IQ / OQ

Installation and Operational Qualification

LTF SERIES

ARCTIKO

IQ/OQ for LTF225 Model.:

The objective of this Installation and Operational Qualification (IQ/OQ) Checklist is to qualify the installation and operation of the Arctiko -60 °C Freezer type LTF225 for routine laboratory use.
This Installation and Operation Qualification Check will define the minimum test procedures and acceptance criteria to be used to establish that the Arctiko -60 °C Freezers are installed and operated as per our specifications.

This checklist is mentioned to be used as input for distributors of Arctiko -60 °C Freezers.
Please be aware that local circumstance can require additional control and verification during validation.

Index:

1 Basic information

1.1 Basic information about the unit

Serial number: _____

Arctiko Purchase order: _____

Date of quality control: _____

Quality control carried out by: _____

Date & Sign: _____

Comments

2 Component Verification

2.1 Cabinet check points:

Scope of supply		*Check*
Delivered versus P.O.	*All Items are delivered as stated in P.O.*	

Cabinet check points		*Check*
Body	*All packing material has been removed*	
	No scratches. No dents. No rust	
	No cracks on plastic frames	
Lid	*Can open and close*	
	Can be locked via the key	
	No gab between gasket and frame	
Controller	*No scratches on display*	
	All cable mounted as per safety requirements	
Inside compartment	*No scratches. No dents. No rust*	
Documentation	*Operating Instruction Manual available*	

Comments

3 Environmental Conditions Verification

3.1 Verify that the following is correct

Cabinet check points		*Check*
Alarms	*High temp. alarm*	
	Low temp. alarm	
Fan	*No unusual noise*	
Compressor	*No unusual noise*	

Environment		*Check*
Clima	*Max. ambient temp. 25°C Class N. No direct sun on the freezer*	
Electrical supply	*As per stated in Operating Instruction Manual and in accordance to local regulations*	
Surface	*Freezer kept on a solid flat surface to eliminate any vibrations & irritating noise*	
Airflow	*The unit is installed with at least 10 cm free space to the sides and 15 cm free space at the back*	

Comments

4 Equipment File Verification

4.1 Verify that the documentation is available

Documentation	*Check*
Purchase Order	
Operating Instruction Manual	
Spare Parts List	
Declaration of Conformity (only for EU)	

Comments

5 Operational Qualification Data Sheet

5.1 Make sure that the following parameters will be noted and filled

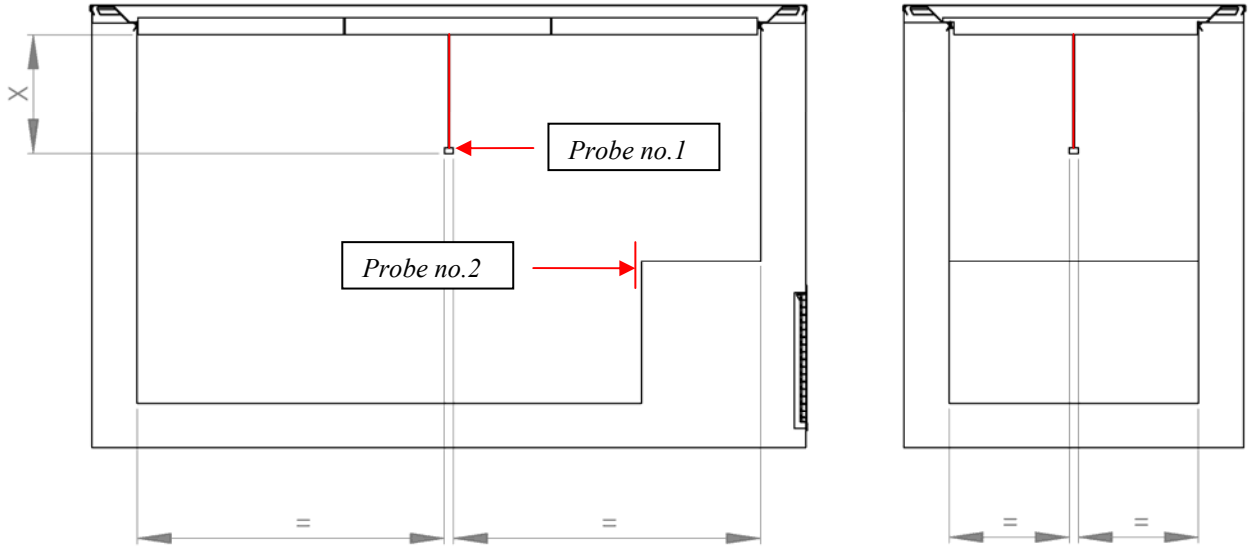
It is our recommendation that the parameters are checked app. Ones time every year.

Label	Name	Range	Set point	Pr 1/2	Check
Set	Set point	LS-US	-62	---	
Hy	Differential	0,1-25,5˚C/1-225˚F	1	Pr1	
LS	Minimum set point	(-100˚C – SET) (-148˚F – SET)	-63	Pr2	
US	Maximum set point	(SET – 150,0˚C) (SET - 302˚F)	-30	Pr2	
Ot	Thermostat probe calibration	-12 - 12˚C/-120 - 120˚F	0	Pr1	
Ods	Outputs delay at start up	0 – 255min	0	Pr2	
AC	Anti-short cycle delay	0 – 50min	5	Pr1	
CCt	Continuous cycle duration	0,0 – 24,0h	0,0	Pr2	
CCs	Set point continuous cycle	(-100 – 150,0˚C) (-148 - 302˚F)	-62	Pr2	
COn	Conpressor ON time with faulty probe	0 – 255min	60	Pr2	
COF	Conpressor OFF time with faulty probe	-255min	5	Pr2	
CH	Kind of action	CL=cooling;Ht=heating	CL	Pr2	
CF	Temperature measurement unit	˚C+˚F	˚C	Pr2	
rES	Resolution	In=integer; dE=dec.point	In	Pr2	
dLy	Display temperature delay	0-20,0min (10sec)	0	Pr2	
IdF	Interval between defrost cycles	1-120h	0	Pr1	
MdF	(Maximum length for defrost	0-255min	0	Pr1	
dFd	Displaying during defrost	Rt, it, Set, DEF	rt	Pr2	
dAd	Max display delay after defrost	0-255min	0	Pr2	
ALc	Temperature alarms configuration	rE=related to set; Ab=absolute	rE	Pr2	
ALU	Maximum temperature alarm	Set-110,0˚C; Set-230˚F	15	Pr1	
ALL	Minimum temperature alarm	Set-100,0˚C-set; Set-230˚F-set	-50	Pr1	
AFH	Differential for temperature alarm recovery	(0,1˚C-25,5˚C) (1˚F-45˚F)	1	Pr2	
ALd	Temperature alarm delay	0-255min	0	Pr2	
dAo	Delay of temperature alarm delay	0-23h e 50´	0	Pr2	
tbA	Alarm relay disabling	n=no; y=yes	y	Pr2	
Aro	Alarm relay activation with power failure	n(0); y(1)	y	Pr2	
ALF	Alarm relay activation for all the alarms	n(0); y(1)	y	Pr2	
bon	Time of buzzer restart after muting, in case og alarm duration	0 – 30 (min)	30	Pr2	
AoP	Alarm relay polarity (0A1=ALr)	oP; cL	cL	Pr2	
i1P	Digital input polarity	oP=opening; cL=closing	cL	Pr1	
i1F	Digital input configuration	EAL, bAL, PAL, dor, dEF, Htr, AUS	AUS	Pr1	
did	Digital input alarm delay	0 – 255min	15	Pr1	
nPS	Number of activation of pressure switch	0-15	15	Pr2	
odc	Compress status when open door	No; Fan; CPr, F_C	No	Pr2	
rrd	Regulation restart with foor open alarm	n – y	y	Pr2	
HES	Differential for energy saving	(-30˚C - 30˚C)(-54˚F - 54˚F)	1	Pr2	
Adr	Serial address	0 – 247	1	Pr2	
Pbc	Kind of probe	Pt1000; Ptc	Pt1	Pr2	
onF	On/off key enabling	Nu, oFF, ES	oFF	Pr2	
rSE	Real set point value	Actual set	---	Pr2	
rEL	Software release	---	---	Pr2	

Comments

6 Placement of test probes.

X = 250 mm



Comments

7 Requirement for accept.

7.1 Max. deviation and performance limits.

Max. Ambient temperature	25°C +/- 2K
Set point of controller	_____
Max. deviation between warmest and coldest spot in the unit:	5K

	Probe no. on pull down
Actual value for probe no. 1:	
Max. temperature	_____
Min. temperature	_____
Passed Yes / No.:	_____
Actual value for probe no. 2:	
Max. temperature	_____
Min. temperature	_____
Passed Yes / No.:	_____

If there are deviation between probe placed beside the probe for controller and display then change the parameter “calibration” .
Start new test if the controller has been calibrate.

Pull down time	Max. 6h
Passed Yes / No	_____

Comments

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