

**Metallurgical equipment.**

**Equipment for blast-furnace melting operation stage**

**BLAST FURNACE CHARGING DEVICES**

Blast furnace charging devices are designed for charging and uniform distribution of the sintered ore, coke and slag-forming materials along the furnace stack top surface.

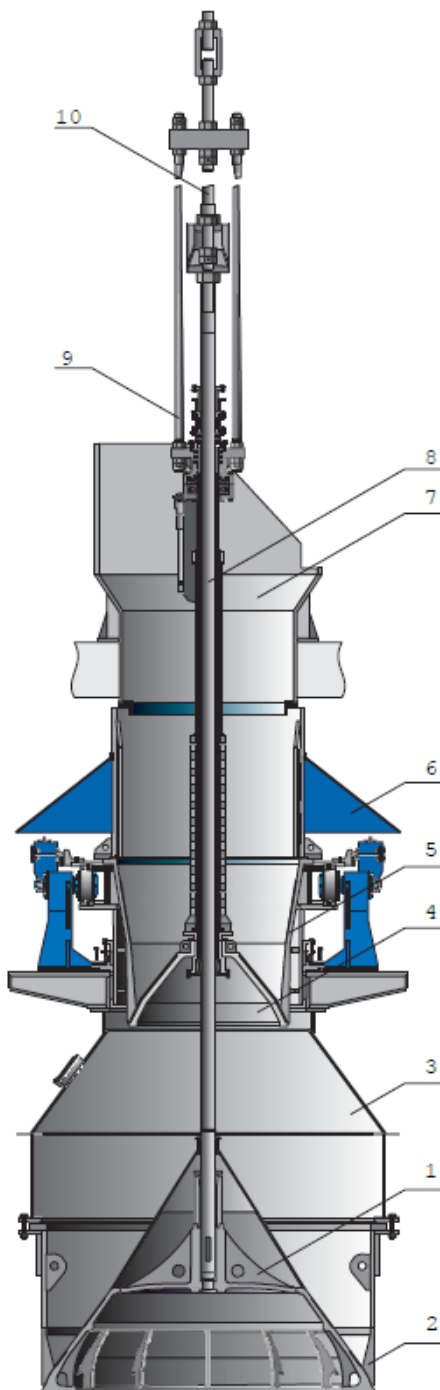
NKMZ PJSC offers charging devices of two types:

- Bell-type (conventional design)
- Trough-type (new design) –one-way;-two-way

**BELL-TYPE CHARGING DEVICES**

For cone-type charging devices NKMZ PJSC can offer:

1. Large bell (and ready-assembled)
2. Large bell-cup
3. Gas seal
4. Small bell (and ready-assembled with rod).
5. Tilting hopper.
6. Extension piece.
7. Receiving cone.
8. Large bell rod.
9. Small bell suspension units.
10. Large bell suspension units.



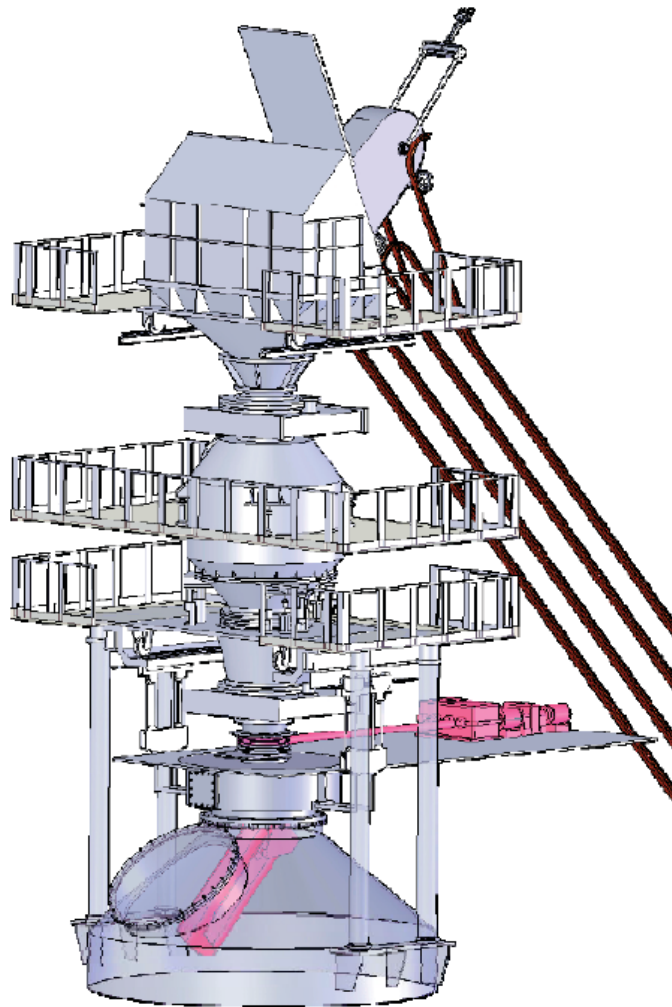
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**BLAST FURNACE CHARGING DEVICES**

**TROUGH-TYPE CHARGING DEVICE**

The trough-type charging device affords the following:

- Blast furnace output growth by 5 to 7%;
- Coke saving by 3 to 5%;
- Total repair and maintenance cost reduction by 30%;



Advantages of trough type charging device:

- Separation of functions between the charging device components;
- Arrangement of the gas sealing components beyond the furnace area;
- Gas sealing components are made small-sized and easy in fabrication;
- Valves are protected from the contact with charge flow by means of the charge gates installed over the same valves;
- Charge material accumulation may be carried out in several pressure-tight hoppers arranged in parallel due to the small cross-sectional sizes of the valves and gates;
- Availability of charging tracks fitted with the pressure-tight devices separated from the furnace area provides easy repairs of the tracks and replacement of their components while the furnace is in operation;
- Control and setup of the charge material allocation on a radius of the furnace top and its laying around the circumference may be provided within a wide range.

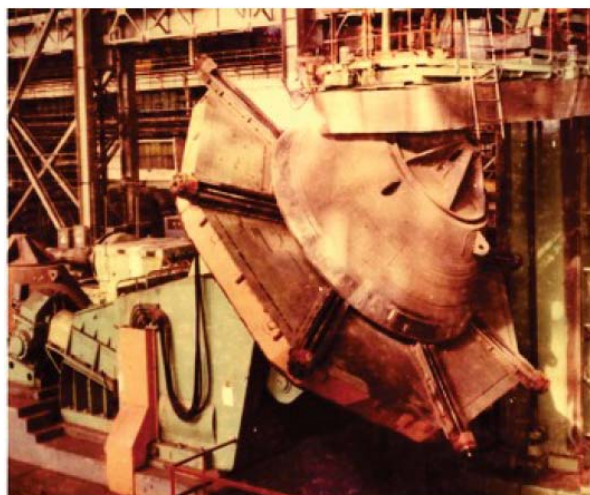
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**BLAST FURNACE CHARGING DEVICES**

## Technical data

Parameters	Values
Distributor assembly type	Through-type
Qty. of charging tracks	2 or 1
Trough rotational speed, rpm	2,1 ... 8,03
Trough tilting angle, deg.	11 ... 53
Trough-type distributor cooling, gas valve forced air cooling and charge material recharging technique	With nitrogen

**BLAST FURNACE CHARGING DEVICE BELLS AND HOPPERS HARD-FACING PLANTS**



- Manipulator;
- Working platform
- Jaw clamping device;

The plant provides reduction of maintenance and repair costs by 30%.

The “-75-8000 and “-50-7000 plants are designed for automatic hard facing the bells and hoppers work surfaces

## Technical data

Parameters	Model values	
	Y-75x8000	Y-50x7000
Load lifting capacity, t	75	50
Hard faced piece size, mm:		
- dia	1000 ... 8000	1000 ... 7000
- height	4000	
Hard facing rate, m/h	20 ... 100	
Drive power, kW		
- faceplate rotation	11	
- faceplate inclination	39	
- working platform lift	5,5	
- working platform travel	2,2	
- jaw clamping device	5,5	
Plant overall sizes,m:		
- length	16,7	
- width	13	
- height	13,5	
Weight, t	235	230