DRYING EQUIPMENT

Dryers for Plastic Resin

world of innovation

ENERGY RATING
Energy Savings and Highest Efficiency

After several years of research, WITTMANN has developed a standardized rating method based on stringent test conditions that provide repeatable results for the actual energy use.

In order to compare between the different sizes of dryers, WITTMANN needed to find one common property relative to the dryer size. Air flow was selected as it is based on the dryer size and was specifically determined by the measurement of the actual mass flow of air. Then, simply put, WITTMANN defined the actual energy rating as the basic energy consumption per mass flow of air. To further test the validity of their results, WITTMANN compared actual test results with theoretical values. Once tested, every dryer model is labeled with an Energy Sticker showing the measured test result in terms of kWh per unit weight of dry air.

Some of the Energy Saving Functions

- **Counterflow Regeneration**
  Quick dehumidification.
- ***SmartReg***
  Time-optimized regeneration.
- **Dew Point Management**
  Regeneration adapted to the set dew point.
- **3-Save**
  Thermic energy return.
- ***EcoMode***
  Adaptation of the drying process.
- **Material Saver Function**
  Reduction of drying temperature.
- ***SmartFlow***
  Automatic air regulation.
- **FC plus – Automatic Activation/Deactivation of Dry Air Generator**
  Optimization of the overall performace of the drying system.

CARD G, E
Compressed Air Dryers

Compressed air dryers are small, simple and effective. The **CARD G** and **E** series are ideal for simple drying applications. Once the temperature has been set and the optional loader has been activated, nothing stands in the way of effective drying.

» **SLEEP Mode**
No over-drying/thermal degradation of the material due to the reduction of the drying parameters during machine downtimes.

» **Completely insulated drying hopper**
Internal material hopper made of mirror polished stainless steel for drying temperatures of up to 200 °C.

» **Air flow (starting with CARD 20E)**
Controlled via a simple radiator valve that reduces the amount of compressed air to the optimum.

» **Integrated control for loaders**
For the automatic filling of the drying hopper, **CARD** dryers offer the possibility of a material loader connection.

» **Low maintenance**
No dehumidification media are used, thus only the air outlet filter has to be cleaned.

CARD E

CARD 6G

OPTIONS

» **Weekly timer**
For an automatic start/stop of the drying process, leading to energy savings.

» **Quick-change adapter**
For an easy and quick repositioning of the **CARD** dryer on an other machine.

» **Claw flange**
Facilitates discharging the drying hopper using the machine's moving carrier plate.

» **VacuJet**
Loaders for material throughputs of up to 120 kg/h.

CARD WITH FIT CONTROL
Compressed Air Dryers

The series **CARD G/FIT**, **S**, **M** and **L** are increasing the performance spectrum of the dry air dryer range. The intelligent **FIT** control and the digital air control offer flexible possible applications directly at the machine feeder, and also beside the machine. **CARD M** and **L** compressed air dryers offer a secondary circuit for the preheating of the plastic resin.

» **Intelligent FIT microprocessor control**
With touch display for an exact temperature setting, and with diverse interface options.

» **SLEEP Mode**
No over-drying/thermal degradation of the material due to reduction of the drying parameters during machine downtimes.

» **COUNT DOWN Mode**
Shows the remaining drying time, activating an alarm signal after the set time period has expired.

» **Completely insulated drying hopper**
Internal material hopper made of mirror polished stainless steel for drying temperatures of up to 200 °C.

» **Digital air control**
Extremely precise air control due to digital engineering an proportional valve.

CARD 20S

CARD 3G/FIT

OPTIONS

» **Dew point sensor**
Dew point visualization on a display with alarm function.

» **Membrane dryer**
Allows a dew point of up to -50 °C.

» **Quick-change adapter**
For an easy and quick repositioning of the **CARD** dryer on an other machine.

» **Claw flange**
Facilitates discharging the drying hopper using the machine's moving carrier plate.

» **VacuJet**
Loaders for material throughputs of up to 120 kg/h.

DRYMAX E30, E60
Dry Air Dryers

The **DRYMAX** series dry air dryers are equipped with two desiccant beds to supply continuous dry process air and constant quality for the perfect drying of plastic resin.

» **Dew Point to -60°C (-76°F)**

» **Motorized Switchover Valve**
Operation without compressed air lines and optimized control of drying and regeneration cycles in both desiccant beds.

» **Energy Saving Counter Airflow Regeneration**
Reduced energy costs through fastest dehumidification of the desiccant beds during the regeneration phase.

» ***SmartReg* Energy Saving Function**
For the time optimized control of regeneration and cooling of the desiccant beds (on **DRYMAX E60**).

» ***SmartFlow* Intelligent Air Distribution**
Automatic air distribution to adjust to different materials and fluctuating material demands (available on units with 2 drying hoppers).

» **Material Saver Function**
Avoids over-drying and thermal degradation of the plastic resin through short term lowering of the drying temperature during the production stoppages of the processing machine.

» **Micro Particle Filter in Return Air**
Dust separation efficiency of up to 99.9% for high process safety.

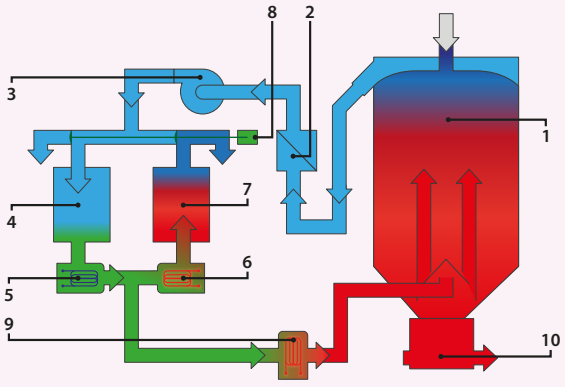
OPTIONS

» **Dew Point Sensor**
Integrated dew point display with alarm function. For energy savings the dew point reading can be used to delay the bed switch-over until a user defined dew point level is reached.

» **Return Air Cooler**
Highest efficiency directly integrated into the filter housing and retrofittable without tools.

» **Micro Particle Filter in Process Air**
Dust separation efficiency of up to 99.9% for high process safety of materials with optical quality (on **DRYMAX E60**).

» **High Temperature Construction**
Increased process temperature from a standard 130°C to 180°C for the efficient drying of materials requiring higher drying temperatures.



1 Plastic resin
2 Microfilter
3 Blower
4 Desiccant bed 1 (in process)
5 Regeneration heater 1
6 Regeneration heater 2
7 Desiccant bed 2 (in regeneration)
8 Switch over valve
9 Process air heater
10 Vacuum take-off adapter

PDC
Dry Air Dryers + Conveying

The **PDC** version of **DRYMAX** compact dryers enables the highest flexibility with the integration of a side channel blower and the connection of up to two material consumers.

» **Maintenance Free Vacuum Blower**
A maintenance free vacuum blower with 3-phase motor supplies material on request to either the processing machine or the drying hopper.

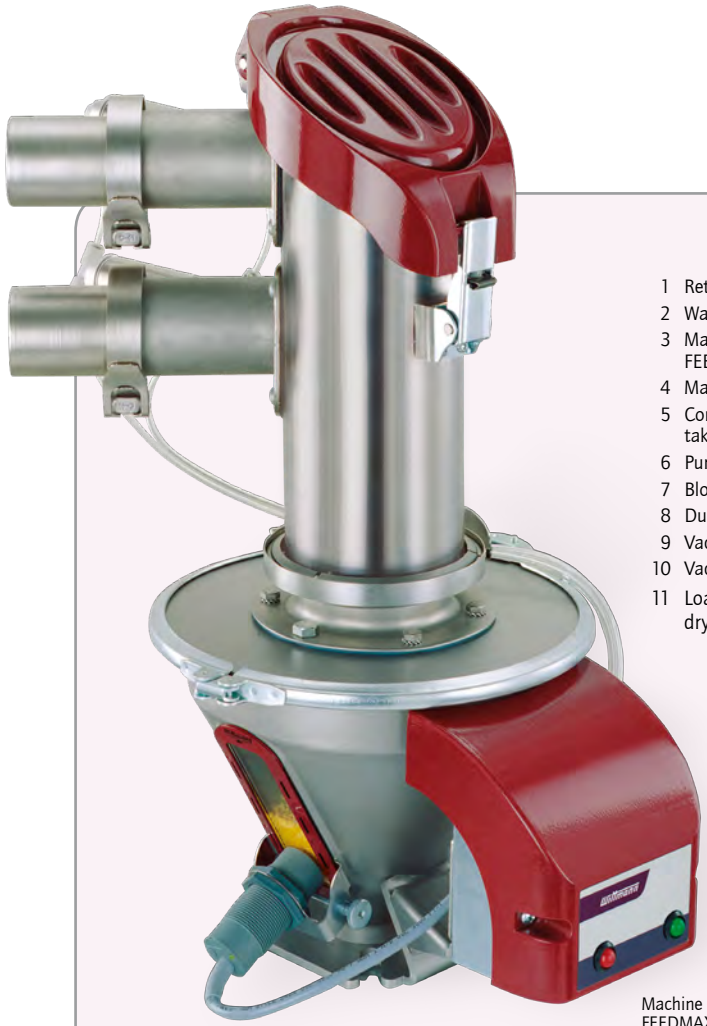
» **Just-in-time Conveying**
A sensor at the loader determines the minimum material storage and results in the immediate conveying in case of material shortage.

» **Integrated Dry Air Conveying**
The material loading to the molding machine is accomplished via closed-loop dry air to a receiver.

» **Central Dust Separation and Collection**
Easily accessible for simple cleaning.

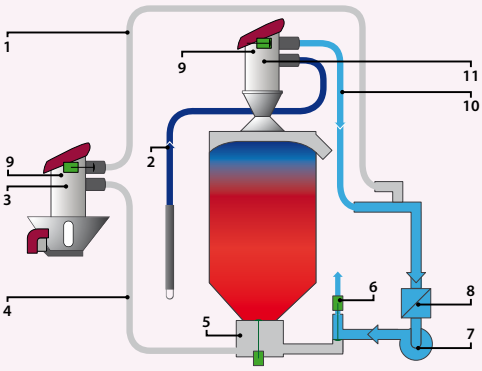
» **2-in-1 Control System**
One control for drying and conveying.

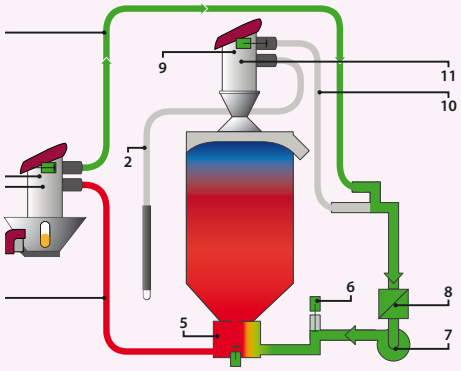
» **Simple Interface**
Through selection of loaders via buttons located on the door.



Machine feeder
FEEDMAX B105

1 Return air
2 Wand
3 Machine feeder FEEDMAX B106
4 Material line
5 Controlled vacuum take-off adapter
6 Purging valve
7 Blower
8 Dust filter
9 Vacuum valve
10 Vacuum line
11 Loader on drying hopper





ATON basic H30, H70, H120
Segmented Wheel Dryers

The rotating wheel of the **ATON basic** consists of many segments filled with desiccant beads. This provides maximum energy efficiency and allows for easy replacement of the desiccant beads as an alternative to purchase a complete segmented wheel.

» **Dew Point to -65°C (-85°F)**

» **Weekly Timer**

» **ambiLED**
The innovative control bezel conveniently displays the operating mode and dryer status through the use of color coded illumination.

» **Material Saver Function**
Prevents over-drying and thermal degradation of plastic resin during periods of reduced throughput by automatically lowering the drying temperature.

» **Dew Point Management**
The user settable dew point automatically adjusts the regeneration temperature to achieve maximum energy savings.

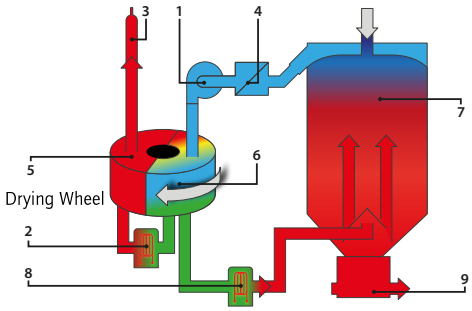
OPTIONS

» **Dew Point Sensor**
Integrated dew point display with alarm function and activation of dew point management.

» **Return Air Cooler**
Return air cooling coil integrated within the filter housing provides maximum efficiency and easy retrofit.

» **Micro Particle Process Filter**
Dust separation efficiency of up to 99.9% for optical quality material processing.

» **High Temperature Construction**
Increased process temperature capability (standard: 130°C) up to 180°C (356°F) for the efficient drying of materials that require a higher drying temperature.



1 Process air blower
2 Regeneration heater
3 Heat exchanger
4 Return air filter
5 Regeneration phase
6 Cooling phase
7 Plastic resin
8 Process air heater
9 Vacuum take-off adapter

ATON plus H30, H70, H120
Segmented Wheel Dryers

The **ATON plus** segmented wheel dryer provides the advantages of a consistent dew point and maximum energy efficiency. This dryer is equipped with the WITTMANN segmented drying wheel and has a multitude of energy saving functions.
Above that, it uses a touchscreen as the user interface and the **net5 system**. Via this, drying parameters can be set, and material loaders can be connected to the system and can be administrated (e.g. **FEEDMAX S 3-net**).

» **Dew Point to -65 °C (-85 °F)**

» **ambiLED**
The innovative control bezel conveniently displays the operating mode and dryer status through the use of color coded illumination.

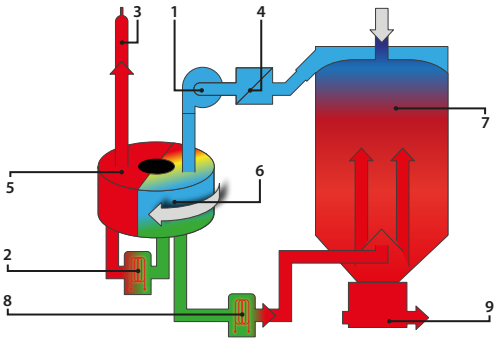
» **Material Database via USB-Stick**
Material data sets can be imported via a USB interface.

» **3-Save Process – Intelligent Use of Energy**
Three separate methods use the heating energy of the dryer to significantly reduce energy consumption. The combination of counter airflow regeneration, radiant heat recovery, and efficient heater design make up the **3-Save Process**.

» ***EcoMode* – Indexing Regeneration During Lower Water Load**
During high water loads, continuous wheel mode provides the best dry air conditions. The **ATON plus** adjusts automatically the regeneration temperature when the material throughput or water load in the plastic resin is reduced. The regeneration works by indexing portions of the wheel and is saving energy.

» **Dew Point Management**
The user settable dew point automatically adjusts the regeneration temperature to achieve maximum energy savings.

» **Material Saver Function**
Prevents over-drying and thermal degradation of plastic resin during periods of reduced throughput by automatically lowering the drying temperature.



1 Process air blower
2 Regeneration heater
3 Heat exchanger
4 Return air filter
5 Regeneration phase
6 Cooling phase
7 Plastic resing
8 Process air heater
9 Vacuum take-off adapter

OPTIONS

» **Dew Point Sensor**
Dew point display with alarm function and activation of dew point management.

» **Return Air Cooler**
Return air cooling coil integrated within the filter housing provides maximum efficiency and easy retrofit.

» **Micro Particle Process Filter**
Dust separation efficiency of up to 99.9% for optical quality material processing.

» **High Temperature Construction**
Increased process temperature capability (standard: 130 °C) up to 180 °C (356 °F) for the efficient drying of materials that require a higher drying temperature.

» **OPC UA Interface**
Enabling bidirectional data exchange/communication.

ATON plus VS
Segmented Wheel Dryer + Conveying

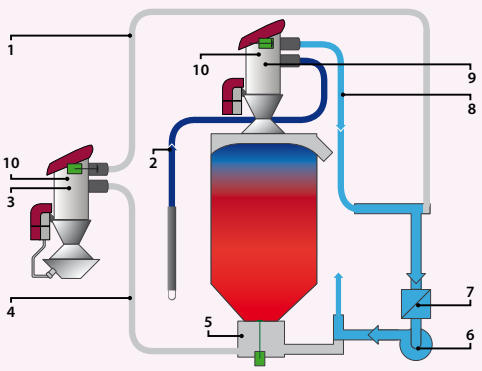
The **VS** version of **ATON plus** dryers allows for the integration of a vacuum blower in the frame under the drying unit. Many conveying units can be connected to this blower. Thus maximum flexibility is achieved.

- **Maintenance Free Vacuum Blower**
  A maintenance free vacuum blower with 3-phase motor supplies material on request to either the processing machine or the drying hopper.
- **Just-In-Time Conveying**
  A sensor at the loader determines the minimum material storage and results in immediate conveying in case of material shortage.
- **Integriated Dry Air Conveying**
  The material loading to the molding machine is accomplished via closedloop dry air to a receiver with a glass cylinder for visual inspection.
- **Central Dust Separation and Collection**
  Easily accessible for simple cleaning.
- **Simple Operation**
  Dryer and several conveying units can be controlled and operated individually using the dryer's touch control.

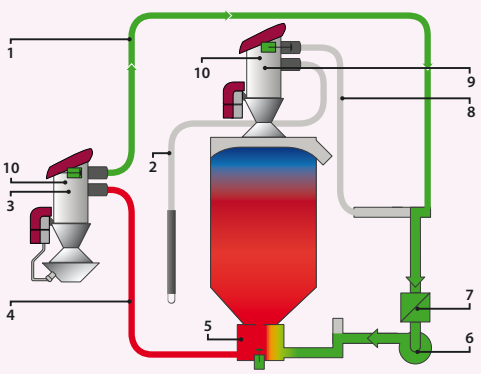
Screenshot: FEEDMAX window

Screenshot: SILMAX window

VS FUNCTIONAL SCHEME



1 Return air
2 Wand
3 FEEDMAX Machine feeder
4 Material line
5 Controlled vacuum take-off adapter
6 Blower
7 Dust filter
8 Vacuum line
9 Loader on drying hopper
10 Vacuum valve



DRYMAX E180 – E1200
Battery Dryers

The **DRYMAX** battery dryer series are equipped with two desiccant beds and therefore provide continuous process air and constant dry air quality for the perfect drying of plastic resin.

» **Dew Point up to -60°C (-76°F)**

» **Weekly Timer**

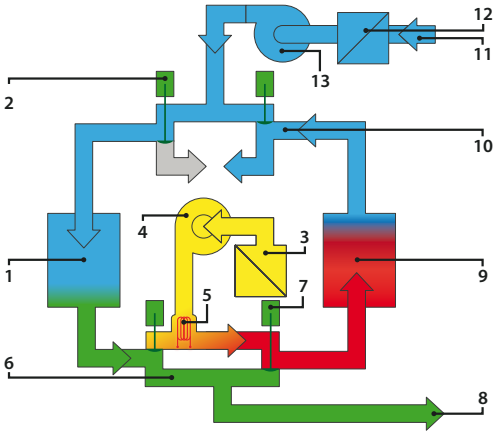
» **Switchover Valves, Stop Position Controlled**
The switchover valves provide optimized control of drying and regeneration cycles in both desiccant beds.

» **Energy Saving Counter Airflow Regeneration**
Reduces energy costs through fastest dehumidification of the desiccant beds during the regeneration phase.

» ***SmartReg* Energy Saving Function**
Time-optimized control of the regeneration and cooling of the desiccant beds.

» **Micro Particle Filter in Return Air**
Dust separation efficiency of up to 99.9% for high process safety.

» **Side Channel Blowers**
For separate process and regeneration blowers in order to guarantee constant air flow even during fluctuating pressure conditions.



1 Desiccant bed(in Process)
2 Switchover valve 1
3 Inlet filter
4 Regeneration blower
5 Regeneration heater
6 Switchover valve 3
7 Switchover valve 4
8 Process air
9 Desiccant bed 2 (in regeneration)
10 Switchover valve 2
11 Return air
12 Microfilter
13 Process blower

OPTIONS

» **Dew Point Sensor**
For dew point desiccant bed changes – visualization with alarm function.

» **Return Air Cooler**

» **Micro Particle Filter for Process Air**

» **Frequency-controlled Process Blower**

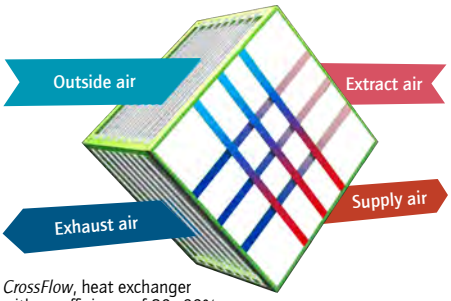
» **Redundant Dryer Control**

» **Automatic Activation/Deactivation of Dry Air Generator**
Optimization of the overall performace of the drying system.

ATON H1000
Battery Dryer

The **ATON H1000** battery wheel dryer is equipped with a clocked rotating segmented wheel, thus allowing for a constant creation of dry air. The highly developed drying wheel named ***ECO wheel*** is isolated and consists of several segments that are closely filled with a highly efficient desiccant, thus allowing operation at a constanctly low dew point.

- **Intelligent *CrossFlow* Function**
  Heat exchanger with closed circuit leading to a reduction of energy consumption.
- **Isolated *ECO wheel* Drying Wheel**
  Allows to operate the dry air dryer at a low dew point of up to -65 °C (-85 °F).
- **Chain Drive with Automatic Tensioning Device**
  For less maintenance and reliable operation.
- **5,7" Touch-screen User Interface**
  For an easy input of the dryer settings.
- **ambiLED Performance Indication**
  Not only the operation mode of the dryer is displayed, but also its actual performance.
- **User-friendly Access for Maintenance**
  Return air filter and regeneration filter are accessible from the outside.



CrossFlow, heat exchanger with an efficiency of 80–90%, schematic representation

OPTIONS

- **Dew Point Sensor**
  For a dew point controlled drying process – visualization with alarm function.
- **Return Air Cooler**
- **Micro Particle Filter for Process Air**
- **Frequency-controlled Process Blower**
- **Redundant Dryer Control**
- **Automatic Activation/Deactivation of Dry Air Generator**
  Optimization of the overall performace of the drying system.

SILMAX E100 – E1200
Drying Hoppers

The **SILMAX** drying hoppers with integrated microprocessor control are available in table versions from 100 up to 1,200 l.

» **Robust Stainless Steel Execution**
All components in contact with the material are made of stainless steel and are therefore perfectly suited for critical and abrasive applications.

» **Efficiency Enhancing Insulation**
The drying hoppers are equipped with 40 mm thick insulation across the entire height in order to reduce heat losses and increase drying efficiency.

» ***SmartFlow* Intelligent Air Distribution**
Automatic air distribution to adjust to different materials and fluctuating material demands.

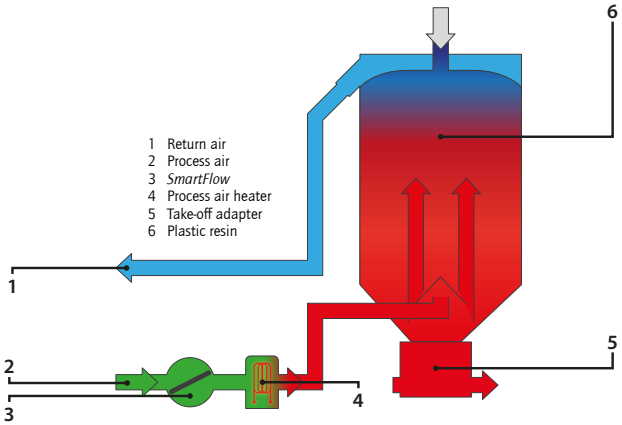
» **Integrated CAN Interface**
Allows extensive data exchange and status forwarding between the dryer and a central system for visualization.

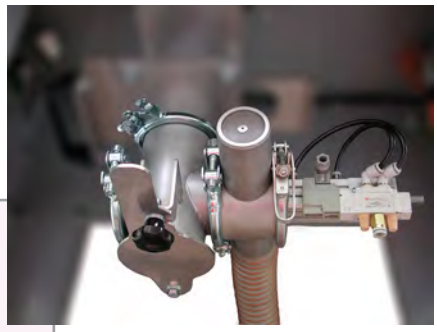
» **Convenient Clean Out Door**
Drying hoppers of sizes 100 l and up are equipped as standard with a clean-out door ideally suited for the respective hopper diameter. The perfect geometry of the hopper guarantees uniform drying of the material across the entire cross section.

» **Integrated Sight Glass**
For the convenient visual inspection of material flow and material level.

» **Material Slide Gate**
All drying hoppers are included as a standard with a manual slide gate.

» **Material Saver Function**
Avoids over-drying and thermal degradation of the plastic resin through short term lowering of the drying temperature during production stoppages of the processing machine.





OPTIONS
Vacuum Take-off Adapter

Available with one or two material outlets as well as with controlled discharged valve for the efficient purging after the loading cycle (in connection with WITTMANN **M7.3 IPC** control system).

SILMAX compact G30 – G150
Drying Hoppers

SILMAX compact drying hoppers are designed for battery drying systems as well as compact portable systems. Battery drying systems are available with either 2 or 3 independent drying hoppers.

» ***SmartFlow* Intelligent Air Distribution**
Automatic air distribution to adjust to different materials and fluctuating material demands.

» **Integrated CAN Interface**
Allows extensive data exchange and status forwarding between the dryer and a central system for visualization.

» **Integrated Sight Glass**
For the convenient visual inspection of material flow and material level.

» **Material Slide Gate**
All drying hoppers are included as a standard with a manual slide gate.

» **Option:**
Available with one or two material outlets as well as with controlled discharged valve for the efficient purging after the loading cycle (in connection with WITTMANN **M7.3 IPC** control system).

SERIES OF DRYING HOPPERS

» **Robust Stainless Steel Construction**
All components in contact with the material are made of stainless steel and are therefore perfectly suited for critical and abrasive applications.

» **Convenient Clean Out Door**
Drying hoppers of sizes 100 l and up are equipped as standard with a clean out door ideally suited for the respective hopper diameter. The perfect geometry of the hopper guarantees uniform drying of the material across the entire crosssection.

» **Efficiency Enhancing Insulation**
The drying hoppers are equipped with 40 mm thick insulation across the entire height in order to reduce heat losses and increase drying efficiency.

CARD Performance Data

CARD	1	3	6	10	20	40	70	110	160	225	250	375	450	600	850	1250	1650	2000	2500	3000	3500
Available series	G/ G FIT	G/ G FIT	G/ G FIT	E/S	E/S	E/S/ M	E/S/ M	E/S/ M	E/S/ M	M	L	M	L	L	L	L	L	XL	XL	XL	XL
Hopper volumne [l]	1	3	6	10	20	40	70	110	160	225	250	375	450	600	850	1,250	1,650	2,000	2,500	3,000	3,500
Compressed air[2] consumption [Nm³/h]	1	2	3	2–4	3–7	3–13/ 4	4–23/ 3–6	7–37/ 5–10	10–52/ 7–14	9–18	10–19	12–29	16–32	21–42	30–60	41–83	57–115	69–140	85–175	99–210	120–245
Pre-dried[3] compressed air [bar]	6 to10 (low pressure version [only CARD L]: 2 to 10)																	2 to 10			
Power supply [V/Hz]	1N~230/50 | 2~220/60									3~200/50 | 3~220/60 | 3~380/60 | 3~400/50 | 3~460/60 3~575/60												
Installed power [kW]	0.2			1.1 (2.1 at CARD 40M)		3.1 (M series: 4.1)				9				17		35		60		77	
Operating temperature range [°C]	40 to 200																				
Weight [kg]	4[1]	9	11	20	26	34/ 40	48/ 50	64/ 75	79/ 92	130	290	165	320	490	530	730	780	1,170	1,240	1,450	1,560
Width [mm]	143[1]	278	302	335	365	420/ 481	451	509	547	656	640	736	640	820	820	1,040	1,040	1,360	1,360	1,510	1,510
Depth [mm]	99[1]	133	158	193	231	285	335	369	413	451	640	531	640	820	820	1,040	1,040	1,360	1,360	1,510	1,510
Height [mm]	242[1]	345	433	477	629	825	989	1,204	1,362	1,613	1,820	1,908	2,310	2,455	2,835	3,285	3,550	3,860	4,120	4,360	4,615
Height frame [mm]	–	–	–	–	–	–	–	–	–	350	350	350	350	350	350	400	400	400	400	400	400
Height movable frame [mm]	–	–	–	640	640	640	640	640	640	513	615	513	615	710	710	–	–	–	–	–	–
Height blower [mm]	–	–	–	–	–	–	–	–	–	–	430	–	430	430	430	530	530	630	630	850	850

[1] CARD 1G and 1G FIT are delivered with separate switch cabinet.
Dimensions of switch cabinet: 140 mm (Width) x 135 mm (Depth) x 256 mm (Hight) / Weight: 3 kg / Length of cable between dryer and switch cabinet: 3 m
[2] Compressed air usage differs between series E, S and M units.
[3] Compressed air quality class 4 according to ISO 8573-1:2010, pressure dew point maximum 3 °C, Residual oil content maximum < 5 mg/m³

DRYMAX Performance Data

DRYMAX	E30 30 T	E30 50 T	E30 70 T	E30 100 T	E30 30 M	E30 50 M	E30 70 M	E30 100 M	E30 30 PDC	E30 50 PDC	E30 70 PDC	E30 100 PDC
Process air [m³/h] @ 50 Hz	30				30				30			
Process air [cfm] @ 50 Hz	18				18				18			
Process air [m³/h] @ 60 Hz	36				36				36			
Process air [cfm] @ 60 Hz	21				21				21			
Process heater [kW]	1.6				1.6				1.6			
Process heater	at hopper				in dryer				in dryer			
Regen. heater [kW]	0.8				0.8				0.8			
Power supply EU/US [amps]	12.5				12.5				14.4/8.4			
Power plug EU/US	CEE 7/7 (16 A)								CEE 16/without			
Drying hopper size [ltr.]	30	50	70	100	30	50	70	100	30	50	70	100
Drying hopper size [cu.ft]	1.05	1.77	2.47	3.53	1.05	1.77	2.47	3.53	1.05	1.77	2.47	3.53
Drying hopper	on IMM				at dryer				at dryer			
with casters	–				yes				yes			
IMM loaders	–								1			
IMM conveying volume	–								up to 0.5 l/cycle			
Hopper loaders	–								1			
Hopper conveying volume	–								6 l/cycle			

DRYMAX	E60 70 T	E60 100 T	E60 70 M	E60 100 M	E60 150 M	E60 200 M	E60 300 M	E60 70 PDC	E60 100 PDC	E60 150 PDC	E60 200 PDC	E60 300 PDC
Process air [m³/h] @ 50 Hz	60		60					60				
Process air [cfm] @ 50 Hz	35		35					35				
Process air [m³/h] @ 60 Hz	72		72					72				
Process air [cfm] @ 60 Hz	42		42					42				
Process heater [kW]	3		3					3				
Process heater	at hopper		at hopper					at hopper				
Regen. heater [kW]	1.2		1.2					1.2				
Power supply EU/US [amps]	12.2/10.5		12.2/10.5					14.5/12.9				
Power plug EU/US	CEE 16/without							CEE 16/without				
Drying hopper size [ltr.]	70	100	70	100	150	200	300	70	100	150	200	300
Drying hopper size [cu.ft]	2.47	3.53	2.47	3.53	5.30	7.06	10.59	2.47	3.53	5.30	7.06	10.59
Drying hopper	on IMM		at dryer					at dryer				
with casters	yes		yes					yes				
IMM loaders	–							1				
IMM conveying volume	–							up to 0.5 l/cycle				
Hopper loaders	–							1				
Hopper conveying volume	–							6 l/cycle			15 l/cycle	

ATON Performance Data

ATON	H30 30 T	H30 50 T	H30 70 T	H30 100 T	H30 30 M	H30 50 M	H30 70 M	H30 100 M	H30 30 VS	H30 50 VS	H30 70 VS	H30 100 VS
Process air [m³/h] @ 50 Hz	30				30				30			
Process air [cfm] @ 50 Hz	18				18				18			
Process air [m³/h] @ 60 Hz	36				36				36			
Process air [cfm] @ 60 Hz	21				21				21			
Process heater [kW]	1.6				1.6				1.6			
Process heater	at hopper				in dryer/at hopper (basic/plus)				at hopper			
Regen. heater [kW]	1.2				1.2				1.2			
Power supply EU/US [amps]	max. 16				max. 16				max. 16			
Power plug EU/US	CEE 16				CEE 7/7/CEE 16 (basic/plus)/without				CEE 16/without			
Drying hopper size [ltr.]	30	50	70	100	30	50	70	100	30	50	70	100
Drying hopper size [cu.ft]	1.05	1.77	2.47	3.53	1.05	1.77	2.47	3.53	1.05	1.77	2.47	3.53
Drying hopper	on IMM				at dryer				at dryer			
with casters	–				yes				yes			
IMM loaders	–								1 loader			
IMM conveying volume	–								0.5 l/cycle			
Hopper loaders	–								1 loader			
Hopper conveying volume	–								6 l/cycle			

ATON	H70 100 T	H70 100 M	H70 150 M	H70 200 M	H70 300 M	H70 100 VS	H70 150 VS	H70 200 VS	H70 300 VS
Process air [m³/h] @ 50 Hz	70	70				70			
Process air [cfm] @ 50 Hz	41	41				41			
Process air [m³/h] @ 60 Hz	84	84				84			
Process air [cfm] @ 60 Hz	49	49				49			
Process heater [kW]	3	3				3			
Process heater	at hopper	in dryer/at hopper				at hopper			
Regen. heater [kW]	2	2				2			
Power supply EU/US [amps]		max. 16/max. 32 (basic/plus)				max. 32			
Power plug EU/US		CEE 16/CEE 32/without				CEE 32/without			
Drying hopper size [ltr.]	100	100	150	200	300	100	150	200	300
Drying hopper size [cu.ft]	3.53	3.53	5.30	7.06	10.59	3.53	5.30	7.06	10.59
Drying hopper	on IMM	at dryer				at dryer			
with casters	–	yes				yes			
IMM loaders	–					1 loader			
IMM conveying volume	–					3 l/cycle			
Hopper loaders	–					1 loader			
Hopper conveying volume	–					6 l/cycle		15 l/cycle	

ATON	H120 100 T	H120 200 M	H120 300 M	H120 400 M	H120 200 VS	H120 300 VS	H120 400 VS
Process air [m³/h] @ 50 Hz	120	120			120		
Process air [cfm] @ 50 Hz	71	71			71		
Process air [m³/h] @ 60 Hz	144	144			144		
Process air [cfm] @ 60 Hz	85	85			85		
Process heater [kW]	3	6			6		
Process heater	at hopper	at hopper			at hopper		
Regen. heater [kW]	2	2			2		
Power supply EU/US [amps]		max. 16/max. 32 (basic/plus)			max. 32		
Power plug EU/US		CEE 16/CEE 32 (basic/plus)/without					
Drying hopper size [ltr.]	100	200	300	400	200	300	400
Drying hopper size [cu.ft]	3.53	7.06	10.59	14.13	7.06	10.59	14.13
Drying hopper	on IMM	at dryer			at dryer		
with casters	–	yes			yes		
IMM loaders	–				1 loader		
IMM conveying volume	–				3 l/cycle		
Hopper loaders	–				1 loader		
Hopper conveying volume	–				15 l/cycle		

CARD Application Table

CARD			1	3	6	10	20	40	70	110	160	225	250	375	450	600	850	1250	1650	2000	2500	3000	3500
Material	**[°C]**	**[h]**	**Material throughput [kg/h]**																				
ABS	80	2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
ASA	80	2–3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760
CA	80	2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
CAB	75	2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
CP	75	4	0.16	0.50	1.00	1.60	3.3	6.5	11.0	18	26	36	40	60	75	100	140	205	270	325	405	490	570
EVA	80	2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
EVOH	120	5	0.13	0.40	0.80	1.30	2.6	5.2	9.0	14	21	29	32	48	60	80	110	165	215	260	325	390	455
LCP	150	4	0.16	0.50	1.00	1.60	3.3	6.5	11.0	18	26	36	40	60	75	100	140	205	270	325	405	490	570
PA6/6.6	80	4	0.16	0.50	1.00	1.60	3.3	6.5	11.0	18	26	36	40	60	75	100	140	205	270	325	405	490	570
PA6.10/11/12	80	4	0.16	0.50	1.00	1.60	3.3	6.5	11.0	18	26	36	40	60	75	100	140	205	270	325	405	490	570
PBTP	140	2–3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760
PC	120	2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
PE gefüllt	85	1–2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
PEEK	150	3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760
PES	150	2–3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760
PET	180	4	0.20	0.60	1.20	2.00	4.0	8.0	14.0	22	32	45	50	75	90	120	170	250	330	400	500	600	700
PET G	75	6	0.11	0.35	0.65	1.10	2.2	4.3	7.8	12	17	24	27	40	50	65	95	135	180	215	270	325	380
PI	120	2–3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760
PMMA	80	2–3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760
POM	100	2–3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760
PP gefüllt	90	3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760
PPS	150	2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
PS	80	1–2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
PSU	120	1–2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
PUR/TPU	90	2–3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760
SAN	80	2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
SB	80	1–2	0.30	1.00	2.00	3.25	6.5	13.0	23.0	36	52	73	80	121	145	195	275	405	535	650	815	975	1,140
TPE	100	2–3	0.20	0.65	1.30	2.15	4.3	8.6	15.0	24	35	49	55	81	100	130	185	270	355	435	540	650	760

DRYMAX/ATON Application Table

Material	Drying time [h]	Temp. [°C]	Dryer				Drying hopper							
			30				30 l	50 l	70 l	100 l				
				60					70 l	100 l	150 l	200 l	300 l	
					70					100 l	150 l	200 l	300 l	
						120						200 l	300 l	400 l
ABS	2,5	80	19	37	43	74	8	13	18	25	38	50	76	101
ASA	3	80	19	37	43	49	9	14	20	29	33	44	66	88
CA	2,8	65	12	24	28	48	9	16	22	31	47	62	94	125
CP	2,5	70	13	26	30	52	9	15	21	30	44	59	89	118
EVA	2	80	10	21	24	42	9	14	20	29	43	57	86	114
IONOMERE	3,5	90	12	23	27	46	5	8	11	16	24	32	48	64
PA 11	3	75	18	37	43	74	6	10	14	21	31	41	62	83
PA 12	3	75	14	29	34	58	6	10	14	21	31	41	62	83
PA6	3	80	14	28	33	57	7	11	16	23	34	45	68	91
PA6.6	3	80	14	28	33	57	7	11	16	23	34	45	68	91
PA6.6GF35	3	80	17	34	40	69	9	14	20	28	43	57	85	113
PBT	3,5	120	17	35	41	70	7	12	16	23	35	45	69	93
PC	3	120	22	45	52	90	7	12	17	24	36	48	72	96
PEEK	4	160	12	24	28	47	6	10	14	20	30	40	59	79
PE filled	3	90	13	27	31	54	6	10	13	19	29	38	57	76
PEI	3,5	150	21	43	50	86	7	11	15	22	33	43	65	87
PE	1,5	90	13	27	31	54	11	19	26	37	56	75	112	149
PES	3,5	150	20	39	46	79	7	12	16	23	35	47	70	94
PET	4	125	17	35	41	70	6	11	15	21	37	42	63	84
PET-A	6	170	14	28	33	56	4	7	10	14	21	28	42	56
PETG	4	65	17	34	40	69	6	10	13	19	29	38	57	76
PMMA	3,5	80	16	33	38	66	6	10	14	20	30	41	61	81
POM	2,5	100	18	36	42	72	10	17	24	34	51	68	102	136
PP	1,5	90	15	30	35	60	11	18	25	36	54	72	108	144
PPO	2,5	100	19	37	43	75	8	13	18	28	38	51	77	102
PPS	3,5	150	18	37	43	74	7	11	16	23	34	46	69	91
PS	1,5	80	19	37	43	74	13	21	29	42	63	84	126	168
PSU	2,5	140	12	24	27	47	9	15	21	30	44	59	89	118
PUR	2,5	90	15	30	35	60	9	15	20	29	44	58	88	117
PVC	1,5	70	26	52	61	104	16	27	38	54	81	108	162	216
SAN	2,5	80	20	40	47	81	8	13	18	26	39	52	78	104
SB	1,5	70	17	34	40	68	13	21	29	42	63	84	126	168
TPE-E	3	100	15	29	34	59	7	12	17	24	36	47	71	95
TPE-U	2	90	16	32	37	64	11	18	26	37	55	73	110	146

DRYMAX E /ATON H/SILMAX E Application Table

Material	Drying time	Temp.	Bulk density	DRYMAX E [kg/h]						ATON H1000	SILMAX E [kg/h]										
	[h]	[°C]	[kg/dm³]	180	300	450	600	900	1200	[kg/h]	30 l	50 l	100 l	150 l	200 l	300 l	400 l	600 l	800 l	1,000 l	1,200 l
ABS	2.5	80	0.63	111	185	278	370	556	741	617	8	13	25	38	50	76	101	151	202	252	304
ASA	3	80	0.66	111	185	278	370	556	741	617	7	11	22	33	44	66	88	132	176	220	264
CA	2.8	65	0.78	73	122	183	244	366	488	407	9	16	31	47	62	94	125	187	250	312	376
CP	2.5	70	0.74	78	130	195	260	390	519	433	9	15	30	44	59	89	118	178	237	296	356
EVA	2	80	0.57	63	105	157	210	315	420	350	9	14	29	43	57	86	114	171	228	285	344
IONO-MERE	3.5	90	0.56	69	116	174	232	347	463	386	5	8	16	24	32	48	64	96	128	160	192
PA 11	3	75	0.62	110	184	276	368	552	736	613	6	10	21	31	41	62	83	124	165	207	248
PA 12	3	75	0.62	87	145	217	290	435	580	483	6	10	21	31	41	62	83	124	165	207	248
PA6	3	80	0.68	85	142	213	284	427	569	474	7	11	23	34	45	68	91	136	181	227	272
PA6.6	3	80	0.68	85	142	213	284	427	569	474	7	11	23	34	45	68	91	136	181	227	272
PA6.6GF35	3	80	0.85	103	172	259	345	517	690	575	9	14	28	43	57	85	113	170	227	283	340
PBT	3.5	120	0.81	105	174	262	349	523	698	581	7	12	23	35	46	69	93	139	185	231	276
PC	3	120	0.72	134	224	336	448	672	896	746	7	12	24	36	48	72	96	144	192	240	288
PEEK	4	160	0.79	71	118	177	236	354	472	394	6	10	20	30	40	59	79	110	158	198	236
PE filled	3	90	0.57	81	135	202	269	404	538	448	6	9	19	29	38	57	76	114	152	190	228
PEI	3.5	150	0.76	129	214	321	429	643	857	714	7	11	22	33	43	65	87	130	174	217	260
PE	1.5	90	0.56	81	135	202	269	404	538	448	11	18	37	56	75	112	149	224	299	373	448
PES	3.5	150	0.82	118	197	296	395	592	789	658	7	12	23	35	47	70	94	141	187	234	280
PET	4	125	0.84	105	174	262	349	523	698	581	6	11	21	32	42	63	84	126	168	210	252
PET-A	6	170	0.84	85	141	211	282	423	563	469	4	7	14	21	28	42	56	64	112	140	168
PETG	4	65	0.76	103	172	259	345	517	690	575	6	10	19	29	38	57	76	114	152	190	228
PMMA	3.5	80	0.71	98	164	246	328	492	656	546	6	10	20	30	41	61	81	122	162	203	244
POM	2.5	100	0.85	108	181	271	361	542	722	602	10	17	34	51	68	102	136	204	272	340	408
PP	1.5	90	0.54	90	150	225	300	450	600	500	11	18	36	54	72	108	144	216	288	360	432
PPO	2.5	100	0.64	112	186	280	373	559	745	621	8	13	26	38	51	77	102	154	205	256	308
PPS	3.5	150	0.80	110	184	276	368	552	736	613	7	11	23	34	46	69	91	137	183	229	276
PS	1.5	80	0.63	111	185	278	370	556	741	617	13	21	42	63	84	126	168	252	336	420	504
PSU	2.5	140	0.74	71	118	176	235	353	470	392	9	15	30	44	59	89	118	178	237	296	356
PUR	2.5	90	0.73	90	150	225	300	450	600	500	9	15	29	44	58	88	117	175	234	292	352
PVC	1.5	70	0.81	157	261	391	522	783	1,043	870	16	27	54	81	108	162	216	324	432	540	648
SAN	2.5	80	0.65	121	201	302	403	604	805	671	8	13	26	39	52	78	104	156	208	260	312
SB	1.5	70	0.63	102	170	256	341	511	682	568	13	20	42	63	84	126	168	252	336	420	504
TPE-E	3	100	0.71	88	147	221	294	441	588	490	7	12	24	36	47	71	95	142	189	237	284
TPE-U	2	90	0.73	96	160	239	319	479	638	532	11	18	37	55	73	110	146	219	292	365	440

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