

HR 300 Dehumidifying Dryer with exclusive desiccant rotor technology

Piovan HR 300 rotor dryer is ideally suited for the treatment of hygroscopic polymers with average throughputs. The technology with molecular sieve rotor ensures that the Dew Point values are kept with absolute constancy and with no fluctuation. The HR 300 dryer provides an airflow of 300 m³/h, in combination with drying hoppers with a capacity ranging from 200 to 800 litres.

The advantages of the HR range

- > **Utmost energy efficiency.** The HR 300 dryer operates in a wide range of temperatures between **75°C** and **150°C**, without requiring cooling water or compressed air, and exclusively using electricity. The solution with rotor and the complete recovery of the regeneration air result into a **reduction on the energy consumption up to 30%**.
- > **Constant Dew Point**, with consistent values included in the range **between -20°C and -50°C**, which can be selected by the operator thanks to the *Dew Point Management* function, ensuring the correct dehumidification of every type of material and the optimisation of the energy required for the regeneration process.
- > **Optimal moisture-molecular sieve exchange.** In the multi-hopper solution with usage of different materials with a different moisture content, the features of the honeycomb desiccant rotor system ensure optimised functioning from the point of view of the consumptions and of the absorption capacity with subsequent stability of the Dew Point.
- > **Optimal functioning in any application sector.** The solution with molecular sieve rotor ensures the absence of dust and avoids the risk of material contamination; the HR 300 is thus ideal for the medical, pharmaceutical, optical sectors and the micro-electronics field too.
- > **Variety of configurations;** the HR 300 dryer is available in the MT version for temperatures up to 150°C and in the HT version (equipped with pre-cooler device) for temperatures up to 200°C. In the case of working temperatures < 75°C or > 150°C, it is available the configuration with an optional post-cooler.

The HR 300 dryer can be combined with **drying hoppers** with a capacity ranging **from 200 to 800 dm³**. The single-hopper configuration permits the centralised management of all the dryer's functions, while the PTU version - which can include up to 4 drying hoppers - is equipped with an independent control for every single hopper in order to set the process temperature according to the material to be treated.



Enhanced devices in the multi-hopper version

The PTU multi-hopper configuration is equipped with advanced functioning devices for optimal treatment of the processed materials and intelligent energy utilisation.

- > **Drying Control Function** – the electronics constantly checks the loading times of the drying hopper and the drying times, and it signals any possible anomaly.
- > **IES System** – the dryer adjusts its functioning mode according to the real requirement of the processing machine, by means of a regeneration cycle control and the management of the cooling water flow (*Plus function*).
- > **IMD System** – multiple functions optimise the material treatment: they prevent the overheating and the thermal degradation of the granules, and they permit to manage the set point based on the material consumption and automatically reduce the airflow in the drying hopper and consequently the consumption of energy required (*Plus function*).

Simple and advanced operator interface

The HR 300 unit is equipped with a **microprocessor system** which keeps the set temperature precisely. The control keypad displays the functioning status and allows the operator to set the parameters and working modes. The serial port allows the connection with control and supervisory systems, such as **Piovan Win Factory**,

which manages all the auxiliaries of a system from a remote station and permits useful elaboration of the production data.



Standard features

- > Molecular sieve rotor
- > High pressure side channel blowers
- > Filtration system for the blowers
- > Stainless steel heating chambers
- > Microprocessor control with alpha-numeric and multi-language display
- > Temperature-controlled regeneration
- > Electronic control of the process temperature with self-tuning PID algorithm
- > Solid state relays (SSR) for the process heaters control
- > Process air temperature safety control
- > Automatic set of the process air safety temperature
- > Warnings for the correct operation of the coolers

Options

- > Serial interface MODBUS RS 485
- > Serial interface PROFIBUS
- > Visual-acoustical alarm
- > Timer (daily/weekly/annual on-off switch)
- > Dew Point indication with alarm
- > Post-cooler
- > Pressure switch to warn of filter clogging

TECHNICAL DATA		HR 300
Process airflow *	m ³ /h	300
Process blower *	kW	3
Heating power (process)	kW	9/12**
Regeneration blower	kW	0.55
Heating power (regeneration)	kW	9
Installed power*	kW	22/25**
Max. process temperature	°C	150/200**
Dimensions (L x W x H)	mm	1000x1050x2005
Weight	kg	450

* 50 Hz ** HT version

	T200	T300	T400	T600	T800
Combination with drying hoppers	4	3	2	1	1