BINDER
Best conditions for your success

Dynamic climate chambers







MK | MKF | MKT | MKFT series

EN

Dynamic climate chambers

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BINDER environmental chambers are perfectly suited to material testing under dynamic conditions.
The standard rapid alternation speeds of around 5 K/min make standard-compliant testing possible.
An environmental simulation chamber of the MK and MKT Series is suitable for complex temperature profiles in the range of -40 °C or -70 °C to 180 °C.
MKF and MKFT Series of dynamic climate chambers not only make material testing in this temperature range possible, but can also regulate humidity in the range of 10 % to 98 % RH.

PRODUCT SELECTION DYNAMIC CLIMATE CHAMBERS

Features	**MK** › Page 6	**MKF** › Page 9	**MKT** › Page 12	**MKFT** › Page 15
Model				
Model 53	•	–	–	–
Model 115	•	•	•	•
Model 240	•	•	•	•
Model 720	•	•	•	•
General data				
Temperature range [°C]	-40…180	-40…180	-70…180	-70…180
Humidity range [% RH]	–	10…98	–	10…98
Ethernet interface	•	•	•	•
Forced convection	•	•	•	•
Controller and timer functions				
Controller display	LCD color display			
Ramp function	•	•	•	•
Time delayed ON	•	•	•	•
Programming option	•	•	•	•
Real-time clock	•	•	•	•
Class 1 temperature safety device	•	•	•	•
Class 2 independent adjustable temperature safety device	•	•	•	•
Temperature alarm, acoustic	•	•	•	•
Temperature alarm, visual	•	•	•	•

•Standard equipment

ADVANTAGES AT A GLANCE



HOMOGENEOUS TEMPERATURE DISTRIBUTION

Series MK, MKF, MKT, MKFT

thanks to BINDER APT.line™ preheating chamber technology. Long-term operational stability even under full load.



FLEXIBLE WATER SUPPLY

Series MKF, MKFT

with easy handling and can be operated independently of the water supply and water quality.



PROGRAMMING AND DATA COLLECTION

Series MK, MKF, MKT, MKFT

with the program controller featuring an LCD color display and APT.COM™ software for remote programming through a PC.



CONVENIENT WORK ENVIRONMENT

Series MK, MKF, MKT, MKFT

thanks to the high level of standard equipment, such as the heated viewing window with LED illumination and a large access area for easy assembly.

Series MK | for rapid temperature changes

The BINDER MK series chamber is suitable for all heat and cold tests between -40 °C and 180 °C. The MK is a clever alternative to complex individual solutions for cyclical temperature tests.



MK 240 model

MAIN FEATURES

- Temperature range: -40 °C to 180 °C
- APT.line™ preheating chamber technology
- Programmable condensation protection for test material
- Heated viewing window with LED interior lighting
- BINDER APT-COM™ 3 Basic Edition communication software
- Troubleshooting system with visual and audible alarms
- Controller with time-segment programming
- Access port with silicone plug (Model 53), 80 mm, top
- Access port with silicone plug (Models 115, 240), 50 mm, left
- 2 access ports with silicone plugs (Model 720), 80 mm, left and right

AVAILABLE SIZES

Model	Interior volume [L]	Online data sheets
MK 53	53	› go2binder.com/en-MK53
MK 115	115	› go2binder.com/en-MK115
MK 240	228	› go2binder.com/en-MK240
MK 720	734	› go2binder.com/en-MK720

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Case Studies: › go2binder.com/en-case-studies

Find all details online
go2binder.com/en-MK

TECHNICAL DATA

Description	MK 53	MK 115	MK 240	MK 720
Measures - Outer dimensions				
Width net [mm]	740	980	1115	1580
Height net [mm]	1225	1725	1715	2005
Depth net [mm]	740	865	925	1140
Measures - Internal Dimensions				
Width [mm]	402	600	735	1200
Height [mm]	402	480	700	1020
Depth [mm]	330	400	443	600
Measures				
Interior volume [L]	53	115	228	734
Net weight of the unit (empty) [kg]	150	260	340	570
permitted load [kg]	40	60	70	160
Load per rack [kg]	15	30	30	40
Performance Data Temperature				
Temperature range [°C]	-40…180	-40…180	-40…180	-40…180
Temperature variation depending on setpoint [± K]	0.4…2	0.1…2	0.1…1.2	0.3…2
Temperature fluctuation depending on setpoint [± K]	0.1…0.5	0.1…0.5	0.1…0.5	0.1…0.5
Average heating-up rate according to IEC 60068-3-5 [K/min]	–	5.3	5	4
Average heating-up rate according to factory standard [K/min]	4.6	–	–	–
Average cooling down time according to IEC 60068-3-5 [K/min]	–	5	4.5	4.5
Average cooling down time according to factory standard [K/min]	4.1	–	–	–
Electrical data				
Nominal power (Variante 230 V) [kW]	2.6	–	–	–
Nominal power (Variante 400 V) [kW]	–	3.5	4.2	7.2
Fixtures				
Number of shelves (std./max.)	1/5	1/4	1/6	1/11

ORDERING INFORMATION [Art. No.]

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Voltage	Option model	MK 53	MK 115	MK 240	MK 720
480 V 3~ 60 Hz	with voltage and frequency converter	–	9020-0290	9020-0294	9020-0298
400 V 3~ 50 Hz	Standard	–	9020-0175	9020-0181	9020-0197
230 V 1~ 50 Hz	Standard	9020-0006	–	–	–

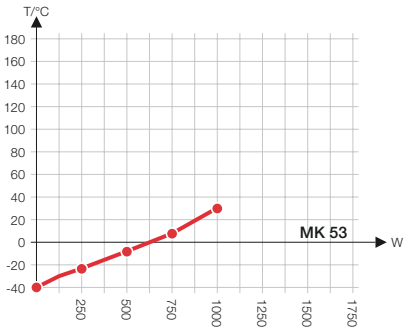
▸ You will find a selction of options, accessories and services suitable for each product on page 18

EXTRACT OF FULLFILLED STANDARDS

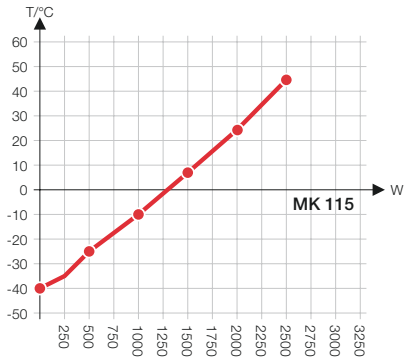
- DIN EN 60068-3-5:2002-12
- MIL STD 810:2000-01

HEAT COMPENSATION

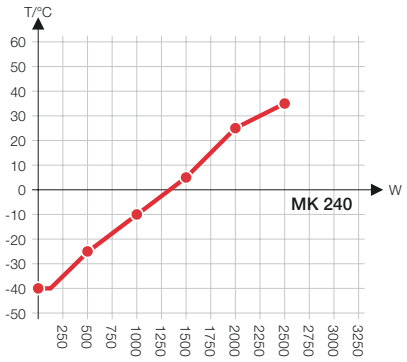
MK 53



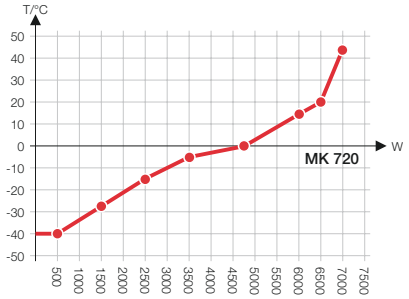
MK 115



MK 240

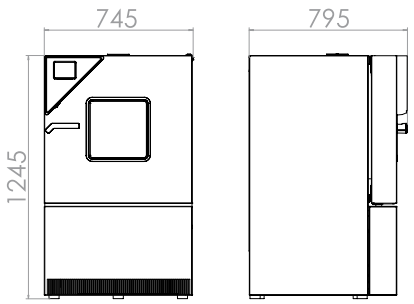


MK 720

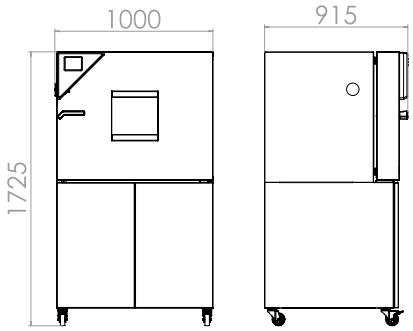


DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

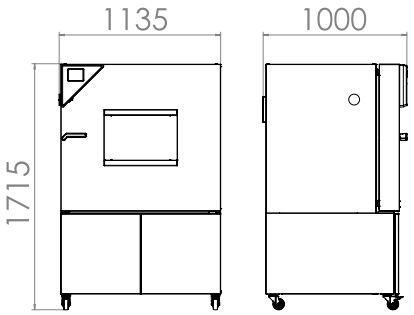
MK 53



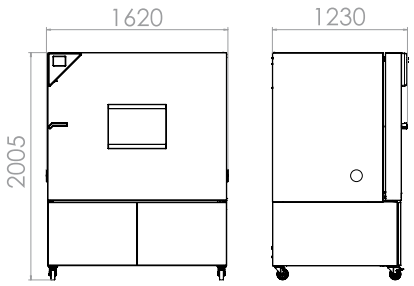
MK 115



MK 240



MK 720



Series MKF | for rapid temperature changes with humidity control

A BINDER environmental simulation chamber of the MKF series is ideally suited for any cold and heat testing based on current temperature and climate testing testing methods according to DIN and IEC standards. The ease of operation and comprehensive standard equipment for this environmental simulation chamber ensures something special in use.



MKF 240 model

MAIN FEATURES

- Temperature range: -40 °C to 180 °C
- Humidity range: 10 % to 98 % RH
- Integrated water-storage tank, 20 liters
- 4 zero-voltage relay contacts that can be activated via MCS controller
- 1 stainless steel rack
- APT.line™ preheating chamber technology
- Programmable condensation protection for test material
- Heated viewing window with LED interior lighting
- Humidity regulation with capacitative humidity sensor and vapor humidification
- BINDER APT-COM™ 3 Basic Edition communication software

AVAILABLE SIZES

Model	Interior volume [L]	Online data sheets
MKF 115	115	› go2binder.com/en-MKF115
MKF 240	228	› go2binder.com/en-MKF240
MKF 720	734	› go2binder.com/en-MKF720

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Find all details online
go2binder.com/en-MKF

TECHNICAL DATA

Description	MKF 115	MKF 240	MKF 720
Measures - Outer dimensions			
Width net [mm]	980	1115	1580
Height net [mm]	1725	1715	2005
Depth net [mm]	865	925	1140
Measures - Internal Dimensions			
Width [mm]	600	735	1200
Height [mm]	480	700	1020
Depth [mm]	400	443	600
Measures			
Interior volume [L]	115	228	734
Net weight of the unit (empty) [kg]	280	360	590
permitted load [kg]	60	70	160
Load per rack [kg]	30	30	40
Performance Data Temperature			
Temperature range [°C]	-40…180	-40…180	-40…180
Temperature variation depending on setpoint [± K]	0.1…1.3	0.1…1.5	0.1…1.8
Temperature fluctuation depending on setpoint [± K]	0.1…0.6	0.1…0.5	0.1…0.5
Average heating-up rate according to IEC 60068-3-5 [K/min]	5.5	5	4.8
Average cooling down time according to IEC 60068-3-5 [K/min]	4.5	5	4.8
Performance Data Climate			
Temperature range [°C]	10…95	10…95	10…95
Temperature fluctuation depending on setpoint [± K]	0.1…1.3	0.1…1.3	0.2…1.5
Humidity range [% RH]	10…98	10…98	10…98
Humidity fluctuation depending on setpoint [± % RH]	≤2,5	≤2,5	≤2,5
Electrical data			
Nominal power (Variante 400 V) [kW]	4.8	6.8	11
Fixtures			
Number of shelves (std./max.)	1/4	1/6	1/11

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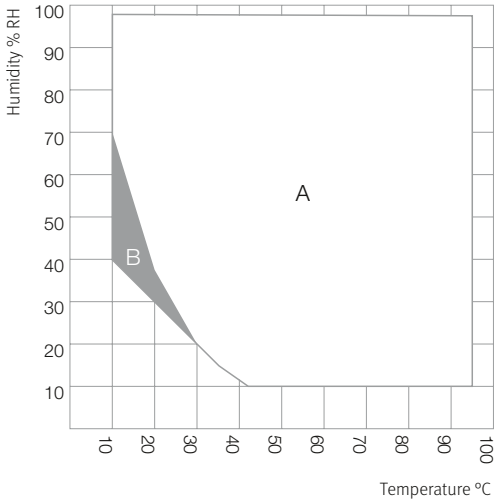
Voltage	Option model	MKF 115	MKF 240	MKF 720
480 V 3~ 60 Hz	with voltage and frequency converter	9020-0291	9020-0295	9020-0299
400 V 3~ 50 Hz	Standard	9020-0283	9020-0285	9020-0287

▸ You will find a selction of options, accessories and services suitable for each product on page 18

EXTRACT OF FULLFILLED STANDARDS

- DIN EN 60068-2-30: 2006-06
- DIN EN 60068-2-38: 2010-06
- DIN EN 60068-3-5:2002-12
- MIL STD 810:2000-01

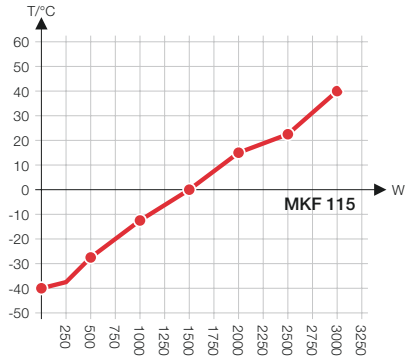
TEMPERATURE-HUMIDITY CHART



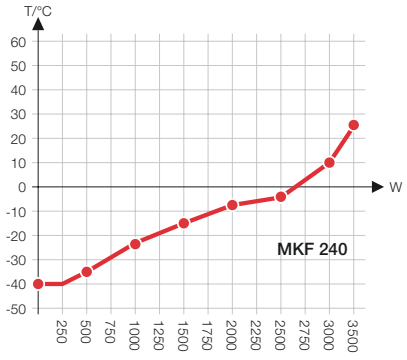
A: Standard Climate range
B: Time-limited operation (max. 24 hours)

HEAT COMPENSATION

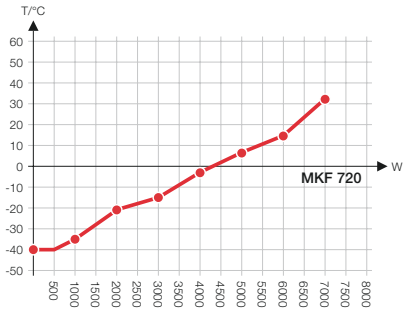
MKF 115



MKF 240

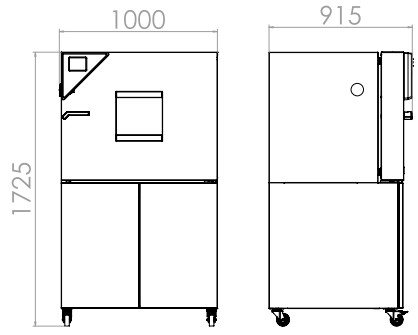


MKF 720

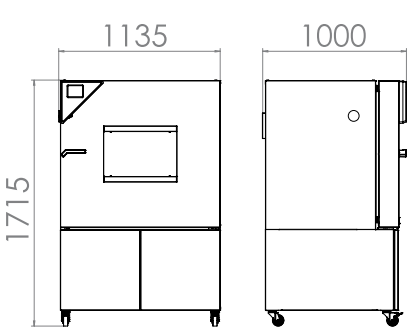


DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

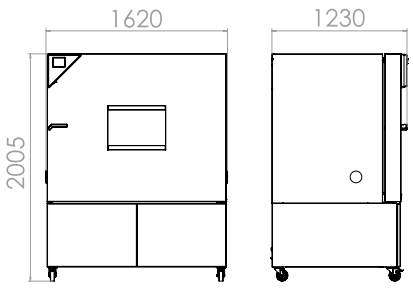
MKF 115



MKF 240



MKF 720



Series MKT | for rapid temperature changes with extended low temperature range

Temperature ranges between -70 °C and 180 °C, with the added benefit of natural simulation, are what make the BINDER MKT series so unique. At the same time, this environmental simulation chamber fulfills the very highest precision and performance requirements for cyclical temperature tests.



MKFT 240 model

MAIN FEATURES

- Temperature range: -70 °C to 180 °C
- 4 zero-voltage relay contacts that can be activated via MCS controller
- APT.line™ preheating chamber technology
- Programmable condensation protection for test material
- Heated viewing window with LED interior lighting
- BINDER APT-COM™ 3 Basic Edition communication software
- Troubleshooting system with visual and audible alarms
- Controller with time-segment programming
- Access port with silicone plug (Models 115, 240: 50 mm, left)
- 2 access ports with silicone plugs (Model 720: 80 mm, left and right)

AVAILABLE SIZES

Model	Interior volume [L]	Online data sheets
MKT 115	115	› go2binder.com/en-MKT115
MKT 240	228	› go2binder.com/en-MKT240
MKT 720	734	› go2binder.com/en-MKT720

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Find all details online
go2binder.com/en-MKT

TECHNICAL DATA

Description	MKT 115	MKT 240	MKT 720
Measures - Outer dimensions			
Width net [mm]	980	1115	1580
Height net [mm]	1725	1940	2005
Depth net [mm]	865	925	1140
Measures - Internal Dimensions			
Width [mm]	600	735	1200
Height [mm]	480	700	1020
Depth [mm]	400	443	600
Measures			
Interior volume [L]	115	228	734
Net weight of the unit (empty) [kg]	305	380	610
permitted load [kg]	60	70	160
Load per rack [kg]	30	30	40
Performance Data Temperature			
Temperature range [°C]	-70…180	-70…180	-70…180
Temperature variation depending on setpoint [± K]	0.2…1.8	0.1…1.0	0.3…2
Temperature fluctuation depending on setpoint [± K]	0.1…0.6	0.1…0.4	0.1…0.5
Average heating-up rate according to IEC 60068-3-5 [K/min]	5.3	5	4.5
Average cooling down time according to IEC 60068-3-5 [K/min]	4.2	4.2	4.2
Electrical data			
Nominal power (Variante 400 V) [kW]	5.5	6.5	13
Fixtures			
Number of shelves (std./max.)	1/4	1/6	1/11

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Voltage	Option model	MKT 115	MKT 240	MKT 720
480 V 3~ 60 Hz	with voltage and frequency converter	9020-0292	9020-0296	9020-0300
400 V 3~ 50 Hz	Standard	9020-0151	9020-0196	9020-0082

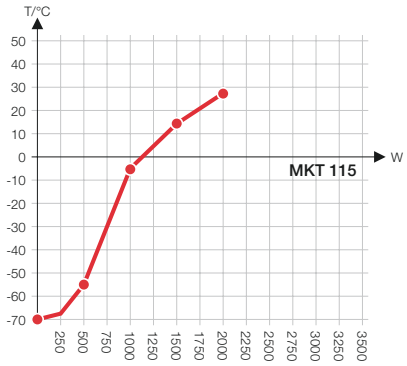
▸ You will find a selction of options, accessories and services suitable for each product on page 18

EXTRACT OF FULLFILLED STANDARDS

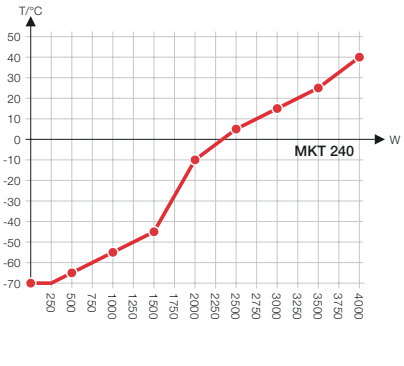
- DIN EN 60068-2-1: 2008-01
- DIN EN 60068-3-5:2002-12
- MIL STD 810:2000-01

HEAT COMPENSATION

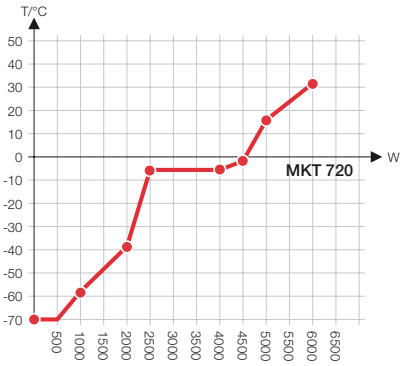
MKT 115



MKT 240

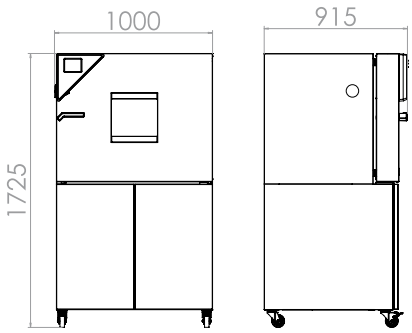


MKT 720

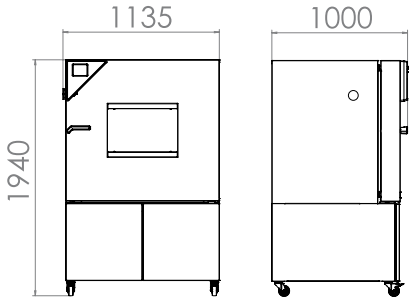


DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

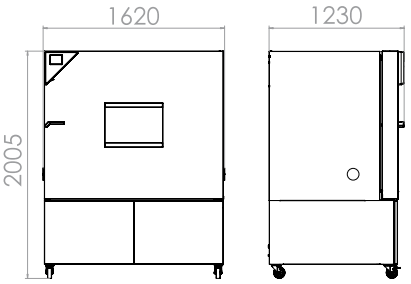
MKT 115



MKT 240



MKT 720



Series MKFT | for rapid temperature changes with humidity control and extended low temperature range

The BINDER MKFT series environmental simulation chamber for low temperature alternating climate profiles is the specialist for dynamic alternating climate change between -70 °C and 180 °C. Large performance reserves and rapid cooling make the MKFT environmental simulation chamber the high-end product for complex standards-based climate tests.



MKFT 240 model

MAIN FEATURES

- Temperature range: -70 °C to 180 °C
- Humidity range: 10 % to 98 % RH
- Integrated water-storage tank, 20 liters
- 4 zero-voltage relay contacts that can be activated via MCS controller
- APT.line™ preheating chamber technology
- Programmable condensation protection for test material
- Heated viewing window with LED interior lighting
- Humidity regulation with capacitative humidity sensor and vapor humidification
- BINDER APT-COM™ 3 Basic Edition communication software
- Troubleshooting system with visual and audible alarms

AVAILABLE SIZES

Model	Interior volume [L]	Online data sheets
MKFT 115	115	› go2binder.com/en-MKFT115
MKFT 240	228	› go2binder.com/en-MKFT240
MKFT 720	734	› go2binder.com/en-MKFT720

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Find all details online
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TECHNICAL DATA

Description	MKFT 115	MKFT 240	MKFT 720
Measures - Outer dimensions			
Width net [mm]	980	1115	1580
Height net [mm]	1725	1940	2005
Depth net [mm]	865	925	1140
Measures - Internal Dimensions			
Width [mm]	600	735	1200
Height [mm]	480	700	1020
Depth [mm]	400	443	600
Measures			
Interior volume [L]	115	228	734
Net weight of the unit (empty) [kg]	330	415	635
permitted load [kg]	60	70	160
Load per rack [kg]	30	30	40
Performance Data Temperature			
Temperature range [°C]	-70…180	-70…180	-70…180
Temperature variation depending on setpoint [± K]	0.1…1.3	0.2…1.8	0.3…2
Temperature fluctuation depending on setpoint [± K]	0.1…0.5	0.1…0.5	0.1…0.5
Average heating-up rate according to IEC 60068-3-5 [K/min]	5.5	5	4.8
Average cooling down time according to IEC 60068-3-5 [K/min]	4.2	4.2	4
Performance Data Climate			
Temperature range [°C]	10…95	10…95	10…95
Temperature fluctuation depending on setpoint [± K]	0.1…1	0.1…1.5	0.1…1
Humidity range [% RH]	10…98	10…98	10…98
Humidity fluctuation depending on setpoint [± % RH]	≤2,5	≤2,5	≤2,5
Electrical data			
Nominal power (Variante 400 V) [kW]	5.5	6.5	13
Fixtures			
Number of shelves (std./max.)	1/4	1/6	1/11

ORDERING INFORMATION [Art. No.]

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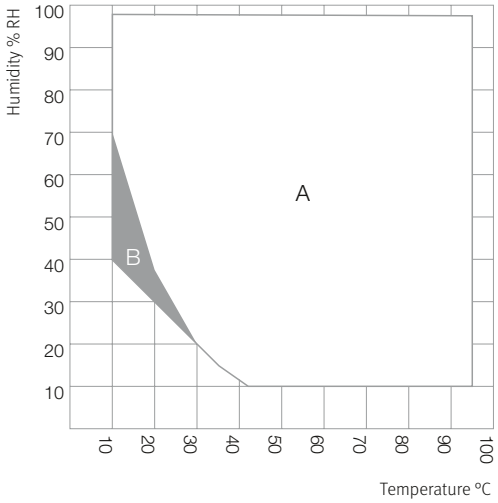
Voltage	Option model	MKFT 115	MKFT 240	MKFT 720
480 V 3~ 60 Hz	with voltage and frequency converter	9020-0293	9020-0297	9020-0301
400 V 3~ 50 Hz	Standard	9020-0284	9020-0286	9020-0288

▸ You will find a selction of options, accessories and services suitable for each product on page 18

EXTRACT OF FULLFILLED STANDARDS

- DIN EN 60068-2-30: 2006-06
- DIN EN 60068-2-38: 2010-06
- DIN EN 60068-2-1: 2008-01
- DIN EN 60068-3-5:2002-12
- MIL STD 331:2005-01
- MIL STD 810:2000-01

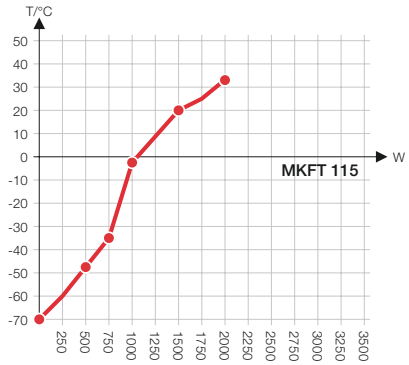
TEMPERATURE-HUMIDITY CHART



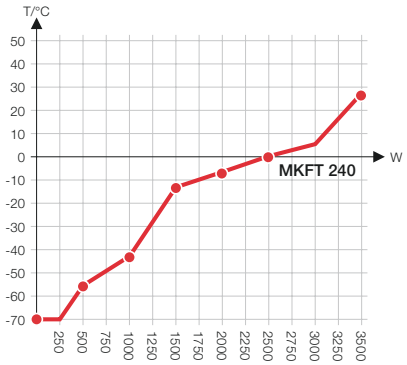
A: Standard Climate range
B: Time-limited operation (max. 24 hours)

HEAT COMPENSATION

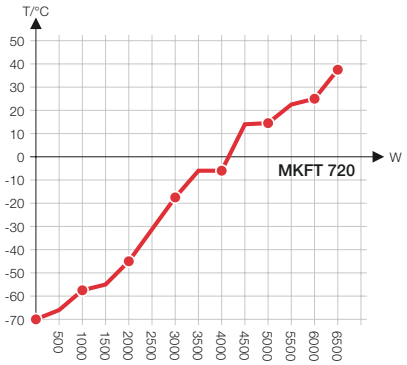
MKFT 115



MKFT 240

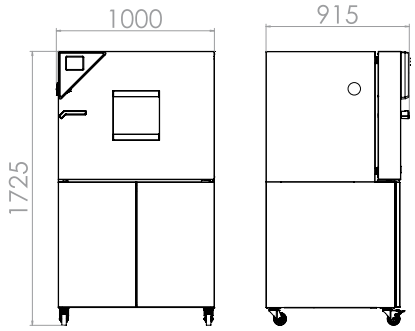


MKFT 720

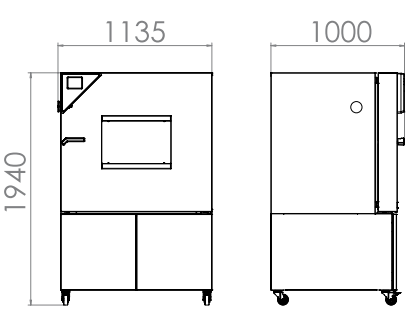


DIMENSIONS INCL. FITTINGS AND CONNECTIONS [MM]

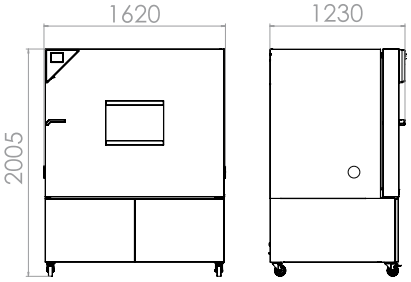
MKFT 115



MKFT 240



MKFT 720



EXCERPT FROM OPTIONS AND ACCESSORIES

Access port with silicone plug	For introducing external measuring instruments. Large selection of different diameters and positions (left, right, or top) Series MK, MKF, MKT, MKFT
BINDER PURE AQUA Service	System for preparation or complete desalination of tap water, containing single-use cartridge, hoses and measuring device. Series MK, MKF, MKT, MKFT
Dry-air purge	Suitable for simulating a dry, cold climate. In the MKF and MKFT series with controlled humidity, the temperature-humidity chart is significantly expanded, while the option of simulating current automobile industry standards, such as PV 2005; PV 1200; PR 308.2, is also available. Series MK, MKF, MKT, MKFT
Water cooling	For reduced heat loss to ambient air. Series MK, MKF, MKT, MKFT
Services	You can access our installation, maintenance, calibration, validation, or warranty services by taking out a Maintenance Service Agreement or by simply getting in touch when you need us. More information is available in the accessories and services chapter. Series MK, MKF, MKT, MKFT
BINDER INDIVIDUAL	Using a BINDER series production product as a basis, we develop individual solutions as a single unit or in small batches. All products are tested, certified, and supplied with a full functional guarantee and warranty. More information is available in the accessories and services chapter. Series MK, MKF, MKT, MKFT

▸ All extras online go2binder.com/en-options



Access port with silicone plug



BINDER PURE AQUA Service



Dry-air purge



Water cooling

BINDER products

- CO_2 incubators
- Incubators
- Cooling incubators
- Growth chambers
- Ultralow temperature freezers
- Drying and heating chambers
- Safety drying chambers
- Vacuum drying chambers
- Constant climate chambers
- Dynamic climate chambers

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