



INNOVATION: Desiccant Drying Technology

Raising the Bar for Heated Purge Dryers

BEKO Technologies, Corp.

From
Most innovation involves doing the things we do every day a little bit better rather than creating something completely new and different.

to
But occasionally, a new technology, an old problem, and a big (often simple) idea turn into something truly inspiring.

From...



...To



Introducing DRYPOINT® XH



NEW Next-Generation Heated Purge Drying

New User Interface



Improved Reliability

Intelligent Performance

Maintenance Friendly

Simplified Design

From What You Know

Current Generation Product Portfolio



To Modern Intelligent Drying

NEW Generation Product Portfolio

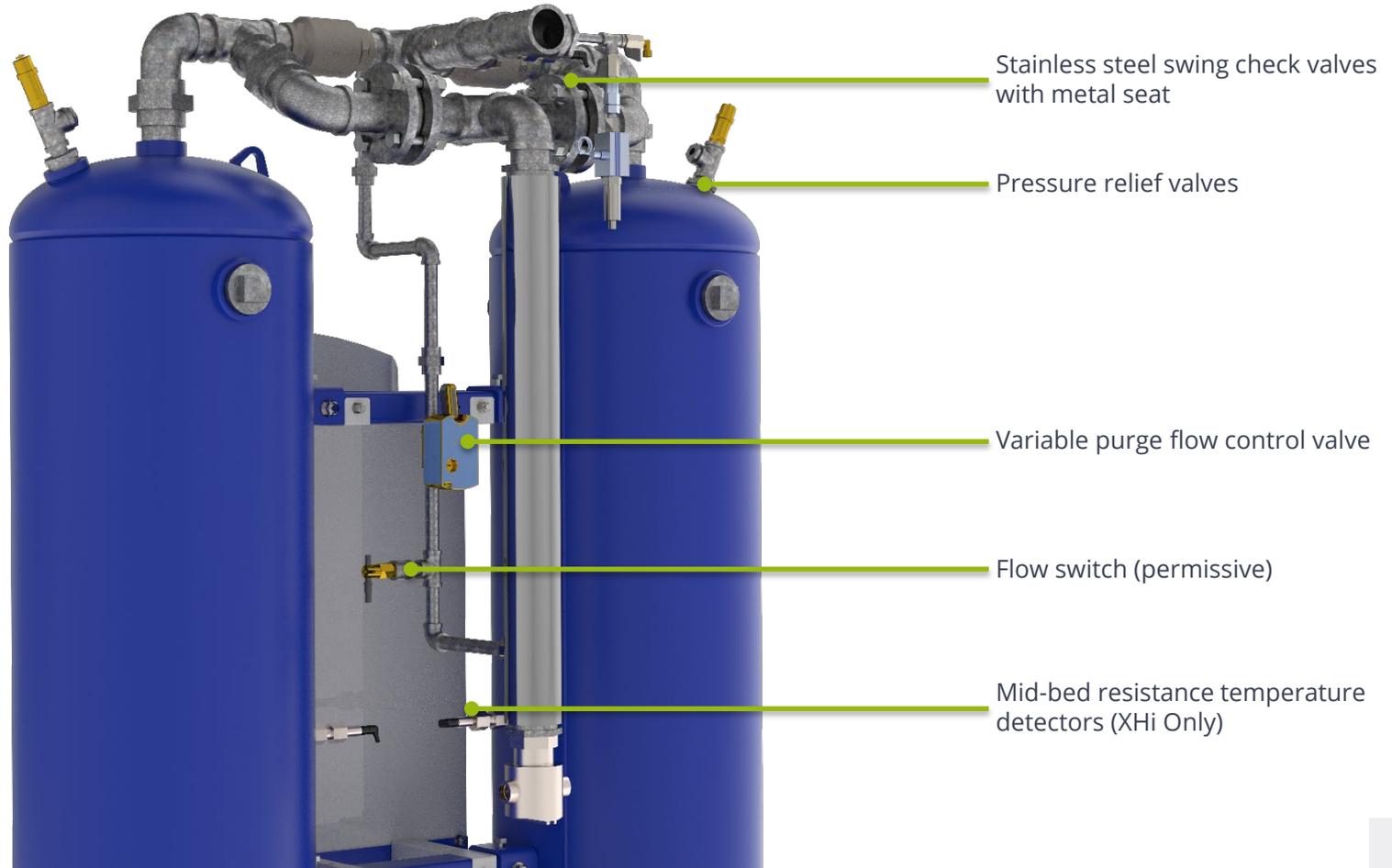


DRYPOINT XH Series

Design DRYPOINT® XH



Design DRYPOINT® XH



Stainless steel swing check valves with metal seat

Pressure relief valves

Variable purge flow control valve

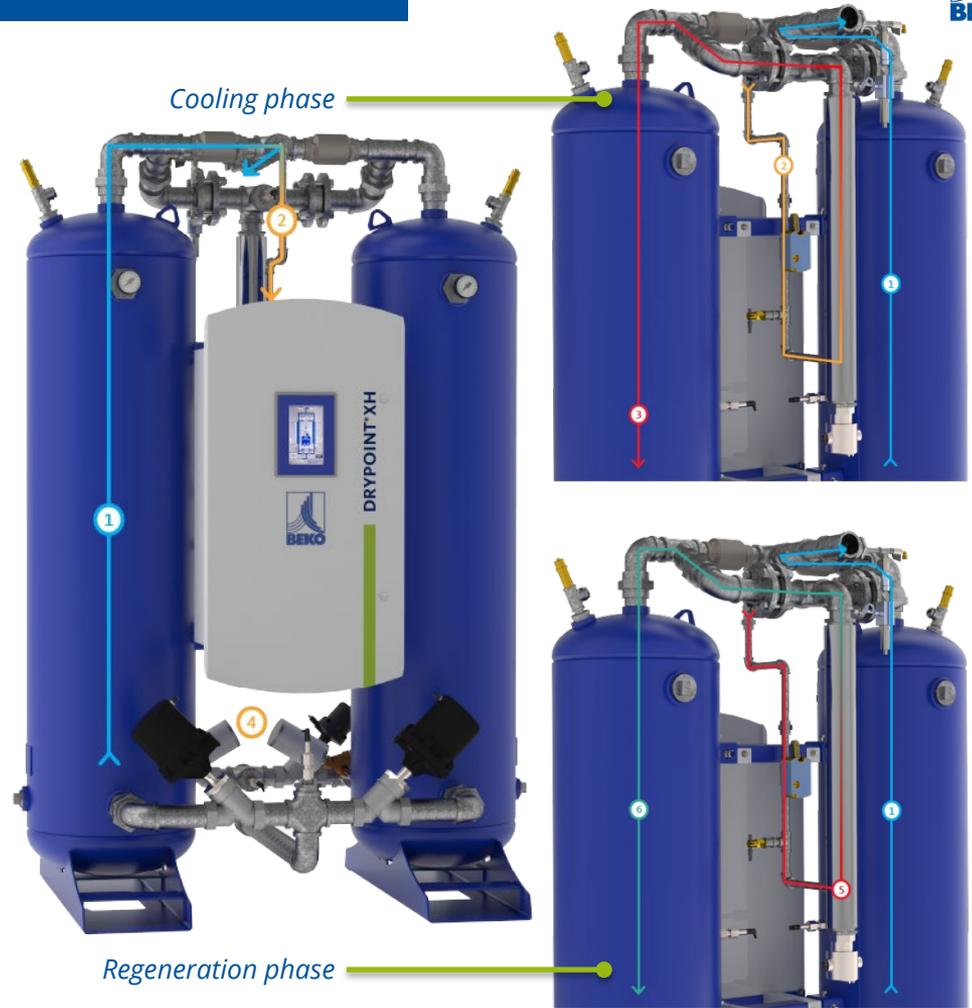
Flow switch (permissive)

Mid-bed resistance temperature detectors (XHi Only)

Function DRYPOINT® XH



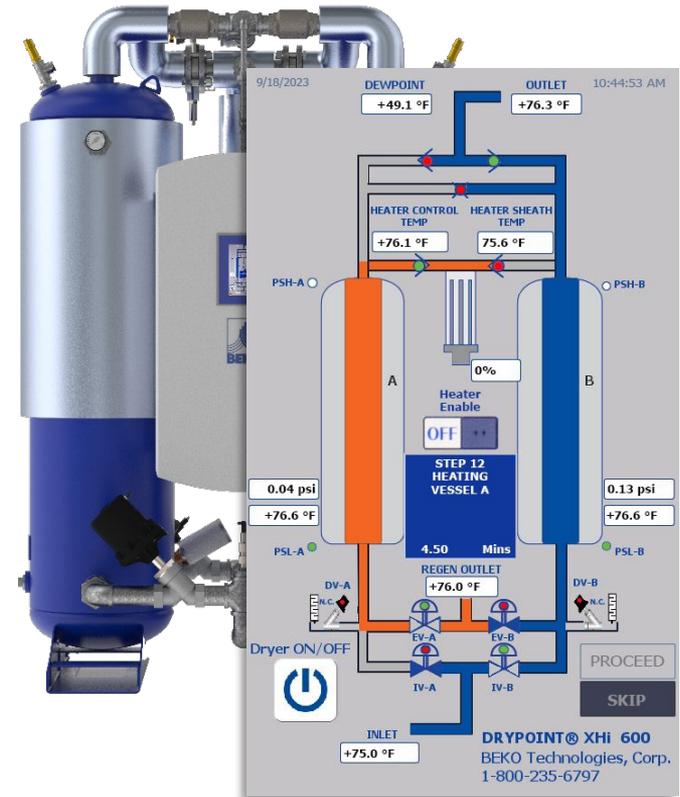
- › Moist air flows into the drying chamber and through the vessel. The desiccant adsorbs the moisture [1], delivering dry air downstream.
- › The saturated offline tower is regenerated using a set amount of purge air, controlled by a variable purge flow control valve, that flows across an electric heating unit [2].
- › This extremely dry heated air flows down the vessel [3], purging the moisture from the desiccant and exhausting the saturated air to the atmosphere [4].
- › Once dried, the heated vessel must be cooled before returning to the adsorption phase. The heating element [5] is turned off, and a portion of the dried air from the dryer outlet is diverted to the regenerated vessel to cool the desiccant [6].



Function DRYPOINT® XHi

Intelligent Performance, The Smart Choice

- › Three user-selectable operating modes:
 - › Maximum performance mode
 - › Maximum savings mode
 - › **Intelligent mode** with an adaptive algorithm to determine optimal purge rates and heating duration in real-time
- › The average purge rate varies between 5-12%
- › Delivers an ISO Class 2, -40 °F / -100 °F outlet pressure dew point for 24/7 operation
- › Adaptive heating feature
 - › Varies the heating purge flow rate based on dryer loading
- › Adaptive cooling feature
 - › Varies the cooling purge flow rate based on dryer loading and purge air temperature, independent of the heating purge flow rate



Function DRYPOINT® XHe



High Performance and Budget Conscious

- › Eight-hour NEMA cycle
- › Two user-selectable operating modes:
 - › Maximum performance mode
 - › Maximum savings mode
- › Maximum performance mode delivers continuous -40 °F outlet pressure dew point at rated load with an average purge rate of 12%
- › Energy savings mode uses an average 7% purge rate, delivering a continuous -4 °F outlet pressure dew point and -40 °F during reduced load conditions



Features DRYPOINT® XH



Patented



Intuitive



Inspiration



Compact



Quick



Optimized



IloT Ready



Reliable



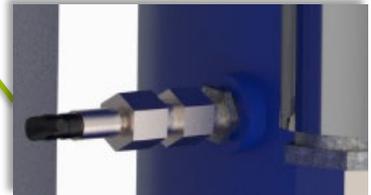
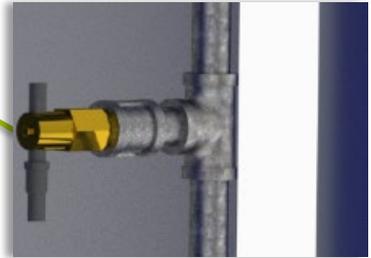
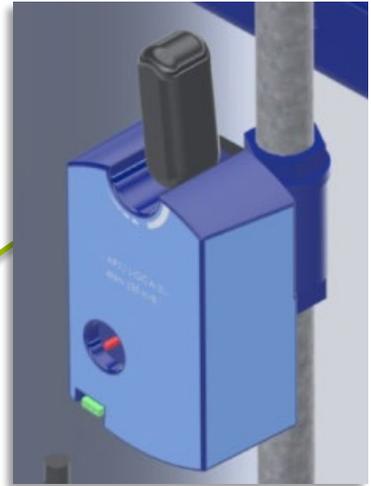
Innovative



Efficient

Features DRYPOINT® XH

- › Unique proportional-type/variable purge flow control valve for reliable operation from the simple design
- › Standard purge flow switch that protects the regeneration heater and is only powered when flow is detected
- › All XHi models feature mid-bed resistance temperature detectors as standard that work in conjunction with the intelligent algorithm to optimize dryer performance

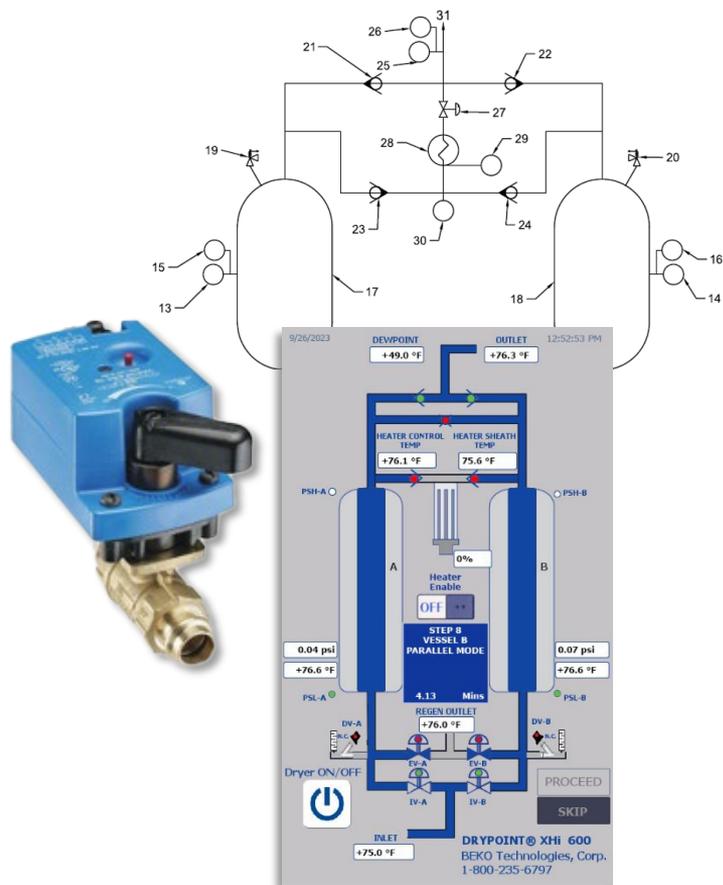


Features DRYPOINT® XH



PATENT PENDING Control System

- › Adaptive heating and cooling of the regeneration air
- › The primary components work in concert
 - › PLC / HMI
 - › Electronic proportional valve/actuator assembly
 - › Desiccant bed instrumentation
- › Provide enhanced control of the regeneration cycle by monitoring current operating conditions and providing the necessary flow required to regenerate the desiccant bed successfully
- › Intelligent algorithm provides optimum flow between the heating and the cooling portions of the regeneration cycle to optimize the amount of purge air used to regenerate the bed
- › Maximum performance and greatest possible energy savings from a heated purge desiccant dryer

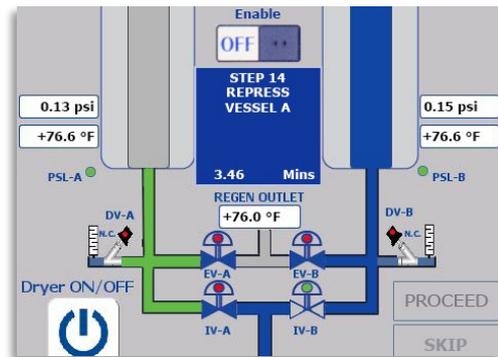
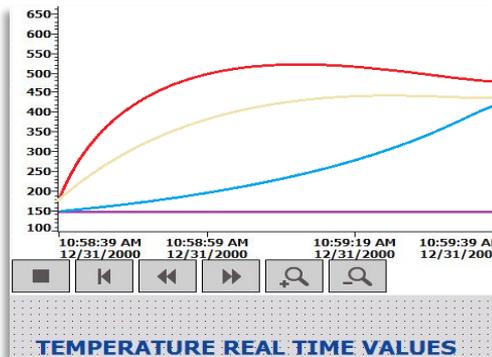
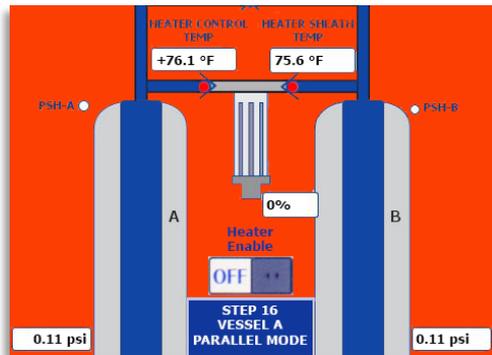


Features DRYPOINT® XH



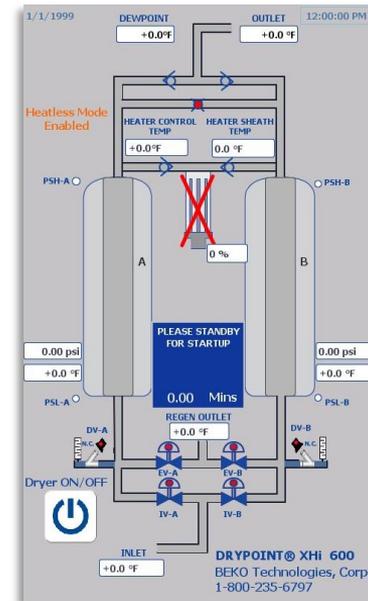
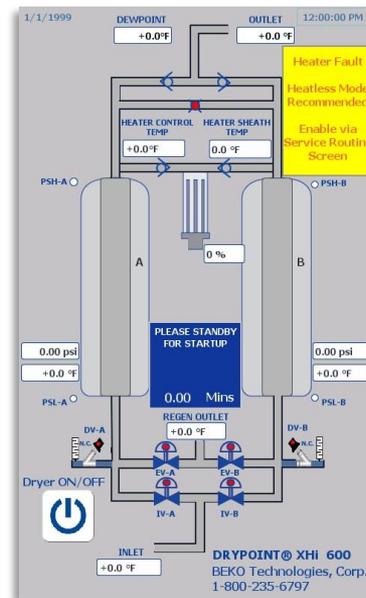
BEKOTOUCH2 Controller

- › Modern, intuitive, and powerful touchscreen controls
- › 7" full-color HMI with NEMA 4 enclosure
- › Home screen featuring a live process view
- › Quick verification of operating status even at a distance
- › Reporting and trend data included
- › Output communication protocols, including Modbus TCP/IP
- › Compressor sync connection
- › Complete spare parts list



BEKOTOUCH2 Controller

- Enhanced operational reliability with failsafe mode built into the dryer
- The dryer can operate as a heatless dryer should the heated regeneration system malfunction or become damaged
- Operator interface will indicate if a malfunction occurs as well as an option to run in “heatless” mode
- When in “heatless” mode, the operator interface will show that this mode is enabled
- When the heating system fault has been corrected, the operator can then place the unit back into normal operation



Wide Model Range

- › Standard desiccants to deliver either -40 °F or -100 °F outlet pressure dew points
- › Threaded models feature fully galvanized pipe.
- › Flanged models include high-temperature painted spool weldments
- › Dual rated to ANSI B31.1 and B31.3
- › Vessels:
 - › All vessels designed and fabricated to meet the ASME Section VIII, Div.1 pressure vessel code
 - › CRN-certified vessels available for all sizes



Features DRYPOINT® XH

- › The desiccant fill is through the pressure relief valve ports to simplify maintenance
- › Using our years of desiccant dryer design experience, threaded DRYPOINT XH models feature the same lower cross-tower screens from the XC series to reduce the overall dryer height
- › In addition to the compact design, ease of movement, whether on delivery or through the plant, is achieved with integrated forklift pockets



Features DRYPOINT® XH

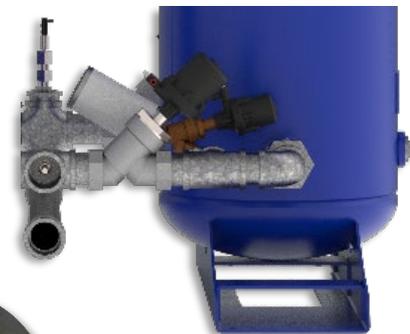


Safe, Compact, and Reliable

- › Super compact, high-efficiency immersion-type heater is standard on all models
 - › Rugged and reliable design
 - › Low watt density increases service life
- › Insulation and cladding are standard equipment on the heater and hot piping for increased regeneration efficiency
- › Tower insulation is optional on all models



- › Premium depressurizing system design using dedicated mufflers and valves to reduce the noise associated with depressurization of the vessels when required. This also reduces the pressure drop during regeneration, which provide higher efficiency when regenerating the desiccant bed
- › Rugged and reliable regeneration swing check valves
 - › Stainless steel construction
 - › Springless single-door design
 - › Metal seat with no material to wear or fail
- › High-performance, minimal pressure drop, butterfly valves for flanged series units
- › Proven, high cycle, pneumatically actuated angle body valves for threaded series units.



Sizing DRYPOINT® XH



The Complete Range For All Applications

Flow Rate [SCFM]

Threaded Series: 100 – 800 scfm

Flanged Series: 1000 – 3200 scfm



Service Made Simple

Ready Made Maintenance

Pre-packaged 1, 2, and 3-year maintenance kits for each maintenance interval.

Pre-packaged to include:

- ✓ Filter elements
- ✓ BEKOMAT service units
- ✓ Exhaust muffler assembly parts
- ✓ Valve and solenoid parts
- ✓ Diaphragm and sealing parts
- ✓ Convenient 25 lbs. bag desiccant



- › Pre- and post-sales support teams are fully trained on the new generation of dryers
- › Our highly qualified Technical Service department has decades of experience dealing with desiccant dryers of various types
 - › Application support
 - › Troubleshooting support
 - › Maintenance and repair support
 - › Remote and on-site service is available
- › Detailed and comprehensive instruction and operation manuals are available 24-7 online for all model types and sizes
 - › Video snippets covering the most frequently asked questions are planned to complement the written instructions





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