

# TWIN-CON

the evolution of a *high efficiency* concept for integrated filtration and drying advanced technique



**TWIN-CON***dryer* • **TWIN-CON***oilless* • **TWIN-CON***med*

ETHAFILTER provides industry with **up-most** methods of **drying** and **filtration** for conditioning the purity of compressed air up to the **highest class** of standard **ISO 8573.1**.

## The evolution

Our philosophy is to progress from good to better. This criteria governs our mission by integrating matured experience for conceiving innovative products.

## Innovative

The **TWI-CON** range integrates **advanced concepts** that are today feasible with modern materials of construction. Traditional welding techniques are being replaced by precise machining. The equation satisfies all User's expectations such as, for instance, simplicity, high efficiency, reliability, environmental free, appealing, etc.

## Light weight

Adsorption vessels are made of high quality extruded aluminium developed for the pneumatic industry. Large sections are now available for applying the concept up to medium size coverage.



## Modular

The basic module is constituted by the primary dryer section. The package is then integrated by other modules of filters that are composed to comply to specific classes of selective purification requirements.

## Flexible and versatile

✓**ease of installation: floor standing** configuration is currently addressed for general purpose, but the unit is pre-arranged for satisfying wall mounting or even horizontal where unavoidable.

✓**basic control is electronical**, while **pneumatic** version is available as optional.

✓**nice shape canopy** is currently provided as std. Omission is however feasible for OEM packager's integration.



**INNOVATIVE CLEAN TECHNOLOGY**

**TWIN-CON** is basically an innovative type of *desiccant dryer* unit that integrates various filter compositions normally suited for conditioning compressed air at the right titre of purity currently framed in ISO 8573.1 classes suggested for processing typical industrial applications.

Each dedicated package is **compact - ready to use**, and its autonomy lies in one main source of energy: compressed air. Compressed air free of moisture, oil and solid particles is guaranteed. All components are generously dimensioned and conceived according to the best criteria available from today's technology. The charging capacity and purification barriers allow the reliability of extremely low operating costs. For a better safety, the mapping of the cycles is controlled by an electronic board with synoptic reporting of the phases.

**Superior performance** is ensured by the principle of heatless regenerative adsorption dryer that guarantees **negligible residual humidity**, typically 50 times lower than a refrigerated type dryer. The unit operation is cycling automatically between two concentric towers filled with porous material having highly hygroscopic characteristics for capturing the water vapour in their crystalline structure. Drying takes place during the "adsorption" phase where a first tower is invested by the saturated gas passing through the porous drying media, thus ceding its load of humidity into a network of cavities calibrated for trapping the humidity vapour. Meanwhile the other column is "desorbed" by releasing pressure to atmosphere, and then simply driving off a small portion of dried air that is purged in counter flow for regenerating the desiccant layers. This cycle is repeated alternatively between the two towers in an infinite number of times. It is a **simple drying method** that is basically static and ecological.

### Three *dedicated* PACKAGE CONFIGURATIONS are currently available:

#### TWIN-CON<sup>dryer</sup>

basic unit fit with one inlet fine oil removal filter and one final dust filter. Typical installation is at the end point of use where the performance of the fridge dryer installed in the compressor station is insufficient.

#### TWIN-CON<sup>oilless</sup>

exhaustive unit fit with a chain of pre, micro and sub-micro filters prior entering the dryer section. A cartridge type filter candle filled with activated carbon for retaining traces of oil vapour and volatile organic substances is provided before the final dust filter.

#### TWIN-CON<sup>med</sup>

unit dedicated for purified compressed air for medical use in compliance with "Aer medicalis" requirements of the European Pharmacopeia.

| TWIN-CON... | Q <sub>in</sub><br>Sm <sup>3</sup> /h | Q <sub>out</sub><br>Sm <sup>3</sup> /h | dimensions<br>foot print | H    | weight<br>kg | Ø<br>G RP | Δp<br>bar | aux. el.<br>power |
|-------------|---------------------------------------|--|--------------------------|------|--------------|-----------|-----------|-------------------|
| 0,5         | 3                                     | 2.6                                    | 230 x 200                | 490  | 12           | 1/4"      | 0.01      | 12 W              |
| 1           | 6                                     | 5.1                                    | 230 x 200                | 855  | 14           | 1/4"      | 0.02      | 12 W              |
| 1,5         | 12                                    | 10.5                                   | 230 x 200                | 1105 | 17           | 3/8"      | 0.05      | 12 W              |
| 2           | 18                                    | 15.1                                   | 230 x 200                | 1210 | 18           | 3/8"      | 0.09      | 12 W              |
| 3           | 24                                    | 20.1                                   | 410 x 290                | 1355 | 20           | 1/2"      | 0.19      | 12 W              |
| 4           | 33                                    | 27.6                                   | 410 x 290                | 830  | 35           | 1/2"      | 0.012     | 12 W              |
| 6           | 48                                    | 40.2                                   | 410 x 290                | 1035 | 42           | 1/2"      | 0.04      | 12 W              |
| 8           | 65                                    | 54.4                                   | 410 x 290                | 1225 | 47           | 3/4"      | 0.08      | 12 W              |
| 11          | 110                                   | 92.0                                   | 410 x 290                | 1575 | 58           | 3/4"      | 0.32      | 12 W              |

Residual humidity = - 40 °C @ P air<sub>m</sub> 7.0 bar<sub>(g)</sub> and T air<sub>m</sub> 35 °C. For ≠ parameters, please apply correction factors indicated in price list.