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**ROGERS KNW SERIES  
HEAT OF COMPRESSION - AIR DRYER  
SAMPLE SPECIFICATIONS  
175 – 1050 CFM**

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## 1. SPECIFICATION SCOPE

1.1. This specification covers the design and fabrication of the Rogers KNW Series Heat of Compression model \_\_\_\_\_ compressed air dryer system and related equipment as hereinafter described in the specification.

## 2. GENERAL DESCRIPTION

2.1. The Rogers KNW Series Heat of Compression Dryer is for use with Kobelco KNW Series Oil-Free Compressors only.

2.2. The Heat of Compression dryer shall be a zero purge, thermal swing adsorption dryer, which utilizes extruded aluminum columns filled with desiccant. One column is drying the compressed air, while the other column is being regenerated. The regeneration is accomplished by directing the hot discharge air from the compressor into the desiccant bed. The process is reversed after either a timed regeneration period or when the dryers temperature probe has detected that regeneration is complete. Cooling of the regeneration column prior to column switch over is required to minimize dew point spikes. Dryers with aftercoolers or regeneration coolers mounted are not acceptable.

## 3. OPERATING SPECIFICATION

<b>Parameter</b>	<b>Minimum</b>	<b>Nominal</b>	<b>Maximum</b>
Inlet Pressure	70 psig (5.0 barg)	100 psig (7.0 barg)	150 psig (10.0 barg)
Ambient Temperature	32° F (5° C)	80° F (28° C)	110° F (43° C)
Inlet Temperature	40° F (5° C)	82° F (28° C)	125° F (52° C)
Regeneration Temperature	266° F (130° C)	325° F (163° C)	356° F (180° C)
Dewpoint Suppression On Inlet Temperature	-----	90° F (50° C)	-----

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#### **4. MATERIALS OF CONSTRUCTION**

##### **4.1. Vessel**

4.1.1. The dryer shall be modular by design and made from an aluminum extrusion, incorporating the drying chambers, and inlet and outlet manifolds. Columns shall incorporate a spring loading device to insure packing density. Drum style dryers with drive motors are not acceptable.

4.1.2. The extrusions shall be alocrom treated for corrosion protection.

##### **4.2. Drying Material**

4.2.1. The drying material shall be an activated alumina blend and the drying chambers shall be filled using "snowstorm" filling techniques to ensure consistent dew point and complete regeneration. "Snowstorm" filling also minimizes and equalizes differential pressure, independent of the dryers size (number of chambers). Desiccant impregnated drums are not acceptable.

##### **4.3. Valves**

4.3.1. Identical Pneumatic switching valves with Teflon seals for long life and low maintenance shall be used.

##### **4.4. Piping**

4.4.1. Schedule 20 stainless steel piping between the compressor and dryer shall be furnished. Piping shall be insulated when required.

##### **4.5. Moisture Separators**

4.5.1. The moisture separators shall be cast iron or aluminum. The housing shall be treated, and painted for maximum corrosion protection.

##### **4.6. Drains**

4.6.1. Zero air loss type drains are pre-piped and pre-wired as part of the assembly.

##### **4.7. Afterfilter**

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4.7.1. The after-filter shall be a particulate type filter, complete with a high temperature borosilicate microfiber element suitable for the removal of particulate down to 1 micron. The housing shall be alocrom treated, and externally powder coat painted for maximum corrosion protection.

4.8. Controls & Instrumentation

4.8.1. Controls and instrumentation will be transmitted to compressor for viewing on the compressor operator interface.

Status indication to include:

- Cycle indication.
- Inlet air pressure.
- Regeneration inlet air temperature.
- Regeneration outlet air temperature.
- Cycle Timer

4.9. Optional Equipment

4.9.1 Dryer mounted digital dew point monitor.