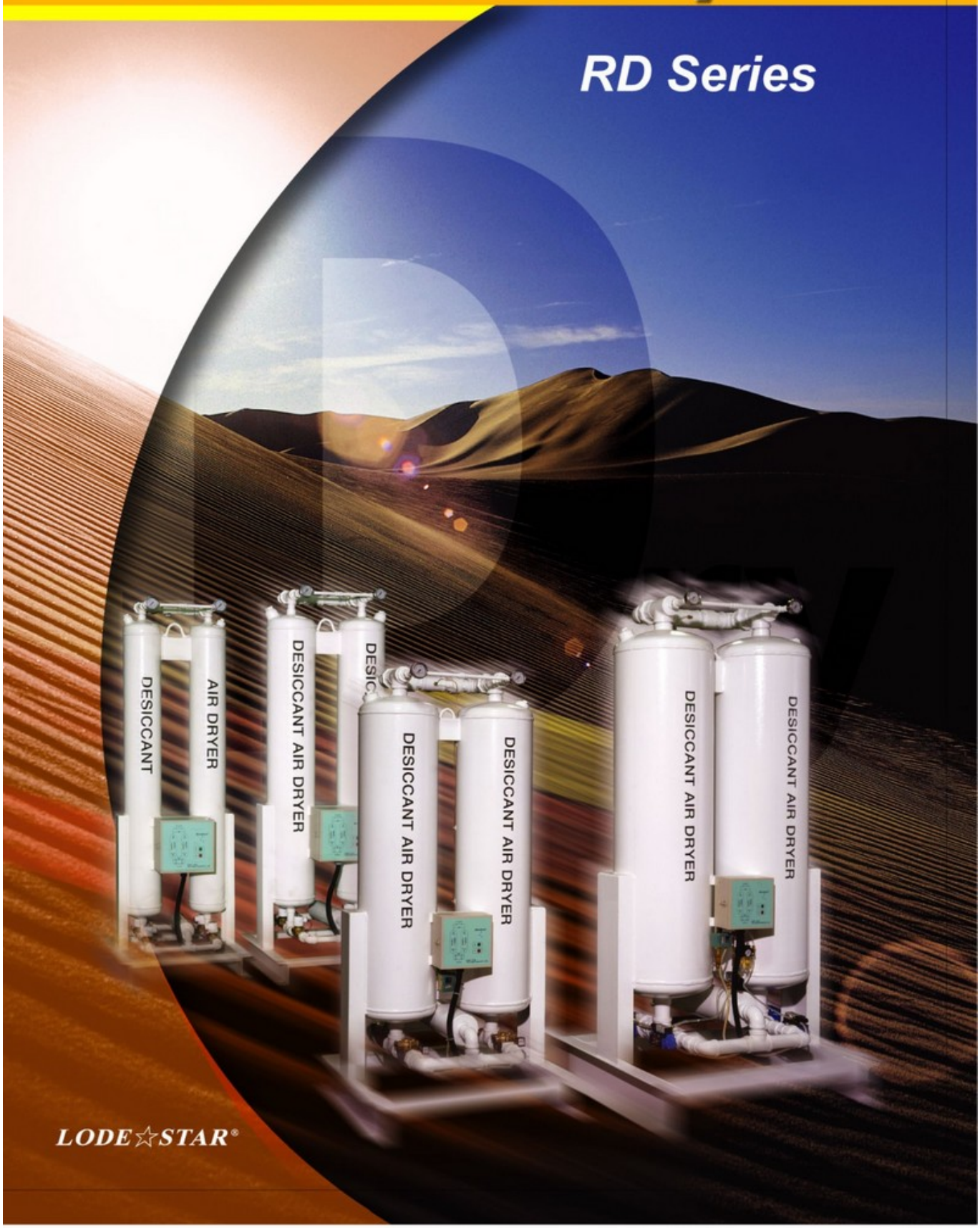

# Lọc hút ẩm khí nén

Đặt hàng

Heatless Regenerative Type

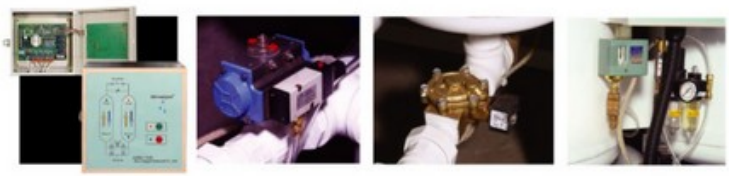
# Desiccant Air Dryer

## RD Series




LODE☆STAR®

| Standard Feature | Your Benefit |
|---|---|
| ***Fully ported, poppet type*** | Resists clogging, scoring and friction wear; long life and low maintenance |
| ***Elastomeric hi-temp seals*** | Bubble-tight seal, no cross leakage to degrade dewpoin performance, no lubrication or frequent maintenance required |
| ***Fluorocarbon treated internals*** | Fluidity in movement; no lubrication required |
| ***Factory tested for over 200,000 cycles without failure*** | Reliability, durability |
| ***Stainless steel internals and coated carbon steel Externals*** | Resists corrosion and erosion; provides freedom from valve stiction |
| ***Bronze exhaust valve bonnet cylinders*** | Extra corrosion protection where you need it most |
| ***Air-operated inlet/purge exhaust valves (250RD & under model)*** | Positive actuation; high reliability; of non Fearing fail-safe operation |
| ***Designed And Manufactured by Specifically For dryer application*** | Ensures highest quality and reliability; valving designed with abrasive, industrial environment in mind; readily available spare parts |
| ***Low differential pressure*** | Reduced operating costs and more working pressure available downstream |
| ***Easy access to purge adjusting valve*** | Allows field adjustment of purge flow rate |
| ***No piping to remove or special tools required to service*** | Easiest to maintain and service |



**A** Standard tower pressure gauges

**B** Standard high accuracy solid state timer field adjustable 6~18 minute cycle time

**C** Standard easy access front control panel switch on / off light indication tower adsorption / regeneration light

**D** Separate fill and drain port standard for easy re placement of desiccant

**E** Standard heavy duty purge exhaust mufflers for quiet operation

**F** 250RD and above Non-lubricated inlet control valve(s) standard

**G** Standard Teflon seated check valve other types available

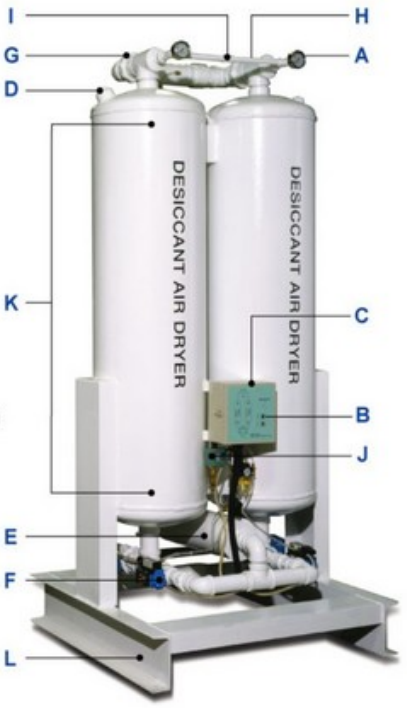
**H** Standard moisture indicator for easy to see color change indicate elevated outlet dew point

**I** Standard purge flow valve allow adjustment of purge flow

**J** Standard pressure switch at outlet offer warning signal (usage dry connecter) to prevent valve movement fault to cause problem

**K** Standard stainless steel support screens and air diffusers (top and bottom of vessels) easy to remove and clean efficiently filters out gross contaminants to protect valves effectively prevents channeling

**L** Structural steel frame is complete with floor stand as a standard, Easy installation:
dryer is completely assembled , piped and wired at factory optional factory mounting of pre-and after-filter available shipped with full charge of desiccant only hook-up of utilities is needed to operate lifting lugs for easy handling



## How They Works ?

Wet incoming gas, after first being pre-filtered,enters the drying chamber(Tower I) through valve (A), Vaporous contaminantsare removed from the gas stream in the adsorption process and adhere to the desiccant, Dry gas exits the drying chamber through check valve (F1) and is then directed to point-of-use after filter having any particulate contamination removed in the after-filter.

While in the drying cycle the off stream chamber is depressurized to atmospheric pressure through exhaust valve(D).
A portion of the dried gas, about 10 %, is directed through a purge adjusting valve and orifice, expanded and directed through the off stream chamber via purge valve ,series of evenly extremely dry, low pressure purge air flow through and regenerates the desiccant in Tower II .

After a predetermined period of time, the automatic solid state timerclose purge/re-pressurization valve (D) which allows Tower II to re-pressurize slowly, inlet valve (A) then close and inlet valve(B) and purge/ re-pressurization valve (C)open.
The wet main air flow is now dried the Tower II .while Tower I is being re-actived, Purge flow is now exhausted through purge/repressurization valve (C).

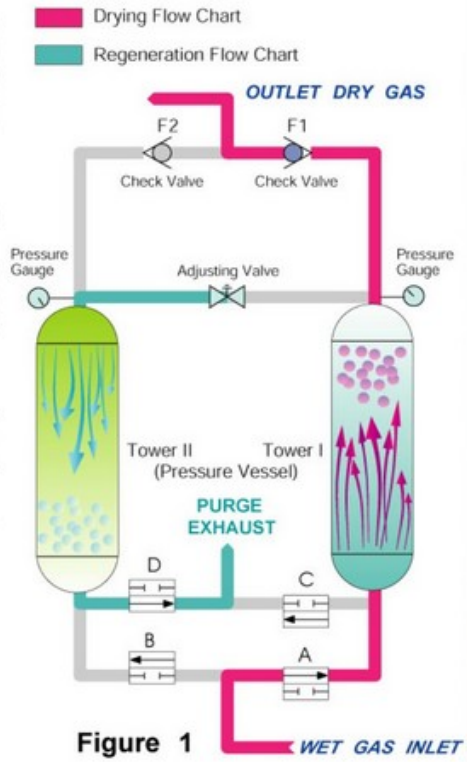



**Figure 1**

## Adsorbent ?

Specially select two adsorbents (Active Alumina ,Molecular Sieve) to utilize their characteristic, According to figure 2 can detail to find these adsorbents has independent characteristic,In order to suit the compressed air temperature and humidity capacity ,Which in the bottom fill to active alumina others where in the upper fill molecular sieve .

The flow velocity, We usually applied flow rang from3 to 30 m/min. We improve the fluid diffuser at the bottom of the pressure vessel. We also fill the adsorbent in the pressure vessel with the best way to avoid the tunnel effect.

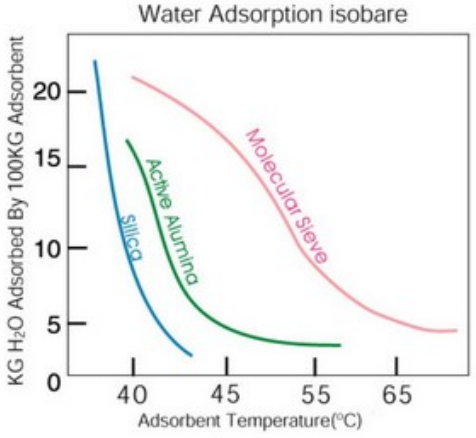



**Figure 2**

Molecular Sieves differ from other adsorbents in the form of their isotherms which have a high adsorption capacity for relatively low concentrations of the adsorbate (adsorbed product)

At the sam time molecular sieves have another important characteristic; the decrease in their adsorption capacity with the increase in temperature is appreciably smaller than that of the other adsorbents.

## Application:

# Desiccant Air Dryer
# RD/RDU Series

The way of caculation for flow rate at different conditions for each model. The standard design for model RD/RDU are according to the standard coaditions as following:
Air temperature inlet: 40°C
Air relative humidity inlet: 100%
Air pressure inlet: 7Kg/cm²
The pressure dew point of compressed air down to -40°C (RD) or -70°C(RDU)

To adjust dryer capacity for other conditions, use Table 1,2 and 3.

Example:
What is the capacity of a model LD-100 RD when the compressed air at the inlet to the dryer is at 10 Kgf/cm² and 40°C, and a -20°C dew point is desired ?

Answer:
14.5Nm³/MinX1.00(Table 1)X1.1(Table 2)X1.19 (Table 3)=18.98 Nm³/min

Table1: For flowrates at other temperature apply the correction factor shown:

| Inlet Air Tem.(°C) | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|---|---|---|---|---|---|---|---|---|---|
| Correction Factor | 1.06 | 1.05 | 1.03 | 1.02 | 1.00 | 0.85 | 0.65 | 0.5 | 0.35 |

Table2: For flowrates at other dew point temperature apply the correction factor shown:

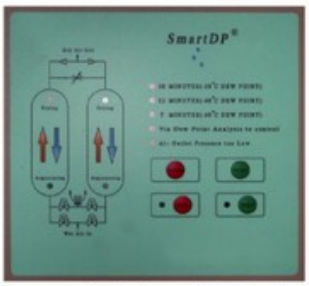
| Dew Point Tem.(°C) | -20 | -40 | -60 | -70 |
|---|---|---|---|---|
| Correction Factor | 1.1 | 1.00 | 1.05 | 1.00 |

Table3: For flowrates at other pressure apply the correction factor shown:

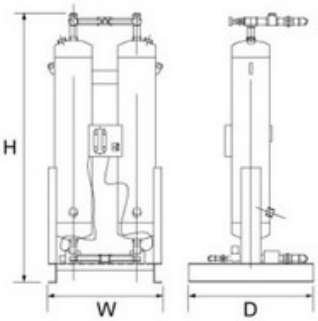
| Inlet Pressure(Kg/cm²) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| Correction Factor | 0.42 | 0.61 | 0.73 | 0.82 | 0.93 | 1.00 | 1.08 | 1.15 | 1.19 |

## *SmartDP*® Economy Regenerate Wind Capacity Controller

*SmartDP*® is developed for lower down waste for regenerate wind capacity, its intimate design is made for outlet pressure dew point to adjust RD Desiccant Air Dryer anytime & weekly operating time in order to reach the regenerate wind capacity needed.
*SmartDP*® has additional dual contactor to connect with pressure dew point analysis for saving power and dew point temperature can be seen clearly.



Regenerate wind capacity controller



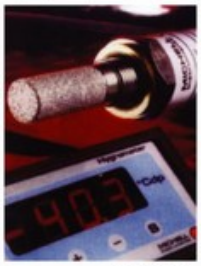

## Specifications

RD(Pressure dew point -40°C) / RDU (Pressure dew point -70°C)

| Model | | 05 | | 10 | | 15 | | 20 | | 30 | | 50 | | 75 | | 100 | | 150 | | 200 | | 250 | | 300 | | 400 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inlet Flow Rate | Nm³/min | 0.6 | | 1.3 | | 1.8 | | 2.8 | | 4.2 | | 7 | | 10.6 | | 14.5 | | 21 | | 26 | | 31 | | 38 | | 49 | |
| | SCFM | 21 | | 46 | | 64 | | 99 | | 148 | | 247 | | 375 | | 512 | | 742 | | 918 | | 1095 | | 1342 | | 1730 | |
| Inlet/Out. Conn.(PT) | | 1/2"PT | | | | 3/4"PT | | 1"PT | | | | 1-1/2"PT | | | | 2"PT | | | | 2-1/2"PT | | | | 3"F | | | |
| Dimensions (mm) | Height | 1050 | 1200 | 1200 | 1680 | 1680 | 1750 | 1750 | 1950 | 1950 | 1800 | 1800 | 2050 | 1850 | 2250 | 2050 | 2500 | 2300 | 2600 | 2400 | 2800 | 2300 | 2850 | 2250 | 2900 | 2550 | 3150 |
| | Width | 500 | 550 | 550 | 550 | 550 | 650 | 650 | 650 | 650 | 780 | 780 | 900 | 900 | 1000 | 1000 | 1110 | 1110 | 1200 | 1200 | 1350 | 1350 | 1470 | 1470 | 1600 | 1650 | 1700 |
| | Depth | 330 | 450 | 450 | 500 | 500 | 550 | 550 | 550 | 550 | 750 | 750 | 750 | 750 | 800 | 800 | 900 | 900 | 1000 | 1000 | 1100 | 1100 | 1200 | 1200 | 1300 | 1400 | 1500 |
| Weight(Kg) | | 85 | 130 | 130 | 180 | 180 | 240 | 240 | 280 | 280 | 320 | 320 | 450 | 410 | 580 | 530 | 740 | 685 | 910 | 850 | 1120 | 1050 | 1380 | 1300 | 1590 | 1500 | 1950 |
| Model | | RD | RDU | RD | RDU | RD | RDU | RD | RDU | RD | RDU | RD | RDU | RD | RDU | RD | RDU | RD | RDU | RD | RDU | RD | RDU | RD | RDU | RD | RDU |

## STANDARD DESIGN

Highest working pressure: 9.9 kgf/cm², Operating pressure: 7.0 kgf/cm²
Normal input voltage: 1 Phase; 220V: 50/60Hz
Regenerate wind capacity: RD input wind capacity of 10% adsorptive tower restoreneeded regenerate wind capacity of 15% from RDU
Weekly operating time: 12 mins/cycle, permitted for adjustment to 6 -18 mins/cycle, RD type lowest dew poi nt to -40°C, RDU type lowest dew point to -70°C.


MICHELL

## OPTIONAL DEVICE

*SmartDP*® Economized Regenerate Wind Capacity & MICHELL Accuracy Type pressure dew point analysis test pressure dew point range at -100°C ~ +20°C, besides, it is with 1sets alarms of dry contactor with 4mA to 20mA signal output. DPA is the simplify type for dew point analyzer.
Beyond high pressure type(10 ~ 65 kg/cm²), Nema 4、7、12 control box, other operation Voltage, special environmental condition like acid-alkali-proof, high temperature moist or low temperature environment& ex anti-explosion grade、any fluidity with carbon dioxide etc.


DPA-80

Others voltage and inlet flow rate can be demanded to make as suitable your request for set unit on local.

Distributed by :

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## Thông tin liên quan

Hiện nay không có các mục tin tức.