

ITEM OPPORTUNITY SYNOPSIS

Scouting Number:	2024-149
Name of the item to be scouted:	Materials Testing Temperature Control Chamber
State item to be used in:	North Carolina
Describe the Item:	
Please describe the item application/the end use of the item.	Temperature-controlled stainless steel chamber capable of maintaining temperature inside at a user-defined setpoint between -20 °C and 80 °C. Interior dimensions must be at least 37 inches (width) by 20 inches (depth) by 50 inches (height) to fit the necessary equipment.
Supplier Information:	
Type of Supplier Being Sought (select from the list below):	
Manufacturer	x
Contract Manufacturer	
Distributor	
Other (Please Specify)	
Reason for Scouting Submission (select from the list below)	
2nd Supplier	x
Price	
Re-Shore	
Past supplier no longer available	
New Product Startup	
BABA	
Other (Please Specify)	
Summary of Technical Specifications and Performance Requirements:	
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Manufacturing process may vary as required.
Provide dimensions / size / tolerances / performance specifications of the item	A temperature-controlled stainless-steel chamber capable of maintaining temperature inside at a user-defined setpoint temperature between -20 °C and 100 °C. The interior must be stainless steel and have minimum internal dimensions of 37 inches (width) by 20 inches (depth) by 50 inches (height) to fit the necessary equipment. It must include at least 2 adjustable stainless-steel shelves with a usable shelf area of 36 inches by 19 inches or larger. It must contain at least one access port with a diameter of 100 mm or 4 inches to the inner (temperature-controlled) chamber. The chamber must have one or two opening access doors. It must run at 110 V – 120 V, 50/60Hz power with 20 A or less peak power consumption. The unit must come with a minimum 1 year warranty for parts and labor. It must have a controller capable of storing and running temperature programs with at least 10 segments. Total exterior dimensions must be less than 60 inches (wide) by 40 inches (deep) by 80 inches (tall) to fit in designated space.
List required materials needed to make the product, including materials of product components, if applicable	Stainless steel internal chamber containing 2 or more stainless steel shelves.
Are there applicable certification requirements?	
Yes	
No	x
Please explain:	
Are there any applicable regulations that apply to the production of this item?	
Yes	
No	x
Please explain:	
Are there any other standards / requirements?	
Yes	
No	x
Please explain:	
NAICS CODES:	
NAICS 1	334513 Instruments and related products manufacturing for measuring, displaying, and controlling industrial process variables
NAICS 2	

Additional Comments:	
Additional technical comments:	
Volume and Pricing:	
Estimated Potential Business Volume (i.e. #units per day, month, year):	One Unit.
Estimated Target Price/Unit Cost Information:	\$25,000
Delivery Requirements:	
When is it needed by? (Immediate, 30 days, 6 months, etc.)	Immediate
Describe packaging requirements (i.e. individually/group packaging, etc.)	Individually Packaged
Where will this item be shipped?	Durham, North Carolina
Additional Comments:	
Is there other information you would like to include?	



Friocell *Eco + Evo*



Patented Forced Air Convection
Materials Testing Chambers



FRIOCELL® climate test chambers are designed to create exact reproducible simulations of a wide range of environmental conditions through precise control of temperature and optional lighting.

FRIOCELL® test chambers are designed for degradation testing, QC/QA testing of products and packaging, and material quality and durability testing. FRIOCELL® EVO models can be equipped with programmable LED or fluorescent shelf and door lighting for a variety of VIS or UV light testing studies.



Materials testing in both automotive and aerospace industries



Electronics testing including use in metrology labs



Quality and durability testing of materials, components, and packaging



ECO Controller

3" LCD display

Fuzzy Logic algorithm constantly monitors chamber conditions and continuously optimizes parameters.

(9) programs with (2) segments each for varying loads and parameters

Audible & visual alarms – temperature, time & humidity

FDA CFR 21 Part 11 compliant with addition of Warmcomm 4.0F software

USB flash & device, RS232 & optional Ethernet port

Integrated USB 30-day data logger for temperature measurement & recording

50mm (2") port



EVO Controller

5.7" LCD touch display

Fuzzy Logic algorithm constantly monitors chamber conditions and continuously optimizes parameters.

(100) programs with (100) segments each for varying loads and parameters

Audible & visual alarms – temperature, time & humidity

FDA CFR 21 Part 11 compliant with addition of Warmcomm 4.0F software

USB device, RS232 & optional Ethernet port

Integrated SD card 30-day data logger & multi-level secure user authentication

50mm (2") port

Temperature Range:

0°C up to 100°C (10°C up to 95°C with humidity)

- -10°C min. temperature option available on ECO units
- -20°C min. temperature option available on EVO units

Temperature Control:

Very short recovery times and precise temperature regulation cooling system ensures the samples are protected from drying

Chamber Volumes:

55 (2 ft³) • 111 (4 ft³) • 222 (8 ft³) • 404 (14.3 ft³) • 707 (25 ft³) • 1212 (43 ft³)

Chamber Construction:

- AISI 304 stainless steel chamber (AISI 316 SS option available)
- Double wall, seamless main chamber & removeable inner chamber

Electrical Data:

115V 50/60Hz, model 1212 & lighted devices 230V 50/60Hz

Optional Programmable Lighting:

- VIS & UV fluorescent lighting
- VIS LED shelf and door lighting
- Light intensity controlled in 1% increments
- LED Door lighting (*pictured*)



Optional Equipment:

- AISI 316 stainless steel chamber
- 160°C sterilization cycle (EVO only)
- Access ports 25 (1"), 50 (2"), 100 (4") mm
- Ethernet communication port
- Rolling carts for 111 & 222 models
- Door sensor and alarm
- Automatic and key door lock
- Warmcomm data acquisition software:
 - ✓ 4.0B – Receive data
 - ✓ 4.0P – Receive data and control the device
 - ✓ 4.0F – FDA 21 CFR part 111 compliant
- BMS – Building monitoring alarm contact
- Flexible PT 100 sensor
- Stainless steel exterior
- Interior light
- Water-proof socket 230V
- IQ / OQ protocols with 9pt temperature mapping

Friocell ECO/EVO Technical Data		Model	55	111	222	404	707	1212
Interior Dimensions Chamber: AISI 304 stainless steel (AISI 316 stainless steel option available)	Volume	ft ³	1.9	3.9	7.8	14.3	25	43
		liters	55	111	222	404	707	1212
	Width	inches	15.7	21.25	21.25	21.25	37	3 x 21.25
		mm	400	540	540	540	940	3 x 540
	Depth	inches	14.6/15	14.6/15	20.5/20.9	20.5/20.9	20.5/20.9	20.5/20.9
		mm	370/380	370/380	520/530	520/530	520/530	520/530
	Height	inches	13.8/14	20.9/21	29.9/30.1	55.7	55.7	55.7
		mm	350/355	530/535	760/765	1415	1415	1415
Exterior Dimensions (ECO/EVO)	Width	inches	24.4/25.2	29.9/30.7	29.9/30.7	41.7/43.3	57.5/59	92.9
		mm	620/640	760/780	760/780	1060/1100	1460/1500	2360
	Depth	inches	25.2/29.7	29.2/29.7	35.2/34.8	31.1/34.8	31.1/34.8	34.2/35.4
		mm	640/755	640/755	895/885	790/885	790/885	870/898
	Height (Legs L, Casters C)	inches	34.4L/37C	41.1L/46.7C	50.2L/57.1C	75L/35C	75L/35C	75L/75.6C
		mm	875L/940C	1045L/1187C	1275L/1450C	1905L/1890C	1905L/1890C	1905L/1921C
Shelves: Stainless Steel	Capacity: # of shelf guides in chamber side walls	Maximum #	4	7	10	19	19	3 x 19
		Standard #	2	2	2	2	2	6
Shelf Distance	Min. distance between trays	Inches	2.8	2.8	2.8	2.8	2.8	2.8
		mm	70	70	70	70	70	70
Useable Shelf Area	Width x Depth	Inches	15x13.2	20.5x13.2	20.5x19.1	20.5x19.1	36.3x19.1	20.5x19.1x3
		mm	380x335	520x335	520x485	520x485	920x485	520x485x3
Maximum Shelf Load	One Shelf	lbs	44.1	44.1	66.1	66.1	110.2	66.1
		kg	20	20	30	30	50	30
	Total Per Unit	lbs	110.2	110.2	154.3	220.5	286.6	661
		kg	50	50	70	100	130	300
# Outer Metal Doors			1	1	1	1	2	3
# Inner Glass Doors			1	1	1	1	2	3
Volume of Steam Space		ft ³	3.1/3.2	5.8/5.9	10.6/10.8	18.5/18.7	30.9/31	61.9
		liters	89/91	163/167	299/305	524/530	876/878	1753
Operation Temperature	From 0°C (-10°C / -20°C)	Up to °C	100	100	100	100	100	100/70
Temperature Accuracy	Distribution @ 10°C	± °C	<0.5	<0.5	<0.5	<1	<1	<0.6
	Distribution @ 37°C	± °C	<0.5	<0.5	<0.5	<1	<1	<0.5
	Uniformity	± °C	<0.2	<0.2	<0.2	<0.3	<0.4	<0.2
Heating Time to 37°C From the Ambient Temperature		Minutes	<11	<11	<11	<13	<13	<30
Cooling Down Time From 22°C to 10°C		Minutes	<21	<21	<17	<19	<21	<21
Recovery time after door opened for 30 s according to DIN 12880	@ 37°C	Minutes	<5	<5	<2	<2	<6	<10
	@ 50°C	Minutes	<6	<6	<3	<4	<6	<10
Heat Emission	@ 37°C	W	55	70	63	123	148	200
CO2 Concentration (EVO Only)		%	0.1 - 20		-		0.1 - 20	
CO2 Required Pressure (EVO Only)		Bar/PSI	0.3-0.7/5--10		-		0.3-0.7/5--10	
Noise Level of Complete Device		dB	45	46	50	56	58	60
Electrical Data	Max Consumption 50/60Hz	W	700/850**	1000/1150**	1150/1300**	1700	2000/2050**	2500/3300**
		A	7.6	7.7/10	9.2/11.2	16	17.9	11.6
		V	115	115	115	115	115	230
IP Code			IP20	IP20	IP20	IP20	IP20	IP20
ECO/EVO Weight	Net	lbs	183/209.4	233.7/242.5	302/315.3	493.8/507.1	562.2/565.2	1144.2/1201.5
		kg	83/95	106/110	137/143	224/230	255/270	519/545
	Gross	lbs	224.9/396.8	299.8/485	383.6/579.8	606.3/859.8	707.7/1102.3	1849.7/1907
		kg	102/180	136/220	174/263	275/390	321/500	839/865
EVO Weight -20°C	Net	lbs	231.5	44.1	337.3	551.2	639.3	1201.5
		kg	105	120	153	250	290	545
	Gross	lbs	419	507.1	601.9	881.8	1124.4	1907
		kg	190	230	273	400	510	865

BMT USA, LLC • 360.863.2252 • sales@bmtusa.com • www.bmtusa.com

**Value at cooling down to -20°C

ECO Value/EVO Value



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May 16, 2024

United States Environmental Protection Agency
 Andrew R. Whitehill
 4930 Old Page Road
 Durham, NC 27703
 USA



QUOTATION NO. 24108 R1
BMT FRIOCELL EVO Materials Testing Temperature Control Chamber

Friocell EVOTesting Chamber		707	
Model #		MC 001668	
Description	Qty	List Price	
Friocell EVO Models: 707 (25 ft3) 115V 50/60Hz, UL, CSA, CE	1	\$	24,199.00
Temperature Range -20°C to 100°C			Incl.
Automatic Defrost from temperatures 0°C and above			Incl.
LCD Touch Screen Control Panel (glove friendly) with Advanced Fuzzy Logic Microprocessor			Incl.
Integrated data logger with SD memory card			Incl.
USB Host and RS232 included, Optional Ethernet available			Incl.
Up to 100 programs and 100 segments for each program, in 1 minute to 40years			Incl.
Conforms to ICH Q1A			Incl.
Pharmaceutical grade components of US and European origin			Incl.
304 AISI Stainless steel seamless main chamber with rounded corners			Incl.
304 AISI Stainless steel inner chamber removable for sterilization and cleaning			Incl.
Patented Forced Air Convection system with ability to control air flow in 1% increments: 0 to 100%			Incl.
Precise air flow management, both vertical and horizontal flow system			Incl.
Five (5) layers of insulation for chamber uniformity, energy efficiency and safety			Incl.
Class 3 Digital Safety Thermostat, Acoustic and visual alarms			Incl.
Latched sealed inner glass door for viewing samples			Incl.
Two (2) grated stainless steel shelves included with option for additional shelves. See Shelf capacity in options			Incl.
Exterior steel cabinet white finish. Bench top leveling legs. Floor models include rolling, locking, swiveling casters			Incl.
<i>option</i> 100 mm (4") stainless steel access port			Incl.
Subtotal Price for One (1) Friocell EVO 707	1	\$	24,199.00
Discounted Price for One (1) Friocell EVO 707	1	\$	21,779.10
Shipping to: Durham, NC 27703		\$	1,039.00
TOTAL PRICE: One (1) FRIOCELL EVO 707	1	\$	22,818.10

TERMS AND CONDITIONS

Payment

Net 30 days from arrival of equipment, not installation of equipment or execution of protocols. Terms are available based upon installation and IQ OQ execution.

Taxes

State and local taxes are not included in our prices, and it is the full responsibility of the purchasing company to remit these taxes independently.

Delivery

As of the date of this quote a Friocell EVO 707 with -20C is approximately 12 to 14 weeks delivery from date of PO

Warranty

The warranty period is twenty four (24) months for parts and one (1) year for labor from arrival of equipment

Validity

This quotation is valid for thirty (30) days from date of Proposal.

Acceptance of Quote: BMT USA Terms and Conditions: Authorized Purchasers Signature

Name: _____ Title: _____

Signature: _____ Date: _____

BMT USA, LLC

Rick Ellison
Business Development Director
Scientific Division

