2945 Washington Ave. St. Louis, MO 63103
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ST SERIES STABILITY REFRIGERATOR

ST Series Overview

Our ST series stability refrigerators provide the highest level of performance and construction with tight uniformity and control of temperature. They are a common product among laboratory researchers looking for exceptional precision and virtually unlimited customization options available.

ST011

The ST011 is a bench top stability refrigerator designed to fit on 24" benchtops or stacked with optional racking.

ST030

The ST030 is a single-door stability refrigerator.

ST034

The ST034 is a single-door stability refrigerator designed for maximum capacity while still allowing passage through most commercial doorways.

ST055

The ST055 is a 2-door stability refrigerator.

ST068

The ST068 is a larger 2-door stability refrigerator.

ST084

The ST084 is a 3-door stability refrigerator.

Specifications are subject to change without prior notice.

ST SERIES: STABILITY REFRIGERATOR

Our ST series come standard with the following: temperature range of 2° C to 15° C. Control of temperature at sensor of ±0.2° C. Uniformity inside chamber of ±0.7° C. Standard Microprocessor Controller with PID, autotuning, programmable alarms, ability to ramp/soak, process variable and setpoint variable offset, dual display of actual temperature and setpoint temperature (process variable and setpoint variable). Controls are able to be quickly exchanged for future upgrades or repair. As always, if you have different specifications, probes, microprocessors etc., we can probably do it.

Superior Control and Uniformity

The ST series chambers control well within the specifications required by the FDA and ICH for GMP studies. Standard control at the sensor in these chambers is ±0.2°C.

Options Available

Extended Temperature Range**

Chart Recorders

Data Loggers

Pneumatic & Desiccant Wheel Dryers**

Window or Glass door. **

Full swinging interior glass door

Magnetic latch door handle with lock and two keys (011 and 034 models)

Touch Screen interface

Headless interface (Virtual Touch Screen VTS)

Other control Options or monitoring i.e., CO_2.

Adjustable Fan Speeds. **

Air exchanges filtered or non-filtered with ambient space. **

Condensate drain pumps.

Interior or exterior electrical outlets. (Limited power) **

Stainless Steel Exterior (030, 055 and 084)

Door ajar alarm

**Some Options may limit chamber performance less or greater than specified here.*

Widely Proven, Non-Proprietary Controllers

Standard controllers for the ST Series are manufactured by Fuji Electric and are ideal for stability testing chambers. Unlike many proprietary controllers, this controller is commercially available and proven in tens of thousands of installations. Standard functions include: autotuning, fuzzy logic, PID control, programmable alarms, calibration capability, ramp/soak, offset capability, etc. A touchscreen control interface is optional. Other controller manufacturers are also supported (Watlow, Allen-Bradley etc.)
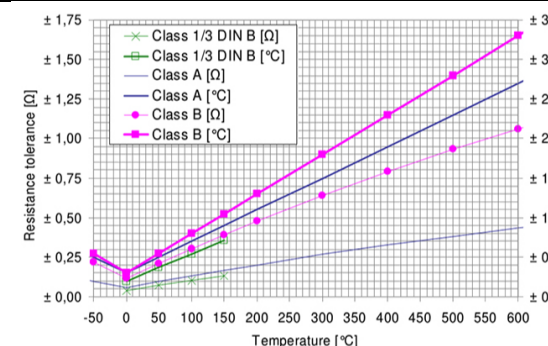
Services and Warranties

We offer 24-hour technical support throughout the lifetime of your chamber. In addition to standard warranties, we also offer extended warranties for cooling components, parts, and labor. We also provide qualifications, validations, and preventive maintenance services at an additional cost. Please ask for a quote.

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ST Series Stability Refrigerator Chamber Specifications (ambient 23° C)

Temperature		
Performance	Standard	Optional
Temperature Range	2° C to 15° C	-5° C to 70° C with Optional Defrost
Ambient Temperature	21° C ± 3° C	
Temperature Control	± 0.2° C	
*Temperature Uniformity	± 0.7° C	
Control Resolution	0.1° C	
Temperature Sensor Type	3 wire PT100 Class A RTD	

We place 5 sensors in the chamber, one in each corner (vertically) and one in the center. We log it overnight and look at the min to max across all points.

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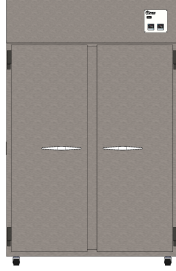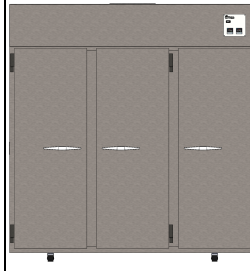| Control System	Standard	Optional
Controller	Fuji PXF4	VTS (Virtual Touchscreen), Gefran 650, Future Design Controls CM and MCT4 + More
Control Readout	Actual and Set-Point Values	Trending, Duty Cycle
Indication Accuracy	RTD input: ±0.2% of indication value ±1 digit or ±0.5°C±1 digit, whichever is larger	Dependent on optional Controller
Sample Rate	Fast as 50 ms	Dependent on optional Controller
Control Speed	Fast as 100 ms	Dependent on optional Controller
Control Type	PID - Fuzzy Logic (9 types available)	Dependent on optional Controller
Auto Tuning	YES	Dependent on optional Controller
Calibration Correction Capability	±0.1 lower and upper scale	Dependent on optional Controller
Uniformity Off Set	±0.1 Resolution Linear adjustment	±0.1 Resolution
Alarm	High / Low Audible and Visual	Text, Email, Web Server, Remote Access
Alarm Type	High / Low Deviation in 0.1 resolution with adjustable Delay. Control audible alarm enable or disable components.	Absolute & Deviation 0.1 Resolution with Delay
Remote Monitoring / BMS connection	Double throw Dry Contact Alarm, RS 485 MODBUS RTU / ASCII**	Ethernet & Analog Output (Specify voltage or mA)
Password Protection	Hexadecimal	Numeric, Alpha Numeric
Audit Trail	Not Standard*	Dependent on optional Controller
Universal Power Supply for Monitoring	Not Standard	Available. *Controllers and sensors powered during outage for data logging. Chamber operation not supported*.
Ramp Soak Function	Up to 64 steps. A Step includes a ramp and soak. Up to 8 patterns / programs (recipes).	Dependent on optional Controller

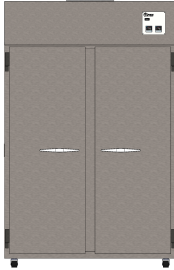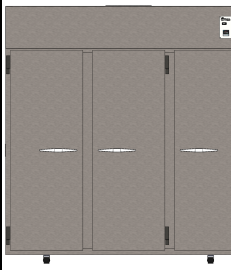*Applies with touchscreen or VTS option.
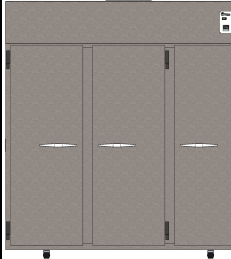
**For BACNET or MODBUS TCP (Ethernet) please contact your BMS vendor about using a gateway to interface with controllers via the RS485.

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Construction						
Exterior	Powder Coated Finish	Stainless Steel Front continuous coil coated steel sides	Powder Coated Finish	Stainless Steel Front continuous coil coated steel sides	Powder Coated Finish	Stainless Steel Front continuous coil coated steel sides
Exterior Material Thickness	Heavy Gauge	Medium Gauge	Heavy Gauge	Medium Gauge	Heavy Gauge	Medium Gauge
Interior	304 Stainless Steel	Coated Aluminum	304 Stainless Steel	Coated Aluminum	304 Stainless Steel	Coated Aluminum
Interior Material Thickness	.036"	Medium Gauge	.036"	Medium Gauge	.036"	Medium Gauge
Door QTY	1	1	1	2	2	3
Door Lock	Optional	Tumbler Cam Key Lock	Optional	Tumbler Cam Key Lock	Optional	Tumbler Cam Key Lock
Door Swing	+180°	120° Stay Open Feature	+180°	120° Stay Open Feature	+180°	120° Stay Open Feature
Door Gasket	Magnetic Gasket	Snap in Magnetic Gasket	Magnetic Gasket	Snap in Magnetic Gasket	Magnetic Gasket	Snap in Magnetic Gasket
Shelving Material	304 Stainless Steel	Epoxy Coated	304 Stainless Steel	Epoxy Coated	304 Stainless Steel	Epoxy Coated
Shelf Quantity per Door	2	3	3	3	3	3
Casters Height	2.75"	3"	2.75"	3"	2.75"	3"
Caster QTY	4	4	4	4	5	4
Caster Locking Brakes	2	2	2	2	2	2
Access Port Qty	2	2	2	2	2	2
Multi-Purpose ports	YES	YES	YES	YES	YES	YES

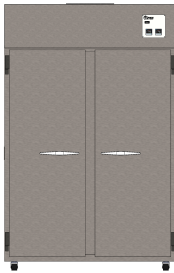*Continuous coil coated is treated metal before it is cut and formed, the entire surface is cleaned and treated, providing tightly bonded finish. Formed sides have holes, valleys, recessed areas, and hidden areas that make it difficult to clean and uniformly coat. Coil coated metal is often considered more durable and corrosion resistant than most painted metal as it is treated before shaped.*

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Capacity & Dimensions						
NET Capacity*	9.2 ft³	22.1 ft³	29.0 ft³	48.2 ft³	62.6 ft³	74.3 ft³
Conditioned Space	11.6 ft³	23.9 ft³	32.1 ft³	50.0 ft³	69.3 ft³	76.2 ft³
External Dimensions	36.2W x 27.4D x 47.1H	26W x 32D x 78.75H	35.7W x 33.8D x 80.8H	52W x 32D x 78.75H	68.4W x 34.2D x 81.8H	78W x 32D x 78.75H
Internal Dimensions	29.7W x 23.6H x 22.6D	22W x 28D x 62H	29.4W x 29.0D x 57.3H	48W x 28D x 62H	64.2W x 29.4D x 57.3H	74W x 28D x 62H
Access Port Dimensions	2" ID with Foam Insert	2" ID with Foam Insert	2" ID with Foam Insert	2" ID with Foam Insert	2" ID with Foam Insert	2" ID with Foam Insert
Recommended Clearance	Top 12"	Top 12"	Top 12"	Top 12"	Top 12"	Top 12"
	Rear 6"	Rear 6"	Rear 6"	Rear 6"	Rear 6"	Rear 6"
	Sides 6"	Sides 6"	Sides 6"	Sides 6"	Sides 6"	Sides 6"
Shelf Dimensions	28.9W x 20.4D	21.25W x 24.6D	28.75W x 26D	22.75W x 22.75D	31.4W x 24.25D	24W x 22.75D
Shelf Weight Capacity	150 lbs.	90 lbs.	150 lbs.	90 lbs.	150 lbs.	90 lbs.
Approx. Max Storage weight	600	500	700	1000	1000	1500
Approx. Crated Weight	470 lbs.	526 lbs.	765 lbs.	740 lbs.	1100lbs	1100 lbs.

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Components						
Compressor Size	1/3 hp	1/3 hp	1/3 hp	½ hp	½ hp	2* 1/3 hp
Refrigerant	134a	134a	134a	134a	134a	134a
Charge (oz)	13.5 oz	13.5 oz	13.5 oz	18.5 oz	18.5 oz	13.5 oz
Defrost	Optional	Optional	Optional	Optional	Optional	Optional
Perimeter Heater	Optional	Optional	Optional	Optional	Optional	Optional
Air flow direction	Front to Back	Front to Back	Front to Back	Front to Back	Front to Back	Front to Back
Fan Count	3	1	3	1	6	1
Fan CFM per fan	125	Up to 600	125	Up to 600	125	Up to 600
Variable Speed	Manual Adjust	Manual Adjust	Manual Adjust	Manual Adjust	Manual Adjust	Manual Adjust

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Electrical North America						
Voltage	115 VAC/ 60 Hz					
RLA	6.0	6.0	6.0	9.0	9.0	9.0
Heat Rejection	4307 Btu/h	4307 Btu/h	4307 Btu/h	6037 Btu/h	6037 Btu/h	8614 Btu/h
Cord Length	9 ft	9 ft	9 ft	9 ft	9 ft	9 ft
Dedicated Circuit	15 A	15 A	15 A	15 A	15 A	15 A
Electrical International via Buck Boost Transformer						
Voltage	230 VAC/ 50 Hz					
RLA	3.0	0	3.0	4.5	4.5	4.5
Heat Rejection	4307 Btu/h	4307 Btu/h	4307 Btu/h	6037 Btu/h	6037 Btu/h	8614 Btu/h
Cord Length	2.74 m	2.74 m	2.74 m	2.74 m	2.74 m	2.74 m
Accessory connections						
BMS Dry Contact	Screw terminal 3 position Common / Normally Closed / Normally Open					
RS485 MODBUS	1/8" or 2.5mm stereo input jack					
Optional Re transmission	Screw terminal					
Aux 24VDC output (500 mA limit)	5.2 mm Barrel Connector					

*Interior Capacity includes the 2" spacing from interior walls to allow for best air flow performance.

**Include width with handle and height with casters installed.

RLA and heat rejection is based on a controlled operation temperature of 30C and 65% RH. Value may change on operating set points.

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