

Conveying Systems For Plastics Processing Plants



- **FEEDMAX Single Loaders**
for the flexible machine supply of up to 850 kg/h
- **FEEDMAX Central Loaders**
for demanding applications in central systems with maximum operability and extendability
- **WITTMANN Central Filters and Blower Stations**
Proven components for high operational safety
- **WITTMANN Network Control System**
High performance modular CAN-BUS network control system for the control of up to 240 material handling components

FEEDMAX Conveying Equipment



FEEDMAX SP5 Compressed Air Loader

FEEDMAX SP5 compressed air loader offer a cost effective alternative for conveying small material volumes of up to 60 kg/h in permanent operation.

— Robust Stainless Steel Construction

All components in contact with material are made of stainless steel and are therefore perfectly suited for critical and abrasive applications.

— Maintenance Free

Maintenance free operation of the loader is virtually achieved by almost entirely avoiding moving components.

— Adjustable Material Level

With the use of a triple shielded capacitive sensor the material buffer can be adjusted.

— Automatic Material Conveying with Dry Air

FEEDMAX SP5



FEEDMAX SP5 Wand

— Vacuum Generator

A highly efficient venturi vacuum generator is integrated directly into the tip of the wand, which only requires 6 m³/h for the conveying 50 kg of new material.

— Shut-Off Valve

On the upper end of the wand, a shut-off valve is located for the activation and deactivation of the conveying.

— Conveying Hose

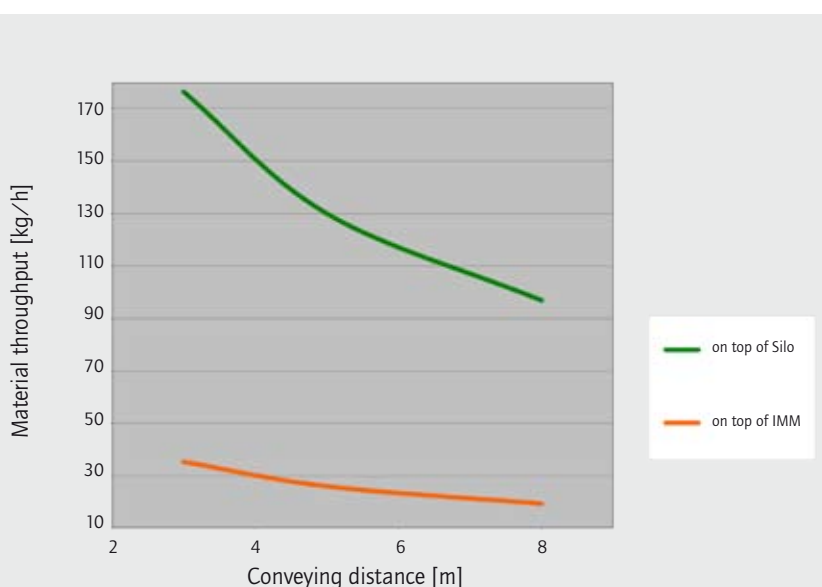
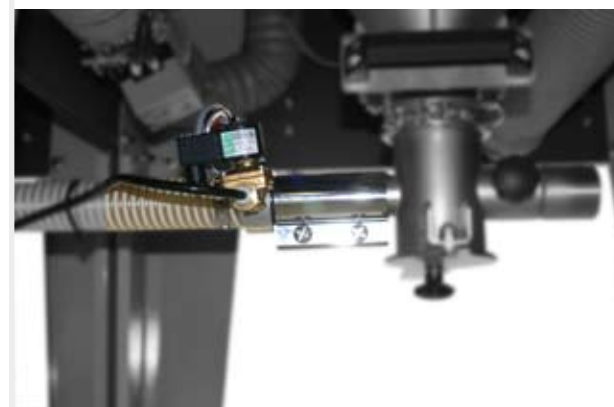
As a standard, the conveying wand is equipped with a 3 m PVC hose.

FEEDMAX SP5 Conveying Wand



Performance of SP5 Conveying Wand and Adapter

FEEDMAX SP5 Conveying Adapter



Valid for resin; vertical height of 2 m.

FEEDMAX S3 Single Loader

Optimized single loader for flexible conveying of smaller material volumes of up to 100 kg/h in permanent operation. Peak performance of up to 250 kg/h.

- Robust Stainless Steel Construction**
All components in contact with material are made of stainless steel and are therefore perfectly suited for critical and abrasive applications.
- Needle Felt Filter with Cleaning**
Contains a sealed filter surface on the front face to avoid the protrusion of dust particles into the structure of the needle felt filter and therefore permits higher operating times. Temperature resistance up to 150 °C.
- Wand**
Included in the standard package is a 780 mm long wand with air vents for the adjustment of the material load, as well as a 5m PVC hose.
- Proportional Valve (Option)**
The proportional valve for the dosing of two components is externally attached to the material inlet. The control allows the selection of the dosing in percent and the number of material levels in the hopper.
- Remote Teach Pendant**
Second teach pendant with a 2m cable for convenient accessibility in case the loader is mounted on blenders or tall machine hoppers.

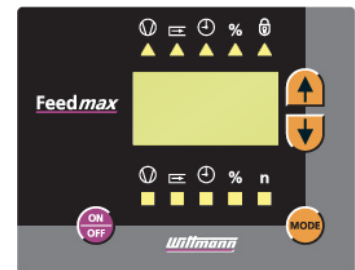
FEEDMAX S3



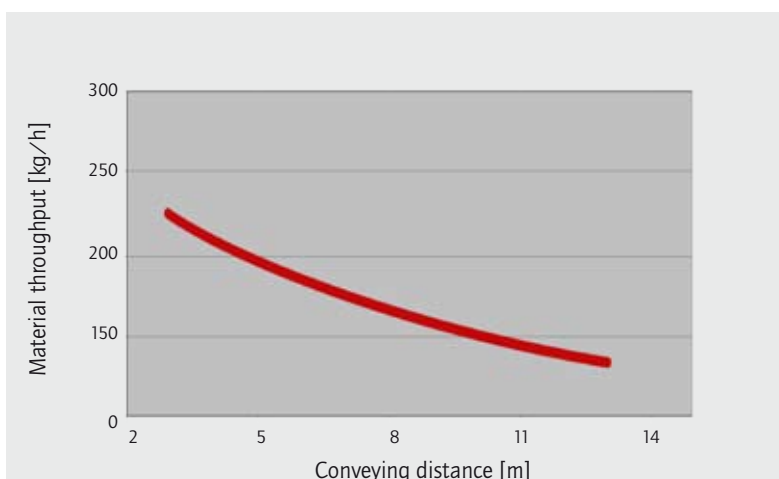
FEEDMAX S3 Control

- Extensive Display**
Three digit, 7-segment display for timers and parameters, e.g. conveying time, as well as LEDs for the visualization of internal operating conditions.
- Granulator Operating Mode**
Adjustable timer function for the emptying of a granulator regrind bin.
- Level Monitoring**
Via Reedcontact with immediate material request.

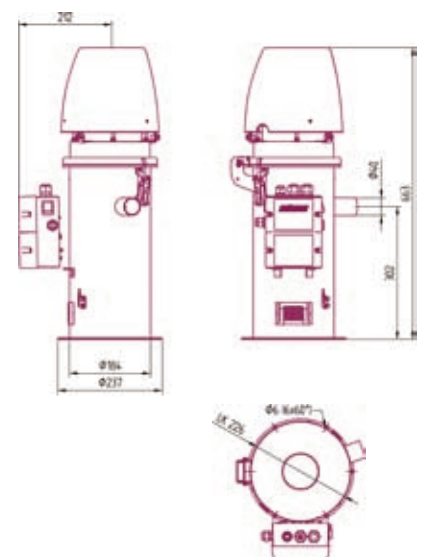
FEEDMAX S3 Operator Panel



FEEDMAX S3 Performance Data



Valid for resin; vertical height of 5 m.



FEEDMAX AS and A Series Loaders

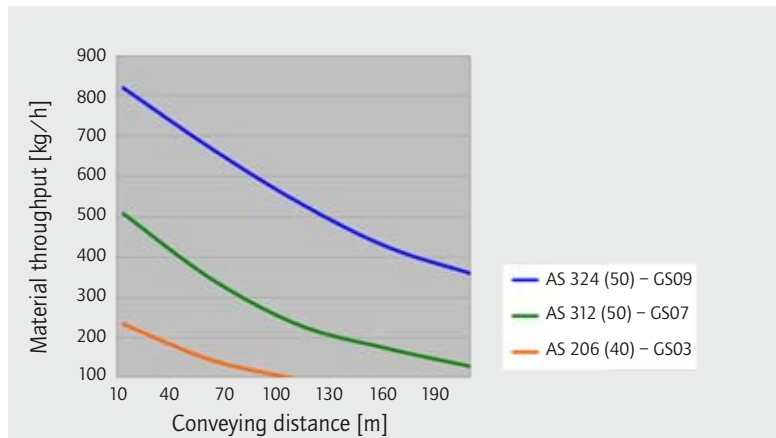
The **FEEDMAX AS** (single) and **A** (central) series loaders are built for the highest functionality and demanding applications. The modular design of the vacuum loaders guarantees specific adjustment to customer requirements, as well as simple cleaning.

- Rugged and Well Proven Design**
 Stainless steel for superior wear resistance.
- Easy Cleaning**
 By means of hinged lid, as well as toggle latches and clamps.
- Pneumatically Actuated Discharge Valve**
 The pneumatically operated discharge valve guarantees the highest operational functionality and complete sealing during the loading cycle.
- Capacitive Sensor**
 Triple shielded sensor for the detection of material demands.
- Modular Construction**
 For optimum size configuration and assembly without tools.

FEEDMAX Series A200, A300 and A400



FEEDMAX AS Performance Data



Valid for resin; vertical height of 4 m.

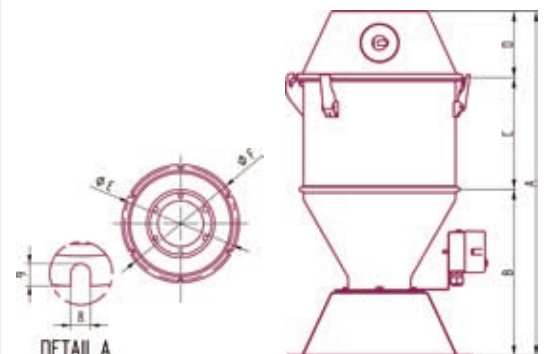
FEEDMAX AS



FEEDMAX AS and A Series Loaders

| Feedmax model | AS-Singel Loader | A-Central Loader | Capacity [lit.] [cu.ft.] | A [in.] [mm] | B [in.] [mm] | C [in.] [mm] | D [in.] [mm] | E [in.] [mm] | F [in.] [mm] |
|---------------|------------------|------------------|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 204 | • | • | 4 | 509 (20) | 250 (9.8) | 159 (6.3) | 100 (3.9) | 226 (8.9) | 236 (9.3) |
| 206 | • | • | 6 | 585 (23) | 250 (9.8) | 235 (9.3) | 100 (3.9) | 226 (8.9) | 236 (9.3) |
| 308 | • | • | 8 | 618 (24.3) | 328 (12.9) | 159 (6.3) | 131 (5.2) | 354 (13.9) | 364 (14.3) |
| 312 | • | • | 12 | 694 (27.3) | 328 (12.9) | 235 (9.3) | 131 (5.2) | 354 (13.9) | 364 (14.3) |
| 318 | • | • | 18 | 770 (30.3) | 328 (12.9) | 311 (12.2) | 131 (5.2) | 354 (13.9) | 364 (14.3) |
| 324 | • | • | 24 | 872 (34.3) | 328 (12.9) | 413 (16.3) | 131 (5.2) | 354 (13.9) | 364 (14.3) |
| 440 | — | • | 40 | 860 (33.9) | 415 (16.3) | 300 (11.8) | 145 (5.7) | 455 (17.9) | 465 (18.3) |
| 460 | — | • | 60 | 1010 (39.8) | 415 (16.3) | 450 (17.7) | 131 (5.2) | 455 (17.9) | 465 (18.3) |
| 480 | — | • | 80 | 1160 (45.7) | 415 (16.3) | 600 (23.6) | 131 (5.2) | 455 (17.9) | 465 (18.3) |

Specifications subject to change without notice.



Advantages of FEEDMAX AS and A Series Loaders

Removable powder coated, mild steel spun lid.

Pneumatic actuated vacuum sequencing valve.

Quick release toggle clamps for fast, easy access.

Band clamp allows simple, quick disassembly of modular components if required.

Solid state triple shielded capacitance style proximity switches to indicate material demand and for level priority sequencing.



Stainless steel line size reducers for easy installation and simple system retrofits.

Stainless steel material inlet and pneumatic actuated positive shut-off valve for common material conveying systems and proportional material loading.

Interchangeable stainless steel center section allows for hopper capacity to be easily changed.

Stainless steel construction of all material contact surfaces prevents material contamination, and corrosion and allows for ease of cleaning.

Stainless steel hopper mounting flange and pneumatic actuated discharge valve assembly.

FEEDMAX AS and A Series Loader Features



Removable, rugged stainless steel basket filter allows for easy cleaning.



Integral pneumatic vacuum control valve reduces overall loader height.



Pneumatic material discharge shut-off valve assembly with integral air supply.



Stainless steel material inlet and flapper allow optimized sealing of inlet tube. Smooth surfaces guarantee proper conveying of the material.



Optionally the vacuum loader can be equipped with two pneumatically operated material inlets in order to allow the conveying of two different materials and material sources.



The optional clear tube assembly allows for perfect visual inspection of the material flow and precise adjustment of material inventory.

Blower Stations GS Single, GM Central Conveying

| Blower/ Pump model | Pump type | GS-Single conveying | GM-Central conveying | Power [kW] | max. air flow [m ³ /50Hz] [cfm@50Hz] | max. pressure [mbar@50Hz] [in.Hg@50Hz] |
|-----------------------|--------------------------------|------------------------|-------------------------|------------|---|--|
| 01 | Side channel blower 1-stage | • | — | 0,7 | 140 (82) | 200 (3.5) |
| 03 | Side channel blower 1-stage | • | • | 1,6 | 210 (123) | 200 (5.9) |
| 07 | Side channel blower 2-stage | • | • | 3 | 210 (123) | 340 (10.0) |
| 09 | Side channel blower 2-stage | • | • | 4,3 | 310 (182) | 360 (10.6) |
| 13 | Side channel blower 2-stage | • | • | 7,5 | 500 (294) | 400 (11.8) |
| 27 | Claw pump | — | • | 3 | 140 (83) | 700 (20.6) |
| 29 | Claw pump | — | • | 4 | 200 (117) | 700 (20.6) |
| 31 | Claw pump | — | • | 4,5 | 250 (147) | 700 (20.6) |
| 33 | Claw pump | — | • | 5,5 | 300 (176) | 700 (20.6) |
| 43 | Roots pump | — | • | 5,5 | 200–300 (117–176) | 300–450 (8.8–13.2) |

Specifications subject to change without notice.

Claw Vacuum Pump GM 27 – 33



Central Filter Stations for AS and A Series

XS Filter

2-Stage Filtration System

In stage 1 pre-filtration takes place by means of the cyclone effect and in stage 2 micro filtration with a cartridge filter having 2.7 m² of surface area.

Visual Control

The clear view dust container allows a permanent visual level control.

High Functional Safety

Of all WITTMANN central filters through wear resistant, non-corrosive stainless steel construction.

XM Filter

2-Stage Filtration System

In stage 1 pre-filtration takes place by means of the cyclone effect and in stage 2 micro filtration with a cartridge filter having 5 m² of surface area

User-Friendly

The dust container can be removed during the operation for emptying

Arbitrary Dust Container

The dust collection area is kept pressureless through a shut-off valve in the discharge cone of the filter and therefore allows the placement of any dust collection bin, e.g. a plastic bag

Central Filter Station XS



Central Filter Station XM



Machine Hoppers for S, AS and A Series

Machine hoppers ranging in size from 3 l to 40 l guarantee optimum adjustment of the material inventory to the total material throughput and thus, the performance of the entire system.

Stainless Steel Construction

Assembly

Slotted holes in the flange allow easy attachment to several mounting hole patterns.

Clear Tube Assembly

For the visual inspection of the material flow.

Machine hoppers sizes 3 l – 40 l



eMax Network Control System

This new generation of control system allows the administration of up to 12 vacuum loaders, one vacuum pump and one spare pump for the automatic switchover as well as the control of bypass valves, filter cleaning and purging valves. The display is provided via a high-resolution 3.5" TFT color screen for simple user interface and convenient presentation of process parameters.

Well Organized Overview

Of all attached vacuum loaders and blower stations with their respective process status.

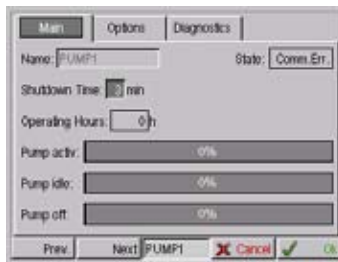
Multiple Adjustments

For example, for the automatic pump switchover.

eMax Network control system



Main Menu



Pump settings

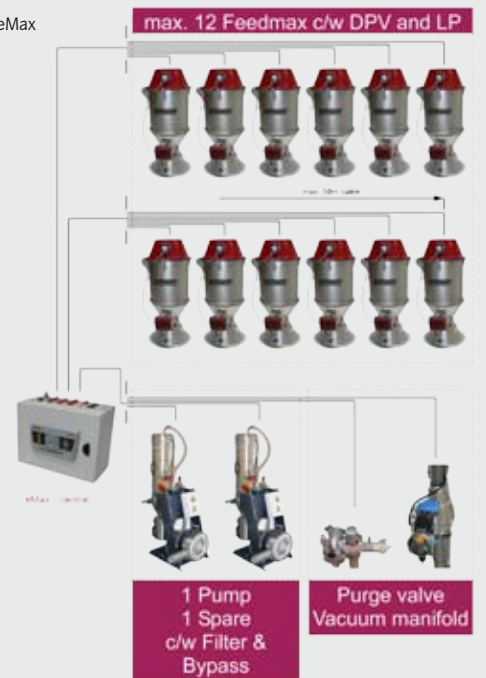


Conveying equipment settings

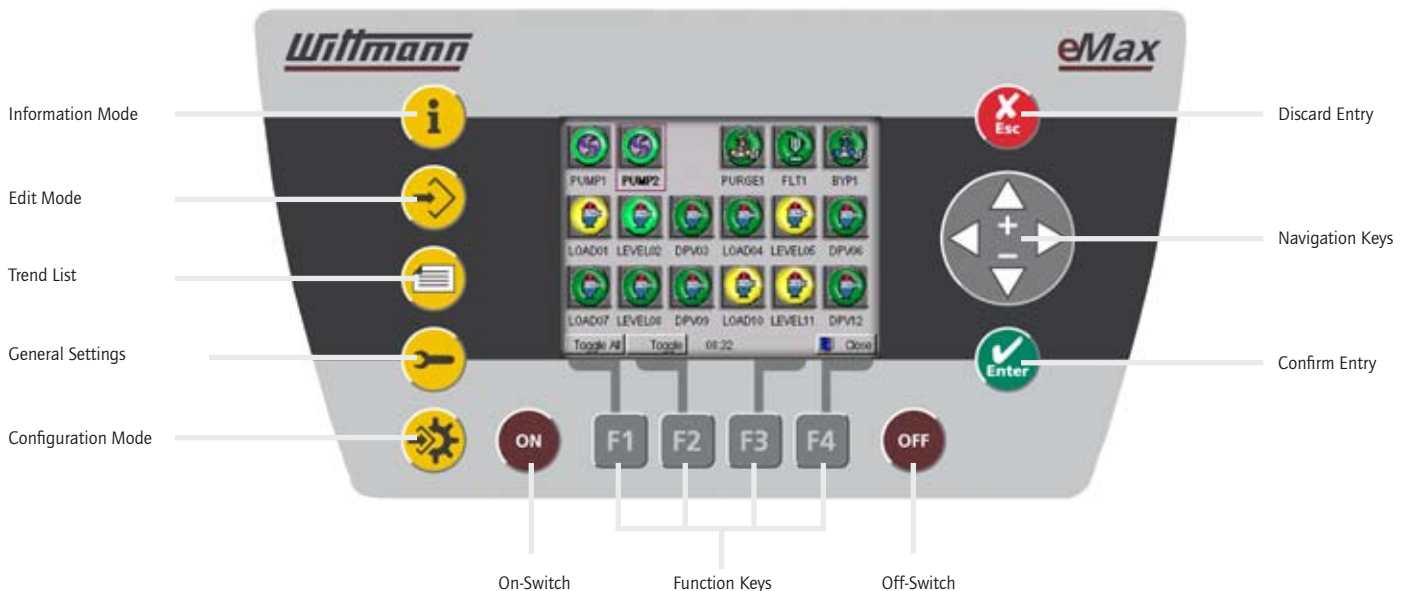


Diagnostic screen

eMax



eMax Operator Interface



M7.2 Network Control System

The **M7.2** network control system was developed for the administration of medium to complex network configurations with up to 248 network participants. Every participant is connected via a bus module to the network and can be configured for a specific task. This guarantees the maximum flexibility for the set up of customized material handling systems.

M7.2 – IPC/Teachbox-Touchscreen

The high-resolution **M7.2 TeachBox** touch screen simplifies the user guidances, as well as the adjustment of process parameters and allows the user a comprehensive view of all attached units.

Line Server LS-A30 T

Provides for the control of up to 31 freely configurable bus modules, which can be connected in parallel to one CAN-Bus line. All functions which are available for the respective bus modules can be managed and controlled from the line server. A complete system can consist of up to 8 individual CAN-Bus lines.

Bus Module BM-4/4

Provides individual control of vacuum loaders, blower stations, central filters, dry air valves, purging valves, etc. Arbitrary functions can be assigned to the 4 digital inputs and outputs of the bus modules and therefore, gives the system virtually unlimited possibilities of configurability for each particular application.

M7.2 – IPC 15" XVGA Touchscreen



M7.2 – Teachbox 8,5" VGA Touchscreen



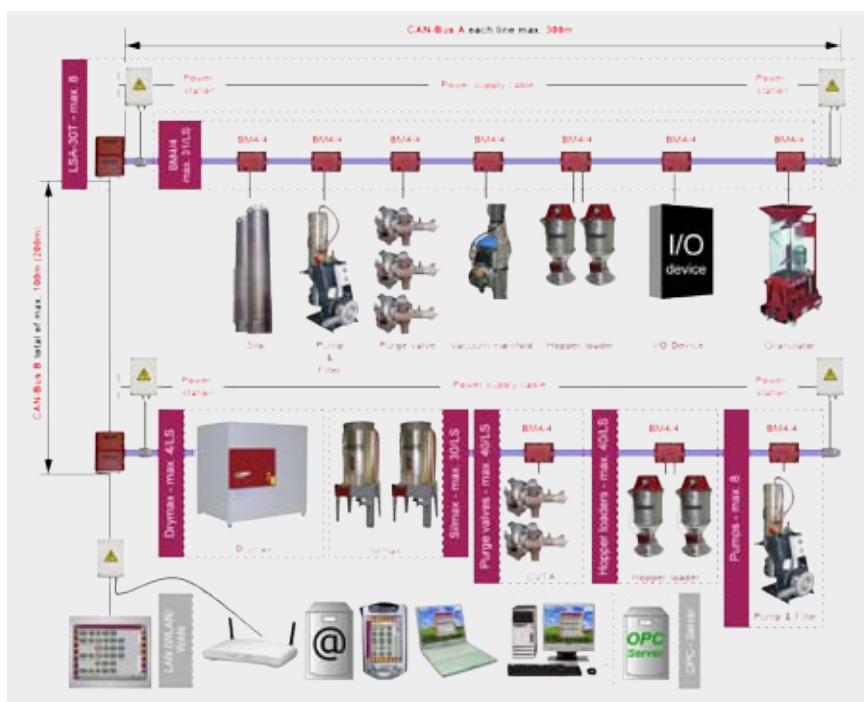
Line Server LS-A30 T



Bus Module BM-4/4



M7.2 IPC



M7.2 Software Features



Material Based Representation

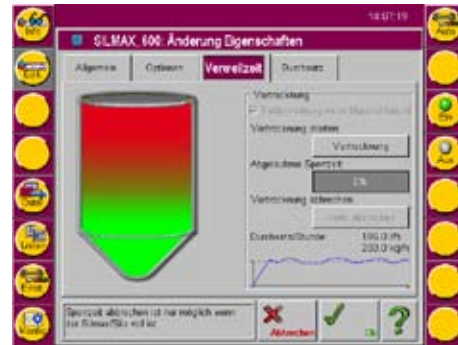
Visualization of the conveying system using lines to represent the respective material flow of the entire system.

Clear Representation

Of the partially complex single material flows into a few symbols.

Simple Changeover

To vacuum line representation or other displays.



Visualisation of the Drying Hopper Residence Time

Graphical display of the residence time for the material to be dried in the respective drying hopper.

Residence Time

An especially developed method is used to determine the material flow in order to monitor the material residence time.

Alarm Messages

In case of overextending the drying capacity.



Vacuum Loader Display

Adjustment of the Loading Time

Can be made at any time in the edit mode.

Conveying Sequence

In the presence of a purging valve adjustment of the optimum loading sequence.



Vacuum Pump Display

Multiple Combinations

Automatic switchover valves can select between main pump and spare pump based on different user selectable criteria.

Pump Capacity

Displayed as a standard.

M7.2 Web Services



Email Support

The M7.2 IPC control system provides for an Ethernet port, which can optionally be connected to a company wide email server.

Administration of Email Addresses

Automatic Dispatching of Error Mails



Internet Connectivity

The optional connection to the internet can be established via the Ethernet port. This allows the mirroring of the screen of the M7.2 control system on any PC.

Miscellaneous External Access Rights

Display of All Process Data

M7.2 Connection to ERP Systems

All control relevant data and parameters can be transferred to a company wide enterprise resource planning (ERP) and process data monitoring (PDM) system via the open standard protocol OPC.

For the connection to a PDM system the **M7.2 IPC** control system is optionally equipped with an OPC Server/Software, which provides, for the communication between an external computer and the control system. A customer supplied OPC Client accepts the required data from the **M7.2** control system and manipulates it internally. The data exchange happens via the Ethernet interface.

ERP System



M7.2 Networked Dryer

The **M7.2** control system permits the connection of Drymax battery dryers with network cards to the central **M7.2** control system. This allows the visualization of internal parameters and conditions on the generously dimensioned **M7.2** control screen as well as the entry of temperature values for the various attached drying hoppers.

— **Connection of up to 32 Battery Dryers with 240 Drying Hoppers**

— **Optimized Control**

Of internal process of the dryer with failure analysis.

— **Dew Point Recording**

In the presence of a dew point sensor the actual values are captured and recorded over a time period of 12 hours.

— **Management of Material Data**

All drying hoppers attached to the networked dryer.

— **Central Error Display**

All error messages are transferred to the M7.2 control and centrally displayed.

M7.2 Coded Coupling Stations



CODEMAX – RFID Coupling Station

The coded Coupling Station **CODEMAX** avoids the erroneous connection of the wrong material to the processing machine.

— **RFID Coding**

Transponder, working on the basis of "Radio Frequency Identification" (RFID), permit a touchless recognition of a 64-bit identifier. By means of this technology, electrostatic charges which are inherent to the material conveying process cannot cause damage to the electrical components.

CODEMAX – RFID Coupling Station



Attachment of a virtually indestructible RFID transponder on the coupling.



M7.2 Coupling Station – Visualization

Applications



The modular design of the WITTMANN *M7.2* hardware and software components and the arbitrary configuration enable the flexible realization of various special applications, like the equal load and automatic switchover between vacuum pumps, the controlled assignment of material sources to machines or the throughput control of drying hoppers.



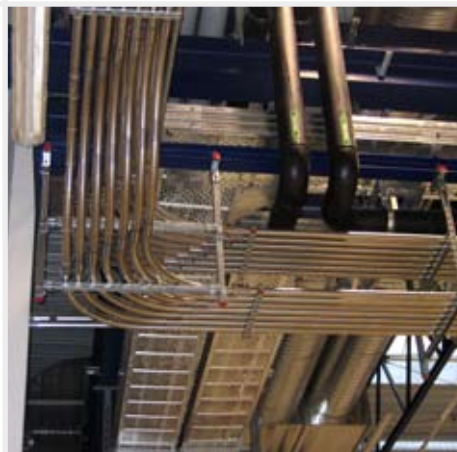
The use of high-quality installation material guarantees long life and trouble-free operation. The conveying of abrasive materials is accomplished preferably with glass elbows.



"No two central handling systems are equal." - As varied as production facilities, so are the requirements on the central material handling system.

Innovative product solutions are required more than ever before and can be covered through the highly efficient WITTMANN controls.

The high-performance *eMax* and *M7.2* network controls are designed for highest durability. An important part of a highly reliable system is the professional and proper assembly of conveying tubes and connections.



"One-stop shopping". The extensive and innovative peripheral equipment program from WITTMANN allows the realization of demanding complete systems and the assignment of responsibility for the proper interaction of the single components. In case of service a single phone call will cover the entire spectrum of WITTMANN products.



Wittmann – Automation & Auxiliaries for Plastics Processing



Your Single Source Supplier for:

Robots and Automation
Automatic Material Handling and Drying
Mold Temperature Control
Granulators and Recycling
Gravimetric Blenders



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WITTMANN Switzerland
WITTMANN Thailand
WITTMANN Turkey
WITTMANN UK
WITTMANN USA



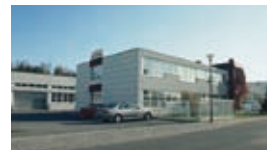
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WITTMANN USA



WITTMANN China



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Progress through Innovation