

RES SERIES

ENERGY SAVING REFRIGERATED COMPRESSED
AIR DRYERS 75-2000 SCFM





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

FS-CURTIS WAS FOUNDED ON BOTH.

More than 165 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

Curtis & Co. – Empire Saw founded in St. Louis, MO, USA

1857

Earned Agricultural and Mechanical Fair award for excellence and quality

1876

Named Curtis and Co. Manufacturing

1897

Built first reciprocating air compressor that later evolved into the Master Line Series

1914

Supported U.S. Government efforts by producing more than 2 million Howitzer shell forgings

1940

Designed and developed mobile oxygen compressors to be used in Aerospace applications

1955

Merged with U.S. Air Compressor Company, Central Petroleum Company, Lewis Machine Company

1976

Merged with Toledo Tools as Curtis-Toledo Inc.

1979

Introduction of Challenge Air Series reciprocating air compressors

1995

Began manufacturing and assembling Rotary Screw Air compressors

2005

Expanded global market reach by joining forces with Fusheng Industrial

2006

U.S. Headquarters certified as ISO9001:2000 and ISO14001:2004

2010

Introduced next generation GSV Variable Speed Rotary Screw compressors

2015

Introduced Nx series Fixed and Variable Speed Rotary Screw compressors

2016

Nx Series named Plant Engineering's 2015 Product of the Year - Gold Award for Compressed Air

2017

Nx Series claims Plant Engineering's Product of the Year - Gold Award 2nd year in a row



SUSTAINABLE ENERGY SAVING SOLUTIONS

Utilizing the latest advancements in heat transfer technology, the RES Series refrigerated dryers offer an innovative approach to efficiently remove liquid contamination from compressed air.

RES Series dryers are designed with 4-in-1 heat exchangers (patent pending) and a phase change material (PCM) encapsulated between the refrigeration and compressed air circuits, serving as a highly effective reservoir for thermal storage. The PCM possesses high latent heat properties which enables it to melt or freeze at a constant temperature. The phase change material will absorb heat from warm, moisture laden compressed air without a significant rise in temperature. The phase change material stays colder for longer periods of time, cycling the refrigerant compressor less often than conventional energy saving designs.



ENERGY SAVING SUSTAINABILITY

The RES Series lowers air system power costs and improves productivity by matching power consumption to compressed air demand.

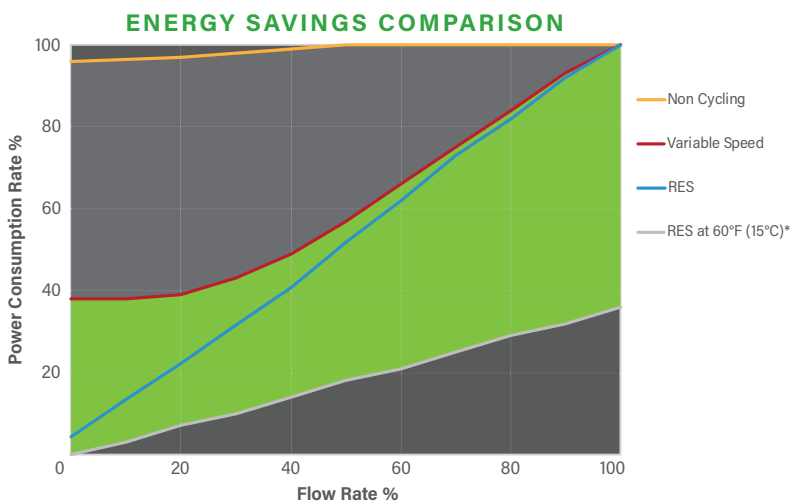
DEMANDSMART ENERGY MANAGEMENT SYSTEM

DemandSmart™
ENERGY MANAGEMENT SYSTEM

By monitoring the incoming heat load to determine how much cooling energy is required to maintain stable dew point control, this energy-saving control system is able to make precise refrigeration compressor adjustments to match the varying heat loads, maximizing energy savings.

LOAD MATCHING PERFORMANCE

Compressed air load profiles in most manufacturing facilities fluctuate. The RES Series provides cost-effective energy savings by matching electrical power consumed in direct proportion to air demand. Linear load matching is achieved from 0% up to 100% demand. Non-cycling dryers operate with the refrigeration compressor running continuously, regardless of inlet load conditions. Minimal energy savings are realized from 100% down to 0% inlet air load.



LINEAR ENERGY SAVINGS

RES Series dryers automatically cycle (on /off) the refrigeration compressor in response to inlet load conditions. As the inlet air load is reduced, the power requirement to dry the air is matched in proportion to the demand. For example, at 60% inlet air load, a non-cycling dryer consumes 96% of the full load power consumption, a 4% energy savings. By comparison, at 60% inlet air load, the RES Series consumes only 60 % of the full load power, a 40% energy savings.

Dryers are rated in accordance to ISO 7183 standard rating conditions A2: (38°C / 100°F ambient)

* FLEX Series also shown at an ambient temperature of 60°F (15°C)

Note: The power consumption data set forth above for non cycling dryers and variable speed dryers was obtained from an article titled "Cycling Refrigerated Dryers - Are Savings Significant?" published in Compressed Air Best Practices in November 2011. The power consumption data set forth above for the FLEX dryer is based on laboratory testing performed on a FLX12 model dryer. We expect that power consumption data between non cycling, variable speed and the FLEX dryer would be consistent regardless of the size of the dryer.

RES (75 TO 2000 SCFM)

The RES Series is the ideal solution to reliably and economically dry compressed air. The innovative technology does not require a recirculating pump and associated piping. This results in a simpler, more energy efficient design.

Stainless steel brazed plate 4-in-1 heat exchanger (patent pending), with phase change material reservoir

- The PCM thermal reservoir operates at a precise temperature to deliver a stable pressure dew point.
- Smooth, non-fouling stainless steel surfaces promote low resistance to flow, optimizing air system efficiency

No-air-loss, demand drain efficiently removes condensate without loss of compressed air

- Condensate drain lines terminate at discharge connections conveniently located on the side of the dryer
- Failure to discharge alarm on the operator interface enhances system reliability

High efficiency, up-flow aluminum air-cooled condenser

- Pulls ambient air through the condenser and releases out the top of the dryer condenser
- Provides cooler condensing air and greater efficiency

Reliable, semi-hermetic refrigerant compressors

- Environmentally friendly, globally accepted refrigerants
- Rugged design, for long-term operation

Integral Moisture Separator

- Included in RES 1.1 – RES 5.5

Controller with LCD display provides ease of monitoring and operating status



- Energy saving (%), dryer operating time, refrigeration compressor operating time, active fault message dew point status, and
 - USB connection port to download operating data and upgrade firmware
 - Remote monitoring capability - RS485 communications port



TECHNICAL DATA

DRYER MODEL	INLET FLOW SCFM	PRESSURE DROP PSI	VOLTAGES	INLET/OUTLET CONNECTIONS	OPERATING POWER KW	DIMENSIONS			APPROX WEIGHT LB
				IN		H IN	W IN	D IN	
RES75	75	2.9	115/1/60	NPT 1"	0.54	30	14	24	120
RES100	100	3.0	115/1/60	NPT 1"	0.62	28	14	31	147
RES150	150	3.6	230/1/60	NPT 2"	0.85	30	17	36	189
RES200	200	2.2	230/1/60	NPT 2"	1.32	30	18	38	217
RES300	300	3.6	460/3/60	NPT 2"	1.99	36	19	44	324
RES400	400	2.5	230/1/60	NPT 2"	2.54	36	19	44	335
RES450	450	3.0	460/3/60	NPT 2"	3.23	41	20	49	366
RES550	550	3.0	460/3/60	NPT 2"	3.42	41	20	49	396
RES800	800	3.7	460/3/60	FLG 3"	4.3	59	32	59	1056
RES1250	1250	4.6	460/3/60	FLG 4"	7.6	59	39	62	1537
RES1500	1500	3.9	460/3/60	FLG 4"	9	59	39	62	1766
RES2000	2000	3.1	460/3/60	FLG 4"	10	59	39	69	2028

Performance data presented in accordance with ISO 7183 (Option A2) conditions: 100°F inlet temperature, 100°F ambient temperature and 100 psig conditions.

Capacity Correction Factors

To adjust the dryer capacity for non-standard conditions, use the Capacity Correction Factors (multipliers) from Tables 1, 2 & 3.

Table 1 - Inlet Air Pressure

INLET AIR PRESSURE	75 PSIG 5.2 BAR	100 PSIG 6.9 BAR	120 PSIG 8.3 BAR	150 PSIG 10.3 BAR	225 PSIG 15.5 BAR
Multiplier	0.86	1.00	1.04	1.09	1.15

Table 2 - Inlet Air Temperature

INLET AIR TEMPERATURE	80 °F/27 °C	90 °F/32 °C	100 °F/38 °C	110 °F/43 °C	120 °F/49 °C
Multiplier	1.12	1.06	1.00	0.83	0.68

Table 3 - Ambient Air Temperature

AMBIENT AIR TEMPERATURE	80 °F/27 °C	90 °F/32 °C	100 °F/38 °C	110 °F/43 °C	120 °F/49 °C
Multiplier	1.46	1.23	1.00	0.82	0.68





CONTINUED COMMITMENT

A company history that dates back more than 165 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 165 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)

PUNE, 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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Improvements and research are continuous at FS-Curtis. Specifications may change without notice.

ISO 9001
ISO 14001

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