FARGON

FDA medical series
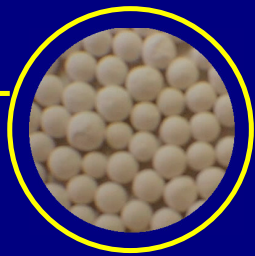
According to Resolution RDC n ° 50 of
February 21, 2002 ANVISA

Compressed air dryer

**By adsorption - heatless regeneration
medical applications**

Principle of adsorption
## Drying with high efficiency and reliability

Some applications require a compressed air with very low moisture content (dew point negative between -5 to -70 °C approximately), not being met by drying systems for cooling (dew point +3 °C). In this case we use a dryer which operates by the principle of adsorption.

Adsorption is a physical process that leads to the fixing of certain gas molecules (in our case water vapor) on the surface of solids materials called adsorption, adsorbents or sorbents. This process is highly efficient, since the materials are easily regenerated adsorption after reaching its saturation (hot or cold).

With regard to compressed air, the adsorption system radically eliminates water vapor in the mixture. With this system you can currently obtain dew points near -100 °C.

The adsorbents are porous products extreme mind, and commonly have specific surfaces 500-1000 square meters per gram. And it is this vast area which creates the fundamental condition for the adsorption phenomenon (which is comparable to the known phenomenon of condensation) which comes into being, ultimately, a surface phenomenon. Regeneration (also called reactivation) of materials for adsorption is the removal or evaporation of water adsorbed from the same compressed air. This regeneration can be achieved by "washing" of the adsorption material saturated with dry air and warm (drying line FDH), or with pressurized cold and dry air (line FDA).
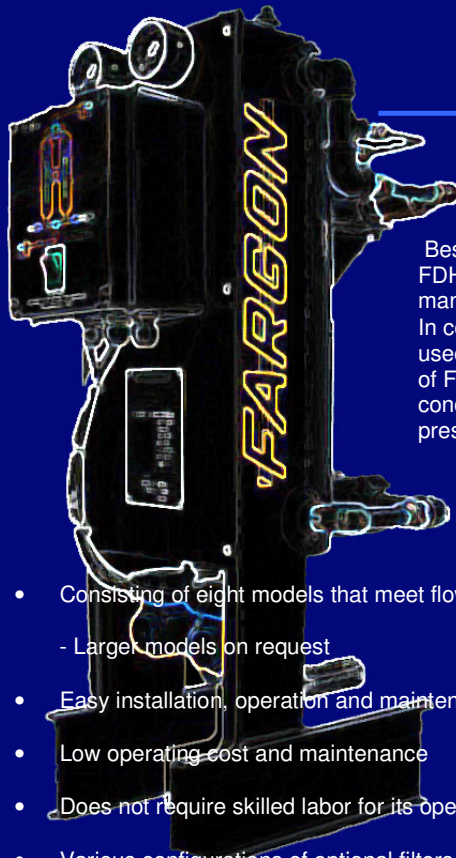
FDA series
medical applications

Besides the standard equipment of adsorption (lines FDA / FDH) for industrial applications, Fargon designs and manufactures equipment for medical applications.

In conjunction with our unique filter system cleanser, can be used in applications for medical use according to RDC No. 50 of February 21, 2002 ANVISA, removing particulates, oil, condensate, water vapor to PO = -45.5 °C at atmospheric pressure, odors, CO and CO2.

- Consisting of eight models that meet flows from 3 scfm (5 Nm^3 / h) to 411 scfm (700 Nm^3 / h)

  - Larger models on request

- Easy installation, operation and maintenance

- Low operating cost and maintenance

- Does not require skilled labor for its operation and maintenance

- Various configurations of optional filters remove a wide range of contaminants as particulates, water, oil and odors to CO and CO2.

- Automation controlled by special electronic board programmable microprocessor or PLC allows, if necessary, fine adjustment of the device to the operating conditions of the process.

Basic lay out of an installation

S
Air outlet

E
Air inlet

P
purga

➡ DRYING CIRCUIT

➡ REGENERATION CIRCUIT
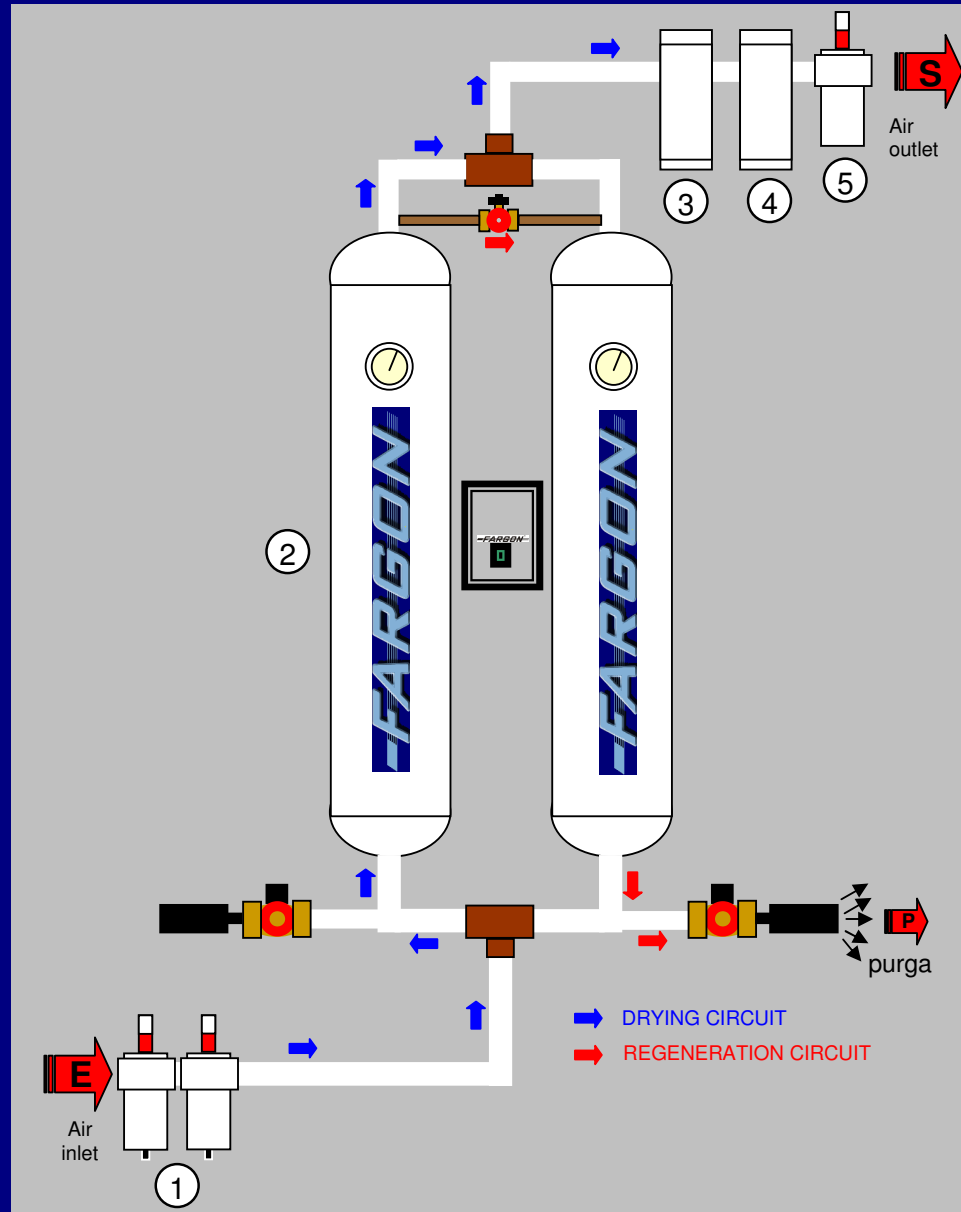
Item	Component description
1	**Pre-system filters composed of one or two coalescent filters** *Finality: oil, condensed water and particles removal* *Quality treatment: until 0,008 ppm / 0,01 µ*
2	**Adsorption compressed air dryer** *Finality: water vapor removal* *Quality treatment: atmospheric dew point until -45,5ºC*
3	**Activated charcoal filter / catalyst CO** *Finality: Oil odor and hydrocarbons removal / CO removal* *Quality treatment: until 0,003 ppm (odors and hidrocarbons) / < 1 ppm CO*
4	**CO2 filter removal** *Finality: CO2 removal* *Quality treatment: < 300 ppm*
5	**Final filtration system** *Finality: particles removal from systems* ② ③ ④ *Quality treatment: until 3 µ (optional 0,01 µ)*

FDA
medical applications

SPECIFICATIONS

Model	Max. capacity at pressure 7 bar temper. 38℃ PO = -45.5 ℃		Connec. Inlet and outlet R-thread	Dimensions / weight approximate without purifying filters (mm / kg)				Electric consump.	Compressed air consumption for regeneration
	scfm	Nm³/h		Length	Width	Height	Weight	W	
FDA 0010	3	5	¼" R	250	150	500	12	10	15%
FDA 0020	9	15	¼" R	300	165	700	25	10	15%
FDA 0120	35	60	½" R	310	300	800	65	10	15%
FDA 0130	35	60	½" R	350	350	850	55	10	15%
FDA 0150	59	100	½" R	400	400	2100	155	50	15%
FDA 0250	80	136	¾" R	450	450	2400	240	50	15%
FDA 0400	135	230	1" R	500	500	2100	270	50	15%
FDA 0600	235	400	1.1/2" R	630	600	2400	450	100	15%
FDA 1200	411	700	1.1/2" R	800	700	2400	520	100	15%

larger models: on request

To select the ideal model for your needs, use the form below
FORMULA: Flow tabulated = Q X factor F1 X Factor F2

Q	Flow of compressed air to be treated (Nm³ / h or scfm)								
F1	Dryer working pressure (bar)	4	5	6	7	8	9	10	
	Woking pressure correction factor	1,58	1,34	1,14	1	0,88	0,8	0,72	
F2	Compressed air inlet temperature (℃)	30	35	38	40	45	50		
	Inlet temperature correction factor	0,64	0,86	1	1,11	1,43	1,88		
	Flow tabulated = Q x F1 x F2								
	Dryer model selected								

Model
FDA 0010 a FDA 0020

Model FDA 0120 / FDA 0130

Model
FDA 0150 a FDA 1200