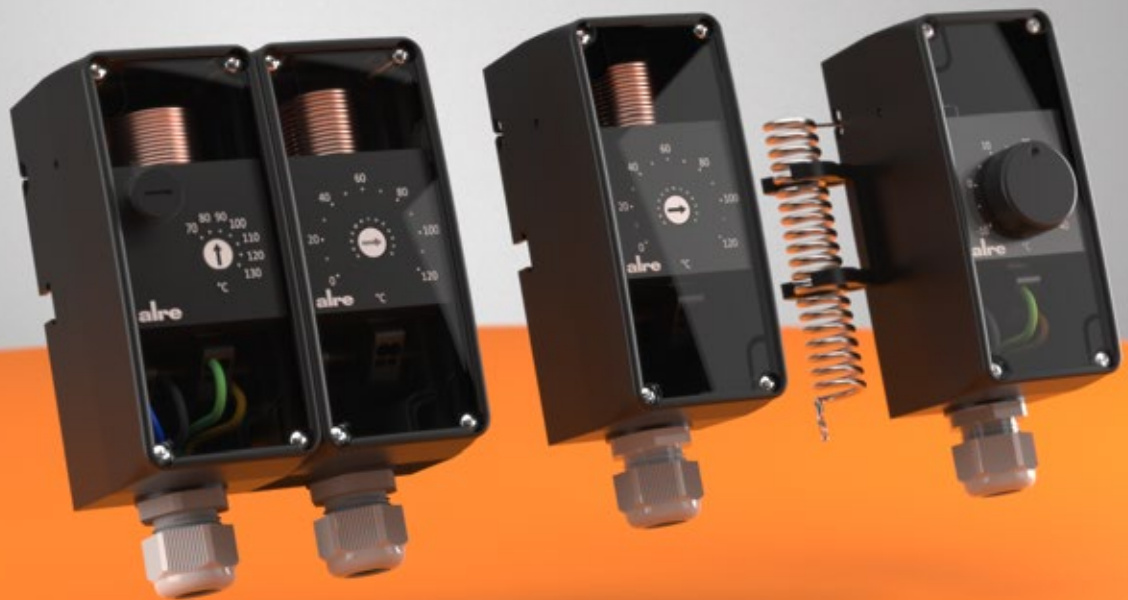


BUILDING AUTOMATION  
CONTROL TECHNOLOGY  
SENSOR TECHNOLOGY

**alre**



**RTKSA**  
The industrial controller.

# THERMOSTATS FOR PLANT ENGINEERING **FORM MEETS FUNCTION**



1902112132

RAUM 2

The RTKSA range has been specifically designed for use with various industrial temperature needs. Firstly, frost protection controllers for the air or water side of hot water heating coils and heat exchangers in ventilation, heating or air conditioning systems. Secondly, universal capillary thermostats for use in heating technology in boiler systems or storage tanks, district heating transfer stations and heat transfer systems, in ventilation technology as supply air monitors or as limiters of electric heating coils as well as for controlling and monitoring temperatures on pipes and tanks. And thirdly, plant room thermostats for use in industrial halls, exhibition halls, air halls and greenhouses.

## APPLICATION **EXAMPLES:**

- + Temperature control/safety temperature control, for example, in air ducts, boiler systems, storage tanks, heating coils, burners, pipelines etc.
- + Frost protection for hot water heating coils
- + Temperature and humidity control in control cabinets
- + Humidity control in ventilation and air-conditioning ducts
- + Flow monitoring, for example, in ducts, supply and exhaust air devices of fans, water pipes and oil, cooling and lubrication circuits etc.
- + Pressure monitoring of gaseous media, for example, for filter monitoring, fume hoods, fans, heating coils, low air pressure safety devices and limit controllers



### PLANT ROOM THERMOSTAT

- + available in 2 variants:
  - Temperature controller (outdoor setting)
  - Temperature monitor (indoor setting)
- + precise measurement of the room temperature
- + Temperature coil in stainless steel, glossy
- + Protection rating: IP 54 (higher on request)
- + also available as double controller



### UNIVERSAL CAPILLARY DOUBLE THERMOSTAT

- + available in 2 variants:
  - Temperature controller (outdoor setting)
  - Temperature monitor (indoor setting)
- + precise measurement of the room temperature
- + Temperature coil in stainless steel, glossy
- + Protection rating: IP 54 (higher on request)
- + available in 5 variants:
  - Temperature controller (outdoor setting)
  - Temperature monitor (indoor setting)
  - Temperature limiter (indoor setting with reset)
  - Safety temperature limiter (indoor setting with reset)
  - Safety temperature monitor (indoor setting)
- + variable temperature ranges
- + various applications possible
  - start-up thermostat
  - boiler thermostat
  - ventilation thermostat
- + supplementary accessories available, such as immersion sleeve, protection coil, worm screw clamp, etc.
- + Protection rating: IP 40 (higher on request)
- + also available as double controller



### FROST PROTECTION CONTROLLER

- + available in 2 variants:
  - Safety temperature limiter (indoor setting with reset)
  - Safety temperature monitor (indoor setting)
- + precise measurement of the room temperature
- + different probe lengths (1800 mm – 12000 mm)
- + Protection rating: IP 40 and IP 65

# NOW IN A **NEW** **DESIGN**

## THERMOSTATS FOR PLANT ENGINEERING FROM ALRE

Universal capillary thermostats can be combined with mounting type and measuring unit depending on the application. This means flexibility for the technician and simplicity for wholesale distribution, as several application areas can be covered from one controller. Whether greenhouse, industrial hall or warehouse; RTKSA ensure efficient temperature control through precise switching operations.



**UNIVERSAL  
CONTROLLER**



**UNIVERSAL DUAL  
CONTROLLERS**



**PLANT ROOM  
CONTROLLER**



**FROST PROTECTION  
CONTROLLER**



## COMBINATIONS WITH ACCESSORIES



+



JZ-29 (MOUNTING SET)

+



IMMERSION SLEEVE (THK/NTHK)

=

**BOILER THERMOSTAT**

+



JZ-29 (MOUNTING SET)

+



PROTECTION COIL (SWK)

=

**VENTILATION THERMOSTAT**

+

JZ-31 WORM SCREW CLAMP



=

**CONTACT THERMOSTAT**

FOR DOUBLE THERMOSTATS, USE THE JZ-30 MOUNTING SET.



# PLANT ROOM THERMOSTAT RTKSA

## CAPILLARY SYSTEM – EXTERNAL SENSORS



### TECHNICAL DATA

<b>Colour:</b>	Anthracite grey (similar to RAL7016), front side transparent
<b>Sensor material:</b>	V4A
<b>Max. sensor temperature:</b>	Top scale value +15%
<b>Max. head temperature:</b>	50 °C
<b>Permissible atmospheric humidity:</b>	Max. 95% rel. humidity, non-condensing
<b>Operating voltage:</b>	none
<b>Max. switching current:</b>	<b>NC contact:</b> 16 (2.5) A at 230 VAC +10% 0.25 A at 230 VDC +10% <b>NO contact:</b> 6.3 (2.5) A at 230 VAC +10% 0.25 A at 230 VDC +10%
<b>Min. switching current:</b>	Min. 100 mA at 24 V (AC/DC)
<b>Max. switching voltage:</b>	230 VAC 50/60 Hz, 230 VDC
<b>Min. switching voltage:</b>	24 VAC/50 Hz, 24 VDC
<b>Switching element:</b>	microswitch
<b>Switching contact:</b>	toggler, potential-free
<b>Control function:</b>	Heating or cooling
<b>Hysteresis:</b>	1.3 K
<b>Electrical connection:</b>	Push-in terminals
<b>Mounting / attachment:</b>	wall mounting
<b>Protection class:</b>	I
<b>Protection rating:</b>	IP54 (optionally IP65)
<b>Safety and EMC:</b>	In accordance with DIN EN 60730 (VDE 0631)
<b>Sensor:</b>	liquid-filled capillary
<b>General features:</b>	scale: degrees Celsius

### APPLICATION

RTKSA plant room thermostats were specially developed for use in industrial halls, exhibition halls, air halls and greenhouses. When used as a frost protection controller, the higher tolerances at the end of the scale must be observed.

Type testing by TÜV in accordance with DIN EN 14597



TYPE	ITEM NO.	CONTROL RANGE	HYSTERESIS	FEATURES	EURO/PG
RTKSA-100.010	KA010000	-10 to +40 °C	1.3 K	TR, external setting	
RTKSA-101.010	KA010100	-10 to +40 °C	1.3 K	TW, internal setting	
RTKSA-100.110	KA010001	0 to +50 °C	1.3 K	TR, external setting	
RTKSA-101.110	KA010101	0 to +50 °C	1.3 K	TW, internal setting	

TR = temperature controller, TW = temperature monitor

ACCESSORIES	ITEM NO.	FEATURES	EURO/PG
JZ-33	KA999904	RTKSA seal set, protection rating: IP54	

### TYPE COMPARISON (OLD / NEW TYPE)

OLD ALRE TYPES	CONTROL RANGE	HYSTERESIS	NEW ALRE TYPES	CONTROL RANGE	HYSTERESIS
JET-40	0 to +35 °C	1 K	RTKSA-100.010	-10 to +40 °C	1.3 K
JET-40F	0 to +35 °C	1 K	RTKSA-101.010	-10 to +40 °C	1.3 K
JET-41	0 to +70 °C	2 K	RTKSA-100.110	0 to +50 °C	1.3 K
JET-41F	0 to +70 °C	2 K	RTKSA-101.110	0 to +50 °C	1.3 K

TR = temperature controller, TW = temperature monitor

# PLANT ROOM THERMOSTAT RTKSA

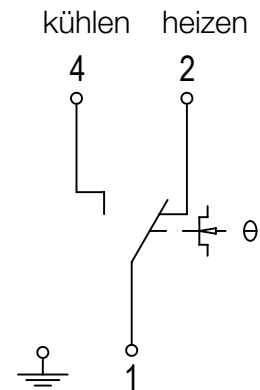
## CAPILLARY SYSTEM – EXTERNAL SENSORS

### ILLUSTRATIONS

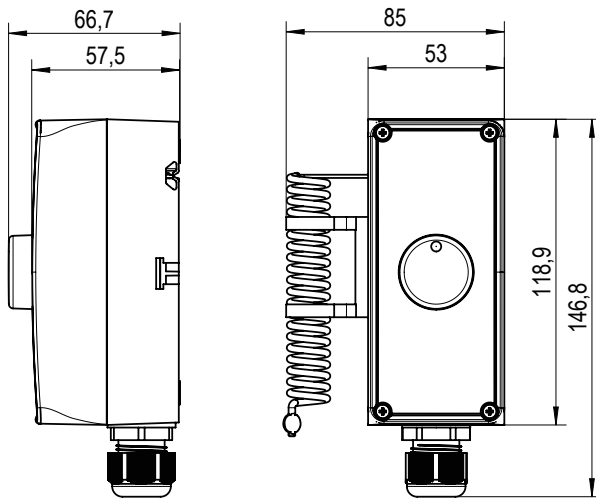
RTKSA with internal setting



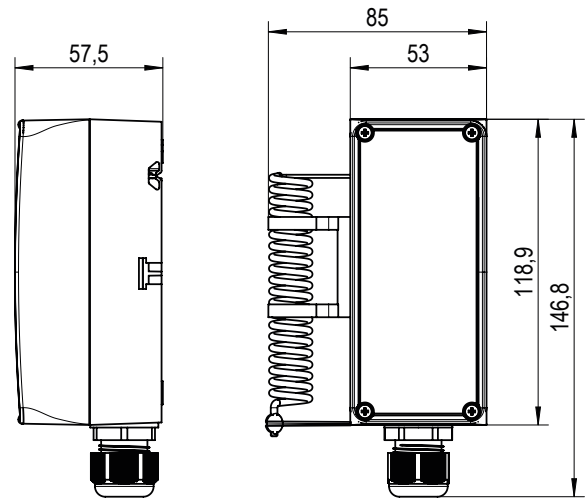
RTKSA



RTKSA-100.010 / RTKSA-100.110



RTKSA-101.010 / RTKSA-101.110



Scan the QR code now and watch the 'New thermostats in plant engineering' product film. More information at a glance.





# PLANT ROOM DOUBLE THERMOSTAT RTKSA

## CAPILLARY SYSTEM – EXTERNAL SENSORS – 2 SEPARATE SETTING RANGES



### TECHNICAL DATA

<b>Colour:</b>	anthracite grey (like RAL 7016), front side transparent
<b>Sensor material:</b>	V4A
<b>Max. sensor temperature:</b>	Top scale value +15%
<b>Max. head temperature:</b>	50 °C
<b>Permissible atmospheric humidity:</b>	Max. 95% rel. humidity, non-condensing
<b>Operating voltage:</b>	none
<b>Max. switching current:</b>	<b>NC contact:</b> 16 (2.5) A at 230 VAC +10% 0.25 A at 230 VDC +10%
	<b>NO contact:</b> 6.3 (2.5) A at 230 VAC +10% 0.25 A at 230 VDC +10%
<b>Min. switching current:</b>	Min. 100 mA at 24 V (AC/DC)
<b>Max. switching voltage:</b>	230 VAC 50/60 Hz, 230 VDC
<b>Min. switching voltage:</b>	24 VAC/50 Hz, 24 VDC
<b>Switching element:</b>	microswitch
<b>Switching contact:</b>	2x togglers, potential-free
<b>Control function:</b>	Heating or cooling, heating and cooling
<b>Hysteresis:</b>	1.3 K
<b>Electrical connection:</b>	Push-in terminals
<b>Mounting/attachment:</b>	wall mounting
<b>Protection class:</b>	I
<b>Protection rating:</b>	IP54 (optionally IP65)
<b>Safety and EMC:</b>	In accordance with DIN EN 60730 (VDE 0631)
<b>Sensor:</b>	liquid-filled capillary
<b>General features:</b>	scale: degrees Celsius

### APPLICATION

RTKSA plant room thermostats were specially developed for use in industrial halls, exhibition halls, air halls and greenhouses. When used as a frost protection controller, the higher tolerances at the end of the scale must be observed.

2 separate setting ranges, heating and/or cooling.

Type testing by TÜV in accordance with DIN EN 14597



TYPE	ITEM NO.	1. CONTROL RANGE	2. CONTROL RANGE	FEATURES	EURO/PG
RTKSA-114.110	KA011100	0 to +50 °C (TW, internal)	0 to +50 °C (TW, internal)	2x internal setting	
RTKSA-114.010	KA011101	-10 to +40 °C (TW, internal)	-10 to +40 °C (TW, internal)	2x internal setting	

TW = Temperature monitor

ACCESSORIES	ITEM NO.	FEATURES	EURO/PG
JZ-33	KA999904	Seal set RTKSA, 2 units necessary for double thermostats, protection rating: IP54	

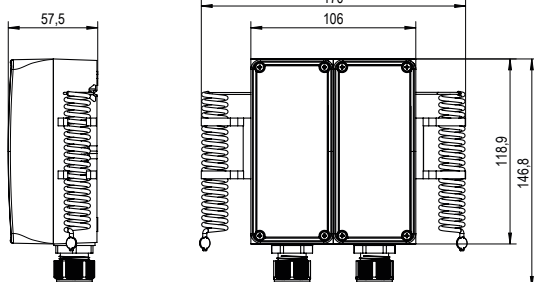
### TYPE COMPARISON (OLD / NEW TYPE)

OLD ALRE TYPES	CONTROL RANGE	HYSTERESIS	NEW ALRE TYPES	CONTROL RANGE	HYSTERESIS
JET-30	10 to 45 °C (external) TR 0 to 5 °C (internal) TW	approx. 1 K	RTKSA-114.110	0 to +50 °C (internal) TW 0 to +50 °C (internal) TW	1.3 K
JET-31	10 to +45 °C (internal) TW 0 to +35 °C (internal) TW	approx. 1 K			

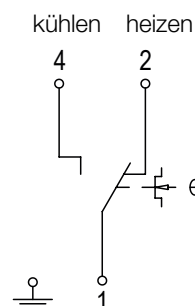
TR = temperature controller, TW = temperature monitor

### ILLUSTRATIONS

RTKSA



RTKSA (2x)



Scan the QR code now and watch the 'New thermostats in plant engineering' product film. More information at a glance.





# WET ROOM THERMOSTAT PTR 40

## BIMETAL



### TECHNICAL DATA

<b>Housing colour:</b>	grey (lower part like RAL 7016, upper part like RAL 7035)
<b>Ambient temperature:</b>	-20 ... +60 °C
<b>Permissible atmospheric humidity:</b>	Max. 95% rel. humidity, non-condensing
<b>Operating voltage:</b>	230 V AC, 50 Hz
<b>Max. switching current:</b>	heating (terminal 3) 10 (4) A, cooling (terminal 1) 5 (2) A
<b>Max. switching voltage:</b>	230 V AC, 50 Hz
<b>Min. switching voltage:</b>	230 V AC, 50 Hz
<b>Switching element:</b>	bimetallic contact
<b>Control range:</b>	-20 ... +30 °C
<b>Hysteresis:</b>	approx. 2 K at a temperature change of max. 4 K/h
<b>Electrical connection:</b>	screw-type terminals 0.12 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
<b>Mounting / attachment:</b>	wall mounting
<b>Protection rating:</b>	IP65
<b>Protection class:</b>	II
<b>Safety and EMC:</b>	according to DIN EN 60730
<b>Sensor:</b>	bimetal
<b>Function type:</b>	TW (temperature monitor)
<b>General features:</b>	thermal feedback, internal setting, scale: degrees Celsius

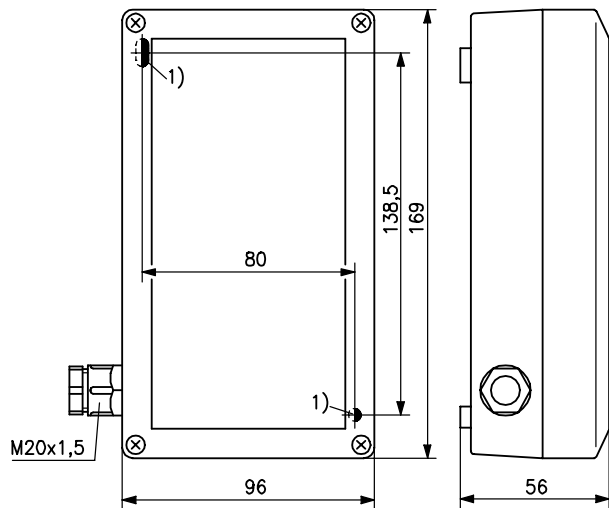
### APPLICATION

Control and monitoring of temperatures of certain open spaces, for example, driveways or damp rooms (greenhouses, sheds, warehouses and basements, garages, etc.).

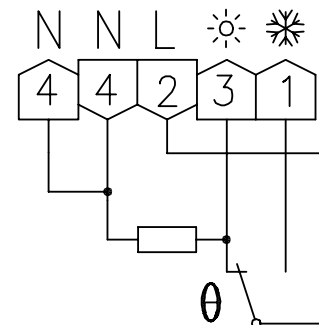
TYPE	ITEM NO.	FEATURES	EURO/PG
PTR 40.000	A201410	switching contact changeover switch (toggle), control function heating or cooling, viewing window	

### ILLUSTRATIONS

PTR 40



PTR 40...





# UNIVERSAL CAPILLARY THERMOSTAT RTKSA

## CAPILLARY SYSTEM – TÜV-TESTED



### TECHNICAL DATA

<b>Colour:</b>	anthracite grey (like RAL 7016), front side transparent
<b>Sensor material:</b>	Cu
<b>Sensor length:</b>	2 m
<b>Max. sensor temperature:</b>	Top scale value +15%
<b>Max. head temperature:</b>	80 °C
<b>Permissible atmospheric humidity:</b>	Max. 95% rel. humidity, non-condensing
<b>Operating voltage:</b>	none
<b>Max. switching current:</b>	<b>NC contact:</b> 16 (2.5) A at 230 VAC +10% 0.25 A at 230 VDC +10% <b>NO contact TR/TW/STW:</b> 6.3 (2.5) A at 230 VAC +10% 0.25 A at 230 VDC +10% <b>NO contact TB:</b> 2.0 (0.4) A at 230 VAC +10% 0.25 A at 230 VDC +10%
<b>Min. switching current:</b>	Min. 100 mA at 24 V (AC/DC)
<b>Max. switching voltage:</b>	230 VAC 50/60 Hz, 230 VDC
<b>Min. switching voltage:</b>	24 VAC/50 Hz, 24 VDC
<b>Switching element:</b>	microswitch
<b>Switching contact:</b>	toggler, potential-free
<b>Control range:</b>	Heating or cooling
<b>Electrical connection:</b>	Push-in terminals
<b>Mounting/attachment:</b>	Wall mounting or with optional process connection (immersion sleeve, protection coil or mounting set JZ-31 for pipe mounting)
<b>Protection class:</b>	I
<b>Protection rating:</b>	RTKSA-xxx.x0x IP40, RTKSA-xxx.x1x IP54, optional IP65
<b>Safety and EMC:</b>	In accordance with DIN EN 60730 (VDE 0631)
<b>Sensor:</b>	liquid-filled capillary
<b>General features:</b>	scale: degrees Celsius

### APPLICATION

This series of devices was specially developed for use in heating technology; in boiler systems or storage tanks; district heating transfer stations and heat transfer systems; in ventilation technology to monitor supply air or as limiters for electrical heating coils, as well as for controlling and monitoring temperatures in pipelines and tanks.

Immersion sleeves, protection coils and mounting sets are not included in the scope of delivery. The JZ-29 mounting set must be used in conjunction with immersion sleeves or protection coils. When used as contact controller (pipe mounting), mounting set JZ-31 must be used, except with models RTKSA-000 100 and RTKSA-001 100.

**Type testing by TÜV in accordance with  
DIN EN 14597**



TYPE	ITEM NO.	CONTROL RANGE	HYSTERESIS	SENSOR Ø XL	FEATURES	EURO/PG
RTKSA-000.100	KA000000	0 to 50 °C	1.3 K	6x175 mm	TR, external setting	
RTKSA-000.200	KA000001	0 to 120 °C	3 K	6x87 mm	TR, external setting	
RTKSA-000.300	KA000002	20 to 150 °C	9.1 K	6x56 mm	TR, external setting	
RTKSA-001.100	KA000100	0 to 50 °C	1.3 K	6x175 mm	TW, internal setting	
RTKSA-001.200	KA000101	0 to 120 °C	3 K	6x87 mm	TW, internal setting	
RTKSA-001.300	KA000102	20 to 150 °C	9.1 K	6x56 mm	TW, internal setting	
RTKSA-001.301	KA000103	20 to 150 °C	3.3 K	6x82 mm	TW, internal setting	
RTKSA-002.310	KA000201	20 to 150 °C	-10 to -15 K*	6x55 mm	TB, internal setting, external reset	
RTKSA-002.410	KA000200	30 to 110 °C	-10 to -15 K*	6x72 mm	TB, internal setting, external reset	
RTKSA-003.310	KA000300	20 to 150 °C	-10 to -15 K*	6x55 mm	STB, internal setting, external reset	
RTKSA-004.310	KA000400	20 to 150 °C	-10 K	6x55 mm	STW, internal setting	

TR = temperature controller, TW = temperature monitor, TB = temperature limiter, STB = safety temperature limiter, STW = safety temperature monitor  
\* Manual reset after cooling down by 10–15 K (depending on configured setpoint)

# UNIVERSAL CAPILLARY THERMOSTAT RTKSA

## CAPILLARY SYSTEM – TÜV-TESTED

ACCESSORIES	ITEM NO.	LENGTH OF	MATERIAL	DIAMETER IXA**	FEATURES	EURO/PG
THK-2-100	KA969901	100 mm	nickel-plated brass	7.5x10 mm	Immersion sleeve	
THK-2-120	KA969902	120 mm	nickel-plated brass	7.5x10 mm	Immersion sleeve	
THK-2-200	KA969903	200 mm	nickel-plated brass	7.5x10 mm	Immersion sleeve	
THK-2-280	KA969904	280 mm	nickel-plated brass	7.5x10 mm	Immersion sleeve	
THK-2-600	KA969905	600 mm	nickel-plated brass	7.5x10 mm	Immersion sleeve	
NTHK-2-100	KA969906	100 mm	V4A (1.4571)	7.5x10 mm	Immersion sleeve	
NTHK-2-120	KA969907	120 mm	V4A (1.4571)	7.5x10 mm	Immersion sleeve	
NTHK-2-200	KA969908	200 mm	V4A (1.4571)	7.5x10 mm	Immersion sleeve	
NTHK-2-280	KA969909	280 mm	V4A (1.4571)	7.5x10 mm	Immersion sleeve	
THK-2-100 x 17	KA979901	100 mm	nickel-plated brass	14.8x17 mm	Immersion sleeve	
THK-2-200 x 17	KA979902	200 mm	nickel-plated brass	14.8x17 mm	Immersion sleeve	
NTHK-2-100 x 17	KA979903	100 mm	V4 A (1.4571)	14.8x17 mm	Immersion sleeve	
NTHK-2-200 x 17	KA979904	200 mm	V4 A (1.4571)	14.8x17 mm	Immersion sleeve	
SWK-2-100	KA989901	100 mm	steel, nickel-plated	10.5x17 mm	Protection coil with flange plate	
SWK-2-120	KA989902	120 mm	steel, nickel-plated	10.5x17 mm	Protection coil with flange plate	
SWK-2-200	KA989903	200 mm	steel, nickel-plated	10.5x17 mm	Protection coil with flange plate	
SWK-2-280	KA989904	280 mm	steel, nickel-plated	10.5x17 mm	Protection coil with flange plate	

\*\* I = minimum inner diameter / A = nominal outer diameter  
See catalog for pictures and dimension diagrams for immersion sleeves/protection coils

ACCESSORIES	ITEM NO.	FEATURES	EURO/PG
JZ-29	KA999901	Mounting set RTKSA for THK/NTHK/SWK individual controllers	
JZ-31	KA999903	Mounting set RTKSA for pipe mounting contact controller (worm screw clamp)	
JZ-33	KA999904	RTKSA seal set, protection rating: IP54	

### TYPE COMPARISON (OLD / NEW TYPE)

OLD ALRE TYPES	CONTROL RANGE	HYSTERESIS	NEW ALRE TYPES	CONTROL RANGE	HYSTERESIS	ACCESSORIES
KR 80.312	fixed at 100 °C	-20 K	RTKSA-003.310	20 to 150 °C	-10 K	THK-2-100 + JZ-29
LR 80.312	fixed at 100 °C	-20 K				SWK-2-100 + JZ-29
KR 80.318	fixed at 100 °C	-20 K				THK-2-200 + JZ-29
LR 80.318	fixed at 100 °C	-20 K				SWK-2-200 + JZ-29
KR 80.309	fixed at 75 °C	-20 K				THK-2-100 + JZ-29
LR 80.309	fixed at 75 °C	-20 K				SWK-2-100 + JZ-29
KR 80.310	fixed at 75 °C	-20 K				THK-2-200 + JZ-29
LR 80.310	fixed at 75 °C	-20 K				SWK-2-200 + JZ-29
KR 80.206	30 to 65 °C	-8 K	RTKSA-002.410	30 to 110 °C	-10 K	THK-2-100 + JZ-29
KR 80.206 IP54	30 to 65 °C	-8 K				THK-2-100 + JZ-29
KR 80.207	60 to 95 °C	-8 K				THK-2-100 + JZ-29
LR 80.207	60 to 95 °C	-8 K				SWK-2-100 + JZ-29
KR 80.208	85 to 120 °C	-8 K	RTKSA-002.310	20 to 150 °C	-10 K	THK-2-100 + JZ-29
KR 80.202	95 to 130 °C	-8 K				THK-2-100 + JZ-29
KR 80.203	95 to 130 °C	-8 K				THK-2-200 + JZ-29
LR 80.203	95 to 130 °C	-8 K				SWK-2-200 + JZ-29
KR 80.203 IP54	95 to 130 °C	-8 K				THK-2-200 + JZ-29

**UNIVERSAL CAPILLARY THERMOSTAT RTKSA****CAPILLARY SYSTEM – TÜV-TESTED****TYPE COMPARISON (OLD / NEW TYPE)**

OLD ALRE TYPES	CONTROL RANGE	HYSTERESIS	NEW ALRE TYPES	CONTROL RANGE	HYSTERESIS	ACCESSORIES
WR 81.029-1	0 to 35 °C	0.5 to 1 K	RTKSA-000.100	0 ... 50 °C	1.3 K	-
KR 80.003-1	0 to 35 °C	1 K				THK-2-200 + JZ-29
LR 80.003-1	0 to 35 °C	1 K				SWK-2-200
WR 81.009-2	0 to 70 °C	1 ... 2 K	RTKSA-000.200	0 to 120 °C	3 K	-
KR 80.035-2	0 to 70 °C	2 K				THK-2-100 + JZ-29
KR 80.027-5	0 to 70 °C	5 K				THK-2-100 + JZ-29
LR 80.027-5	0 to 70 °C	5 K				SWK-2-100 + JZ-29
LR 80.035-2	0 to 70 °C	2 K				SWK-2-100 + JZ-29
KR 80.028-2	0 to 70 °C	2 K				THK-2-200 + JZ-29
LR 80.028-2	0 to 70 °C	2 K				SWK-2-200 + JZ-29
KR 80.029-2	0 to 70 °C	2 K				THK-2-280 + JZ-29
KR 80.029-2 V4A	0 to 70 °C	3 K				NTHK-2-280 + JZ-29
LR 80.029-2	0 to 70 °C	2 K				SWK-2-280 + JZ-29
KR 80.011-1 V4A	10 to 45 °C	1 K				NTHK-2-120 + JZ-29
KR 80.009-1 V4A	10 to 45 °C	1 K				NTHK-2-200 + JZ-29
KR 80.000-5	35 to 95 °C	5 K				THK-2-100 + JZ-29
KR 80.001-5	35 to 95 °C	5 K	THK-2-200 + JZ-29			
KR 80.001-5 V4A	35 to 95 °C	5 K	NTHK-2-200 + JZ-29			
KR 80.008-8	40 to 110 °C	8 K	THK-2-100 + JZ-29			
KR 80.006-8	50 to 130 °C	8 K	RTKSA-000.300	20 to 150 °C	9.1 K	THK-2-100 + JZ-29
WR 81.101-1	0 to 35 °C	0.5 to 1 K	RTKSA-001.100	0 ... 50 °C	1.3 K	-
WR 81.129-1	0 to 35 °C	0.5 to 1 K				-
KR 80.108-1	0 to 35 °C	1 K				-
LR 80.108-1	0 to 35 °C	1 K				-
KR 80.109-1	0 to 35 °C	1 K				THK-2-200 + JZ-29
LR 80.109-1	0 to 35 °C	1 K				SWK-2-200 + JZ-29
WR 81.115-5	0 to 70 °C	4 K	RTKSA-001.200	0 to 120 °C	3 K	JZ-31
WR 81.109-2	0 to 70 °C	1 ... 2 K				-
KR 80.116-2	0 to 70 °C	2 K				THK-2-100 + JZ-29
LR 80.116-2	0 to 70 °C	2 K				SWK-2-100 + JZ-29
KR 80.111-3	0 to 80 °C	1 K				THK-2-100 + JZ-29
KR 80.120-1	10 to 45 °C	1 K				THK-2-200 + JZ-29
LR 80.120-1	10 to 45 °C	1 K				SWK-2-200 + JZ-29
KR 80.100-5	35 to 95 °C	5 K				THK-2-100 + JZ-29
KR 80.100-5 IP54	35 to 95 °C	5 K	NTHK-2-100 + JZ-29			
KR 80.101-5	35 to 95 °C	5 K	RTKSA-001.301	20 to 150 °C	3.3 K	THK-2-200 + JZ-29
LR 80.101-5	35 to 95 °C	5 K	SWK-2-200 + JZ-29			
KR 80.124-5	35 to 95 °C	5 K	THK-2-280 + JZ-29			
KR 80.112-5	35 to 95 °C	8 K	RTKSA-001.300	20 to 150 °C	9.1 K	THK-2-600 + JZ-29
KR 80.102-8	40 to 110 °C	8 K				THK-2-100 + JZ-29
KR 80.103-8	40 to 110 °C	8 K				THK-2-200 + JZ-29
WR 81.117-5	50 to 130 °C	4 K				JZ-31
KR 80.106-8	50 to 130 °C	8 K				THK-2-100 + JZ-29

# UNIVERSAL CAPILLARY THERMOSTAT RTKSA

## CAPILLARY SYSTEM – TÜV-TESTED

### ILLUSTRATIONS

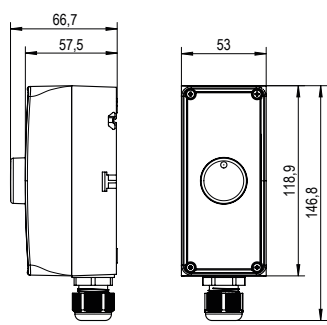
RTKSA with internal setting



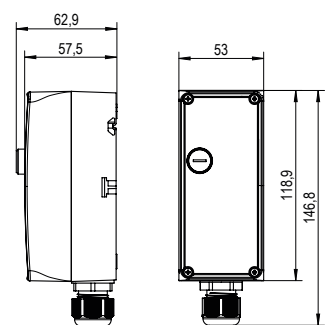
RTKSA with internal setting and external reset



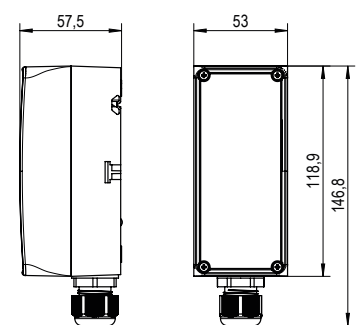
RTKSA TR



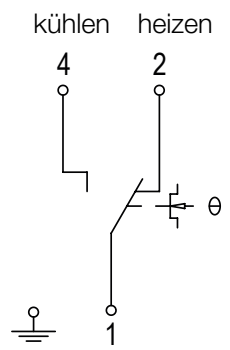
RTKSA TB / STB



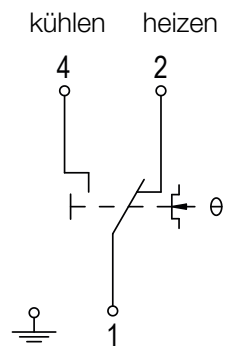
RTKSA TW / STW



RTKSA-000.xxx / RTKSA-001.xxx / RTKSA-004.xxx



RTKSA-002.xxx / RTKSA-003.xxx



Scan the QR code now and watch the 'New thermostats in plant engineering' product film. More information at a glance.

### ACCESSORIES

JZ-29



JZ-31



JZ-33





# UNIVERSAL CAPILLARY DOUBLE THERMOSTAT RTKSA

## CAPILLARY SYSTEM – TÜV-TESTED



### TECHNICAL DATA

<b>Colour:</b>	anthracite grey (like RAL 7016), front side transparent
<b>Sensor material:</b>	Cu
<b>Sensor length:</b>	2 m
<b>Max. sensor temperature:</b>	Top scale value +15%
<b>Max. head temperature:</b>	80 °C
<b>Permissible atmospheric humidity:</b>	Max. 95% rel. humidity, non-condensing
<b>Operating voltage:</b>	none
<b>Max. switching current:</b>	<b>NC contact:</b> 16 (2.5) A at 230 VAC +10% 0.25 A at 230 VDC +10% <b>NO contact TR/TW:</b> 6.3 (2.5) A at 230 VAC +10% 0.25 A at 230 VDC +10% <b>NO contact TB/STB:</b> 2.0 (0.4) A at 230 VAC +10% 0.25 A at 230 VDC +10%
<b>Min. switching current:</b>	Min. 100 mA at 24 V (AC/DC)
<b>Max. switching voltage:</b>	230 VAC 50/60 Hz, 230 VDC
<b>Min. switching voltage:</b>	24 VAC/50 Hz, 24 VDC
<b>Switching element:</b>	microswitch
<b>Switching contact:</b>	2x togglers, potential-free
<b>Control range:</b>	Heating or cooling
<b>Electrical connection:</b>	Push-in terminals
<b>Mounting/attachment:</b>	Wall mounting or with optional process connection (immersion sleeve or protection coil)
<b>Protection class:</b>	I
<b>Protection rating:</b>	RTKSA-xxx.x0x IP40 RTKSA-xxx.x1x IP54 IP65 (optional)
<b>Safety and EMC:</b>	In accordance with DIN EN 60730 (VDE 0631)
<b>Sensor:</b>	liquid-filled capillary
<b>General features:</b>	scale: degrees Celsius

### APPLICATION

This series of devices was specially developed for use in heating technology; in boiler systems or storage tanks; district heating transfer stations and heat transfer systems; in ventilation technology to monitor supply air or as limiters for electrical heating coils, as well as for controlling and monitoring temperatures in pipelines and tanks.

Immersion sleeves, protection coils and mounting set JZ-31 for pipe mounting are not included in the scope of delivery.

Accessory JZ-30 must be used in conjunction with immersion sleeves.

Type testing by TÜV in accordance with DIN EN 14597



TYPE	ITEM NO.	CONTROL RANGE	HYSTERESIS	SENSOR Ø XL	FEATURES	EURO/PG
RTKSA-010.200	KA001000	TR: 0 to 120 °C STB: 70 ... 130 °C	TR: 3 K STB: -10 to -15 K*	6x87 mm 6x66 mm	TR (external setting), STB (internal setting/ external reset)	
RTKSA-013.210	KA001200	TW: 0 to 120 °C TB: 20 to 150 °C	TW: 3 K TB: -10 to -15 K*	6x87 mm 6x55 mm	TW (internal setting) TB (internal setting/ external reset)	
RTKSA-014.210	KA001100	TW: 0 to 120 °C TW: 0 to 120 °C	TW: 3 K TW: 3 K	6x87 mm 6x87 mm	2x TW (internal setting)	

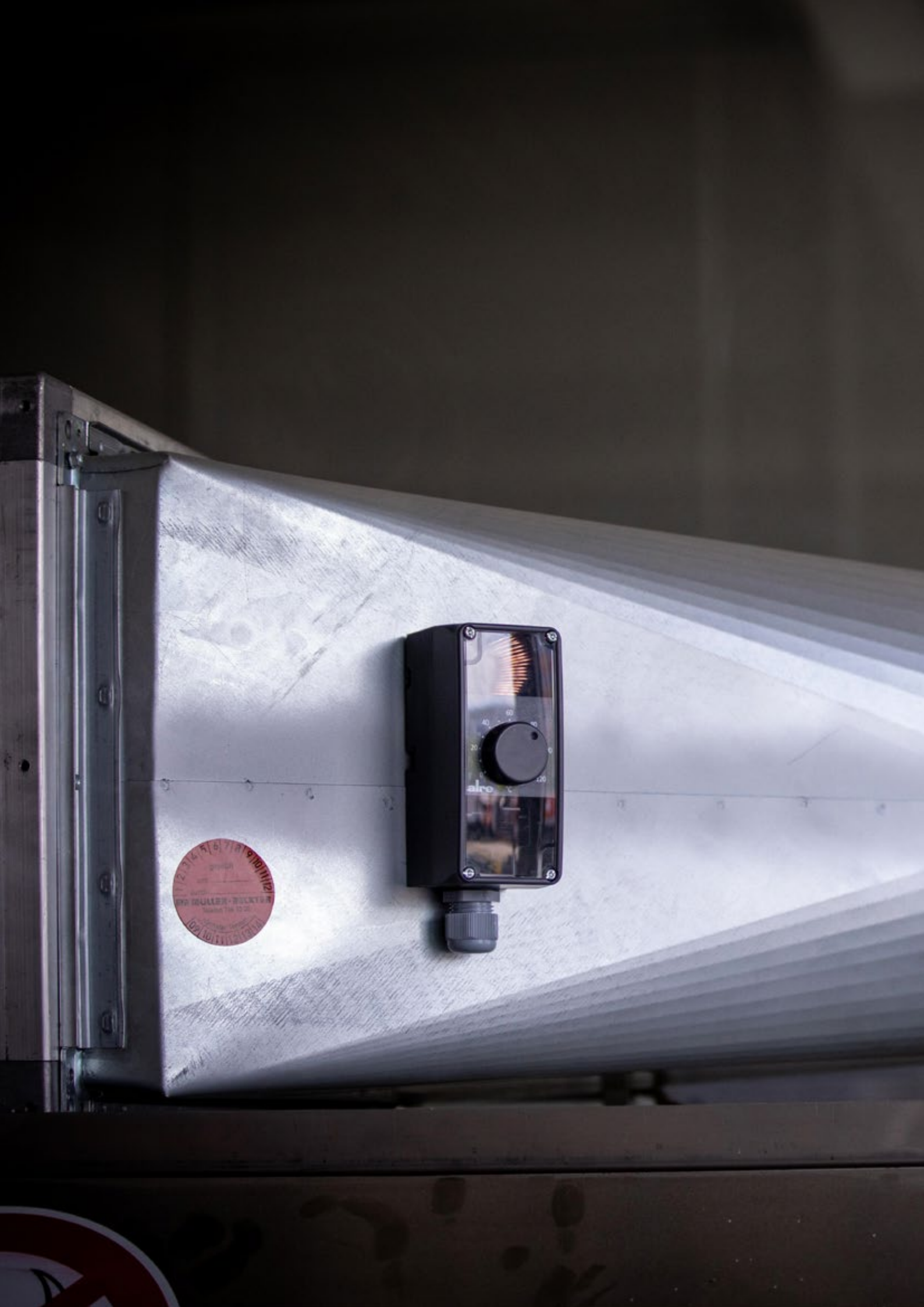
TR = temperature controller, TW = temperature monitor, TB = temperature limiter, STB = safety temperature limiter

\* Manual reset after cooling down by 10–15 K (depending on configured setpoint)

ACCESSORIES	ITEM NO.	LENGTH OF	MATERIAL	DIAMETER IXA**	FEATURES	EURO/PG
THK-2-100x17	KA979901	100 mm	nickel-plated brass	14.8x17 mm	Immersion sleeve	
THK-2-200x17	KA979902	200 mm	nickel-plated brass	14.8x17 mm	Immersion sleeve	
NTHK-2-100x17	KA979903	100 mm	V4A (1.4571)	14.8x17 mm	Immersion sleeve	
NTHK-2-200x17	KA979904	200 mm	V4A (1.4571)	14.8x17 mm	Immersion sleeve	
SWK-2-100	KA989901	100 mm	steel, nickel-plated	10.5x17 mm	Protection coil with flange plate	
SWK-2-200	KA989903	200 mm	steel, nickel-plated	10.5x17 mm	Protection coil with flange plate	

\*\* I = minimum inner diameter/A = nominal outer diameter

See catalog for pictures and dimension diagrams for immersion sleeves/protection coils



112 116 118 120 122 124 126 128 130 132  
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