THERMOSTATS

limites a réarmement manuel jusque 120°C

-25°

ING. RICHARD

FONOVITS

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Stem thermostats and temperature-limiters

Typ Summary

Temperature range	0—110° C						10—250° C		Page
Switch rating	15 A 220 V ~				20 A 220 V ~		15 A 220 V~	20 A 220 V ~	
Contact	on-off		change-over		on-off		change-over	on-off	
Poles	1-poled	2-poled	1-poled	sequence contact	1-poled	2-poled	1-poled	1-poled	
Thermostats for incorporation									
TMA	●								1.10 E
TMR	●								1.10 E
TML					●				1.10 E
TMU			●						1.15 E
TMZ							●		1.20 E
TMZL								●	1.20 E
TMHR		●							1.35 E
TMHL						●			1.35 E
TMF				●					1.40 E
Thermostats spray-waterproof									
TMIW			●						1.50 E
TMUW			●						1.55 E
TMZW							●		1.60 E
Temperature-limiters spray-waterproof									
TMGW			●						1.75 E

General description for stem thermostats and temperature-limiters overpage.

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General description for stem thermostats and temperature-limiters

The basic design of all thermostat types TM is the same. They consist of a thermo-sensitive element (stem), the transmission mechanism and the switch. The stem consists of a metal tube with a high coefficient of thermal expansion and a metal rod with a low coefficient of thermal expansion; tube and rod are rigidly connected at one end. The relative movement arising from change of temperature due to the different expansion of the two metals is transmitted to a micro-switch of our own design.

All thermostats and temperature-limiters can be supplied with different stem lengths according to the respective tables.

The differential (sensivity) signifies the difference between making- and breaking-temperature with the setting unchanged. The differential depends on:

a) the length of the thermostat stem. A longer stem results in smaller differential.

b) the kind of medium in which the thermostat operates. Media with a low heat transmission coefficient (such as air) cause a sensing time lag, compared with media with a high heat transmission coefficient (such as water). Such time lag results in a differential increase of approximately 20 to 30 %.

c) whether the said stem dips directly into the medium to be controlled or is inserted into a separate pocket. The latter causes a response time lag and therefore a differential increase of approximately 20 to 30 %.

The figures for differential contained in this catalogue relate to direct submersion of the thermostat stem into liquids.

All thermostats are factory calibrated for breaking temperature values.

Measures are in mm.

Delivery and sale conditions:

The "General Delivery Conditions of the Austrian High-Voltage and Low-Voltage Industries, Edition February 1958" are valid.
The prices are understood ex Vienna, packing not included; packing is charged at cost prices.
Alteration of prices, dimensions and weights indicated is reserved.

Thermostat type TMA

Description:
Single pole stem thermostat with on-off switch, for incorporation. If desired, our thermal cut-out type ZSE can be fitted to the thermostat head by means of two screws (Fig. 112).

Application:
Designed for incorporation into electric heating appliances, as water heaters, hot-water tanks, etc.

Temperature range: 0–110° C

Contact: Snap switch with high performance contacts. Circuit is broken when set value is reached.

Switch rating: 15 A 220 V~, 10 A 380 V~, 8 A 440 V~, non-inductive load.

Temperature setting: Setting disk with temperature scale.

Installation: With fixing angle or, if desired, with clip. For installation into a screw socket (½" B.S.P.) we refer to the pocket as shown in Fig. 101 overpage.

Type	Differential °C	Stem length L = mm	Weight kg
TMA 1	10	100	0.10
TMA 2	6	150	0.12
TMA 4	3	300	0.18
TMA 6	2.3	450	0.24
TMA 8	1.5	600	0.30

Special models:

Type TMR with simplified setting disk and reduced temperature range $\Delta t = 30°$ C (e. g. 55–85° C). Minimum quantity 100 pieces. Performance as shown in Fig. 111.

Type TML for switch rating 20 A 220 V~, 12 A 380 V~, 8 A 440 V~, non-inductive load. Performance as shown in Fig. 113.

Approval certificate: ÖVE, VDE, KEMA

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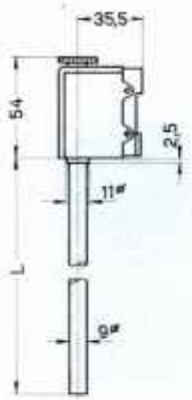
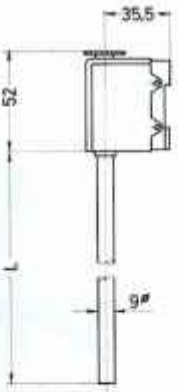
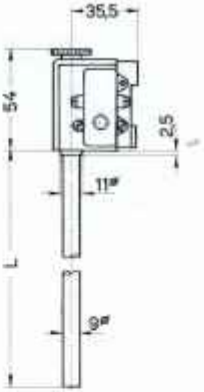
1.10 E







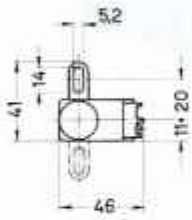


Fig. 110

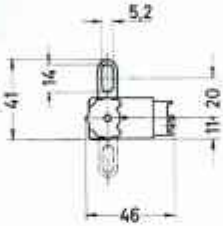


Fig. 111

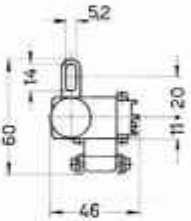


Fig. 112

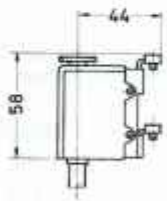


Fig. 113

Fixing

Angle

Clip

Pocket

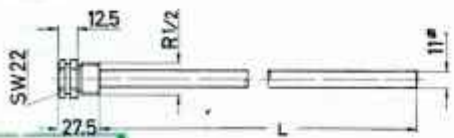


Fig. 101

Weight	
L = 90 mm	0.06 kg
L = 140 mm	0.07 kg
L = 290 mm	0.10 kg
L = 440 mm	0.13 kg
L = 590 mm	0.16 kg

Twilight-switch type EDS 3

Description:

Automatic on and off switch to operate any electric light surce in dependence of natural light conditions.
The switch is actuated by a cold-cathode tube, which is controlled by a photo-conductor, the tube circuit including a thermal relay. The switch circuit includes a delay factor to avoid operation due to car headlights, lightning, etc.

Threshold sensitivity:	Continuously adjustable from 4 to 250 lux by means of a slotted diaphragm and an additional setting control.
Switch delay for switching on and off:	1.5 to 2 minutes.
Switch rating:	10 A 220 V~, non-inductive load.
Power consumption:	6 VA
Housing:	Plastic housing, waterproof
Weight:	0.47 kg
Installation:	According to instructions for mounting and adjusting over-page.

Approval certificate: ÖVE

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9.10 E

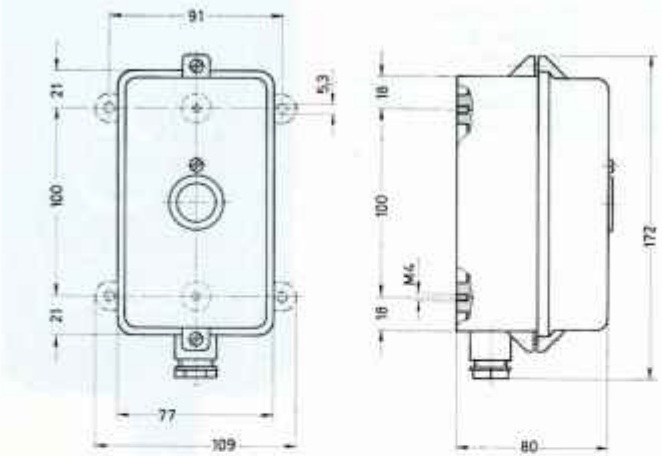

Fig. 910

Mounting and adjusting instructions:

When mounted out of doors, the device should face in the direction from north-east to north and should suitably be protected from direct sunradiation, rain and snow.

Unit setting is best done at that hour of twilight when artificial light is desired. By means of a srewdriver or a coin the diaphragm is adjusted to the largest opening. A lit cold-cathode tube will then be visible through the window in the right part of the interior of the housing. The diaphragm is then slowly turned in the reverse direction until the light in the tube goes out. 1.5 to 2 minutes will then pass until the lighting is switched on.

In addition to the slotted diaphragm, the twilight switch has an adjusting control in the upper right corner of the interior of the housing. When the switch is supplied, the control is set so that setting by diaphragm is fully sufficient for normal twilight threshold values. When it is desired, however, to increase the threshold sensitivity of the unit so as to switch on the light at values nearer to darkness, the setting control is to be turned in counter-clockwise direction. Should the threshold value be set for great brightness the control is turned clockwise. Such setting is done by a screwdriver fitting in the control slot.

Thermal cut-out Type D

Description:

Three-pole non-self-resetting thermal cut-out with bimetal release and a metal base plate as thermosensitive element.

Application:

Designed for incorporation into electric heating appliances, as water heaters, hot-water tanks, etc.

Operating temperatures: Colour coding on the cover:

70 ± 5° C	opak	100 ± 5° C	yellow
75 ± 5° C	blue	105 ± 5° C	orange
80 ± 5° C	white	110 ± 5° C	red
85 ± 5° C	brown	115 ± 5° C	grey
90 ± 5° C	black	120 ± 5° C	green
95 ± 5° C	pink		

Please state your desired temperature when ordering.

Resetting: When temperature has fallen off push the reset tracer all the way to the stop.

Contact: Silver contacts with snap action.

Switch rating: 20 A 380 V~, non-inductive load. Three-pole.

Connection: Type D 1 — Tabs 6,3
Type D 2 — Pillar terminals M 3,5

Installation: By means of two screws M 3 to plane surface.

Weight: Type D 1 — 0,042 kg
Type D 2 — 0,053 kg

Approval certificate: ÖVE

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6.50 E

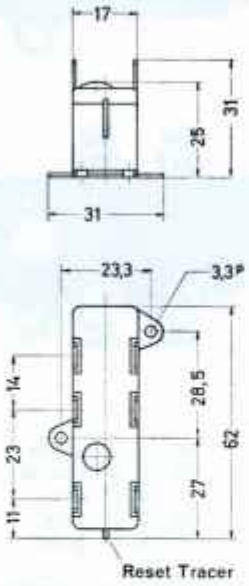

Fig. 650
Type D 1

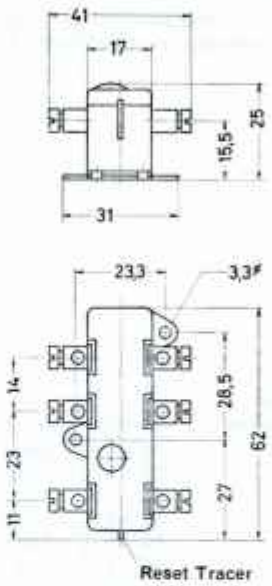

Fig. 651
Type D 2

Thermal cut-out Type Z

Description:

Double pole non-self-resetting thermal cut-out with bimetal release and a metal base plate as thermosensitive element.

Application:

Designed for incorporation into electric heating appliances, as water heaters, hot-water tanks, etc.

Operating temperatures:

Colour coding on the cover:

70±5°C	opak	100±5°C	yellow
75±5°C	blue	105±5°C	orange
80±5°C	white	110±5°C	red
85±5°C	brown	115±5°C	grey
90±5°C	black	120±5°C	green
95±5°C	pink		

Please state your desired temperature when ordering.

Resetting: When temperature has fallen off push the reset tracer all the way to the stop.

Contact: Silver contacts with snap action.

Switch rating: 20 A 380 V~, non-inductive load. Double pole.

Connection: Type Z 1 — Tabs 6,3
Type Z 2 — Pillar terminals M 3,5

Installation: By means of two screws M 3 to plane surface.

Weight: Type Z 1 — 0,034 kg
Type Z 2 — 0,041 kg

Approval certificate: ÖVE

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6.30 E

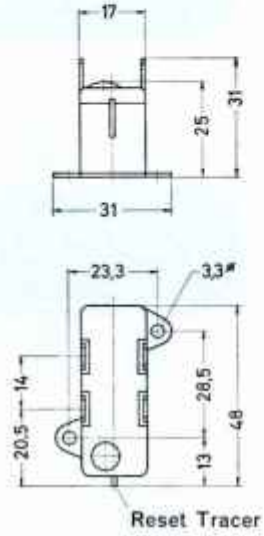

Fig. 630
Type Z 1

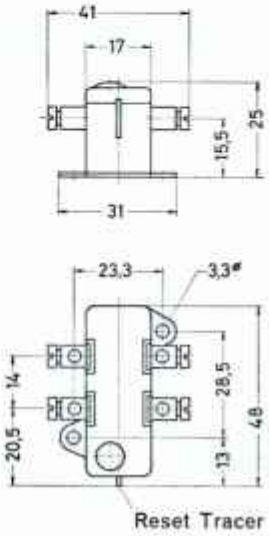

Fig. 631
Type Z 2

Surface Thermostat type AL

Description:
Single pole surface thermostat with on-off switch, for incorporation.

Application:
Designed for incorporation into electric heating appliances, as water heaters, hot-water tanks, etc.

Temperature range:	35—85° C
Contact:	Snap switch with high performance contacts. Circuit is broken when set value is reached. If desired, at extra cost, with change-over switch (suffix "U" to type code).
Switch rating:	15 A 220 V ~, 10 A 380 V ~, non-inductive load.
Differential:	8° C
Temperature setting:	Setting spindle for mounting of a knob. Spindles of varied length and form can be manufactured to order, in case of larger orders. Cost on demand.
Installation:	By means of two screws M 3 to plane surface. For best thermal contact we recommend the application of a heat conduction paste.
Weight:	0.075 kg
Special models:	
Type ALr	locating plug engages in a notch for minimum temperature setting.
Type ALi	without setting spindle. Use screwdriver to alter factory set value of 85° C. One full turn of screw is equal to 18° C. Performance as shown in Fig. 421. Weight: 0.052 kg

Approval certificate: ÖVE, SEV

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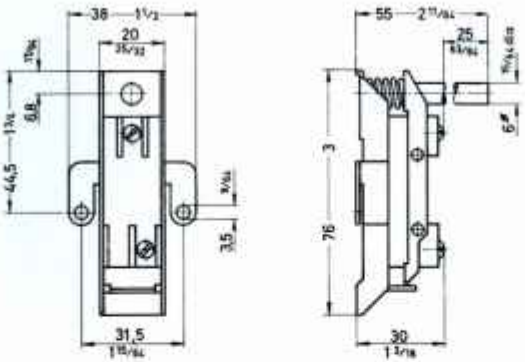

Fig. 420

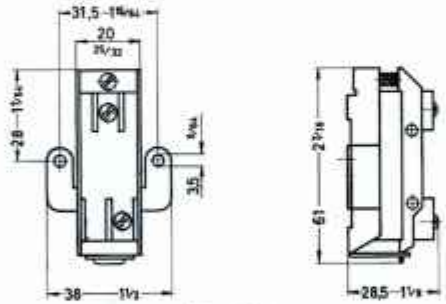

Fig. 421

Surface Thermostat type KSB

Description:
Single pole surface thermostat with on-off switch (reverse action when required), with dustproof steel plate cover.

Application:
Designed to control the temperature of liquids in containers, as temperature check of bearings, motors, generators, transformers, etc.

Temperature ranges:	—10— 40° C or 30— 80° C or 40— 90° C or 50—100° C or 70—120° C When ordering please quote range desired.
Contact:	Snap switch. Circuit is broken when set value is reached. With reverse action when required (suffix "s" to type code).
Switch rating:	4 A 220 V~, non-inductive load.
Differential:	Approx. 5° C (assuming temperature variation of 0.5 to 1° C per minute and good thermal conduction).
Temperature setting:	Setting knob.
Installation:	By means of two screws M 3 to plane surface. Care must be taken to ensure good thermal contact between the thermostat's base and the plant to be controlled. For best thermal contact we recommend the application of a heat conduction paste.
Weight:	0.05 kg

Approval certificate: ÖVE

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4.10 E

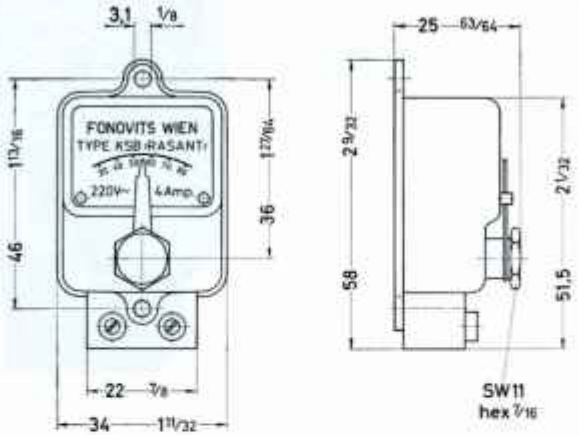

Fig. 410

Room Thermostat type TC

Description:
Room-thermostat with change-over switch, in plastic housing.
Supplied in 3 colours.

Application:
Designed to control the temperature of dry living rooms, workshops, store rooms, etc.

Temperature range:	5—30° C
Contact:	Magnetic change-over switch.
Switch rating:	10 A 220 V~, non-inductive load.
Differential:	Approximately 1° C (assuming temperature variation of 2 to 3° C per hour).
Temperature setting:	Setting disk with temperature scale.
Installation:	By means of the mounting bracket located in rear of cover.
Particular versions:	Colour code: Type TC 1 — normal type white Type TC 2 — normal type ivory Type TC 4 — normal type grey Code for accessory fittings: R — with accelerator heater, differential approx. 0.6° C. XB — with accelerator heater and night set back heater and operating lamp All electrical accessories are rated for 220 V.
Special models:	Type TC 1 R 22 — Room-thermostat, white, with accelerator heater, temperature scale –2—22° C. Type TC 1 R 44 — the same, but temperature scale 20—44° C.
Weight:	0.16 kg
Approval certificate:	ÖVE, SEV

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3.11 E

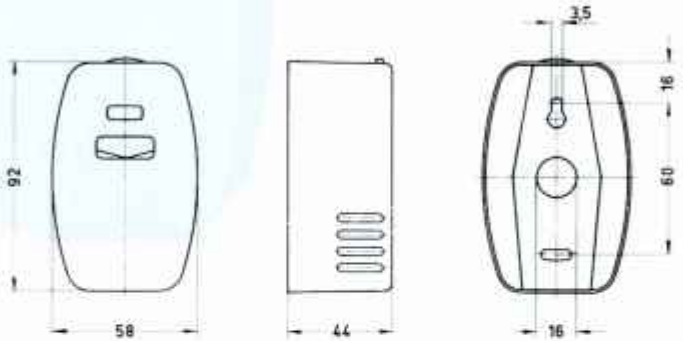
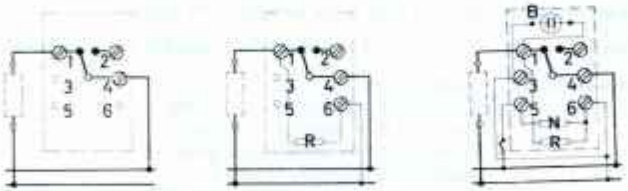


Fig. 310

Wiring diagramm:



Type TC

Type TC-R with accelerator heater

Type TC-XB with accelerator heater and night set back heater and operating lamp

Thermostat Type KUB

Description:

Single pole capillary thermostat with change-over switch, for incorporation, with setting knob.
Capillary tube and feeler are of stainless steel (A. I. S. I. 304).

Application:

Designed for incorporation into electric heating appliances, electrically controlled heating installations, air-conditioning installations, etc.

Contact: Snap switch with high performance contacts, change-over switch.

Switch rating: 16 A 220 V~, 12 A 380 V~, 8 A 440 V~, non-inductive load.

Connection: Screw terminals M 3

Differential: 5 °C

Temperature setting: Fitted on setting knob with temperature scale.

Installation: By means of two screws M 4 and the mounting bracket. The mounting bracket can be pivoted around 90 degrees angle. Minimum bending radius for the capillary tube 5 mm.

Weight: 0,15 kg

Type	Length of capillary tube K = mm	Temperature range °C
KUB 21 B		—5 – 70
KUB 21 C	450	15 – 90
KUB 21 D		45 – 120

Type	Length of capillary tube K = mm	Temperature range °C
KUB 41 B		—5 – 70
KUB 41 C	900	15 – 90
KUB 41 D		45 – 120

Approval certificate: ÖVE, VDE, SEV

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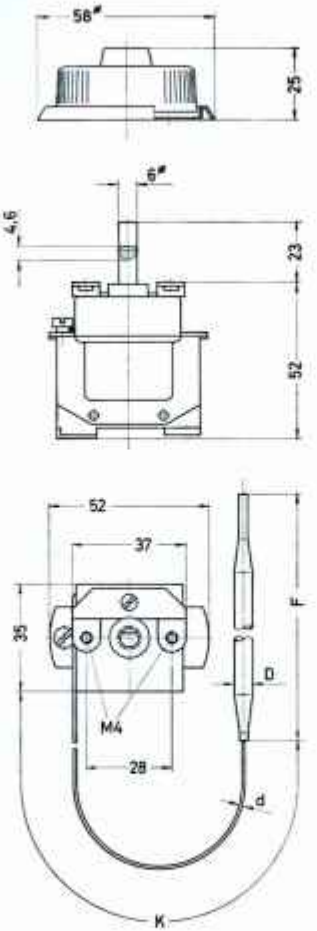

Fig. 235
F = 170 mm
D = 6 mm
d = 1 mm

Thermostat Type KUA

Description:

Single pole capillary thermostat with change-over switch, for incorporation. Capillary tube and feeler are of stainless steel (A. I. S. I. 304).

Application:

Designed for incorporation into electric heating appliances, electrically controlled heating installations, air-conditioning installations, etc.

Contact: Snap switch with high performance contacts, change-over switch.

Switch rating: 16 A 220 V~, 12 A 380 V~, 8 A 440 V~, non-inductive load.

Connection: Screw terminals M 3

Differential: 5 °C

Temperature setting: Setting spindle with flat to mount a knob with a setting range of 270 degrees angle. Position of the spindle at minimum temperature see overpage.

Installation: By means of two screws M 4 and the mounting bracket. The mounting bracket can be pivoted around 90 degrees angle. Minimum bending radius for the capillary tube 5 mm.

Weight: 0,125 kg

Type	Length of capillary tube K = mm	Temperature range °C
KUA 21 B		—5 – 70
KUA 21 C	450	15 – 90
KUA 21 D		45 – 120

Type	Length of capillary tube K = mm	Temperature range °C
KUA 41 B		—5 – 70
KUA 41 B	900	15 – 90
KUA 41 C		45 – 120

Approval certificate: ÖVE, VDE, SEV

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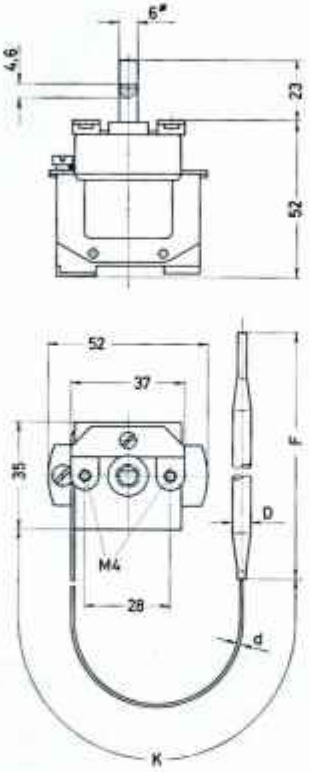

Fig. 230
F = 170 mm
D = 6 mm
d = 1 mm

Thermostat Type KLB

Description:

Single pole capillary thermostat with on-off switch, for incorporation, with setting knob.
Capillary tube and feeler are of stainless steel (A. I. S. I. 304).

Application:

Designed for incorporation into electric heating appliances, electrically controlled heating installations, air-conditioning installations, etc.

Contact: Snap switch with high performance contacts. Circuit is broken when set value is reached.

Switch rating: 20 A 220 V~, 12 A 380 V~, 8 A 440 V~, non-inductive load.

Connection: Tabs 6,3

Differential: 5 °C

Temperature setting: Fitted on setting knob with temperature scale.

Installation: By means of two screws M 4 and the mounting bracket. The mounting bracket can be pivoted around 90 degrees angle. Minimum bending radius for the capillary tube 5 mm.

Weight: 0,12 kg

Type	Length of capillary tube K = mm	Temperature range °C
KLB 21 B		—5 – 70
KLB 21 C	450	15 – 90
KLB 21 D		45 – 120

Type	Length of capillary tube K = mm	Temperature range °C
KLB 41 B		—5 – 70
KLB 41 C	900	15 – 90
KLB 41 D		45 – 120

Approval certificate: ÖVE, VDE, SEV

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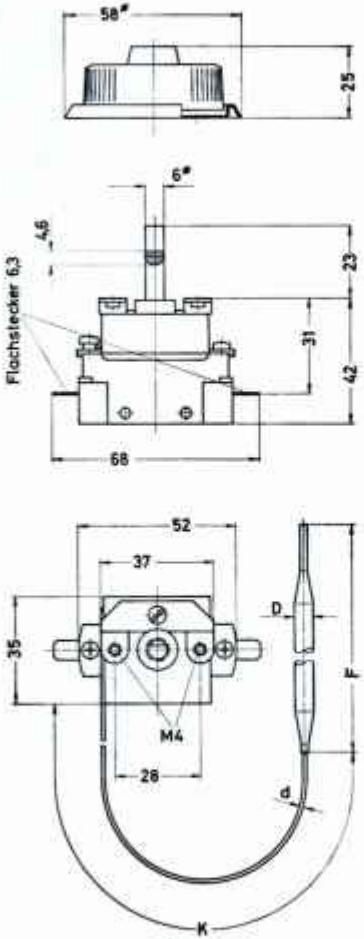

Fig. 205
F = 170 mm
D = 6 mm
d = 1 mm

Thermostat Type KLA

Description:

Single pole capillary thermostat with on-off switch, for incorporation.
Capillary tube and feeler are of stainless steel (A. I. S. I. 304).

Application:

Designed for incorporation into electric heating appliances, electrically controlled heating installations, air-conditioning installations, etc.

Contact: Snap switch with high performance contacts. Circuit is broken when set value is reached.

Switch rating: 20 A 220 V~, 12 A 380 V~, 8 A 440 V~, non-inductive load.

Connection: Tabs 6,3

Differential: 5 °C

Temperature setting: Setting spindle with flat to mount a knob with a setting range of 270 degrees angle. Position of the spindle at minimum temperature see overpage.

Installation: By means of two screws M 4 and the mounting bracket. The mounting bracket can be pivoted around 90 degrees angle. Minimum bending radius for the capillary tube 5 mm.

Weight: 0,095 kg

Type	Length of capillary tube K = mm	Temperature range °C
KLA 21 B		—5 – 70
KLA 21 C	450	15 – 90
KLA 21 D		45 – 120

Type	Length of capillary tube K = mm	Temperature range °C
KLA 41 B		—5 – 70
KLA 41 C	900	15 – 90
KLA 41 D		45 – 120

Approval certificate: ÖVE, VDE, SEV

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2.00 E

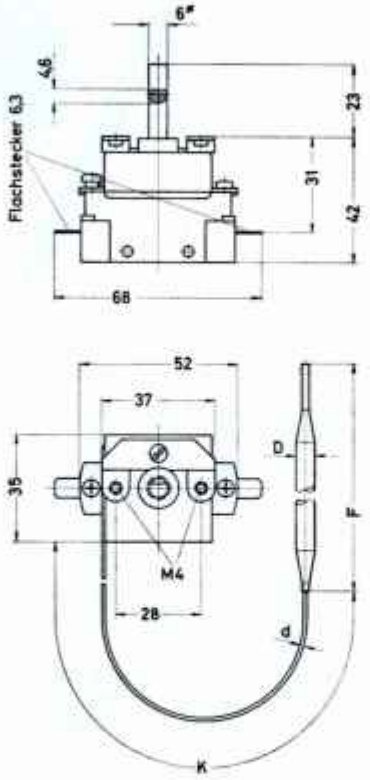

Fig. 200
F = 170 mm
D = 6 mm
d = 1 mm

Temperature limiter type TMGW

Description:
Single pole temperature limiter with change-over switch for manual resetting, in sealable spray-waterproof light metal housing with internal setting scale.

Application:
Designed for oil-burner installations and other industrial plant.

Temperature range: 0—110° C

Contact: Snap switch with high performance contacts, change-over switch.

Switch rating: 15 A 220 V~, 10 A 380 V~, 8 A 440 V~, non-inductive load.

Temperature setting: Internal setting disk with temperature scale. The stopper closing the bore is reached after the cover has been removed. Setting is done by means of a screwdriver through the bore and stopper replaced.

Resetting: Press the reset button as soon as temperature has been reduced by approximately 5° C.

Installation: With fixing lug or, if desired, with clip. For installation into a screw socket (½" B.S.P.) we refer to the pocket as shown in Fig. 101 overpage.

Type	Stem length L = mm	Weight kg
TMGW 1	100	0.28
TMGW 2	150	0.30
TMGW 4	300	0.36
TMGW 6	450	0.42
TMGW 8	600	0.48

Approval certificate: ÖVE

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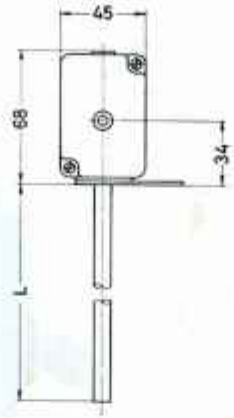

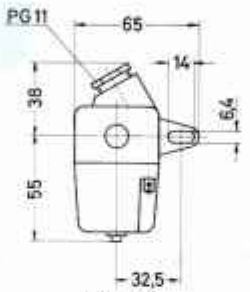

Fig. 175

Fixing

Lug Clip

Pocket

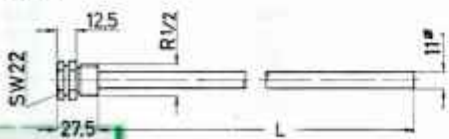

Fig. 101

Weight	
L = 90 mm	0.06 kg
L = 140 mm	0.07 kg
L = 290 mm	0.10 kg
L = 440 mm	0.13 kg
L = 590 mm	0.16 kg

Thermostat type TMZW

Description:
Single pole stem thermostat with change-over switch for temperatures up to 250° C, in spray-waterproof light metal housing.

Application:
Designed to control the temperature of liquids, gases, etc.

Temperature range: 10—250° C

Contact: Snap switch with high performance contacts, change-over switch.

Switch rating: 15 A 220 V~, 10 A 380 V~, 8 A 440 V~, non-inductive load.

Temperature setting: Setting disk with temperature scale.

Installation: With fixing lug or, if desired, with clip. For installation into a screw socket (½" B.S.P.) we refer to the pocket as shown in Fig. 101 overpage.

Type	Differential °C	Stem length L = mm	Weight kg
TMZW 1	10	100	0.29
TMZW 2	6	150	0.31
TMZW 4	3	300	0.37
TMZW 6	3	450	0.43
TMZW 8	3	600	0.49

Approval certificate: ÖVE

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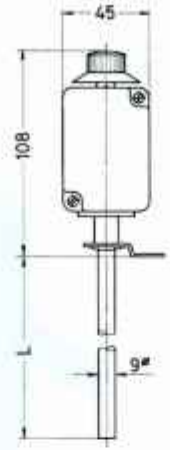
1.60 E



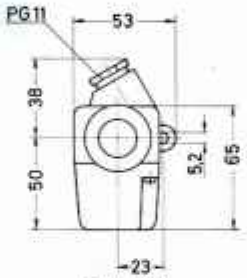
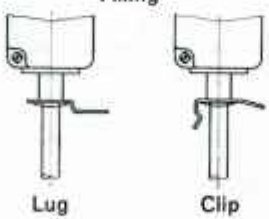


Fig. 160



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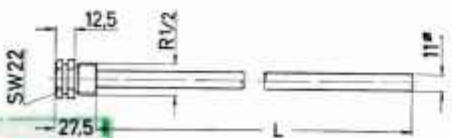

Fig. 101

Weight	
L = 90 mm	0.06 kg
L = 140 mm	0.07 kg
L = 290 mm	0.10 kg
L = 440 mm	0.13 kg
L = 590 mm	0.16 kg

Thermostat type TMUW

Description:
Single pole stem thermostat with change-over switch, in spray-waterproof light metal housing.

Application:
Designed to control the temperature of liquids, gases, etc.

Temperature range: 0—110° C

Contact: Snap switch with high performance contacts, change-over switch.

Switch rating: 15 A 220 V~, 10 A 380 V~, 8 A 440 V~, non-inductive load.

Temperature setting: Setting disk with temperature scale.

Installation: With fixing lug or, if desired, with clip. For installation into a srew socket (½" B.S.P.) we refer to the pocket as shown in Fig. 101 overpage.

Type	Differential °C	Stem length L = mm	Weight kg
TMUW 1	10	100	0.28
TMUW 2	6	150	0.30
TMUW 4	3	300	0.36
TMUW 6	2.3	450	0.42
TMUW 8	1.5	600	0.48

Approval certificate: ÖVE, SEV

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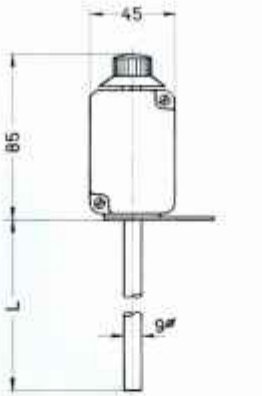
1.55 E



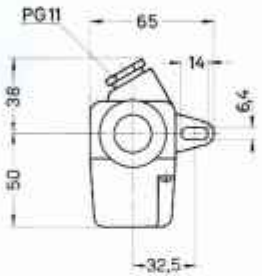
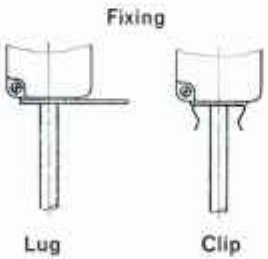


Fig. 155



Pocket

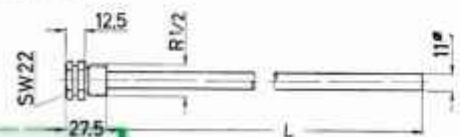


Fig. 101

Weight	
L = 90 mm	0.06 kg
L = 140 mm	0.07 kg
L = 290 mm	0.10 kg
L = 440 mm	0.13 kg
L = 590 mm	0.16 kg

Thermostat type TMIW

Description:
Single pole stem thermostat with change-over switch, in sealable spray-waterproof light metal housing with internal setting scale.

Application:
Designed to control the temperature of liquids, gases, etc.

Temperature range: 0—110° C

Contact: Snap switch with high performance contacts, change-over switch.

Switch rating: 15 A 220 V~, 10 A 380 V~, 8 A 440 V~, non-inductive load.

Temperature setting: Internal setting disk with temperature scale. The stopper closing the bore is reached after the cover has been removed. Setting is done by means of a screwdriver through the bore and stopper replaced.

Installation: With fixing lug or, if desired, with clip. For installation into a screw socket (½" B.S.P.) we refer to the pocket as shown in Fig. 101 overpage.

Type	Differential °C	Stem length L = mm	Weight kg
TMIW 1	10	100	0.28
TMIW 2	6	150	0.30
TMIW 4	3	300	0.36
TMIW 6	2.3	450	0.42
TMIW 8	1.5	600	0.48

Approval certificate: ÖVE

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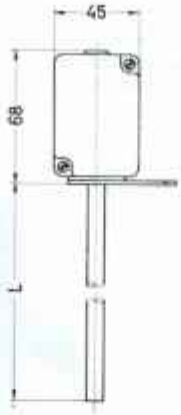
1.50 E



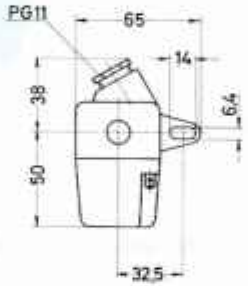
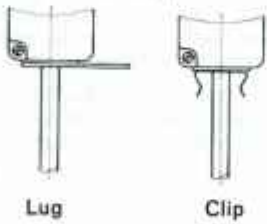


Fig. 150



Pocket

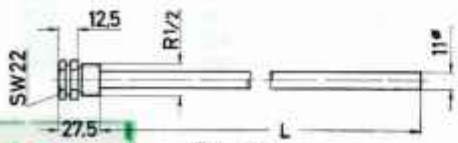


Fig. 101

Weight	
L = 90 mm	0.06 kg
L = 140 mm	0.07 kg
L = 290 mm	0.10 kg
L = 440 mm	0.13 kg
L = 590 mm	0.16 kg

Thermostat type TMF

Description:

Stem thermostat for incorporation with two separate change-over switch units, operating one after the other as temperature rises.
Temperature setting for switch 1, acting as a normal thermostat, is done with the setting disk. Switch 2 is subservient to switch 1 and acts within a range of lower temperatures set (temperature difference value). Up to set value switch 1 is at rest. Subservient switch 2, set for lower temperature by external screw, is opposed until its set temperature is reached.

Application:

Designed for control tasks, in which an additional contact has to be actuated before nominal set value is attained.

Temperature range: 0–110° C

Contact: Snap switch with high performance contacts, change-over switch.

Switch rating: 15 A 220 V~, 10 A 380 V~, 8 A 440 V~, non-inductive load each.

Temperature setting: Switch 1 – Setting disk with temperature scale.
Switch 2 – Adjustment screw below switch 2. Counter-clockwise operation increases difference value.

Installation: With fixing angle or, if desired, with clip. For installation into a screw socket (½" B.S.P.) we refer to the pocket as shown in Fig. 101 overpage.

Type	Differential °C	Temperature difference value[1] °C total	°C one turn	Stem length L = mm	Weight kg
TMF 2	6	100	10	150	0.21
TMF 4	3	50	5	300	0.27
TMF 6	2.3	37	3.8	450	0.33
TMF 8	1.5	25	2.5	600	0.39

[1] Preset at 5° C.

Approval certificate: ÖVE, SEV

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1.40 E

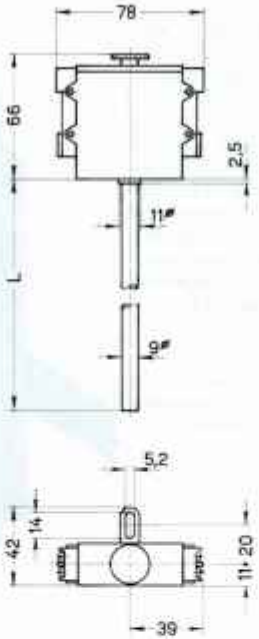
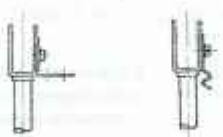


Fig. 140

Fixing



Angle Clip

Pocket

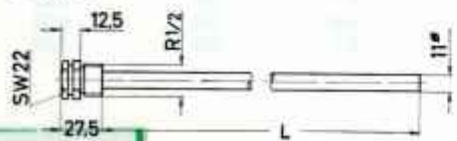


Fig. 101

Weight	
L = 140 mm	0.07 kg
L = 290 mm	0.10 kg
L = 440 mm	0.13 kg
L = 590 mm	0.16 kg

Thermostat type TMHR

Description:

Double pole stem thermostat with on-off switch, for incorporation. The two switches act within a maximum temperature range of 2.5° C, thus counteracting possible overheating beyond nominal value.
If desired, two of our thermal cut-outs type ZSE can be fitted to the thermostat head by means of two screws each (Fig. 136).

Application:

Designed for incorporation into electric water heaters, hot-water tanks, etc.

Temperature range: 0—110° C

Contact: Snap switch with high performance contacts. Circuit is broken when set value is reached.

Switch rating: 15 A 220 V~, 10 A 380 V~, 8 A 440 V~, non-inductive load. Double pole.

Temperature setting: Setting disk with temperature scale.

Installation: With fixing angle or, if desired, with clip. For installation into a screw socket (½" B.S.P.) we refer to the pocket as shown in Fig. 101 overpage.

Type	Differential °C	Stem length L=mm	Weight kg
TMHR 2	6	150	0.21
TMHR 4	3	300	0.27
TMHR 6	2.3	450	0.33
TMHR 8	1.5	600	0.39

Special models:

Type TMHL for switch rating 20 A 220 V~, 12 A 380 V~, 8 A 440 V~, non-inductive load. Double pole. Performance as shown in Fig. 137.

Approval certificate: ÖVE, VDE, KEMA

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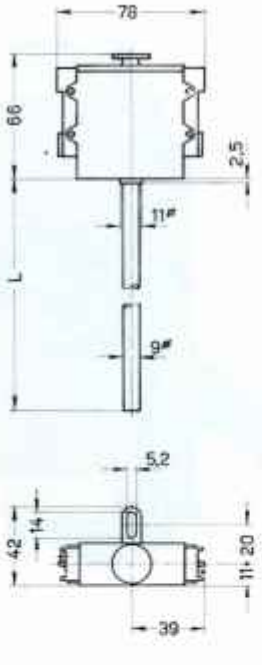


Fig. 135

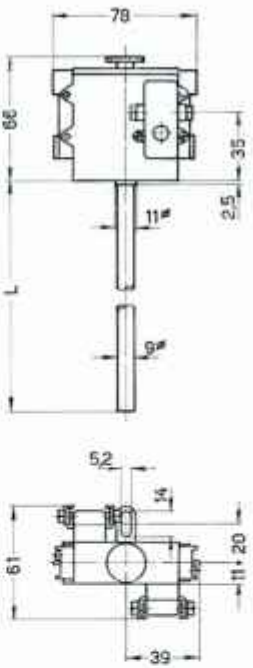


Fig. 136

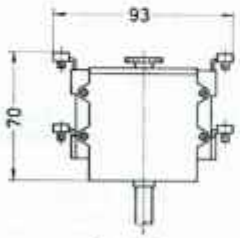
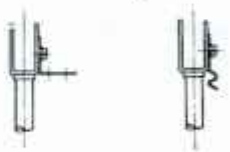


Fig. 137

Fixing



Angle Clip

Pocket

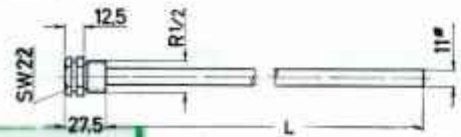


Fig. 101

Weight	
L = 140 mm	0.07 kg
L = 290 mm	0.10 kg
L = 440 mm	0.13 kg
L = 590 mm	0.16 kg

Thermostat type TMZ

Description:
Single pole stem thermostat with change-over switch for temperatures up to 250° C, for incorporation.

Application:
Designed for incorporation into electric heating appliances, to control the temperature of liquids, gases, etc.

Temperature range: 10—250° C

Contact: Snap switch with high performance contacts, change-over switch.

Switch rating: 15 A 220 V~, 10 A 380 V~, 8 A 440 V~, non-inductive load.

Temperature setting: Setting disk with temperature scale.

Installation: With fixing lug or, if desired, with clip. For installation into a screw socket (½" B.S.P.) we refer to the pocket as shown in Fig. 101 overpage.

Type	Differential °C	Stem length L = mm	Weight kg
TMZ 1	10	100	0.12
TMZ 2	6	150	0.14
TMZ 4	3	300	0.20
TMZ 6	3	450	0.26
TMZ 8	3	600	0.32

Special models:

Type TMZL with on-off switch for switch rating 20 A 220 V~, 12 A 380 V~, 8 A 440 V~, non-inductive load. Performance as shown in Fig. 121.

Approval certificate: ÖVE

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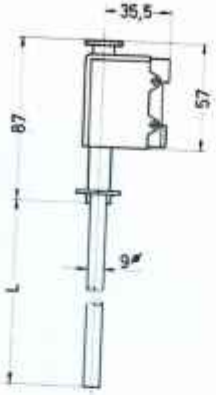
1.20 E



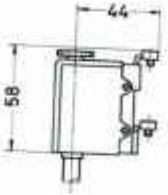


Fig. 121

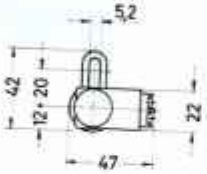
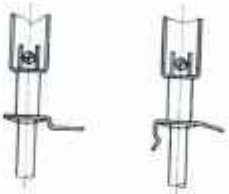


Fig. 120

Fixing



Lug Clip

Pocket

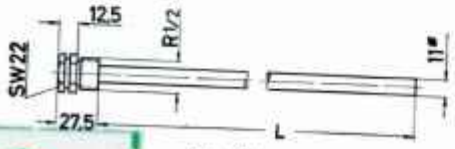


Fig. 101

Weight	
L = 90 mm	0.06 kg
L = 140 mm	0.07 kg
L = 290 mm	0.10 kg
L = 440 mm	0.13 kg
L = 590 mm	0.16 kg

Thermostat type TMU

Description:
Single pole stem thermostat with change-over switch, for incorporation.

Application:
Designed for incorporation into electric heating appliances, to control the temperature of liquids, gases, etc.

Temperature range: 0—110° C

Contact: Snap switch with high performance contacts, change-over switch.

Switch rating: 15 A 220 V~, 10 A 380 V~, 8 A 440 V~, non-inductive load.

Temperature setting: Setting disk with temperature scale.

Installation: With fixing angle or, if desired, with clip. For installation into a screw socket (½" B.S.P.) we refer to the pocket as shown in Fig. 101 overpage.

Type	Differential °C	Stem length L = mm	Weight kg
TMU 1	10	100	0.10
TMU 2	6	150	0.12
TMU 4	3	300	0.18
TMU 6	2.3	450	0.24
TMU 8	1.5	600	0.30

Approval certificate: ÖVE, SEV, DEMKO

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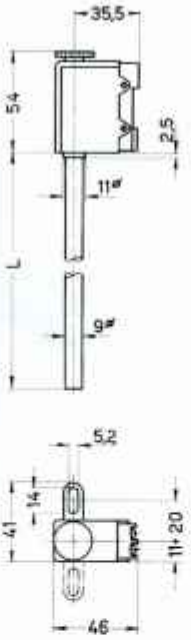
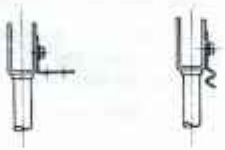


Fig. 115

Fixing



Angle Cilp

Pocket

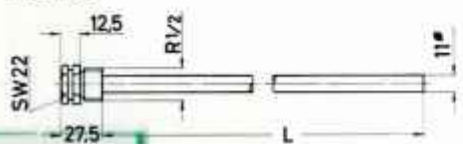


Fig. 101

Weight	
L = 90 mm	0.06 kg
L = 140 mm	0.07 kg
L = 290 mm	0.10 kg
L = 440 mm	0.13 kg
L = 590 mm	0.16 kg

1 F = 4,13 S

PREISBLATT Nr. 120.E

In österreichischen Schillingen

14-1

Blatt	Type		ö. S
Stabtemperaturregler und -begrenzer			
1.10	TMA	1	107.—
	TMA	2	109.50
	TMA	4	116.—
	TMA	6	122.50
	TMA	8	129.—
	TMR	1	97.50
	TMR	2	100.—
	TMR	4	106.50
	TMR	6	113.—
	TMR	8	119.50
	TML	1	111.—
	TML	2	113.50
	TML	4	120.—
	TML	6	126.50
	TML	8	133.—
1.15	TMU	1	111.—
	TMU	2	113.50
	TMU	4	120.—
	TMU	6	126.50
	TMU	8	133.—
	TMUD	1	119.50
	TMUD	2	122.—
	TMUD	4	128.50
	TMUD	6	135.—
	TMUD	8	141.50
1.20	TMZ	1	146.—
	TMZ	2	148.50
	TMZ	4	155.—
	TMZ	6	161.50
	TMZ	8	168.—
	TMZL	1	146.—
	TMZL	2	148.50
	TMZL	4	155.—
	TMZL	6	161.50
	TMZL	8	168.—
1.35	TMHR	2	185.50
	TMHR	4	192.—
	TMHR	6	198.50
	TMHR	8	205.—
	TMHL	2	197.—
	TMHL	4	203.50
	TMHL	6	210.—
	TMHL	8	216.50
1.40	TMF	2	210.50
	TMF	4	217.—
	TMF	6	223.50
	TMF	8	230.—
1.50	TMIW	1	233.—
	TMIW	2	235.50
	TMIW	4	242.—
	TMIW	6	248.50
	TMIW	8	255.—
1.55	TMUW	1	233.—
	TMUW	2	235.50
	TMUW	4	242.—
	TMUW	6	248.50
	TMUW	8	255.—
	TMUWD	1	242.—
	TMUWD	2	244.50
	TMUWD	4	251.—
	TMUWD	6	257.50
	TMUWD	8	264.—
1.60	TMZW	1	276.50
	TMZW	2	279.—
	TMZW	4	285.50
	TMZW	6	292.—
	TMZW	8	298.50
1.75	TMGW	1	236.50
	TMGW	2	239.—
	TMGW	4	245.50
	TMGW	6	252.—
	TMGW	8	258.50
1.80	TA	400	122.50
	TA	600	129.—
	TA	800	135.50
1.83	TE	400...	131.50
	TE	600...	138.—
	TE	800...	144.50
1.85	TZ	400...	140.50
	TZ	600...	147.—
	TZ	800...	153.50

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Zahnigasse 17 Austria Telex 74660 fonokg a

Blatt	Type	ö. S	Blatt	Type	ö. S
Überschubrohre					
	L = 100, 150 mm	35.—		L = 450 mm	45.—
	L = 300 mm	40.—		L = 600 mm	50.—
Kapillarrohrregler					
2.00	KLA 21.	95.—	2.30	KUA 21.	112.50
	KLA 41.	103.—		KUA 41.	120.50
2.05	KLB 21.	119.—	2.35	KUB 21.	137.—
	KLB 41.	127.—		KUB 41.	145.—
Raumtemperaturregler					
3.10	TC	143.—		TC.XB	208.50
	TC.R	160.—			
Anlegetemperaturregler					
4.10	KSB	211.50			
Sicherheitstemperaturbegrenzer					
6.30	Z1	67.—	6.50	D1	81.50
	Z2	80.—		D2	101.—
Dämmerungsschalter					
9.10	EDS 3	668.50			

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