Technical Introduction

The T36 loss-in-weight feeder is suitable for metered feeding of highly viscous/sticky powdered raw materials that are difficult to flow.

T36 systems is suitable for continuous production processes. Such as mixing granulation, food and chemical production processes.

The optimized modular design can be fed both as a volumetric feed and as a Metered Loss-in-Weight feed material, so that the whole system can better adapt as per customer's processing process formula changes.

Based on the Loss-in-Weight principle, the T36 continuously monitors the flow rate and motor speed of the raw material and double closed-loop control, ensuring that the typical accuracy value is better than ±0.25%.

The T36 silo is made of stainless steel and the part in contact with the raw material is mirror polished. It's simple, quick disassembly and easy removal feature takes a very few minutes to clean material in the equipment, which reduces the cleaning time to minimum.

T36 comes with optimize design that provide different types of twin screws to push various sizes and characteristics of powders. The horizontal mechanical stirring module of the feeder can solve the problem of powdery raw materials with high viscosity and difficult flow.
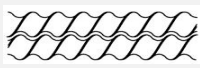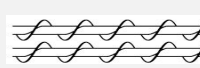
T36 reducer adopts the latest optimized design of high-precision gear transmission, which is suitable for screw and horizontal agitator. The link provides integrated power to both mechanisms.

T36 has obtained the European CE safety design standard certification, electronic controller has undergone strict EMC Standard test.
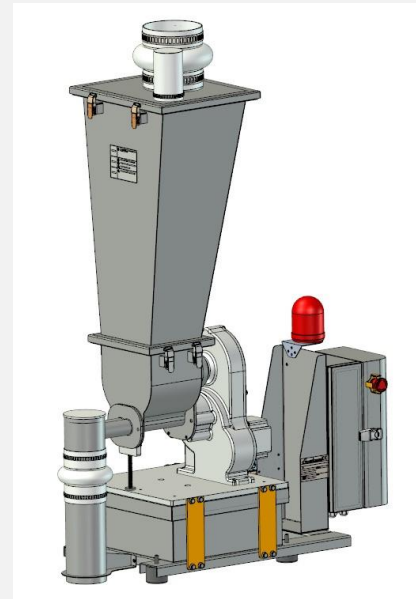
Screw and Feeding range

Note: The correct selection of screw is based on specific raw materials and has been fully tested to confirm. Different raw material characteristics determine the actual feeding range. If you need a specific and accurate feeding range, please provide us with raw materials, we can test and conform in our laboratory. The feeding data in the following table is a theoretical reference value and can only be used as a reference for selection.

	Twin concave Screw	Twin auger screw	Double auger screw	Screw Speed Range
Diameter×Pitch	32*40 mm	32*35mm	26*40mm	
Big Pitch	30 - 300 dm³/h	42 - 420 dm³/h	30.6 - 306 dm³/h	25–250Rev/min

Material	Screw	5	10	30	50	70	90	110	130	150	170	190	210	250	Kg/h
Talc	3240B														
Talc	3235A														
PE candle+AO	2640A														
Tio2	3240B														
Tio2	3235A														
BaSO4	3240B														
BaSO4	3235A														
MAC	3240B														
MAC	3235A														
Carbon Black	3235A														
TBPC+ATH	3235A														
TBBPA	3235A														

Standard Structure

Inlet Soft Connecter:	D168mm Silicone Material
Dosing Hopper:	30L SUS304　(Standard)
	50L SUS304　(Selectable)
Feeding Chamber:	10L SUS304
Horizontal Agitator:	Detachable，SUS304
Twin Screw:	D26 - 32mm
	SUS316 Stainless Steel
Motor:	0.75Kw BLDC　(Standard)
Weighing Unit:	300kg
	FTD Digital Transmitter
Feed Tube:	D114mm
Outlet Soft Connecter:	D114mm Silicone Material
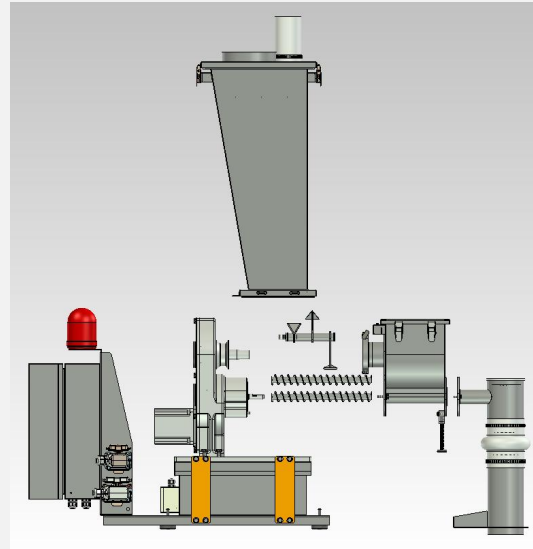
Design parameters

Material :	4K Stainless Steel Mirror
Sealing Parts：	Silicone or PTFE
Material Temperature :	≤160℃ (Standard)
Ambient Temperature :	0℃-50℃
Ambient Humidity :	≤80%
Protection Class :	IP54
Power Supply :	220V±10%, AC, 1P, 50Hz or 380V±10%, AC, 3P, 50Hz
Loading Power:	0.75Kw BLDC or 1.1 Kw AC (Max.)
Weight :	130kg
Exterior Color :	RAL7035

Mechanical Drawings

SHANGHAI SONNER INTELLIGENT EQUIPMENT CO., LTD.

Version：V6.0
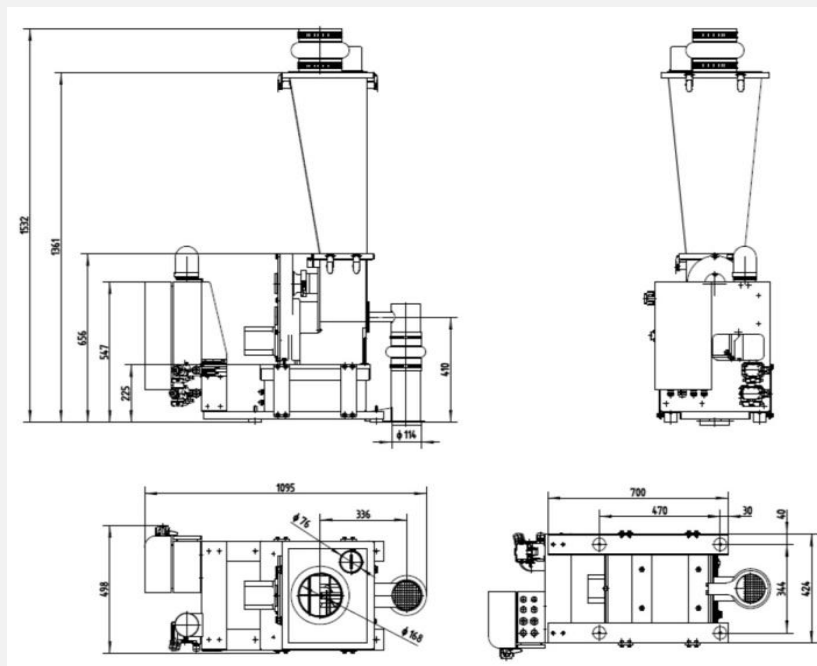
Non-Standard Design

Extended screw	Standard Extended 100mm, L410mm
Agitator	Vertical Agitator for Powder
Silo Material	Available In Stainless Steel 316 With Mirror Polished Interior
Explosion-Proof Design	Zone 21, Dust Explosion Proof, EXⅡDBT4 （Siemens Explosion Motor, Explosion load cell)
Manual Feeding	HR Manual Refilling Cover

Paid Spare Parts List

Material Name	Model specifications	Part code
Inlet Soft Connecter	D168mm/ Silicone	413ISC00168S001I01
Outlet Soft Connecter	D114mm/ Silicone	413ISC00114S001I02
Exhaust Bag	HP76E-240-1PP	4110HP00076E2401PP
Silo Gaskets (Upside)	L360mm*W300mm	414TVH000050005I01
Silo Gaskets (Downside)	L220mm*W180mm	414TVH000050004I01
Horizontal Agitator	TMHⅡ50-005-00-I02	412TMH00005000500I02
DC Motor	FL110SV51-220V-1500	430MDC750110F00
DC Driver	FLDBLS-07	440DCD000750001
LIW Control Panel	EC-LW	4110ECLW0STM32000I02

Associated Configuration

7" HMI Operation Controller	M240 HMI Operation Controller
12" HMI Operation Controller	M280 HMI Operation Controller
Communication Module	TS180 Modbus RTU ->Profinet
300L Refill Hopper	ICHS300AV- 300L With Vertical Agitator
300L Refill Hopper	ICHS300V – 300L With vibrator
300L Refill Hopper (25Kg Bag Feeding)	IBU25-300AV - 300L With Vertical Agitator
Refill Valve	IBV150 - 150mm Butterfly Valve
Refill Pipe	IDO168-100 – 168mm/L1M
Collection Hopper	BMI50
Connection Pipe	TCO114-100 – 114mm/L1M Between Collection Hopper and Extruder

Loss-In-Weight-Refill Control Time

Typical Refill Number as below form:

Typical Maximum Capacity	150Kg/hr
Diameter of Refill valve	150mm Butterfly valve
Volume of Dosing Hopper	30L
Bulk Density	0.4kg/l
Typical Refill Weight	10Kg
Refill Number	≤15 times/hr
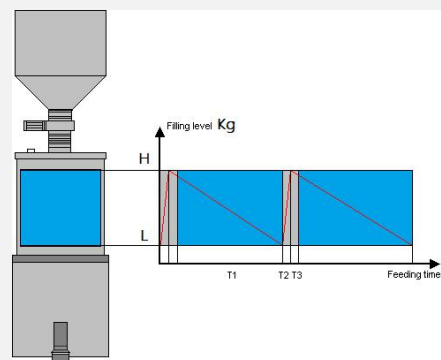
Feeding Accuracy

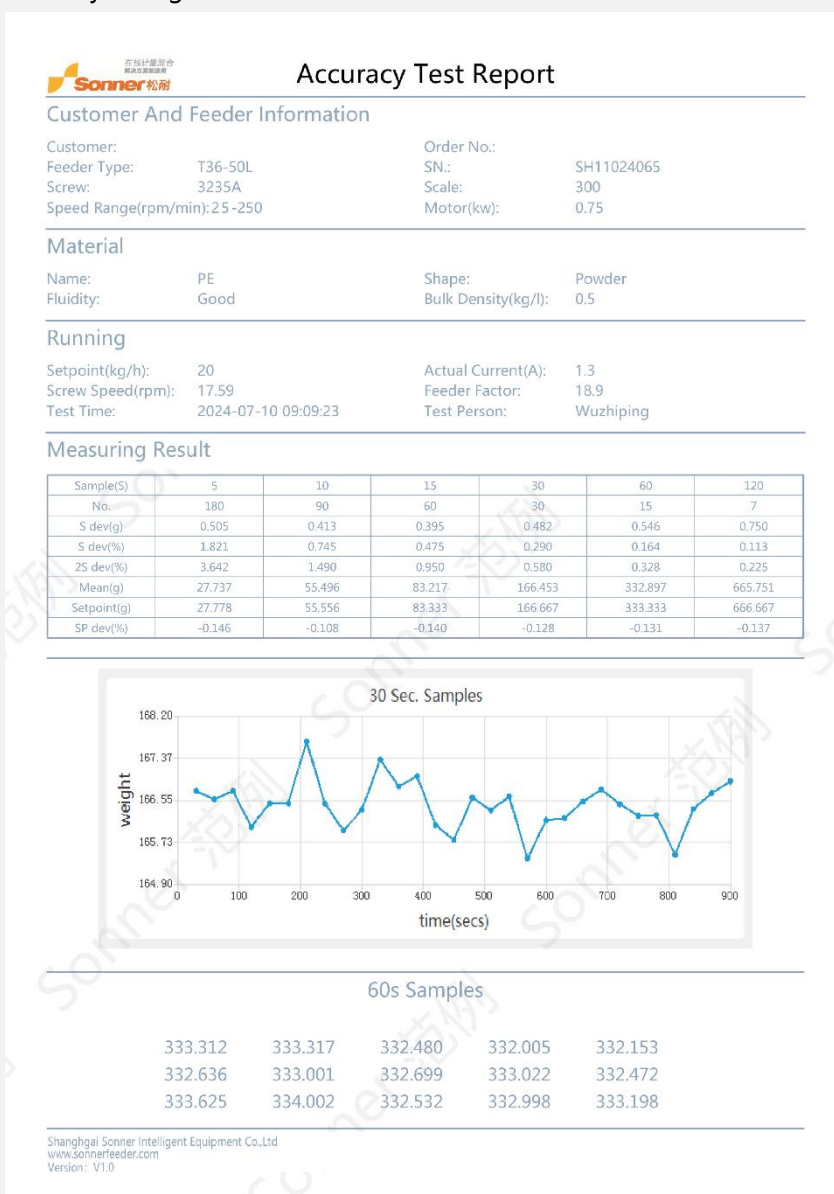| Sampling Measurement	Usually take 15 samples and 60s for one sample （If need Special Requirement, please reference below accuracy form for 5s/10s/15s/30s)
Feeding Range	15：1 Times Screw
Linear Accuracy	±0.25%-0.5% at 60sec
Repeatability Accuracy	≤0.5% at 2 Sigma, Flow Characteristics of Material Determine Repeatability Accuracy

Repeatability Accuracy:

It is based on the standard sample variance, which describes the flowrate of the screw feeder in a period of time and the discrete situation of several flow samples in each sampling period. It is one of the important indicators to describe the repeatability error of the screw feeder. The repetition error can be quantified based on the standard deviation.

Linear Accuracy:

It describes the accuracy of each operating point with in the operating range of the feeder from the minimum federate to the maximum feed rate. That is the error between the actual feeding amount and the set amount in the whole range. Smaller the error higher is the linear accuracy of the feeder.

TFE36-3235A Typical Accuracy Testing Table

Accuracy Test Report

Sonner 松耐 在线计量混合

Customer And Feeder Information

Customer:		Order No.:	
Feeder Type:	T36-50L	SN.:	SH11024065
Screw:	3235A	Scale:	300
Speed Range(rpm/min):	25 -250	Motor(kw):	0.75

Material

Name:	PE	Shape:	Powder
Fluidity:	Good	Bulk Density(kg/l):	0.5

Running

Setpoint(kg/h):	20	Actual Current(A):	1.3
Screw Speed(rpm):	17.59	Feeder Factor:	18.9
Test Time:	2024-07-10 09:09:23	Test Person:	Wuzhiping

Measuring Result

Sample(S)	5	10	15	30	60	120
No.	180	90	60	30	15	7
S dev(g)	0.505	0.413	0.395	0.482	0.546	0.750
S dev(%)	1.821	0.745	0.475	0.290	0.164	0.113
2S dev(%)	3.642	1.490	0.950	0.580	0.328	0.225
Mean(g)	27.737	55.496	83.217	166.453	332.897	665.751
Setpoint(g)	27.778	55.556	83.333	166.667	333.333	666.667
SP dev(%)	-0.146	-0.108	-0.140	-0.128	-0.131	-0.137

30 Sec. Samples

weight — time(secs)

60s Samples

333.312	333.317	332.480	332.005	332.153
332.636	333.001	332.699	333.022	332.472
333.625	334.002	332.532	332.998	333.198

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www.sonnerfeeder.com
Version：V1.0

Weighing Accuracy

Weigh Module	SP6-300
Load cell Range	300Kg
Protection Class	IP65
Comprehensive Error	< ±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.