





# **DISC GRINDERS**



CRUSHING AND MILLING EQUIPMENT

# DISC GRINDERS

Disc grinders are designed for comminution of samples of bulk materials to a fine-grained state. In disc grinders, comminution occurs by means of abrasion – simultaneous compressive and shear strain of material particles between fixed and moving discs. The grain size of the comminuted product is regulated by the gaps between the discs (openings) and the physical properties of the material.

The Disc grinder **DG 65** is designed for comminution of small samples weighing up to 1.0 kg for analytical studies with strict requirements relating to sample purity: the sample is not contaminated by working parts of the grinder.

The Disc grinder **DG 175M** is a tabletop model of the **DG 175**. In addition to the reduced overall dimensions of the grinder, the method for adjusting the gap between the discs has been changed. This makes it possible to perform the adjustment while the electric motor is operating.

The Disc grinder **DG 200** is a more powerful model of the laboratory-class equipment. It can be used for comminution of small samples weighing up to 3 kg, as well as for continuous comminution, by outfitting it with 1.8L or 10L receiving containers, as well as Vibratory feeders **VF 1** or **VF 2**.

The Disc grinder **DG 250** is high-power equipment designed for busy laboratories or small production facilities.

# ADVANTAGES OF DISC GRINDERS:

- Use of discs with two types of working surface: wedge-shaped (for preliminary comminution) and flat (for regrinding);
- Positioning of discs strictly parallel to one another by adjusting the position of the fixed disc;
- Discs are made of wear-resistant materials: carborundum, high-strength iron or manganese steel;
- Increased disc service life (**DG 175M**, **DG 200** and **DG 250**) due to:
  - Ability to rotate the discs 180 degrees;
  - Interchangeable moving and fixed discs;
  - Reversible operation.
- Safe operation of the grinders is ensured by:
  - Equipping the grinders with control panels;
  - Limit microswitches that prevent grinders from being started with the covers or grinding chambers open.
- Openings for monitoring the gap between the discs are provided in **DG 175M**, **DG 200** and **DG 250** stationary chambers.

# **INDUSTRIES**

Mining
Metallurgical
Construction
Chemical

# Disc grinders

# **APPLICATIONS**

Ferroalloys, ore, granite, marble, limestone, coal, coke, slag, diatomaceous earth, silica gel, automotive catalyst, glass, salt.



CHARACTERISTICS	DG 65	DG 175M	DG 200	DG 250
Loading door dimensions (mm)	Ø11	11x57	11x71	18x75
Maximum initial particle size (mm)*	3	4		15
Maximum hardness of comminuted material (Mohs units)	8 units	8 units**		7 units
Discharge slot adjustment range (mm)	0,05-2	0,07-5	0,1-5	
Average crushed product particle size at minimum aperture (mm)	90%<0,05	90%<0,071	90%	><0,1
Maximum output (kg/hour)	5	50	150	300
Electric motor power (kW)	0,37	2,2	2,2	4,0
50 Hz supply voltage (V)	220	380		
Receiving container volume (L)	0,3	1,1	1,2 (8)	8
Overall dimensions (Length x Width x Height) (mm)	350x225x300	625x375x485	630x410x925	930x410x935
Weight (kg)	21	83	135	160
Disc material	SiC	GJN-HV600(XCr14)/UNS J91109 with tungsten carbide inserts		GJN- HV600(XCr14)/ UNS J91109

\* The maximum allowable size of the initial material depends on its physical properties. \*\* When using tungsten carbide inserts discs

Disc diameters 65, 175, 200 and 250 mm



# **ADVANTAGES OF DG 65:**

- Comminution of super-hard materials using carborundum discs;
- No contamination of sample, because the charging funnel and receiving container are made of polyamide;
- Connection to 220 V circuit;
- Tabletop placement;
- Ability to operate "under debris" without adding feed material;
- Adjustment device makes it possible to set the gap between the discs with a high degree of precision.

The Disc grinder **DG 65** is designed for comminution of small samples weighing up to 1.0 kg for analytical studies with strict requirements relating to sample purity – the sample is not contaminated by working parts of the grinder.



Disc grinder DG 65



**DG 65** charging funnel, receiving container and discs



Device for adjusting the gap between the discs

# Comminution on DG 65

Material: Ferrotitanium FeT35C7 <2.0 mm Output: 1.5 kg/hour



# CRUSHING AND MILLING EQUIPMENT

The Disc grinder **DG 175M** is a tabletop model of the **DG 175**. In addition to the reduced overall dimensions of the grinder, the method for adjusting the gap between the discs has been changed. This makes it possible to perform the adjustment while the electric motor is operating.



Disc grinder DG 175M on support stand T 70

**Disc grinders** 

## **ADVANTAGES OF DG 175M:**

- Tabletop placement;
- Quick-release stainless steel receiving container;
- Discs with tungsten carbide inserts;
- The method for adjusting the gap between the discs makes it possible to set a minimum gap (without disc contact) while the grinder is operating;
- Integrated control panel;
- Support stand.



DG 175M with hinged chamber open



Disc with tungsten carbide inserts



DG 175M receiving container



The Disc grinder **DG 200** is a more powerful model of the laboratoryclass equipment. It can be used for comminution of small samples weighing up to 3 kg, as well as for continuous comminution, by outfitting it with 1.8L or 10L receiving containers, as well as Vibratory feeders **VF 1** or **VF 2**.

# **ADVANTAGES OF DG 200:**

- Discs with enlarged parallel zone;
- Equipped with various receiving containers with volume of 1.8 L and 10 L;
- Belt tensioner;
- Adjustment of feed rate using Vibratory feeders VF 1 or VF 2.



Disc grinder **DG 200** with 10L receiving container, Vibratory feeder **VF 1** and **control panel** 



DG 200, DG 250 drive



DG 200, DG 250 containers

**Comminution on DG 200** Material: Copper slag <5.0 mm

Output: 18 kg/hour



## CRUSHING AND MILLING EQUIPMENT

## Disc grinders

The Disc grinder **DG 250** is highpower equipment designed for busy laboratories or small production facilities.



DG~250 with 10L receiving container



- Discs with enlarged parallel zone;
- 4 kW high-power electric motor;
- Adjustment of feed rate using Vibratory feeders VF 1 or VF 2;
- Use of dust collector with exhaust hood to reduce dust.



Control panel on support post



Opening for monitoring gap between discs



View of hinged chamber





Maliy pr. V.O., 62/2, liter A, St. Petersburg, Russian Federation, 199178 Tel./Fax: +7 (812) 468-72-12 +7 (812) 643-98-26

E-mail: sales@vt-spb.ru

www.vibrotechnik.com