

# DMF, MF290 SG

## Technical data sheet

CFC / HCFC free:	yes
Climate class:	SN
Ambient temperature range °C:	+10 to +32
relativ humidity range at °C ambient:	<= 75%
<b>Voltage V:</b>	<b>220-240</b>
<b>Frequency Hz:</b>	<b>50</b>
Fuse Amp:	10
Power W:	190
Starting power W:	310
Energy consumption Kwh/24h:	2.30
Heat ejection Kcal/h:	75
Running time %:	45
Noise level dB(A) (in 1m height +1m distance):	44
Accu data / function time:	12V -7 AH / 48 hours
Defrosting technique:	manual
Compressor manufacturer:	Danfoss
Compressor type:	NL9CN
Cooling capacity W (ASHRAE):	406
Capillary tube, inner diam x length mm:	0.71x2000
Refrigerant type:	R290
Refrigerant quantity g:	80
Starting current A:	1.60
Running current A:	1.10
Door insulation mm:	35 to 85
Cabinet insulation mm:	67.5 to 75
K value W/m <sup>2</sup> xK at 20°C #:	0.29
Hold over time h:	0.75 (from -35 to -23°C, DIN58375)
Net volume l:	265
Gross volume l:	290
Internal width mm:	460
Internal depth mm:	435
Internal height mm:	1498
External width mm:	595
External depth mm:	625
External height mm (with recorder):	1830 / 1910 with castors (1990 / 2070 with castors)
Net weight kg (with standard equipment):	92
Protection class:	I
EMC directive:	2004 / 108 / EG
Low voltage directive:	2006 / 95 / EG
GS certificate:	DMF: yes / MF: no
Medical device directive:	DMF: no / MF: 93 / 42 / EWG - CE0123
GMP-clean room classification:	class ISO6/EC GMP B
ATEX-categorie III, zone 2, interior:	DMF: standard / MF: no

Subject to changes without prior notice !

Revision: 06.2016

**Measurement conditions: +25°C ambient temperature except of #  
all appliances without load**

# DMF, MF290 S

## Technical data sheet

CFC / HCFC free:	yes
Climate class:	SN
Ambient temperature range °C:	+10 to +32
relativ humidity range at °C ambient:	<= 75%
<b>Voltage V:</b>	<b>110-120</b>
<b>Frequency Hz:</b>	<b>60</b>
Fuse Amp:	16
Power W:	255
Starting power W:	348
Energie consumption Kwh/24h:	2.95
Heat ejection Kcal/h:	109
Running time %:	51
Noise level dB(A) (in 1m height +1m distance):	44
Accu data / function time:	12V -7 AH / 48 hours
Defrosting technique:	manual
Compressor manufacturer:	Danfoss
Compressor type:	NF7CLX
Cooling capacity W (ASHRAE):	502
Capillary tube, inner diam x length mm:	0.71x2000
Refrigerant type:	R404a
Refrigerant quantity g:	185
Starting current A:	4.70
Running current A:	3.90
Door insulation mm:	35 to 85
Cabinet insulation mm:	67.5 to 75
K value W/m²xK at 20°C #:	0.29
Hold over time h:	0.75 (from -35 to -23°C, DIN58375)
Net volume l:	265
Gross volume l:	290
Internal width mm:	460
Internal depth mm:	435
Internal height mm:	1498
External width mm:	595
External depth mm:	625
External height mm (with recorder):	1830 / 1910 with castors (1990 / 2070 with castors)
Net weight kg (with standard equipment):	93
Protection class:	I
EMC directive:	not applicable
Low voltage directive:	not applicable
c CSA us certificate:	DMF: yes / MF: no
Medical device directive:	not applicable
GMP-clean room classification:	class ISO6/EC GMP B
ATEX-categorie III, zone 2, interior:	not possible

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**Measurement conditions: +25°C ambient temperature except of #  
all appliances without load**

# DMF, MF290 S

## Technical data sheet

CFC / HCFC free:	yes
Climate class:	SN
Ambient temperature range °C:	+10 to +32
relativ humidity range at °C ambient:	<= 75%
<b>Voltage V:</b>	<b>208-230</b>
<b>Frequency Hz:</b>	<b>60</b>
Fuse Amp:	16
Power W:	271
Starting power W:	354
Energy consumption Kwh/24h:	2.65
Heat ejection Kcal/h:	101
Running time %:	43
Noise level dB(A) (in 1m height +1m distance):	44
Accu data / function time:	12V -7 AH / 48 hours
Defrosting technique:	manual
Compressor manufacturer:	Embraco
Compressor type:	NEK2134GK
Cooling capacity W (ASHRAE):	544
Capillary tube, inner diam x length mm:	0.71x2000
Refrigerant type:	R404a
Refrigerant quantity g:	185
Starting current A:	2.80
Running current A:	2.50
Door insulation mm:	35 to 85
Cabinet insulation mm:	67.5 to 75
K value W/m <sup>2</sup> xK at 20°C #:	0.29
Hold over time h:	0.75 (from -35 to -23°C, DIN58375)
Net volume l:	265
Gross volume l:	290
Internal width mm:	460
Internal depth mm:	435
Internal height mm:	1498
External width mm:	595
External depth mm:	625
External height mm (with recorder):	1830 / 1910 with castors (1990 / 2070 with castors)
Net weight kg (with standard equipment):	93
Protection class:	I
EMC directive:	2004 / 108 / EG
Low voltage directive:	2006 / 95 / EG
c CSA us certificate:	no
Medical device directive:	no
GMP-clean room classification:	class ISO6/EC GMP B
ATEX-categorie III, zone 2, interior:	not possible

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all appliances without load**

## DMF, MF290 S / SG

### Material and equipment

#### Material specifications

Inner body material:	styrol (SAN), white similar to RAL9010
Outer body material:	steel ST02Z-AZ150, white painted similar to RAL9010
Inner door material:	styrol (SAN), white similar to RAL9010
Outer door material:	steel ST02Z-AZ150, white painted similar to RAL9010
Wire shelf material:	not possible
Drawer material:	polystyrene (PS), transparent
Shuttle rack material:	not possible
Plasma separator material:	not possible

#### Equipment

<i>Standard equipment inside:</i>	
5 drawers + 2 tin shelves covered with flaps (not changeable)	
Lots of wire shelves, recommend / maximum:	not possible
Lots of drawers, recommend / maximum:	not changeable
Lots of shuttle racks per wire shelf, maximum:	not possible
Door hinge standard / option:	right handed / left handed
Castors:	option, with pallet
Water cooling:	not possible
External unit:	not possible
Recorder as option, range / sensor type:	-50°C to 0°C / capillary tube
Recorder sensor measuring accuracy:	at +25°C ± 1,5°C
Recorder sensor reference body:	not possible
PT100 sensor additional as option:	yes, type class B, 3-wire
PT100 sensor measuring accuracy:	at +25°C ± 0,2°C
PT100 sensor reference body:	not possible
Packing standard / option:	cardboard / wood

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# DMF, MF290 S / SG

## Electronic data sheet

Electronic type:	gold electronic V2008, control panel 2
RS 485:	standard
DMN software:	standard
DCU:	option
DCU Wan:	option
Display range °C:	-99 to +99
Display indication step K:	0.1
Preset set point °C:	-35
Set point range °C:	DMF: -20 to -35 / MF: -32 to -35
Set point adjustable step K:	0.5
Temperature distribution [ defrost ] K: ( according to FDX 15-140 )	10
Preset warm alarm °C:	-30
Preset cold alarm °C:	-40
Alarm range °C:	DMF: -15 to -50 / MF: -27 to -40
Alarm adjustable step K:	0.5
Min alarm difference to set point K:	3
Alarm indication:	optically + acoustically
Remote alarm relais:	change-over switch
Remote alarm relais output:	temperature
Additional power fail remote alarm:	standard
Regulation sensor type:	PT1000 2-WIRE 1/3DIN CL.B
Regulation sensor measuring accuracy:	at -80 to +180°C ± 0,2°C
Display sensor type:	PT1000 2-WIRE 1/3DIN CL.B
Display sensor measuring accuracy:	at -80 to +180°C ± 0,2°C
Display sensor reference body:	100ml DOW corning 200-5CST (silicon oil)
Safety thermostat at °C / type:	not available
Safety thermostat measuring accuracy:	/
Evaporator sensor type:	not available
Evaporator sensor measuring accuracy:	/
Ambient temp sensor as option, type:	PT1000 2-WIRE 1/3DIN CL.B
Ambient temp sensor measuring accuracy:	at -80 to +180°C ± 0,2°C

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