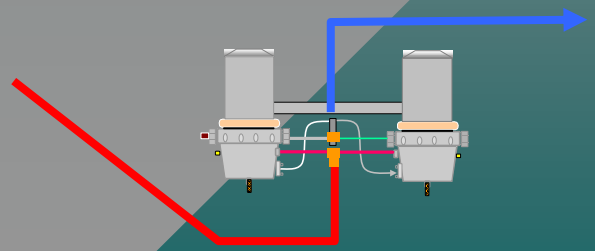
Dry Air Systems, Inc

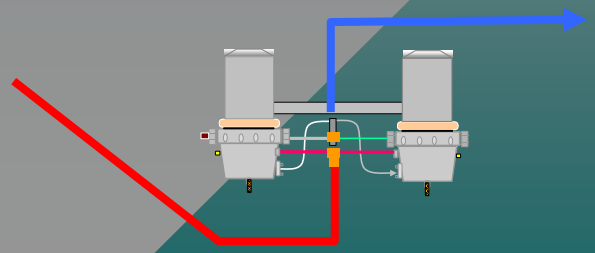
Welcome



Dry Air Systems, Inc.

Dry Air Systems, Inc.

Holds the key for clean, dry air systems



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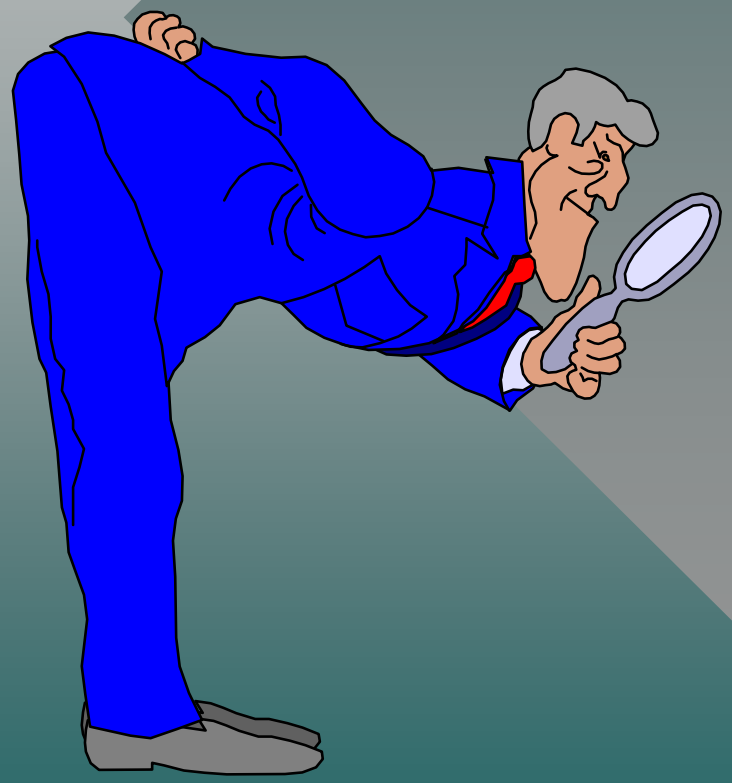
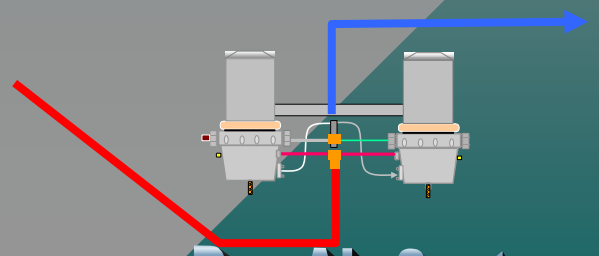
Compressed air contains:



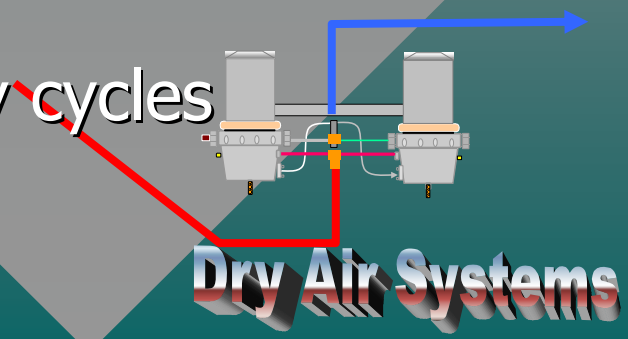
- **Water**
- **Contaminants**
- **Left unprotected**
  - **Water (temperature)**
  - **Contaminants (oil)**



Dry Air Systems

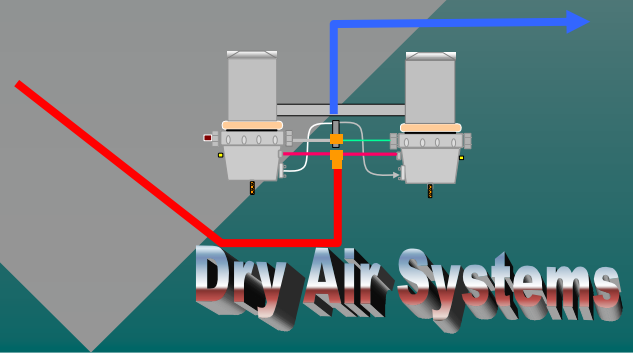
The problems:

- All air systems trap and contain water moisture
- Water and contaminants harm:
  - pneumatic controls performance
  - their life expectancy
  - reservoir capacities
  - affects air compressor duty cycles



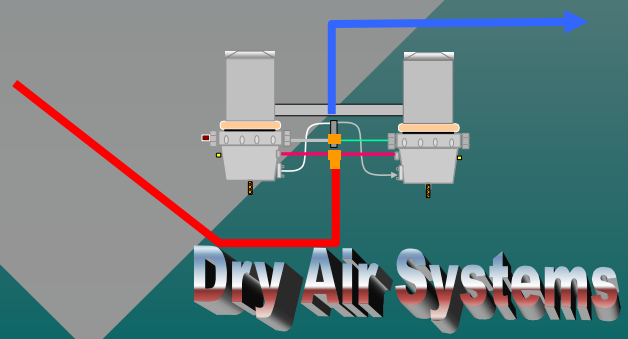
Typical Offerings Include

- **Chillers**
  - expensive to operate
  - labor intensive to install
  - limited efficiencies
  - space robbers



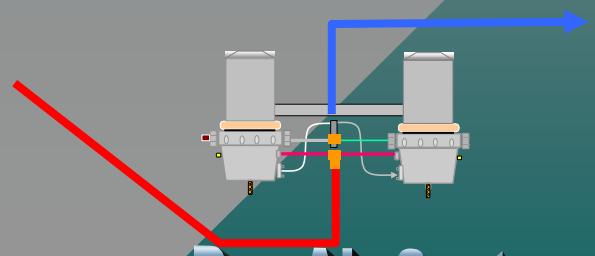
Smaller Offerings

- Water separators
  - ineffective
  - limited capabilities
  - no dew point



Today's Offerings

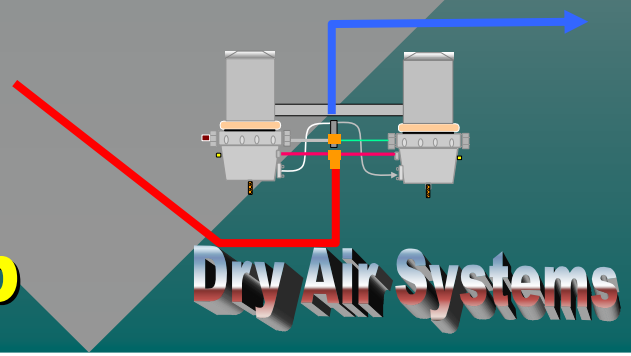
- Current desiccant dryers
  - difficult to maintain
  - limited filtering capabilities
  - short service intervals
  - cannibalizes excessive air for regeneration



Dry Air Systems

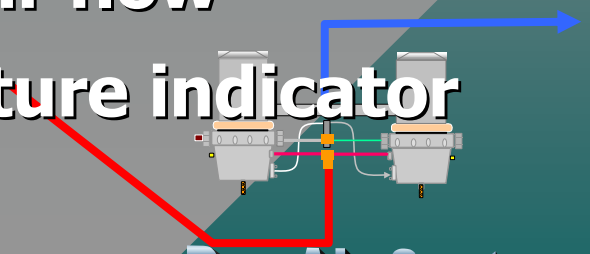
Dry Air Systems Offers:

- Improves system reliability
- Pneumatic controls protection
- Increased life expectancy
- Full reservoir capacities
- Expansion flexibility
- Compact sizes
- Quality of workmanship



Benefits To Air Quality

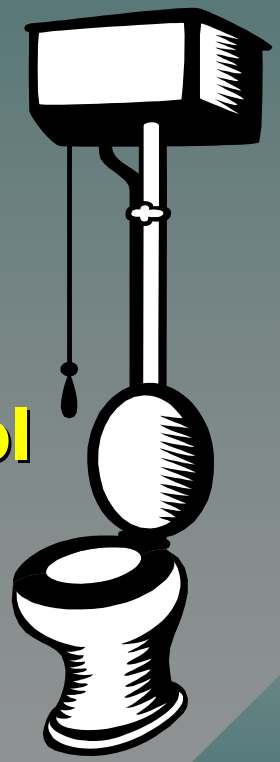
- Filters to 15 micron
- @100 SCFM .2 of 1% Regen
- Clean
- Dry
- Continuous molecular sieve regeneration
- -40 Pressure dew point depression
- Continuous air flow
- Built-in moisture indicator (optional)

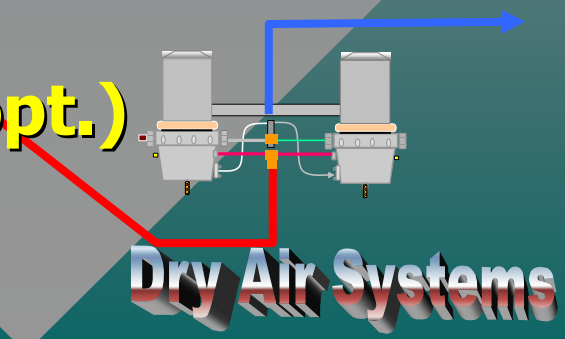


Dry Air Systems

Identifying the Unit's Components

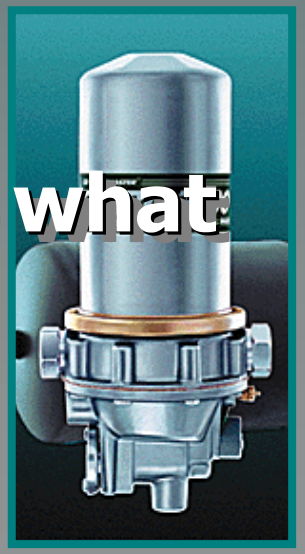
- Air dryers (2 min.)
- Mounting bracket
- Inlet, outlet, purge & control ports
- MLT valve or PLC
- Safety valves
- Mufflers
- Moisture indicator (opt.)

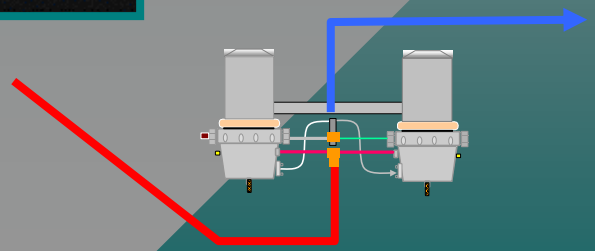




Now, the Dryer Stuff

How and Why they do what they do





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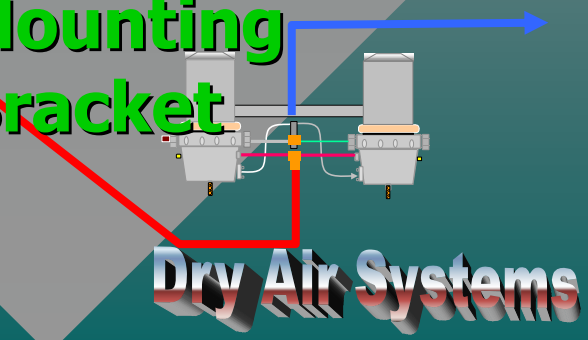
Air Dryer Components

Valves

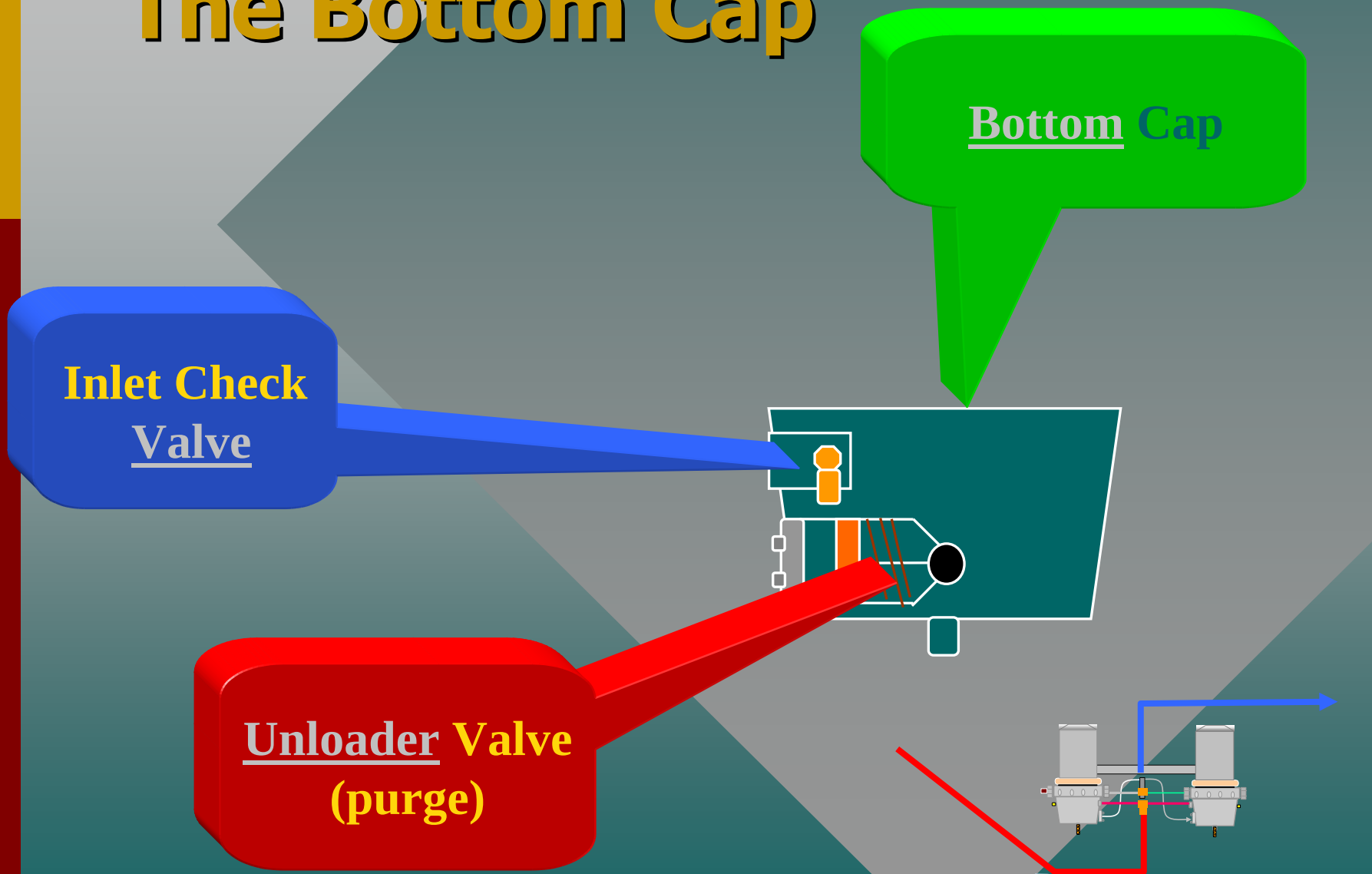
- Regeneration
- Inlet
- Purge
- Safety

Components

- Desiccant
- Adapter Plate
- Bottom Cap
- Mounting Bracket

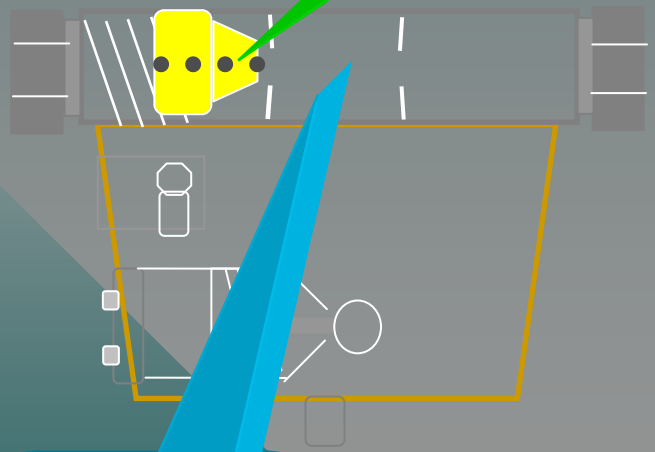


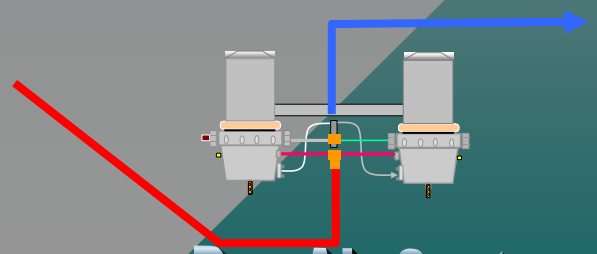
The Bottom Cap



Dry Air Systems

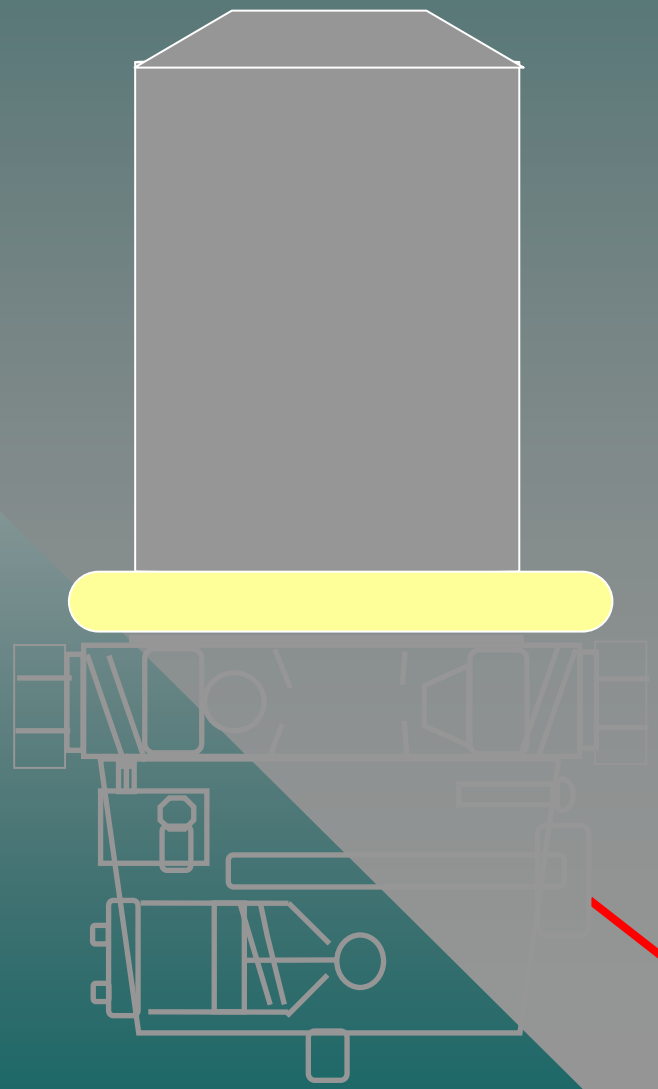
Adapter Plate

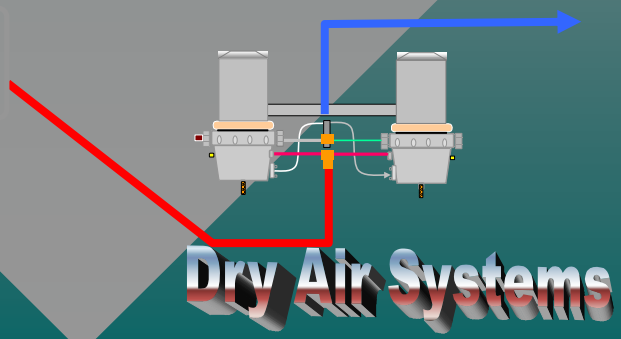




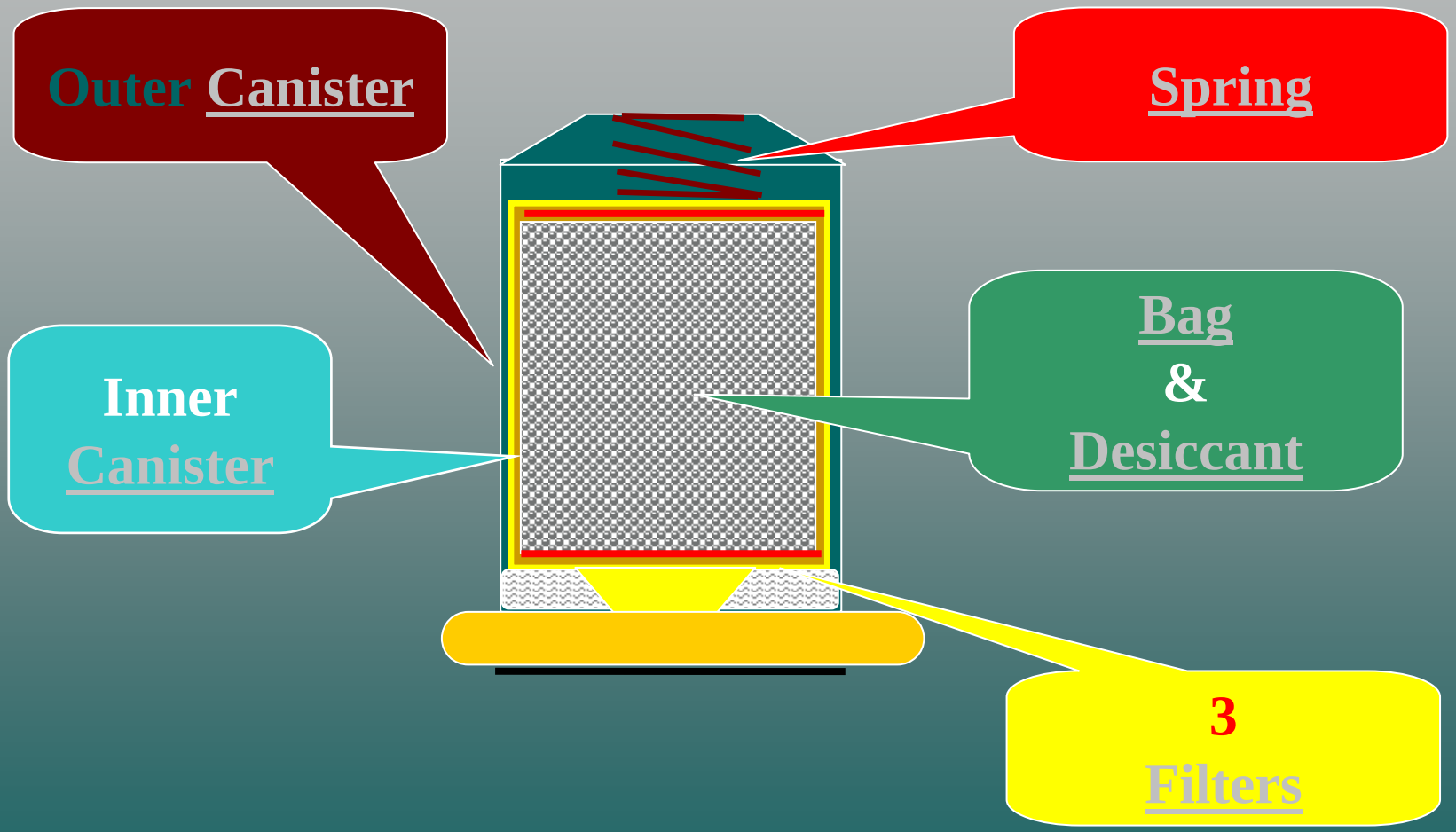
Dry Air Systems

The Desiccant Cartridge

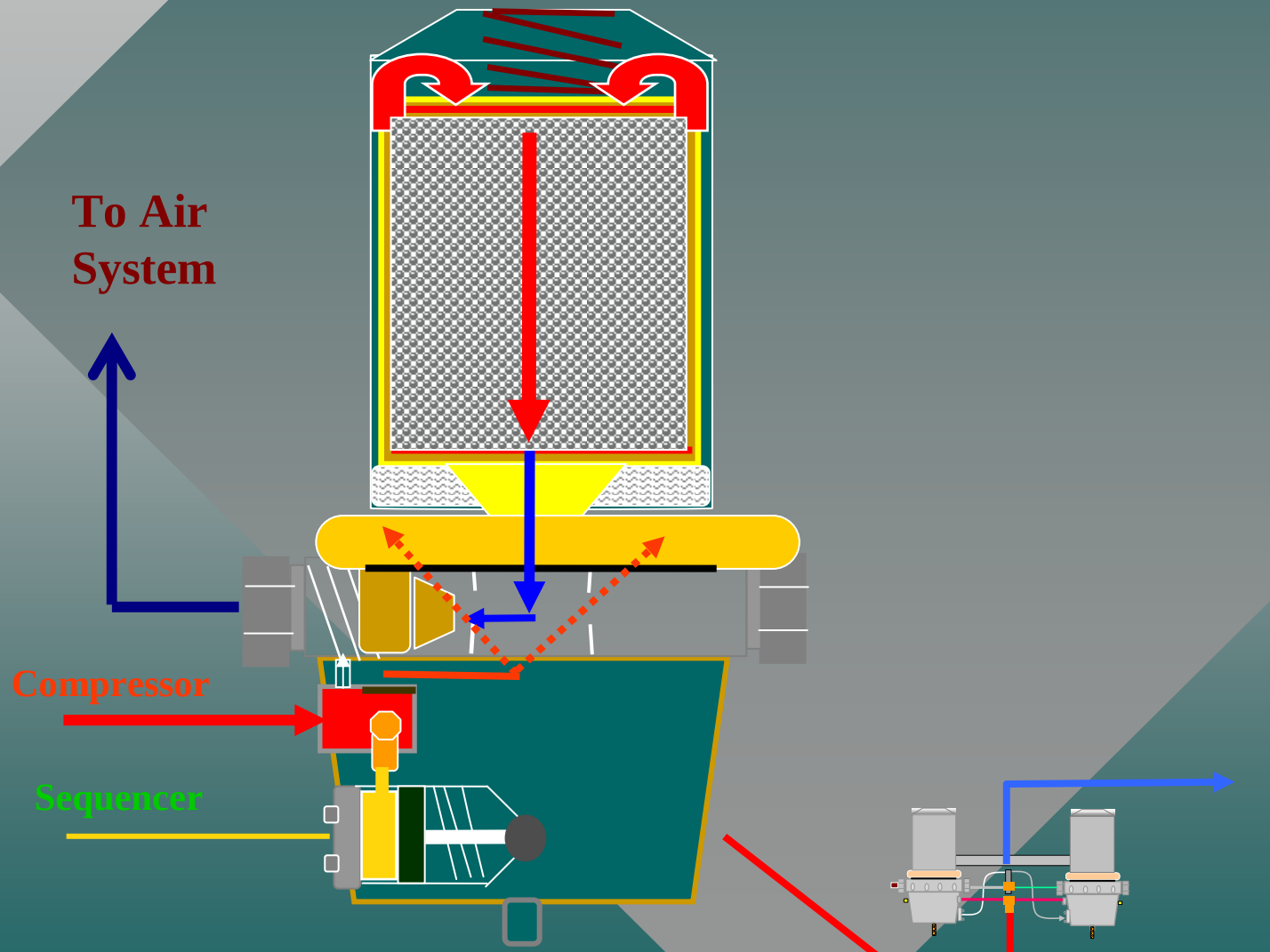




Desiccant Cartridge Guts

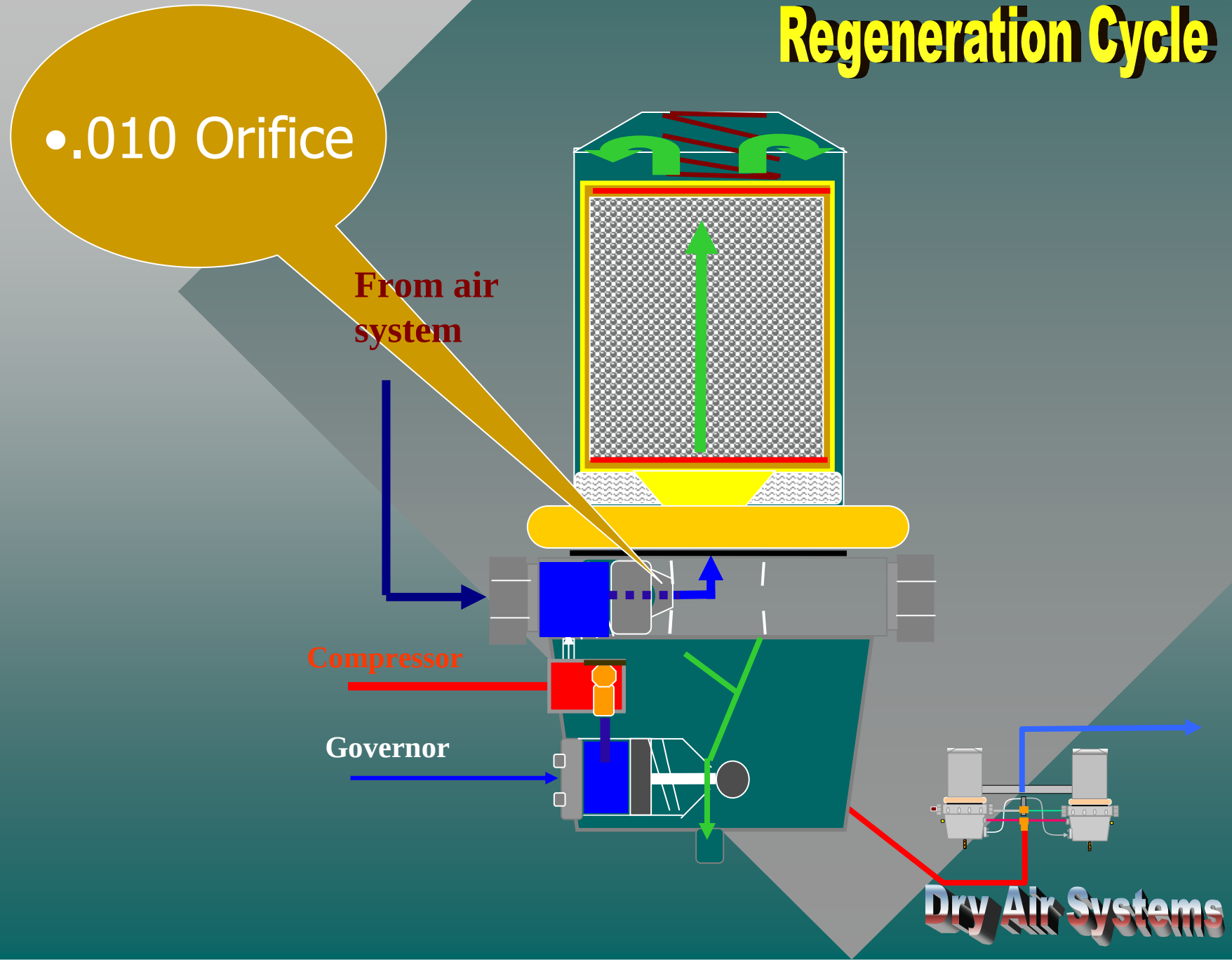


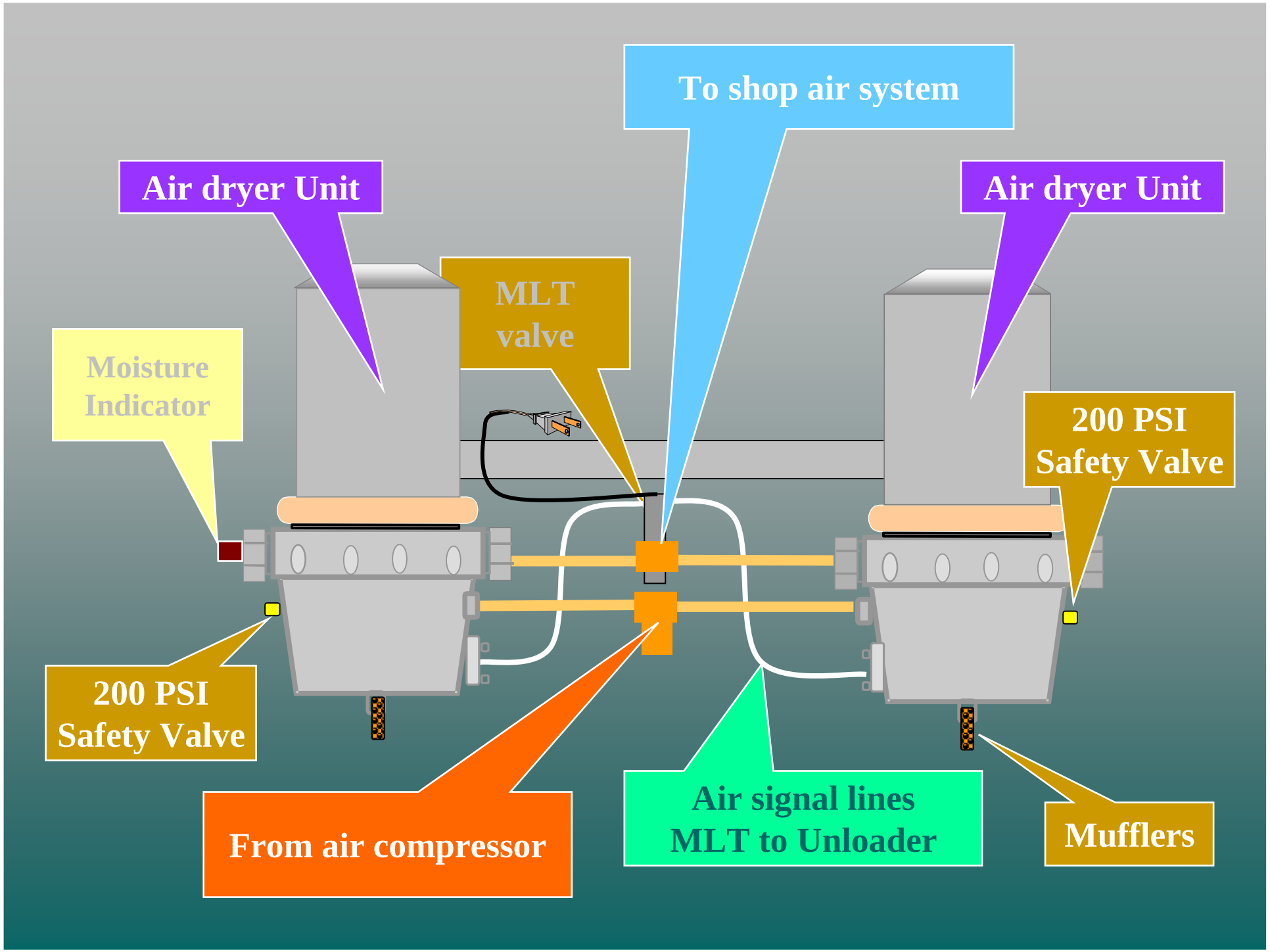
Charge Cycle



Dry Air Systems

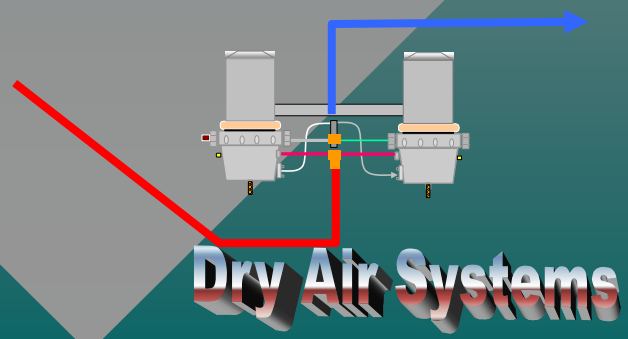
Regeneration Cycle



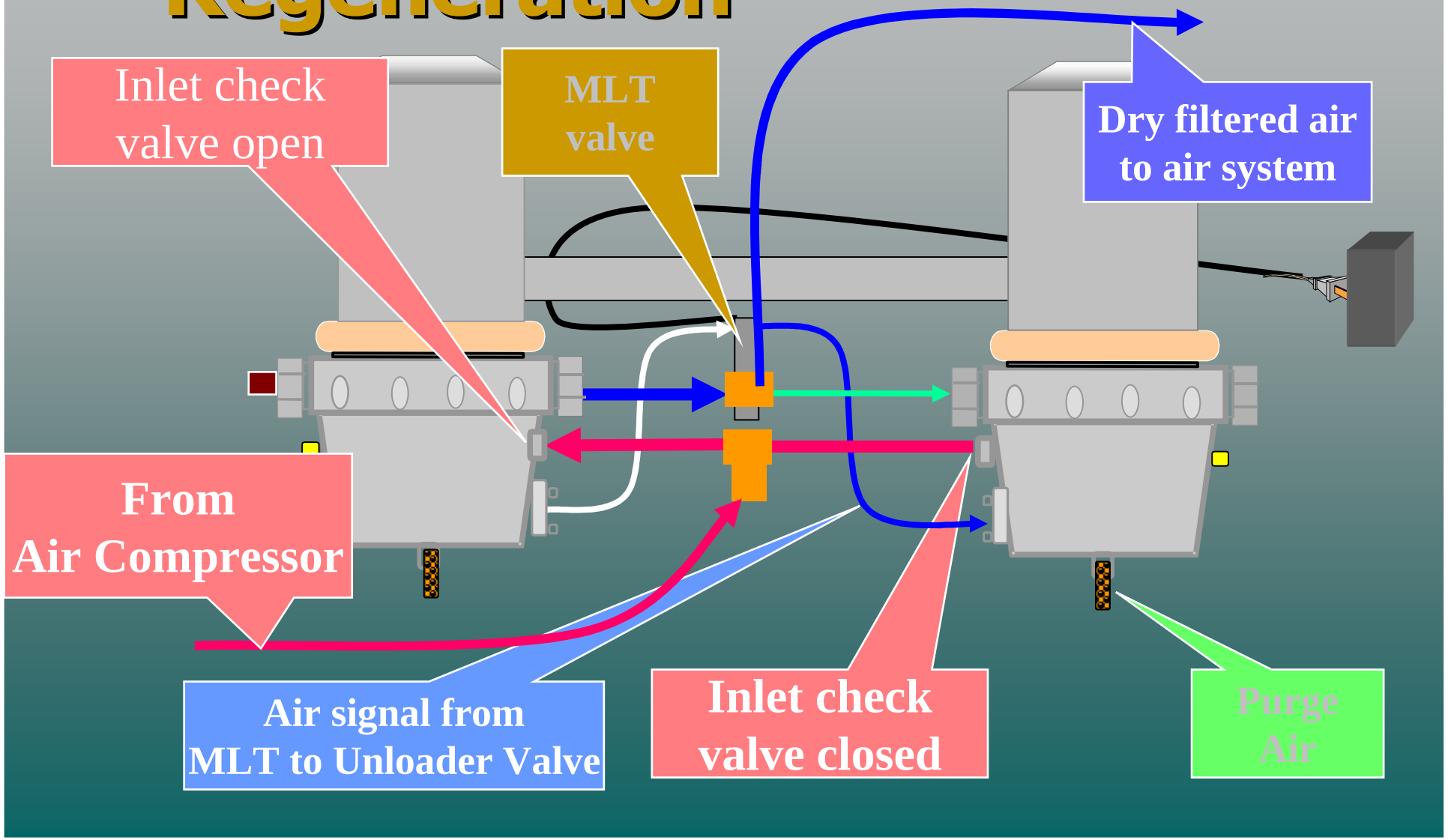

To shop air system
Air dryer Unit
Air dryer Unit
MLT valve
Moisture Indicator
200 PSI Safety Valve
200 PSI Safety Valve
From air compressor
Air signal lines MLT to Unloader
Mufflers

The Dryers Work This Way

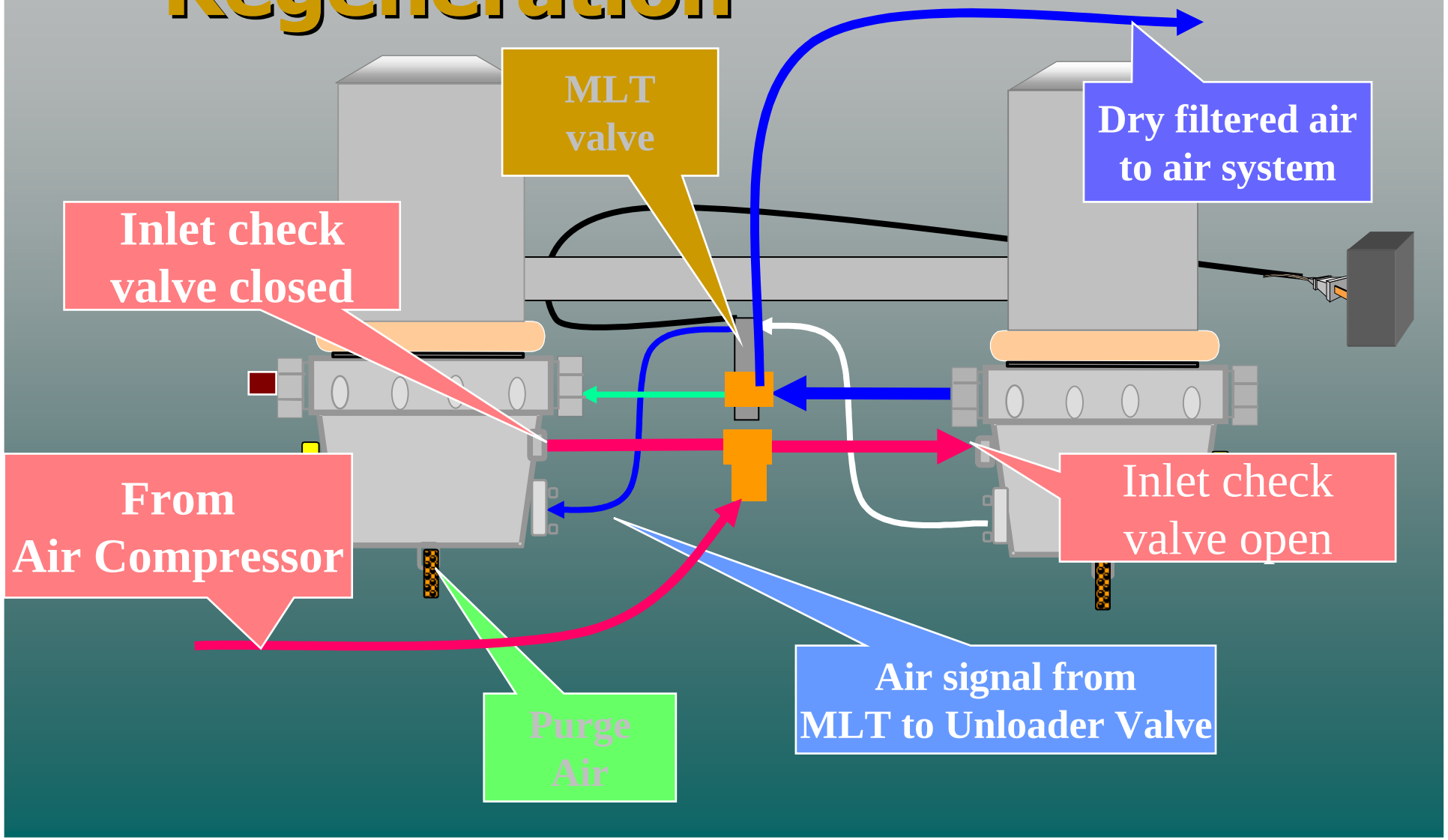
- Micro logic timer (MLT) controls units
- One dryer receives contaminated air
- Second dryer self regenerates



Dryer "A" Charge "B" Regeneration

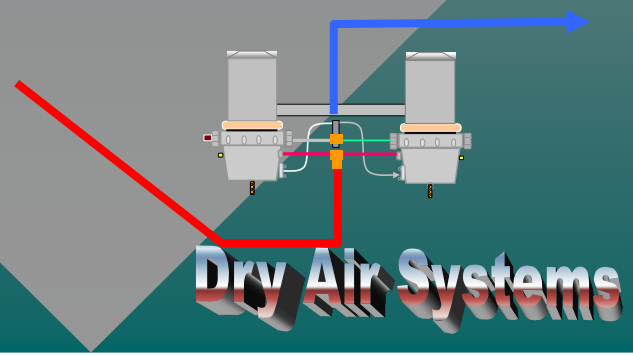


Dryer "B" Charge "A" Regeneration



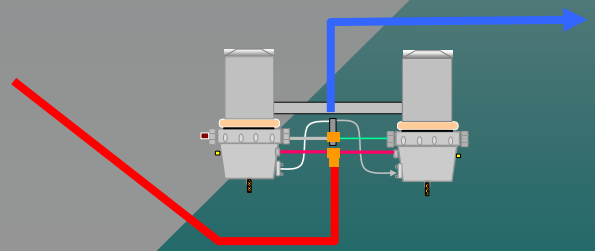
Custom Designed Air Dryer Systems For…

- Ease of installation
- Flexibility for expansion
- Simplified dryer maintenance
- Cost effectiveness
- Complete pneumatic air system protection



The Expandable System

Designed for a variety of compressor sizes and duty cycles



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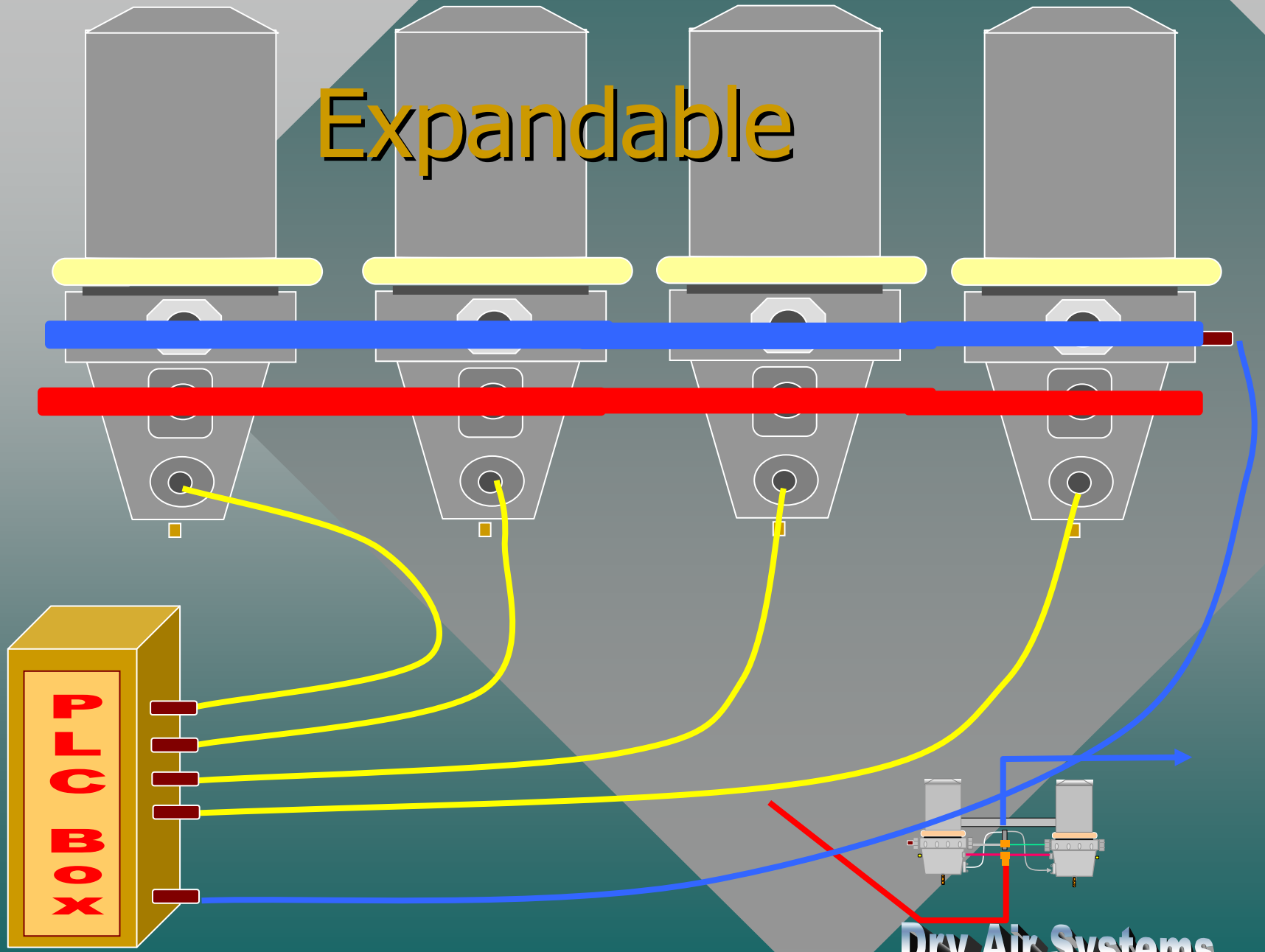
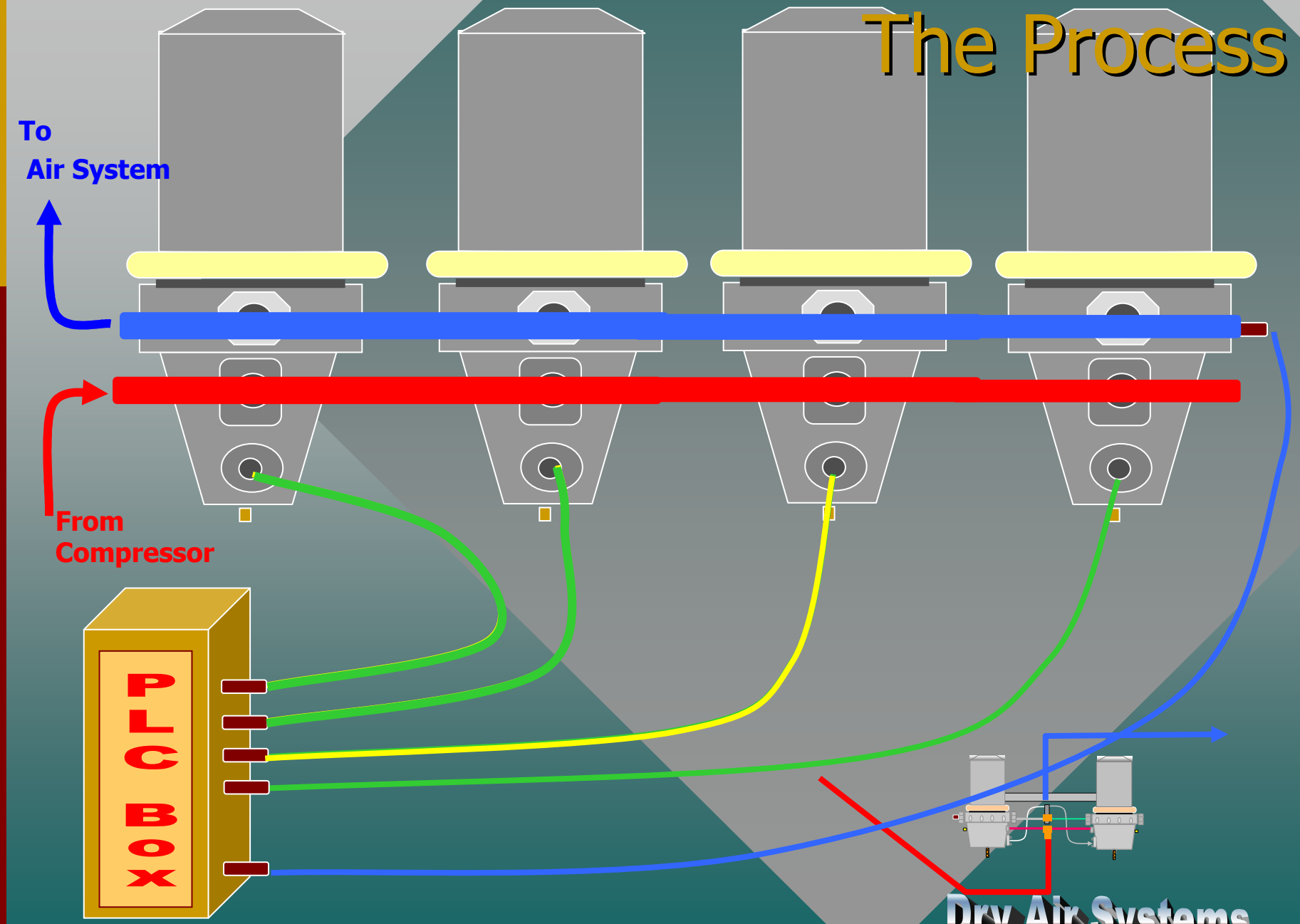
Expandable

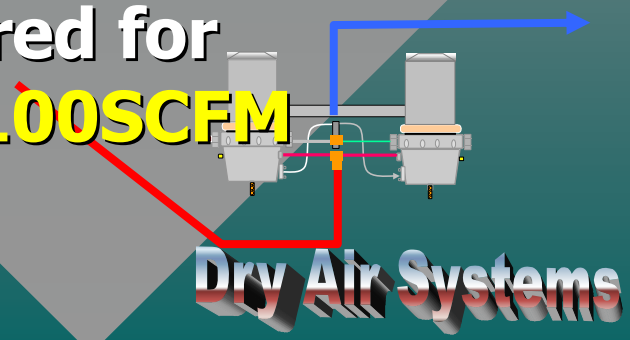


The Process



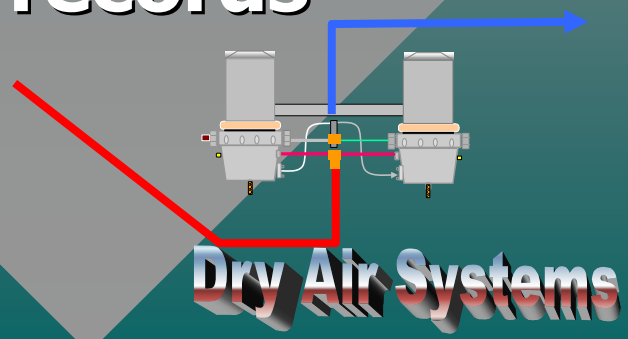
Dry Air Systems offer

- Clean, dry air for air systems reliability
- Elimination of water
- Reduced compressor duty cycles
- Operational costs comparable to 75-watt light bulb (Chillers)
- Competitive pricing
- Less than .2% of air required for regeneration flow rate @ 100SCFM 120PSI.



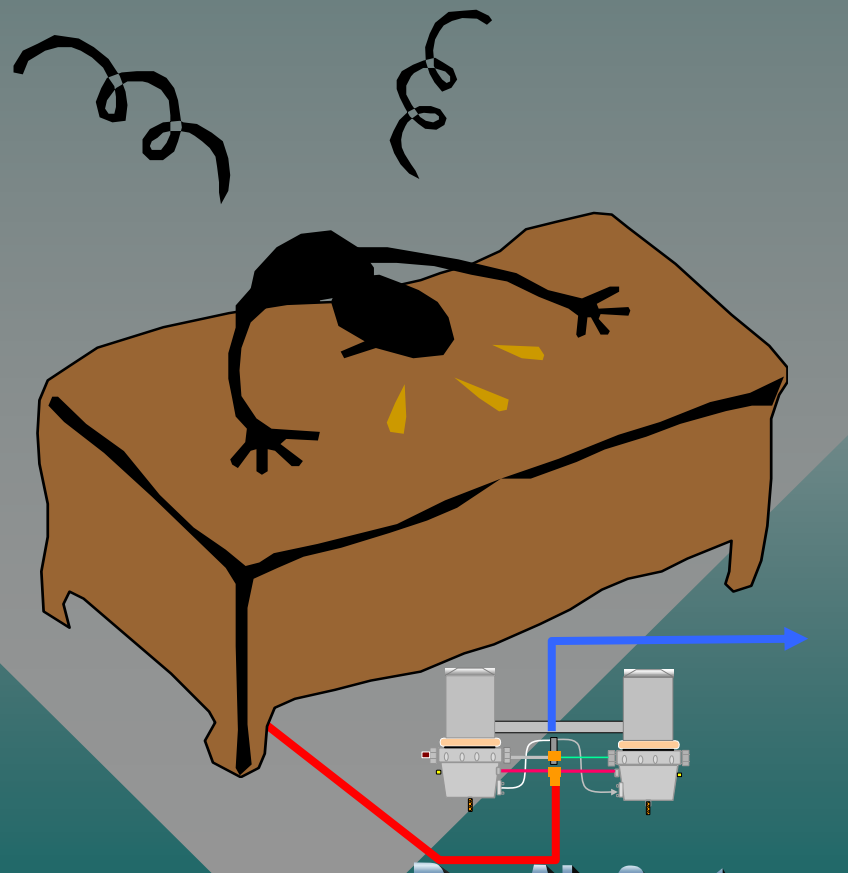
Benefits Review

- Reduced operating costs
  - Electrical (chiller)
  - Reduced compressor duty cycles
- Dew Point Depression
  - -40 Degree Pressure Dew Point
  - Internalized filtration
- Proven customer track records



Finally..he says..

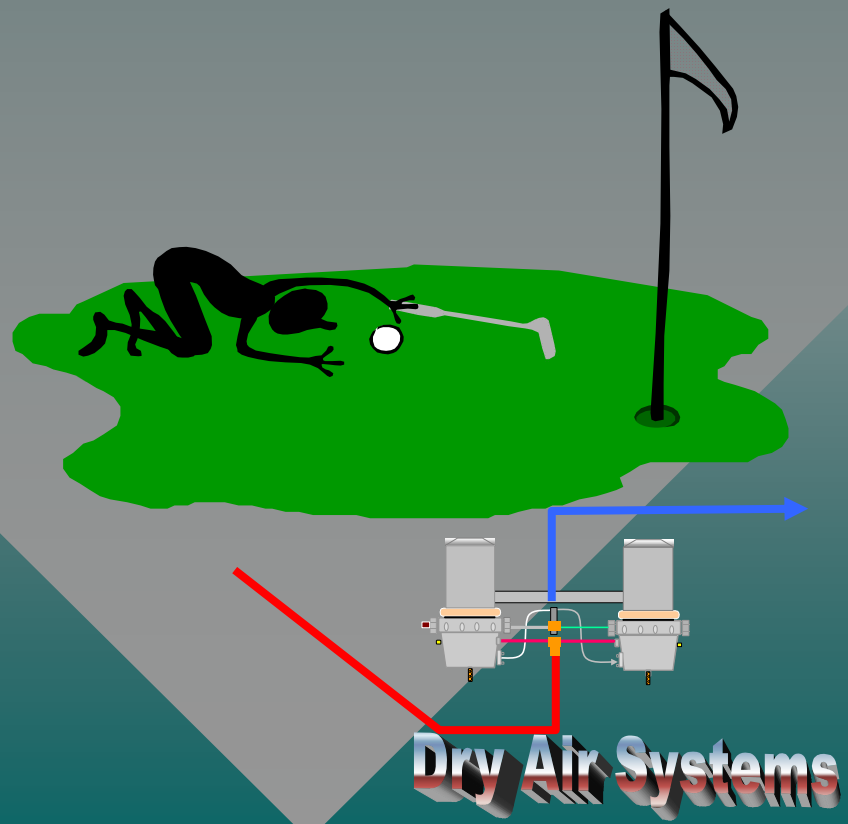
- **(I'm almost done)**



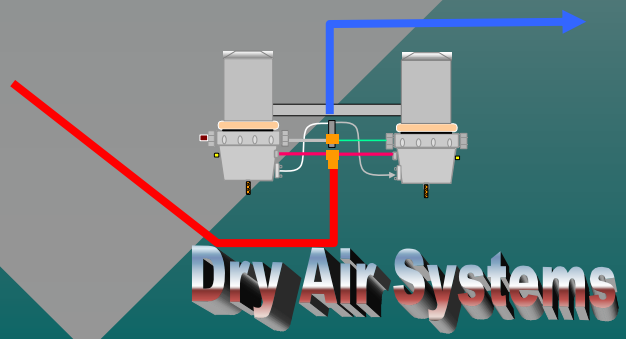
Dry Air Systems

Actual Installations…note

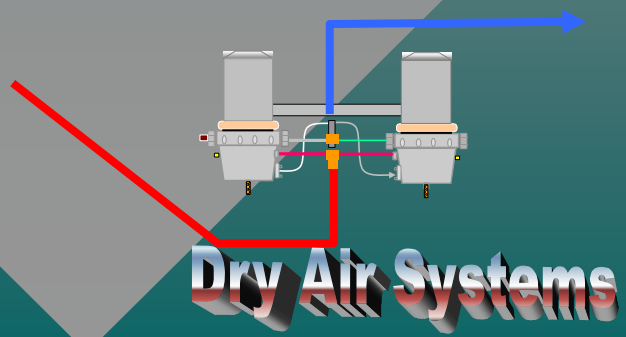
- size
- installations
- flexibility

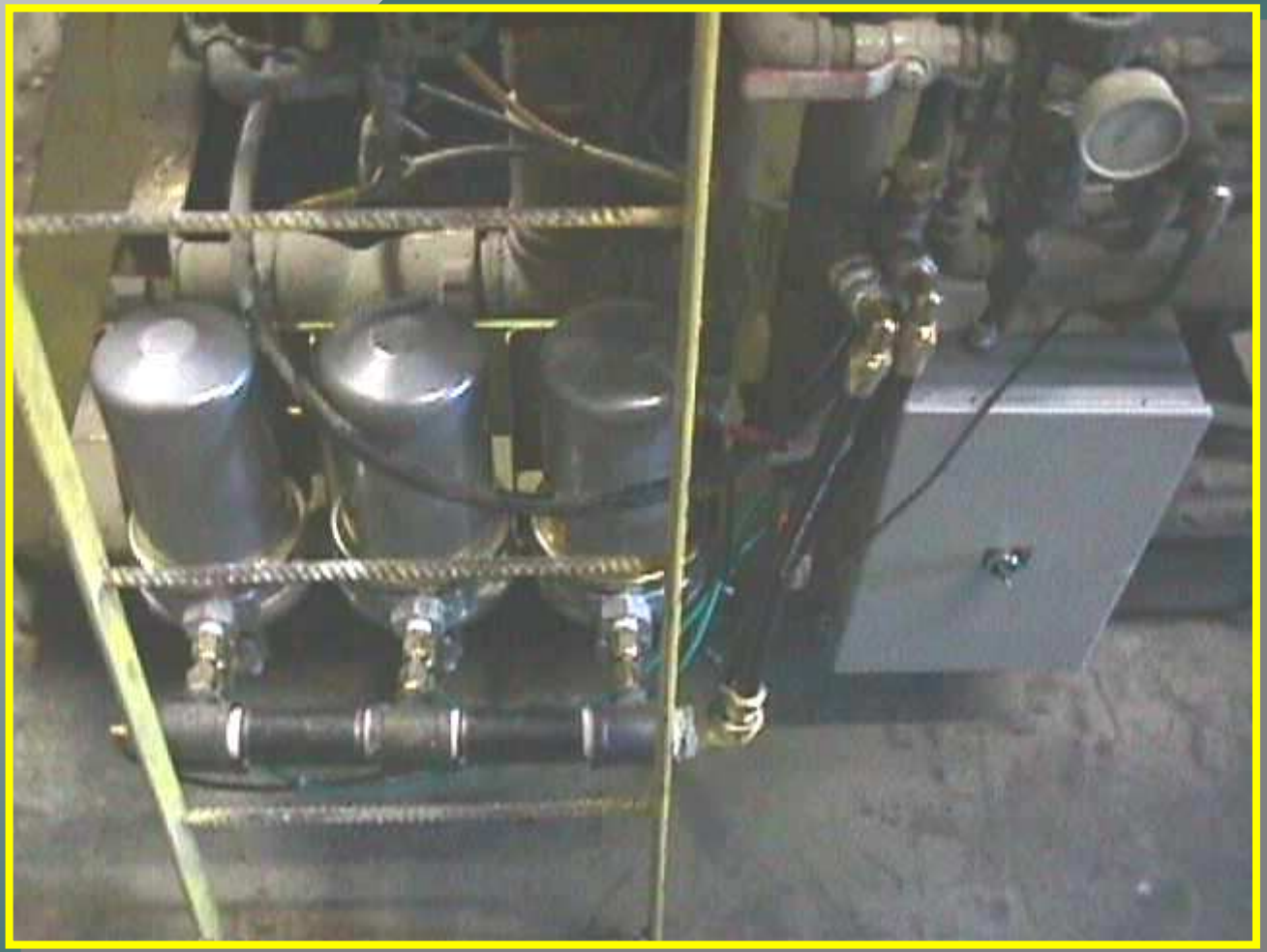


Shop Compressors

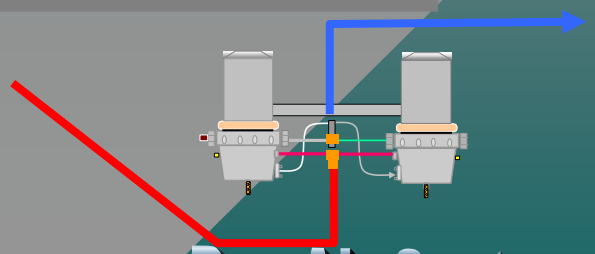


Concrete





Compact Installation



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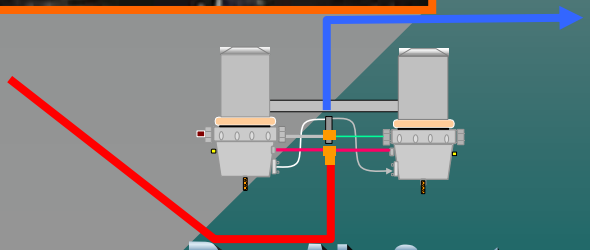

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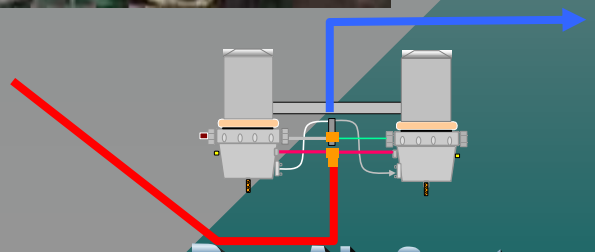

Dry Air Systems

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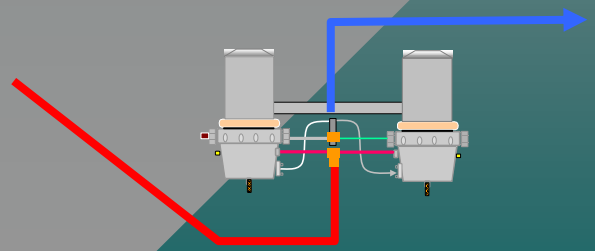
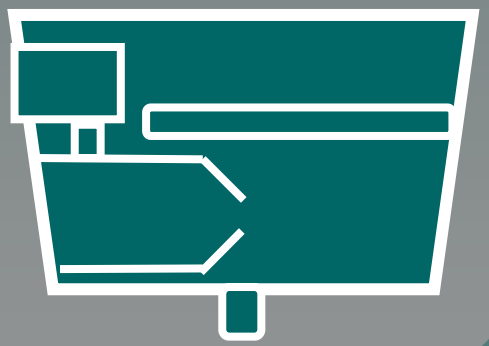
Would Like to Thank

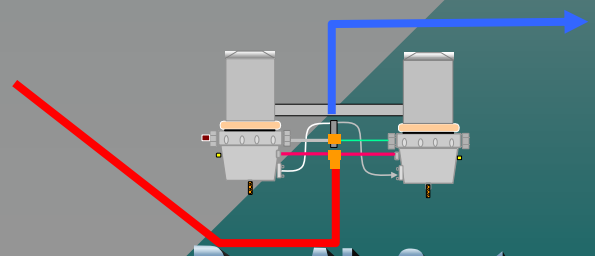


Dry Air Systems, Inc.

Bottom Cap

- Die cast Aluminum
- Houses 2 valves
  - Unloader, Inlet
- Houses heater assembly (opt.)
- Two NPT ports
  - 1/2” inlet, 3/8” UNL port
- One exhaust port

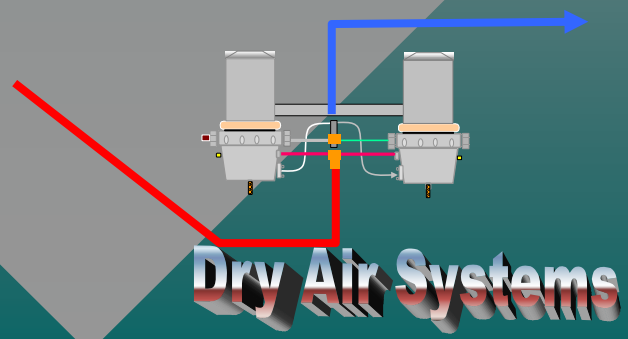




Dry Air Systems

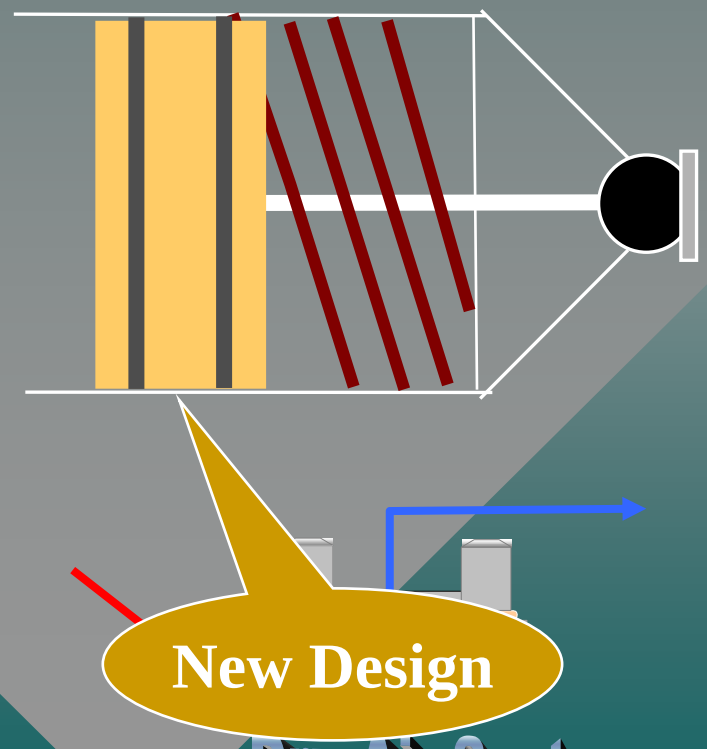
MVP Adapter Plate

- Used to mount dryer
- Houses check valve
- Separates contaminated air
- Directs filtered, dried air to air system



Purge Valve #PV1

- Viton Ball seal
- Two Viton O ring seals
- Opens with governor air signal
- Closes with spring Force



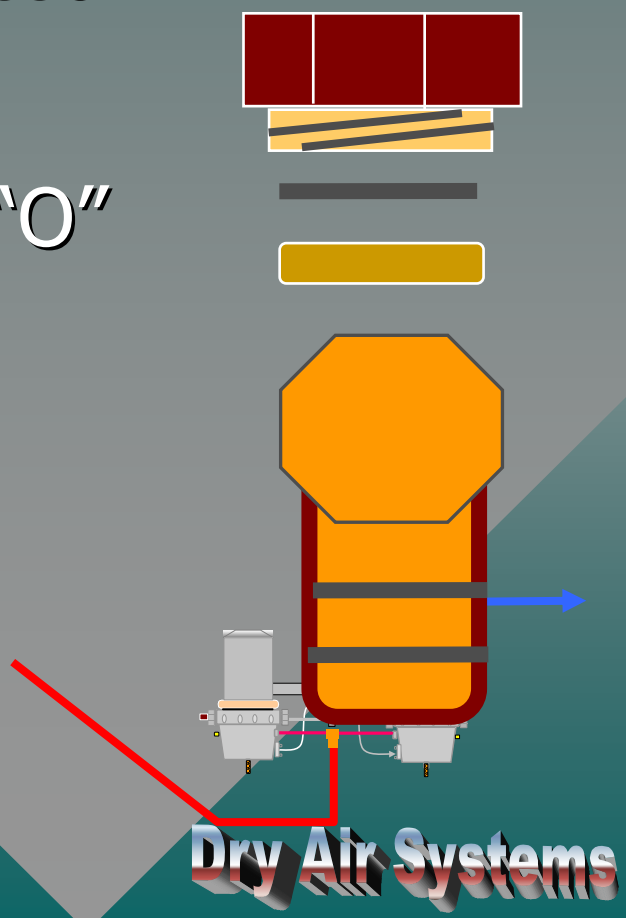
Dry Air Systems

Regeneration Valve #RGV1

- Positioned above safety valve
- Two piece design
  - spindle and spring
- Controls regeneration cycle and purge rate during non pumping cycle
- Easily serviced

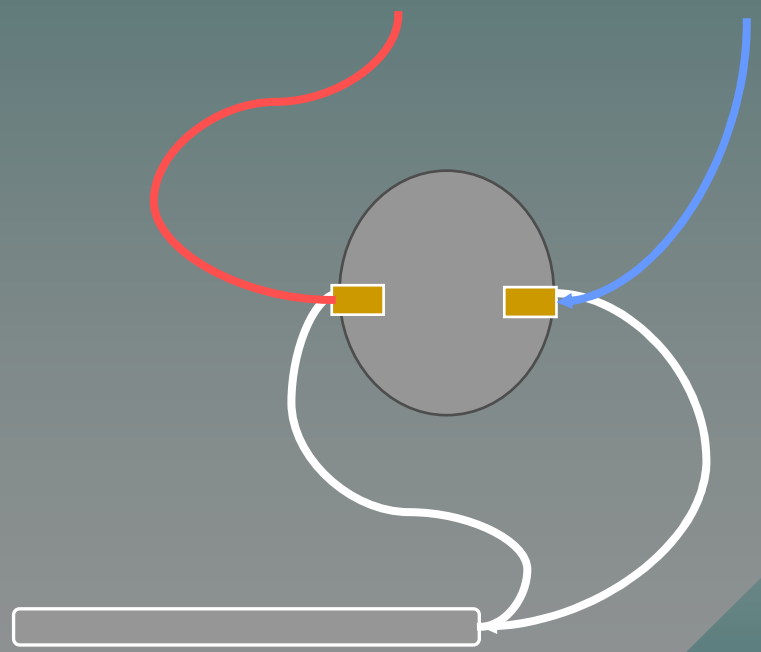
Inlet Valve #IV1

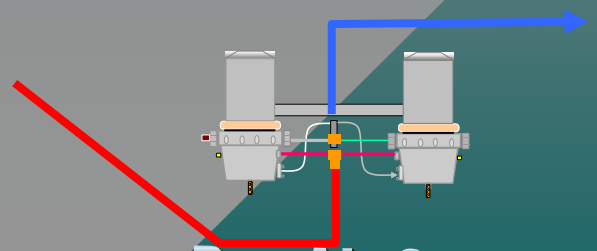
- Stops air flow from compressor during regeneration cycle
- Utilizes Viton seat and two "O" rings



Heater Assembly
(Optional)

- 75 watt heater
- Sealed with cover & RTV 205 Silicone **(OLD)**
- SAE Two pin sealed connector
- Thermostatically controlled
  - on @ 35 off @55 deg. F

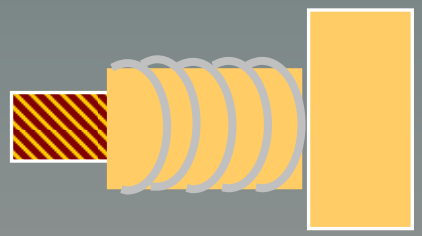


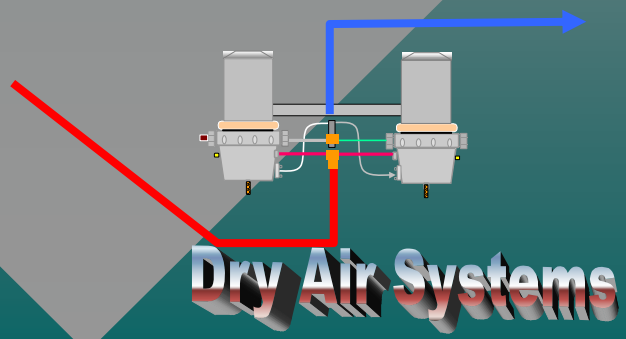


Dry Air Systems

Safety Valve

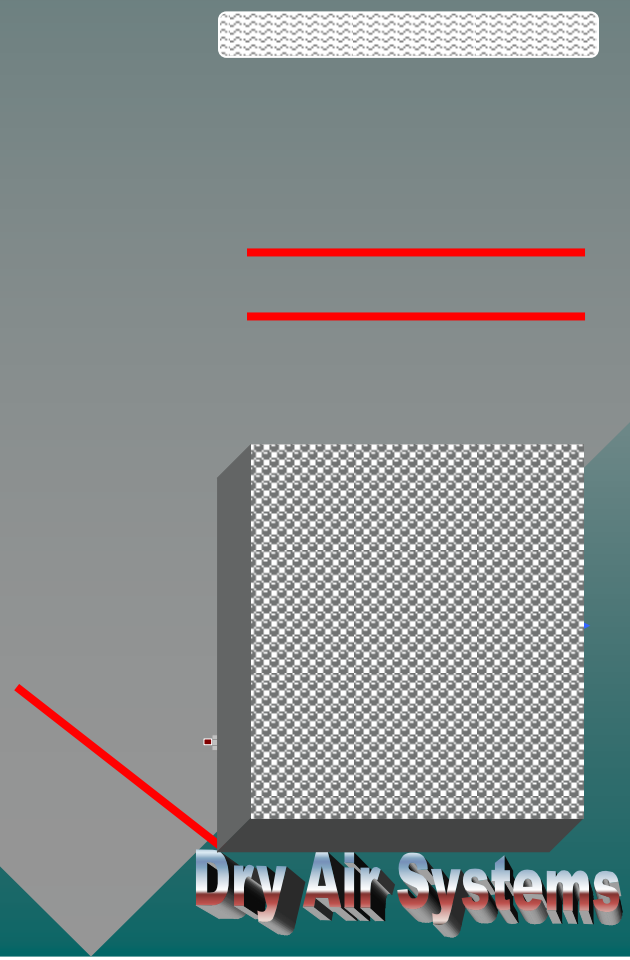
- Rated @ 200 PSI
- Full flow of 30 CFM
- Mounted in intake manifold for easy access





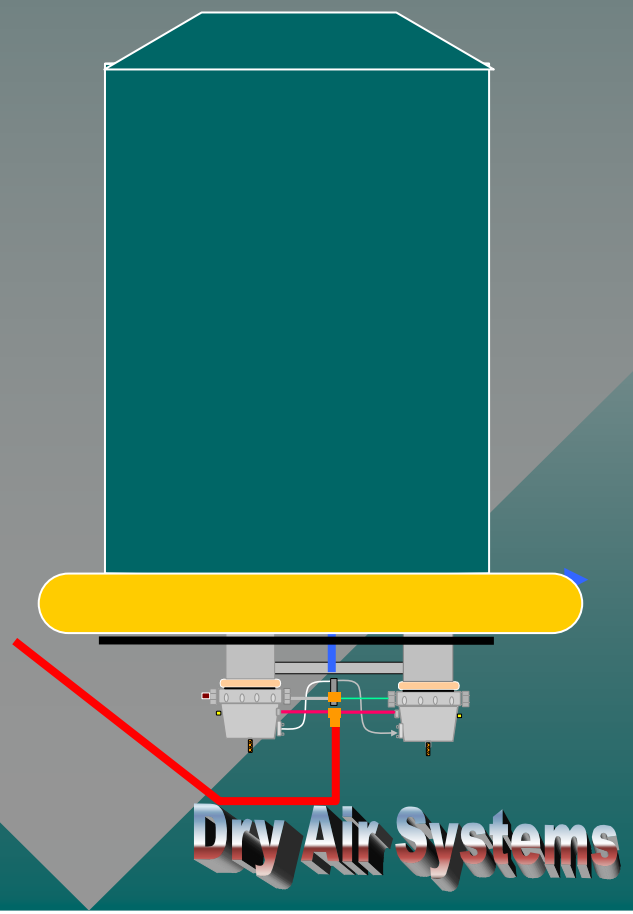
Filters

- Primary filter captures larger particles
- two additional filters on top and bottom of desiccant bed
- Desiccant bag retards oil contamination



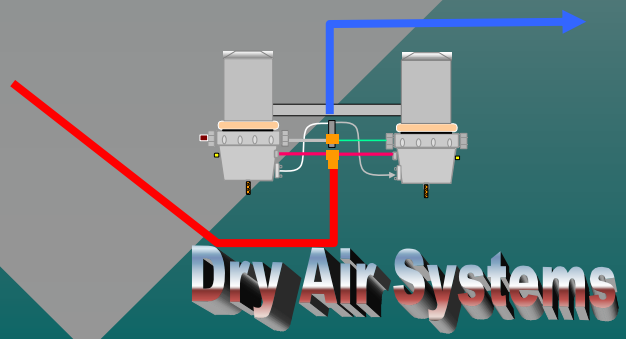
MVP-C1 Cartridge Outer Shell

- Constructed as a stamped steel shell
- Mated to aluminum nut plate
- Joined together with the stamped steel plated closing ring



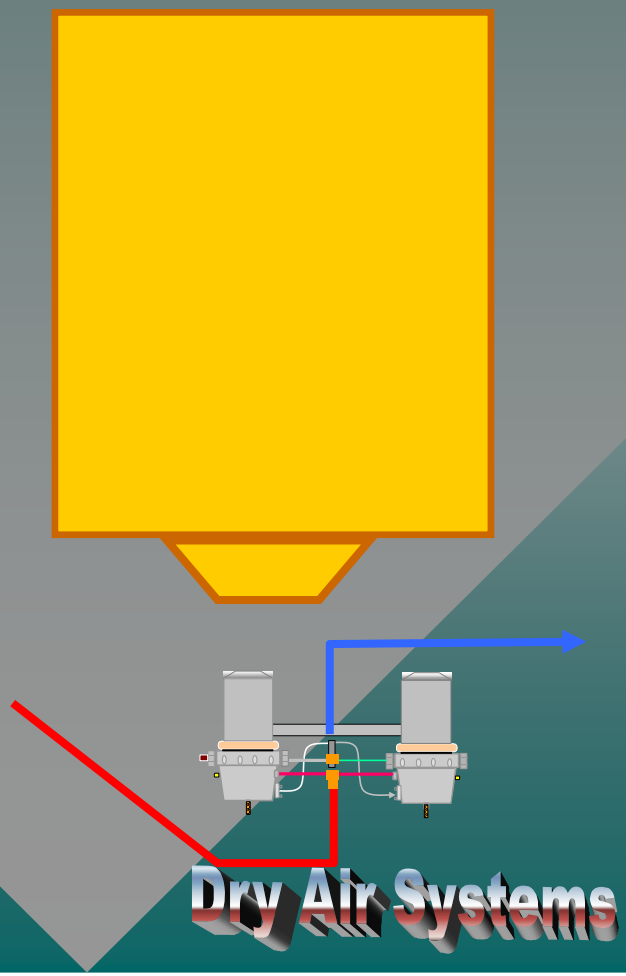
MV1-C1 Desiccant Spring

- Necessary to keeps desiccant under load during charge and regeneration cycles
- Necessary to prevent desiccant from pulverizing



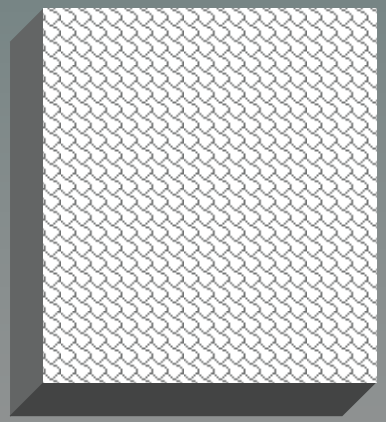
Inner canister

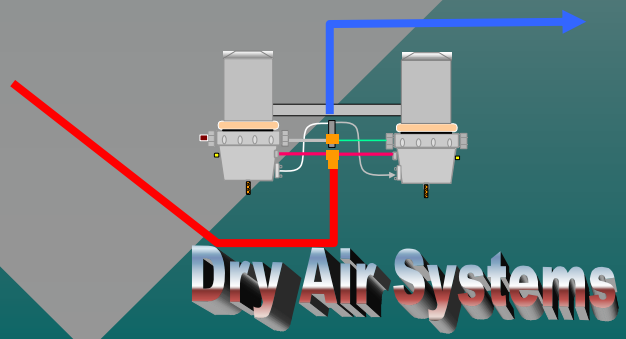
- Constructed with Rynite Composite plastic
- Holds 4 pounds desiccant, bag and two filters



Desiccant Bag

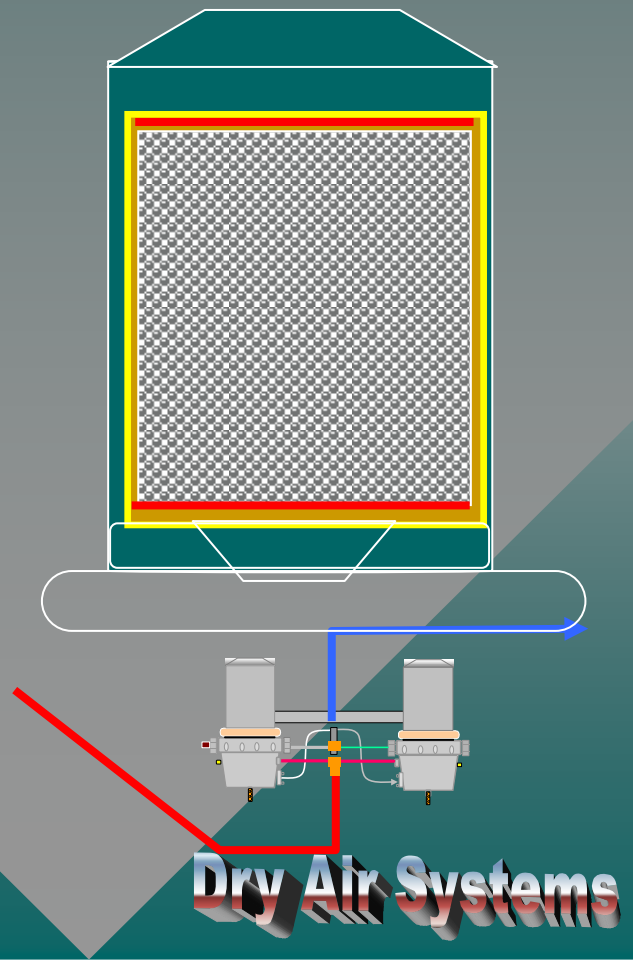
- Contains four pounds of desiccant
- Acts as filter for retarding oil contamination





Desiccant

- **Desiccant**— A substance that adsorbs and desorbs moisture from air.
- Contains four pounds of desiccant.
- Positioned in center of inner canister.



Filters

- Primary filter captures larger particles
- two additional filters on top and bottom of desiccant bed
- Desiccant bag retards oil contamination