DOSING EQUIPMENT
Precision Blending

world of innovation
Modularity
Removable material hopper lid c/w cover plate fits prebolted FEEDMAX series hopper loader flange.

Easy handling
Two handles allow safe easy handling of material hoppers.

Easily removable
Material hoppers made entirely of wear resistant stainless steel and are equipped with self-locking toggle latches.

Reliable material dispensing valves
Material hoppers with normally closed integral dispensing valves for positive shut-off. The actuating mechanism of the dispensing valve is part of the center body for simple hopper handling without unpractical or unsafe hose or wire connections.

Ergonomic and dustproof
Simple swing door, opens via quick fastener without using tools. The door is secured by a safety switch.

ADVANTAGES OF GRAVIMAX BLENDERS

Simple operation
» Ingredient values entered as ratio or in % via touch-screen.
» Changing recipes without stopping.
» Material data base, progress display.
» Storage of 500 recipes, inventory reports.
» Preset batch count.

Highly precise metering valves
Unique flow-valves made from stainless steel for high abrasive wear applications are extremely fast, efficient and consistently reliable. Major ingredients and additives are precisely metered to the desired set point.

Interchangeable steel hoppers
Self-closing valve mechanism offers easy cleaning and color change. The hopper is specially designed with no flow restricting or bridging parts in the hopper. Two convenient handles allow safe and easy material hopper handling.

Highest precision
Two independent 24-bit technology load cells provide more precise, noise-free weight signal readings than single load cell systems.

Unique "Clip-on" corner window
Simple "clip-on" corner window provides full view for material inspection and detaches quickly for simpler, easier cleaning access compared to other designs.

The ultimate in precision blending
Highest precision
Two independent 24-bit technology load cells provide more precise, noise-free weight signal readings than single load cell systems.

Reliable material dispensing valves
Material hoppers with normally closed integral dispensing valves for positive shut-off. The actuating mechanism of the dispensing valve is part of the center body for simple hopper handling without unpractical or unsafe hose or wire connections.
“Clip-on” corner window
Unique “clip-on” corner window provides full view for material inspection. The corner window detaches quickly for simpler and easier cleaning access compared to other blender designs.

Easily removable weigh bin
Two weigh cell slide bars and a 60° discharge angle geometry provide complete emptying after each batch. The self-closing discharge flap mechanism prevents release of material from the weigh bin in the event of pressure loss.

Uniform material blending
Highly efficient spiral mixer provides a homogeneous material blend and allows for easy cleaning. The hemispherical geometry of the spiral mixer guarantees no dead spots or material hang-up.
A unique 2-stage metering method achieves the most precise dispensing for batch-to-batch consistency and accuracy. This is accomplished by using progressively smaller dispensing algorithms to approach the target weight. Only one standard high precision valve is used for pellets, regrind, additives.

1. **Step 1: Free flow**
   Quick dispensing to near target weight.

2. **Step 2: Fine pulsing**
   Controlled high frequency dispensing precisely to target.

Batch-to-batch accuracy means no overuse of high cost resins, optimizing the material consumption for the product requirement. Every batch is consistent and to the desired formula. No “hunting” or statistical averaging to achieve the required 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 competitive 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!

In this example, a blend of 1.8% has been set. Real data demonstrates the difference between RTLS and other methods.
GRAVIMAX SERIES BLENDERS

GRAVIMAX BLENDER SERIES 1

GRAVIMAX Series 1

Batch size 1 kg (2.2 lbs.)
Valve 40 mm (1.6")
Lid prepared for FEEDMAX 200 Series
Max. number of components 4
Hopper size 1–4 13 l (16.2 lbs.)

GRAVIMAX BLENDER SELECTION

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Batch Size</th>
<th>Throughput*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>kg</td>
<td>lbs.</td>
</tr>
<tr>
<td>GMX G14</td>
<td>4 Materials</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>GMX G34</td>
<td>4 Materials</td>
<td>3</td>
<td>6.6</td>
</tr>
<tr>
<td>GMX G76</td>
<td>6 Materials</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>GMX 94</td>
<td>4 Materials</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>GMX 95</td>
<td>5 Materials</td>
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<td>20</td>
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<td>GMX 96</td>
<td>6 Materials</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>GMX 97</td>
<td>7 Materials</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>GMX 98</td>
<td>8 Materials</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>GMX 184</td>
<td>4 Materials</td>
<td>18</td>
<td>40</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Batch Size</th>
<th>Throughput*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>kg</td>
<td>lbs.</td>
</tr>
<tr>
<td>GMX 185</td>
<td>5 Materials</td>
<td>18</td>
<td>40</td>
</tr>
<tr>
<td>GMX 186</td>
<td>6 Materials</td>
<td>18</td>
<td>40</td>
</tr>
<tr>
<td>GMX 187</td>
<td>7 Materials</td>
<td>18</td>
<td>40</td>
</tr>
<tr>
<td>GMX 188</td>
<td>8 Materials</td>
<td>18</td>
<td>40</td>
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<tr>
<td>GMX 274</td>
<td>4 Materials</td>
<td>27</td>
<td>60</td>
</tr>
<tr>
<td>GMX 275</td>
<td>5 Materials</td>
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<td>GMX 276</td>
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<td>60</td>
</tr>
<tr>
<td>GMX 277</td>
<td>7 Materials</td>
<td>27</td>
<td>60</td>
</tr>
<tr>
<td>GMX 278</td>
<td>8 Materials</td>
<td>27</td>
<td>60</td>
</tr>
</tbody>
</table>

* Average values; the actual throughput can vary, and is depending on the respective material.
GRAVIMAX SERIES BLENDCERS

GRAVIMAX BLENDER SERIES 3

<table>
<thead>
<tr>
<th>Specification</th>
<th>GRAVIMAX Series 3</th>
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</thead>
<tbody>
<tr>
<td>Batch size</td>
<td>3 kg (6.6 lbs.)</td>
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<tr>
<td>Valve</td>
<td>40 + 60 mm (1.6” + 2.4”)</td>
</tr>
<tr>
<td>Lid prepared for</td>
<td>FEEDMAX 200 + 300 Series</td>
</tr>
<tr>
<td>Max. number of components</td>
<td>4</td>
</tr>
</tbody>
</table>
| Hopper size                          | 1 + 2: 30 l (38 lbs.)  
                                  | 3 + 4: 13 l (16.5 lbs.) |

GRAVIMAX BLENDER SERIES 7

<table>
<thead>
<tr>
<th>Specification</th>
<th>GRAVIMAX Series 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batch size</td>
<td>7 kg (15 lbs.)</td>
</tr>
<tr>
<td>Valve</td>
<td>80 mm (3.2”)</td>
</tr>
<tr>
<td>Lid prepared for</td>
<td>FEEDMAX 200 + 300 Series</td>
</tr>
<tr>
<td>Max. number of components</td>
<td>6</td>
</tr>
</tbody>
</table>
| Hopper size                          | 1 + 2 / 5 + 6: 67 l (82 lbs.)  
                                  | 3 + 4: 40 l (49 lbs.) |
GRAVIMAX BLENDER SERIES 9

GRAVIMAX Series 9
- Batch Size: 9 kg (20 lbs.)
- Valve: 75 mm (3”)
- Lid prepared for: FEEDMAX 300 Series
- Max. number of components: 8
- Hopper Size 1–4: 79 l (100 lbs.)
- Hopper Size 5–8: 34 l (40 lbs.)

GRAVIMAX BLENDER SERIES 18 AND 27
Engineered Solutions for Maximum Throughput

GRAVIMAX Series 18
- Batch size: 18 kg (40 lbs.)
- Valve: 100 mm (4”)
- Lid prepared for: FEEDMAX 400 Series
- Max. number of comp.: 8
- Hopper size 1–4: 147 l (180 lbs.)
- Hopper size 5–8: 34 l (40 lbs.)

GRAVIMAX Series 27
- Batch size: 27 kg (60 lbs.)
- Valve: 150 mm (6”)
- Lid prepared for: FEEDMAX 400 Series
- Max. number of comp.: 8
- Hopper size 1–4: 158 l (200 lbs.)
- Hopper size 5–8: 68 l (80 lbs.)

Mounted on pedestal
BLENDER CONTROL

GRAVIMAX CONTROL
Designed for Simplicity, Ease-of-use and High Efficiency

The large easy-to-see buttons on the touch screen make it easy to operate in all types of light conditions and ensures the operator has a large surface area to make changes or adjustments in the operation of the blender.

High-capacity microprocessor controller

STANDARD FEATURES

» Control of up to 8 components
» Dosing-technology
  Precise metering through adaptive control algorithms.
» RTLS (Real Time Live Scale) technology
  2-stage progressive metering method for the most precise target weight.
» “On the fly” feature
  Change recipes and parameters without stopping production.
» Reports
  Cycle, total run and inventory reports.
» Connectivity options (Ethernet)
  Compatible with central PCs, PDAs, laptops.
» SmartRegrind” mode
  Automatic recipe adjustment, depending on the availability of the material.
» Mixing
  Timed or continuous.
» User interface
  The handling of the user interface is conform to the other WITTMANN manual control elements.
» Percent preset
  Each ingredient value 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
  Alphanumeric key pad for clear material identification.
» Recipe maintenance
  500 recipes stored on the local memory.
» Preset batch count
  Automatic blender shutdown after reaching the preset batch count.
» Material bridging
  Special dosing algorithms are loosening bridge formations of material in the hoppers.
» Security
  3 adjustable security levels with freely selectable access codes.
» Reference additive
  Automatic adjustment of ratio to avoid an overdosing of expensive additives.
» Self-optimization
  Independent adjustment of the dosing behaviour to varying flow characteristics of different materials.
» Secure mounting of the load cells for most exact measurement and long-lasting use.
» Control panel with standard electrical components for reliable operation and easy maintenance.
» OPC interface
  allows a bi-directional exchange of data and settings..
» Power supply
  110 V / 230 V / 1 / 50–60 Hz
GraviLog

GraviLog is the name of a software solution that has been especially developed for data recording of gravimetric blenders of the WITTMANN GRAVIMAX G 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**
  directly from a personal computer
- **Administration**
  of recipes and materials.
- **Search functions:**
  devices, materials, time.
- **Graphic representation**
  of material use and deviations.
- **Export function**
  for the export of tables.
1. Place the dosing unit on the calibrator and enter the production values.

2. The calibration result will be automatically saved.

3. Place the dosing unit on the neckpiece and the volumetric feeding starts with the exact settings.

DOSIMAX MC 30

- Set % for injection molding and extrusion.
- Timer and relay mode for injection molding applications.
- Tachometer synchronization for extrusion applications.
- Keyboard lock: 4 levels.
- Integrated conveying control.
- Data memory for production and machine configuration.
- Graphic LCD display with backlight.
- Man/machine interface via keypad foil.
- Neckpiece with cleaning door.
- Quick material discharge slide gate.

DOSIMAX SELECTION TABLE

<table>
<thead>
<tr>
<th>Function</th>
<th>MC Basic</th>
<th>MC 12 Calibrate</th>
<th>MC 18 Calibrate</th>
<th>MC 30 Auto</th>
<th>MC Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeding principle</td>
<td>volumetric</td>
<td>volumetric + optional gravimetric calibration</td>
<td>gravimetric intelligent or manual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calibration</td>
<td>manual</td>
<td>gravimetric intelligent or manual</td>
<td>complete gravimetric or manual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control functions</td>
<td></td>
<td>automatic or manual</td>
<td>automatic or manual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revolution set</td>
<td>manual</td>
<td>automatic or manual</td>
<td>automatic or manual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time set</td>
<td>manual</td>
<td>automatic or manual</td>
<td>automatic or manual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic dosing time synchronization</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
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<tr>
<td>Extruder “tachometer” mode</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Set % additive for injection molding</td>
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<td>●</td>
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<tr>
<td>Set % additive for extrusion</td>
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<td></td>
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<tr>
<td>Additive for calibration mode</td>
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<td>●</td>
<td>●</td>
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<td></td>
</tr>
<tr>
<td>Production memory</td>
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<td>1500 configuration</td>
<td>1500 configuration</td>
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</tr>
<tr>
<td>Production records</td>
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<td>2 x 24 hours</td>
<td>2 x 24 hours</td>
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<tr>
<td>Interface communication via ethernet</td>
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<td>●</td>
<td>●</td>
<td></td>
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<tr>
<td>Interface communication RS-232/485</td>
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<td>○</td>
<td>○</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keyboard lock</td>
<td>1 level</td>
<td>4 levels</td>
<td>4 levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated conveying control</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material/Feeding capacity</td>
<td></td>
<td>●</td>
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<td></td>
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</tr>
<tr>
<td>Micro granules or free flowing powder</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BASIC-System 0.2 to 5 g/s</td>
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<td>●</td>
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<tr>
<td>GLX-System* 0.02 to 1.6 g/s</td>
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<td>○</td>
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<td></td>
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<tr>
<td>GX-System* 0.2 to 5 g/s</td>
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<td>●</td>
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<tr>
<td>A-20 System** 0.5 to 20 g/s</td>
<td>○</td>
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<tr>
<td>A-30 System** 2 to 50 g/s</td>
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<td>○</td>
<td>○</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* = standard; * = optional; * determined with masterbatch granules (bulk density 0.81 kg/dm³); ** only in combination with HT stepper motor
DOSIMAX
Volumetric Dosing Systems

DOSING CYLINDER

Many applications for the processing of additives and colors require small and repeatable material additions within tight tolerances. The dosing cylinder guarantees a uniform and repeatable flow throughout a wide range of applications.

Because of the constant speed of rotation, the dosing cylinder is actuated by a stepping motor. The specific design guarantees that the master batch is blended uniformly and precisely. The avoidance of any pulsing during blending provides maximum control of the process and the end product.

DOSIMAX MC Basic

Technical features

» Digital revolution setting from 0 to 200 rpm within 0.1 rpm steps.
» Digital time setting from 0 to 999 sec. within 0.1 sec. steps.
» Timer mode for injection molding applications.
» Keyboard lock: 1 level.
» 4-digit, 7-segment LED at front display.
» Man/machine interface via keypad foil.

DOSIMAX MC 12 and MC 18

Technical features

» Digital revolution setting from 0 to 200 rpm within 0.1 rpm steps.
» Digital time setting from 0 to 999 sec. within 0.1 sec. steps.
» Keyboard lock: 1 level.
» 4-digit, 7-segment LED at front display.
» Man/machine interface via keypad foil.
» Neckpiece with cleaning door.
» Quick material discharge slide gate.

MC 12 additional function

» Timer and relay mode for injection molding applications.

MC 18 additional functions

» Tachometer synchronization for extrusion applications.
» Constant dispensing through automatic adjustment of rotation speed.
» Integrated conveying control.