



# RDS SERIES

## REFRIGERATED COMPRESSED AIR DRYERS



**ENERGY SAVING REFRIGERATED  
COMPRESSED AIR DRYERS  
90-12500 SCFM**



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

**FS-CURTIS WAS FOUNDED ON BOTH.**

# A HISTORY OF

**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



## **REAL-WORLD PEOPLE**

When you're successful, we're successful.  
That's why FS-Curtis listens.

Trust and dependability are the foundations of our past  
and the fabric of our future, so you can count on being  
treated with the personal touch you deserve.

More than 150 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.

# EXCELLENCE

**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 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



## REAL-WORLD PRODUCTS

Take more than a century of experience building quality compressors, add in a staff that's listening to the needs of the market, and the result is a product lineup that's built for tough working conditions. No wonder so many customers around the world depend on FS-Curtis compressors day in and day out.

# SUPERIOR AIR QUALITY IS JUST THE BEGINNING

RDS Series dryers not only enhance air quality, but they also enhance energy savings through FS-Curtis' DemandSmart™ technology.

So when you take the world-class quality found in FS-Curtis compressors and add in the heightened performance from RDS Series dryers, the result is simply outstanding. Your production process will be protected, and the DemandSmart energy savings will add up day in and day out. Manufactured for ideal integration with FS-Curtis compressors, RDS Series dryers provide a constant dew point that meets the ISO 8573.1 standard to protect your investment and maintain your production quality.



DemandSmart technology automatically cycles the refrigeration compressor in response to inlet load conditions for true load-matching energy savings.



## TRUE ENERGY-SAVING DESIGN

All FS-Curtis RDS Series dryers utilize three industry-leading technologies to optimize energy savings and performance.

### 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.

**DemandSmart™**  
ENERGY MANAGEMENT SYSTEM

### STAINLESS-STEEL BRAZED PLATE HEAT EXCHANGER

To deliver unparalleled performance and superior reliability, FS-Curtis crafts its exchangers from premium grade 316SS and uses advanced metal forming and bonding techniques. Layers of sinusoidal flow paths form large, smooth channel flow cavities, helping to ensure low pressure drop.

### INTEGRATED TWO-STAGE FILTRATION SYSTEM

5.0 mg/m<sup>3</sup> oil aerosol bulk liquids and 3.0-micron solid particulates are removed by the efficient, effective two-stage filtration system. In the first stage, two stainless-steel orifice tubes provide 10-micron mechanical separation. During the second stage, an in-depth fiber media captures solid and liquid particles to 3 microns.

An optional high-efficiency oil removal filter with a corrosion resistant inner and outer cores remove solid particles to 0.01 micron. The first stage features multiple layers of fiber media and a media screen to remove larger particles. After this prefiltering, the second stage utilizes multiple layers of bonded, blended fiber media for fine coalescence.



# PRODUCT RANGE



In addition to the three main technologies, each model in the RDS Series has its own unique benefits for an ideal match to application needs.

### RDS90-675

- Hermetically sealed refrigerant compressor with environmentally friendly R-134a refrigerant for high reliability and long service life
- Standard at-a-glance controller for simple operation, or optional DemandSmart energy management system for energy-saving results
- Optimized cabinet design promotes ease of access from all four sides
- No-air-loss condensate drain prevents energy loss
- Rugged glycol reservoir

### RDS800-3000

- Digital scroll refrigerant compressor with environmentally friendly R-404a refrigerant for high reliability, long service life and quiet working environment
- DemandSmart energy management system provides energy-saving results
- Lift-out panel design provides easy access for maintenance
- No-air-loss condensate drain prevents energy loss

### RDS3750-12500

- Digital scroll refrigerant compressor with environmentally friendly R-404a refrigerant for high reliability, long service life and quiet working environment
- No-air-loss condensate drain prevents energy loss
- Enhanced DemandSmart energy management system displays real-time status and measures energy savings
- Multi-station design for easy movement and precise match of demand

## ISO 8573.1 QUALITY CLASSES

Class	Solid Particles - Maximum Numbers of Particles per m <sup>3</sup>			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 <sup>3</sup>
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	

# TECHNICAL DATA

MODELS	Capacity <sup>1</sup> (scfm)	POWER SUPPLY	INLET/OUTLET (npt. male)	DIMENSIONS (LxWxH-In.)	WEIGHT (Lbs.)
RDS90	90	115/1/60			241
RDS120	120	208-230/1/60	1" NPT	20 x 27 x 38	258
RDS140	140	220-240/1/50			263
RDS190	190				408
RDS240	240		1-1/2" NPT	32 x 34 x 39	478
RDS280	280	208-230/3/60			497
RDS360	360	380-420/3/50	2" NPT	32 x 35 x 46	540
RDS450	450	460/3/60			708
RDS540	540	575/3/60	2-1/2" NPT	42 x 35 x 58	793
RDS675	675				844
RDS800	800		3" NPT	52 x 40 x 85	1615
RDS1000	1000				1650
RDS1250	1250		4" ANSI Flg.	52 x 48 x 85	1770
RDS1500	1500	208-230/3/60			1890
RDS1750	1750	380-420/3/50			2110
RDS2000	2000	460/3/60	6" ANSI Flg.	56 x 54 x 85	2205
RDS2500	2500				2248
RDS3000	3000				2488
RDS3750	3750		8" Flange	81 x 85 x 96	3391
RDS5000	5000				3474
RDS6250	6250		10" Flange	81 x 125 x 98	5412
RDS7500	7500	460/3/60			5624
RDS8750	8750	575/3/60			7664
RDS10000	10000	230/3/60	12" Flange	81 x 164 x 99	7876
RDS11250	11250				9623
RDS12500	12500			81 x 202 x 99	9836

<sup>1</sup> Rated Flow Capacity – Conditions for rating above dryers are: compressed air at dryer inlet: 100 psig and 100°F saturated; ambient temperature: 100°F; cooling water temperature: 85°F; operating on 60 Hz power supply.

## THE NAME TO KNOW IS FS-CURTIS.

For a complete selection of top-quality, reliable air compressors, dryers and accessories, the only name you need to remember is FS-Curtis.

