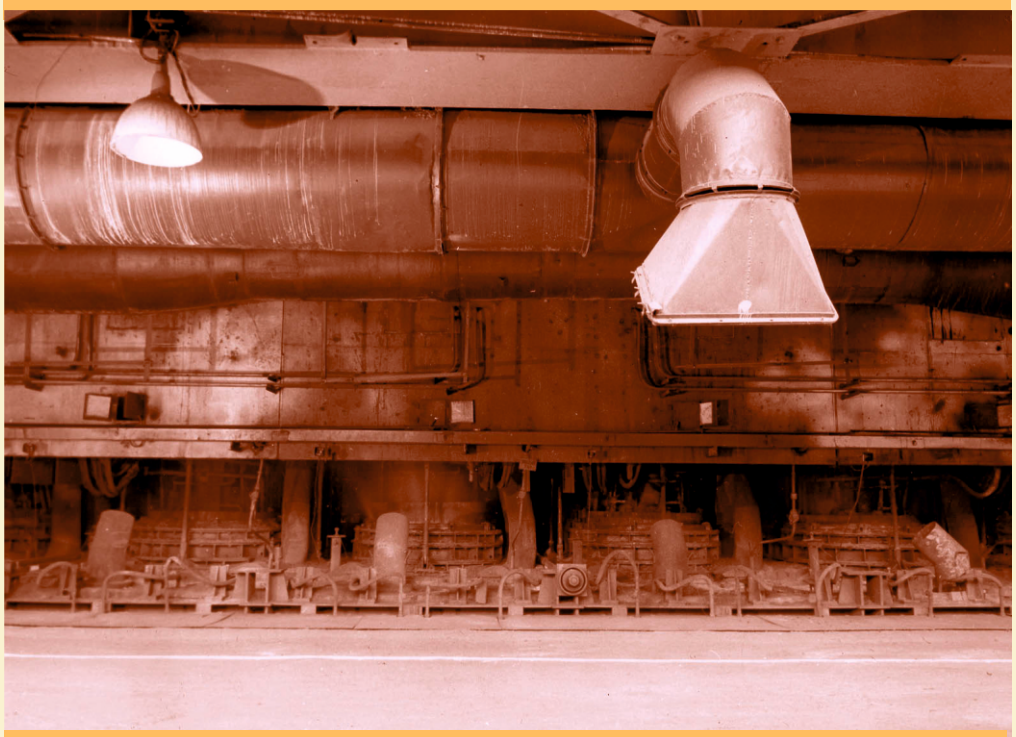
C. Silicate ferroalloys
- Ferrosilicium (electro-thermal)
- Silicocalcium (15%)

II. Electrical furnaces for ferrous metallurgy.
- Metal silicon
- Ferronickel, nickel matte
- Silicoaluminium

III. Electrical furnaces for chemical industry
- Calcium carbide

IV. Electrical furnaces for refractory industry
- Silicon carbide
- Corundum, Bacor

Advantages of direct current furnaces over similar alternate current furnaces:
- Higher extraction of the leading element;
- Purer melted product;
- Lower electric energy consumption;
- Lower electrode consumption



We use technologies, create technical solutions, and aim at making them not only respond to our customers' needs of today, but also become the universal basis for future development of the customer's enterprise.

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