

## Compressed Air Dryers DPA Series

The new Piovan Dryers of the DPA Series use compressed air for the treatment of hygroscopic polymers. The range consists of 6 models, with a drying capacity ranging from 0.2 to 25 kg/h. The average Dew Point value is of  $-25^{\circ}\text{C}$ , which can be extended up to  $-40^{\circ}\text{C}$  in the configuration with desiccant towers. The DPA units are ideally suited for application on injection moulding and blow moulding machines, with small-medium throughputs.



DPA 3 model



The DPA compressed air dryers are formed by a compact box which includes the power and the electronic control for managing the temperature and other functions. By using dehumidified and oil-free compressed air with pressure at 5 to 7 bar, the DPA dryers reach **Dew Point values of  $-25^{\circ}\text{C}$** , suitable for most polymers. The dryers of the DPA Series can be combined with a glass drying hopper with a capacity of 1, 3 or 6 dm<sup>3</sup> or with a stainless steel insulated drying hopper (with a volume of 10, 20 or 30 dm<sup>3</sup>).

DPA 1 unit with glass hopper

### Exclusive technical features

- > **Double optimisation of the consumptions in line with the production type.** The control permits to manage the airflow on 7 levels, self-adjusting the dryer's functioning according to the quantity of material present. The system thus avoids wastage of energy as well as of compressed air.
- > **Self-adaptation of the working parameters.** Thanks to the *Material Database* included in the standard configuration, the control automatically regulates the process conditions once the material has been selected and the hourly throughput has been set.
- > **Dew Point values up to  $-40^{\circ}\text{C}$ .** The DPA 10-20-30 models are also available in the C configuration (DPA 10C- 20C- 30C), complete with optional desiccant towers, which permit to extend the unit's application range. The regeneration process is carried out without heat, by means of compressed air supply.
- > **Control of correct dehumidification.** The electronic system of the DPA dryers includes the *Drying Control function*. It

continuously checks the loading times of the drying hopper and the drying times, and it signals critical events.

- > **Open Material Database,** containing 50 materials complete with pre-defined set values for optimal processing. The database can be modified, customised and integrated with new data in line with the customer's production.
- > **Maximum possibility of inspection.** In all models, the drying hopper is equipped with removable diffusing cone, for cleaning operations for simple and rapid material changes.



Simplified cleaning operations

## Precise electronic control

All the main parameters are controlled by the electronic microprocessor which guarantees uniform drying process with a **precision of 0.1°C** over the set value; the working temperature can reach 150°C. The control system is equipped with an alpha-numeric display which provides clear information on the unit's functioning in the operator's language (out of a selection of 10 languages).

The DPA dryers can be equipped with the energy saving device **Intelligent Material Drying (IMD)**. The unit ensures optimal management of the drying process avoiding material over-heating or thermal degradation. It carries out management of the set point, based on granule consumption and it automatically reduces the airflow in the drying hopper, and consequently the consumption of energy required (*Plus function*).

The unit can be provided with serial interface for connection with a supervisory system such as **Piovan Win Factory**, which manages all the auxiliaries of the plant from remote positions.



### Options

- > Molecular sieve desiccant towers
- > Kit for regulating/filtering the compressed air
- > ModBus/ProfiBus serial interface
- > Quick connection adapting ring
- > Visual-acoustic alarm
- > Venturi hopper loader
- > Single phase hopper loader - mod. S50, S52, S55
- > Granule receiver C2 ÷ C30

The drying hopper can be fed manually or coupled with a Venturi receiver, integrated in the dryer's control. The DPA 10-20-30 range can be additionally coupled with vacuum receivers.

The DPA dryers can be installed directly on the processing machine or on a mobile trolley to form a **centralised solution**. The trolley can host up to 3 DPA units and be provided with a centralised compressed air drying unit.

| TECHNICAL DATA       |                   | DPA1             | DPA3  | DPA6  | DPA10 | DPA20 | DPA30 |
|----------------------|-------------------|------------------|-------|-------|-------|-------|-------|
| Process airflow      | m <sup>3</sup> /h | 0.2÷1            | 0.9÷2 | 1.5÷3 | 3÷5   | 5÷10  | 6÷15  |
| Hourly production    | kg/h              | from 0.2 to 25 * |       |       |       |       |       |
| Temperature range    | °C                | 40-150           |       |       |       |       |       |
| Heating power        | kW                | 0.6              |       | 0.9   |       | 1.2   |       |
| Dew Point**          | °C                | -25              |       |       |       |       |       |
| Drying hopper volume | dm <sup>3</sup>   | 1                | 3     | 6     | 10    | 20    | 30    |
| Dimension - L        | mm                | 350              |       |       | 494   |       | 528   |
| Dimension - W        | mm                | 338              |       |       | 496   |       | 608   |
| Dimension - H        | mm                | 467              | 467   | 678   | 640   | 730   | 724   |
| Weight               | kg                | 13.5             | 14.5  | 16    | 25    | 28    | 29    |

Voltage/Frequency 230/1/50-220/1/60 - \* depending on the type of material and drying parameters

\*\* oil-free, filtered air, 6 bar pressure, inlet Dew Point of 6°C