Technical Catalogue
Catalogue Technique
Catálogo Técnico
テクノロジーカタログ

Furnace & Furnace accessories

Carbon Products

Nozzle Products

YUMU

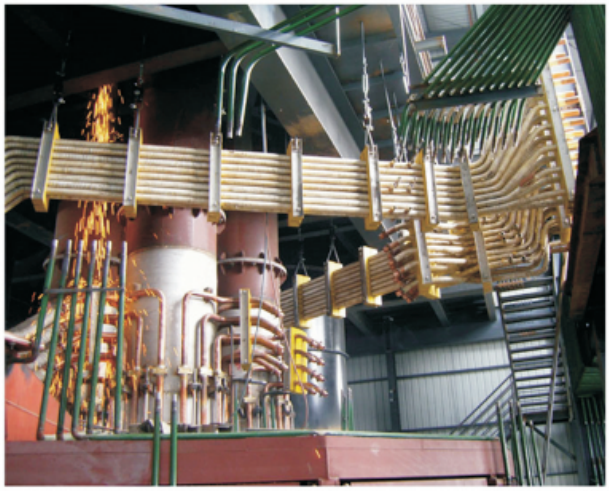
www.yu-mu.cn

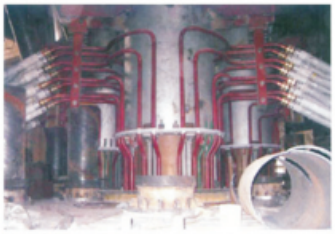
ELECTRIC ARC FURNACES

.Applications

Electric Arc Furnaces are used to produce the Silicic,Manganic,Chromic,Tungstenic and Silicon-manganese alloy.

Ore heat furnace main body equipment the contractor is the extension of various services, combined with our company existing manufacturing and service advantages, can provide customers with ore heat furnace system design, the main body equipment manufacture, installation and debugging, debugging technology and other comprehensive services.





矿热炉铜管短网 Ore heat furnace short_net copper tubes

矿热炉短网（局部） Short_net -arc furnace (local)

Equipment composition

1. Furnace body
2. Fume cover: High or Lower fume cover
3. Electrode shell, clamping system and electrode lifting system
4. Electric system, including network copper tiles, and water-cooling cable etc.
5.Water cooling system
6.Electrical control system

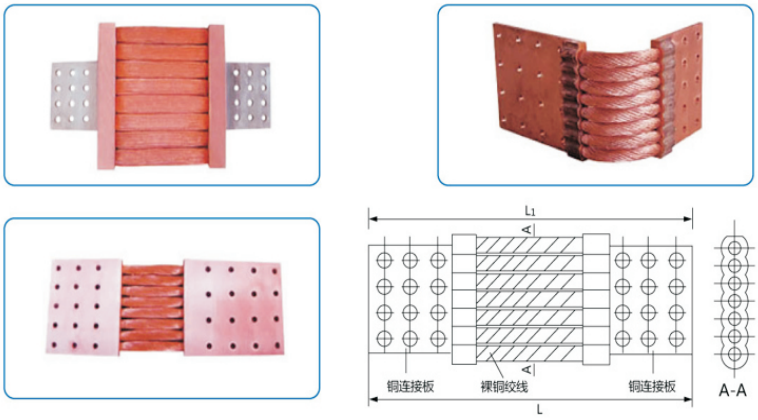
Ore-smelting furnace strap

Tile short net of the submerged arc furnace is a circuit with heavy current from the secondary side of the transformer to the electrocle, which generally refers to the hard bus bar and is divided into two kinds as coppelr tube and copper bar. That the copper tube adopts tile water cooling mode to save copper quantity is a trend, for the future development. As the stibmerged arc developing toward the large-scale, the arrangement of the short net is of vital importance to the conduction efficiency.

Ore heat furnace accessories

Large current compensator

This product is used in the electric furnace transformer secondary outlet copper platoon terminal and the electric connection between short_net busbar copper platoon, to compensate for installation error and absorption transformer vibration caused by electromagnetic force.



Technical Data

Model	Effective cross-sectional area (mm^2)	L_1 mm	L and installation dimensions of copper connecting plates at both ends	Compensation size		Economic current carrying capacity (A)
				Proper alignment	Positional	
KL850	850	≥150	Provided by the buyer when placing an order	±2L%	-5L%	1300±20%
KL1200	1200	≥200		±2L%	-5L%	1800±20%
KL1500	1500	≥200		±2L%	-5L%	2400±20%
KL2000	2000	≥200		±2L%	-5L%	3000±20%
KL2700	2700	≥200		±2L%	-5L%	4000±20%
KL3000	3000	≥250		±2L%	-5L%	4500±20%
KL3600	3600	≥250		±2L%	-5L%	5400±20%
KL4000	4000	≥250		±2L%	-5L%	6000±20%
KL4800	4800	≥250		±2L%	-5L%	7000±20%
KL6000	6000	≥300		±2L%	-5L%	8500±20%
KL7000	7000	≥300		±2L%	-5L%	10000±20%

Water cooled tube type compensator

This series product is used in the electric furnace transformer secondary outlet tubes (generally for sideoutlet) with electric furnace between short_net copper busbar connection, to compensate for ins tallationerror to avoid electromagnetic resonance caused by the large current line communication. Including GL series and connected the brass nut connection (can be a single nuts can also double nut). GW/GB series and the copper tube connected with flange connection. Are connected on both ends of the copper pipediameter can be the same, can also be different, the same is preferred.

Technical Data

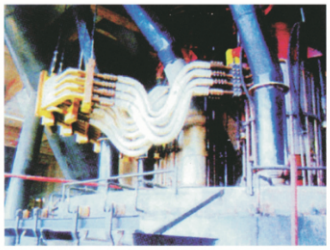
Model	Diversion cross-sectional area		Compensation size		Current carrying capacity		Basic size
	Nominal (mm^2)	Tolerance (%)	Concentricity (mm)	Size (mm)	Rated voltage	Overload (%)	
GL-1000	1000	-5	±5	±5	4000	20%	d1=Transformer secondary outlet tubes outer diameter d2=Large current busbar tube diameter.
GL-1200	1200				4800		
GL-1400	1400				5600		
GL-1600	1600				6400		
GL-1800	1800				7200		
GL-2000	2000				8000		
GL-2400	2400				9600		
GL-2800	2800				11200		

Technical Data

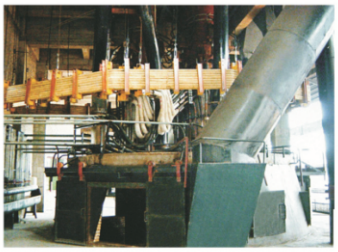
Connected copper pipe Diameter × wall thickness	GW series			GB series			Economic current carrying capacity (A)
	Model	Minimum Length	Radial dimension	Model	Minimum Length	Flange diameter	
Φ45×7.5	GW875	450	82	GB875	470	180	3500
Φ50×10	GW1200	500	100	GB1200	520	200	4800
Φ55×10	GW1400	550	110	GB1400	550	210	5600
Φ60×10	GW1600	600	115	GB1600	600	215	6400
Φ55×12.5	GW1800	650	120	GB1800	650	215	7200
Φ65×10	GW1800	650	120	GB1800	650	215	7200
Φ65×12.5	GW2000	700	120	GB2000	700	215	8000
Φ70×12.5	GW2400	750	120	GB2400	750	220	9600

Water-cooled cables and compensators series for Arc Furnaces

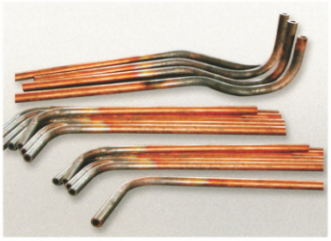
This series of products are used for short-circuit systems of arc furnaces (calcium carbide furnaces, ferroalloy furnaces, industrial silicon furnaces, yellow phosphorus furnaces, etc.). They are used for connecting the secondary outlet of transformers with fixed copper tubes (compensator A-type joints can also be used as compensators for arc furnaces and ladle furnaces), and also for connecting fixed copper tubes with movable copper tubes in furnaces (connecting copper tiles) —— water-cooled cables. Among them, A-type joints (single nut joints and B-type joints, half gun joints) are suitable for connecting copper tubes; C-type joints (plate joints) are suitable for connecting copper bars or transformer top outlet terminals.



12500KVA电炉短网

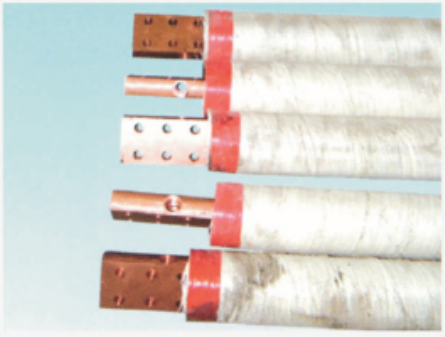


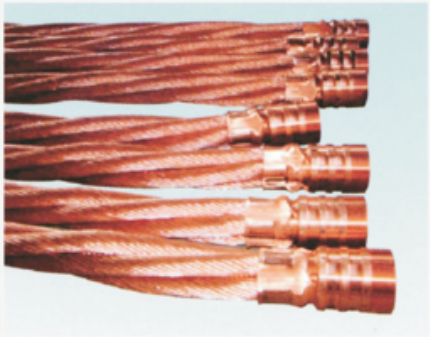
30000KVA矿热炉

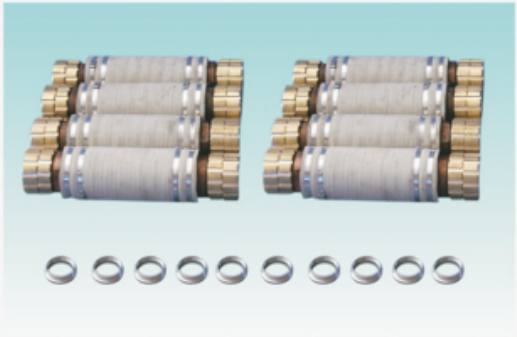


矿热炉短网（铜管式）

25000KVA矿热炉

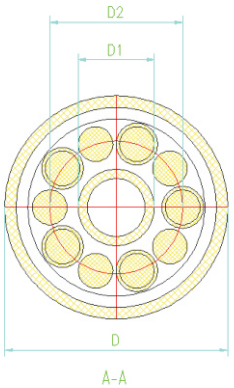




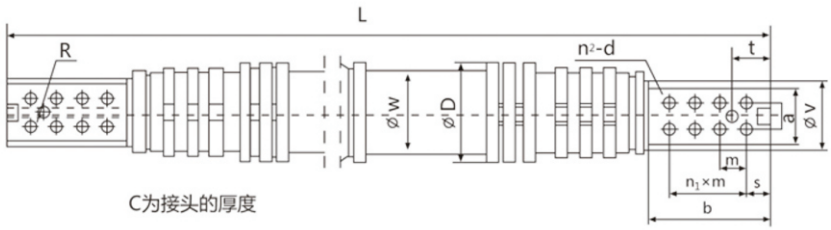


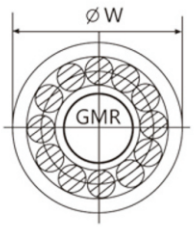
Technical Data

Model	Conductive Cross-sectional Area (mm²)	TJR1			70C° μΩ/m		Minimum bending radius (mm)	Cooling water flow rate (L/min)	Cross-sectional dimensions			Connector size	Allowed Current carrying capacity (A)
		Cross-sectional area	PCS	¢ D2	DC	AC 50HZ			D1	D2	D		
SLDL875*-L	875	125	7	41.5	25.7	28.8	350	1.5	24	64	82	It is determined by the outer diameter of the connecting copper pipe or the size of the copper busbar.	3937
SLDL1000*-L	1000	125	8	48	22.5	25	400	1.8	32	76	95		4500
SLDL1125*-L	1125	125	9	57	20	22.4	425	2.0	32	76	95		5062
SLDL1295*-L	1295	185	7	52	17.4	19.4	450	2.4	32	89	110		5827
SLDL1480*-L	1480	185	8	60	15.2	17	450	2.9	37	89	110		6660
SLDL1500*-L	1500	250	6	50	14.8	16.6	450	3.1	24	76	95		6750
SLDL1665*-L	1665	185	9	64	13.5	15.1	450	3.3	42	89	110		7492
SLDL1750*-L	1750	250	7	58	12.7	14.2	450	3.6	32	89	110		7875
SLDL2000*-L	2000	250	8	64	11.1	12.5	500	4.2	37	102	124		9000
SLDL2250*-L	2250	250	9	72	9.9	11	500	4.5	42	102	124		10125
SLDL2400*-L	2400	400	6	57	9.4	10.5	500	6	24	106	132		10800
SLDL2800*-L	2800	400	7	68	8	9	500	7.5	37	114	142		12600
SLDL3200*-L	3200	400	8	78	7	7.9	500	8.2	42	114	142		14400



Large current water-cooling cable

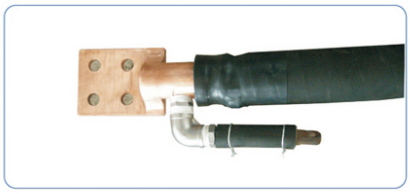




Technical Data

Model	Conductive Cross-sectional Area (mm²)	TJR1			70C° μΩ/m		Minimum bending radius (mm)	Cooling water flow rate (L/min)	Appearance and installation dimensions (mm)													Allowed Current carrying capacity (A)
		PCS	Section	ΦE	DC	AC50 Hz			a	b	n₁×m	n₂×d	k	t	R	ΦF	ΦD	ΦW	ΦV	S	C	
SLDL1200	1200	6	200	44	19	21.1	400	7	69	125	2×42.5	6×3	40	40	1/12″	76		95		20	35	5400
SLDL1480	1480	8	185	57	15.1	16.9	450	8.2	80	150	2×45	6×13	40	40	1/12″	89		110		30	35	6660
SLDL1600	1600	8	200	57	15.7	15.7	450	8.5	85	175	2×50	6×17	50	65	3/4″	89	150	110	92	40	35	7200
SLDL1750	1750	7	250	56	14.2	14.2	450	9.5	85	175	2×50	6×17	50	65	3/4″	89	150	110	86	40	35	7875
SLDL2000	2000	5	400	48	11.1	12.4	500	10.7	85	175	2×50	6×17	50	55	3/4″	89	165	114	92	30	35	9000
SLDL2400	2400	6	400	57	9.3	10.5	500	16	98	200	2×60	6×17	60	70	1″	106	170	132	106	40	40	10800
SLDL2800	2800	7	400	67	8	9	500	20	98	210	3×50	8×17	65	55	1″	114	170	142	112	30	50	12600
SLDL3200	3200	8	400	80	7	7.9	500	22	12	210	3×50	8×17	65	55	1″	119	187	147	117	30	50	14400
SLDL3500	3500	7	500	76	6.4	7.2	550	24	103	300	3×63.5	8×17	65	83	1″	119	187	147	115	30	50	15750
SLDL3600	3600	9	400	88	6.2	7	600	25	120	210	3×63.5	8×17	65	55	1″	127	197	157	124	30	50	16200
SLDL4000	4000	8	500	88	5.6	6.3	680	28	113	330	3×63.5	8×17	65	83	1″	140	197	157	124	50.5	50	18000
SLDL4400	4400	11	400	108	5.1	5.7	680	31	146	300	3×63.5	8×17	76	83	1″	146	230	188	136	50.5	50	19800
SLDL4500	4500	9	500	95	5	5.6	700	31	134	300	3×63.5	8×17	80	83	1″	152	218	178	143	50.5	50	20250
SLDL4800	4800	12	400	116	4.7	5.2	720	34	146	330	3×63.5	8×17	76	83	1″	146	230	188	148	50.5	50	24600
SLDL5000	5000	10	500	108	4.5	5	750	35	134	300	3×63.5	8×21	80	83	1″	168	218	178	143	50.5	50	22500
SLDL5200	5200	13	400	126	4.3	4.8	800	36	154	300	3×63.5	8×21	76	83	1″	157	250	208	164	50.5	50	23400
SLDL5500	5500	11	500	119	4.1	4.6	800	37	143	300	3×63.5	8×21	80	83	1″	230	230	189	153	50.5	50	24750
SLDL5600	5600	7	800	95	4	4.5	850	38	134	330	3×63.5	8×21	80	87	1″	218	218	178	143	55	50	25200
SLDL6000	6000	12	500	130	3.7	4.2	900	40	178	300	3×63.5	8×21	85	87	1″	245	245	202	164	55	60	27000
SLDL6400	6400	8	800	109	3.5	3.9	900	40.8	149	350	3×80	8×21	80	87	1″	245	245	202	164	55	55	28000
SLDL7200	7200	9	800	121	3.1	3.4	950	48	168	350	3×80	8×21	90	87	1″	258	258	216	175	55	55	32400

Single strand water cooled cable



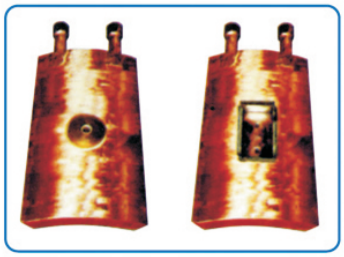
WCC type Single Water-cooling Cable

Technical Data

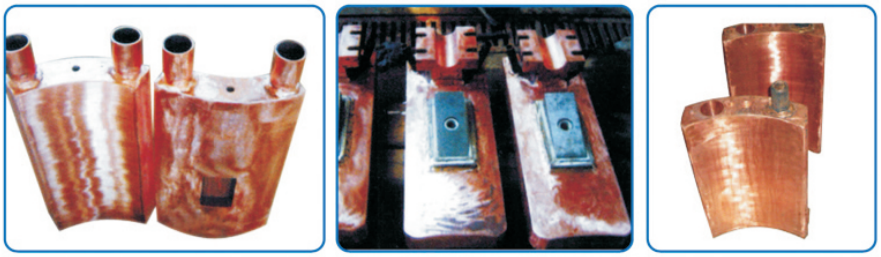
Model	Cable size (mm)										Cross-sectional area (mm²)	Current carrying capacity for Electric Induction Furnace (A)	Current carrying capacity for Electric Arc Furnace (A)	Minimum bending radius (mm)
	a	b	m	s	d	g	c	R	Φ W	Φ V				
WCC120	25	50	25	13	11	20	10	G1/4″	35	25	120	1800	500	140
WCC185	30	60	30	15	13	30	12	G3/8″	41	30	185	2600	7500	170
WCC300	30	60	30	15	13	30	15	G3/8″	47	35	300	3800	1300	200
WCC400	40	80	40	20	17	30	20	G1/2″	54	42	400	4550	1800	220
WCC500	40	80	40	20	17	30	20	G1/2″	54	42	500	5600	2300	220

Forging copper ore heat furnace

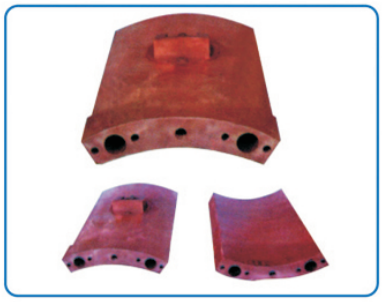
Provide energy saving brasses for ore-smelting furnace according to user’ s drawings. Directly-cooled type red copper forging brasses was a new product for use with ore-smelting furnace developde in 1998, now this product formed a series. It was press processed using the T2 red copper,so it' s of high density.Cooling water tunnel is gun drelled with deep hole driller to achieve goodconductivity and cooling performance, and so reducing the power loss in the brasses, for longer working life. It is national patented.

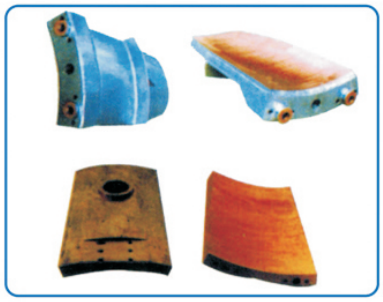


直冷式紫铜锻造铜瓦



锻造铜瓦系列



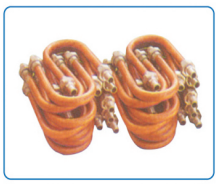


特种铜瓦

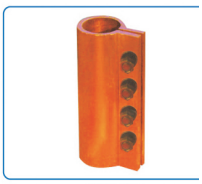
Forging copper tile performance parameters of the table

Model	Electrical conductivity (%)★	Resistivity (Ω·mm²/m)	Thermal conductivity (W/m·k)	Tensile strength (N/mm²)	Brinell Hardness
ZQSn6-6-3	11.5	0.15	11.5	195	65
ZH96	56	0.031	56	235	63.7
T2	100	0.0175	100	240★★	54.3
Note: ★ Take the conductivity of T2 copper as 100%				★★ Annealed Condition	

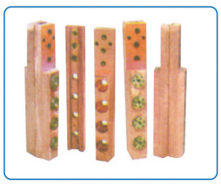
底部环



U型连接套管



连接套

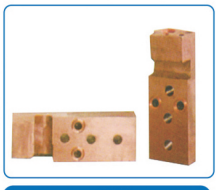


导电元件

铜瓦

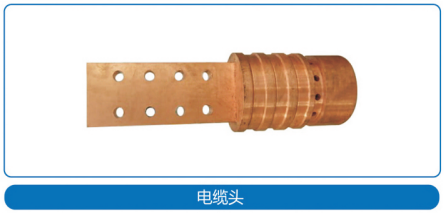
铬铜合金电极夹头

集电环

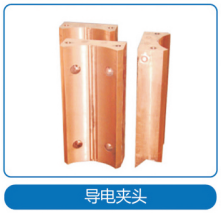


导电块

电极夹头

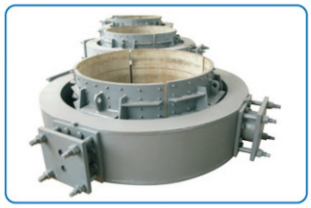


电缆头

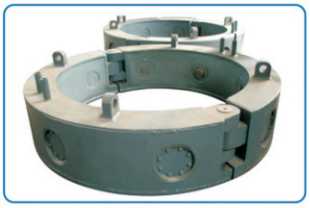


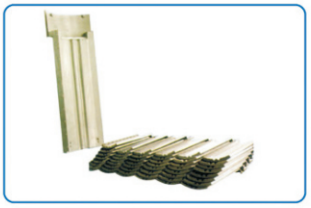
导电夹头

Casting forging conductive series

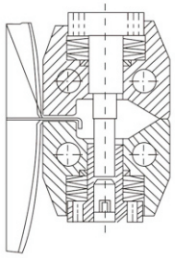


抱闸

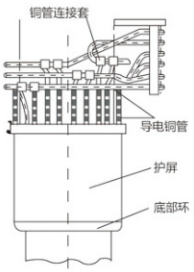

压放油缸


压力环


护屏

组合式把持器 Combined control device


导电元件安装结构示意图
Conductive element installation structure diagram



组合把持系统装配示意图
Combination of system assembly diagram

Summary

Our factory with the relevant scientific research institutes, manufacturing enterprises cooperation and in digesting and absorbing foreign advanced ore heat furnace technology, on the basis of the development of the portfolio holding -arc furnace, modular control device has the following advantages:

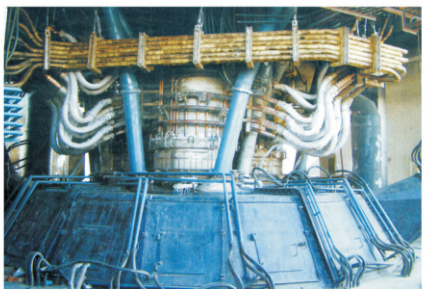
1, high applicability and can be used for different power, different electrode diameter of ore heat furnace.

2, with copper tile as compared -arc furnace of conductive components, due to the conductive element and between electrode shell USES spring bolt clamp, and contact resistance is superior to other forms of contact resistance, and can't afford to arc, current stability.

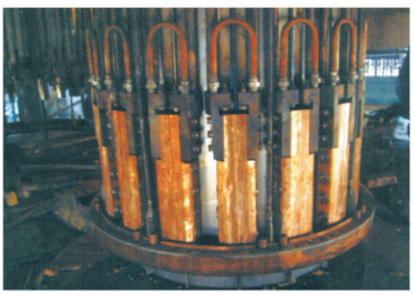
3, due to the conductive element USES a closed design, therefore the conductive element is not subject to high temperature radiation, its temperature is much lower than other forms of electric components, significantly higher electrical conductivity.

4, because the contact resistance decreases, and the improvement of electrical conductivity, combined with water inside, so that the electrical efficiency and power factor, energy saving more than 5%, saving material is around 20%.

5, due to the structural design is reasonable, the service life of the conductive element be doubled. Daily maintenance cost greatly reduced, equipment to start the rate has improved significantly.







ELECTRIC ARC FURNACES

APPLICATIONS

HX series steeimaking AC arc furnaces are used for melting qualitycarbon steel and alloy seel, their normal capacity 0.5t to 125t.

FEATURES

In HXZ series furnaces,OP,HP and UHP power input modeis arc avaiable, both right and left operations for your choice. Roof swinging abd top charging. Aavanced designs of the furnaces operation reliable and performance excellent

DESCRIPTIONS

Furnace body

Tapping manners:spout and EBT.Tubular water-cooled and traditionat foof are available.

Tilting mechanism

Electrode lifting mechanism

It can be realized by bogie movelnent or mast lifting,common copper tube arm or advanced water-cooled conducting arm are available.

Roof lifting ami swinging mechanism.

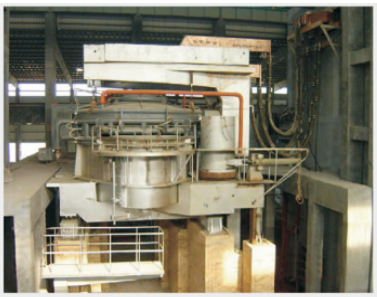
integrated or separated foundation designs for your choice.

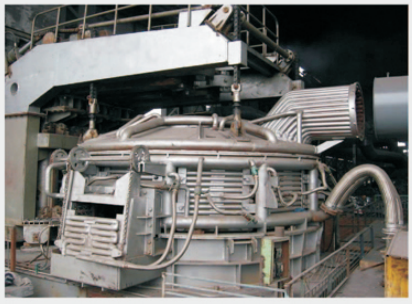
Cooling-water monitoring and alarming system.

Hydraulic station and control valves system.

Electric control system:

Automatic regulatro of electrode lifting can be VVVF controlled or computer controlled. The later can equipped with CRT displayer.The actibf of all parts and interlocks is controlled by PLC.





Technical Data

Model	Furnace shell inner diameter (mm)	Molten steel capacity (t)	Transformer rated capacity (KVA)	Transformer primary voltage (Kv)	Transformer secondary voltage (Kv)	Electrode diameter (mm)	Diameter of electrode center circle (mm)	Cooling water flow rate (m^3/h)	Mechanical equipment weight (t)
HX-0.5	2100	0.5	0.5	610	200-98	Φ150	Φ450	8	5
HX-1.5	2500	1.5	1.5	610	210-104	Φ200	Φ650	14	9
HX-3	3000	3	3	610	220-110	Φ250	Φ750	15	24
HX-5	3400	5	5	610	240-121	Φ300	Φ850	15	34
HX-10	3500	10	10	10	260-139	Φ350	Φ950	20	74
HX-15	3800	15	15	10	260-139	Φ350	Φ1000	25	85
HX-20	4200	20	20	35	280-100 314-116	Φ400	Φ1050	25	98
HX-30	4600	30	30	35 100	314-116 353-137	Φ450	Φ1150	53	178
HX-40	5000	40	40	35 100	392-158 489-201	Φ500	Φ1250	80	205
HX-50	5200	50	50	35 100	436-184 547-223	Φ500	Φ1300	133	224
HX-60	5500	60	60	35 100	547-223 610-250	Φ550	Φ1350	150	252
HX-75	5800	75	75	35 100	610-250 673-227	Φ600	Φ1450	180	274
HX-100	6400	100	100	35 100	673-277 760-310	Φ600	Φ1450	230	294
HX-125	6800	125	125	35 100	760-310 880-330	Φ650	Φ1500	260	330

LF SERIES LADLE REFINING FURNACES

Applications:

LF Ladle refining furnaces is remelting the melton steel form the elctric arc furnace or converter to meet the requirements for continuously casting or rolling.it is an important equipment for metallurgical
inductry,It involves heating by electrode, argon blowing and stirring,alloy adding,temperature measuring and sampling.

Consist of:

Ladle and carrier
Heating device
Electrode control types:l.Manual 2.Computor control
Hydraulic and valve control system
Argon,oxygen,compressed air and water-cooling system
Electrical control system
PLC control system
HV power system
High current circuit
LF Ladle refining furnace is combined with the EBT furnace to save the melting time and improve the steel quiality with lower cost for more products.

Technical Data

Rated capacity (t)	Electric furnace transformer		Ladle top of the inner diameter (mm)	Graphite electrode diameter (mm)	Diameter of electrode center circle (mm)	Cooling water flow rate (m^3/h)
	Transformer rated capacity (MVA)	Secondary voltage (V)				
15	2.0	185-150	2000	200	400	50
20	4.0	195-150	2200	300	560	90
25	4.5	200-120	2250	300	580	90
30	5.0	215-155	2450	300	580	120
40	6.3	220-160	2600	350	580	120
50	9.0	220-120	3000	400	700	150
60	10.0	270-170	3100	400	720	180
70	12.5	270-150	3280	400	720	180
80	15.0	270-150	3400	450	750	200
90	16.0	270-150	3500	450	750	200
100	18.0	300-180	3580	450	750	280
120	20.0	300-180	3680	500	800	300

The VD vacuum ladle refining furnace series

Applications:

VD type vacuum refining furnace provides vacuum degasing VOD type vacuum refining furnace can do Decarbonizing.deoxygenizing and dehydrogenizing for stainless steel and super low carbon steel

Consist of:

Vacuum body, vacuum cover, carrier, vacuum cacuum pump system and low pressure control system

Technical Data

Rated capacity (t)	Ladle top of the inner diameter (mm)	Diameter of vacuum tank (mm)	Argon flow rate (L/min)	The working vacuum degree (Pa)	Exhaust capacity of jet pump (Kg/h)	Water flow rate of equipment (m^3/h)	Water flow rate of jet pump (m^3/h)
15	2100	3800	100	67	100	20	300
20	2250	4000	120	67	150	40	350
25	2350	4200	150	67	190	60	400
30	2560	4400	180	67	220	80	500
40	2650	4600	200	67	250	100	600
50	3080	4800	250	67	300	120	800
60	3180	5200	300	67	360	120	900
70	3280	5600	500	67	360	120	1000
80	3450	5700	550	67	380	120	1000
90	3550	5820	650	67	420	130	1200
100	3660	5980	700	67	450	150	1200

Electroslag furnace

Applications:

Electroslag furnace is used for melting high alloy steel. The capacity is from 0.5T to 15T. There is a fixed mould with double vertical rotary changeable electrode. The electroslag furnaces have good reliabili ty and performance from advanced technical designing.

The main components of electroslag furnace:

Network system

Electrode lifting system

Moulding

Bottom water tank and ingot fixing device

Cooling water, indicating and alarming system

Hydraulic systemElectrical control system

Arc furnace short_net

型号Model

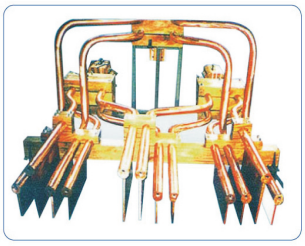
M □ □

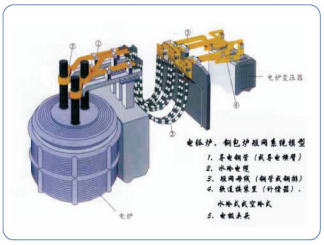
- 标准截面 Standard section
- 类型或特性代号 Type or character code
- 大电流母线 Big-current generatrix

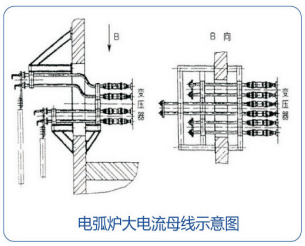
其中类型和特性代号：
Type and chearacter code:

TP-导电铜排
TP-Telectric copper line

TG-导电铜管
TG-electric copper tube







电弧炉大电流母线示意图

Short_net is electric furnace of big current arc line, generally specifically to hard bus parts, copper platoon and brass two types, because of the copper tube with water cooling, can save the amount of copper.

Technical Data

Electric arc furnace					Compensator		Generatrix		Water-cooling cable		Conductive cross arm		Impedance unbalance coefficient
Rated capacity (t)	Furnace shell diameter	Transformer rated capacity (MVA)	Secondary maximum current	Electrode diameter (mm)	Model	Qty	Model	Qty	Model	Qty	No.	Qty	
6	3	3.15	9920	300	BB3000	6	300×10	6	WCCB2400	3	1	2+1	≤5%
12	3.5	5	14400	350	BB4800	6	350×12	6	WCCB3600	3	2	2+1	≤5%
15	3.7	6.3	16788	350	BB6000	6	400×12	6	WCCB4000	3	3	2+1	≤5%
15	3.7	10	28867	400	BB4800	12	350×12	12	WCCB3600	6	4	2+1	≤5%
20	4.0	8	21318	350	BB3600	12	300×12	12	WCCB2800	6	4	2+1	≤5%
20	4.0	12.5	32074	400	BB4800	12	400×12	12	WCCB4000	6	4	2+1	≤5%
20	4.0	16	36344	400	BB6000	12	450×12	12	WCCB4400	6	5	2+1	≤5%
30	4.6	12.5	32074	400	BB4800	12	400×12	12	WCCB4000	6	5	2+1	≤5%
30	4.6	16	36344	400	BB6000	12	450×12	12	WCCB4400	6	5	2+1	
30	4.6	20	40754	450	BB6000	12	500×12	12	WCCB4800	6	6	2+1	≤5%
30	4.6	25	45580	450	GB3000	12	Φ100×10 The line led out from the side	12	WCCB5200	6	7	2+1	≤5%
40	5.0	16	36344	450	BB6000	12	450×12	12	WCCB4400	6	7	2+1	≤5%
40	5.0	20	40754	450	BB6000	12	500×12	12	WCCB4800	6	7	2+1	≤5%
40	5.0	25	45580	500	GB3000	12	Φ100×10 The line led out from the side	12	WCCB5200	6	7	2+1	≤5%
50	5.2	20	40754	450	BB6000	12	500×12	12	WCCB4800	6	7	2+1	≤5%
50	5.2	25	45580	500	GB3000	12	Φ100×10 The line led out from the side	12	WCCB5200	6	7	2+1	≤5%
50	5.2	31.5	51350	500	GB3000	12	Φ120×10 The line led out from the side	12	WCCB6000	6	8	2+1	≤5%
50	5.2	40	58342	500	GB3500	12	Φ120×10 The line led out from the side	12	WCCB6000	6	8	2+1	≤5%

Conductive cross arm

This series arc fumace hydrocooling composite conducting arm are of rectangular frame structure,welded of coppersteel composite plate,the upper layer of copper plate conducts current. So it' s the conduction function of electrode arm and electrode supporting function intergrated in one device. Due to the abandon of traditional conducting copper pipe on the electrode arm and eliminating of many insulating parts, the structure is simplified with larger conducting surface, substantial contact resistance reduction is achieved and it also means low maintenance work. It is extensively applicable to arc furnace with capacities of 5T to 100T, and large steellandle refining furnace.

Conducting Arm Technical Parameters

No.	Electric furnace transformer				Reference electric arc furnace capacity (t)	Arm cross-sectional Height × Width (mm)	Pressure (Mpa)/medium of electrode relaxation cylinder	Cooling water	
	Graphite electrode diameter (mm)	Diameter of electrode center circle (mm)	Transformer rated capacity (KVA)	Secondary side current (KA)				Flow rate (m^3/h)	Interface size
1	Φ300	Φ620-Φ800	3200	7.7	5	430×260	5/Water-based, 0.4/Air	8	G1/2"
2	Φ350	Φ700-Φ950	5500-8000	12.2-17.7	10	430×260	5/Water-based, 0.4/Air	8	G1/2"
3	Φ350-Φ400	Φ800-Φ1120	8000	17.7	15	450×260	5/Oil, Water-based	10	G3/4"
4	Φ400	Φ800-Φ1150	9000-12500	17.32-26.7	20	500×360	5/Oil, Water-based	14	G3/4"
5	Φ400-Φ450	Φ900-Φ1150	12500-18000	26.7-30.28	30	530×360	5/Oil, Water-based	16	G3/4"
6	Φ500	Φ900-Φ1050	25000-40000	37.9-48.6	50	680×450	5/Water-based, Water glycol	22	G1"
7	Φ500-Φ550	Φ1050-Φ1100	31500-50000	42.7-54.4	75	700×450	5/Water-based, Water glycol	28	G1"
8	Φ600	Φ1100-Φ1200	50000-63000	54.4-62.1	90	800×450	5/Water-based, Water glycol	30	G11/4"
9	Φ600	Φ1100-Φ1200	63000-80000	62.1-69.9	100	800×450	5/Water-based, Water glycol	32	G11/4"

Product Fealures:

A. The conducting arm is welded of copper-steel composite plate, the copper plate layer conducts current, while the steel layer suppors for mechanical force.
B.Cooling water layer in the electrode arm flame to help resist the burning of the furnace.
C.Butterfly spring electrode tong hold to fasten the brake tothe electrode with pneumatic or hydraulic release mechanism, strong holding force and reliable.nism, strong holding force and reliahle.
D. The tong hold is made of chromium-copper or copper steel composite plate, with inner hydrocooling for longer working life.

Conducting Arm Technical Parameters

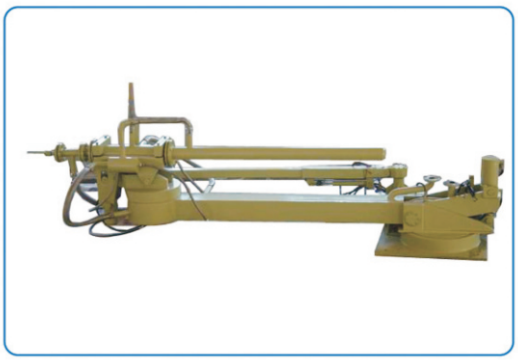
Model	Electrode diameter (mm)	Maximum allowable electrode current (KA)	Working (line) voltage (V)	Cooling water		Equipped electric arc furnace capacity (t)
				Flow rate (m^3/h)	Temperature (℃)	
DB250-10-□	250	10	≤500	-8.0	≤40	3-5
DB300-13-□	300	13				
DB300-17.4-□		17.4				10-25
DB350-18-□	350	18		-10.0		
DB350-24-□		24		-15.0		
DB400-23.5-□	400	23.5		-15.0		20-30
DB400-31-□		31		-20.0		
DB400-40-□		40		-20.0		40-50
DB450-27-□	450	27		-15.0		
DB450-40-□		40		-20.0		
DB450-45-□		45		-25.0		
DB500-32-□	500	32	≤1000	-20.0		50-75
DB500-48-□		48		-25.0		
DB500-55-□		55		-30.0		

型号Model

DB □ □ □

- The electrode arm length and connection types codes of electrode pole should indicate with 0,1,2,3,4.
- maximum permitted transmission power, KA
- arc furnace electrode diameter, mm
- system code

Water cooled oxygen lance (carbon)



Ladle Heating Device

Applications:1-160T Electric Arc-Furnaces

Note: Ladles are heated to the temperature as required

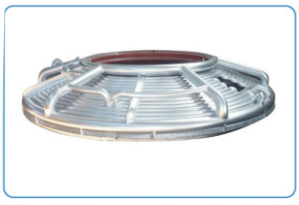
Type	Vertical	Horizontal
Maximum baking temperature	1200 ℃	1200 ℃
Burner type	Compressed air atomization, external mix	Compressed air atomization, external mix
Fuel type	Light diesel/natural gas/coal gas	Light diesel/natural gas/coal gas
Air consumption	2300 m³/h	2300 m³/h
Heat exchanger type	Radiation heat exchanger	Convection heat exchanger
Hot air temperature	350-400 ℃	350-400 ℃
Move model	Lifting type	Forward and backward moving type.
Other air consumption (for injection and air mixing)	3000 m³/h	3000 m³/h

Electric furnace accessories

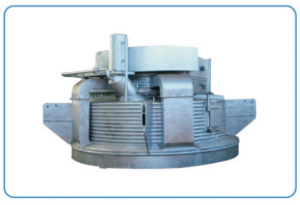
65吨铁水车

料筐

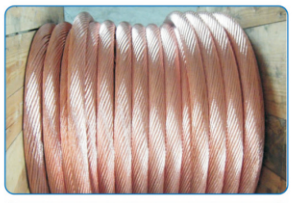
龙门钩



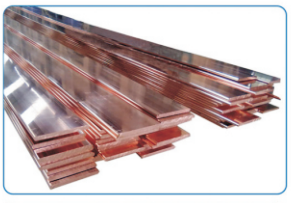
电弧炉盖（壁）



电弧炉壳



铜绞线

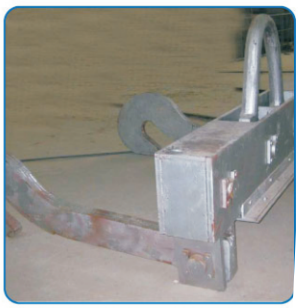


紫铜排

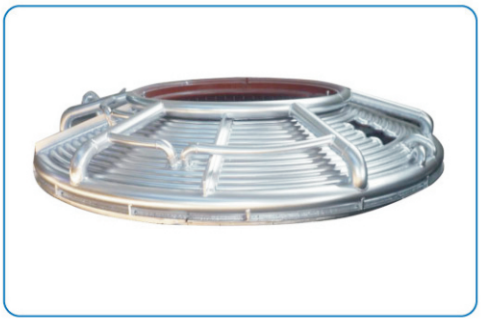
Arc furnace accessories

65吨铁水车

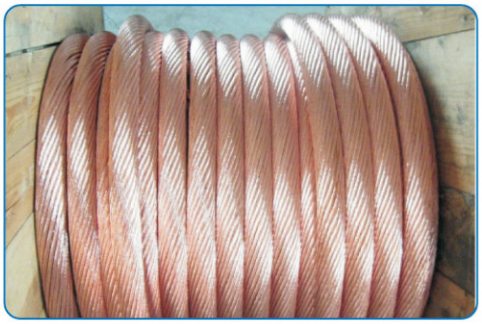
料筐



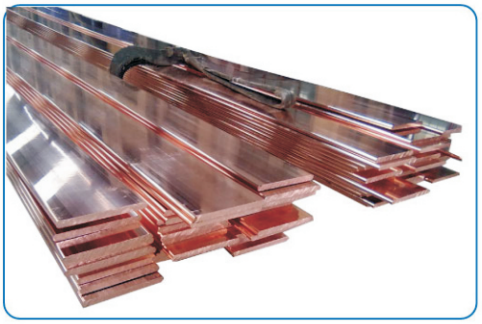
龙门钩



电弧炉盖（壁）



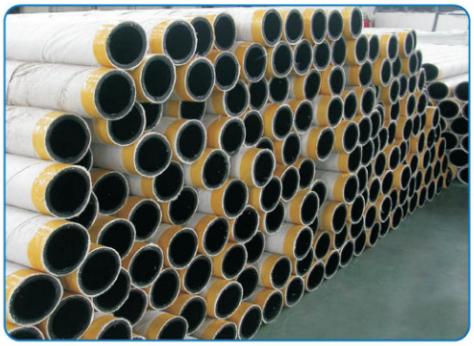
铜绞线



紫铜排

接地线

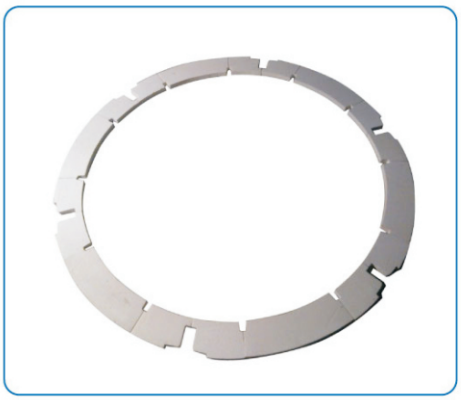
电缆胶管



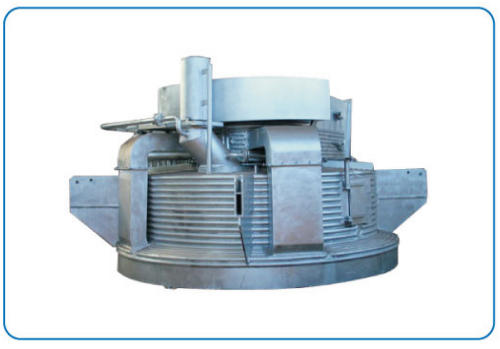
电缆胶管

接地线

夹布胶管



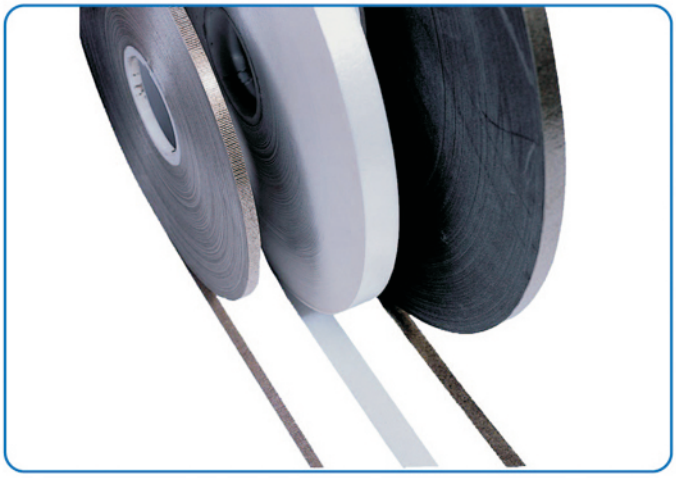
氧化铝陶瓷纤维垫



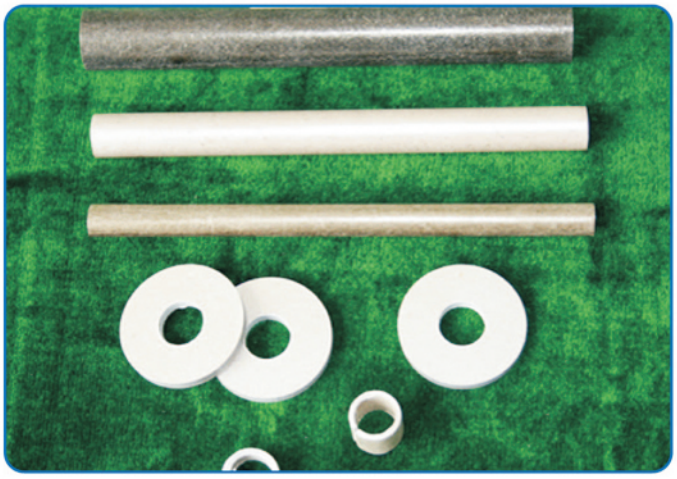
电弧炉壳

Insulation materials

绝缘夹具



云母带



云母管板垫

Insulation materials

The electrode paste and closed paste are conductive materials used in electric furnaces such as ferroalloy furnaces and calcium carbide furnaces. They are widely applied to self-baking electrodes of large and medium-sized closed, semi-closed and open submerged arc furnaces.

Technical Data

Item	45000-96000 KVA	25000-45000 KVA	12500-25000 KVA	6#-10#	Chemical electrode paste
Ash(%) ≤	2.0	3.0	4.0	4.0	4.0
Volatile Matter (%)	12-15.5	12.0-15.5	12.0-15.5	10.5-13.5	11.0-15.5
Compressive Strength (Mpa) ≥	20	19	22	24	22
Electrical Resistivity (Ω mm² /m) ≤	61	63	73	80	88
Volume Density (g/cm³) ≥	1.43	1.42	1.40	1.39	1.39
Elongation	5-20	5-20	5-20	5-30	5-25

Note: The non-standard paste is produced and customized according to specific physical and chemical indexes.

Cold Ramming Paste

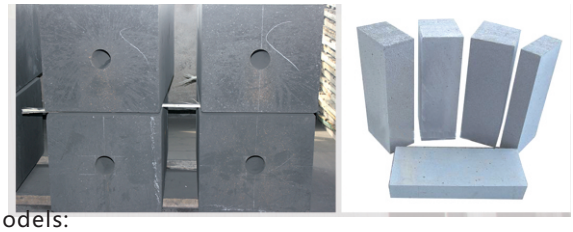
The cold ramming paste is a carbon-based filling material for masonry, which is widely used in industrial kilns such as aluminum electrolytic cells, iron-making blast furnaces, smelting furnaces and calcium carbide furnaces.

Technical Data

Item	Ash(%)	Electrical Resistivity (Ω mm² /m)	Volatile Matter (%)	Compressive Strength (Mpa)	Volume Density (g/cm³)	True Density (g/cm³)
Hot ramming paste	≤10	≤75	9-12	≥18	≥1.40	≥1.84
Cold ramming paste-1	≤12	≤95	≤12	≥18	≥1.42	≥18.4
Cold ramming paste-2	≤10	≤90	≤10	≥20	≥1.42	≥18.4

Semi-graphitized Silicon Carbide Carbon Block

The semi-graphitized silicon carbide carbon block is made by adding a certain amount of silicon carbide to the components of the semi-graphitized carbon block, which endows the carbon block with typical physical and chemical properties such as high thermal conductivity, high mechanical strength, high wear resistance, high corrosion resistance, high bulk density, low ash content and low porosity.



Technical Data

Item	Unit	Semi-graphitized Silicon Carbide Carbon Block
Fixed Carbon ≥	%	50
Volume Density ≥	g/cm³	1.74
Apparent Porosity ≤	%	18
Compressive Strength ≥	Mpa	42
Flexural Strength ≥	Mpa	6.86
Ash ≤	%	7
Silicon Carbide Content ≥	%	22
Thermal Conductivity (400℃)	W/(m·k)⁻¹	23.26

Product Specifications and Models:
• 400MMx400MMx(400MM-1500MM)
400MM x 400MM x (400MM - 1500MM)
• 500MMx400MMx(500MM-1500MM)
500MM x 400MM x (500MM - 1500MM)
• 600MMx660MMx(600MM-1000MM)
600MM x 660MM x (600MM - 1000MM)

Note: Special-shaped carbon blocks with special specifications and models will be produced and processed according to customers' drawings and actual requirements.

Semi-graphitized Carbon Block

It is a refractory lining material for building submerged arc furnaces, which is made of carbonaceous, semi-graphitized, graphitized and other materials as aggregates and powders, with coal tar pitch added as the main binder raw material, and is formed, roasted and mechanically processed.

Physical and Chemical Indexes YB/T4037-2005

Technical Data

Item	Unit	Semi-graphitized Carbon Block
True Density ≥	g/cm^3	1.9
Volume Density ≥	g/cm^3	1.55
Apparent Porosity ≤	%	18
Compressive Strength ≥	Mpa	41
Flexural Strength ≥	Mpa	9.8
Ash ≤	%	7
Coefficient of Linear Expansion	℃$^{-1}$（20 - 900℃）	3.3×10-6
Thermal Conductivity (400℃)	W/(m·k)$^{-1}$	13.96
Resistivity ≤	Ω mm^2 /m	40

400MMx300MMx(400MM-2500MM)　400MMx400MMx(400MM-2500MM)
500MM x 400MM x (500MM - 2500MM)　600MM x 600MM x (600MM - 2500MM)
Product Specifications:
400MM x 300MM x (400MM - 2500MM)　400MM x 400MM x (400MM - 2500MM)
500MMx400MMx(500MM-2500MM)　600MMx600MMx(600MM-2500MM)

Note: Special-shaped carbon blocks with special specifications and models will be produced and processed according to customers' drawings and actual requirements.

Carbon Blocks for Aluminum Production

The carbon blocks for aluminum production produced by our company are made from high-quality electrocalcined anthracite and crushed graphite as the main raw materials. They are formed by vibration and roasted at high temperature. They have the advantages of low resistivity, good electrical conductivity, low electrolytic expansion rate, high compressive strength, good corrosion resistance, and long service life, and are used for building aluminum electrolytic cells.

Technical Data

Item	Unit	Indicators
Ash ≤	%	7
Resistivity ≤	Ω mm^2 /m	45
Electrolytic Expansion Rate	%	1.2
Compressive Strength ≥	Mpa	30
Volume Density ≥	g/cm^3	1.56
True Density ≥	g/cm^3	1.80

Carbon Mortar

The carbon mortar is made from high-temperature electrocalcined anthracite and artificial high-purity graphite as the main raw materials, with coal tar pitch, resin, etc. as binders, and other additives. It is a carbon paste used to bond the gaps less than 2MM between carbon blocks in electric furnaces.

Technical Data

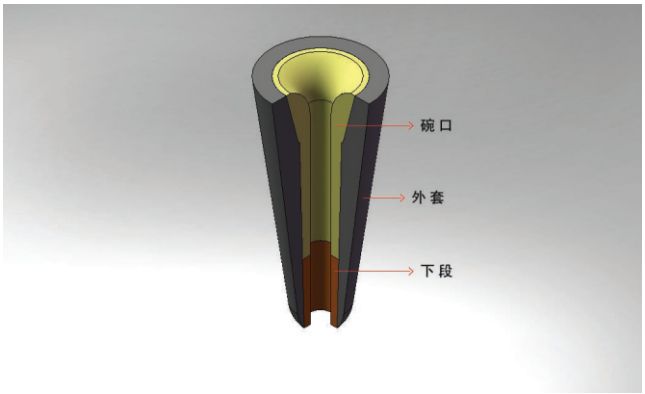
Item	Unit	TN-1	TN-2	TN-3
Moisture ≤	%	1	1	-
Ash ≤	%	7	5	2
Volatile Matter ≤	%	42	40	42
Fixed Carbon	%	50	54	56
Bonding Strength ≥	Mpa	1.5	1.0	3.0
Thermal Conductivity 300℃	W/(m·k)$^{-1}$	-	-	3.0

Zirconia product

Features:
1, Strong thermal shock stability, and non-burst during use.
2, Inner zirconia line has strong corresion-resistant.
3, Meet the demand of different customers, different product performance.

Brick of inlaid high zirconium nozzle

Features:
1, Good integrity, strong thermal shock stability, and non-burst during use.
2, Inner zirconia line has strong corresion-resistant, will not geet out of controll when casting
3,Small expansion of diameter, can cast a long time, pull-speed stability, whent cass normal carbon steel, it can be up to 28 houss.



Physical and Chemical Indicators

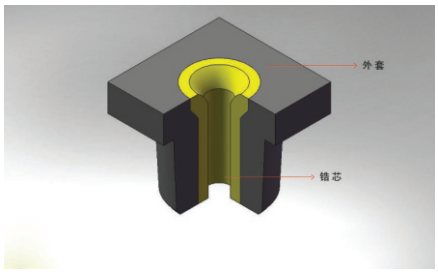
Technical Data

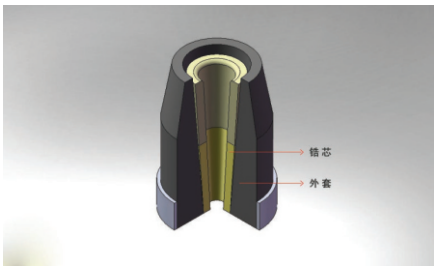
Item	Unit	Coat	Midpiece of mouth	Hypomere
Al_2O_3	%	≥70	—	—
ZrO_2	%	—	≥75	≥93
Fire-resistant degree	℃	>1650	>1780	>1780
Apparent porosity	%	<22	<16	<10
Volume Density	g/cm^3	>2.4	>3.8	>5.0
Thermal shock stability	次 Time	—	≥5	≥5

Quickly change nozzle

Features:

Use the "National Key New Product" inlaid high zirconium nozzle as the major components of the system. Quick-change nozzle system which made of by upper nozzle and lower nozzle components, the nozzle has feature of erosion resistance, strong anti-thermal stability, and can continue to cast a long time. When the upper nozzle casts alloy steel, it can even cast more than 40 hours. The lower nozzle is more than 12 hours. Even when casts carbon steel, it can continue to cast more than 50 hours, the lower is greater than 15 hours. It can meet the requirements of efficient continuous casting





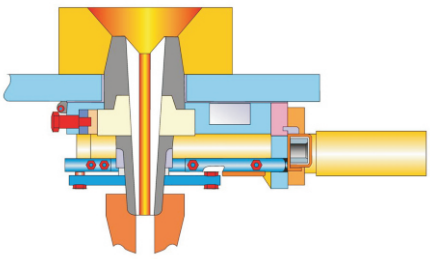
Physical and Chemical Indicators

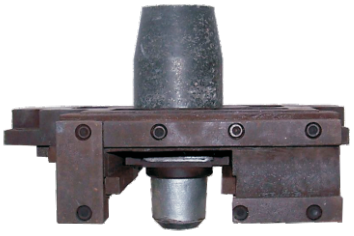
Item	ZrO_2 %	Apparent porosity %	Volume Density %
Upper nozzle	≥93	≤10	≥5.0
Lower nozzle	≥93	≤10	≥5.0
Coat	Al_2O_3 ≥65	≤22	≥2.4

Sizing nozzle quick-change outfit system

Features:

1、Increase Casting Machine work ratio.
2。Increase the income rate of steel.
3.Reduce production costs.
4、Improve the operational safety.





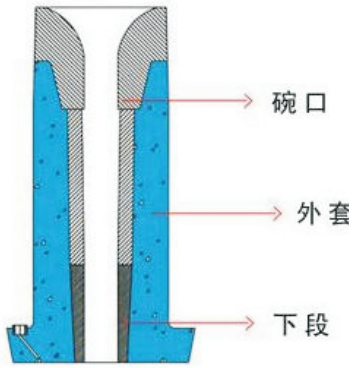
Operation Features:

1. The weight of the entire system is light, and it is easy to disassemble and install, no need of other assistant tools.
2. No need of assembly workshop
3. Continuous replacing, the replacement time is short, just 0.5 seconds.
4、The same outfit and intermediate packages are applicable to open casting and protection tube casting.
5、A separate detachable nozzle load devices and compact hydraulic system are applicable for a continuous-flow cast steel production.

Slab mosaic embedded with high zirconium nozzle

Features:

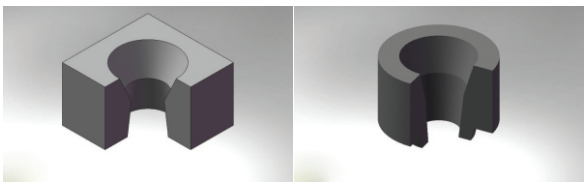
Used carbon aluminum coat and embedded in core of zirconium, smooth bottom, using gas-tight, strong anti-oxidant properties. Strong anti-thermal shock ability, strong corrosion-resistant properties, flow control performance is good, can cast a long time, one time can even cast more than 15 hours. The product structure is a national originated.



Physical and Chemical Indicators

Item	Unit	Coat	Midpiece of mouth	Hypomere
Al_2O_3	%	⩾65	—	—
ZrO_2	%	—	⩾75	⩾93
Fire-resistant degree	℃	>1650	>1780	>1780
Apparent porosity	%	<22	<18	<16
Volume Density	g/cm^3	>2.4	>3.8	>4.8
Thermal shock stability	Time	—	⩾5	⩾5

High Alumina Brick Cup



Features:

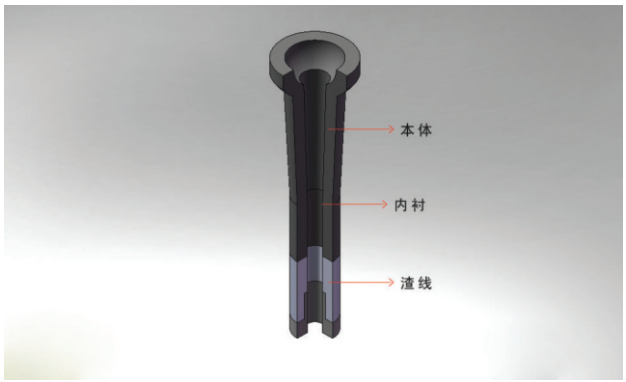
Anti-erosion ability, apparent porosity is low, compact structure, has good thermal shock resistance, and non-burst during use. Good anti-spalling performance and steel washing capacity, long service life.

Phvsical and Chemical Indicators

Item	Unit	Brick cup
Al_2O_3	%	⩾60
Fire-resistant degree	℃	>1650
Apparent porosity	%	<28
Volume Density	g/cm^3	>2.2
Thermal shock stability	Time	—

Immersed nozzle of aluminum-zirconium-carbon

Features:
In the slag-line area, composite zirconium-carbon material which has excellent slag resistance, resistance to slag corrosion is good, can use a long time.

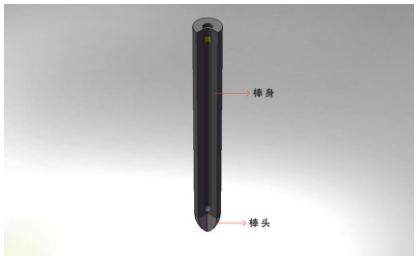


Physical and Chemical Indicators

Item	Unit	Body	Slag-line
Al_2O_3	%	≥55	—
C+SiC	%	>20	>10
ZrO_2	%	—	>75
Fire-resistant degree	℃	>1770	>1770
Apparent porosity	%	<18	<18
Volume Density	g/cm^3	>2.5	>3.2
Pressure-resistant under normal temperature	Mpa	>20	>20
Break-resistant under normal temperature	Mpa	>7	>7
Thermal shock stability	Time	≥5	≥5

Menobloc stopper

Featares:
Strong anti-erosion properties, strong themmal shock stability, no peeling, the head washing evenly after using, flow control is good, and using time is longer than 18 hours.

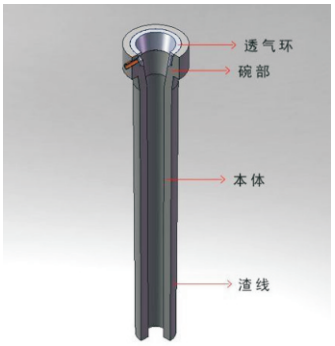


Physical and Chemical Indicators

Item	Unit	Body	Slag-line	End bulb
ZrO_2	%	—	—	≥5
Al_2O_3	%	>45	>60	>65
C+SiC	%	>20	>15	>13
Fire-resistant degree	℃	>1770	>1770	>1770
Apparent porosity	%	<18	<18	<18
Volume Density	g/cm^3	>2.4	>2.6	>2.8
Pressure-resistant under normal temperature	Mpa	>20	>20	>20
Break-resistant under normal temperature	Mpa	>7	>7	>7
Thermal shock stability	Time	≥5	≥5	≥5

Long nozzle

Features:
Good stability to thermal shock, do not need baking, strong corrosion-resistant property, long time of continue casting.



Physical and Chemical Indicators

Item	Unit	—
Al_2O_3	%	>50
C	%	>20
Apparent porosity	%	<19
Volume Density	g/cm^3	>2.20
Pressure-resistant under normal temperature	Mpa	>19
Break-resistant under normal temperature	Mpa	≥5.5
Thermal shock stability (1100℃ water-cooling)	Time	≥5

Upper nozzle of aluminum-zirconium-carbon

Features:
When it casts alloy steel, it is effective to prevent the hole to plug, good thermal shock resistance and long service life

Physical and Chemical Indicators

Item	Unit	Body	Reinforced bowl
Al_2O_3	%	≥70	—
C+SiC	%	≥20	—
ZrO_2	%	—	≥80
Fire-resistant degree	℃	>1780	>1780
Apparent porosity	%	<22	<16
Volume Density	g/cm^3	>2.4	>3.8
Pressure-resistant under normal temperature	Mpa	>20	—
Break-resistant under normal temperature	Mpa	>7	—
Thermal shock stability	Time	≥3	≥5