



REFRIGERATED DRYERS

Cycling; Non-Cycling; High Pressure; High Temperature

20 – 30,000 scfm



THE IMPORTANCE OF CLEAN, DRY COMPRESSED AIR

HOW MUCH WATER IS TOO MUCH? ANY AMOUNT OF WATER IS TOO MUCH.

Water jeopardizes everything you want your compressed air system to do. It ruins product and fouls processes. Removing it is vital in order to protect both your equipment and your operations.

Sullair Refrigerated Air Dryers reliably remove harmful moisture and contaminants from compressed air, helping protect your compressed air system, machinery and downstream tools.

How?

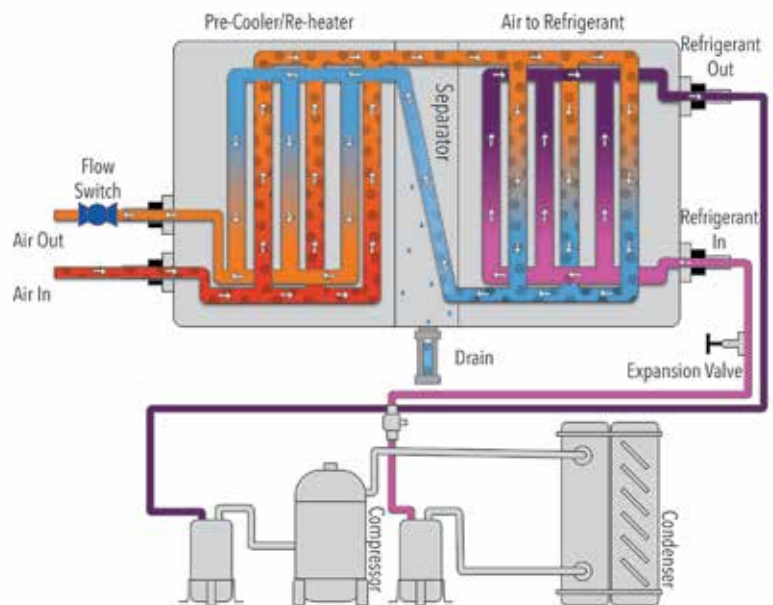
Saturated, compressed air enters the system and moves into the pre-cooler/re-heater, where it is pre-cooled by the cold outgoing air.

The air is then directed through the air-to-refrigerant heat exchanger, where it is cooled to 38°F by the refrigeration system.

The cold, saturated air flows into the three-stage separator, where liquids are removed from the air.

This separated condensate is then ejected from the system via the condensate drain.

The cold, dry air is then reheated by the incoming warm air before leaving the dryer.



REFRIGERATED DRYER TYPES

Non-Cycling

Non-cycling dryers are ideal for running at full load because they maintain a constant energy consumption no matter the flow and air demand. Using a hot gas bypass, they maintain a consistent dew point and control the amount of refrigerant circulating through the dryer.

Digital Scroll

Advanced digital scroll technology saves the highest amount of energy possible in a refrigerated air dryer — up to 91% while in operation. Communication with the system evaporator — via temperature probe — adjusts refrigeration capacity to the temperature exiting the dryer while maintaining a consistent dewpoint.

REFRIGERATED DRYERS

The next generation of Sullair Refrigerated Air Dryers focuses on high quality manufacturing standards, durable packaging and consistent, reliable dew point performance in all flow conditions.

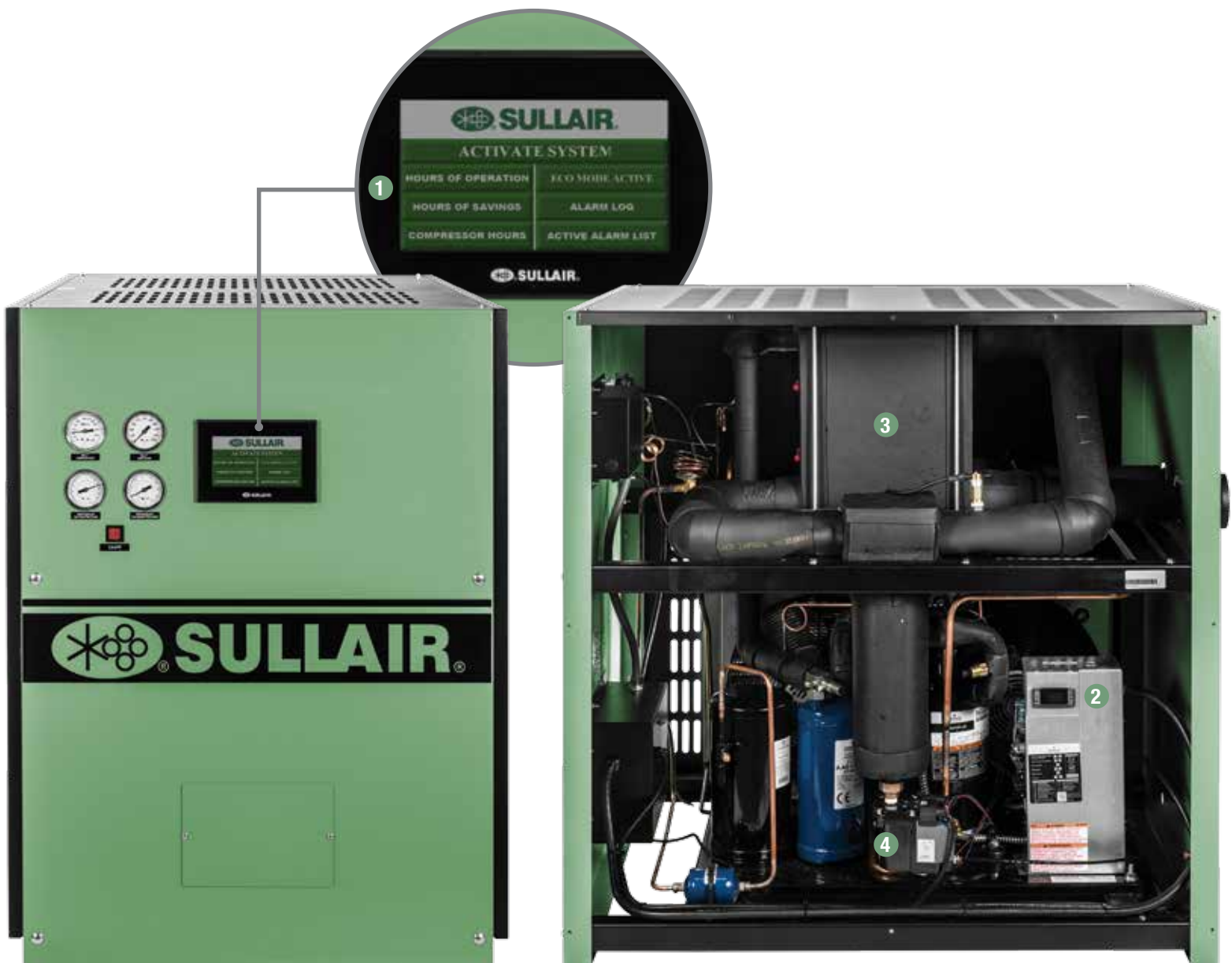
SULLAIR REFRIGERATED AIR DRYERS ARE BUILT FOR DURABLE PERFORMANCE, OPTIMUM RELIABILITY AND FEATURE:

- Stainless steel heat exchangers for consistent dew point and corrosion resistance
- 3-in-1 heat exchangers with internal separator and evaporator provide simplified maintenance and parts and reduce size
- Advanced digital scroll compressors for the highest performance with reduced power and energy consumption
- Zero air loss drains to remove condensate from the system without losing compressed air
- Environmentally friendly R-134a and R-404a refrigerants standard
- High heat transfer and large flow areas ensuring low pressure drop
- Easily serviceable cabinet
- Durable powder coated cabinets on enclosed models to protect the inner workings of the dryer from harsh environments
- Units with three phase voltage have a phase monitor to protect the compressor while eliminating possible phase reversal, loss and unbalance
- Electronic Unit Controller for easy service (*200 scfm and above*)

SULLAIR REFRIGERATED AIR DRYERS ARE AVAILABLE IN THE FOLLOWING CONFIGURATIONS:

- **ATRH — Refrigerated High Temperature** — 20 to 125 scfm
- **ATRN — Refrigerated Non-Cycling** — 25 to 1000 scfm
- **ATRX — Refrigerated Extreme High Pressure** — 20 to 275 scfm
- **ATRP — Refrigerated High Pressure Stainless Steel** — 45 to 1000 scfm
- **ATRD — Refrigerated Energy Saving** — 200 to 2000 scfm
- **ATRS — Refrigerated Digital Cycling** — 1000 to 10,000 scfm
- **ATRDE — Refrigerated Large Flow Energy Saving** — 4000 to 30,000 scfm
- **ATRME — Refrigerated Thermal Mass** — 4000 to 30,000 scfm

ENGINEERED TO SAVE



All Sullair Refrigerated Air Dryers come with a 3-year bumper-to-bumper warranty.

ATRD SERIES

ENERGY SAVING DIGITAL TOUCHSCREEN REFRIGERATED AIR DRYERS 200 – 2000 scfm

Combines the reliability and separation efficiency of non-cycling dryers with the added energy savings of digital cycling and a state-of-the-art touchscreen.

Energy Savings

The Sullair ATRD Energy Saving Series senses air demand and shuts compressor off when no air flow is detected to optimize savings.

1. Standard Digital Touchscreen Features:

- Sullair ATRD 7" state-of-the-art Color Touchscreen Controller
 - Provides easy access to all key dryer performance parameters
- Event log stores critical data and alarms
- ECO Mode Control
- Automatic restart when air flow is sensed

2. Electronic Unit Controller (EUC)

Standard on units 200 scfm and above

The Electronic Unit Controller is designed specifically for demanding refrigeration applications to ensure precision in installation and operation. The EUC replaces existing adjustable low pressure controls, fan cycle switches and other relays, creating a virtually maintenance-free dryer.

EUC Features:

- Bump start (*where applicable*)
- Data storage
- Short cycling protection



3. Heat Exchangers

- High performance stainless steel for consistent dew point and corrosion resistance
- 3-in-1 heat exchangers with internal separator and evaporator provide simplified maintenance and parts and reduce size



4. Zero Air Loss Drain

- Removes condensate from system without losing compressed air



All Sullair Refrigerated Air Dryers come with a 3-year bumper-to-bumper warranty.



ATRN SERIES

NON-CYCLING REFRIGERATED AIR DRYERS 25 – 1000 scfm

Ensure consistent, reliable dew point performance in all flow conditions using a three-step separation process heat exchanger to thoroughly remove more than 99% of condensed moisture from the compressed air.

Standard Non-Cycling Features:

- Dryer on/off switch
- Dryer on light
- Refrigeration suction pressure gauge
- Refrigeration discharge gauge (*ATRN 200 and above*)
- Inlet pressure gauge (*ATRN 400 and above*)

ATRH SERIES

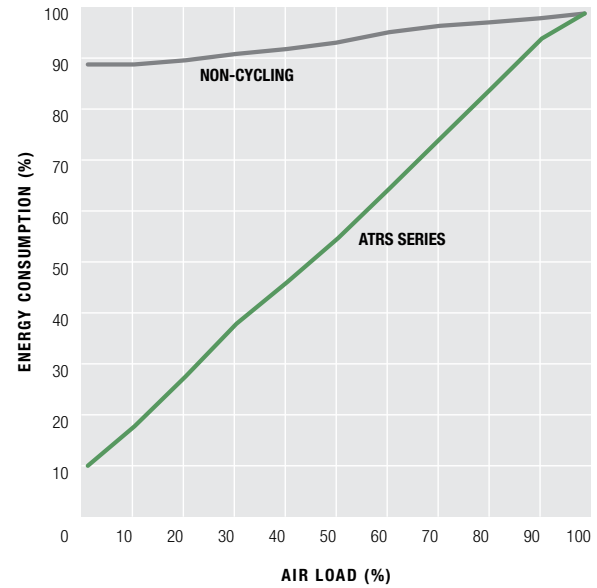
HIGH TEMPERATURE DRYERS 20 – 125 scfm

Combines oversized refrigerated circuits, separators and high-efficiency heat exchangers into a single unit for high-inlet temperature applications.

Standard High Temperature Features:

- Maximum inlet temperature: 205°F/96°C
- Maximum inlet pressure: 200 psig
- Fully automatic operation
- Space-saving compact design
- No air-cooled aftercooler required for compressor

All Sullair Refrigerated Air Dryers come with a 3-year bumper-to-bumper warranty.



ATRS SERIES

DIGITAL CYCLING REFRIGERATED AIR DRYER 1000 – 10,000 scfm

Digitally cycles on and off to immediately and accurately adjust output to optimize energy.

Energy Savings

The Sullair ATRS Energy Saving Digital Cycling Series provides true money savings using proprietary programming in the Allen-Bradley PLC to precisely match power usage to air demand by automatically cycling the digital scroll refrigeration compressor from a loaded to unloaded state. This allows energy consumption to range from as low as 10% to 100% maximum capacity.

Optimum Performance, Fewer Parts

The Sullair ATRS Series is engineered with 71% fewer parts to provide greater reliability and reduced maintenance.

Expands with you

Increase your drying power as your plant grows. Modular units — configured in 500 and 1000 scfm increments — precisely match your air flow demand by 10 to 100%.

You can interface up to five modular dryers with isolation valves to expand drying capacity. Modular systems provide backup drying and lower pressure drop without increasing power consumption.

Standard Digital Cycling Features:

- Allen-Bradley PLC MicroLogix™ color touchscreen controller
- Monitors controls and system performance, tracks energy savings and displays system operation steps and alarms
- Ethernet ready

All Sullair Refrigerated Air Dryers come with a 3-year bumper-to-bumper warranty.



ATRX SERIES

REFRIGERATED EXTREME HIGH PRESSURE AIR DRYERS 20 – 275 scfm

Available in 1200, 3625, 5000 and 6000 psig offerings

Uses air-side 316 stainless steel components to provide corrosion resistance in extreme high pressure applications up to 6000 psig. The Sullair ATRX Series is designed for extreme high pressure applications such as pre-treatment for breathing air applications, pressure testing and other applications where the air must be pre-dried.

Standard Extreme High Pressure Features:

- Non-Cycling
- Maximum inlet pressure: 6000 psig
- 316 stainless steel air-side components



ATRP SERIES

REFRIGERATED HIGH PRESSURE STAINLESS STEEL AIR DRYERS 45 – 1000 scfm

Uses air-side 316 stainless steel components to provide corrosion resistance in high pressure applications up to 725 psig.

The Sullair ATRP Series is designed for the PET market, injection molding, military functions and other high pressure applications.

Standard High Pressure Features:

- Non-Cycling
- Maximum inlet pressure: 725 psig
- 316 stainless steel air-side components

All Sullair Refrigerated Air Dryers come with a 3-year bumper-to-bumper warranty.

ATRDE SERIES

REFRIGERATED LARGE FLOW ENERGY SAVING AIR DRYERS 4000 – 30,000 scfm

Combines shell-and-tube heat exchangers with rotary screw compressors to provide a consistent dew point over variable load conditions and class-leading pressure drop.

Sullair ATRDE Series Refrigerated Air Dryers optimize energy by modulating refrigeration compression to match output needs.

Standard Large Flow Energy Saving Features:

- Non-cycling refrigerated air dryer
 - Flow range: 4000 – 30,000 scfm
 - Designed for continuous duty cycle
- 4-inch display with customizable controls and dryer operation status
- Communication through RS-232/RS-485 combo port

ATRME SERIES

REFRIGERATED THERMAL MASS AIR DRYERS 4000 – 30,000 scfm

Uses high efficiency compressors with defined loading and unloading capacities and a thermal mass medium for energy storage to provide a consistent dew point for large air volumes.

Sullair ATRME Series Refrigerated Air Dryers decrease air distribution system costs, lengthen tool life and reduce maintenance downtime and system damage.

Standard Thermal Mass Features:

- Cycling thermal mass dryer
 - Flow range: 4000 – 30,000 scfm
 - Designed to run from 0–100% load
 - Compressor continuously modulates from 25–100% demand
- 4-inch display with customizable controls and dryer operation status
- Communication through RS-232/RS-485 combo port



All Sullair Refrigerated Air Dryers come with a 3-year bumper-to-bumper warranty.

ABOUT SULLAIR

For more than 50 years, Sullair has been on the leading edge of compressed air solutions. We were one of the first to execute rotary screw technology in our air compressors, and our machines are famous all over the world for their legendary durability. As the industry moves forward, Sullair will always be at the forefront with quality people, innovative solutions, and air compressors that are built to last.

Sullair was founded in Michigan City, Indiana in 1965, and has since expanded with a broad international network to serve customers in every corner of the globe. Sullair has offices in Chicago and manufacturing facilities in the United States, China and India — all ISO 9001 certified to ensure the highest quality standards in manufacturing. In addition, Sullair Suzhou and Shenzhen facilities are ISO 9001, ISO 14001 and OHSAS 18001 certified.

**RELIABILITY.
DURABILITY.
PERFORMANCE.**

These are the pillars that drive the quality of Sullair compressed air solutions. It's a promise we keep with every machine we make.

RELIABILITY

Customers who work with Sullair have found that the intangibles make all the difference — things like trust, confidence, and peace of mind. They go to work every day having full faith in their equipment, as well as the knowledge that dedicated distributors and Sullair personnel have their back every step of the way.

DURABILITY

Bulletproof. Built to last. However you spin it, Sullair compressed air solutions are in it for the long haul, driven by the design of the legendary air end. In factories and shops all over the world, you'll find Sullair compressors that have stood the test of time, running consistently today like they did on day one.

PERFORMANCE

You have high expectations for your operations, and we make machines that share your work ethic. Sullair compressed air solutions do what they're supposed to do, and they do it extremely well for a very long time. And working with us means not only access to clean, quality air, but also the tools you need to optimize this vital resource.



 **SULLAIR**

Specifications enclosed

FOR MORE INFORMATION, CONTACT YOUR LOCAL AUTHORIZED SULLAIR DISTRIBUTOR.



ATRN SERIES

NON-CYCLING REFRIGERATED AIR DRYERS



FREQUENCY: 60 Hz

| MODEL # | VOLTAGE - PHASE | TYPE OF COOLING | scfm | INLET/OUTLET CONNECTION (NPT) | DRAIN OUTLET CONNECTION | HEIGHT (in) | WIDTH (in) | DEPTH (in) | WEIGHT (lbs) |
|-----------|-----------------|-----------------|------|-------------------------------|-------------------------|-------------|------------|------------|--------------|
| ATRN 25 | 115-1 | Air-cooled | 25 | 1/2" | 1/4" | 15 | 16 | 16 | 76 |
| ATRN 25 | 208/230-1 | Air-cooled | 25 | 1/2" | 1/4" | 15 | 16 | 16 | 76 |
| ATRN 40 | 115-1 | Air-cooled | 40 | 3/4" | 1/4" | 15 | 16 | 16 | 78 |
| ATRN 40 | 208/230-1 | Air-cooled | 40 | 3/4" | 1/4" | 15 | 16 | 16 | 78 |
| ATRN 50 | 115-1 | Air-cooled | 50 | 3/4" | 1/4" | 15 | 16 | 16 | 80 |
| ATRN 50 | 208/230-1 | Air-cooled | 50 | 3/4" | 1/4" | 15 | 16 | 16 | 80 |
| ATRN 60 | 115-1 | Air-cooled | 60 | 3/4" | 1/4" | 15 | 16 | 16 | 102 |
| ATRN 60 | 208/230-1 | Air-cooled | 60 | 3/4" | 1/4" | 15 | 16 | 16 | 102 |
| ATRN 75 | 115-1 | Air-cooled | 75 | 1" | 1/4" | 32 | 22 | 22 | 124 |
| ATRN 75 | 208/230-1 | Air-cooled | 75 | 1" | 1/4" | 32 | 22 | 22 | 124 |
| ATRN 100 | 115-1 | Air-cooled | 100 | 1" | 1/4" | 32 | 22 | 22 | 138 |
| ATRN 100 | 208/230-1 | Air-cooled | 100 | 1" | 1/4" | 32 | 22 | 22 | 138 |
| ATRN 125 | 115-1 | Air-cooled | 125 | 1" | 1/4" | 32 | 22 | 22 | 156 |
| ATRN 125 | 208/230-1 | Air-cooled | 125 | 1" | 1/4" | 32 | 22 | 22 | 156 |
| ATRN 150 | 115-1 | Air-cooled | 150 | 1" | 1/4" | 32 | 22 | 22 | 162 |
| ATRN 150 | 208/230-1 | Air-cooled | 150 | 1" | 1/4" | 32 | 22 | 22 | 162 |
| ATRN 200 | 230-1 | Air-cooled | 200 | 1-1/2" | 1/4" | 36 | 28 | 32 | 240 |
| ATRN 250 | 230-1 | Air-cooled | 250 | 1-1/2" | 1/4" | 36 | 28 | 32 | 332 |
| ATRN 250 | 208/230-3 | Air-cooled | 250 | 1-1/2" | 1/4" | 36 | 28 | 32 | 332 |
| ATRN 250 | 460-3 | Air-cooled | 250 | 1-1/2" | 1/4" | 36 | 28 | 32 | 332 |
| ATRN 250 | 575-3 | Air-cooled | 250 | 1-1/2" | 1/4" | 36 | 28 | 32 | 332 |
| ATRN 300 | 230-1 | Air-cooled | 300 | 2" | 1/4" | 36 | 28 | 32 | 345 |
| ATRN 300 | 208/230-3 | Air-cooled | 300 | 2" | 1/4" | 36 | 28 | 32 | 345 |
| ATRN 300 | 460-3 | Air-cooled | 300 | 2" | 1/4" | 36 | 28 | 32 | 345 |
| ATRN 300 | 575-3 | Air-cooled | 300 | 2" | 1/4" | 36 | 28 | 32 | 345 |
| ATRN 400 | 230-1 | Air-cooled | 400 | 2" | 1/4" | 45 | 34 | 48 | 567 |
| ATRN 400 | 208/230-3 | Air-cooled | 400 | 2" | 1/4" | 45 | 34 | 48 | 567 |
| ATRN 400 | 460-3 | Air-cooled | 400 | 2" | 1/4" | 45 | 34 | 48 | 567 |
| ATRN 400 | 575-3 | Air-cooled | 400 | 2" | 1/4" | 45 | 34 | 48 | 567 |
| ATRN 500 | 230-1 | Air-cooled | 500 | 2" | 1/4" | 45 | 34 | 48 | 582 |
| ATRN 500 | 208/230-3 | Air-cooled | 500 | 2" | 1/4" | 45 | 34 | 48 | 582 |
| ATRN 500 | 460-3 | Air-cooled | 500 | 2" | 1/4" | 45 | 34 | 48 | 582 |
| ATRN 500 | 575-3 | Air-cooled | 500 | 2" | 1/4" | 45 | 34 | 48 | 582 |
| ATRN 600 | 230-1 | Air-cooled | 600 | 3" | 1/4" | 45 | 34 | 48 | 598 |
| ATRN 600 | 208/230-3 | Air-cooled | 600 | 3" | 1/4" | 45 | 34 | 48 | 598 |
| ATRN 600 | 460-3 | Air-cooled | 600 | 3" | 1/4" | 45 | 34 | 48 | 598 |
| ATRN 600 | 575-3 | Air-cooled | 600 | 3" | 1/4" | 45 | 34 | 48 | 598 |
| ATRN 800 | 230-1 | Air-cooled | 800 | 3" | 1/4" | 50 | 40 | 58 | 790 |
| ATRN 800 | 208/230-3 | Air-cooled | 800 | 3" | 1/4" | 50 | 40 | 58 | 790 |
| ATRN 800 | 460-3 | Air-cooled | 800 | 3" | 1/4" | 50 | 40 | 58 | 790 |
| ATRN 800 | 575-3 | Air-cooled | 800 | 3" | 1/4" | 50 | 40 | 58 | 790 |
| ATRN 1000 | 230-1 | Air-cooled | 1000 | 3" | 1/4" | 50 | 40 | 58 | 800 |
| ATRN 1000 | 208/230-3 | Air-cooled | 1000 | 3" | 1/4" | 50 | 40 | 58 | 800 |
| ATRN 1000 | 460-3 | Air-cooled | 1000 | 3" | 1/4" | 50 | 40 | 58 | 800 |
| ATRN 1000 | 575-3 | Air-cooled | 1000 | 3" | 1/4" | 50 | 40 | 58 | 800 |



CAPACITY CORRECTION FACTORS FOR DIFFERING AMBIENT AIR TEMPERATURES (C1)

| | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|
| Ambient Temperature (°F) | 70 | 80 | 90 | 100 | 110 | 115 | 120 |
| Correction Factor | 1.10 | 1.07 | 1.05 | 1.00 | 0.94 | 0.85 | 0.65 |

CAPACITY CORRECTION FACTORS FOR DIFFERING INLET AIR TEMPERATURES (C2)

| | | | | | | |
|------------------------|------|------|------|------|------|------|
| Inlet Temperature (°F) | 80 | 90 | 100 | 110 | 120 | 140 |
| Correction Factor | 1.50 | 1.21 | 1.00 | 0.82 | 0.72 | 0.61 |

CAPACITY CORRECTION FACTORS FOR DIFFERING SYSTEM AIR PRESSURE (C3)

| | | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|------|------|
| System Pressure (psig) | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
| Correction Factor | 0.85 | 0.95 | 1.00 | 1.07 | 1.13 | 1.18 | 1.20 | 1.22 | 1.24 |

CAPACITY CORRECTION FACTORS FOR DIFFERING PRESSURE DEW POINT REQUIREMENTS (C4)

| | | | | |
|-------------------|------|------|------|------|
| Dew Point (°F) | 38 | 41 | 45 | 50 |
| Correction Factor | 1.00 | 1.12 | 1.17 | 1.22 |

NOTES:

- For other conditions, consult your local Sullair representative
- For optional voltage consult factory
- Performance ratings based on standard conditions of 100°F inlet air temperature, 100°F ambient temperature, 100 psig inlet pressure
- Max inlet temperature: 140°F
- Max ambient temperature: 120°F
- Max pressure: 232 psig

TO SIZE THE DRYER CAPACITY FOR ACTUAL CONDITIONS

$$\text{Adjusted Capacity} = \text{scfm} \times C1 \times C2 \times C3 \times C4$$

To calculate the capacity of a given dryer based on non-standard operating conditions, multiply the standard capacity by the appropriate correction factor(s).

| | |
|--|--|
| Dryer Model: | ATRN-100 |
| Standard Capacity: | 100 scfm |
| Actual Operating Conditions: | 90°F ambient temperature (C1) = 1.05 100°F inlet temperature (C2) = 1.00 125 psig system pressure (C3) = 1.07 38°F required dew point (C4) = 1.00 |
| Adjusted Capacity = 100 scfm x 1.05 x 1.0 x 1.07 x 1.0 = 112.4 scfm | |

TO SELECT THE DRYER MODEL FOR ACTUAL CONDITIONS

$$\text{Adjusted Capacity} = \text{scfm}/C1/C2/C3/C4$$

To choose a dryer based on a given flow at non-standard operating conditions, divide the given flow by the appropriate correction factor(s).

| | |
|--|---|
| Given Flow: | 75 scfm |
| Actual Operating Conditions: | 80°F ambient temperature (C1) = 1.07 90°F inlet temperature (C2) = 1.21 100 psig system pressure (C3) = 1.00 38°F required dew point (C4) = 1.00 |
| Adjusted Capacity = 75 scfm/1.07/1.21/1.0/1.0 = 57.9 scfm | |
| Select Dryer Model: ATRN-60 | |

ATRH SERIES

HIGH TEMPERATURE DRYERS



FREQUENCY: 60 Hz

| MODEL # | VOLTAGE - PHASE | TYPE OF COOLING | scfm | INLET/OUTLET CONNECTION (NPT) | DRAIN OUTLET CONNECTION | HEIGHT (in) | WIDTH (in) | DEPTH (in) | WEIGHT (lbs) |
|----------|-----------------|-----------------|------|-------------------------------|-------------------------|-------------|------------|------------|--------------|
| ATRH 20 | 115-1 | Air-cooled | 20 | 1/2" FPT | 1/4" | 15 | 16 | 16 | 102 |
| ATRH 35 | 115-1 | Air-cooled | 35 | 1/2" FPT | 1/4" | 15 | 18 | 18 | 125 |
| ATRH 50 | 115-1 | Air-cooled | 50 | 3/4" FPT | 1/4" | 16 | 20 | 20 | 145 |
| ATRH 75 | 208/230-3 | Air-cooled | 75 | 1" FPT | 1/4" | 36 | 28 | 30 | 225 |
| ATRH 100 | 208/230-3 | Air-cooled | 100 | 1" FPT | 1/4" | 36 | 28 | 30 | 250 |
| ATRH 125 | 208/230-3 | Air-cooled | 125 | 1" FPT | 1/4" | 36 | 28 | 30 | 250 |

CAPACITY CORRECTION FACTORS FOR DIFFERING AMBIENT AIR TEMPERATURES (C1)

| | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|
| Ambient Temperature (°F) | 75 | 85 | 95 | 100 | 105 | 115 | 120 |
| Correction Factor | 1.10 | 1.07 | 1.03 | 1.00 | 0.96 | 0.82 | 0.55 |

CAPACITY CORRECTION FACTORS FOR DIFFERING INLET AIR TEMPERATURES (C2)

| | | | | | | |
|------------------------|------|------|------|------|------|------|
| Inlet Temperature (°F) | 90 | 100 | 150 | 180 | 200 | 205 |
| Correction Factor | 1.30 | 1.27 | 1.06 | 1.00 | 0.98 | 0.90 |

CAPACITY CORRECTION FACTORS FOR DIFFERING SYSTEM AIR PRESSURE (C3)

| | | | | | | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| System Pressure (psig) | 30 | 45 | 60 | 75 | 90 | 100 | 115 | 130 | 145 | 160 | 175 | 190 | 200 |
| Correction Factor | 0.30 | 0.50 | 0.70 | 0.75 | 0.80 | 0.83 | 0.86 | 0.90 | 0.93 | 0.96 | 1.00 | 1.10 | 1.12 |

CAPACITY CORRECTION FACTORS FOR DIFFERING PRESSURE DEW POINT REQUIREMENTS (C4)

| | | | | | | |
|-------------------|------|------|------|------|------|------|
| Dew Point (°F) | 38 | 41 | 45 | 50 | 55 | 60 |
| Correction Factor | 0.65 | 0.73 | 0.80 | 1.00 | 1.10 | 1.22 |

NOTES:

- For other conditions, consult your local Sullair representative
- For optional voltage consult factory
- Performance ratings based on standard conditions of 100°F inlet air temperature, 100°F ambient temperature, 100 psig inlet pressure
- Max inlet temperature: 205°F
- Max ambient temperature: 120°F
- Max pressure: 232 psig

TO SIZE THE DRYER CAPACITY FOR ACTUAL CONDITIONS

$$\text{Adjusted Capacity} = \text{scfm} \times C1 \times C2 \times C3 \times C4$$

To calculate the capacity of a given dryer based on non-standard operating conditions, multiply the standard capacity by the appropriate correction factor(s).

| | |
|---|--|
| Dryer Model: | ATRH-100 |
| Standard Capacity: | 100 scfm |
| Actual Operating Conditions: | 95°F ambient temperature (C1) = 1.03 150°F inlet temperature (C2) = 1.06 160 psig system pressure (C3) = 0.96 50°F required dew point (C4) = 1.00 |
| Adjusted Capacity = 100 scfm x 1.03 x 1.06 x 0.96 x 1.0 = 104.8 scfm | |

TO SELECT THE DRYER MODEL FOR ACTUAL CONDITIONS

$$\text{Adjusted Capacity} = \text{scfm}/C1/C2/C3/C4$$

To choose a dryer based on a given flow at non-standard operating conditions, divide the given flow by the appropriate correction factor(s).

| | |
|--|--|
| Given Flow: | 80 scfm |
| Actual Operating Conditions: | 75°F ambient temperature (C1) = 1.10 150°F inlet temperature (C2) = 1.06 200 psig system pressure (C3) = 1.12 50°F required dew point (C4) = 1.00 |
| Adjusted Capacity = 80 scfm/1.1/1.06/1.12/1.0 = 61.3 scfm | |
| Select Dryer Model: ATRH-75 | |

ATRD SERIES

ENERGY SAVING REFRIGERATED AIR DRYERS



FREQUENCY: 60 Hz

| MODEL # | VOLTAGE - PHASE | TYPE OF COOLING | scfm | INLET/OUTLET CONNECTION (NPT) | DRAIN OUTLET CONNECTION | HEIGHT (in) | WIDTH (in) | DEPTH (in) | WEIGHT (lbs) |
|-----------|-----------------|-----------------|------|-------------------------------|-------------------------|-------------|------------|------------|--------------|
| ATRD 200 | 230-1 | Air-cooled | 200 | 1-1/2" | 1/4" | 36 | 28 | 32 | 240 |
| ATRD 250 | 230-1 | Air-cooled | 250 | 1-1/2" | 1/4" | 36 | 28 | 32 | 332 |
| ATRD 250 | 208/230-3 | Air-cooled | 250 | 1-1/2" | 1/4" | 36 | 28 | 32 | 332 |
| ATRD 250 | 460-3 | Air-cooled | 250 | 1-1/2" | 1/4" | 36 | 28 | 32 | 332 |
| ATRD 250 | 575-3 | Air-cooled | 250 | 1-1/2" | 1/4" | 36 | 28 | 32 | 332 |
| ATRD 300 | 230-1 | Air-cooled | 300 | 2" | 1/4" | 36 | 28 | 32 | 345 |
| ATRD 300 | 208/230-3 | Air-cooled | 300 | 2" | 1/4" | 36 | 28 | 32 | 345 |
| ATRD 300 | 460-3 | Air-cooled | 300 | 2" | 1/4" | 36 | 28 | 32 | 345 |
| ATRD 300 | 575-3 | Air-cooled | 300 | 2" | 1/4" | 36 | 28 | 32 | 345 |
| ATRD 400 | 230-1 | Air-cooled | 400 | 2" | 1/4" | 45 | 34 | 48 | 567 |
| ATRD 400 | 208/230-3 | Air-cooled | 400 | 2" | 1/4" | 45 | 34 | 48 | 567 |
| ATRD 400 | 460-3 | Air-cooled | 400 | 2" | 1/4" | 45 | 34 | 48 | 567 |
| ATRD 400 | 575-3 | Air-cooled | 400 | 2" | 1/4" | 45 | 34 | 48 | 567 |
| ATRD 500 | 230-1 | Air-cooled | 500 | 2" | 1/4" | 45 | 34 | 48 | 582 |
| ATRD 500 | 208/230-3 | Air-cooled | 500 | 2" | 1/4" | 45 | 34 | 48 | 582 |
| ATRD 500 | 460-3 | Air-cooled | 500 | 2" | 1/4" | 45 | 34 | 48 | 582 |
| ATRD 500 | 575-3 | Air-cooled | 500 | 2" | 1/4" | 45 | 34 | 48 | 582 |
| ATRD 600 | 230-1 | Air-cooled | 600 | 3" | 1/4" | 45 | 34 | 48 | 598 |
| ATRD 600 | 208/230-3 | Air-cooled | 600 | 3" | 1/4" | 45 | 34 | 48 | 598 |
| ATRD 600 | 460-3 | Air-cooled | 600 | 3" | 1/4" | 45 | 34 | 48 | 598 |
| ATRD 600 | 575-3 | Air-cooled | 600 | 3" | 1/4" | 45 | 34 | 48 | 598 |
| ATRD 800 | 230-1 | Air-cooled | 800 | 3" | 1/4" | 50 | 40 | 58 | 790 |
| ATRD 800 | 208/230-3 | Air-cooled | 800 | 3" | 1/4" | 50 | 40 | 58 | 790 |
| ATRD 800 | 460-3 | Air-cooled | 800 | 3" | 1/4" | 50 | 40 | 58 | 790 |
| ATRD 800 | 575-3 | Air-cooled | 800 | 3" | 1/4" | 50 | 40 | 58 | 790 |
| ATRD 1000 | 230-1 | Air-cooled | 1000 | 3" | 1/4" | 50 | 40 | 58 | 800 |
| ATRD 1000 | 208/230-3 | Air-cooled | 1000 | 3" | 1/4" | 50 | 40 | 58 | 800 |
| ATRD 1000 | 460-3 | Air-cooled | 1000 | 3" | 1/4" | 50 | 40 | 58 | 800 |
| ATRD 1000 | 575-3 | Air-cooled | 1000 | 3" | 1/4" | 50 | 40 | 58 | 800 |
| ATRD 1250 | 208/230-3 | Air-cooled | 1250 | 3" | 1/4" | 50 | 40 | 58 | 852 |
| ATRD 1250 | 460-3 | Air-cooled | 1250 | 3" | 1/4" | 50 | 40 | 58 | 852 |
| ATRD 1250 | 575-3 | Air-cooled | 1250 | 3" | 1/4" | 50 | 40 | 58 | 852 |
| ATRD 1500 | 208/230-3 | Air-cooled | 1500 | 4" FLG | 1/4" | 84 | 42 | 64 | 1625 |
| ATRD 1500 | 460-3 | Air-cooled | 1500 | 4" FLG | 1/4" | 84 | 42 | 64 | 1625 |
| ATRD 1500 | 575-3 | Air-cooled | 1500 | 4" FLG | 1/4" | 84 | 42 | 64 | 1625 |
| ATRD 1750 | 208/230-3 | Air-cooled | 1750 | 4" FLG | 1/4" | 84 | 42 | 64 | 1800 |
| ATRD 1750 | 460-3 | Air-cooled | 1750 | 4" FLG | 1/4" | 84 | 42 | 64 | 1800 |
| ATRD 1750 | 575-3 | Air-cooled | 1750 | 4" FLG | 1/4" | 84 | 42 | 64 | 1800 |
| ATRD 2000 | 208/230-3 | Air-cooled | 2000 | 4" FLG | 1/4" | 84 | 42 | 64 | 2250 |
| ATRD 2000 | 460-3 | Air-cooled | 2000 | 4" FLG | 1/4" | 84 | 42 | 64 | 2250 |
| ATRD 2000 | 575-3 | Air-cooled | 2000 | 4" FLG | 1/4" | 84 | 42 | 64 | 2250 |

CAPACITY CORRECTION FACTORS FOR DIFFERING AMBIENT AIR TEMPERATURES (C1)

| | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|
| Ambient Temperature (°F) | 70 | 80 | 90 | 100 | 110 | 115 | 120 |
| Correction Factor | 1.10 | 1.07 | 1.05 | 1.00 | 0.94 | 0.85 | 0.65 |

CAPACITY CORRECTION FACTORS FOR DIFFERING INLET AIR TEMPERATURES (C2)

| | | | | | | |
|------------------------|------|------|------|------|------|------|
| Inlet Temperature (°F) | 80 | 90 | 100 | 110 | 120 | 140 |
| Correction Factor | 1.50 | 1.21 | 1.00 | 0.82 | 0.72 | 0.61 |

CAPACITY CORRECTION FACTORS FOR DIFFERING SYSTEM AIR PRESSURE (C3)

| | | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|------|------|
| System Pressure (psig) | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
| Correction Factor | 0.85 | 0.95 | 1.00 | 1.07 | 1.13 | 1.18 | 1.20 | 1.22 | 1.24 |

CAPACITY CORRECTION FACTORS FOR DIFFERING PRESSURE DEW POINT REQUIREMENTS (C4)

| | | | | |
|-------------------|------|------|------|------|
| Dew Point (°F) | 38 | 41 | 45 | 50 |
| Correction Factor | 1.00 | 1.12 | 1.17 | 1.22 |

NOTES:

- For other conditions, consult your local Sullair representative
- For optional voltage consult factory
- Performance ratings based on standard conditions of 100°F inlet air temperature, 100°F ambient temperature, 100 psig inlet pressure
- Max inlet temperature: 140°F
- Max ambient temperature: 120°F
- Max pressure: 232 psig

TO SIZE THE DRYER CAPACITY FOR ACTUAL CONDITIONS

$$\text{Adjusted Capacity} = \text{scfm} \times C1 \times C2 \times C3 \times C4$$

To calculate the capacity of a given dryer based on non-standard operating conditions, multiply the standard capacity by the appropriate correction factor(s).

| | |
|---|--|
| Dryer Model: | ATRD-1000 |
| Standard Capacity: | 1000 scfm |
| Actual Operating Conditions: | 90°F ambient temperature (C1) = 1.05 100°F inlet temperature (C2) = 1.00 125 psig system pressure (C3) = 1.07 38°F required dew point (C4) = 1.00 |
| Adjusted Capacity = 1000 scfm x 1.05 x 1.0 x 1.07 x 1.0 = 1123.5 scfm | |

TO SELECT THE DRYER MODEL FOR ACTUAL CONDITIONS

$$\text{Adjusted Capacity} = \text{scfm}/C1/C2/C3/C4$$

To choose a dryer based on a given flow at non-standard operating conditions, divide the given flow by the appropriate correction factor(s).

| | |
|---|---|
| Given Flow: | 250 scfm |
| Actual Operating Conditions: | 80°F ambient temperature (C1) = 1.07 90°F inlet temperature (C2) = 1.21 100 psig system pressure (C3) = 1.00 38°F required dew point (C4) = 1.00 |
| Adjusted Capacity = 250 scfm/1.07/1.21/1.0/1.0 = 193.1 scfm | |
| Select Dryer Model: ATRD-200 | |

ATRS SERIES

DIGITAL CYCLING REFRIGERATED AIR DRYERS



SULLAIR®

FREQUENCY: 60 Hz

| MODEL # | VOLTAGE - PHASE | REFRIGERANT COMPRESSOR TYPE | scfm | INLET/OUTLET CONNECTION (NPT) | DRAIN OUTLET CONNECTION | HEIGHT (in/mm) | WIDTH (in/mm) | DEPTH (in/mm) | WEIGHT (lbs/kg) |
|-------------|-----------------|-----------------------------|--------|-------------------------------|-------------------------|----------------|---------------|---------------|-----------------|
| ATRS-1000 | 460-3 | Digital Scroll | 1000 | 3" NPT | 1/4" | 48/1220 | 38/966 | 54/1372 | 810/368 |
| ATRS-1250 | 460-3 | Digital Scroll | 1250 | 3" NPT | 1/4" | 48/1220 | 38/966 | 54/1372 | 860/391 |
| ATRS-1500 | 460-3 | Digital Scroll | 1500 | 4" FLG | 1/2" | 84/2134 | 58/1474 | 41/1042 | 1650/749 |
| ATRS-1750 | 460-3 | Digital Scroll | 1750 | 4" FLG | 1/2" | 84/2134 | 58/1474 | 41/1042 | 2250/1020 |
| ATRS-2000 | 460-3 | Digital Scroll | 2000 | 4" FLG | 1/2" | 84/2134 | 58/1474 | 41/1042 | 2300/1044 |
| ATRS-2500 | 460-3 | Digital Scroll | 2500 | 6" FLG | 1/2" | 52/1321 | 114/2896 | 65/1651 | 2370/1075 |
| ATRS-3000 | 460-3 | Digital Scroll | 3000 | 8" FLG | 1/2" | 110/2794 | 124/3150 | 44/1118 | 3980/1806 |
| ATRS-3500 | 460-3 | Digital Scroll | 3500 | 8" FLG | 1/2" | 110/2794 | 124/3150 | 44/1118 | 5180/2350 |
| ATRS-4000 | 460-3 | Digital Scroll | 4000 | 8" FLG | 1/2" | 110/2794 | 124/3150 | 44/1118 | 4600/2087 |
| ATRS-4500 | 460-3 | Digital Scroll | 4500 | 8" FLG | 1/2" | 102/2591 | 186/4725 | 44/1118 | 4950/2246 |
| ATRS-5250 | 460-3 | Digital Scroll | 5250 | 8" FLG | 1/2" | 102/2591 | 186/4725 | 44/1118 | 6750/3062 |
| ATRS-6000 | 460-3 | Digital Scroll | 6000 | 8" FLG | 1/2" | 102/2591 | 186/4725 | 44/1118 | 6900/3130 |
| ATRS-7000 | 460-3 | Digital Scroll | 7000 | 10" FLG | 1/2" | 109/2769 | 247/6274 | 44/1118 | 11,623/5273 |
| ATRS-8000 | 460-3 | Digital Scroll | 8000 | 10" FLG | 1/2" | 109/2769 | 247/6274 | 44/1118 | 11,823/5363 |
| ATRS-8750 | 460-3 | Digital Scroll | 8750 | 12" FLG | 1/2" | 111/2820 | 308/7824 | 47/1194 | 15,528/7044 |
| ATRS-10,000 | 460-3 | Digital Scroll | 10,000 | 12" FLG | 1/2" | 111/2820 | 308/7824 | 47/1194 | 15,777/7157 |

CAPACITY CORRECTION FACTORS FOR DIFFERING AMBIENT AIR TEMPERATURES (C1)

| | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|
| Ambient Temperature (°F) | 70 | 80 | 90 | 100 | 110 | 115 | 120 |
| Correction Factor | 1.10 | 1.07 | 1.05 | 1.00 | 0.94 | 0.85 | 0.65 |

CAPACITY CORRECTION FACTORS FOR DIFFERING INLET AIR TEMPERATURES (C2)

| | | | | | | |
|------------------------|------|------|------|------|------|------|
| Inlet Temperature (°F) | 80 | 90 | 100 | 110 | 120 | 140 |
| Correction Factor | 1.50 | 1.21 | 1.00 | 0.82 | 0.72 | 0.61 |

CAPACITY CORRECTION FACTORS FOR DIFFERING SYSTEM AIR PRESSURE (C3)

| | | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|------|------|
| System Pressure (psig) | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
| Correction Factor | 0.85 | 0.95 | 1.00 | 1.07 | 1.13 | 1.18 | 1.20 | 1.22 | 1.24 |

CAPACITY CORRECTION FACTORS FOR DIFFERING PRESSURE DEW POINT REQUIREMENTS (C4)

| | | | | |
|-------------------|------|------|------|------|
| Dew Point (°F) | 38 | 41 | 45 | 50 |
| Correction Factor | 1.00 | 1.12 | 1.17 | 1.22 |

NOTES:

- For other conditions, consult your local Sullair representative
- For optional voltage consult factory
- Performance ratings based on standard conditions of 100°F inlet air temperature, 100°F ambient temperature, 100 psig inlet pressure
- Max inlet temperature: 140°F
- Max ambient temperature: 120°F
- Max pressure: 232 psig

TO SIZE THE DRYER CAPACITY FOR ACTUAL CONDITIONS

$$\text{Adjusted Capacity} = \text{scfm} \times C1 \times C2 \times C3 \times C4$$

To calculate the capacity of a given dryer based on non-standard operating conditions, multiply the standard capacity by the appropriate correction factor(s).

| | |
|---|--|
| Dryer Model: | ATRS-1000 |
| Standard Capacity: | 1000 scfm |
| Actual Operating Conditions: | 90°F ambient temperature (C1) = 1.05 100°F inlet temperature (C2) = 1.00 125 psig system pressure (C3) = 1.07 38°F required dew point (C4) = 1.00 |
| Adjusted Capacity = 1000 scfm x 1.05 x 1.0 x 1.07 x 1.0 = 1123.5 scfm | |

TO SELECT THE DRYER MODEL FOR ACTUAL CONDITIONS

$$\text{Adjusted Capacity} = \text{scfm}/C1/C2/C3/C4$$

To choose a dryer based on a given flow at non-standard operating conditions, divide the given flow by the appropriate correction factor(s).

| | |
|---|---|
| Given Flow: | 1275 scfm |
| Actual Operating Conditions: | 80°F ambient temperature (C1) = 1.07 90°F inlet temperature (C2) = 1.21 100 psig system pressure (C3) = 1.00 38°F required dew point (C4) = 1.00 |
| Adjusted Capacity = 1275 scfm/1.07/1.21/1.0/1.0= 984.8 scfm | |
| Select Dryer Model: ATRS-1000 | |