

# CONVEYING EQUIPMENT

Conveying Systems for Plastics Processing Plants

world of innovation



# FEEDMAX S 3-net

## Single Material Loader

**Wittmann**

Optimized single loader for flexible conveying of smaller material volumes of up to 80 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.

» **Polyester filter with blow-back cleaning**

To achieve a longer lifetime a polyester filter was used. The cloth-like filter surface is ensuring that any intake and accumulation of dust particles is made impossible. This filter is never losing its shape, and it is held in position during the entire conveying cycle, ensuring an absolutely unproblematic buildup of vacuum.

» **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 5 m PVC hose.

» **ambiLED**

Light signal in different colors at the hinged lid for the visualization of internal operating conditions.

» **Granulator operating mode**

Adjustable timer function for the emptying of a granulator regrind bin.

» **TEACHBOX basic (Option)**

Teach pendant for remote access when the loader is mounted on blenders or tall machine hoppers. Via the touch display, the control of up to 24 material loaders is possible.

» **Proportional valve (Option)**

The proportional valve for the conveying of two components is externally attached to the material inlet. The dosing relation can be set easily via a potentiometer.



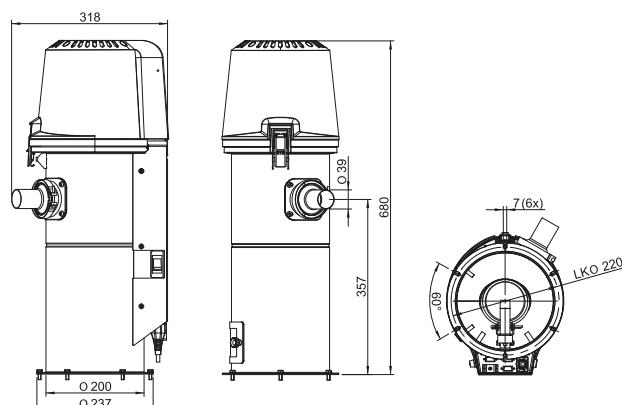
Flap lid



Material inlet



Material outlet



# FEEDMAX basic/FEEDMAX plus

## Central Material Loaders

These units combine the advantages of a single loader with those of central material loaders.

**FEEDMAX basic** is a practical, newly designed appliance with the appearance of a single loader, and has to be combined with high-performance blowers, so that it can reach a higher material throughput and handle material conveyance over longer distances.

**FEEDMAX plus**, based on the central loaders with pneumatic discharge shut-off valves, offers the possibility of controlling up to 24 devices using the **TEACHBOX basic** touch-screen remote control – even in combination with **FEEDMAX basic**.



FEEDMAX basic



FEEDMAX plus

- » Material contacting components of stainless steel.
- » Vacuum connection with sealing surface.
- » Hinged lid with integrated screen.
- » Inlet with proper wall thickness, special steel precision casting.
- » **ambiLED** status display.

## net5 system – TEACHBOX basic

The graphical surface of the **TEACHBOX basic** allows for the control of up to 24 conveying stations, up to two vacuum circuits. Beyond that, the control of filter stations and suction valves is possible.

Linked units are identified automatically. These units are displayed on a high-res 4.7" touch-screen: for simple operator guidance and process parameter display.

- » **Clearly arranged screen view**  
Clear graphical display of units, including status display.
- » **Versatile setting possibilities**  
Settings for conveying, vacuum, and dryer can be easily changed (depending on the preset user rights).
- » **Display and administration of**
  - up to 24 FEEDMAX S 3-net
  - up to FEEDMAX basic and FEEDMAX plus
  - up to 2 vacuum lines and 1 back-up blower



TEACHBOX basic screen

# FEEDMAX B

## Central Material Loaders

**Wittmann**

The FEEDMAX B series loaders are built for highest functionality and demanding applications. The modular design of these vacuum loaders guarantees specific adjustment to meet individual customer requirements, as well as for simple cleaning.

**Complete flexibility**  
Stainless steel line size reducers can be easily interchanged to maximize flexibility.

**Superior wear resistance**  
Pneumatically actuated cast stainless steel material and vacuum valves for highly abrasive feeding applications.

**Easy operation**  
Modular assemblies with fully accessible quick release band clamps can be easily cleaned and interchanged.

**Easily visible status LEDs**  
and pluggable control cable for all network control systems.

**Robustness**  
Material hopper is well supported through the solid integrated flange structure.

**Ergonomic design**  
A hinged lid without valves or hose connections offers unmatched accessibility for simple cleaning.

**Simple cleaning**  
One self-locking toggle latch is easily accessible and opens towards the operator.

**Low maintenance**  
Interchangeable stainless steel center section offers low maintenance and allows hopper capacity to be easily changed.

**Completely dustproof**  
Pneumatic discharge shut-off valve design permits clean room operation for standard loaders.

**Highest operational reliability**  
Dustproof and pneumatically controlled material shut-off discharge valve.

**Reliable material demand**  
via proximity sensor standard with high heat execution.

### ADVANTAGES OF FEEDMAX B SERIES LOADERS



The FEEDMAX CT (clear tube) series permits from any viewing angle simple visual flow of the material. The high-quality glass section is balanced for high loads and an optimal material flow.



Slanted lid and center body valves are completely accessible for easier and simpler cleaning access than conventional design.



**Pneumatic material discharge shut off valve**  
Highest functionality guaranteed through a completely leak-proof seal every conveying cycle. The dustproof design also guarantees dust free operation at the machine hopper.

# VS BLOWER STATIONS AND GM CENTRAL CONVEYING

Blower/ Pump Model	Pump Type	VS Four Station Conveying	GM Central- Conveying	Power [kW]	max. Airflow [m <sup>3</sup> @50Hz] [cfm@50Hz]	max. Pressure [mbar@50Hz] [in.Hg@50Hz]
03	Side channel blower single stage	•	•	1.6	210 (123)	200 (5.9)
05	Side channel blower single stage	•	•	2.2	305	230
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)



Claw vacuum pump

## CENTRAL FILTER STATIONS FOR VS AND GM

### CS Cyclone Filter Station

#### » 2-stage filtration system

In first stage pre-filtration takes place by means of the cyclone effect and in the second stage, micro filtration occurs by means of a polyester micro filter.

#### » Effective dust blow-off and user-friendliness

The filter surface is cleaned by means of implosion, and the dust is blown into a dust collection bag. For visual inspection, the dust container is executed in robust glass.

### XMB Filter Station

#### » 2-stage filtration system

In first stage pre-filtration takes place by means of the cyclone effect and in the second stage, micro filtration occurs with a polyester micro-filter having 3 m<sup>2</sup> of surface area.

#### » User-friendly

The dust container can be removed during operation for emptying.

#### » Choice of 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 use of any dust collection container, e.g. a plastic bag.



XMB  
Filter Station



Machine  
hopper

## MACHINE HOPPER FOR FEEDMAX

Machine hoppers ranging in size from 3 l to 60 l guarantee the optimum volume of the material inventory to the total material throughput and thus, the performance of the entire system.

#### » Stainless steel construction with sight glass

Sight glass for abrasive uses as well as visual control of the material flow.

#### » Assembly

Slotted holes in the flange allow easy attachment for various mounting hole patterns.

# M7.3 IPC

## Network Control System



The M7.3 IPC network control system was developed for the administration of medium to complex network configurations with up to 320 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.

- » **M7.3 IPC touch-screen**  
The high-resolution touch-screen simplifies user control, as well as the adjustment of process parameters and allows the user a comprehensive view of all attached units.
- » **Line server LS-B30T**  
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 have 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. Any function 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.



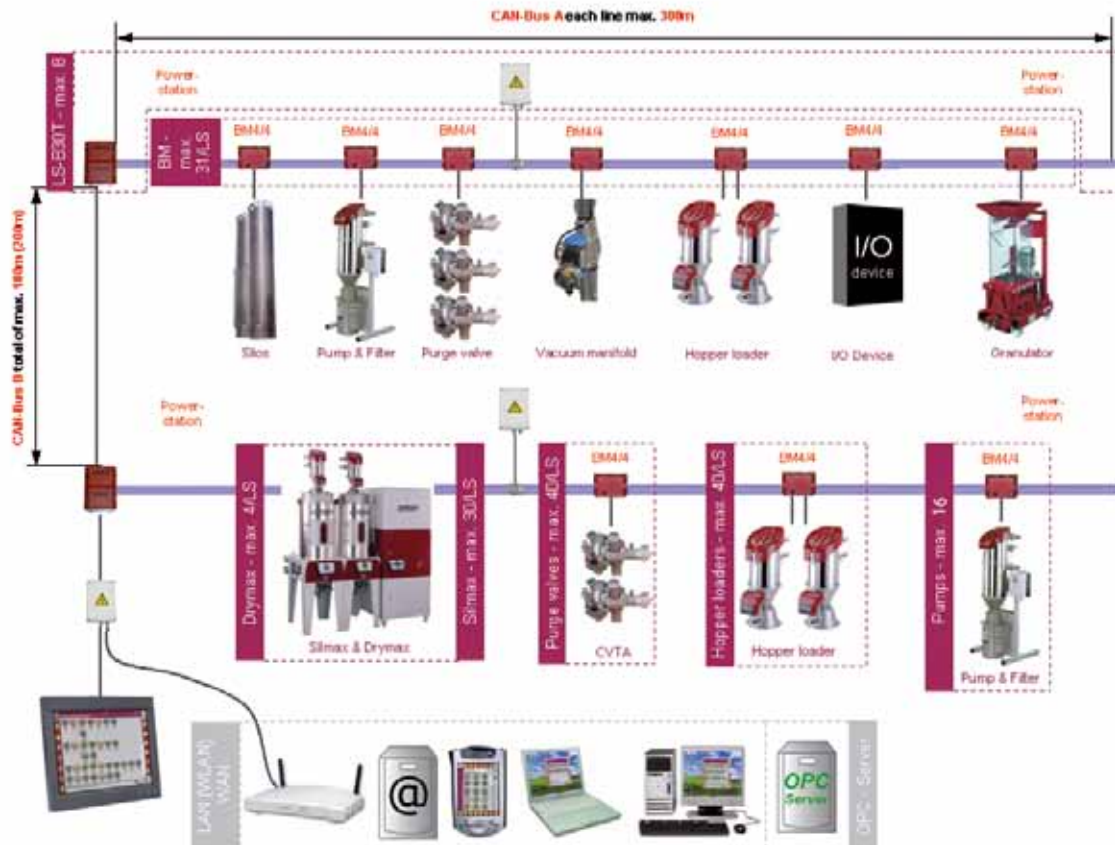
M7.3 IPC 15" XGA touch-screen

Line server LS-B30 T

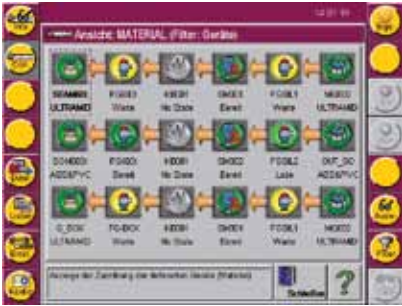


Bus module BM-4/4

## M7.3 IPC FUNCTIONAL SCHEME



# M7.3 IPC – Software Features



## Material Based Representation

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

- » **Clear representation**  
The partially complex single material flow is displayed with a few symbols.
- » **Simple changeover**  
Switch to vacuum line representation or other displays.



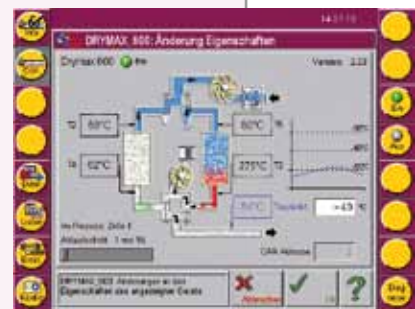
## Vacuum Loader Display

- » **Adjustment of the loading time**  
Adjustment 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.

## M7.3 IPC NETWORKED DRYING SYSTEMS

The M7.3 IPC control system permits the connection of DRYMAX battery dryers with network cards to the central M7.3 IPC control system. This allows the visualization of internal parameters and conditions on the generously dimensioned M7.3 IPC control screen as well as the entry of temperature values for the various connected drying hoppers.

- » **Connection**  
of up to 32 battery dryers with 240 drying hoppers.
- » **Optimized control**  
Manages 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 12 hour time period.
- » **Management of material data**  
Includes all drying hoppers attached to the networked dryer.
- » **Central error display**  
All error messages are transferred to the M7.3 IPC control and centrally displayed.



DRYMAX specifications



SILMAX specifications



Barcode screen



## M7.3 IPC CODED MATERIAL SOURCE LICENCE AND BATCH ADMINISTRATION

Choosing the wrong material for a drying hopper in the course of a material change procedure is not only leading to weak drying results, but can also have fatal consequences for the production of parts. To minimize this risk, and after having activated a licence, the M7.3 IPC network control can monitor this process. For the clearance of the conveying process, the operator has to define the material change at the control device, and afterwards to confirm the material source and the suction lance via barcode scan. If this is done correctly, the charging process starts. If not, an error message is displayed, and the charging process (with the wrong material) is not executed. This function can even be extended applying the WiMaTRACE batch monitoring function.

## CODEMAX – RFID COUPLING STATION

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

### » RFID coding

A transponder, working on the basis of "Radio Frequency Identification" (RFID), permits remote 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.



M7.3 IPC Coupling Station – Visualization



CODEMAX – RFID Coupling Station

## M7.3 IPC – CONNECTION TO ERP SYSTEMS

All relevant control 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 M7.3 IPC control system is optionally equipped with an OPC Interface Licence, which enables the communication between an external computer and the control system. A customer supplied OPC client accepts the required data from the M7.3 IPC control system and manipulates it internally. The data exchange happens via the Ethernet interface.





# APPLICATIONS



The modular design of the WITTMANN M7.3 IPC 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.



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. The high performance **net5 system** and M7.3 IPC 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. This includes the professional mounting of conveying tubes and connections.



"No two central material 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 achieved through the highly efficient WITTMANN controls.



"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. For service, a single phone call will cover the entire spectrum of WITTMANN products.

The Wittmann logo is a stylized, italicized wordmark in white, set against a dark red, rounded rectangular background.

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