

# Model MKF 240 | Dynamic climate chambers for rapid temperature changes with humidity control

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

#### BENEFITS

- Homogeneous climate conditions thanks to APT.line<sup>™</sup> technology
- Automatic water and wastewater management
- · Pressure humidification with fast response times
- · Comprehensive programming and data acquisition
- Large heated viewing window



Model 240

#### 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
- APT.line<sup>™</sup> 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<sup>™</sup> 3 Basic Edition communication software
- · Troubleshooting system with visual and audible alarms
- Intuitive touchscreen controller with time-segment and real-time programming
- Internal data logger, measured values can be read out in open format via USB
- · Access port with silicone plug: 50 mm, left
- Class 2 independent adjustable temperature safety device (DIN 12880)
  with visual alarm



Model 240

- · 4 castors, two with brakes
- Computer interface: Ethernet
- 230 V power socket on the right-side control panel
- · Adjustable ramp function
- · Integrated chart recorder
- Real-time clock
- · Door heating
- Alarm notification in the event of insufficient water in fresh water tank
- 1 stainless steel rack
- Complete safety connection kit for water supply and drainage, up to 1 m height
- · Inner chamber made of stainless steel
- CFC-free refrigerant R-404A
- Cooling with compressor cooling unit



#### ORDERING INFORMATION

Interior volume [cu.ft.]	Voltage	Option model	Version	ArtNo.
Model MKF 240				
8	400 V 3 ph 50 Hz	Standard	MKF240-400V	9020-0208
	480 V 3 ph 60 Hz	with voltage and frequency converter	MKF240-480V-C	9020-0358

#### TECHNICAL DATA

Performance Data Temperature	Description	MKF240-400V1	MKF240-480V-C <sup>1</sup>
Temperature range [°C]4018040180Temperature variation depending on sepont [k N]0.1050.105Emperature function depending on sepont [k N]55Cooling down time according to EC 60088-3-6 [K/min]50Average basing up onta according to EC 60088-3-6 [K/min]50Average cooling down time according to EC 60088-3-6 [K/min]20002000Average cooling down time according to EC 60088-3-6 [K/min]00.0Average cooling down time according to EC 60088-3-6 [K/min]00.0Average cooling down time according to EC 60088-3-6 [K/min]00.0Performance Data Climate10080.008Performance Data Climate00.113Temperature function dopending on setpont [k N]0.1130.113Humidh functuation depending on setpoint0.1130.113Humidh functuation depending on setpoint [k N]0.1130.113Humidh functuation depending on setpoint [k N]0.1130.113Depoint funger [M]0.1131.1131.113 <td>Article Number</td> <td>9020-0208</td> <td>9020-0358</td>	Article Number	9020-0208	9020-0358
Temperature value      0.11.5      0.11.5        Temperature functuation depending on setpoint [± K]      0.10.5      0.10.5        Average heating-up rate according to IEC 60088-35 [K/min]      5      5        Cooling down time occording to IEC 60088-35 [K/min]      5      5        Max. heat compensation at 25 °C [V]      200      200        Performance Data Climate	Performance Data Temperature		
Temperature fluctuation depending on setpoint [± K]      0.10.5      0.10.5        Average heating-up rate according to IEC 60088-3-5 [K/min]      5      5        Coding down time according to IEC 60088-3-5 [K/min]      5      5        Max. heat compensation at 25 °C [W]      2800      2800        Performance Data Climate	Temperature range [°C]	-40180	-40180
Average heating-up rate according to IEC 80088-35 [K/min]55Cooling down time on 180 °C to -0 °C [min]110110Average cooling down time according to IEC 80088-35 [K/min]55Average cooling down time according to IEC 80088-35 [K/min]55Average cooling down time according to IEC 80088-35 [K/min]5050Performance Data Climate10950113Temperature range [°C]10950113Immidity range [KS PI]0948094Umidity range [KS PI]098094Dew point temperature range [°C]594894Dew point temperature range [°C]59480Dew point temperature range [°C]59480Dew point temperature range [°C]69480Dew point temperature range [°C]69480Dew point fungence [F12]5060Nominal power [KM]6.86.8Duff demesions1115115Utf ta get [Min]105116Verd mesions115115Utf ta get [Min]8080Des ta get set set set set set set set set set s	Temperature variation depending on setpoint [± K]	0.11.5	0.11.5
Cooling down time from 180 °C to -40 °C (min)      110      110        Average cooling down time according to IEC 60068-3-5 [K/min]      5      5        Max. heat compensation at 25 °C (M)      2800      2800        Performance Data Climate	Temperature fluctuation depending on setpoint [± K]	0.10.5	0.10.5
Average cooling down time according to IEC 80088-3-5 [K/min]55Max. heat compensation at 25 °C [W]28002800Performance Data Climate1095Temperature range [°C]0.11.30.11.3Femperature function depending on setpoint [±K]0.11.30.11.3Humidity trage [% RH]10981098Dew point temperature range [°C]59425.± % RHDew point temperature range [°C]594894Dew point temperature range [°C]694694Dew point temperature range [°C]694694Dev point tempe	Average heating-up rate according to IEC 60068-3-5 [K/min]	5	5
Max. heat compensation at 25 °C [W]      2800      2800        Performance Data Climate	Cooling down time from 180 °C to -40 °C [min]	110	110
Performance Data Climate        Temperature range ['C]      1095      1095        Temperature fuctuation depending on setpoint [± K]      0.113      098        Humidity fuctuation depending on setpoint      52.5 ± % RH      22.5 ± % RH        Dew point temperature range ['C]      594      594        Dew point temperature range ['C]      50.94      480        Dew point temperature range ['C]      6.8      6.8        Noninal power frequency [Hz]      60      60        Noninal power [KW]      6.8      6.8        Unit fuse [A]      16      16        Phase (Noninal voltage [y]h      3      3        Outer dimensions      1115      1115        Vieth ne [mn]      1715      1715        Dept net [mn]      200      300        Vieting window height [mn]      300      300        Viewing window widt[mn]      508      568        Viewing window height [mn]      735      735        Unit dors      735      735        Height Imn]      700      700        Dors      Internal Dimensions      143	Average cooling down time according to IEC 60068-3-5 [K/min]	5	5
Temperature range [°C]10951095Temperature fluctuation depending on setpoint [± K]0.1130.113Humidity fluctuation depending on setpoint2.5 ± % RH2.5 ± % RHbew point temperature range [°C]594594Betw point temperature range [°C]5948.0Betwe point temperature range [°C]6.08.0Betwe point temperature range [°C]6.08.0Bower [kW]6.06.08.0Bower [kW]6.06.08.0Dominal power [kW]6.06.08.0Dominal power [kW]115115115Date (fmm]115115115Depth net [rmn]200200200Veind modow width [rmn]00300300Door10200300300Door103573535Und toors height [rmn]700700300Door10100300300Door10100300300Door10100300300Door1010100300Depend point point poin	Max. heat compensation at 25 °C [W]	2800	2800
Temperature fluctuation depending on setpoint [± K]      0.11.3      0.11.3        Humidity range [% RH]      1098      1098        Humidity fluctuation depending on setpoint      \$2.5 ± % RH      \$2.5 ± % RH        Dew point temperature range [°C]      594      \$2.5 ± % RH        Dew point temperature range [°C]      594      480        Red Voltage [V]      400      480        Power frequency [Hz]      50      60        Nominal power [kW]      6.8      6.8        Unit fase [A]      16      16        Phase (Nominal voltage) [ph]      3      3        Outer dimensions      """"""""""""""""""""""""""""""""""""	Performance Data Climate		
Humidity range [% RH]      1098      1098        Humidity fluctuation depending on setpoint      \$2,5 ± % RH      \$2,5 ± % RH        Dew point temperature range [°C]      594      594        Dew point temperature range [°C]      \$00      480        Power frequency [Hz]      60      60        Nominal power [KV]      6.8      6.8        Nominal power [KV]      6.8      6.8        Unit fuse [A]      16      16        Phase (Nominal voltage) [ph]      3      3        Outer dimensions      """"""""""""""""""""""""""""""""""""	Temperature range [°C]	1095	1095
Hundity fuctuation depending on setpoint      \$2,5 ± % RH      \$2,5 ± % RH        Dew point temperature range (°C)      594      594        Electrical data	Temperature fluctuation depending on setpoint [± K]	0.11.3	0.11.3
Dew point temperature range [°C]      594      594        Electrical data      400      480        Power frequency [Hz]      50      60        Nominal power [kV]      6.8      6.8        Unit fuse [A]      16      16        Phase (Nominal voltage) [b1]      3      3        Outer dimensions      1115      1115        With net [mm]      1715      1715        Depth net [mm]      925      925        Wall clearance back [mm]      300      300        Wall clearance sidewise [mm]      00      300        Viewing window width [mm]      308      308        Uriewing window width [mm]      300      300        Doors      1      1        Unit doors      1      1        Internal Dimensions      1      1        With [mm]      735      735        Door      70      70        Depth [mm]      443      443        Depth [mm]      680      680        Depth [mm]      680      680        Depth [mm]	Humidity range [% RH]	1098	1098
Electrical data        Rated Voltage [V]      400      480        Power frequency [Hz]      50      60        Nominal power [kW]      6.8      6.8        Unit fuse [A]      16      16        Phase (Nominal voltage) [ph]      3      3        Outer dimensions      1115      1115        With net [mm]      1115      1115        Depth net [mm]      925      925        Wall clearance back [mm]      300      300        Viewing window width [mm]      508      508        Viewing window width [mm]      000      300        Viewing window height [mm]      300      300        Doors      1      1        Unit doors      1      1        Internal Dimensions      1      1        With [mm]      735      735        Depth [mm]      443      443        Depth [mm]      443      443        Measures      1      1        Internal Dimensions      1      1        With [mm]      735      735 <t< td=""><td>Humidity fluctuation depending on setpoint</td><td>≤2,5 ± % RH</td><td>≤2,5 ± % RH</td></t<>	Humidity fluctuation depending on setpoint	≤2,5 ± % RH	≤2,5 ± % RH
Rated Voltage [V]400480Power frequency [Hz]5060Nominal power [kW]6.86.8Unit fuse [A]1616Phase (Nominal voltage) [ph]33Outer dimensions	Dew point temperature range [°C]	594	594
Power frequency [Hz]      50      60        Nominal power [kW]      6.8      6.8        Naminal power [kW]      16      16        Phase (Nominal voltage) [ph]      3      3        Outer dimensions      -      -        Width net [mm]      1115      1115        Height net [mm]      225      225        Wall clearance back [mm]      300      300        Vall clearance back [mm]      00      300        Vall clearance sidewise [mm]      300      300        Vall clearance sidewise [mm]      00      300        Vall clearance sidewise [mm]      735      735	Electrical data		
Nominal power[kV]      6.8      6.8        Unit fuse [A]      16      16        Phase (Nominal voltage) [ph]      3      3        Outer dimensions      5      5        Width net [mm]      1115      1115        Height net [mm]      1715      715        Depth net [mm]      925      925        Wall clearance back [mm]      300      300        Wall clearance sidewise [mm]      200      200        Viewing window width [mm]      508      508        Viewing window height [mm]      300      300        Doors      Unit doors      1        Viewing window height [mm]      735      735        Not doors      700      700        Doors      Viewing [mm]      433      433        Height [mm]      700      70      10        Doors      Viewing [mm]      800      800      10        Difference      Viewing [mm]      735      735      10        Diept [mm]      28      28      28      28        Net weight of the unit (empty) [kg]<	Rated Voltage [V]	400	480
Init fuse [A]      16      16        Phase (Nominal voltage) [ph]      3      3        Outer dimensions      1115      1115        Vidth net [mm]      1115      1715        Papet net [mm]      925      925        Vall clearance back [mm]      300      300        Vall clearance sidewise [mm]      200      200        Viewing window width [mm]      508      508        Viewing window width [mm]      300      300        Oors      J      1        Viewing window height [mm]      300      300        Oors      J      1        Viewing window height [mm]      300      300        Oors      J      1      1        Unit doors      1      1      1        Internal Dimensions      Y      Y      Y        Widt [mm]      735      735      1        Depth [mm]      443      443      1        Weasures      Y      Y      Y      Y        Net weight of the unit (empty) [kg]      360      360      360	Power frequency [Hz]	50	60
Phase (Noninal voltage) [ph]      3      3        Duter dimensions      1115      1115        Width net [nm]      1115      1115        Depth net [nm]      925      925        Wall clearance back [mm]      00      00        Wall clearance sidewise [mm]      00      00        Viewing window width [mm]      508      508        Viewing window height [mm]      000      300        Doors      1      1        Unit doors      1      1        Internal Dimensions      735      735        Width [mm]      700      700        Depth [mm]      228      228        Net weight of the unit (empty) [kg]      660      660	Nominal power [kW]	6.8	6.8
Width net [mm]      1115      1115        Height net [mm]      1715      1715        Depth net [mm]      925      925        Wall clearance back [mm]      300      300        Wall clearance sidewise [mm]      200      200        Wall clearance sidewise [mm]      508      508        Wall clearance sidewise [mm]      300      300        Wall clearance sidewise [mm]      508      508        Viewing window width [mm]      508      508        Doors      508      508        Doors      1      1        Unit doors      1      1        Internal Dimensions      735      735        Width [mm]      700      700        Dept figm      443      443        Weasures      508      508        Witewight of the unit (empty) [kg]      360      360        Permitted load [kg]      70      70	Unit fuse [A]	16	16
Width net [mm]11151115Height net [mm]17151715Depth net [mm]925925Wall clearance back [mm]300300Wall clearance sidewise [mm]200200Wall clearance sidewise [mm]508508Viewing window width [mm]508508DoorsUUUUnit doors11Internal Dimensions735735Width [mm]700700Depth [mm]700200Depth [mm]228228Net weight of the unit (empty) [kg]600600permitted load [kg]7070	Phase (Nominal voltage) [ph]	3	3
Height net [mm]      1715      1715        Depth net [mm]      925      925        Wall clearance back [mm]      300      300        Wall clearance back [mm]      200      200        Wall clearance sidewise [mm]      200      200        Viewing window width [mm]      508      508        Viewing window height [mm]      300      300        Doors      1      1        Doors      1      1        With doors      1      1        Internal Dimensions      735      735        Width [mm]      700      700        Doepth [mm]      443      443        Measures      1      1        Interior volume [L]      228      228        Net weight of the unit (empty) [kg]      360      360	Outer dimensions		
Depth net [mm]      925      925        Wall clearance back [mm]      300      300        Wall clearance sidewise [mm]      200      200        Viewing window width [mm]      508      508        Viewing window height [mm]      300      300        Doors      300      300        Doors      1      1        Internal Dimensions      735      735        Width [mm]      700      700        Depth [mm]      443      443        Measures      1      1        Internal Dimensions      700      700        Width [mm]      680      680        Pepth [mm]      228      228        Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Width net [mm]	1115	1115
Wall clearance back [mm]      300      300        Wall clearance sidewise [mm]      200      200        Viewing window width [mm]      508      508        Viewing window height [mm]      300      300        Doors      300      300        Doors      1      1        Unit doors      1      1        Internal Dimensions      735      735        Height [mm]      700      700        Dopth [mm]      443      443        Measures      1      1        Interior volume [L]      228      228        Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Height net [mm]	1715	1715
Wall clearance sidewise [mm]      200      200        Viewing window width [mm]      508      508        Viewing window height [mm]      300      300        Doors      1      1        Uit doors      1      1        Internal Dimensions      735      735        Height [mm]      700      700        Dopth [mm]      443      443        Measures      1      1        Interior volume [L]      228      228        Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Depth net [mm]	925	925
Viewing window width [mm]      508      508        Viewing window height [mm]      300      300        Doors      1      1        Unit doors      1      1        Internal Dimensions      735      735        Width [mm]      700      700        Dopth [mm]      443      443        Measures      1      1        Interior volume [L]      228      228        Net weight of the unit (empty) [kg]      360      360	Wall clearance back [mm]	300	300
Viewing window height [mm]      300      300        Doors      1      1        Unit doors      1      1        Internal Dimensions      735      735        Width [mm]      700      700        Depth [mm]      700      700        Depth [mm]      228      228        Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Wall clearance sidewise [mm]	200	200
Doors      1      1        Internal Dimensions      735      735        Width [mm]      700      700        Height [mm]      700      700        Dopth [mm]      443      443        Measures      228      228        Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Viewing window width [mm]	508	508
Unit doors11Internal Dimensions735735Width [mm]735735Height [mm]700700Depth [mm]443443MeasuresInterior volume [L]228228Net weight of the unit (empty) [kg]360360permitted load [kg]7070	Viewing window height [mm]	300	300
Internal Dimensions        Width [mm]      735      735        Height [mm]      700      700        Depth [mm]      443      443        Measures      100      100        Interior volume [L]      228      228        Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Doors		
Width [mm]      735      735        Height [mm]      700      700        Depth [mm]      443      443        Measures      228      228        Interior volume [L]      228      360        Net weight of the unit (empty) [kg]      360      360	Unit doors	1	1
Height [mm]      700      700        Depth [mm]      443      443        Measures      1      1        Interior volume [L]      228      228        Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Internal Dimensions		
Depth [mm]      443      443        Measures      1	Width [mm]	735	735
Measures      228      228        Interior volume [L]      26      360        Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Height [mm]	700	700
Interior volume [L]      228      228        Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Depth [mm]	443	443
Net weight of the unit (empty) [kg]      360      360        permitted load [kg]      70      70	Measures		
permitted load [kg] 70 70	Interior volume [L]	228	228
	Net weight of the unit (empty) [kg]	360	360
Load per rack [kg] 30 30	permitted load [kg]	70	70
	Load per rack [kg]	30	30

1 All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10 %. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing the recommended wall clearances of 10 % of the height, width, and depth of the inner chamber. Technical data refers to 100 % fan speed. All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at any time.

Data Sheet Model MKF 240



Description	MKF240-400V <sup>1</sup>	MKF240-480V-C <sup>1</sup>
Article Number	9020-0208	9020-0358
Environment-specific data		
Sound-pressure level [dB(A)]	65	67
Fixtures		
Number of shelves (std./max.)	1/6	1/6

1 All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10 %. The temperature data is determined in accordance to BINDER factory standard following DIN 12880, observing the recommended wall clearances of 10 % of the height, width, and depth of the inner chamber. Technical data refers to 100 % fan speed. All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at any time.

#### DIMENSIONS incl. fittings and connections [mm]



#### CHARTS



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

Climate chart



Heating up rate

Data Sheet Model MKF 240





Cooling down rate



Heat compensation chart

#### OPTIONS AND ACCESSORIES

Designation	Description	*	ArtNo.
Access port	notch-type access port in door, 100 x 35 mm	-	8012-1856
	left		
	30 mm	01	8012-1323
	50 mm	01	8012-1329
	80 mm	01	8012-1335
	100 mm	01, 11	8012-1543
	125 mm	01, 11	8012-1352
	right		
Access port with silicone	30 mm	01	8012-1320
lug	50 mm	01	8012-1326
	80 mm	01	8012-1332
	100 mm	01, 11	8012-1540
	125 mm	01, 11	8012-1349
	top		
	80 mm	01	8012-1537
	100 mm	01, 11	8012-1531
	125 mm	01, 11	8012-1534
Analog output 4-20 mA	for temperature and humidity values (output not adjustable)	-	8012-1085
BINDER PURE AQUA SERVICE	System for preparation or complete desalination of tap water, complete set containing PURE AQUA 300 single-use cartridge, measuring device, and all necessary connecting parts	-	8012-1809
BINDER PURE AQUA SERVICE, accessories	PURE AQUA 300 single-use replaceable cartridge for the BINDER PURE AQUA SYSTEM, filter capacity approx. 700 liters (for a conductivity of 200 μS/cm = 6.6 °dH)	-	6011-0179
	PURE AQUA 600 single-use replaceable cartridge for the BINDER PURE AQUA SYSTEM, filter capacity approx. 1,400 liters (for a conductivity of 200 $\mu$ S/cm = 6.6 °dH)	-	6011-0180
Calibration certificate, expanded	for temperature and humidity; for extending the measurement in center of chamber to include another test value	-	8012-1194
	temperature measurement incl. certificate and 27 measuring points at specified temperature	-	8012-1609
Calibration certificate, temperature	temperature measurement incl. certificate, 15-18 measuring points at specified temperature	-	8012-1589
	temperature measurement incl. certificate, 9 measuring points at specified temperature	-	8012-1568
Calibration certificate,	Measurement in center of chamber at 25 °C / 60% RH or at specified test values	-	8012-1188
temperature and humidity	temperature (according to DIN12880) and humidity measurement incl. certificate, 27 temperature measuring points and 1 humidity measuring point, at 25 °C / 60 % RH or at specified values	_	8012-1615

\* Notes > See last page

Data Sheet Model MKF 240



Designation	Description	*	ArtNo.
	T 220: For continuous temperature logging from -90 °C to 220 °C. The kit includes 1 data logger, Pt 100 sensor with 2 m extension cable and 1 magnetic fixture for mounting to the BINDER unit	19	8012-0715
Data Logger Kit	TH 100/70: For continuous temperature and humidity logging from -40 °C to 100 °C / 0% to 100% RH and additional logging of ambient conditions. Kit includes 1 data logger, 2 attachable combined humidity/temperature sensors, 2 m extension cable and 1 fixture for mounting to the BINDER unit	19	8012-1838
	TH 100: For continuous temperature and humidity logging from -50 °C to 100 °C; 0% to 100% RH. Kit includes 1 data logger, Pt 100 sensor with 2 m extension cable, and 1 magnetic fixture for mounting to the BINDER unit	19	8012-1837
Door lock	lockable door handle	-	8012-1862
Dry-air purge	controlled, incl. connection; suitable for the simulation of current automobile industry standards	-	8012-1869
Dry-air purge, connection	for the connection to an existing pressurized air network	-	8012-1787
	RS 422 cable set and RS 232 / RS 422 interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	-	8012-0557
	230 V, 50/60 Hz option model	-	8012-0556
Interface converter	RS 422 cable set and RS 422 / Ethernet interface converter for connection to 10-way plug distributor or for connection to a unit		
	120 V, 60 Hz option model	-	8012-0405
	230 V, 50/60 Hz option model	-	8012-0380
Interface converter, USB / RS422	RS 422 cable set and RS 422 / USB interface converter for connection to 10-way plug distributor or for connection to a unit (USB-powered converter)	-	8012-0665
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	-	1002-0016
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	-	8012-1094
Rack	stainless steel	-	6004-0097
Rack accessories	Rack accessories – fasteners (1 set of 4) for additional security of racks	-	8012-0620
Rack, reinforced	stainless steel, with 1 set of 4 fasteners, max. load 70 kg	-	8012-0605
RS 422 interface	modular plug distributor for 10 RS 422 interfaces	-	8012-0295
RS 422 interface, cable (15 m)	RS 422 connection cable (15 m) between plug distributor and RS 422 interface	-	5023-0036
RS 422 interface, cable (50 m)	RS 422 extension cable (50 m) between interface converter and unit or RS 232 / RS 422 plug distributor	-	5023-0117
	RS 422 cable set and RS 485 / RS 422 interface converter for connection to 10-way plug distributor		
RS 485 / RS 422 interface converter	230 V option model	-	8012-0589
		-	8012-0599
RS 485, 2-wire	Additional serial interface can be used parallel to Ethernet, for communication software	-	8012-1769
Shelf, perforated	Stainless steel	-	8009-0447
	APT-COM™ communications software		
	version 2 to 3, GLP edition	19	9053-0016
Software	version 3, BASIC edition	19	9053-0014
	version 3, GLP edition	19	9053-0015
	version 3, STANDARD edition	19	9053-0013
	ADT CONTRACTOR STATES TO A STATE TO A STATES		
	APT-COM™ communications software, price: for free		
	version 3, GLP DEMO Edition	19	9053-0008
		19 -	
Temperature safety device class 2 Water circuit	version 3, GLP DEMO Edition	19 - -	9053-0008 8012-1864 8012-1512

\* Notes > See last page



### SERVICES

Designation	Description	*	ArtNo.
Installation services			
Installation	and set up of unit at operating location, connect to existing connections	13, 18	DL10-0300
Instruction	unit function instructions for operation and programming of the controller	18	DL10-0700
Preventive maintenance			
Preventive maintenance	Executive of equipment inspection according to maintenance plan	14, 18	DL20-0500
Calibration services			
Calibration temperature and humidity	including certificate, one measuring point in center of chamber at 25 $^\circ\text{C}$ / 60 $\%$ RH or at specified values	14, 16, 17, 18	DL30-0301
Temperature and humidity measurement according to DIN12880	including certificate (27 temperature measuring points and one humidity measuring point, at 25 $^\circ\text{C}$ / 60 $\%$ RH or at specified values)	14, 16, 17, 18	DL30-0427
Temperature measurement 18 temperature measuring points and 1 humidity measuring point	including certificate, 18 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 $^\circ\text{C}$ / 60 $\%$ RH or at specified values	14, 16, 17, 18	DL30-0318
Temperature measurement 27 temperature measuring points and 1 humidity measuring point	including certificate, 27 temperature measuring points and 1 humidity measuring point in center of chamber, at 25 $^\circ\text{C}$ / 60 $\%$ RH or at specified values	14, 16, 17, 18	DL30-0327
Validation services			
Execution of IQ/OQ	in accordance with qualification folder	15, 18, 20	DL42-0300
Execution of IQ/OQ/PQ	in accordance with customer's requirement, price: on request	15, 18	DL44-0500
Qualification folder IQ/OQ	supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit schematics, QM certificate in accordance with ISO 9001	15, 18, 20	8012-0865
Qualification folder IQ/OQ/PQ	supporting documents for validation performed by customer, in accordance with customer's requirement, extension of Qualification folder IQ/OQ by chapter PQ	15, 18	8012-0953
Warranty service			
Extension of the warranty from 2 to 3 /ears	beginning with the date of delivery, wearing parts are not included	-	DL01-3041
Extension of the warranty from 2 to 5 years	beginning with the date of delivery, wearing parts are not included	-	DL01-3042

\* Notes > See last page



#### NOTES

- Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge. 01 02
- UL mark is not granted when this option is used.
- Heat resistant only to max. 200 °C. 03
- Only available on units rated for 230 V. 04
- 06 Heating-up time may increase as a result of the lower heat conductivity.
- 07 The additional heat input may affect the temperature behavior. Not in conjunction with the optional access port, door with window and interior lighting. 09
- 10 11 12 Not available on 23-liter units.
- Not available on 23- or 53-liter units.
- Only available on units rated for 230 V or 400 V.
- 13 Installation and connections take place at unit location; transport within the company only upon consultation.
- 14 We recommend a BINDER service contract to cover unit inspections, calibrations and validations.
- 15 OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.
- Sensor calibration is performed in an accredited calibration laboratory. 16
- 17
- Calibration is performed according to the BINDER factory standard. Quoted prices do not include travel costs. Please refer to the chapter on BINDER Service for travel costs for your region. Quoted prices for services performed in Switzerland do not 18 include a country-specific added fee (available on request).
- For additional accessories, refer to the Process documentation chapter. 19
- 20 When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ folder. When ordering IQ/OQ/PQ qualification folders and associated IQ/OQ/PQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ/PQ folder.



Pricing on any accessories shown can be found by keying the part number into the search box on our website. The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.