DCS-SZ Series Loss-in-Weight Mixing Flow Controller

Product Description

1. Equipment Overview

（1）Scope of Application

The DCS-SZ Series Loss-in-Weight Mixing Flow Controller is designed for gravimetric batching applications involving intermittent feeding and continuous discharge of free-flowing materials such as rice. It is widely used in granular-material batching systems in the grain, chemical, feed, and related industries.

（2）Main Components

The DCS-SZ Series Loss-in-Weight Mixing Flow Controller consists mainly of a feeding system, weighing system, and control system.

Figure 1. DCS-6SZ Equipment Overview

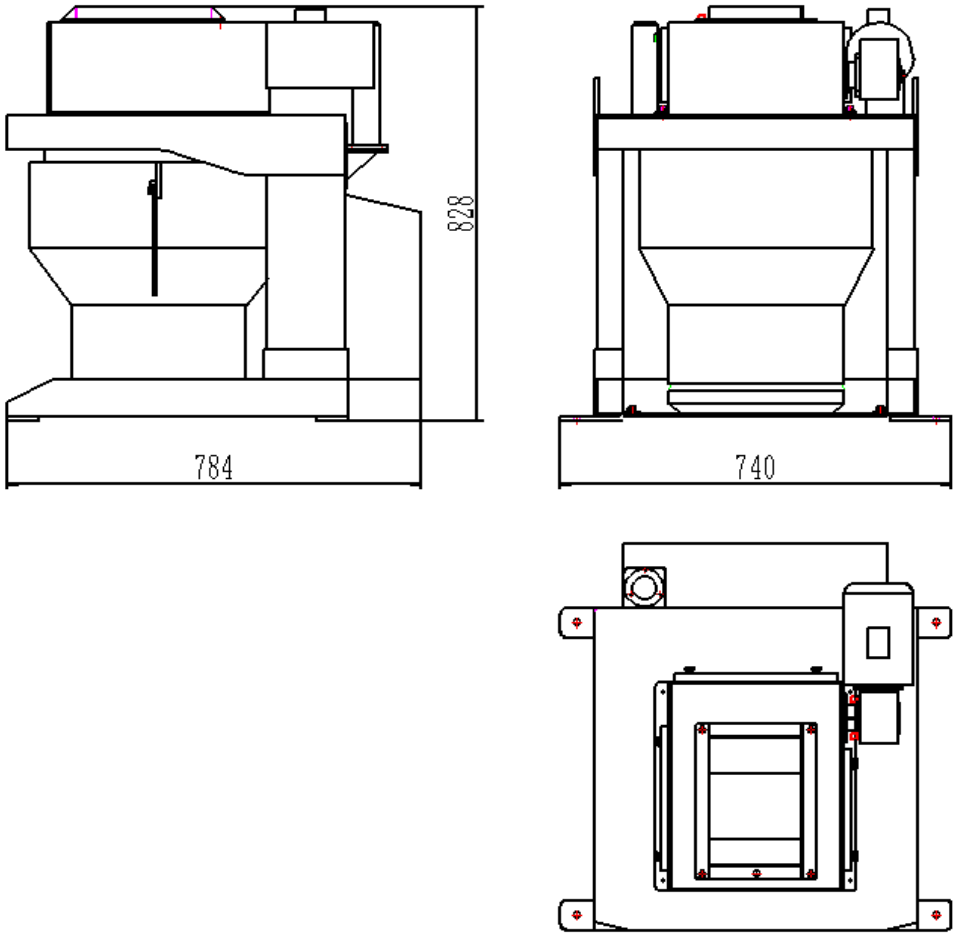
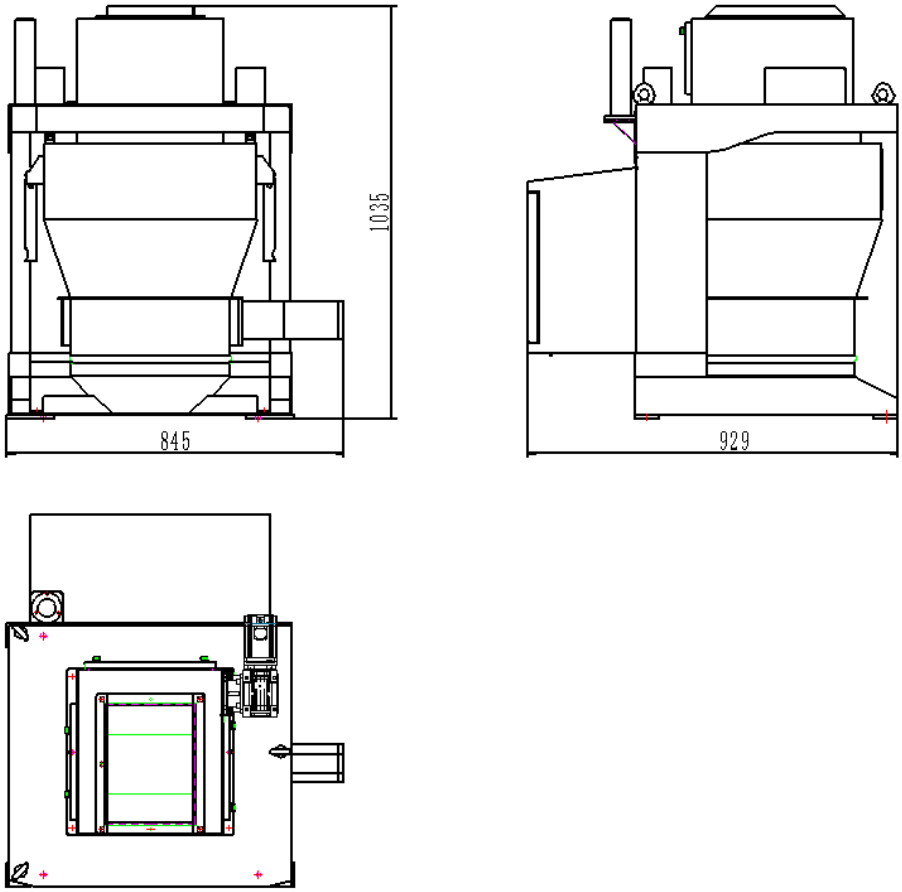


Figure 2. DCS-12SZ Equipment Overview



2. Main Technical Specifications

Table 1. Technical Specifications

Model	**DCS-6SZ**	**DCS-12SZ**
Rated Capacity	(300～6000)kg/h	(300～12000)kg/h
Cumulative Measurement Accuracy	±0.5%	±0.3%
Operating Environment	-10° C to 40° C; relative humidity < 90%	
Ambient Vibration	Amplitude: ≤1 mm; frequency: ≤25 Hz	
Power Supply	AC380V±5% 50Hz	
Average Power	100W	140W
Maximum Instantaneous Power	≤ 260W	≤ 460W
Overall Dimensions (L × W × H), mm	784×740×828	928×845×1035
Note: The above data were measured under specific conditions using rice as the test material.		

3. Features

（1）Dual-core control using a weighing controller and PLC. The controller incorporates a high-performance A/D converter for high measurement accuracy and excellent stability.

（2）A three-load-cell design provides balanced weighing-hopper support and even load distribution, extending equipment service life. It also minimizes interference from machinery vibration in the workshop, delivering high stability and strong resistance to interference.

（3）Safe and hygienic: all product-contact parts in the feeding and weighing sections are made of stainless steel. Internal surfaces are smoothly polished to eliminate dead zones and prevent material residue.

（4）Protection against rodents and acidic corrosion: the equipment uses an enclosed operating compartment. All wiring, sensors, and solenoid valves are housed in steel cable ducts or protective metal enclosures, isolating the cylinders and sensors from corrosive and abrasive conditions and extending trouble-free operating time.

（5）The actuator uses a unique motor-driven design and requires no compressed-air supply. Combined with an advanced PID algorithm, it achieves very high control accuracy, stable dynamic flow, a simple structure, and high reliability.

（6）Simple operation: the operator only needs to set the target flow rate and turn the automatic-mode selector; the equipment then enters automatic operation.

（7）Provides automatic flow totalization, printing, and data communication functions.

（8）Intermittent feeding and continuous discharge ensure uniform output with minimal material impact, preserving product integrity.

（9）During automatic operation, if an alarm stops one unit, all other interconnected units stop simultaneously to maintain a consistent material ratio.

4. Main Component List

Table 2. Equipment Component List

Component	Brand	Remarks
Weighing Controller	General Measure	RS232/485 serial port reserved; Modbus RTU communication protocol supplied as standard for data communication with external management systems.
Programmable Logic Controller (PLC)	Omron (Japan) or Delta	
Load Cell	METTLER TOLEDO (USA) / HBM (Germany)	
Photoelectric Sensor	Omron (Japan)	
Motor	Suzhou Aosike or Xi'an Lishan	
Gear Reducer	Tsinghua Uni group	