



PRODUCT CATALOGUE
2012





Stokes Vacuum Shelf Dryers Model 438



Stokes Model 438 vacuum shelf dryer

Edwards has over 90 years experience in the design of dryers for the chemical, pharmaceutical, plastics and metallurgical industries and has pioneered the design of heated shelves for vacuum shelf dryers.

Stokes Model 438 Shelf Dryers

Edwards Shelf Dryers provide rapid drying of heat sensitive, air sensitive, pyrophoric, and other materials that require drying without agitation. The dryer chamber features heated shelves (see below) which are sealed by use of an O-ring contained in a machined groove in the chamber door. The chamber assembly includes a vacuum break valve, vacuum gauge, a drain connection, and a connection for product thermocouples, and can be fitted with other connections as needed.

Stokes Model 438 Heated Shelf Design



One of the key design features of the Stokes Shelf Dryer is the shelf heating connection and manifold system. The supply and return tube for each shelf protrude through the back wall of the chamber where they connect to the supply and return header. Where each shelf exits the chamber, the tube is sealed with a proprietary tube ferrule sealing the chamber and assuring the vacuum integrity of the chamber. All shelf manifold connections are located outside of the drying chamber, eliminating any possible contamination of the product from leaks in the heating manifold.

An uppermost non-usable shelf is installed serving as the heating surface for the top of the chamber assembly. The shelves are constructed and inspected for maximum steam working pressure of 50 psig and are suitably baffled for efficient heating or cooling using water, oil, or steam.

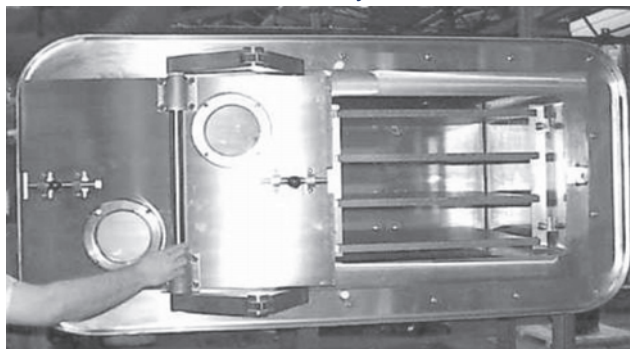
Stokes Model 438 Specifications

- Non-code chamber as standard
- Heated shelves, 50 psi design pressure
- External manifolded shelf heating connections
- Door hinged with Viton® O-ring seal and clamps
- Sight glasses through door
- Vacuum gauge & 4 psi vacuum break valve
- Sloped bottom for draining, includes 1 inch NPT manual drain valve

Options

- Carbon steel, 316LSS, or other special materials upon request
- Internal finishes: Mill finish, #4 polish, or other coating options available upon request
- Wall flange
- Upgraded elastomers
- Washdown duty
- Instrumentation
- Additional connections
- Door validation port
- Vacuum port location
- Vacuum System
- Heating System
- CE Marking not available at this time
- Other options available upon request

Glovebox Vacuum Shelf Dryers Model 438GBX



438GBX available in sizes B, D and F only.

Edwards offers a "GBX" series vacuum shelf dryer to provide an air/liquid tight seal when mating to an isolation glove box. This design includes a spigot to accept an inflatable gasket seal from a portable glove box. The spigot is sealed to the chamber with a silicone gasket to ensure full isolation. The door hinges are a double articulating davited type design to keep the door swing within the parameters of the glove box.

Data Summary Stokes Vacuum Shelf Dryers Model 438

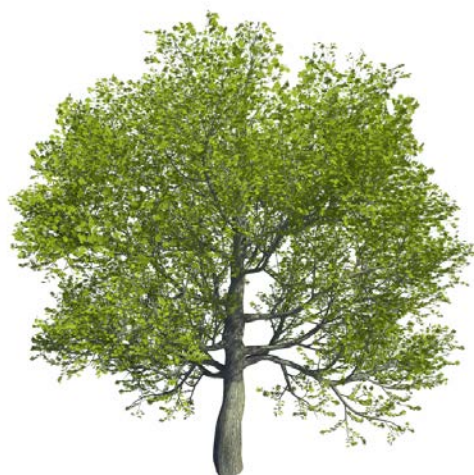
Chamber Size

Chamber Size b				Chamber Size d				Chamber Size f				Chamber Size h				Chamber Size j			
#	A	C	W	#	A	C	W	#	A	C	W	#	A	C	W	#	A	C	W
B-0	0.0	20.5	700	D-0	0.0	27.0	970	F-0	0.0	39.0	1600	H-0	0.0	49.0	3530	J-0	0.0	71.5	4200
B-1	4.0	16.3	920	D-1	6.0	23.0	1270	F-1	6.0	35.0	1920	H-1	12.2	44.0	4170	J-1	12.2	65.0	4840
B-2	8.0	7.6	1030	D-2	12.0	11.0	1420	F-2	12.0	17.0	2080	H-2	24.4	21.5	4490	J-2	24.4	32.0	5160
B-3	12.0	4.8	1140	D-3	18.0	7.0	1570	F-3	18.0	11.0	2240	H-3	36.7	14.0	4810	J-3	36.7	21.0	5480
B-4	16.0	3.3	1250	D-4	24.0	5.0	1720	F-4	24.0	8.0	2400	H-4	48.9	10.3	5130	J-4	48.9	15.5	5800
B-5	20.0	2.5	1360	D-5	30.0	3.8	1870	F-5	30.0	6.2	2560	H-5	61.1	8.0	5450	J-5	61.1	12.2	6120
B-6	24.0	1.9	1470	D-6	36.0	3.0	2020	F-6	36.0	5.0	2720	H-6	73.3	6.5	5770	J-6	73.3	10.0	6440
				D-7	42.0	2.4	2170	F-7	42.0	4.1	2880	H-7	85.6	5.4	6090	J-7	85.6	8.4	6760
				D-8	48.0	2.0	2320	F-8	48.0	3.5	3040	H-8	97.8	4.6	6410	J-8	97.8	7.2	7080
				D-9	54.0	1.7	2470	F-9	54.0	3.0	3200	H-9	110.0	4.0	6730	J-9	110.0	6.3	7400
								F-10	60.0	2.6	3360	H-10	122.2	3.5	7050	J-10	122.2	5.6	7720
								F-11	66.0	2.3	3520	H-11	134.4	3.1	7370	J-11	134.4	5.0	8040
								F-12	72.0	2.0	3680	H-12	146.7	2.8	7690	J-12	146.7	4.5	8360
												H-13	158.9	2.5	8010	J-13	158.9	4.0	8680
												H-14	171.1	2.2	8330	J-14	171.1	3.7	9000
												H-15	183.3	2.0	8650	J-15	183.3	3.4	9320
																J-16	195.6	3.1	9640
																J-17	207.8	2.8	9960
																J-18	220.0	2.6	10280
																J-19	232.2	2.4	10600
																J-20	244.4	2.3	10920
																J-21	256.7	2.1	11240
																J-22	268.9	2.0	11560

A Useable total surface area (sq. ft.)
 C Clearance between shelves (inches)
 W Weight (lbs)

Dimensions and Shelf Information

Chamber Size	Overall Dimensions			Internal Dimensions			Shelf Information		
	Width	Depth (Door Open)	Height	Width	Depth	Height	Volume (ft ³)	Size Each	Useable Shelves
438 B	40.5"	75"	56"	30"	29"	20.5"	10.3	24" x 24"	up to 6
438 D	40.5"	77"	66"	30"	42"	27"	19.7	24" x 36"	up to 9
438 F	40.5"	85.5"	75"	30"	42"	39"	28.4	24" x 36"	up to 12
438 H	62"	107"	77.5"	50"	46"	49"	65.2	44" x 40"	up to 15
438 J	66"	110"	99"	50"	46"	71.5"	95.2	44" x 40"	up to 22



RoHS Compliance

The EU RoHS (Restriction of certain Hazardous Substances) Directive controls the use of certain hazardous substances (lead, mercury, cadmium, hexavalent chromium, PBDE and PBE) in electrical and electronic equipment. Similar legal requirements have been implemented in many other countries.

Edwards products do not fall within the scope of the RoHS Directive, but we have a voluntary programme of RoHS compliance as part of our commitment to protecting the environment.

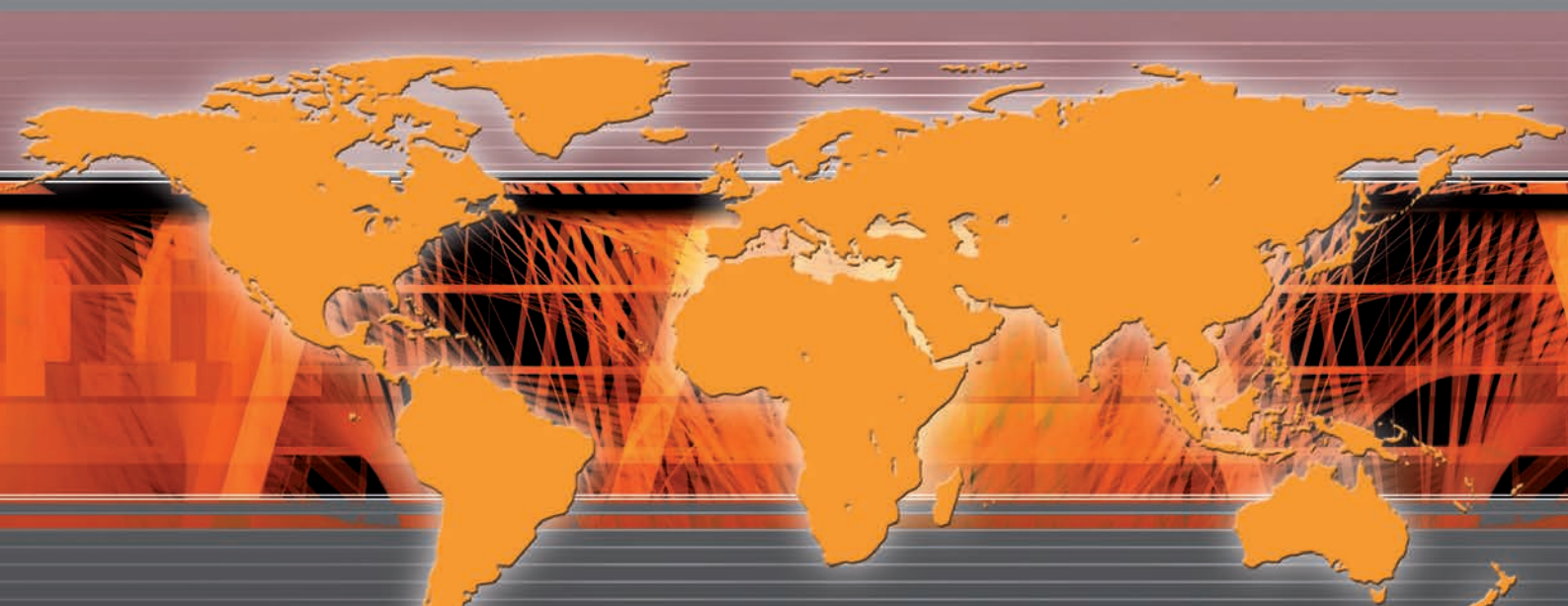
A wide range of Edwards products are RoHS compliant including iX semiconductor dry pumps, small rotary pumps, scientific turbo pumps, STP magnetically levitated turbo pumps, industrial dry and roots pumps, scroll pumps, vacuum gauges and controllers, vacuum system components and flange fittings. Refer to our website for the latest information.

These items do not contain the following materials above the limits set by the European RoHS Directive, 2002/95/EC. These limits are set out in the table below.

Substance	Typical Uses	Limits** (by weight of the homogeneous material*)
Lead	Solders, pigments, PVC stabilisers, balance weights	0.1 wt%
Cadmium	Pigments, plastics stabilisers, platings, batteries, contacts	0.01 wt%
Mercury	Switch and relay contacts, batteries, sensors, fluorescent tubes	0.1 wt%
Hexavalent Chromium	Coatings and platings (esp Aluminium), metallised plastics	0.1 wt%
PBB	Flame retardant, no longer produced	0.1 wt%
PBDE	Flame retardants for variety of plastics	0.1 wt%

* A single substance that could (theoretically) be mechanically separated from other substances

** The EU Directive allows various exemptions – see 2002/95/EC <http://ec.europa.eu/environment/waste/weee/>

**UNITED KINGDOM - HEAD OFFICE**

Crawley Business Quarter, Manor Royal,
Crawley, West Sussex RH10 9LW
Tel: Sales & Service +44 8459 212223
Office +44 1293 528844
Fax: Sales & Service +44 1293 533453

USA

Highwood Office Park, One Highwood Drive Suite
101, Tewksbury, MA 01876
Tel: Toll free (USA) +1 800 848 9800
Fax: Office +1 866 484 5218

CANADA

5860 Chedworth Way, Mississauga,
Ontario L5R 0A2
Tel: Office +1 800 387 4076
Fax: Office +1 905 501 1225

BRAZIL

Rua Bernado Wrona, 222
02710-060 - Sao Paulo - SP, Brazil
Tel: Office +55 11 3952 5000
Fax: Office +55 11 3965 2766

BELGIUM

Bergensesteenweg 709
BE- 1600 Sint-Pieters-Leeuw
Tel: Office +32 2 300 0730
Fax: Office +32 2 300 0704

ITALY

Via Vittore Carpaccio 35
20090 Trezzano sul Naviglio, Milano
Tel: Office +39 02 48 4471
Fax: Office +39 02 48 401638

GERMANY

Ammerthalstrasse 36,
85551 Kirchheim, Munich
Tel: Sales & Service 0800 000 1456
Fax: Sales & Service +49 899 919 1888

FRANCE

101 rue de la Bongarde,
92238 Gennevilliers, Cedex
Tel: Sales & Service +33 1 4121 1256
Office +33 1 4798 2401
Fax: Sales & Service +33 1 4121 1238

ISRAEL

5 Habarzel Blvd. Gat 2000 Industrial Zone,
PO Box 862, Qiryat Gat 200901
Tel: Sales +972 8 681 0633
Service +972 7 681 0633
Fax: Office +972 8 681 0640

CHINA

23 Fu Te Road (North)
Wai Gao Qiao Free Trade Zone,
Pudong, Shanghai 200131
PR China
Tel: Sales +86 21 5866 9618
Service +86 21 5866 9618 ext 152
Fax: Office +86 21 5866 9993
+86 21 5868 2533

JAPAN

1078-1 Yoshihashi, Yachiyo-shi,
Chiba 276-8523, Japan
Tel: Sales +81 47 458 8831
Service +81 47 458 8851
Fax: Sales +81 47 458 8835
Service +81 47 458 8048

SINGAPORE

42 Loyang Drive, Loyang Industrial Estate
Singapore 508962
Tel: Office +65 6546 8408
Fax: Office +65 6546 8407

TAIWAN

No.1, Renyi Street, Jhunan Town,
Miaoli County 350, Taiwan (R.O.C.)
Tel: Office +886 37 581000
Fax: Office +886 37 581608

KOREA

5F Hanwon Building, 6-1 Sunae-dong,
Bundang-gu, Seongnam-si,
Gyeonggi-do, Korea
Tel: Office +82 31 716 7070
Fax: Office +82 31 710 2222

INDIA

T97/2, Opposite Saint Gobain
Bhosari MIDC, Pune 411026, India
Tel: Sales +91 20 4075 2222
Service +91 20 4075 2207
Fax: Sales +91 20 4075 2212
Service +91 20 2712 0548

www.edwardsvacuum.com
info@edwardsvacuum.com

