

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. Edwards has pioneered the design of heated shelves for vacuum shelf dryers and developed the Solid State Polymerization reactor technology used in vacuum conical dryers worldwide.

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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.

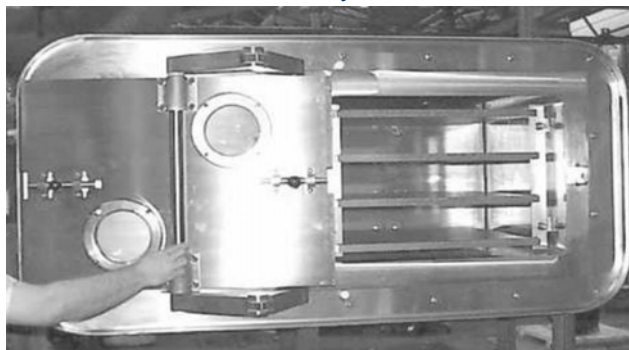
Stokes model 438 specifications

- 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, Hastelloy or special materials
- Internal finishes: #4 polish, Halar or PFA internal coating
- Wall flange
- Upgraded elastomers
- Insulation and SS sheathing
- Washdown duty
- Instrumentation
- Additional connections
- Door validation port
- Vacuum port location
- Product trays
- Vacuum System
- Heating System
- Control Panel

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

