Single disc high intensity magnetic separator

Brief introduction

This machine consists of two sections, i.e. host unit (mechanical) and electrical unit (control cabinet). When the minerals to be separated are loaded into the bin, adjust the clearance between magnetic disc tooth tip and conveying belt to a desirable range (generally about 1mm) and adjust the DC current of control cabinet to appropriate value (generally 4-6 A), depending on the mineral properties, particle size and separation requirements. Feed the materials into the permanent magnetic feeding drum, where the high-conductivity minerals will be removed. Through a feeding plate, the minerals will be uniformly sprayed onto the belt conveyor (The mineral thickness generally between 0.2-0.8mm). When the machine is running, the belt conveyor will send the minerals down below the magnetic disc, where the paramagnetic minerals will be soon absorbed onto the tip of magnetic teeth. When the magnetic disc rotates to the low-intensity magnetic area, they will fall into the concentrate bin under the function of their gravity weight and centrifugal force. The diamagnetic minerals will be conveyed to the tailings bin via belt conveyor and discharged).

Application

This equipment is mainly used for dry separation of weak magnetic minerals, e.g. tungsten, titanium, manganese and rare earth elements, which have a specific magnetization strip ＞ 40×10^{-6}

Main Technical Parameters

Model	CQP-885	
Processing capacity	t/h	0.5-1.7
Particle Size of Processing	mm	0.1-5
Magnetic Intensity	Gs	18000
Diameter of Magnetic Disc	mm	885
Rotating Speed of Magnetic Disc	r/min	30, 42, 50
Speed of Belt Conveyor	M/min	17, 19, 21
Exciting Current	A	0~9
Exciting Coil	Piece	8-10 double glass fiber round copper wire
Exciting Power	Kw	0~2
Coil Temperature	^{o}C	<80
Complete Power Consumption	Kw	4
Power Supply		Three phase four wire
Working Duration		Continuously
Overall Size	mm	2540×1380×2100
Weight	Kg	2800