F500 / F501 [water cooled]

Technical data sheet

CFC / HCFC free:	yes
Climate class:	SN
Ambient temperature range °C (°F):	from +10 to +32 (from 50 to 89.6)
Max. relative humidity:	75%
Voltage V:	**230**
Frequency Hz:	**50**
Fuse Amp:	10
Power W:	1300
Running current A:	8.0
Energy consumption Kwh/24h:	6.6
Heat ejection Kcal/h:	236 [110]
Running time %:	42
Noise level dB(A) (in 1m height +1m distance):	60
Accu data / function time:	12V -7.0 AH / 48 hours
Defrosting technique:	hot gas
Compressor manufacturer:	Embraco
Compressor type:	NT2210U
Cooling capacity W (ASHRAE):	1282
Capillary tube, inner diam x length mm (inch):	Expansion valve
Refrigerant type:	R290
Refrigerant quantity g (oz):	150 (5.29)
Door insulation mm (inch):	65 to 82 (2.56 to 3.23) with 20mm VIP, not heated
Cabinet insulation mm (inch):	77 to 82 (3.03 to 3.23) with 20-30mm VIP
K value W/m²xK at 20°C (68°F):	N/A
Hold over time h at °C (°F):	3.0 from -41 to -18°C (from -41.8 to -0.4°F), @25°C (77°F)
Net volume l (cu ft):	510 (18.011)
Gross volume l (cu ft):	598 (21.118)
Internal width mm (inch):	590 (23.23)
Internal depth mm (inch):	713 (28.07)
Internal height mm (inch):	1370 (53.94)
External width mm (inch):	845 (33.27)
External depth mm (inch):	1039 (40.91)
External height mm (inch):	1988 (78.27)
Net weight with standard equipment kg (lbs):	301 (663.59)
EMC directive:	2014/30/EU
Low voltage directive:	2014/35/EU
GS certificate:	no
Medical device directive:	F500: 93/42/EEC, Class I // F501: 93/42/EEC, Class IIa
GMP-clean room classification:	class ISO5/EC GMP A
ATEX-categorie III, zone 2, interior:	no

Subject to changes without prior notice !   *Revision:*   07.02.2019

Measurement conditions:

Setpoint -41°C (-41.8°F) @ +25°C (77°F) ambient temperature, unless otherwise stated
All appliances without load

F500 / F501 [water cooled]

Technical data sheet

CFC / HCFC free:	yes
Climate class:	SN
Ambient temperature range °C (°F):	from +10 to +32 (from 50 to 89.6)
Max. relative humidity:	75%
Voltage V:	**220**
Frequency Hz:	**60**
Fuse Amp:	10
Power W:	1300
Running current A:	8
Energy consumption Kwh/24h:	5.4
Heat ejection Kcal/h:	192 [92]
Running time %:	40
Noise level dB(A) (in 1m height +1m distance):	60
Accu data / function time:	12V -7.0 AH / 48 hours
Defrosting technique:	hot gas
Compressor manufacturer:	Embraco
Compressor type:	NT2210UV
Cooling capacity W (ASHRAE):	1040
Capillary tube, inner diam x length mm (inch):	Expansion valve
Refrigerant type:	R290
Refrigerant quantity g (oz):	150 (5.29)
Door insulation mm (inch):	65 to 82 (2.56 to 3.23) with 20mm VIP, not heated
Cabinet insulation mm (inch):	77 to 82 (3.03 to 3.23) with 20-30mm VIP
K value W/m²xK at 20°C (68°F):	N/A
Hold over time h at °C (°F):	3.0 from -41 to -18°C (from -41.8 to -0.4°F), @25°C (77°F)
Net volume l (cu ft):	510 (18.011)
Gross volume l (cu ft):	598 (21.118)
Internal width mm (inch):	590 (23.23)
Internal depth mm (inch):	713 (28.07)
Internal height mm (inch):	1370 (53.94)
External width mm (inch):	845 (33.27)
External depth mm (inch):	1039 (40.91)
External height mm (inch):	1988 (78.27)
Net weight with standard equipment kg (lbs):	301 (663.59)
EMC directive:	not applicable
Low voltage directive:	not applicable
GS certificate:	no
Medical device directive:	not applicable
GMP-clean room classification:	class ISO5/EC GMP A
ATEX-categorie III, zone 2, interior:	no

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Measurement conditions:

Setpoint -41°C (-41.8°F) @ +25°C (77°F) ambient temperature, unless otherwise stated
All appliances without load

F500 / F501 [water cooled]

Technical data sheet

CFC / HCFC free:	yes
Climate class:	SN
Ambient temperature range °C (°F):	from +10 to +32 (from 50 to 89.6)
Max. relative humidity:	75%
Voltage V:	**115-127**
Frequency Hz:	**60**
Fuse Amp:	20
Power W:	1300
Running current A:	16
Energy consumption Kwh/24h:	5.2
Heat ejection Kcal/h:	186 [87]
Running time %:	43
Noise level dB(A) (in 1m height +1m distance):	54
Accu data / function time:	12V -7.0 AH / 48 hours
Defrosting technique:	hot gas
Compressor manufacturer:	Embraco
Compressor type:	NT2210UV
Cooling capacity W (ASHRAE):	1070
Capillary tube, inner diam x length mm (inch):	Expansion valve
Refrigerant type:	R290
Refrigerant quantity g (oz):	150 (5.29)
Door insulation mm (inch):	65 to 82 (2.56 to 3.23) with 20mm VIP, not heated
Cabinet insulation mm (inch):	77 to 82 (3.03 to 3.23) with 20-30mm VIP
K value W/m²xK at 20°C (68°F):	N/A
Hold over time h at °C (°F):	3.0 from -41 to -18°C (from -41.8 to -0.4°F), @25°C (77°F)
Net volume l (cu ft):	510 (18.011)
Gross volume l (cu ft):	598 (21.118)
Internal width mm (inch):	590 (23.23)
Internal depth mm (inch):	713 (28.07)
Internal height mm (inch):	1370 (53.94)
External width mm (inch):	845 (33.27)
External depth mm (inch):	1039 (40.91)
External height mm (inch):	1988 (78.27)
Net weight with standard equipment kg (lbs):	301 (663.59)
EMC directive:	not applicable
Low voltage directive:	not applicable
GS certificate:	no
Medical device directive:	not applicable
GMP-clean room classification:	class ISO5/EC GMP A
ATEX-categorie III, zone 2, interior:	no

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Measurement conditions:

Setpoint -41°C (-41.8°F) @ +25°C (77°F) ambient temperature, unless otherwise stated
All appliances without load

F500 / F501

Electronic data sheet

Electronic type:	Premium electronic
RS 485:	not available
°B Connected monitoring software:	Option
Data transmission:	standard
Wireless data transmission:	not available

Display range °C (°F):	-99.0°C to +99.0°C (-146°F to 210°F)
Display indication step K:	0.1

Preset set point °C (°F):	-41 (-41.8)
Set point range °C (°F):	F500: -20 to -41 (-4 to -41.8) / F501: -32 to -41 (-25.6 to -41.8)
Set point adjustable step K:	0.1
Temperature distribution acc. to FDX 15-140 K:	5 [10 during defrost]

Preset warm alarm °C (°F):	-32 (-25.6)
Preset cold alarm °C (°F):	-46 (-50.8)
Alarm adjustable step K:	0.1
Min alarm difference to set point K:	5.0
Alarm indication:	optically + acoustically

Remote alarm relais:	change-over switch
Remote alarm relais output:	temperature and system error
Additional remote alarm:	yes as standard: powerfail, system fault and door alarm

Regulation sensor type:	PT1000 2-WIRE 1/3DIN CL.B
Regulation sensor measuring accuracy:	at -80 to 180°C ± 0,2°C (at -112 to 356°F ± 35.6°F)

Display sensor type:	PT1000 2-WIRE 1/3DIN CL.B
Display sensor measuring accuracy:	at -80 to 180°C ± 0,2°C (at -112 to 356°F ± 35.6°F)
Display sensor reference body:	100ml DOW corning 200-5CST (silicon oil)

Safety thermostat at °C (°F) / type:	not available
Safety thermostat measuring accuracy:	not available

Evaporator sensor type:	PT1000 2-WIRE CL.B
Evaporator sensor measuring accuracy:	at -80 to 180°C ± 0,6°C (at -112 to 356°F ± 33.1°F)

Ambient temp sensor as option, type:	PT1000 2-WIRE CL.B
Ambient temp sensor measuring accuracy:	at -80 to 180°C ± 0,6°C (at -112 to 356°F ± 33.1°F)

F500 / F501

Material and equipment

Material specifications

Inner body material:	stainless steel - 1.4301
Outer body material:	DX51D + Z100, with a white/grey coating
Inner door material:	stainless steel - 1.4301
Outer door material:	DX51D + Z100, with a white/grey coating
Wire shelf material:	wire DIN 177, white PA11 coated RAL9010
Drawer material:	stainless steel - 1.4301
Shuttle rack material:	polycarbonate (PC) transparent

Equipment

Standard equipment inside:	
5 wire shelves / 2 additonal inner doors made in aluminium	

Lots of shelves, recommend / maximum:	5 / 13
Lots of drawers, recommend / maximum:	5 / 5
Lots of shuttle racks per shelf, maximum:	4
Door hinge standard / option:	right / left
Light:	not available
Castors:	4 castors with integrated feet
Water cooling:	as option
External unit:	not available
Recorder as option, range / sensor type:	from -50 to 0°C (from -58 to 32°F) / PT1000
Recorder sensor measuring accuracy:	at +25°C ± 0,5°C (at 77°F ± 32.9°F)
Recorder sensor reference body:	100ml DOW corning 200-5CST (silicon oil)
PT100 sensor additional as option:	yes, type class B, 3-wire
PT100 sensor measuring accuracy:	at +25°C ± 0,2°C (at 77°F ± 32.4°F)
PT100 sensor reference body:	100ml DOW corning 200-5CST (silicon oil)
Packing standard / option:	EPS corners, plastic foil and wooden palette / -

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