

HRA — Heat Regenerative Air Dryer



Photo for illustrative purposes only

| | |
|--------------------|--------------------------------|
| Design Pressure | 150 psig 10.3 barg |
| Volume Flow Range | 500–4500 scfm 860–7750 m³/h |
| Operating Temps | 50–120 °F 10–50 °C |
| Pipe/Port Size | 2" NPT 3"–6" FLG |
| Standard Dew Point | -40 °F -40 °C |

Higher flows, pressures and port sizes are available upon request.

Advantages:

- ✓ Heat-regenerated
8-hour NEMA cycle
- ✓ Less air consumption
- ✓ 8% average purge loss

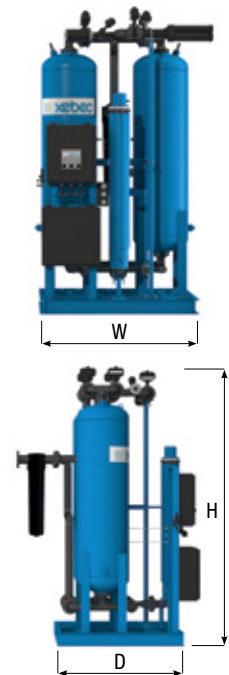
Dimensions and weights are for reference only

| Model | Pipe Size | Inlet Flow at 7 Barg and 38 °C | | Dimensions | | | | | | Weight | |
|---------|-----------|--------------------------------|--------|-----------------|-----|-------|----|-------|----|--------|-------|
| | | (100 PSIG and 100 °F) | | Height | | Width | | Depth | | kg | lbs |
| | | SCFM | m³/hr* | mm | in | mm | in | mm | in | | |
| HRA500 | 2" NPT | 500 | 860 | 2235 | 88 | 1626 | 64 | 838 | 33 | 843 | 1900 |
| HRA650 | 2" NPT | 650 | 1,120 | 2540 | 100 | 1626 | 64 | 838 | 33 | 1109 | 2500 |
| HRA850 | 3" Flg | 850 | 1,465 | 2540 | 100 | 1575 | 62 | 1219 | 48 | 1597 | 3600 |
| HRA1000 | 3" Flg | 1,000 | 1,720 | 2845 | 112 | 1575 | 62 | 1219 | 48 | 2130 | 4800 |
| HRA1225 | 3" Flg | 1,225 | 2,110 | 3150 | 124 | 1575 | 62 | 1219 | 48 | 2484 | 5600 |
| HRA1500 | 4" Flg | 1,500 | 2,585 | 2870 | 113 | 1803 | 71 | 1295 | 51 | 2884 | 6500 |
| HRA1800 | 4" Flg | 1,800 | 3,100 | 3226 | 127 | 1803 | 71 | 1295 | 51 | 3150 | 7100 |
| HRA2100 | 4" Flg | 2,100 | 3,615 | 3251 | 128 | 1803 | 71 | 1295 | 51 | 3505 | 7900 |
| HRA2500 | 4" Flg | 2,500 | 4,305 | 2997 | 118 | 2134 | 84 | 1270 | 50 | 3949 | 8900 |
| HRA3500 | 6" Flg | 3,500 | 6,030 | 3531 | 139 | 2057 | 81 | 1575 | 62 | 4703 | 10600 |
| HRA4500 | 6" Flg | 4,500 | 7,750 | CONSULT FACTORY | | | | | | | |

* m³/hr at 20 °C and 1 bar (a)

| Temperature Correction | | | | |
|------------------------|----|------|------|------|
| Operating Temperature | °F | 80 | 100 | 120 |
| | °C | 25 | 38 | 50 |
| Multiply Flow By | | 1.10 | 1.00 | 0.56 |

| Pressure Correction | | | | |
|---------------------|------|------|------|------|
| Operating Pressure | PSIG | 80 | 100 | 130 |
| | barg | 5.5 | 7 | 9 |
| Multiply Flow By | | 0.82 | 1.00 | 1.26 |

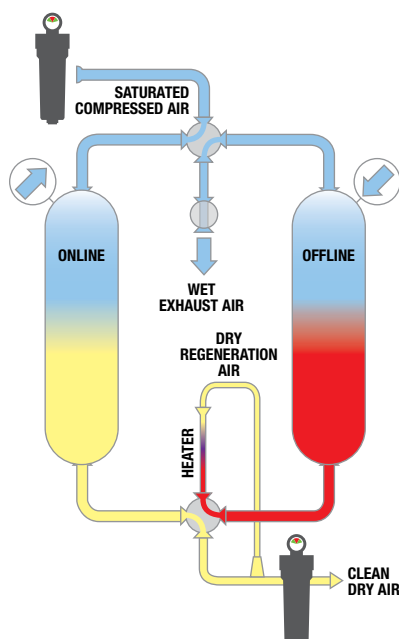


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Principle of Operation:

At normal operating temperature in the online tower, water vapor adheres to the desiccant so that only dry air leaves the outlet. An electric heater then raises the desiccant temperature in the offline tower which releases the adsorbed water vapor. The desiccant must be cooled before switching back online. Dried air is used for both heating and cooling.

The process is called “Temperature Swing Adsorption” (TSA) because drying and regeneration rely upon swinging between two temperature-based adsorption equilibrium conditions, characterized by long cycles measured in hours.



Features & Benefits

Fully assembled, packaged unit comes complete with desiccant

✓ **Ready for operation**

Regeneration purge flow is counter-current to the direction of air flow during drying

✓ **Maximum removal of moisture and lowest dew point assured during the adsorption process**

Controlled re-pressurization

✓ **Prevents line surges and minimizes desiccant attrition**

Fail safe design

✓ **Compressed air continues to flow through, during power and/or pilot air failure**

A moisture indicator is provided

✓ **Continuous visual color indication or display**

TSA fixed 8-hour cycle

✓ **All functions are performed automatically by a PLC**

Optimized activated alumina desiccant

✓ **Very high surface/volume ratio provides maximum adsorption**

Coalescing pre-filter and particulate after-filter with DPis and drains, mounted and pre-piped on some models, supplied loose on others

✓ **Xebec's X-Series filters are best in class, ISO/CRN certified**

OPTIONS

- ✓ Stainless steel tubing and fittings
- ✓ Low dew point option (-100°F / -70°C PDP)
- ✓ “Autodew” energy-saver
- ✓ Rockwell (Allen Bradley) PLC
- ✓ 3-Valve Bypass
- ✓ 9-Valve Bypass

See the back cover for more details.

WARRANTIES

- ✓ Two (2) year warranty on dryers
- ✓ Five (5) year warranty on all switching valves

TSA Technology Schematic

