



## JAIVIK UNIVERSAL MILL (JVUM)

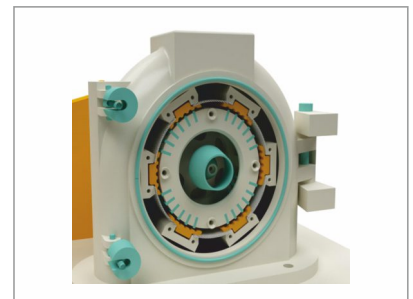
### Introduction

Grind through the toughest materials with our fully mechanical JVUM series pulverizers. These are high speed impact mills designed for dry material grinding with low and medium hardness material with below 4mohs. JVUM mills are especially designed for the coarse to fine particle size distribution grinding, normally in the range of 50  $\mu\text{m}$  to 500  $\mu\text{m}$ . Our Universal Mill is ideal for processes that require a controlled reduction in particle size along with a high degree of fineness to maintain the product quality. The mill is used in many sectors of industry such as Food, Pharmaceutical, Confectionery, Agro, Pesticides, Plastics, Paint-Pigments-Dyes Etc.

### Working Principle

The Mill needs positive suction at the mill outlet to provide necessary circulation of air through the grinding chamber for pick-up of heat generated & dust free operation. The JVUM plant basically consists of three main units; Mill, Dust Collector & Fan. The Mill is realized & guaranteed when used in conjunction with the equipment. Parameters indicated below are controlled independently to achieve required fineness.

1. Grinding Rotor Speed
2. Total Air Flow
3. Feed rate
4. Screen
5. Rotor Specific controls

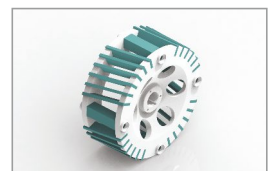


### Mill classified by Feed Method :

- ▶ **Screw Feed** : This is selected for granular / lumpy solids of soft character up to 4 to -30 mm in size as per machine size.
- ▶ **Suction Feed** : This is selected for Light fluffy solids which are difficult to feed.
- ▶ **Gravity Feed** : This is used for obtaining coarse grinds on large pieces of feed materials.

### Mill classified by Rotor Type :

- a) **Straight bar** : For higher degree of fineness (<100  $\mu\text{m}$ ), brittle to elastic materials, even crystalline materials (dry / slightly moist).
- b) **Inclined bar** : For higher degree of fineness (<80  $\mu\text{m}$ ), brittle to elastic materials, even crystalline materials (dry / slightly moist).
- c) **Stud bar** : For medium degree of fineness (<400  $\mu\text{m}$ ), hard or large size pieces, (dry / slightly moist).



- d) Crossbar :** For medium degree of fineness (<400 µm), abrasive materials, (dry / slightly moist).
- e) Pin type :** For very fine degree of fineness (<50 µm), brittle & crystalline materials (dry / slightly moist).
- f) Disc type :** For medium degree of fineness (<400 µm), brittle to elastic materials (dry / very little moisture).
- g) Wing type :** For medium degree of fineness (<500 µm), brittle to elastic materials, even crystalline materials (dry / highly moist)

Contra rotating Pin mill can be supplied for pharma application meeting cGMP requirements with mirror finish in **SS 304 / SS 316** construction. Fineness as low as **4 µm** can be achieved.

## Design Features :

- ▶ **High Speed - One pass Mill**
- ▶ **Minimum moisture absorption that ensures material integrity**
- ▶ **Easy to clean and maintain**
- ▶ **Various models to suit different materials**
- ▶ **Options of temperature control and cryogenic grinding**
- ▶ **Precision processing with interchangeable grinding media Versatile Applications**
- ▶ **Abrasion resistant.**
- ▶ **Dust-free Operation**
- ▶ **Low Energy Consumption**
- ▶ **Pressure shock resistant to 10 bar.**



PARAMETER	UNIT	JVUM 130	JVUM 220	JVUM 450	JVUM 800
Motor Power	kW	2.2	7.5	22	45
Maximum Rotor Speed - Straight Bar, Inclined Bar, Pin, Disc	rpm	18000	10000	5150	2800
Maximum Rotor Speed – Cross Bar, Stud Bar, Wing	rpm	12000	7000	3650	2000
Maximum Feed Size	mm	6	10	25	30
Rotor Outer Diameter	mm	124	215	434	774
Capacity Factor	-	1	3	10	22
Liner for all except Pin type rotor	-	Multiple eflector	Multiple eflector	Multiple eflector	Multiple Deflector
Screen for all except Pin type rotor	-	Perforated	Perforated	Perforated	Perforated
Overall Dimensions- L X W X H – Mill with Screw Feed	mm	700 x 400 x 900	1200 x 660 x 1000	1800 x 900 x 1400	2750 x 1200 x 2000
Total Weight Mill Assembly with Screw Feed & Feed Hopper	kg	160	260	1300	2990

## Applications

JVUM mills are suitable for wide range of materials such as powdered sugar, microfine salt, spices, wheat flour, rice flour, sodium bicarbonate, talc, herbs, vegetables, lactose, gelatin, cosmetic, soy protein & flour, nutraceuticals, pigments etc.

**JAIVIK**  
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