D41IM – D299IM
MODULAR DESICCANT DRYERS
24 - 176 scfm

Point of Manufacture – Newcastle, UK

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Revision 1

MODULAR DESICCANT STANDARD CONSTRUCTION

Standard Construction

The Ingersoll Rand Modular dryer series is a product based on advanced aluminum extrusion technology to produce a twin tower desiccant dryer having typically half the size and weight of conventional designs.

The dryer consists of high tensile extruded aluminum columns containing twin chambers each filled with desiccant. The modular design eliminates the need for complex valves and interconnecting piping.

The extruded aluminum columns are fastened together using common top and bottom manifolds.

The desiccant is filled in the aluminum chambers using the "snow storm filling" technique. This ensures a maximum packing density which will result in a consistent dew point performance.

A purge air silencer is housed within the dryer lower bottom enclosure. This ensures a low operating noise level.

Inlet Valve	**All Models** The simple and compact design has a minimum of moving parts, the use of first class materials and the thorough testing program ensures proven total reliability and an extremely long lifetime.

Silencer	**All Models** Through the design of these dryers, noise reduction takes place in two stages prior to exiting the dryer. Air flows through the regeneration valve then into a high quality water retarded silencer. Shock waves created when exhausting compressed air to atmosphere are broken up, without unacceptable build in back pressure.

Noise Level	The noise levels quoted on the Engineering sheets are LEQ values. The LEQ value is a standard industrial method of averaging the sound level which varies with time. In this case the time period is over one complete cycle.

Desiccant	**All Models** All the models of the Ingersoll Rand Modular adsorption dryer range use activated alumina. The adsorption is based on the affinity of the desiccant material towards the water vapor. Aspects like adsorption capacity, strength, contact time, maximum inlet temperature, standard required pressure dew point; etc makes activated alumina the best choice for this type of adsorption dryer.

Check Valves	**All Models** There are two check valves situated in the cartridge twist insert heads, both screwed within the top head of the dryer. The head is made from high tensile aluminum

Electrical Supply	**All Models** All units are supplied as standard with the following supply. 230V/1ph/50Hz (voltage tolerance +/- 10%) or 115V/1ph/60Hz (+/- 10%) controller.

Electrical Enclosure	**All Models** IP65 (NEMA 4) overall rating is standard on these units.

Construction	**All Models** The base is steel with a molded control panel integrated into the dryer base. **Pipe connections** All models are equipped with inlet /outlet connections. BSP threaded connections are used for 50 Hz units and NPT for the 60 Hz units.

Packaging	**All Models** The packaging is a heavy duty wood crate, utilizing inserts to hold the equipment in place.

Filtration	**All Models** HE Pre-filters and DP After-filters are included with all models. Filters are sized to the flow requirements versus the connection size.

Optional Construction

Dew point	**All Models** For specific applications we can offer air down to –70°C pressure dew point. Molecular sieve is used for these applications.

Energy Conservation Operation (EMS)	**All Models** For applications with reduced loads or desire to save energy in the form of purge air, the dryer can be equipped with a humidistat to monitor the outlet pressure dew point. The dryer will delay the tower switching until the pressure dew point reaches -40F/C minimizing the required purge air.

Material Specification

Dryer Columns

Material: High tensile aluminum alloy

Process: Extruded

Finish: Alocrom and dry powder epoxy painted

Paint Specification

The Ingersoll Rand Modular range of adsorption dryers have the following surface treatment:

Alocrom 1200 followed by an epoxy powder coating.

Alocrom is a rapid non-electrolytic dip process which forms a protective coating.

Alocrom 1200 is approved to DEF STAN 03-18 certificate number 031801 and to MIL-C-5541.

Outside the UK the process is known as alodine 1200; alocrom and alodine 1200 are chemically identical.

Epoxy powder coating is applied with a dry film thickness (DFT) of between 50 - 150 microns.

Conveyor oven curing of all components in accordance with manufacturing procedure MP 26.