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Product Brochure



RESEARCH EQUIPMENT

Experimental flotation machine

FX

Experimental flotation machine for separating ferrous, non-ferrous, precious metals, chemical raw materials, and non-metallic minerals. Ideal for lab-scale mineral recovery and ore beneficiation testing.

<https://www.planetaryballmills.com/products/research-equipment/experimental-flotation-machine.html>



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Product Overview

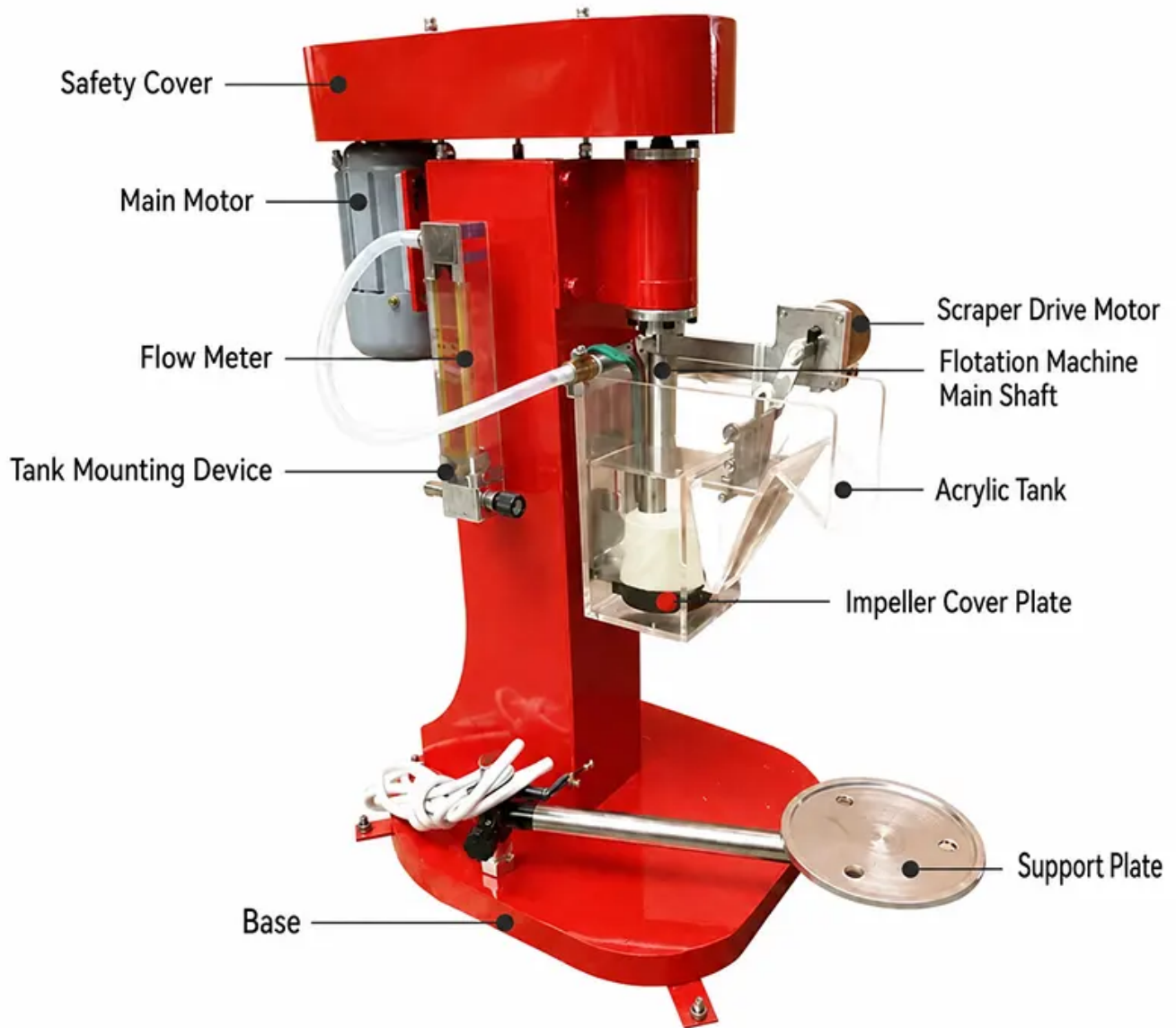
Experimental flotation machine for separating ferrous, non-ferrous, precious metals, chemical raw materials, and non-metallic minerals. Ideal for lab-scale mineral recovery and ore beneficiation testing.



Product Introduction

The experimental flotation machine is used to separate ferrous metals, non-ferrous metals, precious metals, chemical raw materials and non-metallic minerals, and recover useful

minerals. The device has a large suction volume and low power consumption. The impeller has backward-inclined upper and lower blades. The upper blade generates upward circulation of slurry, and the lower blade generates lower circulation of slurry. Each tank has three functions of air suction, slurry suction and flotation. It forms a self-contained flotation circuit without any auxiliary equipment. The horizontal configuration facilitates process changes and ensures reasonable slurry circulation, which can minimize the precipitation of coarse sand. In addition, the equipment is also equipped with an automatic control device for the slurry surface, which can be easily adjusted.



- Metal ore sorting: rough selection and selection of non-ferrous metals such as copper, lead, zinc, gold, nickel, etc. Ferrous metals (such as iron ore) account for 50%
- Non-metallic mineral enrichment: purification of minerals such as phosphate rock, potassium salt, graphite, quartz sand, etc.
- Environmental protection applications: industrial wastewater deoiling, waste paper deinking, oil field sewage treatment and microbial separation
- Special scenarios: recovery of coarse-grained minerals in the grinding circuit (such as flash flotation machine), smelting slag treatment

Technical parameters

serial number	Technical parameters	unit	FX-0.5	FX-0.75	FX-1	FX-1.5	FX-3	FX-8	
1	flotation tank volume	L	0.5	0.75	1	1.5	3	8	
2	Impeller diameter	MM	F 45	F 45	F 55	F 60	F 70	F 80	
3	Impeller I	RPM	2590	2590	2100	1910	1890	1400	
4	Speed II	RPM	2130	2130	1700	1590	1544	1400	
5	Scraper speed	RPM	30	30	30	30	30	30	
6	Feeding particle size	MM	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
7	motor	W	90W - 2800r/min					250W	
8	Voltage	V	220/380	220/380	220/380	220/380	220/380	220/380	
9	Dimensions	long	520	520	520	560	570	380	
10		Width	263	263	263	265	310	505	
11		high	628	628	628	590	668	970	
12	weight	kg	30	30	35	40	50	80	

Working Principle

After the slurry and chemicals are fully mixed, they are fed into the bottom of the tank of the flotation machine. After the impeller rotates, a negative pressure is formed in the wheel cavity, so that the slurry under the tank and in the tank enter the mixing zone through the lower suction port and the upper suction port of the impeller respectively. The air also enters the mixing zone along the air guide sleeve, where the slurry, air and chemicals are mixed. Under the action of the centrifugal force of the impeller, the mixed slurry enters the mineralization zone. The air forms bubbles and is crushed. It fully contacts the slurry to form mineralized bubbles. Under the action of the stator and the turbulent plate, it is evenly distributed in the tank section and moves upward into the separation zone. It is enriched to form a foam layer and is discharged by the scraping mechanism to form concentrate foam.

Accessories & Customization

Accessories

Grinding jars, heating elements, sample holders, control modules and other matching accessories can be selected according to the product configuration.

Customization

For voltage, capacity, chamber size, process temperature or application requirements, please contact TENCAN for a suitable configuration.