Ultra Deep Freezer-86°c

X2 Series

Authentic Instrument Industries Ltd.

(Formally known as Authentic Instrument & Automation Pvt. Ltd.)

Profile

We, **Authentic Instrument & Automation (P) Ltd**. got established in the year 1996. Since the inception, we have been involved in manufacturing Industrial Lab / Research Lab Equipments. Our major role is setting new benchmarks in the field of Blood Bank Equipment. We are counted among the leading manufacturers, exporters, suppliers and service providers of this domain.

We have Rajasthan's biggest scope of NABL accredited calibration laboratory which is utilized for calibrating almost any industrial & medical equipment. We also have testing lab facility of each and every parameter for conformation of **DQ, IQ, OQ, PQ and MQ** of all the medical electrical equipments.

We had also registered in NSIC, SSI (District Industries Centre) of Rajasthan. Our company certified with ISO 9001:2015, ISO 13485:2016 and CE European Conformity.

Innovation and Quality

Since 1996, we have been synonymous with high-quality products fulfilling the most stringent standards and providing the highest reliability. Since then we have won over your trust through consistent innovation, quality and service.

Temperature stability and reliable temperature monitoring & recording.

Our policy of manufacturing our own housing enables us to optimally coordinate all components of our refrigerator and freezers. This is why we have become a world leader in temperature stability, which can be confirmed by numerous validations at customer premises. The reason is that we only manufacture products that are proven to fulfill the most stringent requirements.

We have continuously developed the most reliable and accurate temperature monitoring and recording system. First time in the world, we had developed smart chart controller and recording system.

Quality:

Quality systems existing at Authentic Instruments comply with the requirement of International standard systems. To achieve the objectives of the quality policy, company plans to implement & achieve Total Quality Management. Quality checks have been Introduced at various work centers of the company under the guidance & expertise of Certified Quality Management Consultants. Persistent follow up by management, internal/external audits and relentless efforts on the part of employees have paid rich dividends. Working in accordance with quality systems has now become a way of life at **"Authentic"**.

- NABL Accredited Calibration Lab facility and test lab facility for quality control measures.
- 24x7 customer care services.
- Specialized, continuously trained expert staff.
- Service centre available in major city of India.
- Qualified service engineers team.
- Well equipped and systematic quality control system.
- All the equipments compliance with specific electrical safety requirement with IEC 60601.

NABL Approved Calibration Laboratory

C - 0686 C - 0687 C - 0688

Digital Temperature Display

7.1" Touch Screen Display for viewing the temperature, alarms and previous week records.

Sticker sticking area

Dedicated space for sticking the stickers during calibration or services.

Miniature Circuit Breaker

It cuts off the power to the equipment in case of voltage peaks to protect inner circuitry.

Powder Coated

Power Coating for Scratch and Corrosion Resistance

Easy removable perforated tray

3 or more trays are set for easy access to plasma bags.

Lifetime Comfortable Access

Full length handle for easy access from all heights.

Key locking system

High quality locks for locking the door from unauthorized access.

Ventilation Slits with pre-filters

Proper ventilation for the equipment to keep cool and dust elimination by pre filters which are removable and washable.

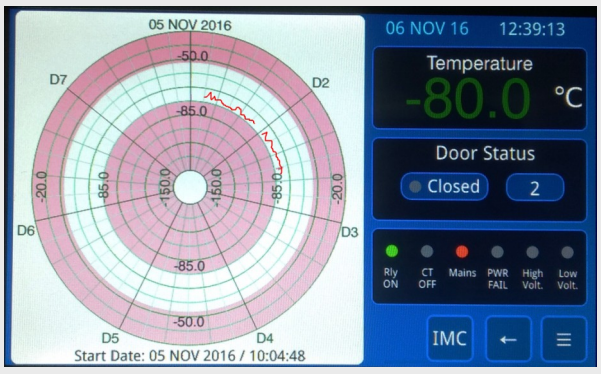
Lockable Castor wheels

Heavy duty lockable Castor wheels for locking the equipment in place.

Low-noise Compressor

Relative noise level as low as 50 db.

UDF-165



LCD Screen Display for Ultra Deep Freezers

Heavy-duty Level adjustment and Easy mobility lockable Castor Wheels

Ultra Deep Freezers

- 7.1" Touch screen for monitoring and controlling the temperature of the equipment.
- Inkless & paperless smart chart recording system with 3 weeks chart storage capacity.
- Digital circular chart can be downloaded from the controller by using a pen drive*.
- External Housing made from galvanized sheet (rust proof) of 18 SWG, with grey, anti-scratch powder coating. Length of power cable, approx. 2 m.
- Lockable Castor Wheels to lock the equipment in place without moving.
- Interior made from 304 grade 22 SWG stainless steel.
- Interior consists of five drawers with stop,
- Door stop on the right-hand side to stop the door from opening more than 100-110 degrees.
- Front door extra PUF insulated to prevent temperature loss.
- Warning function with visual and audible alarm signal in the case of power failure, temperature deviations, voltage fluctuation, door left open (after 60 seconds).
- Battery backup^ for up to 36 hours for temperature and chart recording system.
- Central Monitoring System compatible so that temperatures from all the equipment could be seen at one place.
- Ventilation-enforced refrigerating machine, vibration free, hermetically sealed, energy saving, low noise, easy to service. Inlet air and exhaust air flow through the ventilation slits at the front and the back.
- Low-noise compressor reduces noise to a negligible range.

Specification

Speciafication	UDF-165	UDF-325	UDF-525
Capacity	165 litres	325 litres	525 litres
Temperature Setting	-86°C	-86°C	-86°C
Voltage	220 - 240 V, 50Hz	220 - 240 V, 50Hz	220 - 240 V, 50Hz
Overall Dimensions	34" x 33" x 72" (inches)	38"x38"x72" (inches)	44"x44"x78" (inches)
Interior Dimensions	21" x 20" x 30" (inches)	25" x 25" x 30" (inches)	31" x 30" x 36" (inches)
Starting/Running Current	17 A / 6 A	17 A / 7 A	17 A / 7 A
Ground Clearance	100 mm	100 mm	100 mm
Cool Down time (at full load)	16 hours	18 hours	20 hours
Hold Over time (at full load)	4 hours	5 hours	6 hours
Temperature Gradient#	±4°C	±4°C	±4°C

Highlights

- Automatically mails the digital circular chart at 3 e-mail IDs every weekend and can mail any time by using Manual Mail function.
- In case of fault occurrence, a SMS is sent to a primary number, then he has to acknowledge the fault by using Acknowledge function, if he doesn't acknowledge the fault then a SMS is sent to a higher authority.
- GSM Module for alarm text message and e-mail forwarding about all the faults.
- Port for Central Monitoring System for viewing the temperatures of all the blood bank equipments at same place on 10.3" Touch Screen industrial computer.
- USB port for chart downloading to pen drive*.

* Supported capacity for pen drive is capped at 4 GB.

It is the maximum temperature difference between different parts of interior.

^ Battery backup is not provided for the equipment.

This picture is for visual purpose only, actual colours may vary.

Declaration for Design, Installation, Operation, Performance and Maintenance Qualification			
Technical Parameter Specification			
Sr Nos	**Particulars**	**Minimum Requirement / Standard.**	**Declared**
1.	Temperature Indicator at -80°C	(-80) ±1°C	-80.1 °C
2.	Temperature Recorder at -80°C	(-80) ±1°C	-80 °C
3.	Temperature Gradient in Chamber	not more than 4 .8°C	3 °C
4.	Door Alarm:- Alarming after 5 min. of Gate opening	5 minute	5 minute
5.	Circular temperature recorder	1 week	Weekly with Previous 2 Week Storage.
6.	Paperless/inkless/traditional	traditional	Smart Chart Recorder
7.	High Temp. Alarm:-alarming after -22°C with delay of 2 min.	2-5 minute	3 minute
8	Separate door insulation.	Available	Available
9.	Surface Temp. of body at -40°C inside temp after 48 hrs	Equal to ambient Temp.	Equal to ambient Temp.
10.	Frosting at gate	Should Never Seen	Never Seen
11.	Moisture at door	Should Never Seen	Never Seen
12.	Cooling down time (Full load of plasma packs at +25 °C to -20 °C)	18 hours	12 hours
13.	Hold over time (Full load of plasma packet at -35°C to more than -20°C) at 25°C	4 hours	4 hours
14.	Carrying Capacity	150 liter	165 liter
15.	ON/OFF Cycle (compressor) suitability	70 : 30	60 : 40
Electrical Safety			
	Particulars	**Minimum Requirement / Standard.**	**Declared**
16.	Mains Voltage: Live to Neutral	240 VAC	240 VAC
17	Mains Voltage: Live to Earth	240 VAC	240 VAC
18	Mains Voltage: Neutral to Earth	5VAC >	5 VAC >
19	Equipment Current	0.5Amp. >	17 Amp. >
20	Power plug unbreakable with LINE	Line	Line
21	Leakage Earth	5 VAC Max.	5 VAC Max.
22	Noise level test	Less than 52 dB	Less than 55 dB
23	Starting Amp.	Max. 5.0 Amp.	Max. 17.0 Amp.
24	Running Amp.	2-4 Amp.	6-8 Amp.
25	Power Failure Alarm	Available	Available
26	High Voltage Indicator	Available	Available
27	Low Voltage Indicator	Available	Available
PRE INSTALLATION ELECTRICAL REQUIRMENTS FOR SMOOTH WORKING			
VOLTAGE -220-240 V AC ,STABILITY- ±5 V AC, VOLTAGE DROP DURING STARTING 10 V AC MAX			
28	Mains Voltage: Live to Neutral	220-240 V AC FOR NEUTRAL	220-240 V AC FOR NEUTRAL
29	Mains Voltage: Live to Earth	220-240 V AC FOR EARTHING	220-240 V AC FOR EARTHING
30	Mains Voltage: Neutral to Earth	0.5 TO 5 V AC FOR EARTHING	0.5 TO 5 V AC FOR EARTHING

Declaration for Design, Installation, Operation, Performance and Maintenance Qualification			
Technical Parameter Specification			
Sr Nos	**Particulars**	**Minimum Requirement / Standard.**	**Declared**
1.	Temperature Indicator at -80°C	(-80) ±1°C	-80.1 °C
2.	Temperature Recorder at -80°C	(-80) ±1°C	-80 °C
3.	Temperature Gradient in Chamber	not more than 4 .8°C	Not more than 4 °C
4.	Door Alarm:- Alarming after 5 min. of Gate opening	5 minute	5 minute
5.	Weekly Circular temperature chart recording.	1 week	Weekly with Previous 2 Week Storage.
6.	Paperless/inkless/traditional/Smart electronic weekly circular temperature chart recorder	traditional	Smart electronic weekly circular temperature chart recorder
7.	High Temp. Alarm:-alarming after -22°C with delay of 2 min.	2-5 minute	3 minute
8	Separate door insulation.	Available	Available
9.	Surface Temp. of body at -40°C inside temp after 48 hours	Equal to ambient Temp.	Equal to ambient Temp.
10.	Frosting at gate	Should Never Seen	Never Seen
11.	Moisture at door	Should Never Seen	Never Seen
12.	Cooling down time (Full load of plasma packs at +25 °C to -80 °C)	30 hours	24 hours
13.	Hold over time (Full load of plasma packet at -80 °C to more than -20 °C) at 25°C	4 hours	6 hours
14.	Carrying Capacity	300 liter	325 liter
15.	ON/OFF Cycle (compressor) suitability	70 : 30	60 : 40
Electrical Safety			
	Particulars	**Minimum Requirement / Standard.**	**Declared**
16.	Mains Voltage: Live to Neutral	240 VAC	240 VAC
17	Mains Voltage: Live to Earth	240 VAC	240 VAC
18	Mains Voltage: Neutral to Earth	5 VAC >	5 VAC >
19	Equipment Current	18Amp. >	17 Amp. >
20	Power plug unbreakable with LINE	Line	Line
21	Leakage Earth	5 VAC Max.	5 VAC Max.
22	Noise level test	Less than 58 dB	Less than 55 dB
23	Starting Amp.	Max. 18.0 Amp.	Max. 17.0 Amp.
24	Running Amp.	6-9 Amp.	6-8 Amp.
25	Power Failure Alarm	Available	Available
26	High Voltage Indicator	Available	Available
27	Low Voltage Indicator	Available	Available
PRE INSTALLATION ELECTRICAL REQUIRMENTS FOR SMOOTH WORKING			
VOLTAGE -220-240 V AC ,STABILITY- ±5 V AC, VOLTAGE DROP DURING STARTING 10 V AC MAX			
28	Mains Voltage: Live to Neutral	220-240 V AC FOR NEUTRAL	220-240 V AC FOR NEUTRAL
29	Mains Voltage: Live to Earth	220-240 V AC FOR EARTHING	220-240 V AC FOR EARTHING
30	Mains Voltage: Neutral to Earth	0.5 TO 5 V AC FOR EARTHING	0.5 TO 5 V AC FOR EARTHING

Declaration for Design, Installation, Operation, Performance and Maintenance Qualification			
Technical Parameter Specification			
Sr Nos	**Particulars**	**Minimum Requirement / Standard.**	**Declared**
1.	Temperature Indicator at -80°C	(-80) ±1°C	-80.1 °C
2.	Temperature Recorder at -80°C	(-80) ±1°C	-80 °C
3.	Temperature Gradient in Chamber	not more than 4 .8°C	3 °C
4.	Door Alarm:- Alarming after 5 min. of Gate opening	5 minute	5 minute
5.	Circular temperature recorder	1 week	Weekly with Previous 2 Week Storage.
6.	Paperless/inkless/traditional	traditional	Smart Chart Recorder
7.	High Temp. Alarm:-alarming after -22°C with delay of 2 min.	2-5 minute	3 minute
8	Separate door insulation.	Available	Available
9.	Surface Temp. of body at -40°C inside temp after 48 hrs	Equal to ambient Temp.	Equal to ambient Temp.
10.	Frosting at gate	Should Never Seen	Never Seen
11.	Moisture at door	Should Never Seen	Never Seen
12.	Cooling down time (Full load of plasma packs at +25 °C to -20 °C)	18 hours	12 hours
13.	Hold over time (Full load of plasma packet at -35°C to more than -20°C) at 25°C	4 hours	4 hours
14.	Carrying Capacity	500 liter	525 liter
15.	ON/OFF Cycle (compressor) suitability	70 : 30	60 : 40
Electrical Safety			
	Particulars	**Minimum Requirement / Standard.**	**Declared**
16.	Mains Voltage: Live to Neutral	240 VAC	240 VAC
17	Mains Voltage: Live to Earth	240 VAC	240 VAC
18	Mains Voltage: Neutral to Earth	5VAC >	5 VAC >
19	Equipment Current	0.5Amp. >	17 Amp. >
20	Power plug unbreakable with LINE	Line	Line
21	Leakage Earth	5 VAC Max.	5 VAC Max.
22	Noise level test	Less than 52 dB	Less than 55 dB
23	Starting Amp.	Max. 5.0 Amp.	Max. 17.0 Amp.
24	Running Amp.	2-4 Amp.	6-8 Amp.
25	Power Failure Alarm	Available	Available
26	High Voltage Indicator	Available	Available
27	Low Voltage Indicator	Available	Available
PRE INSTALLATION ELECTRICAL REQUIRMENTS FOR SMOOTH WORKING			
VOLTAGE -220-240 V AC ,STABILITY- ±5 V AC, VOLTAGE DROP DURING STARTING 10 V AC MAX			
28	Mains Voltage: Live to Neutral	220-240 V AC FOR NEUTRAL	220-240 V AC FOR NEUTRAL
29	Mains Voltage: Live to Earth	220-240 V AC FOR EARTHING	220-240 V AC FOR EARTHING
30	Mains Voltage: Neutral to Earth	0.5 TO 5 V AC FOR EARTHING	0.5 TO 5 V AC FOR EARTHING

Ultra Deep Freezer (-86 °C)

Declaration for Design (DQ), Installation (IQ), Operation (OQ), Performance (PQ) and Maintenance Qualification (MQ)

Requirement of Drug Act.	√

PRE INSTALLATION ELECTRICAL REQUIRMENTS FOR SMOOTH WORKING

Sr. Nos	Particulars	Min. Requirement / Std.	Observed	(DQ)	(IQ)	(OQ)	(PQ)	(MQ)	Remarks
1.	Mains Voltage: Live to Neutral	220-240 V AC FOR NEUTRAL	220-240 V AC For NEUTRAL	√	√			√	
2.	Mains Voltage: Live to Earth	220-240 V AC FOR EARTHING	220-240 V AC For EARTHING	√	√			√	
3.	Mains Voltage: Neutral to Earth	0.5 TO 5 V AC FOR EARTHING	0.5 TO 5 V AC For EARTHING	√	√			√	
	Electrical Safety Requirements								
4.	Equipment Current	Max 18 Amp.	Max 17 Amp.	√		√	√	√	
5.	Power plug unbreakable with Line	Line	Line	√	√			√	
6.	Leakage Earth	5 V AC Max.	5 V AC Max.	√	√		√	√	
7.	Noise level test	Less than 58 dB	Less than 55 dB	√	√	√	√	√	
8.	Starting amp.	Max. 18 Amp.	Max 17 Amp.	√		√	√	√	
9.	Running amp.	6-9 Amp.	6-8 Amp.	√		√	√	√	
10.	Power Failure Alarm	Available	Available	√	√	√	√	√	
11.	High Voltage Indicator	Available	Available	√		√	√	√	
12.	Low Voltage Indicator	Available	Available	√		√	√	√	
	Technical Requirements								
13	Temperature Indicator	(-80) ±1°C	-80.1 °C	√	√	√	√	√	
14	Temperature Recorder	(-80) ±1°C	-80 °C	√	√	√	√	√	
15	Gradient Temp. in Chamber	not more than 4 .8°C	Not more than 4 °C	√		√	√	√	
16	Door Alarm:- Alarming after 5 min. of gate opening	5 minute	2 minute	√	√	√	√	√	
17	Weekly Circular temperature chart recording.	1 week	Weekly with Previous 2 Week Storage.	√			√	√	
18	Paperless/inkless/traditional/Smart electronic weekly circular temperature chart recorder	traditional	Smart chart recorder	√	√		√	√	
19	Low Temp. Alarm:-Alarming after 2° C with delay of 2 min.	2-5 minute	2 minute	√		√		√	
20	High Temp. Alarm:-Alarming after 6° C with delay of 2 min.	2-5 minute	2 minute	√	√	√		√	
21	Front glass double toughened	Found	Found	√	√				
22	Surface Temperature of body at +4°C inside temp after 48 hrs.	Equal to ambient Temp.	Equal to ambient Temp.	√		√	√		
23	Frosting at gate.	Should Never Seen	Never Seen	√		√	√	√	
24	Moisture at door	Should Never Seen	Never Seen	√	√	√	√	√	
25	Cooling down time (Full load of plasma packs at +25 °C to -80 °C)	24 hours	18 hours	√		√	√	√	
26	Hold over time (Full load of plasma packet at -80 °C to more than -20 °C) at 25°C	4 hours	6 hours	√		√	√	√	
27	Capacity	300 liter	300 liter	√		√			
28	ON/OFF Cycle (compressor) suitability	70 : 30	60 : 40	√		√	√		
29	Effectiveness of Cooling unit (Heat Exchanger)	60 %	70 %	√		√			

What is DQ, IQ, OQ, PQ & MQ ?

Design Qualification:

Design qualification (DQ) is the process of completing and documenting design reviews to illustrate that all quality aspects have been fully considered at the design stage. The purpose is to ensure that all the requirements for the final systems have been clearly defined at the start.

Installation Qualification:

The Installation Qualification (IQ) execution; verifies that the equipment, and its ancillary systems or sub-systems have been installed in accordance with installation drawings and or specifications.

Operational Qualification:

Operational qualification (OQ) is the process of testing to ensure that the individual and combined systems function to meet agreed performance criteria and to check how the result of testing is recorded.

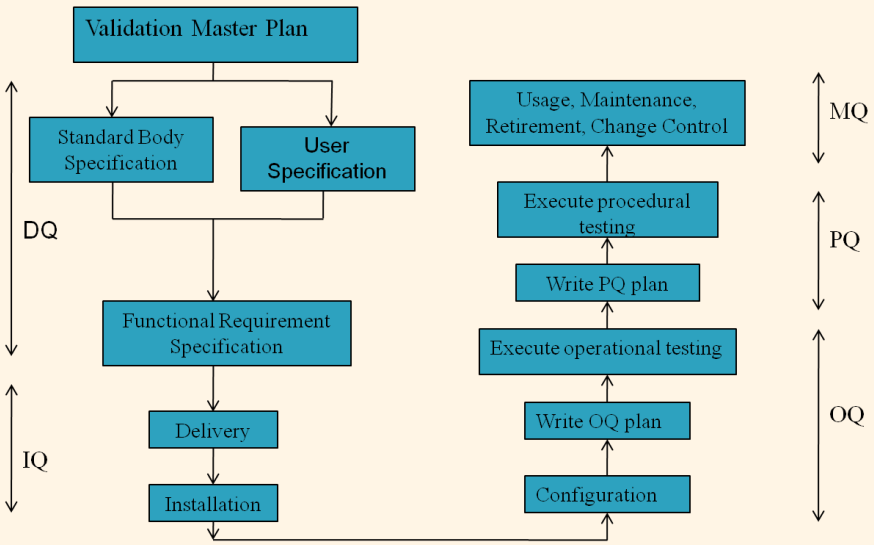
Performance Qualification:

Performance qualification (PQ), also called process qualification, is the process of testing to ensure that the individual and combined systems function to meet agreed performance criteria on a **consistent** basis and to check how the result of testing is recorded.

Maintenance Qualification:

The MQ describes and documents any maintenance required on the equipment. This includes routine servicing and any repairs necessary. Details of any maintenance contracts are also documented in this section, together with a list of authorized service engineers. In addition, the MQ includes the routine cleaning of the equipment and also its ultimate disposal.

- Maintenance Qualification should be done yearly for an equipment so that it can be determined whether the equipment is usable or not.
- At the time of maintenance qualification, MQ should match IQ to ensure that the equipment is still working as it was working at the time of Installation, if not the equipment should be serviced or repaired properly.
- If the problem is beyond repairing then the equipment should retire with immediate effect.



Authentic Instrument Industries Ltd.

(Formally known as Authentic Instrument & Automation Pvt. Ltd.)

Head Office : 31, RIICO Industrial Area, Jhotwada, Kamani Chouraha,
Jaipur – 302012, Rajasthan, India.

Branch Offices at Delhi, Kanpur, Lucknow, Mumbai, Raipur, Chennai, Kolkata, Patna, Jabalpur, Bhopal, Bhubaneswar, Hyderabad.

Mobile : +91-9314529100, +91-9694019100, 9352454200-300

e-mail : support@authenticinstruments.com
calibration@authenticinstruments.com
service@authenticinstruments.com

Website : www.authenticinstruments.com

Scan this QR Code to visit our Website