

RN SERIES

NON-CYCLING REFRIGERATED COMPRESSED
AIR DRYERS 10-3000 SCFM





**SOME COMPANIES ARE FOUNDED ON HARD WORK.
OTHERS ARE FOUNDED ON IDEALS.**

FS-CURTIS WAS FOUNDED ON BOTH.

More than 160 years ago, the FS-Curtis way of doing business was established through two key commitments: a dedication to building quality products and a dedication to responsive customer service.

Over the decades, the company and its products have evolved through innovation and new technologies. But those commitments to quality and service remain unchanged. Today, just as in 1854, FS-Curtis customers can depend on our products for reliable, long-term service. Equally as important, they can depend on getting the same from our people.

A HISTORY OF EXCELLENCE

1854	1857	1876	1897	1914	1940	1955	1976
Curtis & Co. – Empire Saw founded in St. Louis, MO, USA	Earned Agricultural and Mechanical Fair award for excellence and quality	Named Curtis and Co. Manufacturing	Built first reciprocating air compressor that later evolved into the Master Line Series	Supported U.S. Government efforts by producing more than 2 million Howitzer shell forgings	Designed and developed mobile oxygen compressors to be used in Aerospace applications	Merged with U.S. Air Compressor Company, Central Petroleum Company, Lewis Machine Company	Merged with Toledo Tools as Curtis-Toledo Inc.
1979	1995	2005	2006	2010	2015	2016	2017
Introduction of Challenge Air Series reciprocating air compressors	Began manufacturing and assembling Rotary Screw Air compressors	Expanded global market reach by joining forces with Fusheng Industrial	U.S. Headquarters certified as ISO9001:2000 and ISO14001:2004	Introduced next generation GSV Variable Speed Rotary Screw compressors	Introduced Nx series Fixed and Variable Speed Rotary Screw compressors	Nx Series named Plant Engineering’s 2015 Product of the Year - Gold Award for Compressed Air	Nx Series claims Plant Engineering’s Product of the Year - Gold Award 2nd year in a row

QUALITY AIR, RELIABLE PROCESS

GET IT ALL WITH FS-CURTIS DRYERS.

FS-Curtis compressors and RN Series dryers give you a complete professional compressed-air system solution, all backed by the FS-Curtis reputation for rugged dependability

The same commitment to world-class quality found in FS Curtis compressors is also the foundation of RN Series refrigerated compressed-air dryers. RN Series dryers can further extend the operating life of downstream equipment by preventing concentrations of water, lubricant aerosols and airborne particles created during the compression process that can damage equipment, corrode the system and contaminate your product or process. Manufactured to precision specifications for ideal integration with FS-Curtis compressors, RN Series dryers provide a constant dew point that meets the ISO 8573.1 standard to protect your investment, reduce wear and maintenance costs, and maintain your production quality.



THE RIGHT DRYER CHOICE FOR EVERY APPLICATION

There's an RN Series refrigerated air dryer ideal for your FS-Curtis compressor and application needs.

COMPACT. SIMPLE. SMART.



RNP REFRIGERATED DRYERS

(10-500 SCFM)

PREMIUM

Sometimes a simple solution is all you need. With their small design and compact footprint, RNP dryers take the basics to new heights, delivering reliable performance day in and day out you've come to expect from FS-Curtis. They remove maximum moisture to increase efficiency and help you get the most from your equipment.

The perfect blend of technology and simplicity, RNP dryers are easy to operate and maintain. Best of all, they're reliable. You can count on an ISO 8573.1 Air Quality Class 4 to Class 5 pressure dew point for efficient, effective delivery of clean, dry, consistent-quality compressed air.

- Simple and reliable copper tube-on-tube heat exchange for RNP10-50
- Stainless-steel brazed plate heat exchanger for RNP75-500
- Designed with quality components for extended service life
- At-a-glance control panel dew point indication verifies performance
- Cleanable cabinet filter for RNP100-500
- R-134a environmentally friendly refrigerant

RNE REFRIGERATED DRYERS (100-3000 SCFM)

ELITE

The superior solution for heavy-duty air demand profiles is the RNE dryers. These dryers maintain a constant dew point and meet ISO 8573.1 Class 4 to 5 standards, and the brazed plate heat exchanger optimizes efficiency. The result is a steady flow of clean, dry air delivered to meet the demands of your application reliably and effectively.

Built-in features like an energy-management monitor help make the easy-to-use RNE dryers even easier. Plus, a wide range of options allows you to customize your RNE dryer to your needs.

- ISO 8573.1 Class 4 to 5 dew point
- Stainless-steel brazed plate heat exchanger optimizes the thermal efficiency and saves money by reducing pressure drop
- RNE100-150 use at a glance controller
- Digital microprocessor controller for RNE200 & above
- Integrated 3-micron separator to reduce work stoppages
- R-134a environmentally friendly refrigerant for RNE100-750 models, and R-404a for RNE1000-3000
- Integral cold coalescing

BUILT TO PERFORM

OPTIONAL FEATURES

- Mounted and wired timed electric drain
- Panel-mounted gauge package consists of air inlet temperature, air outlet pressure, refrigerant suction pressure and refrigerant head pressure gauges
- NEMA 4 electronic protection
- Mounted remote bulb temperature switch with C-form contacts
- Mounted and wired IEC-style disconnect
- 3-valve air bypass piping (shipped loose)
- Standard separator
- 0.008 ppm oil removal filter



BRING ON THE HEAT

RNH (20-125 SCFM)

HIGH TEMPERATURE REFRIGERATED COMPRESSED AIR DRYERS

For compressors with a high discharge temperature, such as reciprocating models without aftercooler, RHN dryers are ideal. They provide a single air treatment system that replaces four separate components — the aftercooler, separator, dryer and filter. You get everything you need in one unit.

The automatic refrigeration temperature control system ensures stable performance for clean, dry, consistent-quality compressed air so that your equipment can operate at peak efficiency. The fan switch helps save energy at low loads, and the cleanable cabinet air filter cuts maintenance costs.

- Handles high inlet temperatures of up to 180° F
- ISO 8573.1 Class 6 dew point
- Stainless-steel brazed plate heat exchanger optimizes the thermal efficiency and saves money by reducing pressure drop
- Integrated 3-micron separator removes solid contaminants and 60% of oil aerosols
- Fan switch allows operation in low ambient temperatures (35° F)
- Cleanable cabinet air filter
- Small footprint design
- Environmentally friendly CFC-free refrigerant



Trust FS-Curtis dryers for clean, dry, consistent-quality compressed air.

TECHNICAL DATA

RNP NON-CYCLING REFRIGERATED COMPRESSED AIR DRYERS

MODELS	CAPACITY ¹ (scfm)	POWER SUPPLY	INLET/OUTLET (npt. male)	DIMENSIONS (LxWxH-In.)	WEIGHT (Lbs.)		
RNP10	10	115/1/60	3/8" OD	13 x 13 x 15	64		
RNP15	15			15 x 15 x 22	69		
RNP25	25			20 x 20 x 22	88		
RNP35	35		460/3/60	3/4" NPT	20 x 19 x 20	92	
RNP50	50				30 x 13 x 21	101	
RNP75	75			1 1/2" NPT	36 x 17 x 30	110	
RNP100	100				38 x 20 x 30	123	
RNP125	125				38 x 21 x 30	133	
RNP150	150			460/3/60	2" NPT	41 x 25 x 32	153
RNP200	200					41 x 25 x 32	183
RNP250	250	2" NPT	41 x 25 x 32		211		
RNP300	300		41 x 25 x 32		211		
RNP400	400		41 x 25 x 32		232		
RNP500	500			41 x 25 x 32	262		

¹Rated Flow Capacity - Conditions for rating above dryers are: compressed air at dryer inlet: 100 psig and 100°F saturated; ambient temperature: 100°F; operating on 60 Hz power supply. At rated conditions, pressure drop is less than 5 psi.

RN SERIES REFRIGERATED COMPRESSED AIR DRYERS

TECHNICAL DATA (CONT.)

RNE NON-CYCLING REFRIGERATED COMPRESSED AIR DRYERS

MODELS	CAPACITY ¹ (scfm)	POWER SUPPLY	INLET/OUTLET ² (npt. male)	DIMENSIONS (LxWxH-In.)	WEIGHT (Lbs.)	
RNE100	100	115/1/60 208-230/1/60	1" NPT	20 x 29 x 38	251	
RNE125	125				273	
RNE150	150	460/3/60 208-230/3/60	1 1/2" NPT	32 x 34 x 39	279	
RNE200	200				425	
RNE250	250				463	
RNE300	300		2" NPT	32 x 35 x 46	527	
RNE400	400				571	
RNE500	500		2 1/2" NPT	42 x 32 x 58	684	
RNE600	600				691	
RNE750	750				734	
RNE1000	1,000		460/3/60	3" ANSI Fig.	41 x 49 x 85	1,146
RNE1250	1,250			4" ANSI Fig.	51 x 49 x 85	1,521
RNE1500	1,500	1,547				
RNE1750	1,750	6" ANSI Fig.		60 x 55 x 85	1,940	
RNE2000	2,000				1,986	
RNE2500	2,500				2,315	
RNE3000	3,000				2,646	

¹Rated Flow Capacity - Conditions for rating above dryers are: compressed air at dryer inlet: 100 psig and 100°F saturated; ambient temperature: 100°F; operating on 60 Hz power supply.

²BSP connections and DIN flanges available.

RNH HIGH-TEMPERATURE REFRIGERATED COMPRESSED AIR DRYERS

MODELS	CAPACITY ¹ (scfm)	POWER SUPPLY	INLET/OUTLET (npt. male)	DIMENSIONS (LxWxH-In.)	WEIGHT (Lbs.)
RNH20	23	115/1/60 220-240/1/50	1/2" NPT	13 x 10 x 28	79
RNH25	29				80
RNH35	41		3/4" NPT	17 x 17 x 37	81
RNH50	58				150
RNH75	87	230/1/60	1" NPT	17 x 17 x 46	155
RNH100	116				170
RNH125	145				175

¹Rated Flow Capacity - Conditions for rating above dryers are: compressed air at dryer inlet: 175 psig and 180°F; inlet pressure dew point: 160°F; ambient temperature: 95°F; outlet pressure dew point: 50°F; operating on 60 Hz power supply. At rated conditions, pressure drop is less than 5 psi.

CAPACITY CORRECTION FACTORS

To adjust dryer capacity for conditions other than rated, multiply Nominal Capacity with Correction Factors from Tables 1 and 2.

CORRECTION FACTORS FOR INLET AIR TEMPERATURE AND PRESSURE

INLET AIR TEMP. (°F)	INLET AIR PRESSURE (psi)								
	50	80	100	125	150	175	200	250	
90	1.05	1.17	1.23	1.31	1.37	1.42	1.47	1.49	
100	0.84	0.95	1.00	1.07	1.13	1.18	1.22	1.24	
110	0.69	0.79	0.82	0.91	0.95	0.99	1.03	1.05	
120	0.56	0.66	0.70	0.74	0.80	0.84	0.89	0.91	

CORRECTION FACTORS FOR AMBIENT TEMPERATURE

AMBIENT AIR TEMP. (°F)	CORRECTION FACTOR
80	1.12
90	1.06
100	1.00
110	0.94

Example: What is the capacity of a 2,000 scfm model when the compressed air at the inlet to the dryer is 150 psig and 100°F, and the ambient temperature is 90°F

Answer: 2,000 scfm (rated flow from Specifications Table) x 1.13 (correction factor for inlet temperature and pressure from Table 1) x 1.06 (correction factor for ambient temperature from Table 2) = 2,396 scfm



TRUE SELECTION

CHOICES TO MEET YOUR EXACT NEEDS.

FS-Curtis provides a full range of durable air dryers, making it easy to find the ideal match for your compressed air system. Each type of dryer is built with the same essential objective — protecting your air-operated equipment and processes against damaging moisture. Count on FS-Curtis quality to get the job done.

	RNP	RNE	RNH	RDS	DL	DHP	DHB
Air Flow (scfm)	5-500	100-3000	20-125	90-12000	40-5400	300-3200	500-4300
Technology	Refrigerated				Dessicant		
Integrated Filters	None	Standard: Grade 9 Optional: Grade 5	Standard: Grade 9	Standard: Grade 9 Optional: Grade 5	Optional Dryer Package	Optional Dryer Package	Optional Dryer Package
ISO 8573.1 Air Quality Class (Standard Package)							
Solid	-	Class 3	Class 3	Class 3	-	-	-
Moisture	Class 4-5	Class 4-5	Class 6	Class 4-5	Class 1-4	Class 2-3	Class 2-3
Oil	-	Class 5	Class 5	Class 5	-	-	-
Max. Inlet Pressure (psig)	10-50: 250 75-500: 232	100-150: 250 200-3000: 232	250	90-140: 250 190-12000: 232	Standard: 150 Optional: 250	150	150
Max. Inlet Temp. (°F)	120	130	180	130	120	120	120
Energy Saving	On/Off	200-3000 Energy Management Controller	On/Off	90-675 Cycling 800-12000 Digital Scroll	15% Purge Air Used	8-10% Purge Air Used	0% Purge Air Used
Example Applications	Pneumatic Tools, Air Gauging & Conveying, Pneumatic Instruments & Controls, Photo Labs, Textile Looms		Body Shops, Sand Blasting, Pneumatic Tools, Spray Painting	Powder Painting, Fine Pneumatic Tools, Air Gauging & Conveying, Pneumatic Instruments & Controls, Photo Labs, Textile Looms	Air Line Exposed To Freezing, Ambient Conditions, Pharmaceutical, Chemical, Powder Paint	Food Processing, Dairies, Breweries, Air In Direct Contact With Foods, Microchips, Optics, Medicines	

ISO 8573.1 QUALITY CLASSES

Class	Solid Particles - Maximum Numbers of Particles per m ³			Humidity and Liquid Water		Oil
	Particle Size (micron)			Pressure Dew Point		Total concentration, Aerosol, Liquid, and Vapor
	0.10 - 0.5	0.5 - 1.0	1.0 - 5.0	°C	°F	mg/m ³
0	As Specified			As Specified		≤ 0.01
1	100	1	0	≤ -70	≤ -94	≤ 0.1
2	100,000	1,000	10	≤ -40	≤ -40	≤ 1
3	-	10,000	500	≤ -20	≤ -4	≤ 5
4	-	-	1,000	≤ +3	≤ +38	
5	-	-	20,000	≤ +7	≤ +45	
6				≤ +10	≤ +50	



CONTINUED COMMITMENT

A company history that dates back more than 160 years is a company history that, to us, is just the beginning. FS-Curtis is committed to offering a world-class portfolio of products. Through the dependability of our people and our quality-focused manufacturing, FS-Curtis will continue to be the most trusted and dependable name in compressed air serving even more markets through our ever-growing global presence.

You can count on **FS-Curtis** to approach the next 160 years by staying true to the values and strengths that are appreciated by our customers today.

A WORLD OF DIFFERENCE

The FS-Curtis headquarters in St. Louis, Missouri, U.S.A. is the anchor of a larger global network. FS-Curtis builds quality products — and a quality reputation — at locations around the world.

In addition to our manufacturing and packaging locations, a large global network of sales agents and distributors ensures that sales and service support is available around the world, day in and day out.

ST. LOUIS, MO USA (HEADQUARTERS)

BANGALORE, INDIA | JUNDIAI, BRAZIL | OBERHAUSEN, GERMANY | SHANGHAI, CHINA | TAIPEI, TAIWAN | PITTSBURGH, PA USA (FS-ELLIOTT)
ZHONGSAN, CHINA | BEIJING, CHINA (FUSHENG) | ZHONGSAN, CHINA (FUSHENG) | HO CHI MINH CITY, VIETNAM (FUSHENG)



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CORPLITERATURE: FSL-RNFLBREV2
Improvements and research are continuous at FS-Curtis. Specifications may change without notice.

ISO 9001

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