VIBROTECHNIK

Russian avant-garde equipment for milling

VIBRATING GRINDERS

VIBRATING GRINDERS

Vibrating grinders are designed to comminute samples to a finely dispersed state in intermittent operation.

In a vibrating grinder, comminution occurs by means of abrasion – simultaneous compressive and shear strain of material particles between the crushing bodies and the cup walls. The grain size of the ground material depends on the grinder operating time, the initial grain size and the physical properties of the material, as well as the cup loading volume.

The Vibrating grinder **VG 1** is designed for comminution in intermittent operation of one sample with volume from 20 to 50 cm^3, while the Vibrating grinder **VG 3** is designed to handle three such samples simultaneously. The Vibrating grinder **VG 6** is designed for simultaneous comminution of six small (up to 5 cm^3) samples.

ADVANTAGES:

- High comminution efficiency due to:
  - grinding elements made from high-hardness tool steel;
  - the shapes of the grinding bodies, enabling circulation of the material inside the cup.
- Quick-release cup fastener;
- Use in the drive of an elastic petal coupling that reduces the vibrations transmitted to the support surface;
- Effective noise insulation;
- Digital control timer for **VG 3**;
- There is a shelf in the **VG 3** grinder for storage of spare parts, tools, accessories and samples;
- Equipment of the **VG 1** and **VG 6** with a **PCP3** control panel featuring a timer and **T 80** pedestal.

INDUSTRIES

- Mining
- Metallurgical
- Construction
- Chemical
- Pharmaceutical
- Food

APPLICATIONS

Ferroalloys, slag, coke, granite, marble, cement, glass, soda, mineral fertilizers, soil.

Cup, roller, ring and cover of grinder **VG 1/VG 3/ VG 3M**

Material: AISI 01, DIN 150Cr14

Cup, roller, ring and cover of grinder **VG 1/VG 3/ VG 3M**

Material: ZrO_2

Cup of VGE

Material: AISI 01, DIN 150Cr14

Cup of VG 6

Material: AISI 01, DIN 150Cr14

Cup of VG 6

Material: ZrO_2

Cup of VG 6

Material: WC

CHARACTERISTICS	VG 1	VG 3	VG 3M	VG 6	VGE
Cup charging volume (cm^3)	20-50			2-5	250-750
Number of cups	1	3		6	1
Maximum material feed size (mm)	5			2	20
Average crushed product particle size (mm)	90%<0,05		90%<0,02	90%<0,05	90%<0,04
Comminution time (minutes)	1-30				
Maximum material hardness	8 Mohs units*				7 Mohs units
Electric motor power (kW)	0,37	1,1	2,2	0,37	2,2
50 Hz supply voltage (V)	380				
Overall dimensions (mm) (Length x Width x Height)	509x395x310	535x610x1040	670x615x1225	509x395x310	670x615x1225
Weight (kg)	54	144	300	54	350
Grinding element material	AISI 01, DIN 150Cr14, 9XC/ZrO2			AISI 01, DIN 150Cr14, 9XC/ ZrO_2/ WC	AISI 01, DIN 150Cr14

* When using grinding sets made of zirconium dioxide ZrO_2 or tungsten carbide WC.

VIBRATING GRINDERS VG 1 and VG 6

Vibrating grinder **VG 1** is designed for grinding of one sample with a volume from 20 to 50 cm^3 to a finely dispersed state.

Vibrating grinder **VG 6** is designed for simultaneous grinding of six samples of small (up to 5 cm^3) volume.

The small size, weight and power of the electric motor allow to use **VG 1** and **VG 6** as part of mobile laboratories.

ADVANTAGES:

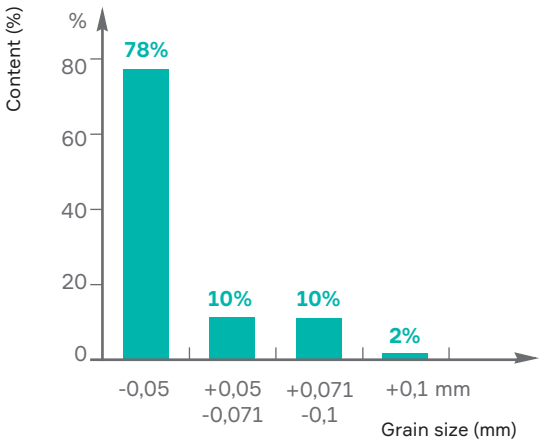
- The use of the elastic lobe clutch, reducing the level of vibration transmitted to the bearing surface;
- Compatible with Control Panel PCP3 with timer and T 80 stand.

VG 6 ADVANTAGES:

- OSimultaneous grinding of 6 samples;
- The possibility of simultaneous work with bowls of different materials:
  - tool steel;
  - zirconium dioxide ZrO_2;
  - tungsten carbide WC;
- When grinding in ZrO_2 bowls, contamination of the sample with metal is avoided;
- The use of bowls of WC allows to increase the efficiency of grinding and increase the resource of working bodies.

Vibrating grinder VG 6

Comminution on VG 6
Material: Sand 0,2 - 1,0 mm;
Material cup: WC
Comminution time: 10 minutes.



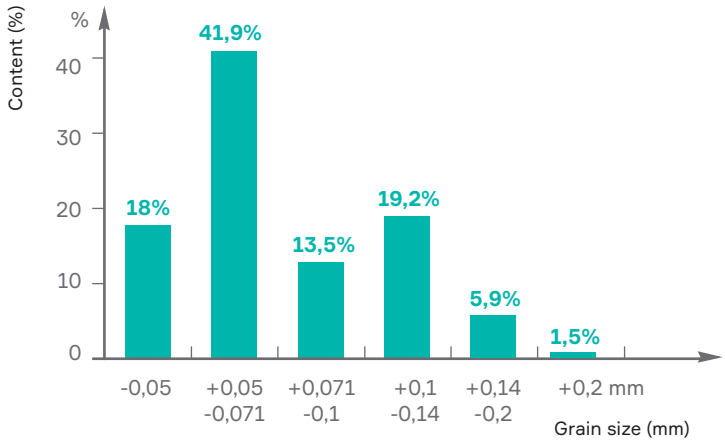
VG 1 ADVANTAGES:

- The possibility of using bowls of different materials:
  - tool steel;
  - zirconium dioxide ZrO_2;
- When grinding in ZrO_2 bowls, contamination of the sample with metal is avoided;
- Installing bowls of various materials does not require any equipment modifications;
- Roller and ring configuration provide the grinding of the material and its circulation as well.

Vibrating grinder VG 1

PCP3 control panel for **VG 1** and **VG 6**

Comminution on VG 1
Material: Coal slag < 5.0 mm;
Material cup: AISI 01, DIN 150Cr14
Comminution time: 15 minutes.



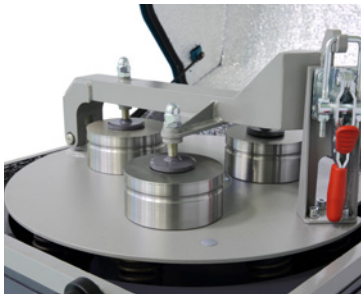
Cup, roller, ring and cover of grinder **VG 1** and **VG 3**

VIBRATING GRINDER VG 3M

Vibrating grinder VG 3M is designed for simultaneous grinding of three samples with a volume from 20 to 50 cm^3.

VG 3M ADVANTAGES:

- Digital control timer;
- The use of the drive shaft provides platform oscillations with an amplitude of 10 mm and high reliability of the system.

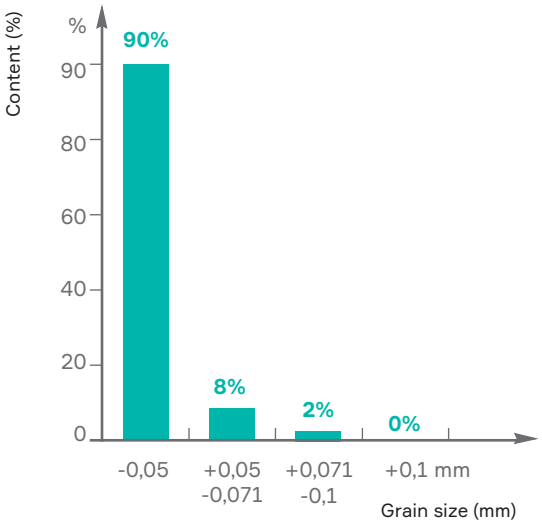


Platform of VG 3M

Vibrating grinder VG 3M

Comminution on VG 3M

Material: Sand 1,0 - 3,0 mm
Comminution time: 9 minutes.v



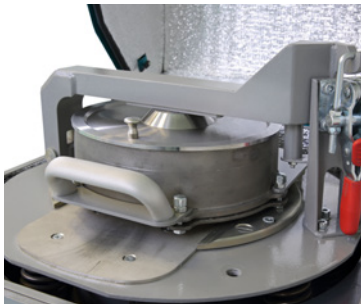
Cup of grinder ZrO_2
VG 1/ VG 3M

VIBRATING GRINDER VGE

Vibrating grinder VGE is designed for grinding samples from 250 to 750 ml with high productivity. The main purpose of VGE is the grinding of samples to an analytical size of less than 74 micrometers in the mining and metallurgical laboratories.

ADVANTAGES:

- Digital control timer;
- The oscillation amplitude of the platform (15 mm) provides high grinding performance;
- Safe fixation of the bowl;
- Increased roller resource due to the possibility of its 180° turn;
- The bowl lifting device and the hook for the roller provide the operating convenience.

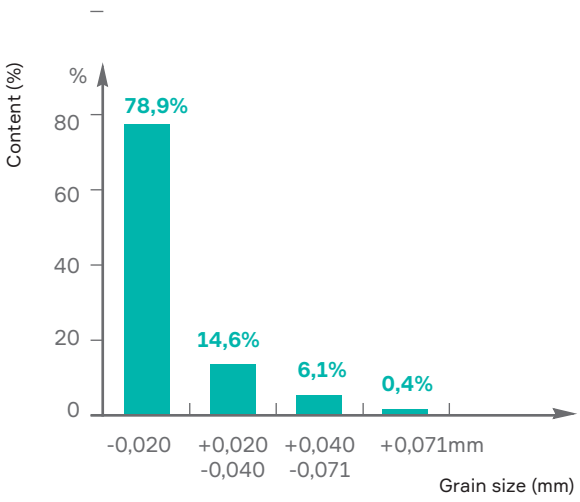


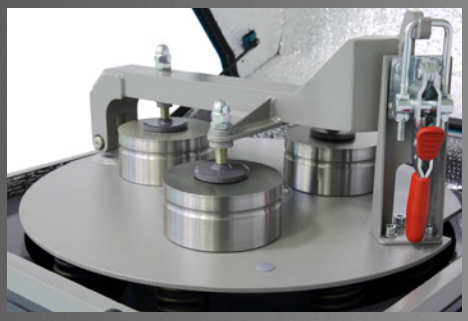
Platform of VGE

Vibrating grinder VGE

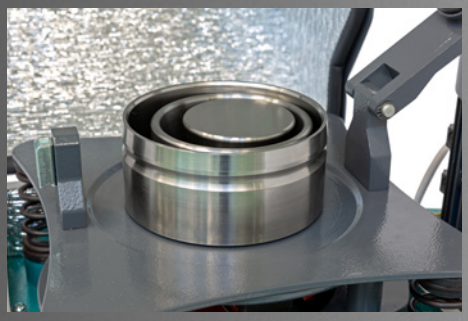
Comminution on VGE

Material: Tungsten and molybdenum ore <90%<3;
Comminution time: 9 minutes.





Platform of VG 3 with cups and fastener



Cup for grinder VG 1, roller and ring

Platform of VG 6 with cups and fastener

VIBROTECHNIK

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