summits
Enabling Innovation. Enhancing Lives.

28+ YEARS OF EXCELLENCE

Custom-built solutions

Compressed air purification

Air dryers for

- Thermal power plants
- Nuclear power plants
- Oil and gas industries
- Off-shore plants
- Chemical plants
- Steel plants & etc.

ACCREDITED Management System Certification MSCB-119

ISO 9001: 2015 ISO 14001:2015 ISO 45001:2018 Cert. No.: 785966-754410-770689

ASME DO$H CE 1282

State-of-the-art Infrastructure

Fully-equipped production facility built across an area of 1,00,000 ft^2.


Engineering Design

Dedicated Research and Development

Core strength lies in R&D. Our **product researchers, designers,** and **engineers** work on the **frontiers of applied science** to build **world-class solutions** for compressed air purification and gas generation.


Automated Welding Facility

Industry's Best Tools and Equipment

Our R&D lab has sophisticated tools such as **3D modeling software - Solid Edge** (in partnership with Siemens), Simulation, Analysis & CFD software, and Test rigs.


Manufacturing Facility

Stringent Quality Assurance Procedures

Starting from material inspection to in-process inspection to final product testing, we undertake comprehensive quality assurance procedures to ensure consistency in Guaranteed parameters.


Fabrication Facility


R&D Center

What Makes Us the Best Choice?

Complete Range of Products

We specialize in building a whole range of products for compressed air purification and gas generation on a **standard, custom built & turnkey basis.**

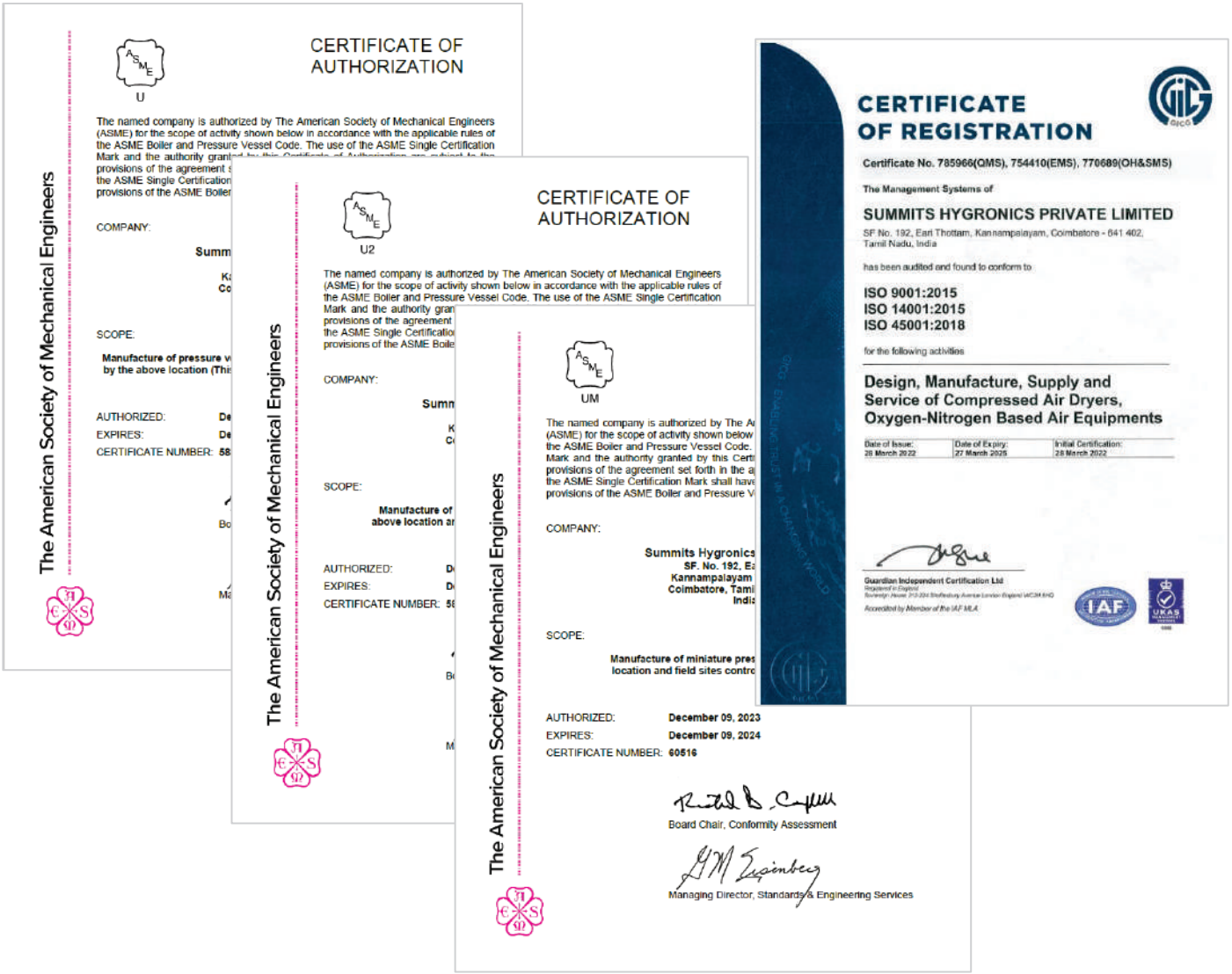
In-house Production Capabilities

Built across an area of 1,00,000 sq.ft, Ours is a **fully-equipped production facility.** Having an all-inclusive facility helps us in delivering products with the industry's best & highest standards.

Global Clientele

Our products are up and running in many public and private sector organizations **across India as well as in SE Asia, EU, GCC, African Countries, and the USA.**

Our Achievements Speak a Lot About Us



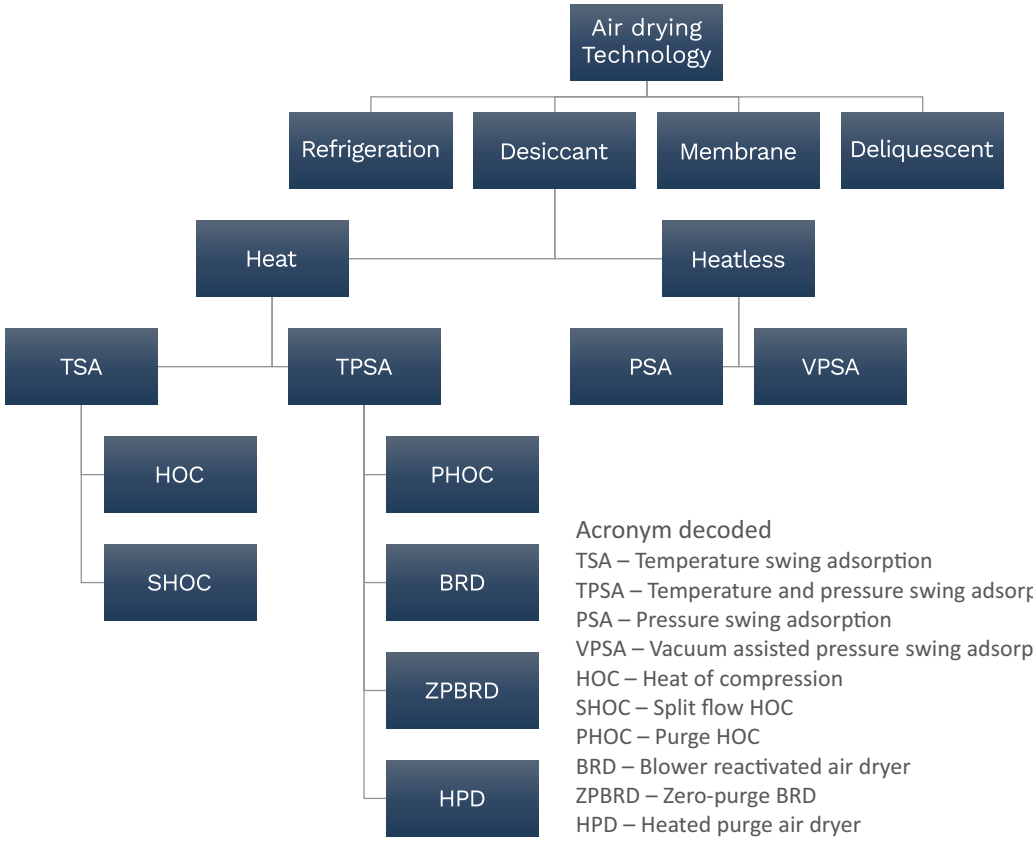
Team up for the development

With each tick of the clock, a new technology is surfacing and revolutionizing how we live and work. To be a part of this ceaselessly evolving landscape of technology, Summits has adapted customer-centric business strategies at its heart.

At Summits, individuality of every customer is highly valued and our team thrives to tailor the products to meet the specific needs and desires of the customers. Right from receipt of enquiries, to commissioning, our team of professionals work together with the customer thriving to meet the project goals.

An insight into compressed -air drying technology

"Options present opportunities; selection reveals wisdom."From the emergence of social media to self-driving cars, we are witnessing remarkable innovations every day. Compressed air treatment technology is not an exception. Innovation in compressed air drying brings many options to choose from.



Acronym decoded

TSA – Temperature swing adsorption
TPSA – Temperature and pressure swing adsorption
PSA – Pressure swing adsorption
VPSA – Vacuum assisted pressure swing adsorption
HOC – Heat of compression
SHOC – Split flow HOC
PHOC – Purge HOC
BRD – Blower reactivated air dryer
ZPBRD – Zero-purge BRD
HPD – Heated purge air dryer

Turndown ratio (TDR)

It is a ratio between rated flow to the minimum flow

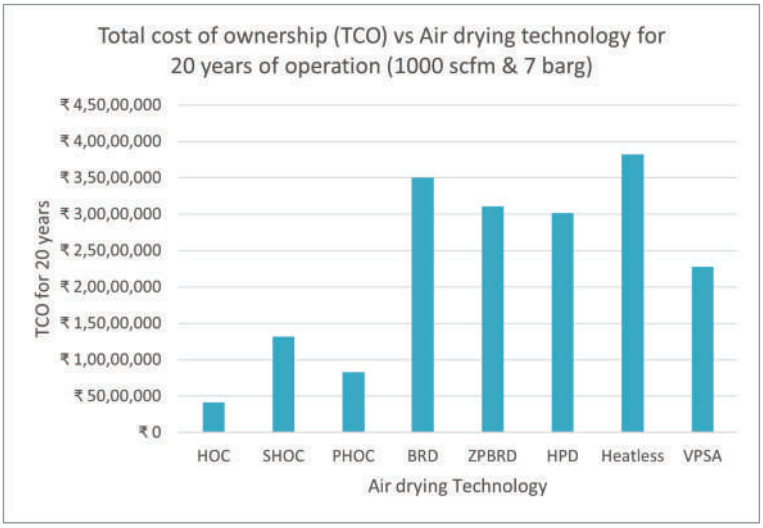
$$TDR = \frac{Rated\ flow}{Minimum\ flow}$$

For example, if TDR of a HOC dryer of capacity 1000scfm is 2:1, then technically it is limited to run at the minimum load of 500scfm to meet the requirement of minimum inlet air temperature and other process requirements like heating and cooling time.

Pick-out the right technology

Heat reactivated dryers are most suitable to deliver instrument air to large scale applications such as Power plant, Oil and Gas, Nuclear etc. It has long term benefits of Lower operational cost and absolute reliability. Summits HOC and BRD dryers have been up and running in Thermal power plants of NTPC across India. Our split flow HOC dryers are running at various Oil and gas plants across India.

HOC dryer requires hot unsaturated oil-free air for regeneration of its desiccant. Hence it can be deployed to oil-free compressor only. Nevertheless, it provides ultimate economics and reliability.



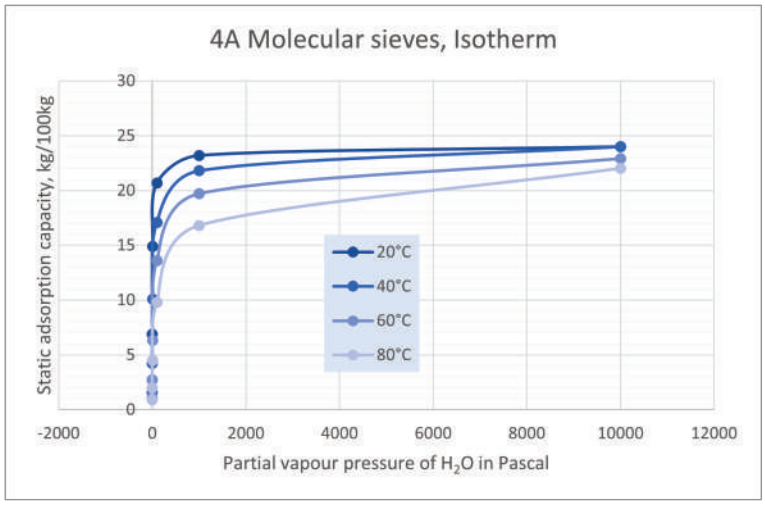
Air Compressure & Air dryer pair matrix

	Air Drying Technology							
Type of compressor	HOC	SHOC	PHOC	BRD	ZPBRD	HPD	Heatless	VPSA
Lubricated reciprocating				√	√	√	√	√
Lubricated Screw				√	√	√	√	√
Oil free reciprocating		√	√	√	√	√	√	√
Oil free Screw	√	√	√	√	√	√	√	√
Oil free centrifugal		√	√	√	√	√	√	√
Water injected Oil free Screw				√	√	√	√	√

Since regeneration doesn't depend on inlet air temperature these drying technologies can be paired to any air compressor with necessary after-cooler.

The core and the know-how

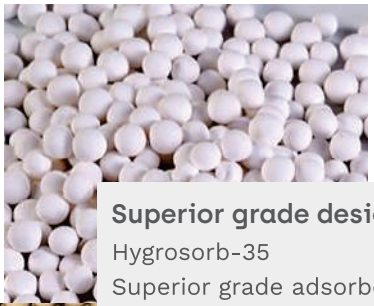
Adsorbent plays fundamental role in the function of compressed air dryer.Good process ensures effective usage of desiccant and significantly improves life of the air dryer. Poor process can completely ruin the adsorbent and the investment. Process parameters like pressure, temperature, velocity and most importantly 'process duration' are to be considered and managed effectively. Summits has meticulously refined and perfected the compressed-air drying technology through extensive research and rigorous field testing. Our compressed-air dryers, now in use across India and around the world, showcase our relentless pursuit of perfection.

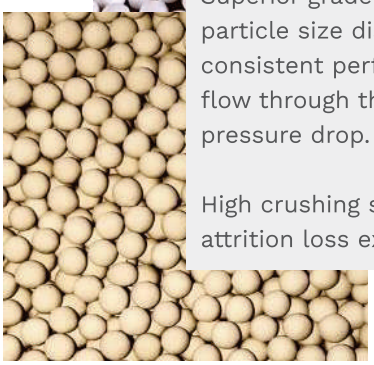


Simulation Driven

Every parameter affecting the reliability is carefully analyzed and culminated using simulation techniques.

This assures effective removal of moisture at every millimeter travel of compressed air during drying process.



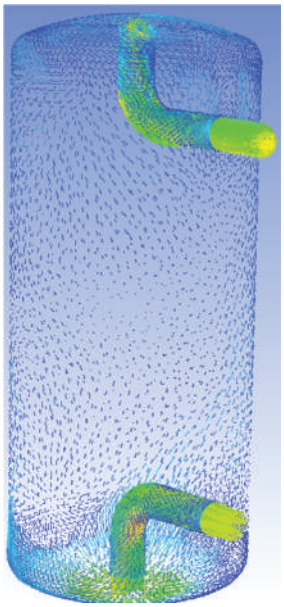


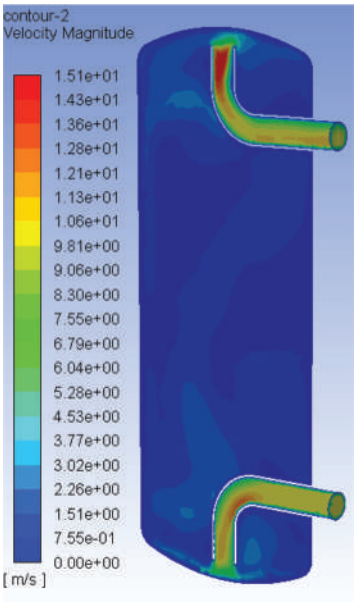
Superior grade desiccant

Hygrosorb-35

Superior grade adsorbent offers uniform particle size distribution to ensure consistent performance and efficient air flow through the desiccant bed with less pressure drop.

High crushing strength and very low attrition loss extend life of the desiccant.





Velocity vector and Velocity contour of flow

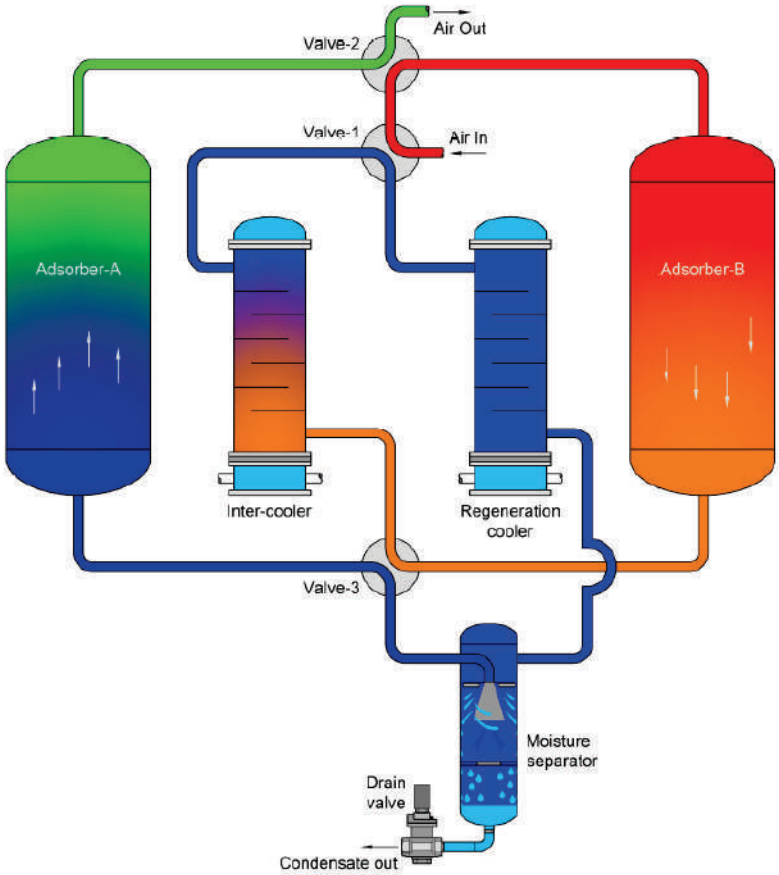
Heat of compression air dryer

Heat of Compression air dryer (HOC)
Inlet compressed air – Prerequisites:

- Minimum temperature: 160°C
- Minimum pressure: 6 bar(g)
- Should be oil-free
- Turndown ratio =2:1

Performance parameters:

- Dew point: -20°C PDP
- Purge loss: Zero



Heat of compression (HOC) air dryers use the heat produced during the compression process to regenerate the desiccant, making it a highly cost-effective method for drying compressed air.

Subsaturated hot compressed air discharged from oil free screw air compressor heats up Adsorber-B causing the desiccant to desorb the water molecule. Carrying this desorbed water, air undergoes a series of cooling and separation process before it reaches AdsorberA where it is dried out of moisture and ready for utility after downstream filtration.

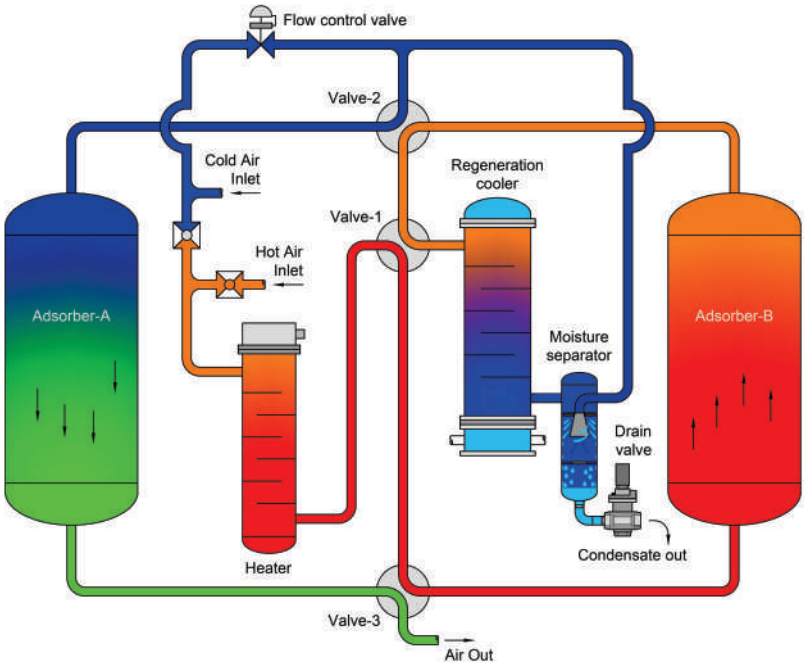
Split flow HOC air dryer

Split flow HOC air dryer (SHOC)
Inlet compressed air – Prerequisites:

- Minimum temperature: 110°C
- Minimum pressure: 6 bar(g)
- Should be oil-free
- Turndown ratio =4:1

Performance parameters:

- Dew point: -20°C PDP
- Purge loss: Zero



Split flow HOC (Heat of Compression) air dryer is best suitable for oil free centrifugal compressor. This type of dryer finds application in Oil and gas sector.

SHOC dryer has 2 inlets. One for hot sub-saturated compressed air tapped from the upstream of second-stage cooler present in the compressor) and another for cold saturated air (tapped from the downstream of second-stage cooler). Flow control valve determines the portion of hot sub-saturated air to be fed to Heater and to Adsorber-B for regeneration.

After regeneration hot air is cooled and mixed with cold air for drying in Adsorber-A.

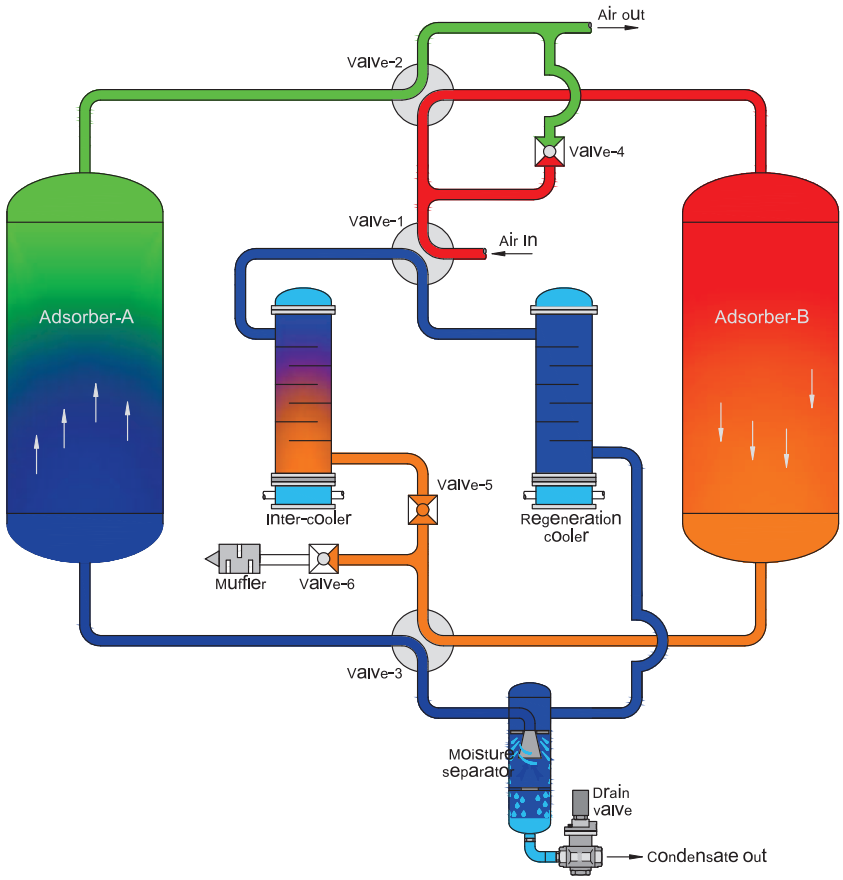
Purge HOC air dryer

Purge HOCAir Dryer (PHOC)
Inlet compressed air – Prerequisites:

- Minimum temperature: 110°C
- Minimum pressure: 6 bar(g)
- Should be oil-free
- Turndown ratio = 4:1

Performance parameters:

- Dew point: -20°C PDP
- Purge loss: 2% (Average)



Purge HOC (Heat of Compression) air dryer can be paired withoil free centrifugal compressor. Since this technology demands for 2%purge loss (Average), compressed-air-system should be sized with sufficient margin so that a portionof dry air can be utilized for purging.

The PHOC series compressed air dryers use the heat produced during the compression process to pre-heat the desiccant bed and remove some amount of water from the desiccant bed. Subsequently a portion of dry air is passed through the hot (pre-heated) desiccant bed for complete regeneration. Desiccant bed will be cooled prior to change over.

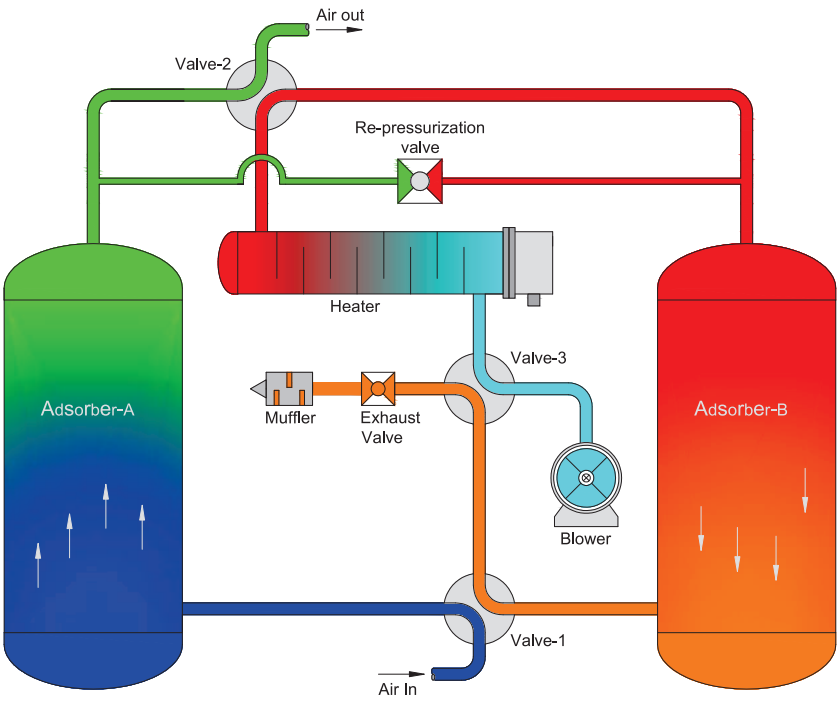
Blower reactivated air dryer

Blower Reactivated Air Dryer (BRD)
Inlet compressed air – Prerequisites:

- Temperature: ≈Ambient
- Minimum Pressure: 6 bar(g)
- Need not be oil-free
- Turndown ratio = 6:1

Performance parameters:

- Dew point: -20°C & -40°C PDP
- Purge loss: 2% (Average)



Blower Reactivated Air Dryer is suitable for all types of air compressors. Temperature of the compressed air should be around ambient temperature. Blower sucks ambient air and feeds Heater. Hot subsaturated air from the heater heats up the desiccant bed.

A portion of dry air is passed over the hot desiccant bed for cooling. Before switchover the adsorber column shall be repressurized

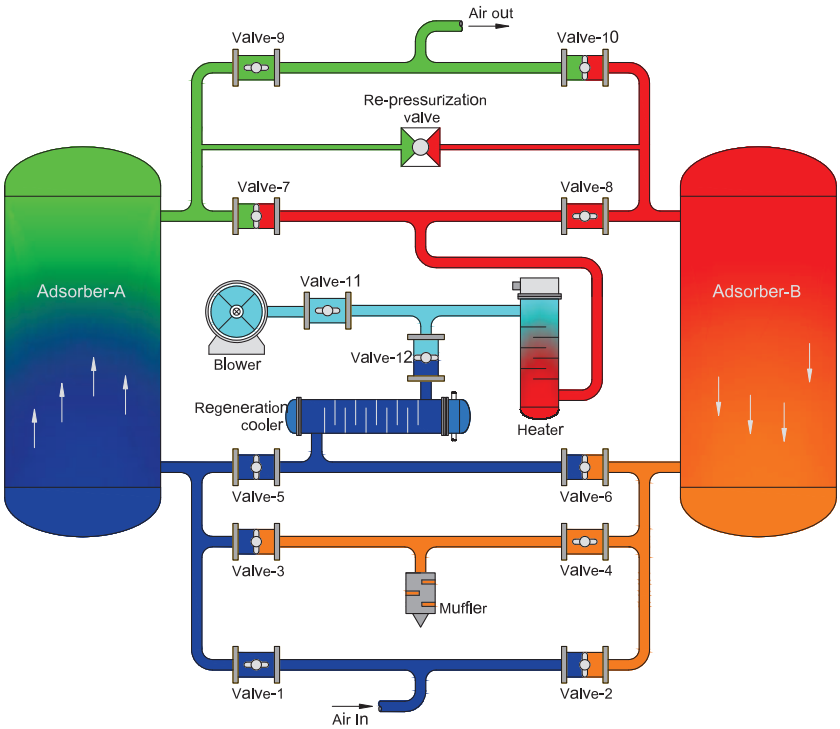
Zero purge Blower reactivated air dryer

Zero purge Blower Reactivated Air Dryer
Inlet compressed air – Prerequisites:

- Temperature: ≈Ambient
- Minimum pressure: 6 bar(g)
- Need not be oil-free
- Turndown ratio = 4:1

Performance parameters:

- Dew point: -20°C & -40°C PDP
- Purge loss: Zero



Zero purge Blower Reactivated Air Dryer is suitable for all types of air compressors. Temperature of the compressed air should be around ambient temperature. Blower sucks ambient air and feeds Heater. Hot subsaturated air from the heater heats up the desiccant bed.

Before entering into drying adsorber column, compressed air is diverted through hot desiccant bed and regeneration cooler, thus cooling the desiccant bed.

This dryer does not use compressed air for purging.

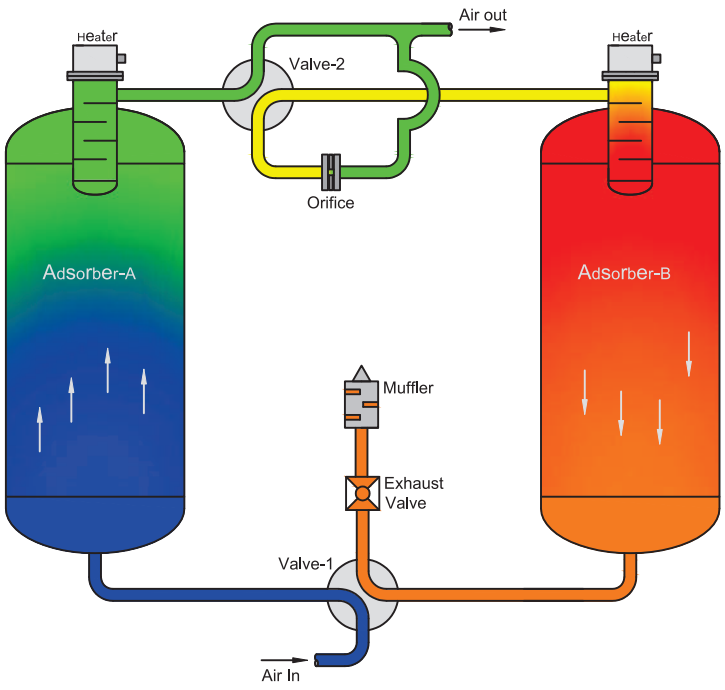
Heated purge air dryer

Heated Purge Air Dryer (HPD)
Inlet compressed air – Prerequisites:

- Temperature: ≈Ambient
- Minimum pressure: 6 bar(g)
- Need not be oil-free
- Turndown ratio = 13:1

Performance parameters:

- Dew point: -20°C, -40°C & -70°C PDP
- Purge loss: 7.5%



Heated purge Air Dryer is suitable for both oil lube and oil free compressor. Temperature of compressed air should be around ambient temperature.

Heater built inside the adsorber column heats up the purge air for deep regeneration. Heater is switched off and purge air continues passing through the adsorber for cooling.

Ultra-low dew point of up to -70°C can be achieved in this dryer.

Harvesting the elements of air through innovation for

summits
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