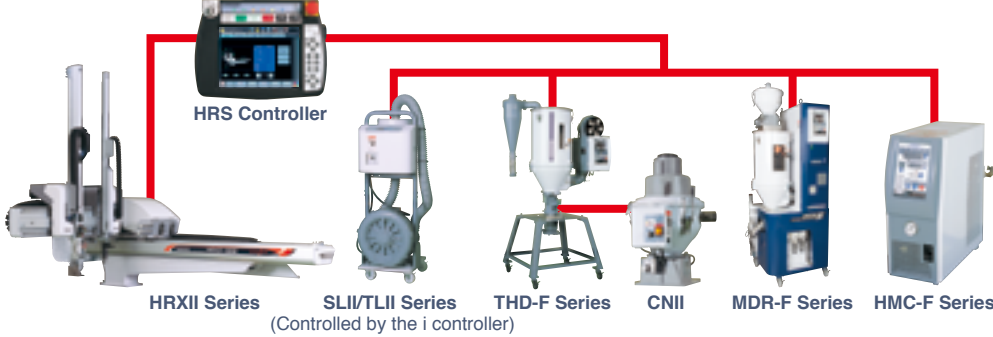


Shorter Mold Changing Time - Robot Link

HAL-NET (HARMO ALL-AROUND LINK-NET)

HARMO's traverse type robot can remotely control the dehumidifying dryers or other peripheral equipment made by HARMO. After saving the corresponding data, simply load the mold data to be able to control / operate the set peripheral equipment with the robot controller. This link-to-control feature prevents careless mistakes such as not selecting the appropriate temperature. Also it helps to reduce the time required for changing the molds. Under this link feature, the robot can remotely control the peripheral equipment installed outside of a clean room as well.



Controller

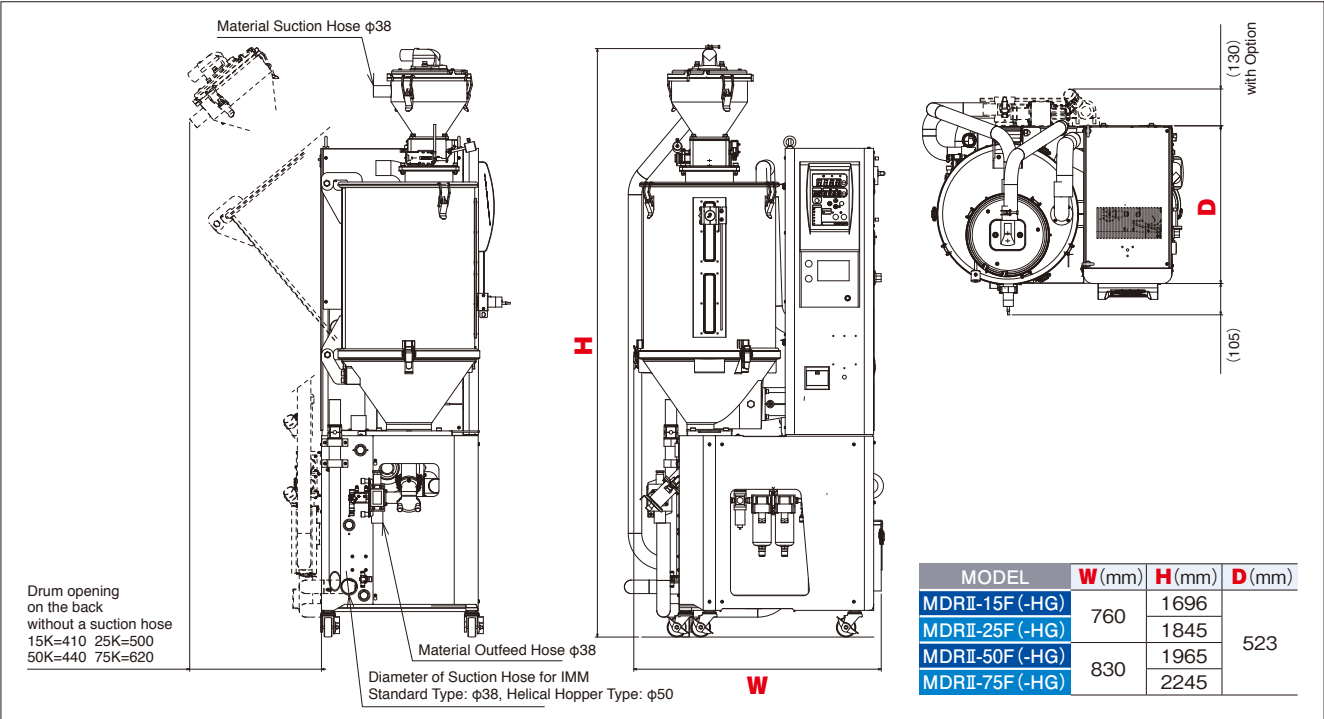
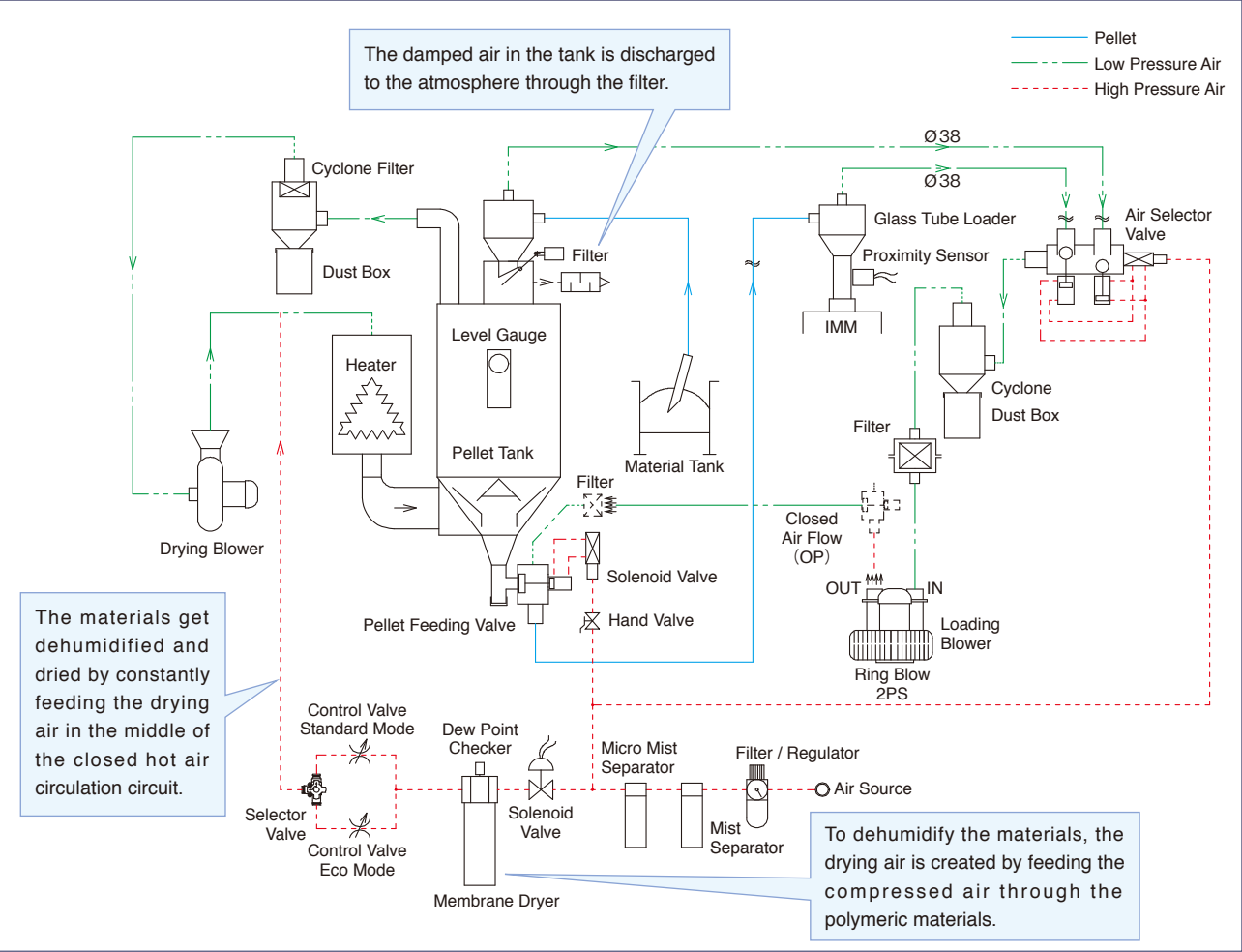


Most of the HARMO auxiliary equipment uses the universal control panel for easy operations.

Other Features

- All size is equipped with 2-horse power ring blower to convey in a long distance.
- This drying mechanism, simpler than the honeycomb type, minimizes possible contamination.
- A conventional honeycomb dehumidifier uses a heater in regeneration of desiccant. The polymer separation membrane system does not require any regeneration process so that the system can eliminate electricity cost for such process.
- The exposed hopper and discharge unit are ready for easy maintenance, cleaning, and servicing.
- Infrared Remote Controller (option) provides cable-less operation.
- Polymer separation membrane system with long service life and maintenance-free

Basic Flow Chart



| MODEL   |                                     |  | MDRII-15F (-HG)  | MDRII-25F (-HG) | MDRII-50F (-HG)             | MDRII-75F (-HG)      |
|---|-------------------------------------|--|--|-----------------|-----------------------------|----------------------|
| Dew Point (℃)                                   |                                     |  | Lower than -45 ℃ *may differ depending on the supplied air |                 |                             |                      |
| Dehumidifying Method                            |                                     |  | Polymer separation membrane system                         |                 |                             |                      |
| Drying Temperature (℃)                          |                                     |  | 80~150   |                 |                             |                      |
| Drying Blower                                   | Flow (50/60Hz) (m³/min)             |  | 3.2/3.7  |                 | 6.4/7.1                     | 9.5/10.6             |
|   | Static Air Pressure (50/60Hz) (KPa) |  | 0.4/0.61   |                 | 0.63/0.91                   | 0.91/1.3             |
|   | Motor (kw)                          |  | 3 phase 0.05   |                 | 3 phase 0.15                | 3 phase 0.3          |
| Drying Heater                                   | (kw)                                |  | 2.0  | 3.0             | 5.4                         |                      |
| Drying Hopper (SUS)                             | Maximum Capacity ※1 (ℓ)             |  | 25 (15kg)  | 42 (25kg)       | 83 (50kg)                   | 125 (75kg)           |
|   | Adjustable Range ※1 (ℓ)             |  | 17~25 (10~15kg)  | 25~42 (15~25kg) | 42~83 (25~50kg)             | 42~125 (25~75kg)     |
| Loading Blower                                  | Flow (50/60Hz) (m³/min)             |  | 3.5/4.2  |                 |                             |                      |
|   | Static Air Pressure (50/60Hz) (KPa) |  | 15.0/20.0  |                 |                             |                      |
|   | Motor (kw)                          |  | 1.5/1.75   |                 |                             |                      |
| Required Air Pressure (MPa)                     |                                     |  | Above 0.5  |                 |                             |                      |
| Air Consumption                                 | Standard Mode (ℓ/min)               |  | 85   | 125             | 170                         | 215                  |
|   | ECO Mode (ℓ/min)                    |  | 51   | 75              | 102                         | 129                  |
| Filter (Circulating)                            | Material                            |  | Cellulose Fiber + Synthetic Fiber                          |                 |                             |                      |
|   | Filtering Capacity (μ)              |  | Equivalent to 10   |                 |                             |                      |
| Filter (Conveying)                              | Material                            |  | Cellulose Fiber + Synthetic Fiber                          |                 |                             |                      |
|   | Filtering Capacity (μ)              |  | Equivalent to 10   |                 |                             |                      |
| Hose Diameter                                   | Air Suction Hose (mm)               |  | Standard Type: φ38 Helical Type: φ38 / φ50                 |                 |                             |                      |
|   | Material Suction Hose (mm)          |  | φ38  |                 |                             |                      |
| Conveying Hopper Effective Capacity (Dryer) (ℓ) |                                     |  | 3.5  |                 |                             |                      |
| Power Supply (V)                                |                                     |  | 3-phase AC200 (50/60Hz)                                    |                 |                             |                      |
| Rated Current (A)                               |                                     |  | 18   | 17              | 25                          |                      |
| Power Consumption (kw)                          |                                     |  | 3.55/3.8   | 4.55/4.8        | 7.05/7.3                    | 7.2/7.45             |
| Temperature Controller                          | Control Method                      |  | PID Control  |                 |                             |                      |
|   | Sensor Input                        |  | K (CA)   |                 |                             |                      |
| IMM Loading Hopper (Standard Type)              | Hopper Type ※2                      |  | G Hopper 50  |                 | G50 / G100                  | G Hopper 100         |
|   | Capacity (ℓ)                        |  | 1.7  |                 | 1.7 / 7                     | 7                    |
| IMM Loading Hopper (Helical Type)               | Hopper Type ※2                      |  | HG50 Helical Hopper  |                 | HG50 / HG100 Helical Hopper | HG100 Helical Hopper |
|   | Capacity (ℓ)                        |  | 4.9  |                 | 4.9 / 5.6                   | 5.6                  |
| Weight (kg)                                     |                                     |  | 168  | 175             | 189                         | 195                  |

※1 The capacity (ℓ) is based on using ABS virgin pellets with the apparent specific gravity 0.6.  
※2 For 50KG standrd type, select either G Hopper 50 or 100. For 50KG helical hopper type, select HG 50 or HG 100 Helical Hopper.

Manufacturer: **HARMO CO., LTD.**  
INTERNATIONAL MARKETING DEPT.  
4124-1, MINAMI-MINOWA KAMIINA-GUN NAGANO-PREF. 399-4595 JAPAN  
TEL.+81-265-73-8820, FAX.+81-265-73-8964  
<http://www.harmo-net.co.jp>

\*This brochure is subject to change without notice.

DEHUMIDIFYING DRYERS



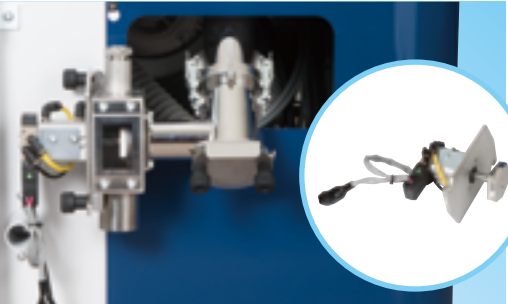


Stable Quality, Shorter Drying Time and Mold Changing Time, provided by thorough dehumidifying processing

Stable Molding Quality


Reassuring usage with low dew point of -45 °C and verstillle functions!

Purging



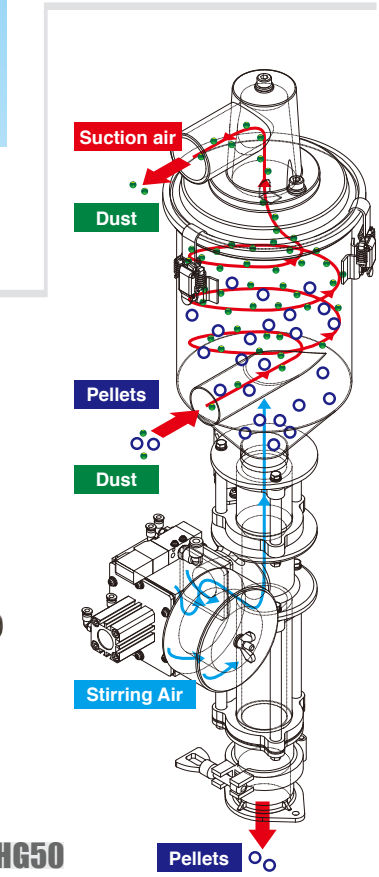
The standardly equipped purging valve can feed out the materials left in the hose (the air purging time is adjustable).

Dew Point Checker



The dew point checker is now equipped in the front of the unit so that the air dryness can be easily checked during the periodical maintenance.

Closed Air Flow Conveying



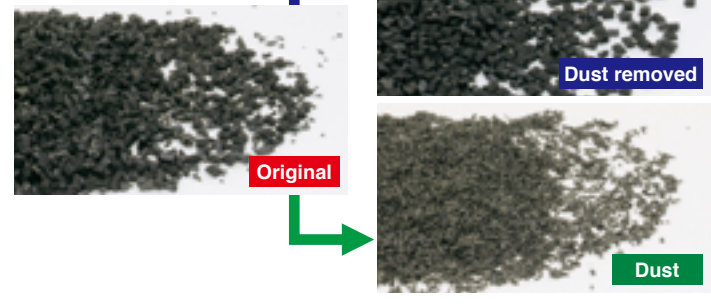
The closed air flow function can convey the materials to the loading hopper on the injection molding machine without intaking the secondary air (option).

Helical Hopper (HG type)

This hopper repeatedly spins the materials by using swirling air to remove the fine powder from their surface.

Sample Material with Dust Removed

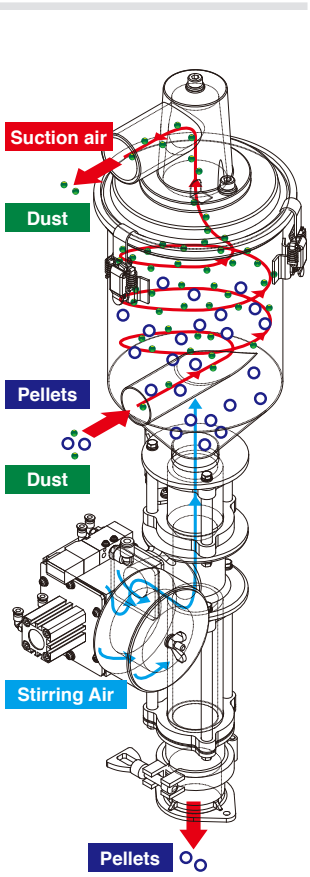
Crushed PA6



Original

Dust removed

Dust



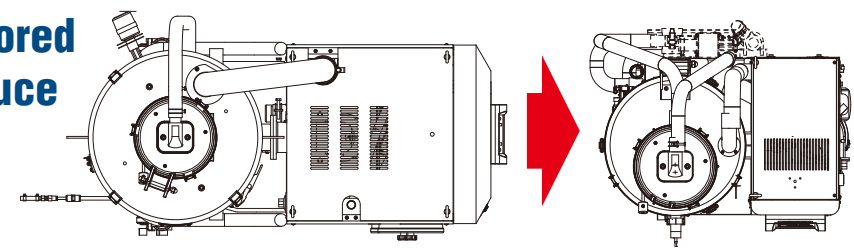
Front View




Side View (Right)

More Space-Saving

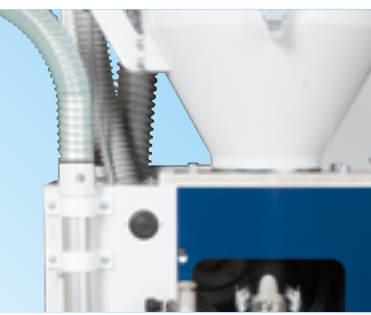
The dust collector is stored within the frame to reduce the occupying space by 57%.



Compact yet Easy to Use



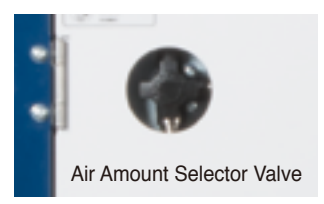
The operation panel is located in the easy-to-see position.



The unit has the storage space for the material nozzle. This is useful especially when the nozzle is not in use or the unit is to be relocated.

40% Less Air Consumption with Eco Mode

Select the eco mode to save the air consumption amount.



Air Amount Selector Valve

Save electricity with the Eco mode for commodity plastic molding!!

|   | MDR II-25F    |          |
|---|---------------|----------|
|   | Standard Mode | ECO Mode |
| Standard Mode (ℓ/min)                           | 125           | 75       |
| Air Compressor Electricity Consumption *1 (kwh) | 1.36          | 0.82     |
| Monthly Electricity Consumption *2 (kw)         | ¥13,872       | ¥8,364   |

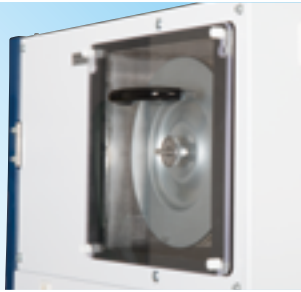
\*1 Actual measurement per hour by running the drying operation  
\*2 24 hours / 25 days 1kw = 17 JPY

**5,508 JPY Saving per Month!**  
**66,096 JPY Saving per Year!**


Shorter Mold Changing Time

Cleaning time is 50% shorter than a conventional type!

Transparant Filter Cover



This newly equipped transparant cover provides an easy and clear view of clogs on the filter from its side or back.



The filter is easy to come off from its mounting bracket for quick cleaning. The deeper filter tank prevents the powder to fall out when opening the cover.

Double Cycloones



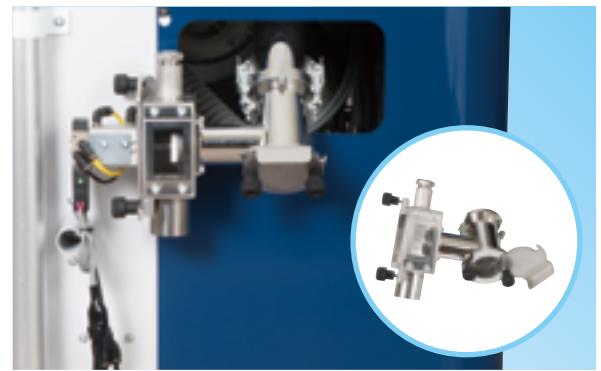
Cyclone Dust Box (Circulating)



Cyclone Dust Box (Conveying)

They remove the powder to relief the stress on the filter. The periodical maintenance is easy by simply emptying each box.

Drainage



Snap the latches to remove and clean.

Selector Valve



The dehumidifying air amount is selectable with the equipped selector switch. The available modes are the standard mode and the eco mode.

Separator



The cleaning is much easier with the newly shaped separator.

Material Level Gauge



The position of the material level gauge is adjustable to optimize the

Drain Unit



The drain unit has enough space to set a 280ml plastic bottle to collect the drainage caught by the equipped air filter.

