

Wittmann

Proven Precision

Dosing Equipment



world of innovation

The actuating mechanism is integrated directly into the material hopper and enables simple and practical handling without unsafe hose or wire connections. Flap valves remain securely closed until they are pneumatically actuated using ultra-high molecular weight polyethylene blocks as the contact point. No metal-to-metal contact means less wear and less maintenance.

Weighing bin with self-closing material outlet



The Highlights

Highly precise dosing valves

Unique dosing valves made from stainless steel for high abrasive wear applications are extremely fast, efficient and consistently reliable. Major ingredients and additives are precisely dosed to the desired set point.

Easy handling

WITTMANN solutions make changing materials efficient and straightforward: thanks to the well-designed solution, the material hopper can be removed without having to dismantle the conveyor equipment. The integrated self-closing mechanism in the material hoppers ensures a clean working area – for maximum safety.

Everything at a glance

The operating status of the Gravimax can be quickly identified thanks to the AmbiLED status indicator. In addition, unique, removable corner windows provide a good view of the material in the hopper.

Easily removable weigh bin

The container is mounted on two sturdy guides and can be removed effortlessly. The defined angle of the material outlet guarantees complete emptying after each weighing.



OPTIONAL FEATURES FOR IMPROVED PERFORMANCE

Automatic recipe changeover
Adjustments for different re-grind quantities.

Minimum sensor
Level control with alarm.

OPC UA interface
Allows a bi-directional exchange of data and settings.

Material savings reduce costs

RTLS-Technology

The innovative 2-stage dosing process (RTLS) guarantees precise and consistent mixtures in every batch. The target weight is achieved through intelligent control of valve opening times. Thanks to automatic adjustment to different material properties, the system compensates for varying flow characteristics – with just one high-precision valve for pellets, regrind, and additives.

Precise dosing prevents overdosing of expensive materials and ensures minimal costs and maximum quality. Each batch is exact and recipe-compliant – without statistical averages, but with true precision.



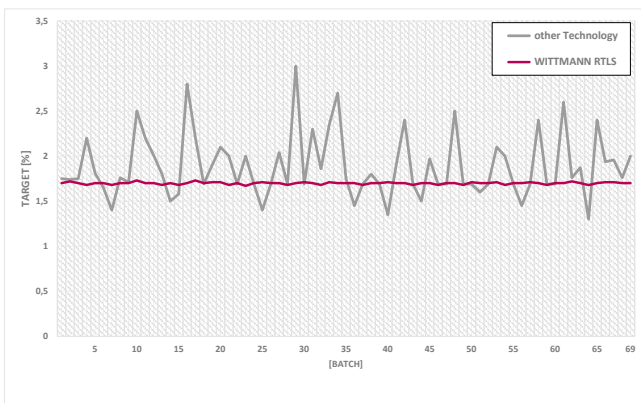
Step 1: Free flow

Quick dispensing to near target weight.



Step 2: Fine pulsing

Controlled high frequency dispensing precisely to target



Where do the savings come from?

By ensuring batch-to-batch accuracy by means of RTLS (**Real Time Live Scale**) technology the operator can set the percentages to the required minimum level. As time-based blending methods are constantly overdosing and underdosing the minimum needs to be set to allow any underdosed batch to still be at the requested percentage. This results in overdosing all other batches, sometimes even significantly, causing tremendous excess material usage.

RTLS can pay for itself in just a couple of months!

Consistent mixing

Highly efficient spiral mixer

The bowl-shaped design of the mixing bin ensures optimal mixing of the entire batch – no dead zones and no material residues. During discharge the electrically driven spiral mixer guarantees exceptionally homogeneous material distribution.

Thanks to the gentle spiral motion the granulate is thoroughly mixed without becoming electrostatically charged.



Bowl mixer
made of stainless steel



1. Start

Material distribution in the mixing bin after discharge.



2. Mixing process

Homogeneous mixing without material accumulation on the walls.



3. Final result

Uniform material dispersion throughout the entire batch.

Designed for simplicity, ease-of-use and high efficiency

Gravimax control

Standard features

- › Large easy-to-see buttons on the touchscreen facilitates operation and provides a clear overview.
- › "On the fly" feature to change recipes and parameters without stopping production.
- › SmartRegrind mode for automatic recipe adjustment, depending on the availability of the material.
- › Mixing timed or continuous.
- › Percent preset of each ingredient can be entered in % or as ratio.
- › Unit values Operates in metric or imperial.
- › Display operating conditions displays the recipe running, setpoint and actual values, process rate.
- › Materials identification alphanumerically key pad for clear material identification.
- › Recipe maintenance for up to 500 recipes stored on the local memory.
- › Preset batch count for automatic blender shutdown after reaching the preset batch count.
- › Prevention of material bridging thanks to special dosing algorithms.
- › 3 adjustable security levels with freely selectable access codes.
- › Reference additive with automatic adjustment of ratio to avoid an overdosing of expensive additives.
- › Self-optimization of the dosing behaviour to varying flow characteristics of different materials.
- › OPC UA interface allows a bi-directional exchange of data und settings.



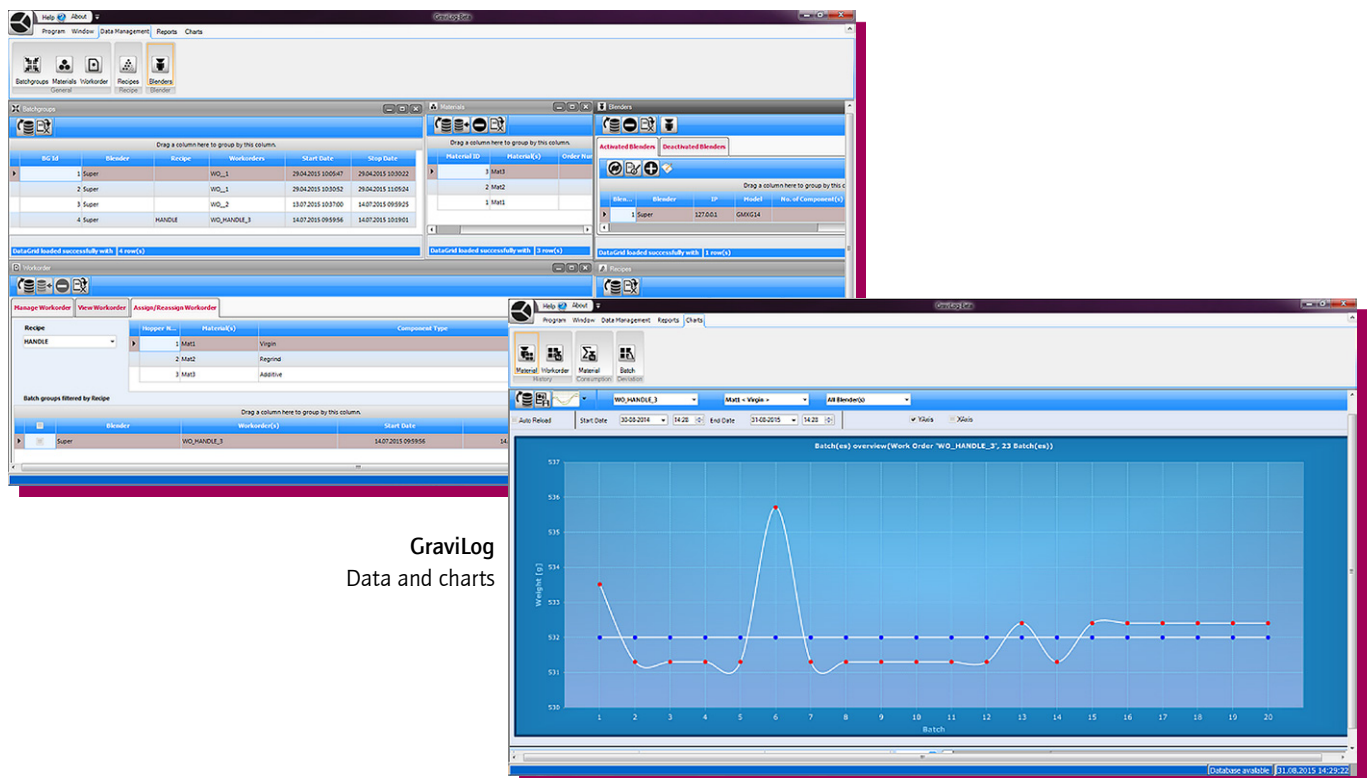
Gravimax control

Data recording and analysis

GraviLog software package

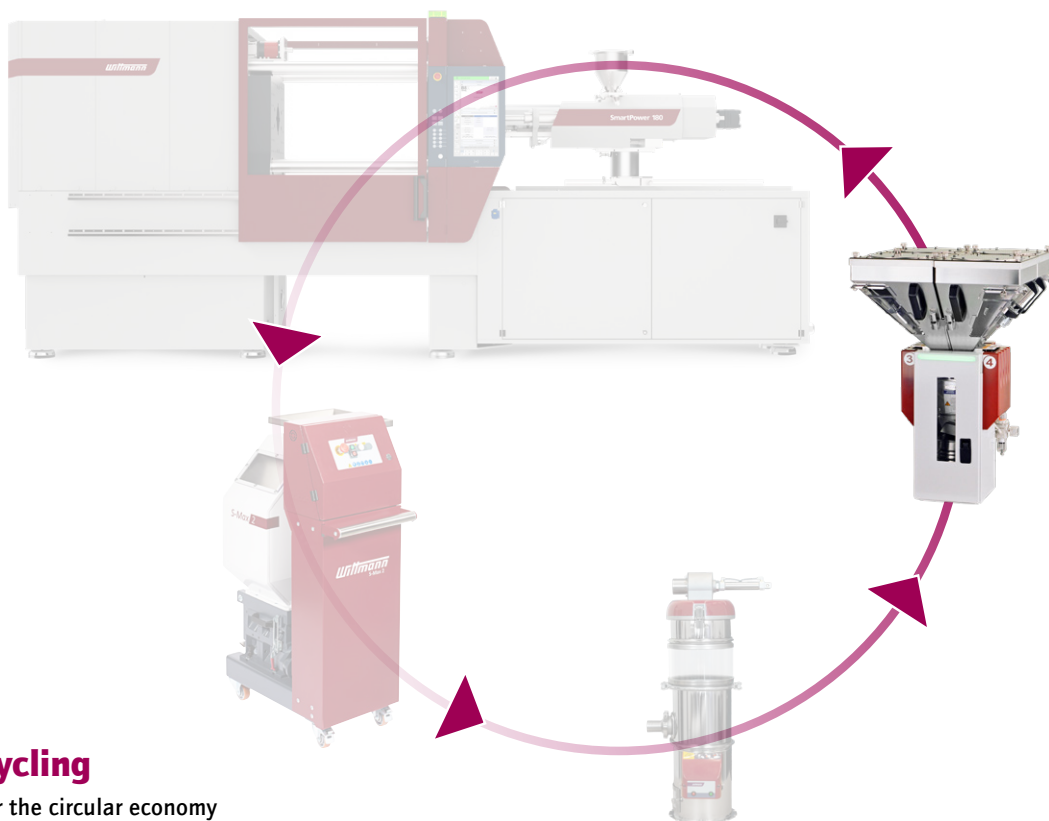
GraviLog is the name of a software solution that has been especially developed for data recording of gravimetric blenders of the WITTMANN **Gravimax** series. This comprehensive software makes it easy to analyze various differing factors, for example the material consumption of several devices in regard to a special working process. And using **GraviLog** makes it possible to generate graphical representations for target and performance values.

- **Software**
for up to 20 devices.
- **Control of devices**
even remotely from the PC.
- **Administration**
of recipes and materials.
- **Search functions**
devices, materials, time.
- **Graphic representation**
of material use and deviations.
- **Export function**
for quality reporting, auditing, and product data sheets.



Gravimetric dosing systems

Gravimax



Smart Recycling

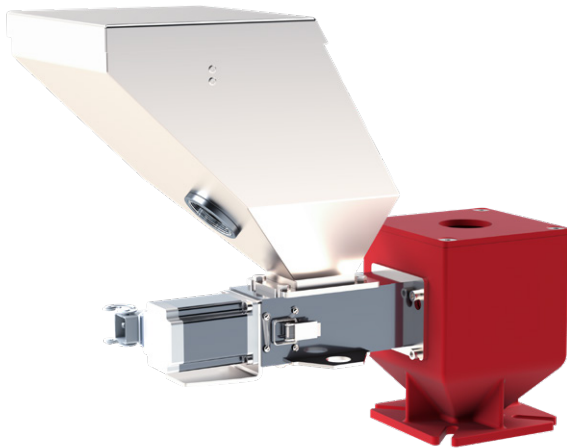
well equipped for the circular economy

Volumetric dosing systems

Dosimax

Dosimax VFS basic

- Digital revolution setting
from 0 to 200 rpm within 0.1 rpm steps
- Digital time setting
from 0 to 999 s within 0.1 s steps
- Timer and relais mode for injection molding applications
- User level: 1
- 4,3" touch display



Dosimax VFS basic

Dosimax VFS and Dosimax balance

- Digital revolution setting
from 0 to 200 rpm within 0.1 rpm steps
- Digital time setting
from 0 to 999 s within 0.1 s steps
- User level: 1 or 3
- 4,3" or 8" touch display
- Man/machine interface via touch screen
- Neckpiece with cleaning door
- Quick material discharge slide gate

Additional functions

- Timer and relay mode for injection molding applications
- Tachometer synchronization for extrusion applications
- Integrated conveying control
- Constant dispensing through automatic adjustment of rotation speed (Dosimax balance)



Dosimax balance

Dosing cylinder

Many applications in the processing of additives and colors require low and repeatable dosing quantities with the tightest tolerances.

The dosing cylinder ensures constant and precise output across a wide range of applications.

Driven by a stepper motor with constant speed, the design guarantees uniform and highly precise additive and colorant dosing. Pulsations in the dosing are completely avoided – for maximum process control and a perfect end product.

Technical Specifications

Gravimax

Model	max. Number of Materials	Batch Size		Throughput ¹		Hopper Size l	Height ²
		kg	lbs	kg/h	lbs/h		mm
Gravimax 14	4	1	2.2	80	170	4 × 13	857
Gravimax 34	4	3	6.6	400	882	2 × 30 2 × 13	1,188
Gravimax 76	6	7	15	700	1,540	4 × 67 2 × 40	1,553
Gravimax 94	4	9	20	680	1,540	4 × 79 4 × 34	1,662
Gravimax 95	5	9	20	540	1,190	4 × 79 4 × 34	1,662
Gravimax 96	6	9	20	490	1,070	4 × 79 4 × 34	1,662
Gravimax 97	7	9	20	410	900	4 × 79 4 × 34	1,662
Gravimax 98	8	9	20	330	720	4 × 79 4 × 34	1,662
Gravimax 184	4	18	40	1,500	3,300	4 × 147 4 × 34	³
Gravimax 185	5	18	40	1,200	2,640	4 × 147 4 × 34	³
Gravimax 186	6	18	40	1,060	2,340	4 × 147 4 × 34	³
Gravimax 187	7	18	40	950	2,100	4 × 147 4 × 34	³
Gravimax 188	8	18	40	900	1,980	4 × 147 4 × 34	³
Gravimax 274	4	27	60	1,770	3,900	4 × 158 4 × 68	³
Gravimax 275	5	27	60	1,560	3,420	4 × 158 4 × 68	³
Gravimax 276	6	27	60	1,500	3,300	4 × 158 4 × 68	³
Gravimax 277	7	27	60	1,440	3,180	4 × 158 4 × 68	³
Gravimax 278	8	27	60	1,380	3,060	4 × 158 4 × 68	³

¹ average values; the actual throughput can vary, and is depending on the respective material

² excluding frame

³ project-related

Technical Specifications

Dosimax

Function	Dosimax VFS basic	Dosimax VFS	Dosimax balance
Feeding principle	volumetric		
Calibration	manual		automatic
Control functions			
Revolution set	manual		automatic
Time set	manual		automatic
Automatic dosing time synchronization			◆
Extruder tachometer mode		◆	◆
Interface communication OPC UA			◇
Keyboard lock	1 level		multiple levels
Integrated conveying control		◆	◆
Material/Feeding capacity			
Micro granules	◆	◆	◆
GLX-System¹ 0.02 to 1.6 g/s	◆	◇	◇
GX-System¹ 0.2 to 5 g/s		◆	◆
A-20 System¹ 0.5 to 20 g/s		◇	◇
A-30 System² 2 to 50 g/s		◇	◇

◆ = standard

◇ = optional

¹ determined with masterbatch granules (bulk density: 0.81 kg/dm³)

² only in combination with HT stepper motor

» We develop **technologies that meet the demands of today and tomorrow**, saving materials and energy while protecting the climate. Across the entire injection molding process, from material handling to in-line recycling.

We live molding. «

(Dr. Werner Wittmann)



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