

DRYING ENERGY SAVING SYSTEM

Main Tech

- The highly developed DESS drying system from Maintech will significantly reduce your energy consumption and improve your product quality and consistency, giving you the competitive edge in your market.
- The DESS system allows you to spend less time involved with your material handling equipment and more time making profit.
- Your customers will be confident you have chosen Maintech DESS as this will reduce your process variables ensuring consistent quality order after order.

**IMPROVED PRODUCT
QUALITY AND CONSISTENCY
BOOSTS CUSTOMER CONFIDENCE**



ESPECIALLY SUITED TO HIGH THROUGH PUT AND HIGH TEMPERATURE APPLICATIONS

The Maintech DESS system is designed and proven in high temperature and through put environments such as injection moulding and extrusion markets where energy savings are greatest.

INTUITIVE, FULL COLOUR, TOUCH SCREEN OPERATOR INTERFACE HMI

The Maintech DESS system gives you class leading viability and control of your drying process, QUICK VIEW of all of the vital perimeters such as, process air flow, process and regeneration temperature, dew point, material through put per hour and real time information on power consumption.

MAXIMIZE SYSTEM UP TIME

Via the HMI full colour display you can view trending of all the vital statistic and monitor when the next routine maintenance is required and what spare parts are required.

PRECISE CONTROL OVER YOUR DRYING PROCESS

The only path to consistently producing high quality product while lowering your energy consumption is by fine-tuning your drying process.

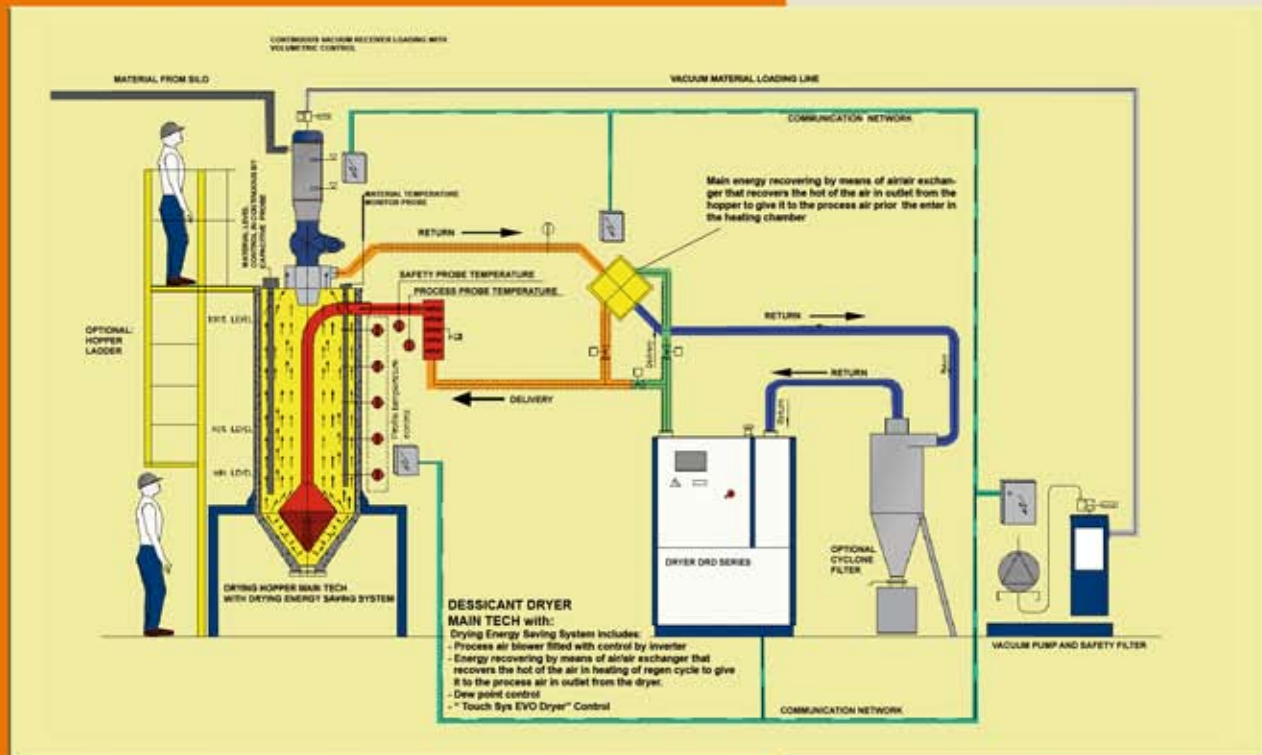
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The drying energy saving system includes:

- Fully insulated drying hopper provided with capacitive rod level probe with continuous monitoring over 40-100% of the drying hoppers capacity, this level monitoring system also controls the hopper filling capacity in line with the material through put and the type of material being processed.
- Electrical or natural gas process air heating chambers are available from 1 - 150 kw, the heating capacity is also proportionally controlled to ensure you benefit from the lowest energy watts/Kg of material per hour.
- Heat recovery systems can be provided to save power in the process and regeneration air circuits, this stops wasting energy to the ambient surroundings.
- Cyclonic dust separators are provided to ensure collection of the smallest dust to extend the life of the filters in the drying system, all filters are monitored by pressure differential switches to warn you when maintenance is required.
- The dryers are fitted with inverter controller process air blowers which are linked with the hopper capacity probes to ensure that you have the correct air flow for the material being dried.
- Heat recovery monitor and divert valves, this system is used to control when there is adequate temperature and heat energy (which would normally be exhausted away) to efficiently heat exchange into the process or regeneration air circuits.
- Dew point control system ensures that you have the correct dew point for the material type you are processing, DP control provides you with a process guarantee as well as reducing your energy consumption in the regeneration circuit, the number of regeneration cycles and the time period between them, is all managed from the DP system.
- The Touch System Evo dryer control provides the operator with class leading colour screen and graphic display of all of the drying system functions.

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- TOUCH-SYS EVO Dryer® Control



- DEW POINT Control



CLOSED LOOP
REGENERATION



- PROCESS AIR BLOWER FITTED WITH CONTROL BY INVERTER



ENERGY
RECOVERING



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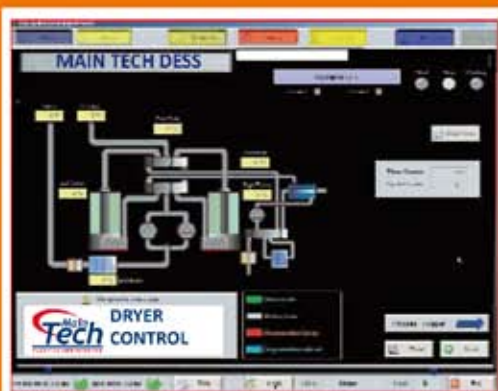
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• TOUCH-SYS EVO Dryer® Control



DESS Dryer control with Touch-Screen HMI provided with :

- PLC SERVER .
- ETHERNET Module .
- Standard 120mm Touch Screen, larger screens are available on request.
- Dedicated software to dryer and hopper control as well as hopper loading equipment.
- Bespoke display screens representative of your factory layout.
- Optional remote display of full dryer software/parameters management software



Special functions inbuilt into the Touch system EVO controlled dryer:

- **Control of hopper filling systems and management of capacity via required material through put;**
The operator can input a material through put per hour and this system works with the continuous level monitoring and control function to ensure that the correct level is maintained in the drying hopper according to the drying residence time.

- **Automatic management of the dryer working perimeters;**

The EVO dryer control is preloaded with a list of general material types and their drying perimeters including the drying residence time, air flow, bulk density and drying dew point, using the Quick set guide the dryer will set up the most energy efficient conditions and you are ready to run. This system works in conjunction with the hopper filling system management to ensure the correct hopper level.

- **Management of the material temperature profile in the drying hopper.**

Using the multi position temperature monitoring probe the dryer capacity is accurately controlled and managed, at the same time this system logs and stores the temperature profile within the drying hopper so that this information can be checked at any time to establish if filters are becoming blocked or desiccant is coming to the end of its working life, also this information can be cross referenced between different production runs to ensure consistent efficiency.

- **Management of material anti-stress .** The EVO dryer control can be set with an End of drying perimeter, this means that once the level in the drying hopper is reached and the consumption of material is reduced or stopped the material will carry on drying until a stored temperature and dew point profile is maintained for a set period then the dryer goes into stand by mode, the drying air flow is reduced, the hopper level is monitored, and the drying temperature is reduced to reduce the thermal stress on the material as well as reducing energy consumption

The capacity of the system is automatically increased when new material enters the drying hopper or is taken away to the process machine.

- **Dryer alarm records** All alarms from the dryer hopper and loading systems can be stored on a real time basis, these alarms will be store for long periods and they can be deleted as you wish, the alarms are of 2 levels, blocking which will shut down the systems and non blocking which will show as an alarm but does not stop the machine.

- **Graphic management of the dew point** of the process air stream, this can be displayed via the colour graphic display and will show the dew point track over time, the dew point curves can be overlaid to determine desiccant material performance.

- **Graphic management and display** of system power consumption. With this function you can monitor in real time the energy consumption in KWh and also display the consumption in Watts/Kg of material per hour, this function requires the energy consumption control kit.

- **Remote alarm system** The EVO dryer control system can be fitted with a system that will send text messages to personnel to advise of a problem this is done using the Apple or Android operating systems, this function can also display all the functions of the EVO dryer.

(there is a cost per phone licence for this facility and you need a suitable contract).

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