

SANYO

Space Saving
Upright – 86°C Freezers

MDF-U2086S
MDF-U3086S
MDF-U4086S
MDF-U5086W



CFC-FREE



-86°C



CFC FREE

ULTRA LOW TEMPERATURE FREEZERS

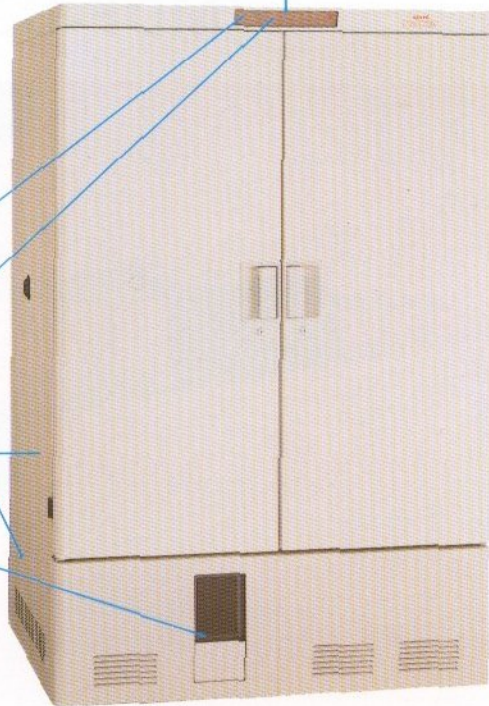
Top mounted display for easy-to-read temperature and alarm display (Except MDF-U3086S)

Power failure alarm

Filter indicator for easy maintenance

CFC-free refrigerant & insulation

Option: Recorder MTR-85H



Baked-on acrylic finish galvanized steel interior

Options: Inventory racks (for 2" boxes) Inventory racks (for 3" boxes) Drawers

Washable air intake filter



MDF-U5086W

- Developed with two outside and four inner doors to provide maximum security. Sanyo discovered that on freezer sizes over 400 litres (14.1 cu. ft.) it was necessary to provide not one but two side by side outer doors. Single door versions simply allow too much warm air into the freezer delaying the pulldown time back to the original temperature of -86°C . Contents are not exposed to large influxes of warm air as compared to that of a single door plus Sanyo has the extra protection of four inner fully insulated doors ensuring pulldown is achieved quickly.
- Space saving upright design requires 40% less floor space than chest type of comparable size, fitting into floor space of 0.94m^2 (10.1 sq.ft.).
- Large 497 litre (17.6 cu. ft.) capacity divided into four by the inner doors like having four freezers in one. Each area can be used for general storage or assigned for specific research or a researcher.
- -86°C microprocessor controlled temperature. Eye-level easy to read LED digital display. Uniform temperature feature combined with rapid pulldown ensures safe and reliable storage.
- CFC-free Sanyo refrigerant, cascade cooling system, and a compressor custom-made for the MDF-U5086W makes it one of Sanyo's most advanced models and set a new level of performance.
- Approved for use with the "Real Life System" also developed with the cooperation of Sanyo's freezer factory. Optional accessories available.





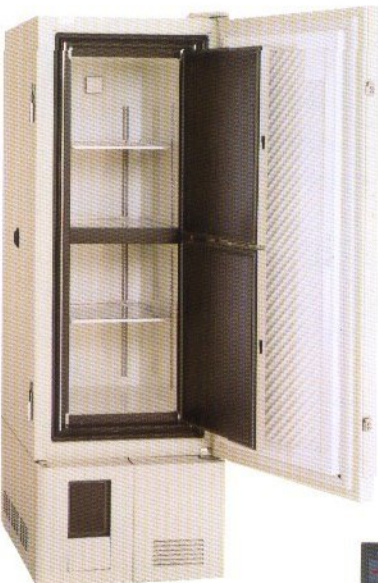
MDF-U4086S

- Super 382 litre (13.5 cu ft) capacity with a single outer door and two inner doors.
- -86°C microprocessor controlled temperature. Eye-level for precise setting and greater operational ease. Interconnected to all alarm systems for security.
- 45% less floor space required than chest type of the same capacity. Yet no compromise on capacity or ease of use.
- Specially designed outer and inner doors are computer matched to ensure that the temperature is maintained with minimum fluctuation when the doors are opened.
- Features the technology, construction and reliability of all Sanyo freezers.
- Approved for use with the "Real Life System" also developed with the co-operation of Sanyo's freezer factory. Optional accessories available.



MDF-U3086S

- Unique design and size targets the growing trend to personal freezers and compact size. While this is a spacesaver there is no compromise on features. They can be installed side by side if a second or third unit is acquired over time due to expansion.
- Easy access and quick placement or locating make uniformity and pulldown outstanding features of this model.
- The foamed-in-place rigid polyurethane is CFC-free as in all other Sanyo freezers. This is also part of our construction features.
- Features all of the technology, construction, and reliability you have come to expect from Sanyo freezers.



MDF-U2086S

- Employs a newly developed frozen storage system that maintains biological specimens in perfect condition by preventing physical and chemical changes from occurring in DNA, plant and animal cells, bacteria, enzymes, vaccines, antibodies, blood etc.
- -86°C temperature in an ultra slim design combines a small footprint with a large capacity, uniform stable temperature and the latest technology.
- Two inner doors plus one full outer door make the 216 litre (7.6 cu. ft.) highly efficient. Very compact, it fits almost anywhere. Many labs now use one, two, three or more.



Benefit Features

Technology Features



- CFC-Free

SANYO has developed refrigerants which are not destructive to the ozone layer. SANYO is committed to CFC-free refrigerants by the year 2020-NOW!



- CPU And Touch Pad

The computer control system designed for low temperature application ensures accurate setting with touch-pad switches.



- LED Digital Display

The strategically located LED digital display is very easy to read. Specially linked to the CPU computer control for instant reaction.



- Quiet, Reliable Compressor

SANYO is the only company in the world to design and manufacture individual compressors exclusively for specific ultra low temperature freezers. SANYO's compressors ensure rapid pulldown and uniformity for every model every time.



- Rechargeable Battery

A rechargeable battery is built in as the backup battery for alarms.

Construction Features



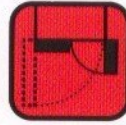
- Insulated Inner Doors

SANYO's unique doors are fully insulated to provide better uniformity and guarantee an air tight seal. Two inner doors ensure that exposure to incoming air is kept to a minimum when the outer door is opened. Door latch is available.



- Cascade Cooling System

At the heart of freezers that are as efficient and reliable as SANYO freezers is SANYO's own cascade cooling system. SANYO's considerable experience in ultra-low temperature technology has made the compact, quiet and reliable refrigeration system possible. (Except MDF-U2086S)



- Foot Print

The MDF-U5086W employs a two-door style which takes up less space than one-door freezers when opened.



- Air Filter

The air filter used is specially located to give easy access for removal. The filter has the extra bonus of being washable for economy and do it yourself maintenance. There is even a filter indicator to tell you it is time.



- Casters

All models are mounted on wheeled casters to make any moving required easy.

Reliability features



- Energy

The combination of efficient technology and construction bring the added benefit of considerable energy savings, freeing your funds for other purposes.



- Power Failure Alarm

The backup battery sounds the alarm in the event of power failure, AC interruption or other abnormalities.



- Door Alarm

In the event that the door is ever left ajar the door alarm goes into action and alerts you immediately. (Except MDF-U3086S)



- Remote Alarm

An alarm is sounded at a remote location if ever a breakdown occurs. A peace of mind feature for off hour times in particular.



- Automatic System

Provides both an audible and visual temperature alarm when the temperature goes up more than 10°C from the set point.



- Service

Always a top priority with SANYO is a proper service and maintenance program. SANYO guarantees a quick action if there is ever a need.

Specifications

Model No.	Upright Series														
	MDF-U2086S			MDF-U3086S					MDF-U4086S			MDF-U5086W			
Outer dimensions W×D×H (mm)	630×780×1880			800×832×1810					870×780×1945			1200×780×1880			
(inch)	24.8×30.7×74.0			31.5×32.8×71.3					34.3×30.7×76.6			47.2×30.7×74.0			
Inner dimensions W×D×H (mm)	370×490×1200			520×517×1120					620×520×1200			930×490×1130			
(inch)	14.6×19.3×47.2			20.5×20.4×44.1					24.4×20.5×47.2			36.6×19.3×44.5			
Effective capacity	216ℓ (7.6cu.ft.)			301ℓ (10.6cu.ft.)					382ℓ (13.5cu.ft.)			497ℓ (17.6cu.ft.)			
Interior finish	Coloured steel			Coloured steel					Coloured steel			Coloured steel			
Door	1 Door			1 Door					1 Door			2 Doors			
Inner door	2			3					2			4			
Shelves	3			6					3			6			
Temperature (Ambient Temp 30°C)	-86°C			-86°C					-86°C			-86°C			
Standard voltage	C	D	E	A	B	C	D	E	C	D	E	C	D	E	
AMPS	5.7	5.7	5.5	8.4	7.3	5.2	4.2	4.1	5.2	5.9	5.0	6.2	7.8	5.9	
Breaker	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
Microprocessor control	○			○					○			○			
Temperature alarm	○			○					○			○			
Filter indicator	○			○					○			○			
Washable air intake filter	○			○					○			○			
Door key lock	○			○					○			○			
Power failuer alarm	○			○					○			○			
Remote alarm contact	○			○					○			○			
Temperature display	Digital Door top			Digital Bottom panel					Digital Top panel			Digital Top panel			

※ Controller set range
-20°C ~ -95°C

VOLTAGE CODE	VOLTAGE	Hz	PHASE
A	110/115	60	1φ
B	127	60	1φ
C	220	50	1φ
D	220	60	1φ
E	230/240	50	1φ

Applications

	Low-Temperature Range Applications				
	Blood	Animal & plant tissue	Micro-organisms	Drugs	Industrial equipment
0°C					
-10°C					
-20°C	Plasma	Enzymes		Drugs	For industry equipment & electronic parts
-30°C					
-35°C				Blood serum	
-40°C			Cells	Vaccines	
			Yeast		
-50°C	Quick plasma freezing				
-86°C	Red cell	Skin cells	Roots		
	Platelets	Internals organs	Seeds		
	Lymph cells	DNA	Pollen	Micro-organisms	
	Granulocytes	Embryos	Cells	Vins	
		Cornea	DNA		
		Bone marrow			

Potential Users:

- Universities, Pharmaceutical departments
- Private enterprises, Pharmaceutical companies
- Medical institutions, Hospitals
- Public research centers, Research institutes

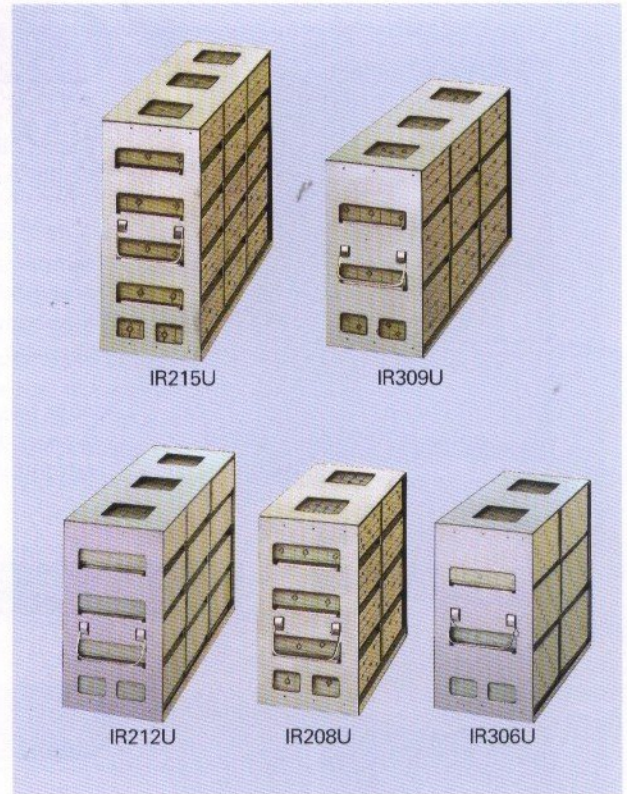
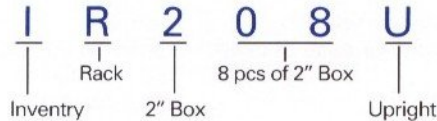
Options

Parts Name	MDF-U2086S	MDF-U3086S	MDF-U4086S	MDF-U5086W
Options				
MDF38SC Aluminum container		○		
MDF48SC Aluminum container	○		○	
MDF58SC Aluminum container				○
MTR-85H Temp. Recorder	○	○	○	○
MDF-28R Drawer (Set of 3)	○			
MDF-48R Drawer (Set of 3)			○	
MDF-58R Drawer (Set of 3)				○
CVK-UB (CO ₂ Back-up kit)	○	○	○	○
CVK-UBN (LN ₂ Back-up kit)	○	○	○	○

Options

Description.	Catalog No.
Single full rack for 2" boxes; for 10.6 cu. ft upright models only.	IR215U
Single full rack for 3" boxes; for all upright models.	IR309U
Single full rack for 2" boxes; for all upright models except 10.6 cu. ft.	IR212U
Single full rack for 2" boxes; for 17.6 cu. ft upright model only.	IR208U
Single full rack for 3" boxes; for 17.6 cu. ft upright model only.	IR306U

Example:



Plus Options with a difference

Real Life System

The way any freezer is used affects the performance, uniformity and pulldown. And the way items are stored can dramatically alter uniformity and reliability of temperature. Researchers demand their needs be met not only in the freezer but also with the interior fittings and accessories. Perfection is a must. Therefore the "Real Life System" was designed and engineered to operate with Sanyo freezers. The Sanyo freezer factory has tested and approved these systems. Consult your sales representative for complete details. Some of the items offered in or with the "Real Life System" include:

- Analog type temp. recorder
- Inventory rack sets
- Aluminium stocker containers
- Full shelves
- Sets of drawers



Distributed by:

SANYO

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