

# HLA HEATLESS DESICCANT AIR DRYER

## HLA90 – HLA600

Compression Technologies and Services  
Davidson, NC 28036

Date: 01-Sep-2017  
Cancels: All Previous

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### ENERGY MANAGEMENT SYSTEM (EMS)

The normal cycle, or “fixed” cycle of a -40°C/F dew point HLA heatless desiccant dryer is 10 minutes, with each desiccant chamber in service for 5 minutes followed by a 5 minute regeneration cycle. The dryer will be sized to deliver a -40° C/F PDP for the entire 10-minute cycle. The dryer will be sized based upon an inlet flow at a maximum temperature and minimum pressure. If inlet flow is less, inlet temperature is less or inlet pressure is higher than the dryer’s design point, the moisture loading to the dryer is less than the capacity of the dryer. As a result, the desiccant bed will be underused and regenerated before required, thereby wasting energy.

If the dryer will be operated at less than 100% duty at any time, then the Energy Management System (EMS) option is recommended to reduce operating cost.

The Energy Management System (EMS) uses a precision dew point sensor to measure the outlet pressure dew point of the dryer and adjust the

operation of the dryer to produce a constant outlet dew point.

Prior to the start of each regeneration cycle, the EMS system will determine the dew point by measuring the pressure dew point of the outlet air. Should this reading be drier than the EMS set-point, the dryer will continue to switch between towers normally, however both purge valves will remain closed. During this time, the dryer will not consume any purge air, thereby saving energy. However, if the EMS set-point is satisfied for more than a time period of eight hours, the PLC will revert to a fixed cycle for a period of 60 minutes in order to prevent the desiccant beds from becoming overloaded during rapid changes in compressed air demand.

Once the dew point sensor communicates to the dryer controller that the outlet pressure dew point has reached its set-point, the appropriate purge valve will open and the standard dryer operation will resume.

Features of the Energy Management System:

- Eliminates waste of compressed air and a periodic protective regeneration cycle during periods of extended operation in the EMS mode.
- A precision ceramic sensor measures outlet pressure dew point.
- Field adjustable set points of the desired dew point and high humidity alarm.
- HLA90 – 600:
  - RS-485 communications interface provided with the dryer controller. Adjustable Baud Rate
- Dryer operation for fixed cycle / EMS mode selected via controller. Dryer can be operated in fixed cycle while dew point transmitter is serviced.
- High Humidity Alarm