

TECHNICAL DATA

	UF 456	UF 756
Gross Volume	4531	7531
Net Volume	44401	7331
Out dimensions (H x W x D)	1450 x 910 x 950 mm	1990 x 910 x 950 mm
Inner dimensions (H x W x D)	812 x 730 x 760 mm	1352 x 730 x 760 mm
Set temperature (preset)	-82°C	-82°C
Set temperature (setting range)	-70°C to -86°C	-70°C to -86°C
Temperature cold alarm limit (preset)	-90°C	-90°C
Temperature warm alarm limit (preset)	-65°C	-65°C
Temperature alarm limits (setting range)	-65°C to -90°C	-65°C to -90°C
Operation and control panel	Electronics 1	Electronics 1
Control sensor	NTC = 0.1k at +25°C	NTC = 0.1k at +25°C
Precision (at -80°C)	+/- 0.97°C	+/- 0.97°C
Defrosting	Manual	Manual
Insulation (casting) (Polyurethane foam + Vacuum Insulation Panels)	70 mm PU + 20 mm VIP70 mm PU + 20 mm VIP	
Insulation (door) (polyurethane foam + Vacuum Insulation Panels)	65 mm PU + 20 mm VIP65 mm PU + 20 mm VIP	
K-value	0.18 W/m ² K (at +20°C) 0.18W/m ² K (at +20°C)	
Hold over time (from -84°C to -60°C)	120 minutes	120 minutes
Refrigerant type (1st step / 2nd step)	R404a / R508b	R404a / R508b
Refrigerant and insulation	Free from CFC and HCFCFree form CFC and HCFC	
Climate class (ambient temperature range)	N (+16°C to 32°C)	N (+16°C to 32°C)
Relative humidity (at +32°C ambient temperature)	≤ 70%	≤ 70%
Voltage	220-240V / 50Hz (16A)	220-240V / 50Hz (16A)
Power	1200 W	1200 W
Energy Consumption	14.60 kWh / 24h	19.00 kWh / 24h
Heat emission	680 Kcal/h	680 Kcal/h
Compressor running time	57.0%	57.0%
Noise level (at 1m height and 1m distance)	< 62 dB(A)	< 62 dB(A)
Safety class	1	1
EMV Directive	89 / 336 / EEC	89 / 336 / EEEEC
Low-voltage Directive	73 / 23 / EEC	73 / 23 / EEC
Laboratory Directive BGR 120 (3.8)	Interior only free from ignition sources	
GMP Clean Room Class	B / ISO 6	B / ISO 6
Material inner body and inserts	Stainless Steel (V2A - 1.4301) Stainless Steel (V2A-1.4301)	
Material internal doors	ABS	ABS
Material outer casing and door	Galvanized sheet steel (STO2Z-AZ150)	Galvanised sheet steel (STO2Z-AZ150)
Color outer casing	White	White
Color internal doors	Grey	Grey
Color Contrasts	Blue	Blue
Interior Equipment & Options		
Stainless Steel compartment division / inserts	3 Compartments / 2 Inserts	3 Compartments / 2 Inserts
Separate internal doors in order to minimize the loss of cold	2	3
Stainless steel racks for boxes fo 50 mm height	15	25
Stainless steel racks for boxes of 75 mm height	15	25



CASSIA



EXPIROGRAPH

- Determines tidal volume, forced expiratory volume, maximum
- Breathing capacity, respiratory rate, oxygen uptake
- The bell movements are recorded on a flat kymograph with selectable recording speeds of 60mm / minute or 1200mm / minute
- Most reliable, simple and very accurate testing of all pulmonary function

DIGITAL ABBE REFRACTOMETER MODEL R-9

- Measurement of refractive index of transparent liquids and solids
- Measurement of the brix of sugar solution
- Measurement range-refractive index n_D : 1.3000-1.7000, dissolved solids brix: 0-95%
- Accuracy-refractive index n_D : 0.0002, Brix: 0.1%
- Visual aim and LCD display
- Automatic temperature compensation for brix scale
- Prism made of hard glass
- Serial interface for data print-out

AUTOMATIC BOMB CALORIMETER

- Fully automatic measurement of calorific value
- Finds extensive application in cement, paper & power generation industries
- Two measurement modes
Quick - 5 minutes
Normal - 8 minutes
- Temperature resolution 0.0001°C
- Semi conductor refrigeration and heating
- High efficiency magnetic stirrer
- Adopts advanced PCI technology
- Windows compatible

FULLY AUTOMATIC SULPHUR ANALYSER

- Coulometric principle for sulphur determination
- Upto 24 samples can be tested at a time
- Sulphur testing resolution 0.001%
- Testing time : 5 min per sample
- Furnace temperature 1150°C
- Adopts advanced PCI technology
- Windows compatible

ASH FUSIBILITY ANALYSER

- For measurement of Ash fusibility in coal ash
- Used high resolution CCD camera to collect graphic of Ash cone
- upto 3 sample can be loaded at a time
- Furnace temp range 1520°C
- Displays real time graph of ash configuration change
- Adopts advanced PCI technology
- Windows compatible



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OMEC PARTICLE SIZE ANALYSER

- Used to measure the particle size distribution of powder, suspensions or spray, cement particle distribution
- Particle size distribution table & graph, average diameter, median diameter, boundary diameter and SSA
- Measuring range : 0.5-300
- Repetitive precision : 3% (D50)
- Detector number: 40
- Light source: He-Ne laser, power 2mW, wavelength 0.6328
- Software circumstance: Windows 92, Widows Me
- Figuration size: 1000 (L) x 350 (W) x 250 (H) mm

DIGITAL THERMOMETER (OPTIONAL)

It is very handy and can be connected to the Abbe refractometer for temperature measurement and wide range of other applications. Temperature measurement is done by a special silicon sensor which is protected by a stainless steel tube. This operates on a standard 9 volt battery.

Temperature Range: -55°C to +150°C

Resolution : 0.1 degC

Accuracy: $\pm 0.2^\circ\text{C}$, + 1 digit from -15°C to +125°C

Accuracy in other range: $1^\circ\text{C}/\pm 1$ digit

- Dual graduations of refractive index & brix percentage
- Measurement of dispersion of liquids with conversion table
- Water jacketed prism box which can be connected to circulating thermostat for temperature maintenance
- Employs both day light & artificial light system
- Compensator to compensate for dispersion in the medium under test.

ADVANCE DIGITAL REFRACTOMETER

DG-ERT

- Large measuring range of refractive index and brix
- High accuracy and repeatability
- Suitable for field use
- Automatic temperature compensation of distilled water and brix
- Auto shut off after 30 seconds
- Immediate readings
- Stainless steel sample well
- Operating temperature: 0-40°C
- Easy to use 3 keys
- Dust proof prism cover
- Calibration using distilled water

Technical Specifications

Refractive Index: nD 1.3330 to 1.5318

Resolution: nD 0.0001

Accuracy: nD ± 0.0003

Brix: 0-95%

Resolution: 0.1%

Accuracy: $\pm 0.2\%$

Automatic Temperature Compensation: 5°C to 40°C

Power supply : One 1.5V Alkaline battery

Battery Life: Upto 8000 tests

INFRARED MOISTURE BALANCE FOR MOISTURE IN MINUTES-IN SOLIDS, POWDERS & GRANULES

- Direct moisture readings to 0.2%
- High accuracy & repeatability
- Simultaneous drying weighing
- Controlled heat output
- Portability
- Fast & Easy 2-step operation
- Quartz heating system
- Locking facility to prevent torsion wire breakage
- Operation with either solid state control (Standard model) or Auto transformer (Deluxe Model)

Fast and Accurate Determination of Moisture in these products

Pharmaceuticals - Non-fat milk powder - Dry milk - Soyabean products - Fertilizer - Corn Products - Plant seeds - Chemicals - Leather - Fibre - Resins - Paper - Pulp - Soap & Detergents - Food products - Ceramic powder - Clays - Paint Pigments - Raw meat - Dextran - yeast - Plastics Lactose - Cotton - Soil etc.

The instrument consists of a 250 watt infrared lamp / quartz heating system, a sensitive torsion balance and a temperature control all housed in a compact cabinet made of aluminium having robust design. The infrared radiation from the lamp / quartz. Tube is used for heating the sample. The quartz heating system provides extremely uniform heating of the sample with deeper heat penetration and minimum heating time as compared to infrared lamp. The temperature is controlled by the solid state control in standard model & auto transformer in deluxe model. The sensitive torsion balance uses magnetic damping to damp the vibrations of the pan. The instrument is directly calibrated in percentage of moisture between 0% & 100%. It is available in following models to suit individual requirements.

- **The model 'A' uses approximately 5 gms. of the material:** For applications in pharmaceuticals, light powders, chemicals, detergents etc.
- **The model 'B' uses approximately 10 gms. of the Material :** For Grains, Rice, relatively heavy grained products etc.
- **The Model 'C' uses approximately 25 gms. of the Material :** For coal, cashewnuts, sand, agricultural soils etc.

Deluxe Model

Deluxe model infrared moisture balance is supplied with best quality material and an auto transformer is used for temperature control

The balance is supplied complete with

- One dozen disposable pans
- Pair of forceps
- Instruction manual

Power Requirement

230 Volts, 50 Hz (A.C. Mains 250 Watts)

Accessories at extra cost

1. Automatic timer with alarm (Cat No. M-3/1). This timer unit gives a continuous buzz after turning the infrared lamp off after specified time.

