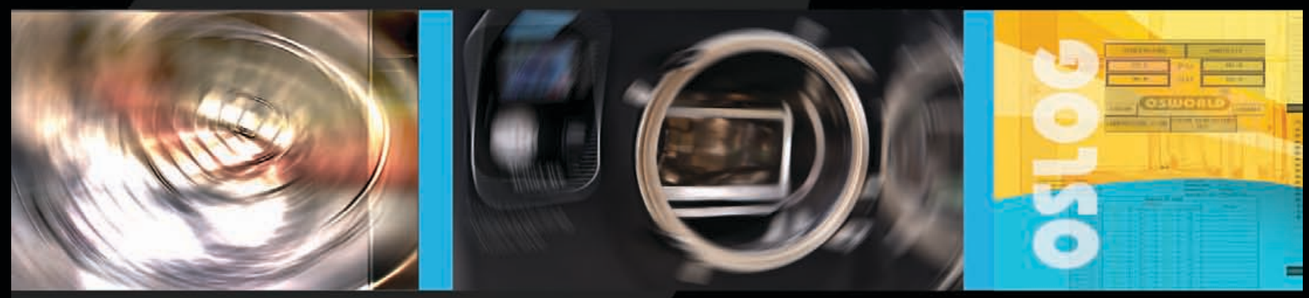
OSWORLD®

Experiment With The Truth



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Taluka Bhiwandi
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Artist impression of
upcoming Osworld factory

Oven

Oven

ACCESSORIES

- Digital Timer
- OSLOG Data Storage Device (Oslog–DSD)
- OSLOG software with 21 CFR Part 11 features

SAFETY FEATURES

- High temperature safety thermostat
- Circuit-breaker for short-circuit protection and power surges

Oven

OSWORLD

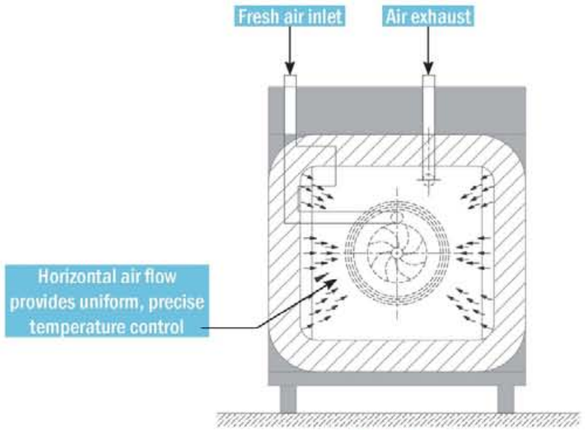
An oven is a heating device in the form of an enclosed metallic cabinet with insulation on all sides and a front door. The design incorporates heating elements covered in stainless steel tubes and suitable temperature control mechanism to maintain desired temperature as per operator needs. Forced air circulation helps maintain temperature uniformity as well as quickens drying cycle.

It is used for drying of laboratory glassware, hot-air sterilization, annealing and for testing samples at high temperature conditions.

- High quality design provides uniform temperature within working chamber.
- Saves energy by minimizing heat loss due to controlled air exhaust.
- Accurate control ensures samples receive perfect temperature.
- Safety thermostat prevents undue rise of temperature.
- Adjustable shelves for convenience in sample loading.
- High quality insulation prevents undesired hot surrounding.

Front View

Side View



Air flow pattern

Osworld offers two types of Ovens

Standard Model and Precision Model

Standard Model: This model comes with a choice of outer powder-coated and inner stainless steel or outer and inner stainless steel. It is mainly used for non-efficient drying application, drying of glassware, laboratory articles etc.

Design: The Standard General model is constructed out of stainless steel interior cabinet, buffed to mirror finish and exterior cabinet made of either mild steel, which is powder-coated with an attractive colour, or optionally, stainless steel with an elegant dull matt finish. The oven is insulated on all sides with high density rock wool insulation to prevent heat loss. The door is mounted on good quality, strong German hinges and swings open conveniently. It has an attractive and robust handle designed by a German manufacturer which fits tight on a silicon gasket while the door is shut. Heating elements are mounted at either sides (to the left and right) of the working chamber; a motorized blower is also fitted at the rear side which moves air across the tubular heaters from the sides and blows it into the main chamber. This air is churned throughout the chamber with great amount of accuracy.

Air inlet and outlet vents provided at appropriate location within the chamber allow fresh air intake and exhaust.

Precision Model: This model comes with a choice of outer powder-coated and inner stainless steel or outer and inner stainless steel.

This model is for special use wherein accuracy is essential to test conditions, while energy saving is of mandatory compliance.

Design: The Premium Precision model is constructed out of stainless steel interior cabinet, buffed to mirror finish and exterior cabinet made of either mild steel, which is powder-coated with an attractive colour, or optionally, stainless steel with an elegant dull matt finish. The oven is insulated on all sides with high density rock wool insulation to prevent heat loss. The door is mounted on good quality, strong German hinges and swings open conveniently. It has an attractive and robust handle designed by a German manufacturer which fits tight on a silicon gasket while the door is shut.

Oven

Difference between Premium Precision model and Standard General model:

Advantages of the Premium Model are uniform heat within the eight corners of the internal chamber which saves energy loss resulting in reduced power consumption.

a) The heating elements in the Premium Model are mounted on either side (left and right side) of the working chamber. The motorized blower is fixed at the rear side of equipment. This propels the air to flow from the sides into the inner chamber and is sucked from the rear side. A constant flow in this direction ensures that the samples receive uniform heat and trays mounted horizontally do not in any way obstruct or restrict the air path.

b) Due to the high-quality design in air flow path, almost 90 per cent of the air is retained inside the chamber and is constantly churned around for better uniformity. This restoring of maximum hot air within the chamber prevents energy loss and effectively saves on a huge power bill.

Technical Specs

Construction	Double wall with insulation provided with door
Temperature range	Ambient +5°C to 250°C
Temperature resolution	1°C
Temperature accuracy	±0.5°C
Temperature uniformity	±1°C at 100°C ±1.5°C at 150°C ±2°C at 200°C
Temperature Control	Microprocessor-based PID Control / PLC control option
Temperature sensor	PT100 RTD type Class 'A', Made in Switzerland
Temperature sensor accuracy	±0.25°C
Heating	'U' Shaped Nichrome Wire heater in SS Sheathing
Air circulation	Flange motor with impeller/blower
Insulation	Rockwool
Trays	SS wire mesh heavy duty
Electrical	230V / 15A / 50 Hz

Ordering Information

Model	Internal Size	External Size	Capacity	Shelves	Weight	Shipping Weight	Power	
	W × D × H cm	W × D × H cm	Litres	SS	Kg	Kg	VAC, Hz	Amps
OOG 42	35 × 35 × 35	52 × 60 × 70	42	2	65	85	230,50	6
OOG 90	45 × 45 × 45	62 × 70 × 80	90	2	75	95	230,50	8
OOG 120	45 × 45 × 60	62 × 70 × 95	120	3	85	105	230,50	8
OOG 215	60 × 60 × 60	77 × 85 × 95	215	3	95	115	230,50	10
OOG 320	60 × 60 ×90	77 × 85 × 125	320	3	115	125	230,50	12

Oven

Choosing a specific model

Identify your process requirement; do you need quick heat and uniform heat? Or do you need the Osworld Oven for regular, simple drying application? Or do you have a budget-conscious lab?

Precision Model is required for uniform and precise temperature control needs.

Standard Model is for general drying use.

Select the appropriate size/volume based on the working load. A large size for small loads will result in waste of energy and increase running cost. Generally, for a medium size company, the 95L model is sufficient.

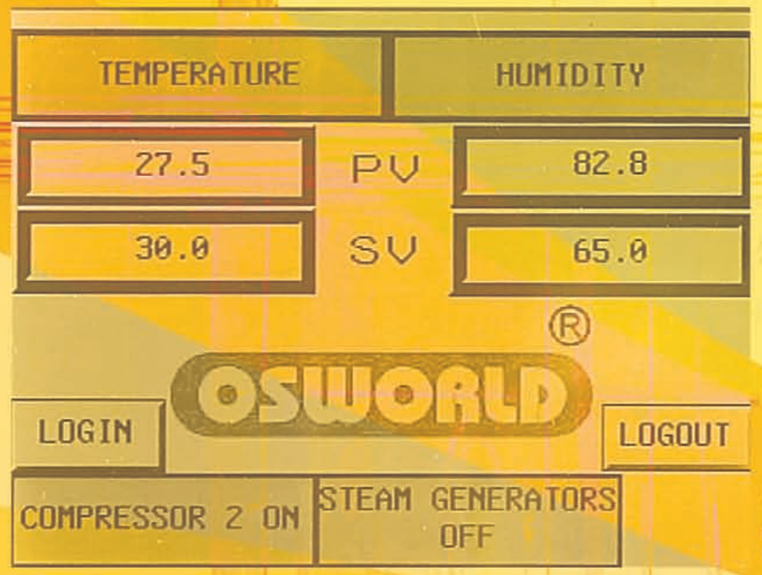
For wide-ranging application and for energy saving, Osworld recommends the Premium Model.

FEATURES

• Refer to page 90

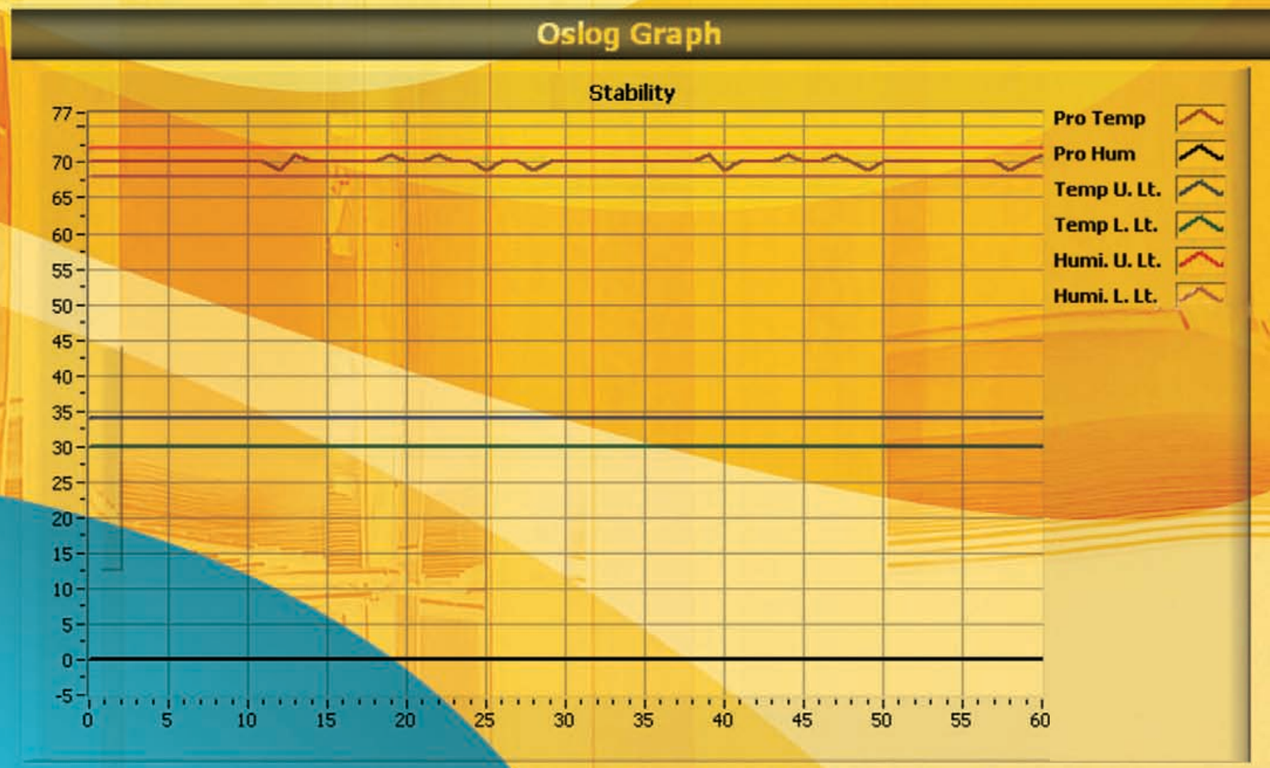
CAUTION

• While planning laboratory set up or while deciding on how and where to place the oven, bear in mind the fact that the oven generates heat and it is not advisable to place it near hazardous chemicals or solvents



OSWORLD®

DATE	TIME	STABILITY				Remark
		Set Temp (°C)	Pro Temp(°C)	Set Hum(%)	Pro Hum(%)	
01/04/2010	11:01	30.0	25.3	60.0	70	
01/04/2010	11:02	30.0	24.9	60.0	69	
01/04/2010	11:03	30.0	25.8	60.0	70	
01/04/2010	11:04	30.0	24.5	60.0	69	
01/04/2010	11:05	30.0	25.1	60.0	69	
01/04/2010	11:06	30.0	25.3	60.0	70	
01/04/2010	11:07	30.0	25.0	60.0	69	
01/04/2010	11:08	30.0	25.3	60.0	71	
01/04/2010	11:09	30.0	24.5	60.0	70	
01/04/2010	11:10	30.0	25.0	60.0	70	
01/04/2010	11:11	30.0	25.7	60.0	70	
01/04/2010	11:12	30.0	25.7	60.0	70	
01/04/2010	11:13	30.0	25.8	60.0	70	
01/04/2010	11:14	30.0	24.2	60.0	70	
01/04/2010	11:15	30.0	24.9	60.0	70	
01/04/2010	11:16	30.0	25.2	60.0	69	



IEA

Equipment Make : Godrej
Equipment Name : oslog2_1
From Date & Time : 01/04/2010 00:00
To Date & Time : 01/04/2010 23:59

Temp Limits : ± 5
Humidity Limits : ± 10
Prepared By : osworld
Print Date & Time : 01/04/2010 17:49

Equipment Id :oslog2

DATE	TIME	STABILITY				Remark
		Set Temp (°C)	Pro Temp(°C)	Set Hum(%)	Pro Hum(%)	
01/04/2010	11:01	30.0	25.3	60.0	70	
01/04/2010	11:02	30.0	24.9	60.0	69	
01/04/2010	11:03	30.0	25.8	60.0	70	
01/04/2010	11:04	30.0	24.5	60.0	69	
01/04/2010	11:05	30.0	25.1	60.0	69	
01/04/2010	11:06	30.0	25.3	60.0	70	
01/04/2010	11:07	30.0	25.0	60.0	69	
01/04/2010	11:08	30.0	25.3	60.0	71	
01/04/2010	11:09	30.0	24.5	60.0	70	
01/04/2010	11:10	30.0	25.0	60.0	70	
01/04/2010	11:11	30.0	25.7	60.0	70	
01/04/2010	11:12	30.0	25.7	60.0	70	
01/04/2010	11:13	30.0	25.8	60.0	70	
01/04/2010	11:14	30.0	24.2	60.0	70	
01/04/2010	11:15	30.0	24.9	60.0	70	

21 CFR Part 11 Compliant Software

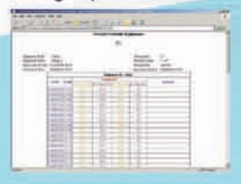
- Mean Kinetic Temperature (MKT), Audit Trail, Graphs, Tabular reports.
- Multiple user passwords
- Minimum, Maximum & Average value at the end of each report.
- Separate alarm report.
- Print/Scan frequency programmable (1 to 240 mins).
- Internal software logging every 1.5 seconds.
- Data acquisition, monitor & control (for PLC based).
- Password protection (Min 3 levels).
- Automatic acknowledgement within specified time with an alarm, log provided readings are logged for that particular alarm.
- Door opening/closing log (Magnetic log with passwords)
- Numeric as well as graphical report (common/individual)
- Roles & privileges for user, operator and administrator
- Electronic signature
- Scanner graph
- Current reading configurable (single/multiple) by user
- Channel-wise scanner alarm report
- Print frequency programmable through software
- Page length programmable
- Controller setting programmable
- Alarm logging with times (Actual high/low readings)

OSLOG Data Acquisition System Software

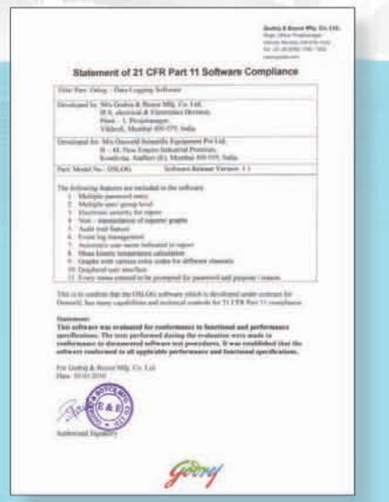
1. Login Screen

2. Security

3. Log Report



4. Log graph


Statement of 21 CFR Part 11 Software Compliance

OSLOG Data Storage Device (Oslog–DSD)

- Online and Offline mode. When online, it also logs data onto a pen drive.
- In offline mode, it stores data in USB pen drive. Pen drive can later be taken to PC and data downloaded using Oslog software.
- In online mode, data is continuously updated on to the PC. For retrieval of data in PC, Oslog–DSD will be connected to PC through RS232 serial port. Oslog software will scan each equipment (every 5 seconds) connected to Oslog–DSD and will store data into database file in the hard drive of the PC.
- Data logging Interval 1 to 240 minutes.
- Pen drive detection and error or USB device full indication.
- At one time max 5 nos. Oslog DSDs and 5 nos. Oscans (Datalogger) can be connected to one single Oslog Software.
- Data Stored in USB Pen drive in ASCII FAT 32 format non manipulative.
- 2 Line, 16 characters LCD display with membrane keypad.
- Oslog–DSD can be placed on front panel of equipment next to the PC for convenience.
- Extremely user-friendly and easy to operate.
- Developed exclusively for Osworld by India's reputed brand M/s Godrej & Boyce Mfg. Co. Ltd., Mumbai.

GSM Module and Internet Connectivity...

1. GSM connectivity: Connect any Osworld equipment to a GSM mobile. The equipment sends deviation alarm of temperature/humidity high/low alarm to 5 designated mobile numbers. To avoid disturbing, spurious/false alarms like door open events from not being sent, the software is programmed to send only deviations which are continuous and need to be attended.

The GSM connectivity is made applicable through our exclusive tie-up with India's most reputed brand, Godrej. Osworld has an exclusive tie-up with Godrej for hardware interfacing and software.

2. Osworld Equipment software connectivity: There are multiple ways to connect Osworld equipments to the Oslog PC software.

A) Online connectivity using Universal Modbus Protocol: In this scenario the Osworld equipment is connected to the PC directly using RS485 Universal Modbus protocol. Multiple Osworld equipments are looped once again using RS485 and finally connected to the PC. The equipment data is downloaded in micro-seconds with in-built software alarm triggers to notify break in connectivity.

This scenario is most widely used in one-on-one connectivity or connecting a few equipments in loop which are located in one room.

B) Ethernet connectivity: Equipments located in multiple rooms in one factory can be monitored/controlled from a single server using the Ethernet connectivity software module. The different computer nodes can be connected to

GSM module

Keeps track of temperature and humidity
Alerts user via SMS on high/low temperature and humidity
Connects up to five mobiles

the equipment using Cat-5 or Cat-6 cables with RJ45 connectors. The Oslog Ethernet software allows maximum 32 nos. Osworld equipment to be connected to ONE computer node in a LAN (Local Area Network) environment.

In a multiple node LAN network where multiple Osworld equipment are connected to multiple nodes, the Oslog software permits 'Unlimited Osworld Equipment to be connected to the server. Currently, the Oslog software is programmed for a Windows platform client-server set-up.

C) Internet Connectivity: A step forward is the connectivity of Osworld equipment to the Internet using the client's IP address. Osworld equipment can be viewed from anywhere in the world using Osworld dedicated Oslog Internet software. Osworld permits its clients to use Osworld web space to monitor their equipment data anytime/anywhere in the world. LIVE Equipment Data or backdated data from the main server of the equipment can be accessed and retrieved.

3) Mobile Connectivity: Osworld provides mobility feature by offering the Osworld Mobile Application on Android handphones for people on the go and who need to keep tabs on the equipment functioning constantly due to important media placed in it. Also view earlier data on the mobile by logging into the mainframe server.

4) Wireless Module: Connect any Osworld equipment wireless (without cables) at 1Km distance line of sight to the PC. Exact data download can be defined as per (from/to... date/time) convenience.

Validation

IQ, OQ, PQ documentation compliant to FDA, GLP and GMP requirement.

Developed for Osworld by Premier Validation Ltd, Europe's leading validation consultants. Their extensive and unparalleled experience in addition to the necessary regulatory knowledge has ensured that all critical parameters are considered.

Installation and Operation Qualification

This Installation and Operation Qualification is designed to validate that the Osworld Stability Chamber is installed correctly and operates according to the functional specifications and the client-user-requirement specifications. For this purpose, a number of predefined verifications and tests will be executed. Successful completion of this protocol will prove that the Osworld Stability Chamber installation was successful and that it operates according to the functional specifications and the client-user-requirement specification.

Performance Qualification

This Performance Qualification is designed to validate that the Osworld Stability Chamber performs according to the functional specifications and the client-user-requirement specifications. For this purpose, a temperature and relative humidity mapping of locations distributed across the working area of the Stability Chamber is executed, using data loggers to measure the local temperatures and relative humidity.

The testing method is based on the principles defined in the French standard NF X15-140. The testing methodology is intended for temperature and humidity-controlled units, located in a controlled environment, with a constant temperature (at one or more set points). Osworld will execute the protocols, analyze and interpret the data collected, resolve any deviations noted during the execution and prepare final Validation report.

Calibration

All measuring devices such as temperature controllers, humidity controllers along with sensors are calibrated prior to use. The quality management system approved calibration plan is implemented by highly skilled personnel.

Sensors are calibrated against master instruments which are calibrated at ERTL which is accredited to NABL, India.

NABL, India, is the signatory of Multilateral Recognition Arrangement (MLA) of International Accreditation Forum (IAF) Inc. The NABL accredited certificates issued by STQC Services are valid worldwide.

Clients: India

Alembic Pharmaceuticals Ltd.

Alkem Laboratories Ltd.

Aurobindo Pharma Ltd.

Bharat Biotech Ltd.

Cadila Healthcare Ltd.

Cipla Ltd.

Concept Pharmaceuticals Ltd.

Dr. Reddy's Laboratories Ltd.

Dr. Sabharwal's Wound Care

E.I.Dupoint Ltd.

Epsilon Laboratories Ltd.

Fresenius Kabi Oncology Ltd.

Glaxo Smithkline Ltd.

Glenmark Pharmaceuticals Ltd.

GVK Biosciences Ltd.

Haffkine Pharmaceuticals Ltd.

Hetero Drugs

Hindustan Unilever Ltd.

Incozen Pharmaceuticals Pvt. Ltd.

Indoco Remedies Ltd.

Ipca laboratories Ltd.

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Merck Specialities Pvt. Ltd.

MSN Laboratories Ltd.

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Nicholas Piramal Ltd.

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Pharmasolve Specialities India Pvt. Ltd.

Pfizer Ltd.

Piramal Healthcare Ltd.

Ranbaxy Laboratories Ltd.

Raptakos Brett & Company Ltd.

RCC Laboratories

Reliance Life Sciences Pvt. Ltd.

Richter Themis Ltd.

S. Kant Healthcare Ltd.

Sandoz Private Ltd.

Sanzyme Ltd.

Saraca Laboratories Ltd.

Sarvotam Healthcare Pvt. Ltd.

Silicon Life Sciences Pvt Ltd.

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Sun Pharmaceuticals Industries Ltd.

Themis Meidicare Ltd.

Torrent Pharmaceuticals Ltd.

Unichem Laboratories Ltd.

US Vitamin Ltd.

Unilever Industries (P) Ltd.

Vasudha Pharma Chem Ltd.

Vet India Pharmaceuticals

Virchow Biotech Ltd.

Wallace Pharmaceuticals Ltd.

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Experiment With The Truth

Global Presence

BUREAU VERITAS
Certification

OSWORLD SCIENTIFIC EQUIPMENTS PVT. LTD.

OSWORLD®

B-44, NEW EMPIRE INDUSTRIAL PREMISES, KONDIVITA ROAD,
J.B. NAGAR, ANDHERI (E), MUMBAI – 400 059,
MAHARASHTRA, INDIA.

Bureau Veritas Certification certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standard detailed below

Standard

ISO 9001:2008

Scope of certification

MANUFACTURE AND DESPATCH OF OSWORLD BRAND OF ELECTRICAL EQUIPMENT USED FOR TESTING IN QUALITY CONTROL AND R & D LABORATORIES IN PHARMACEUTICAL INDUSTRIES.

Certification cycle start date: **08 May 2013**

Subject to the continued satisfactory operation of the organisation's Management System, this certificate expires on: **07 May 2016**

Original certification date: **08 May 2004**

Certificate No. IND13.6255N Version : 1 Revision date: **07 May 2013**

Certification Authority
R. K. SHARMA-Director

NABCB
QM 053

Local office *"Marwah Centre" 6th Floor, Krishanlal Marwah Marg, Opp. Arise Industrial Estate, Off Saki Vihar Road, Andheri (East), Mumbai – 400 072. India*

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization. To check this certificate validity please call **+91 22 6695 6300.**