

## IN-LINE DESICCANT DRYER

The compressed air flow path through the dryer assures desiccant packing and maximum utilization of the desiccant's adsorption qualities. The compressed air enters the dryer (1) and is dispersed through a 70 micron polypropylene element (2) for the removal of particles. The air is then distributed uniformly through the full desiccant bed (3) to the bottom of the intake tube (4). The intake tube is protected by a 40 micron porous bronze element (5). As the desiccant adsorbs moisture, a dramatic and highly visible color change from dark blue to light pink is evident. The color change works its way through the desiccant as the adsorptive qualities of the desiccant are diminished. Once the color change is visible through the exclusive sight dome (6), the full desiccant bed has reached its maximum drying capacity and must be either changed or regenerated. Dry air exits through the inside diameter of the intake tube (7) and out the outlet port of the unit (8).

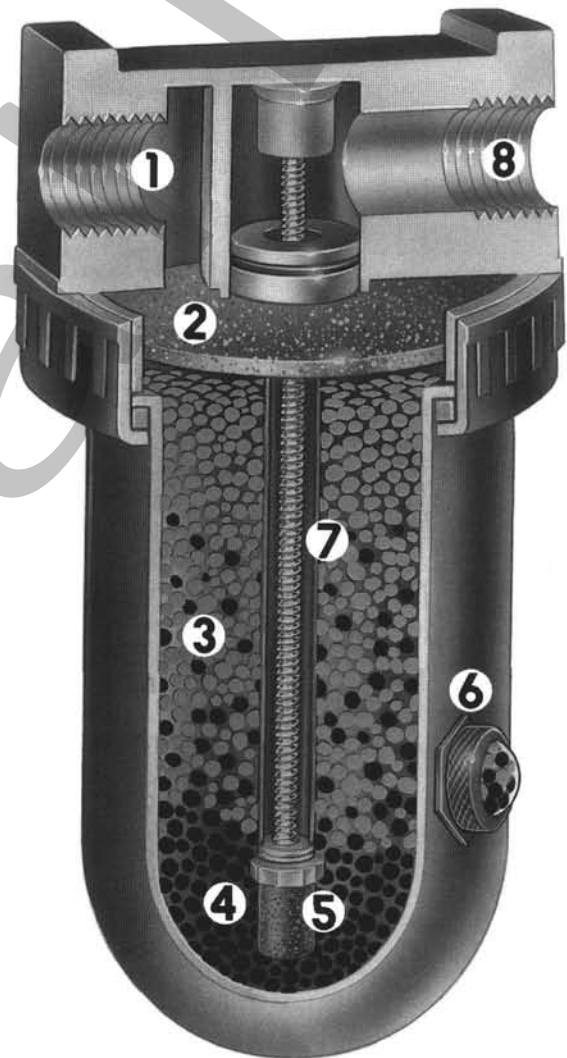
### ADSORPTION

Adsorption means the attraction of a substance – the adsorbate – to, and its subsequent accumulation on, the surface of a solid material – the adsorbant – which is caused by physical forces of attraction. Adsorbants are substances which are permeated by a large number of very fine pores which give rise to a large internal surface area. This, in turn, determines the adsorption capacity of the adsorbant, since a large internal surface can accommodate more adsorbate. Other factors which influence the amount of adsorbate are: temperature, relative humidity and pressure.

### REGENERATION PROCESS

Regeneration is accomplished by heating the desiccant to a temperature of 275°F in a drying oven. Regeneration is complete when the desiccant returns to its blue color.

For extended life and protection of the desiccant and equipment being serviced, an F3 Prefilter and F5 Coalescing filter should be used as a prefiltering system ahead of the dryer.



# ARROW

# In-Line Desiccant Dryer



## FEATURES

- Available in capacities from 10 to 50 scfm
- Compact sizes are ideal for portable or original equipment
- Drying efficiency can be tailored to your needs down to -45°F pressure dew point
- Highly visible color change from blue to pink through exclusive sight-glass highlights the need for service
- Exclusive hard spherical bead resists attrition and dusting and can be recharged
- Exclusive intake flow design takes air through entire supply of desiccant for maximum drying capacity
- Built-in particulate after-filter prevents downstream dust
- Needs no electrical connection
- No "purge air" lost as with regenerative dryers

## SPECIFICATIONS

### Bowl

- D05-02: Polycarbonate with guard
- D10 & D25: Metal with sight gauge

### Desiccant

- Silica gel

### Maximum Pressure

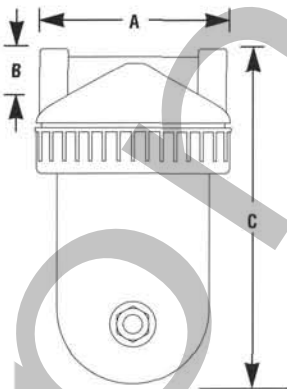
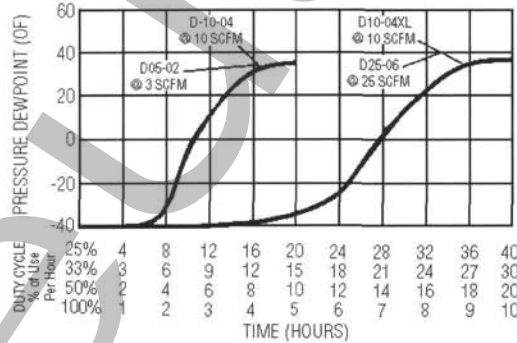
- 250 psig

### Operating Temperature Range

- 0°F to 120°F

## APPLICATIONS

- Always install an F5 coalescing filter upstream of the D05, D10 & D25
- For compressed air service only
- Not to be used on life support systems or breathing air systems
- Dry air for parts blowoff
- Paint spray systems
- Air gauging equipment
- Laboratory air



## DIMENSIONS

PIPE SIZE	MODEL NO.	MAX. FLOW SCFM*	SCF*	DESICCANT WEIGHT (LBS.)	DESICCANT CHARGE	DIMENSIONS (INCHES)			WEIGHT (LBS.)
						A	B	C	
1/4"	D05-02**	.5 to 5	830	1/2	6 oz.	3 <sup>15</sup> / <sub>16</sub>	7/8	5	1.5
1/2"	D10-04	5 to 15	2500	1 1/4	1 Qt.	4 <sup>7</sup> / <sub>8</sub>	1 <sup>13</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>8</sub>	5
1/2"	D10-04XL	15 to 25	5000	2 1/2	2 Qt.	4 <sup>7</sup> / <sub>8</sub>	1 <sup>13</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>16</sub>	7
3/4"	D25-06	25 to 50	12500	6	1 Gal.	6 <sup>3</sup> / <sub>4</sub>	1 1/2	16 <sup>1</sup> / <sub>2</sub>	23

\* SCFM and SCF based on 70°F inlet temp. @ 100 psig

\*\* Polycarbonate bowl with metal bowl guard

Replacement Desiccant

No. 34189 – 6 pack of 1 qt. jars

No. 34417 – 4-1 gallon jugs

# StageAir Drying System



- The StageAir Drying System is a point-of-use drying system and is protected by an OSHA Lockout valve which exhausts all downstream pressure when closed, and can be locked in the closed position with customer supplied padlock, exhaust 6 SCFM at 100 PSIG to prevent element damage.

Note: When pressurizing open slide valve slowly to prevent element burst.

## HOW IT WORKS

### FIRST AND SECOND STAGE

- The StageAir desiccant air drying system begins with the dual stage integral filter/regulator
- First, the air enters the particulate filter, which has a 5 micron cleanable sintered bronze element. In this stage, corrosive moisture, pipe scale, dirt and rust are removed from the air line protecting the precision parts in the regulator.
- Next, the air enters a high-performance regulator, which reduces primary pressure to a desired pressure setting.

### THIRD STAGE COALESCING FILTER

- During Stage 3, fine filtration takes place. Here, 99.99 percent of oil aerosols and microscopic particles down to .01 micron absolute are removed from the air. The pop-up indicator alerts customer that an element change is necessary.

### FOURTH STAGE DESICCANT AIR DRYER

- As the air enters the desiccant dryer, it is dispersed through a 70 micron element. The element distributes air evenly through the desiccant bed. The desiccant absorbs the water vapor from the air, producing a -40°F pressure dew point.
- To remove traces of desiccant dust before the air leaves the system, the air passes through a 40 micron filter element. The air is now clean and dry, and has been properly treated for use with your air operated system.
- The clear indicator sight glass shows a color change in the desiccant from blue to pink which indicates a desiccant recharge.

## OPTIONS

To order options for the VC7500 series, simply add the appropriate suffix, as listed below, to the part number in the alphabetical/numerical order.

- 3** 3 micron absolute element (particulate filter)
- F** Float drain
- J** Overnight Drain

## KITS

### Element Kits

- 5 micron .....EK35-5
- .01 micron .....EK55A

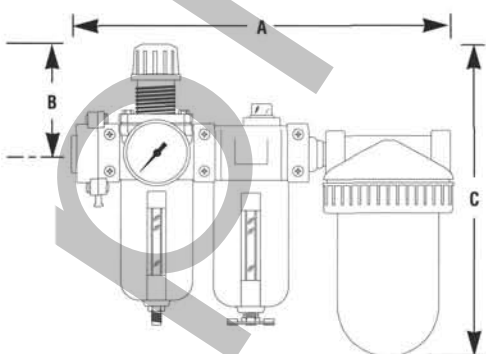
### Desiccant Kit

- 6-Pk. of 1 Qt. Jars .....34189
- 4 - 1 Gal. Jugs .....34417

Mounting Bracket ABK-10, see page 60

### Applications

- Paint Spray
- Air Gauging Equipment
- Lab Air



## DIMENSIONS

PIPE SIZE	MODEL NO.	MAX. FLOW		DESICCANT WEIGHT (LBS.)	DIMENSIONS (INCHES)			WEIGHT (LBS.)
		SCFM*	SCF*		A	B	C	
1/2"	VC7510	5 to 15	2,500	1 1/4	14 1/4	4	11 1/4	10
1/2"	VC7510XL	15 to 25	5,000	2 1/2	14 1/4	4	16 1/4	13.5
3/4"	VC7525	25 to 50	12,500	6	16 1/2	4	20 3/8	24.25