

## Technical Introduction

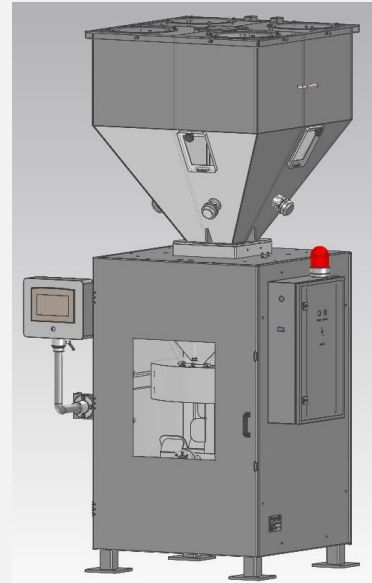
UM50G Gain Weight metering and mixing device is Sonner's most advanced Gain weight batch metering and mixing device.

Mainly used for measuring and mixing of granular and powdery plastic raw materials or additives. Suitable for Injection, Extrusion, Blow molding, Compounding and Granulation process.

UM50G can accurately control the flow rate of each component metering valve through the Load cell and digital technology. The accuracy is better than  $\pm 0.3\%$ , which is ensured for the recipe of each batch of mixed materials. The optimally designed agitator can fully and uniformly stir or mix the metered raw material to ensure the mixing accuracy of the batch. This saves the cost of raw materials and improve the product quality. Typical output of UM50G is 1200 to 1500kg/hr.

The compact and modular design of the whole system ensures fast and convenient maintenance or replacement of raw materials. The raw material silo can be easily and quickly disassembled or removed. It only takes a few minutes to clean the material in the equipment to reduce the downtime to minimum. The operation is safe and reliable. If the main raw materials and additives need to be automatically transported to hopper Sonner's optional suction device can be selected.

UM50G can be directly installed on the feeding port of the molding machine, it is equipped with connecting devices of various sizes and specifications. Any kind of structure feeding port can be used to connect with the molding machine. It can also be installed offline.



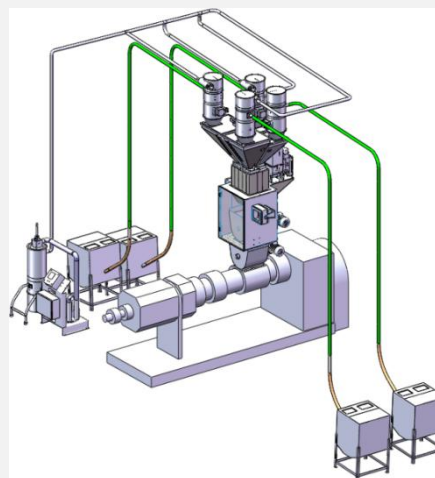
## Dosing Valve and Capacity

Diameter of Dosing valve	30mm	40mm	60mm	80mm
Material	PE Granule	PE Granule	PE Granule	PE Granule
Capacity of Dosing Valve	130g/s	360g/s	950g/s	1800g/s

## Applications

Online Installation:

1. FSH Loader
2. UM50G Batch Blender
3. Secondary Mixing Tank
4. Extruder



SHANGHAI SONNER INTELLIGENT EQUIPMENT CO., LTD.

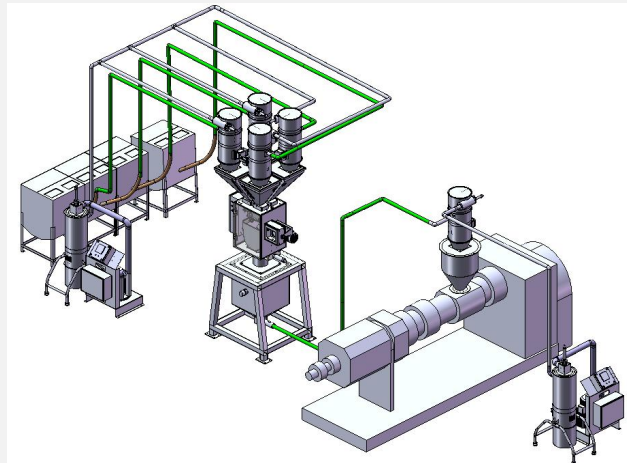
[www.sonnerfeeder.com](http://www.sonnerfeeder.com)

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Version: V6.0

Offline Installation :

- 1.FSH Loader
2. UM50G Batch Blender
3. Discharge Valve
4. Buffer silo
5. Extruder Inlet
6. Extruder
7. Movable silo



**Standard Structure**

**UVH8004/6 Dosing Hopper**

4 or 6 80L

SUS304 Stainless Steel

Raw Material Viewing Window



**UMV30/40/60/80 Dosing Valve**

For Granular Raw Material Metering

Control Vertical Conical Metering Valve

Screw Dosing

Micro Cylinder With Solenoid Valve Drive



**UMH50 Weigh Module**

50L Detachable Weighing

SUS304 stainless steel

2\*30Kg Load cell

0.3g Resolution Ratio



**UMX50 Mixture Module**

50L Mixture Silo

SUS304 stainless steel

550W Motor and Reducer

Level Detector Mounting Unit (Selectable)

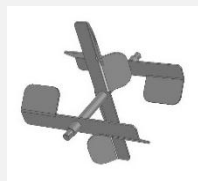


**Horizontal Agitator**

Middle Blade Toward Two Side

Side Blade Toward Middle

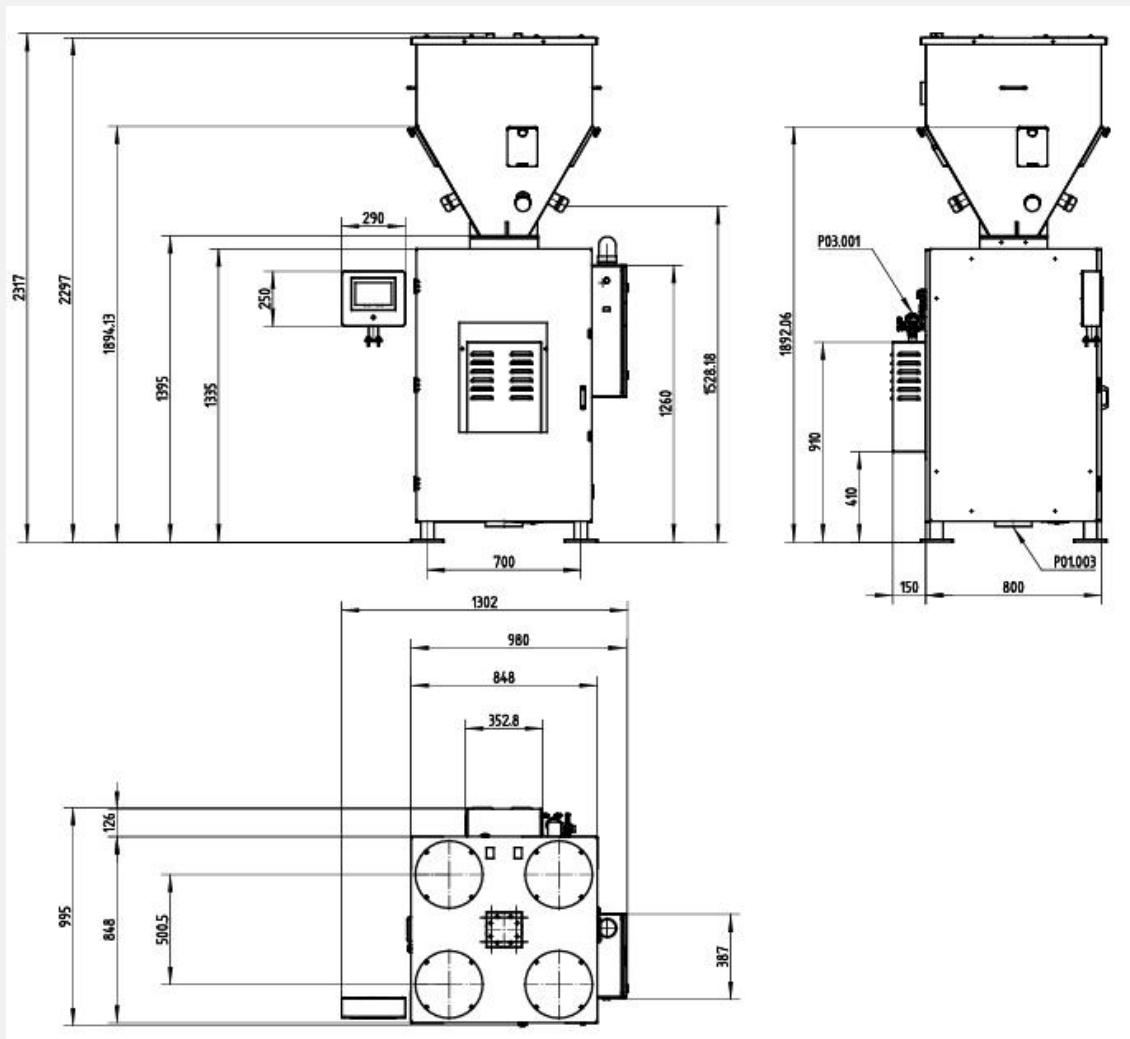
Material Convection In Mixture Silo



### Design Parameters

Output Range :	1200 - 1500 Kg/h
Material Temperature :	80°C (Standard)
Dosing Station :	4 - 6 工位
Measurement Accuracy :	<±0.3%
Ambient Temperature :	0°C-40°C
Ambient Humidity :	≤80%
Protection class :	IP54
Power Supply :	380V±10%, AC, 3P, 50Hz
Control Power :	24VDC
Loading Power :	1.5 KW (Max.)
Pneumatic Pressure :	6 – 8 Bar
Air Consumption :	120 L/hr.
Weight :	300 kg (Net Weight)

### Mechanical Drawing



## Paid Spare Parts List

Material Name	Model Specifications	Part Code
30kg Loadcell	SP4MC3MR-30kg	4400LC000030001
DI/DO Digital Module	IO-DI08DO10-STM32 V1.0	4130IODI08DO1000I01
Weigh Digital Transmitter	IO-LC241-STM32 V1.2	4110IO00LC24100I02
Loadcell Paralleling Module	JXH-4B	4400EA000000014
0.55KW Motor	FC80A 4B14	4300GR000550B14
Reducer	CM050 FS 30 80B14	4300GR100550B14
Slide Valve Module	ISVD150 - 150mm	312ISV00D150000I12
Rotation Switch Module	IOII-PLRT-000-I07	3120IO00PLRT000I07

## Associated Configuration

7"HMI Operation Controller	M240 HMI Operation Controller
Control Module	EC-BW Control Module
Moveable Cart	UMB Moveable Cart, 100L Stainless Steel Silo
Convey System	FC Small Automatic Central Conveyor
Single Screw Feeder	US35 Single Screw Feeder

## Typical Feeding Accuracy

Sample Method	<ol style="list-style-type: none"> <li>1. Empty: Include Each Hopper And Pipe And Loader</li> <li>2. Prepare Material: Confirm Weight and Record All the Material Before Using to Feeder</li> <li>3. Run After Parameter Setting; After One Hour or Preset of Batch Reached, Then Stop</li> <li>4. Collect All the Material in Each Hopper and Pipe and Loader. Then Confirm the Weight of Left Material.</li> <li>5. Calculate the Consumption of Each Material</li> <li>6. Calculate the Actual Percentage for Each Material, Then Compare with Percentage Setting</li> </ol>
Accuracy Range	<ol style="list-style-type: none"> <li>1. Accuracy Showing in HMI is Less Than 0.3%</li> <li>2. Actual Accuracy is Less Than 0.3% from Calculation of Actual Percentage and Percentage Setting</li> </ol>

## UM50 Typical Accuracy

ID	Material	Diameter Valve(mm)	Percentage Setting%	Actual Batch Weight (kg)	Actual Percentage%	Remark
1#	Granule	60	66.94%	264.302	66.72%	Running 400kg , the Batch Setting is 25kg
2#	Granule	40	11.25%	45.097	11.38%	
3#	Granule	45	16.87%	67.144	16.95%	
5#	Granule	30	3.94%	15.654	3.95%	
6#	Granule	20	1.00%	3.942	0.995%	
Totalizer				396.139		

## Weighing Accuracy

Weigh Module	USP-60
Load cell Range	30Kg*2
Protection Class	IP65
Comprehensive Error	< $\pm 0.03\%$
Weighing Resolution	1: 4'000'000
Operating Temperature	-10 to +60 °C
Weight Signal Output	Digital Output Signal Via RS485
Baud Rate Range	9600 – 38400 baud
Sampling time	6ms – 4500ms programmable
Voltage	24VDC
Communication distance	< 500m
Operational characteristics	10ms dynamic weighing scanning cycle; 32-bit DSP high-precision weight calculation
Interference characteristics	Intelligent assessment of impact disturbance, the impact of continuous vibration disturbance on feeding operation
Suspension characteristics	Double shock absorber anti-mechanical interference design

The second generation of Sonner has completely independent intellectual property rights of weighing technology, based on 32-bit. DSP arithmetic function chip circuit design and perfect dynamic scale. Weighing software provides customers with highly dynamic weighing technology.

