

Series LEC Lanco Energy Control

patented single chamber desiccant dryer
with continuous process air stream
German Patent #10 2006 049 437



combination of:

- ✓ **LPC (Lanco Plast-Conditioner)**, a drying hopper with its own process air stream and
- ✓ **LEC - a single chamber dryer** equipped with a blower for regeneration air and for filling up the drying hopper with resin

special features:

- ✓ no interruption of drying air stream during regeneration of the desiccant
- ✓ permanently constant dry air temperature regulation ($\pm 1^\circ\text{C}$)
- ✓ very energy efficient and economical, no return air cooling needed
- ✓ universal applications up to 160°C drying temperature as standard

options:

- automatic re filling of the drying hopper by single loader or central systems
- min level sensor with horn or light signal
- slide gate at the funnel outlet
- adapter flange to fit on processing machine
- mobile support frame for the dry air generator LEC
- separate stand for dryer and hopper for installation besides processing machines
- suction pipe for connection with machine loaders
- separate control with cable connection and junction box

Hopper Volume Litres	resin filling approximately	Process air amount	heating capacity	Supply Voltage single phase	Regeneration heater
[l]	[kg]*	[m³/h]	[kW]	[V]	[kW]
15	9	20	1	230 V	3,0 kW
30	18	40	1,5	230 V	3,0 kW
50	30	60	2,4	230 V	3,0 kW
80	48	100	4,5	400 V - 3phase	3,0 kW
*at bulk density 0,6 kg/l					

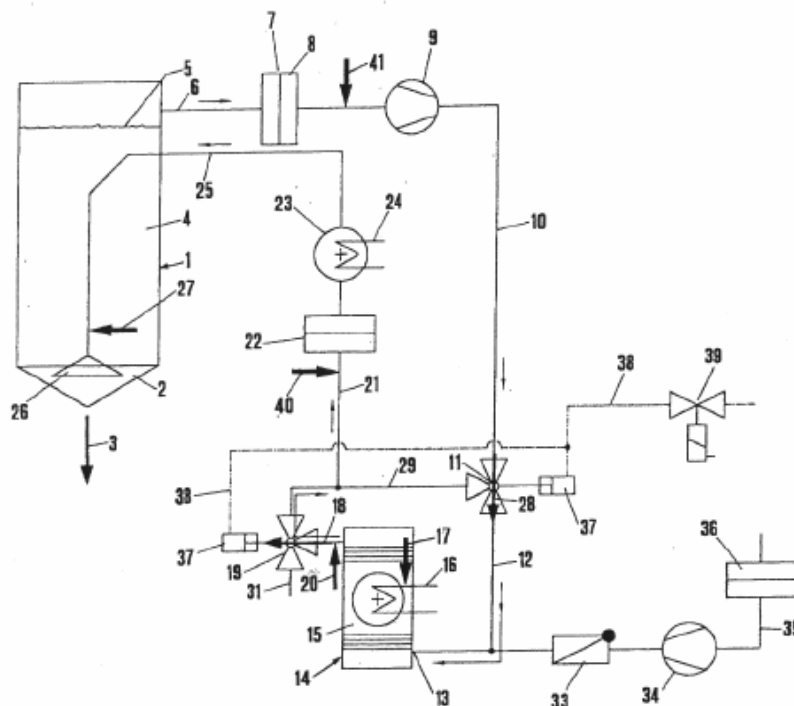
Functions:

1. dry air process

The process air flows from the blower (9) to a 3-way valve (11) and then through the desiccant chamber (14). Here the moisture in the process air is absorbed. Dried air then flows to another 3-way valve (19), passes the optional Hepa filter (22) or goes directly to the heater (23) to the drying hopper (1). The drying air flows through the resin filling in the drying hopper and carries out the released moisture from the plastic granules (5). The drying air then goes as return air (6) to the return air filter (7) where dust particles are separated. Then the air goes back in a closed loop to the suction side of the process air blower (3).

2.) regeneration process

By activating the solenoid valve (39) both 3 way valves (11+19) are switched over in such a way that the process air stream through the drying hopper bypasses now the desiccant chamber. A constant air stream through the drying hopper and the exact dry air temperature regulation is now given while the desiccant chamber is regenerated. For driving out the moisture from the desiccant ambient air is sucked by a filter (36) to the regeneration blower (36) and then on the pressure side passes a check valve (33) and flows to the desiccant chamber (14) where the heater (16) is driving out by hot air over 200 °C the collected moisture from the desiccant agent (17). The moisture loaded exhaust air then is guided by the 3way valve (19) back to the environment (31). After reaching the preset regeneration air temperature the heater (16) is switched off and the desiccant bed is now cooled down again to avoid a sharp peak of the dry air when switching the desiccant back in the process air stream. After cooling down the 3way valves (11 +19) switch the desiccant chamber back in the air stream going through the drying hopper.



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