

# Model MK 1020 | Dynamic climate chambers 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.

#### **BENEFITS**

- Homogeneous climate conditions thanks to APT.line™ technology
- Comprehensive programming and data acquisition
- · Large heated viewing window



Model 1020



Model 1020

#### IMPORTANT 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 Multi Management Software APT-COM™ Basic Edition
- Troubleshooting system with visual and audible alarms
- Intuitive touchscreen controller with time-segment and real-time programming 1 stainless steel rack
- Internal data logger, measured values can be read out in open format via USB Inner chamber made of stainless steel
- 2 access ports with silicone plugs, 80 mm, left and right
- Class 2 independent adjustable temperature safety device (DIN 12880) with visual alarm

- · 4 castors, two with brakes
- Computer interface: Ethernet
- Adjustable ramp function
- Integrated chart recorder
- Real-time clock
- Door heating

- CFC-free refrigerant R-452A
- · Cooling with compressor cooling unit

#### **OPTIONAL EQUIPMENT**

- APT-COM Multi Management Software for managing, recording, and documenting unit parameters
- Racks option of stainless steel racks, depending on test requirements
- · Compressed air supply system
- Services wide range of services to ensure that the unit functions correctly

#### ORDERING INFORMATION

Interior volume [L]	Power supply - unit fuse	Plug*	Version	Model version	ArtNo.
Model MK 1020					
991	400 V 3∼ 50 Hz -32,0 A	CEE 32 / 6 H plug 5- pin	Standard	MK1020-400V	9020-0407
	480 V 3~ 60 Hz -32,0 A	CEE 32 / 6 H plug 5- pin	with voltage and frequency converter	MK1020-480V-C	9020-0447



# TECHNICAL DATA

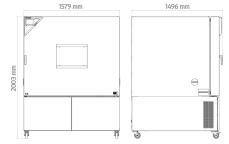
Designation         Micross Jean Law         Micross Agent C           Antick Number         genn wayr         genn year           Option made         Sandard         with voltage and frequency connected           Performance Data Temperature         40 - 180° C         40 - 180° C           Temperature program         40 - 180° C         40 - 180° C           Temperature profiting deprendent constraints         61 - 18 4 K         61 - 18 4 K           Temperature profiting deprendent constraints         61 - 18 4 K         61 - 18 4 K           Temperature profiting deprendent constraints         8,5 Kmin         55 Kmin           Cooling down time from 180°C to 40° C         20 mm         120 min           Average conding down time according to 15 Genotic 33         5 Kmin         30 Kmin           Average conding down time according to 15 Genotic 33         5 Kmin         30 Kmin           Benefit Vallage         40 MV         45 MV           Benefit Vallage         30 Kmin         125 MV           Whit false         320 A         220 A           Phase Dominion contage)         32 C         32 C           Observation and weights         40 kg         40 kg           Load per rack         40 kg         40 kg           Valid destrance book	Data					
Option model         Standard         with vallage and frequency converter           Performance Data Temperature         400-150 °C         400-150 °C           Temperature uniformity dependent on set value         0.11.8 ° K         0.11.8 ° K           Temperature uniformity dependent on set value         0.01.05 ° K         0.10.0 ° K           Average healthy up are according to EC Goode-ys         5.9 K/min         5.5 K/min           Conding driven from stort? to sup?C         100 min         100 min           Average conding on time according to EC Goode-ys         5.0 K/min         5.0 K/min           Described data         400 V         480 V           Electrical data         400 V         480 V           Power feedurincy         5.0 K/min         11,5 KW           Nominal prover         11,5 KW         11,5 KW           Nominal prover         11,5 KW         11,5 KW           Nominal prover         30 A         32.0 A           Phrase (from individuage)         3°         3°           Dimensions and weights         59 L         59 L           Individual prover         40 kg         40 kg           Load per rack         40 kg         40 kg           Wall charmone back         300 mm         200 mm	Designation	MK1020-400V	MK1020-480V-C			
Petronasce Data Temperature         40.180 ° C         40.180 ° C           Temperature range         40.180 ° C         20.188 ° K           Temperature uniformity dependent on set value         0.1.08 ° K         0.1.08 ° K           Comparature fluctuation dependent on set value         0.3.03 ° K         0.1.09 ° K           Average heating-up rate according to PC donote-35         5.9 K/min         3.0 K/min           Average cooling down time according to PC donote-35         5.0 K/min         3.0 K/min           Petrotal data         V         460 ° V           Petrotal data         400 ° V         460 ° V           Petrotal data         10.3 M°         10.4 M°           Data (blummal veltage)         30.0 Å         32.0 Å           Phase (blummal veltage)         3-2.0 Å         32.0 Å           Dimensions and weights         591 L         591 L           Interior velume         991 L         591 L           New weight of the unit (emoty)         6-1 kg         6-1 kg           Permitted (load)         2.0 kg         2.0 kg           Wall clearmed back         30.0 mm         30.0 mm           Wall clearmed sidewise         2.00 mm         3.50 mm           Holgeth nee         2.00 mm         2.00 s mm	Article Number	9020-0407	9020-0447			
Temperature range	Option model	Standard	with voltage and frequency converter			
Emperature fluctuation dependent on set value	Performance Data Temperature	Performance Data Temperature				
Perspectation fluctuation dependent on set value	Temperature range	-40180 °C	-40180 °C			
Average heating-up rate according to IEC 6ac68-3-5         5,5 K/min         5,5 K/min           Cooling down time from :86°C to :qo°C         220 min         120 min           Average cooling down time according to IEC 6ac68-3-5         5,0 K/min         5,0 K/min           Blectrical data         The cooling down time according to IEC 6ac68-3-5         5,0 K/min         5,0 K/min           Blectrical data         The cooling down time according to IEC 6ac68-3-5         5,0 K/min         5,0 K/min           Rated Voltage         400 V         480 V         480 V           Power frequency         50 Hz         66 Hz         66 Hz           Nominal power         125 kW         115 kW         115 kW           Unit fuse         22.0 A         32.0 A         20.0 A           Phase (Nominal voltage)         3"-         3"-         3"-           Dimensions and weights         991 I         991 I         991 I           Net weight of the unit (empty)         621 kg         621 kg         622 kg           Load per rack         40 kg         40 kg         200 kg           Wall clearance back         300 mm         300 mm         300 mm           Wall clearance sidewise         200 mm         200 mm         200 mm           Height net	Temperature uniformity dependent on set value	0.11.8 ± K	0.11.8 ± K			
Cooling down time from 180°C to -40°C         120 min         120 min           Average cooling down time according to IEC 60068-75         5.0 K/min         5.0 K/min           Electrical data         Rated Voltage         400 V         480 V           Power frequency         50 Hz         60 Hz           Nominal power         11,5 kW         11,5 kW           Unit fuse         32,0 A         32,0 A           Phase (Nominal voltage)         3-         3-           Directions and weights         50 Hz         50 Hz           Interior volume         991 L         991 L           Net weight of the unit (empty)         621 kg         621 kg           Load per rack         40 kg         40 kg           Wall clearance back         300 mm         300 mm           Wall clearance sidewise         200 mm         200 mm           Housing dimensions not incl. fittings and connections         4,080 mm         1,580 mm           Height net         2,005 mm         2,005 mm         2,005 mm           Depth net         1,280 mm         1,480 mm         1,480 mm	Temperature fluctuation dependent on set value	0.10.5 ± K	0.10.5 ± K			
Exertical data         Sp. K/min         Sp. K/min           Rated Voltage         400 V         480 V           Power frequency         50 Hz         60 Hz           Nominal power         11,5 kW         11,5 kW           Unit fuse         32,0 A         32,0 A           Phase (Moninal voltage)         3"           Dimensions and weights         991 L         991 L           Net weight of the unit (empty)         52 kg         62 kg           Load per rack         40 kg         40 kg           Permitted load         200 kg         200 kg           Wall clearance Sidewise         200 mm         300 mm           Woll clearance Sidewise         200 mm         200 mm           Housing dimensions not incl. fittings and connections         1,580 mm         1,580 mm           Height net         2,005 mm         2,005 mm         2,480 mm           Internal Dimensions         1,480 mm         1,480 mm	Average heating-up rate according to IEC 60068-3-5	5.5 K/min	5.5 K/min			
Electrical data           Rated Voltage         400 V         480 V           Power frequency         50 Hz         60 Hz           Nominal power         11,5 kW         11,5 kW           Unit fuse         32.0 A         32.0 A           Phase (Viorninal voltage)         3"         3"           Dimensions and weights         11.5 kW         991 L           Interior volume         991 L         991 L           Net weight of the unit (empty)         621 kg         622 kg           Load per tack         40 kg         40 kg           Permitted load         200 kg         200 kg           Wall clearance back         300 mm         300 mm           Wall clearance sidewise         200 mm         200 mm           Housing dimensions not incl. fittings and connections         1,580 mm         1,580 mm           Height net         2,005 mm         2,005 mm         2,005 mm           Depth net         1,480 mm         1,480 mm         1,480 mm	Cooling down time from 180°C to -40°C	120 min	120 min			
Rated Voltage         400 V         480 V           Power frequency         50 Hz         60 Hz           Nominal power         11,5 kW         11,5 kW           Unit fuse         32,0 A         32,0 A           Phase (Nominal voltage)         3~         3~           Dimensions and weights           Interior volume         991 L         991 L           Net weight of the unit (empty)         621 kg         621 kg           Load per rack         40 kg         40 kg           Permitted load         200 kg         200 kg           Wall clearance back         300 mm         300 mm           Wall clearance sidewise         200 mm         200 mm           Housing dimensions not incl. fittings and connections           Width net         1,580 mm         1,580 mm           Height net         2,005 mm         2,005 mm           Depth net         1,480 mm         1,480 mm	Average cooling down time according to IEC 60068-3-5	5.0 K/min	5.0 K/min			
Power frequency         50 Hz         60 Hz           Nominal power         11.5 kW         11.5 kW           Unit fuse         32.0 A         32.0 A           Phase (Nominal voltage)         3-         3-           Dimensions and weights           Interior volume         991 L         991 L           Net weight of the unit (empty)         621 kg         621 kg           Load per rack         40 kg         40 kg           Wall clearance back         300 mm         300 mm           Wall clearance sidewise         200 mm         200 mm           Housing dimensions not incl. fittings and connections           Width net         1,580 mm         1,580 mm           Height net         2,005 mm         2,005 mm           Depth net         1,480 mm         1,480 mm	Electrical data					
Nominal power         11,5 kW         11,5 kW           Unit fuse         32,0 A         32,0 A           Phase (Nominal voltage)         3~         3~           Dimensions and weights           Interior volume         991 L         991 L           Net weight of the unit (empty)         621 kg         621 kg           Load per rack         40 kg         40 kg           Permitted load         200 kg         200 kg           Wall clearance back         300 mm         300 mm           Wall clearance sidewise         200 mm         200 mm           Housing dimensions not incl. fittings and connections           Width net         1,580 mm         1,580 mm           Height net         2,005 mm         2,005 mm           Depth net         1,480 mm         1,480 mm	Rated Voltage	400 V	480 V			
Unit fuse         32.0 A         32.0 A           Phase (Nominal voltage)         3-         3-           Dimensions and weights           Interior volume         991 L         991 L           Net weight of the unit (empty)         621 kg         621 kg           Load per rack         40 kg         40 kg           Permitted load         200 kg         200 kg           Wall clearance back         300 mm         300 mm           Wall clearance sidewise         200 mm         200 mm           Housing dimensions not incl. fittings and connections           Width net         1,580 mm         1,580 mm           Height net         2,005 mm         2,005 mm           Depth net         1,480 mm         1,480 mm	Power frequency	50 Hz	60 Hz			
Phase (Nominal voltage) 3~ 3~  Dimensions and weights  Interior volume 991 L 991 L  Net weight of the unit (empty) 621 kg 621 kg  Load per rack 40 kg 40 kg  Permitted load 200 kg 200 kg  Wall clearance back 300 mm 300 mm  Wall clearance sidewise 200 mm 200 mm  Housing dimensions not incl. fittings and connections  Width net 1,580 mm 1,580 mm  Depth net 1,480 mm 1,480 mm  Internal Dimensions	Nominal power	11,5 kW	11,5 kW			
Dimensions and weights  Interior volume 991 L 991 L  Net weight of the unit (empty) 621 kg 621 kg  Load per rack 40 kg 40 kg  Permitted load 200 kg 200 kg  Wall clearance back 300 mm 300 mm  Wall clearance sidewise 200 mm 200 mm  Housing dimensions not incl. fittings and connections  Width net 1,580 mm 1,580 mm  Depth net 1,480 mm 1,480 mm	Unit fuse	32,0 A	32,0 A			
Interior volume 991 L 991 L  Net weight of the unit (empty) 621 kg 621 kg  Load per rack 40 kg 40 kg  Permitted load 200 kg 200 kg  Wall clearance back 300 mm 300 mm  Wall clearance sidewise 200 mm 200 mm  Housing dimensions not incl. fittings and connections  Width net 1,580 mm 1,580 mm  Depth net 1,480 mm 1,480 mm  Internal Dimensions	Phase (Nominal voltage)	3~	3~			
Net weight of the unit (empty) 621 kg 621 kg Load per rack 40 kg 40 kg  Permitted load 200 kg 200 kg  Wall clearance back 300 mm 300 mm Wall clearance sidewise 200 mm 200 mm  Housing dimensions not incl. fittings and connections  Width net 1,580 mm 1,580 mm 1,480 mm 1,480 mm 1,480 mm	Dimensions and weights					
Load per rack 40 kg 40 kg  Permitted load 200 kg 200 kg  Wall clearance back 300 mm 300 mm  Wall clearance sidewise 200 mm 200 mm  Housing dimensions not incl. fittings and connections  Width net 1,580 mm 1,580 mm  Depth net 1,480 mm 1,480 mm	Interior volume	991 L	991 L			
Permitted load 200 kg  Wall clearance back 300 mm 300 mm  Wall clearance sidewise 200 mm 200 mm  Housing dimensions not incl. fittings and connections  Width net 1,580 mm 1,580 mm  Depth net 1,480 mm 1,480 mm	Net weight of the unit (empty)	621 kg	621 kg			
Wall clearance back 300 mm 300 mm  Wall clearance sidewise 200 mm  Housing dimensions not incl. fittings and connections  Width net 1,580 mm 1,580 mm  Height net 2,005 mm 2,005 mm  Depth net 1,480 mm 1,480 mm	Load per rack	40 kg	40 kg			
Wall clearance sidewise 200 mm  Housing dimensions not incl. fittings and connections  Width net 1,580 mm 1,580 mm  Height net 2,005 mm 2,005 mm  Depth net 1,480 mm 1,480 mm	Permitted load	200 kg	200 kg			
Housing dimensions not incl. fittings and connections  Width net 1,580 mm 1,580 mm  Height net 2,005 mm 2,005 mm  Depth net 1,480 mm 1,480 mm	Wall clearance back	300 mm	300 mm			
Width net         1,580 mm         1,580 mm           Height net         2,005 mm         2,005 mm           Depth net         1,480 mm         1,480 mm   Internal Dimensions	Wall clearance sidewise	200 mm	200 mm			
Height net 2,005 mm 2,005 mm  Depth net 1,480 mm 1,480 mm	Housing dimensions not incl. fittings and connections					
Depth net 1,480 mm 1,480 mm  Internal Dimensions	Width net	1,580 mm	1,580 mm			
Internal Dimensions	Height net	2,005 mm	2,005 mm			
	Depth net	1,480 mm	1,480 mm			
Interior width 1,200 mm 1,200 mm	Internal Dimensions					
	Interior width	1,200 mm	1,200 mm			



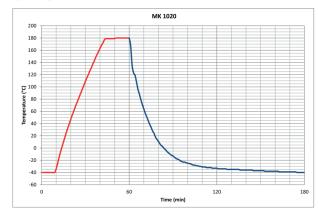
Interior height	1,020 mm	1,020 mm
Interior depth	810 mm	810 mm
Unit doors	1	1
Environment-specific data		
Sound-pressure level	65 dB(A)	65 dB(A)
Energy consumption at 20°C	1,500 Wh/h	1,500 Wh/h
Fixtures		
Number of shelves (std./max.)	1/11	1/11

All technical data is specified for unloaded units with standard equipment at an ambient temperature of  $\pm 20^{\circ}$  C  $\pm 3^{\circ}$ C and a power supply voltage fluctuation of  $\pm 10^{\circ}$  %. 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.

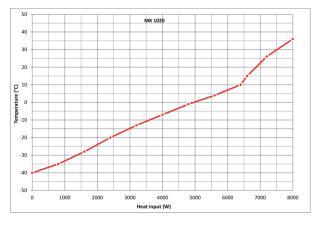
## DIMENSIONS Incl. fittings and connections [mm]



#### **DIAGRAMS**



Heating up rate / Cooling down rate



Heat compensation chart

#### **OPTIONS**

Designation	Description	MK 1020	*	ArtNo.
	left			
Access port with silicone plug				
	30 mm	•	01	8012-1322



Designation	Description	MK 1020	*	ArtNo.
	50 mm	•	01	8012-1328
	80 mm	•	01	8012-1334
	100 mm	•	01	8012-1542
	125 mm	•	01	8012-1351
	right			
	30 mm	•	01	8012-1319
	50 mm	•	01	8012-1325
	80 mm	•	01	8012-1331
	100 mm	•	01	8012-1539
	125 mm	•	01	8012-1348
	top			
	80 mm	•	01	8012-1536
	100 mm	•	01	8012-1530
	125 mm	•	01	8012-1533
Analog output 4-20 mA	for temperature values (output not adjustable)	•	-	8012-1084
Calibration certificate, expanded	for temperature; for extending the measurement in center of chamber to include another test temperature	•	-	8012-1124
	for temperature, measurement in center of chamber at specified temperature	•	-	8012-1143
Calibration certificate,	temperature measurement incl. certificate, 9 measuring points at specified temperature	•	-	8012-1560
temperature	temperature measurement incl. certificate, 15- 18 measuring points at specified temperature	•	-	8012-1581
	temperature measurement incl. certificate and 27 measuring points at specified temperature	•	-	8012-1602
Compressed air connection	for the connection to an existing pressurized air network	•	-	8012-1797
Door lock	lockable door handle	•	-	8012-1861
Notch-type access port	notch-type access port in door, 100 x 35 mm	•	-	8012-1851
Pt 100 temperature sensor	additional flexible Pt 100, interior, for displaying the temperature on the unit display	•	-	8012-1093
RS 485 interface, 2-wire	Additional serial interface can be used parallel to Ethernet, for Multi Management Software APT-COM™	•	-	8012-1768
Temperature safety device class 2	fety device class with visual alarm (DIN 12880)		-	8012-1792
Water cooling	for reduced heat loss to ambient air	•	-	8012-2264



Designation	Description	MK 1020	*	ArtNo.
Zero voltage relay contacts	for controlling 3 relay contacts via program regulators, accessible via 6-pin DIN socket (max. 24 V - 2.5 A)	•	-	8012-1095

# ACCESSORIES

Designation	Description	MK 1020	*	ArtNo.
APT-COM™ 4 GLP-Edition	for working under GLP-compliant conditions. Measured values are documented in a tamper- proof way in line with the requirements of FDA Regulation 21 CFR 11.			
	version 4, GLP edition	•	-	9053-0042
APT-COM™ 4 PROFESSIONAL- Edition	convenient unit and user management built on the BASIC edition. Suitable for networking up to 100 units.			
	version 4, PROFESSIONAL edition	•	-	9053-0040
pH-neutral detergent	concentrated, for gentle remove of residual contaminants; 1 kg	•	-	8012-2250
	IQ/OQ/PQ documents – supporting documents for validation performed by customers, according to customer requirements, PQ section added to qualification folder IQ/OQ; parameters: temperature, $CO_2$ , $O_2$ – or pressure, depending on unit			
	Digital in PDF format	•	-	7057-0005
Qualification documents	Hard copy inside folder	•	-	7007-0005
	IQ/OQ documents – supporting documents for validation performed by customers, consisting of: IQ/OQ checklists incl. calibration guide and comprehensive unit documentation; parameters: temperature, ${\rm CO_2}$ , ${\rm O_2}$ , pressure, depending on unit			
	Digital in PDF format	•	-	7057-0001
	Hard copy inside folder	•	-	7007-0001
Rack	stainless steel	•	-	8012-2124
Rack, reinforced	stainless steel, with fasteners (1 set of 4)	•	-	8012-2105
Rack accessories	fasteners (1 set of 4) for additional security of racks		-	8012-2280
	RS 422 cable set and RS 485 / RS 422 interface converter for connection to 10-way plug distributor			
RS 485 / RS 422 interface converter	115 V option model	•	-	8012-0599
	230 V option model	•	-	8012-0589
Shelf, perforated	Stainless steel	•	-	8012-2261

## **SERVICES**

Designation	Description	*	ArtNo.
Calibration services			



Calibration certificate, temperature  Calibration of one (a) test temperature specified by the user in center of chamber, including certificate certificate, temperature specified by the user in center of the user in the center of the user in center of the user including certificate  Temperature measurement, 9 measuring points  Temperature measurement, 18 measuring points  Temperature measurement, 18 measuring points  Temperature measurement, 18 measuring points  Temperature measurement with 27 measuring points with a set value specified by the user, including certificate  Temperature measurement, 27 measuring points  Temperature measurement with 27 measuring points with a set value specified by the user, including certificate  Temperature measurement, 27 measuring points  Temperature measurement with 27 measuring points with a set value specified by the user, including certificate  Temperature measurement, 27 measuring points  Temperature measurement with 27 measuring points with a set value specified by the user, including certificate  Temperature measurement, 27 measuring points  Temperature measurement with 27 measuring points with a set value specified by the user, including certificate  Unit commissioning  Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, their operating instructions, (electricity, water, wastewater, gas), basic functions check before operating principle and basic functions of the unit, operation of the unit, operation of the control electrories including pogramming. Installation on of the stallation of mechanical and electricity components, the of control response, 20% discount on spare parts, testing of all key functions, replacement of wave parts, calibration of one chanical and electrical components, the of control response, 20% discoun				
Including certificate	Designation	Description	*	ArtNo.
Extension of calibration of one (b) additional test temperature specified by the user in the center of the usable space, including certificate  Temperature measurement, 9 measuring points  Temperature measurement with 9 measuring points with a set value specified by the user, including certificate  Temperature measurement, 18 measuring points  Temperature measurement, 18 measuring points  Temperature measurement, 27 measuring points  Temperature measurement, 20 points  Temperature measurement, 27 measuring points  Temperat	Calibration certificate temperature		-	DL30-0130
the user, including certificate  Temperature measurement, 18 measuring points  Temperature measurement with 18 measuring points with a set value specified by the user, including certificate  Temperature measurement, 27 measuring points  Temperature measurement with 27 measuring points with a set value specified by the user, including certificate  Temperature measurement, 27 measuring points  Temperature measurement with 27 measuring points with a set value specified by the user, including certificate  Unit commissioning  Connect the unit to the customer-side connections (electricity, water, wastewater, gab), basic functions check, brief operating instructions, (excl.: unpacking, setup, controller instructions, programming, installation work)  Unit commissioning  Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming  Instructions of the control electronics including programming  Maintenance contracts  Maintenance contract  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, temperature parts, which including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, sublibation of one test remperatures specified by the user in the center of the usable space, without certificate  Maintenance services  Maintenance services as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test remperatures specified by the user in the center of the usable space, without certificate  Maintenance services  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% disco	Calibration Certificate, temperature		-	DL30-0102
Temperature measurement, 27 measuring points the user, including certificate — DL30-0127  Temperature measurement, 27 measuring points Temperature measurement with 27 measuring points with a set value specified by the user, including certificate — DL30-0127  Installation services  Unit commissioning Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, brief operating instructions. (excl.: unpacking, setup. — DL10-0300 controller instructions, programming, installation work)  Unit instructions Instruction regarding operating principle and basic functions of the unit, operation of the controller instruction sprogramming programming — DL10-0700  Maintenance contracts  BRONZE 3-year maintenance contract  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate  Maintenance services  Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with maintenance schedule, Visual	Temperature measurement, 9 measuring points		-	DL30-0109
the user, including certificate	Temperature measurement, 18 measuring points		-	DL30-0118
Unit commissioning  Connect the unit to the customer-side connections (electricity, water, wastewater, gas), basic functions check, brief operating instructions. (excl.: unpacking, setup, controller instructions, programming, installation work)  Unit instructions  Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming  Maintenance contracts  BRONZE 3-year maintenance contract  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts.  Testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate  Maintenance services  Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book  One-off maintenance service in accordance with maintenance schedule, Visual	Temperature measurement, 27 measuring points		-	DL30-0127
Unit commissioning  gas), basic functions check, brief operating instructions, (excl.: unpacking, setup, controller instructions, programming, installation work)  Unit instructions  Instruction regarding operating principle and basic functions of the unit, operation of the control electronics including programming  Maintenance contracts  BRONZE 3-year maintenance contract  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts  electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate  Maintenance services  Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book  One-off maintenance service in accordance with maintenance schedule. Visual	Installation services			
Maintenance contracts  Maintenance contract  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate  Maintenance services  Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book  One-off maintenance service in accordance with maintenance schedule. Visual	Unit commissioning	gas), basic functions check, brief operating instructions. (excl.: unpacking, setup,	-	DL10-0300
BRONZE 3-year maintenance contract  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate  Maintenance services  Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book  One-off maintenance service in accordance with maintenance schedule. Visual	Unit instructions		-	DL10-0700
electrical components, check of control response, 20% discount on spare parts  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate  Maintenance services  Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book  One-off maintenance service in accordance with maintenance schedule. Visual	Maintenance contracts			
electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one temperature/humidity/pressure value, including certificate  Maintenance service as contractually agreed, visual inspection of mechanical and electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate  Maintenance services  Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book  One-off maintenance service in accordance with maintenance schedule. Visual	BRONZE 3-year maintenance contract		-	DL20-0710
SILVER 3-year maintenance contract  electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the user in the center of the usable space, without certificate  Maintenance services  Leakage test  Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book  One-off maintenance service in accordance with maintenance schedule. Visual	GOLD 3-year maintenance contract	electrical components, check of control response, 20% discount on spare parts, testing of all key functions, replacement of wear parts, calibration of one	-	DL20-0930
Leakage test  Testing and logging of the leak-tightness of systems containing hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book  One-off maintenance service in accordance with maintenance schedule. Visual	SILVER 3-year maintenance contract	electrical components, check of control response, 20% discount on spare parts, testing of all key functions, calibration of one test temperature specified by the	-	DL20-0830
hydrofluorocarbons in accordance with Regulation EC842/2006, incl. test book  One-off maintenance service in accordance with maintenance schedule. Visual	Maintenance services			
	Leakage test		-	DL00-0034
Maintenance inspection of mechanical and electrical components, testing of all key functions. – DL20-0607  Calibration of a test temperature specified by the user in center of usable space without certificate	Maintenance	inspection of mechanical and electrical components, testing of all key functions. Calibration of a test temperature specified by the user in center of usable space	-	DL20-0607
Validation services	Validation services			
Execution of IQ/OQ Execution of IQ/OQ in accordance with qualification folder – DL41-0200	Execution of IQ/OQ	Execution of IQ/OQ in accordance with qualification folder	_	DL41-0200
Execution of IQ/OQ/PQ Execution of IQ/OQ/PQ in accordance with qualification folder – DL44-o500	Execution of IQ/OQ/PQ	Execution of IQ/OQ/PQ in accordance with qualification folder	_	DL44-0500
Warranty service	Warranty service			
1-year warranty extension The warranty is extended by 1 year from the delivery date, wear parts are excluded – DL50-0040	1-year warranty extension	The warranty is extended by 1 year from the delivery date, wear parts are excluded	-	DL50-0040

# BINDER Best conditions for your success

#### **NOTES**

O1 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.

#### **BINDER GmbH**

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