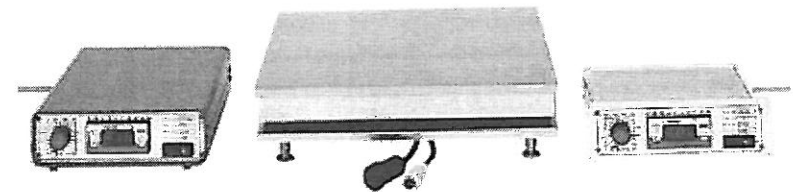
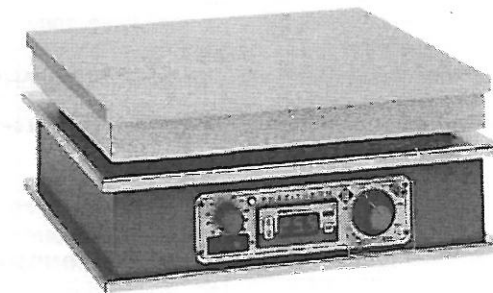


Bedienungsanleitung Operating Instructions

für / for

Präzisionsheizplatte
Precision Hot Plate

	PZ 14 SR	PZ 14 EB
	PZ 20 SR	PZ 20 EB
PZ 28-1	PZ 28-1 SR	PZ 28-1 EB
PZ 28-2	PZ 28-2 SR	PZ 28-1 EB
PZ 35	PZ 35 SR	PZ 35 EB
PZ 60	PZ 60 SR	PZ 60 EB



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You have chosen a high-precision heating plate which can hardly be outdone.

Connect and use only hot plates and control units with identical serial numbers (only PZ... SR + EB).

1. Switch -on

Switch-on the unit from the rocker-type switch (the control lamp will light). The digital temperature instrument reacts within a few seconds and will display the temperature.

2. Setting of desired temperature

Keep the SET key pressed. Use the buttons UP and DOWN to select the desired temperature. You can increase the temperature by pressing the UP key and accordingly decrease it by the DOWN key. You only need to press the SET key to control the set temperature value at any time.

3. Select heating power

Since the units are provided with a quite large temperature range, they are equipped with electronic power setting devices which adjust the heating power from 10 to 100 %.

The actual required power depends on the heating requirement, the temperature level and the decrease in temperature.

Do not adjust to a higher power than absolutely necessary for the heating requirement.

The yellow light will flash when the control function of the electronics is activated. Each lighting period indicates that the heating is energized. When selecting 100% power the indicator lamp will light continuously. The red indicator lamp on the right bottom edge of the last figure indicates a falling below the set-point value and that the unit delivers heat.

4. Quick heating-up.

Set the power control to 100%. Be sure you turn the temperature back to the required steady temperature power before reaching the set-point temperature.

If the unit keeps reheating in the controlled system, this indicates that there is power excess and the heating power has to be reduced.

5. Setting temperature limiter (except PZ 14)

The device is equipped with a mechanical temp. limiter, adjusting range 50-300°C (devices up to 110°C 30-110°C).

Series 'SR' and 'ET' have temp. limiters underneath

The temperature limiter should be set 3-6°C higher than the desired temperature.

Function: If the automatic control fails or if the desired temp. was set to high by mistake, the device heats up to the set limit value only. Then the limiter switches the heating off.

After cooling about 6-8°C (3°C for devices up to 110°C) the heating is switched on automatically and again the device heats up to the set limit value only and so on (emergency control).

Indications for the release of the temp. limiter

Temperature control is unsteady (see display) caused by the switch hysteresis of the temp. limiter.

Reasons for the release of the temp. limiter:

Failure	Reason	Redress
1a) Overheat protector releases before desired temp. has been reached.	Overheat protector was set to low, respectively desired temp. was enhanced but not the limit value	Enhancement of the limit temperature
1b) Overheat protector releases only during the first heating.	Overheat protector was set to close so overshooting of the first heating phase causes the release.	Increase of the limit temp. or decrease of the wattage (%) in order to avoid overshooting
1 c) Overheat protector releases although 1a + 1b was regarded.	Defect of the automatic control.	Device needs repair preferably at the supplier's.

6. Contactor - Outlet

This appliance can either be used with a normal electronic contact thermometer (e.g. EBRO GFX 393, Ikatron ETS 3, etc.) or a mercury-contact thermometer.

If a contact thermometer is not being used then the Dummy Connector (which is included) must be plugged in.

The Dummy Connector acts as a safety contact between 3 and 5) This impedes further heating should the plug accidentally be removed while being used with a contact thermometer.

When using the hotplate with a contact thermometer, the hotplate temperature should be accordingly higher adjusted. Should the required

temperature shown on the contact-thermometer not be reached then this is normally due to the fact that the hotplate temperature has been set too low. Please ensure that the temperature-limiter is also accordingly set at a higher temperature.

a. Operating with an electronic contact thermometer

An electronic C-Thermometer can be directly connected to the 5-pole socket at the back of the appliance. The necessary power for the contact thermometer will be supplied over this socket. The required temperature should now be adjusted on the contact thermometer (see the contact thermometer operating instructions).

b. Operating with a mercury contact thermometer

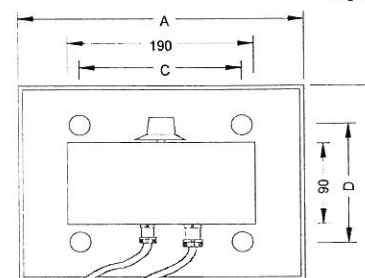
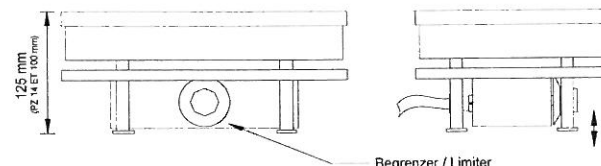
When operating with a mercury contact thermometer, our cable (Order No.. SK 85) must be connected to the thermometer. Please make sure that the heating output approximately matches the heat-requirement, this can be adjusted with the power regulator (turning knob 10-100%), High surplus heating output always results in post-heating. The more precise the heating output adjustment is, the more exact is the temperature tolerance.

c Operating with a temperature cut-out, Timeswitch, etc..

Instead of the bridge between 3 and 5, other contact-giving devices may be connected that will switch off the heating when the contact has been opened. When using a temperature cut-out please make sure that the cut-out has a thermal contact to the medium being heated

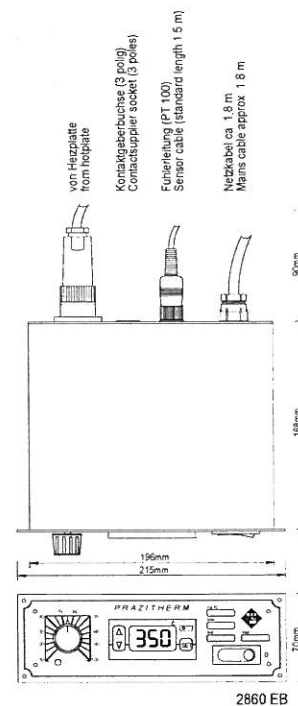
Please note that **no** external voltage should be used on the contact socket.

Information: the contact-thermometer socket is fitted with 12 V (galvanically separated).

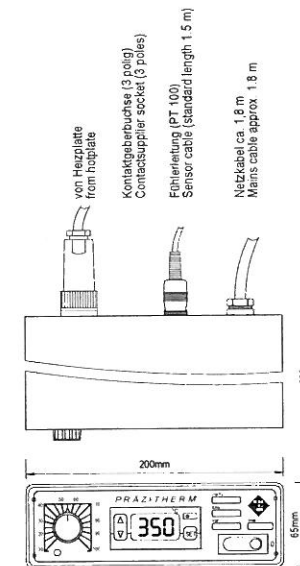


mm	A	B	C	D
PZ 14 ET	140	140	100	100
PZ 20 ET	200	200	120	120
PZ 28-1 ET	280	200	160	120
PZ 28-2 ET	280	200	160	120
PZ 35 ET	350	350	286	286
PZ 60 ET	610	160	478	98
PZ 72 ET	580	430	510	437

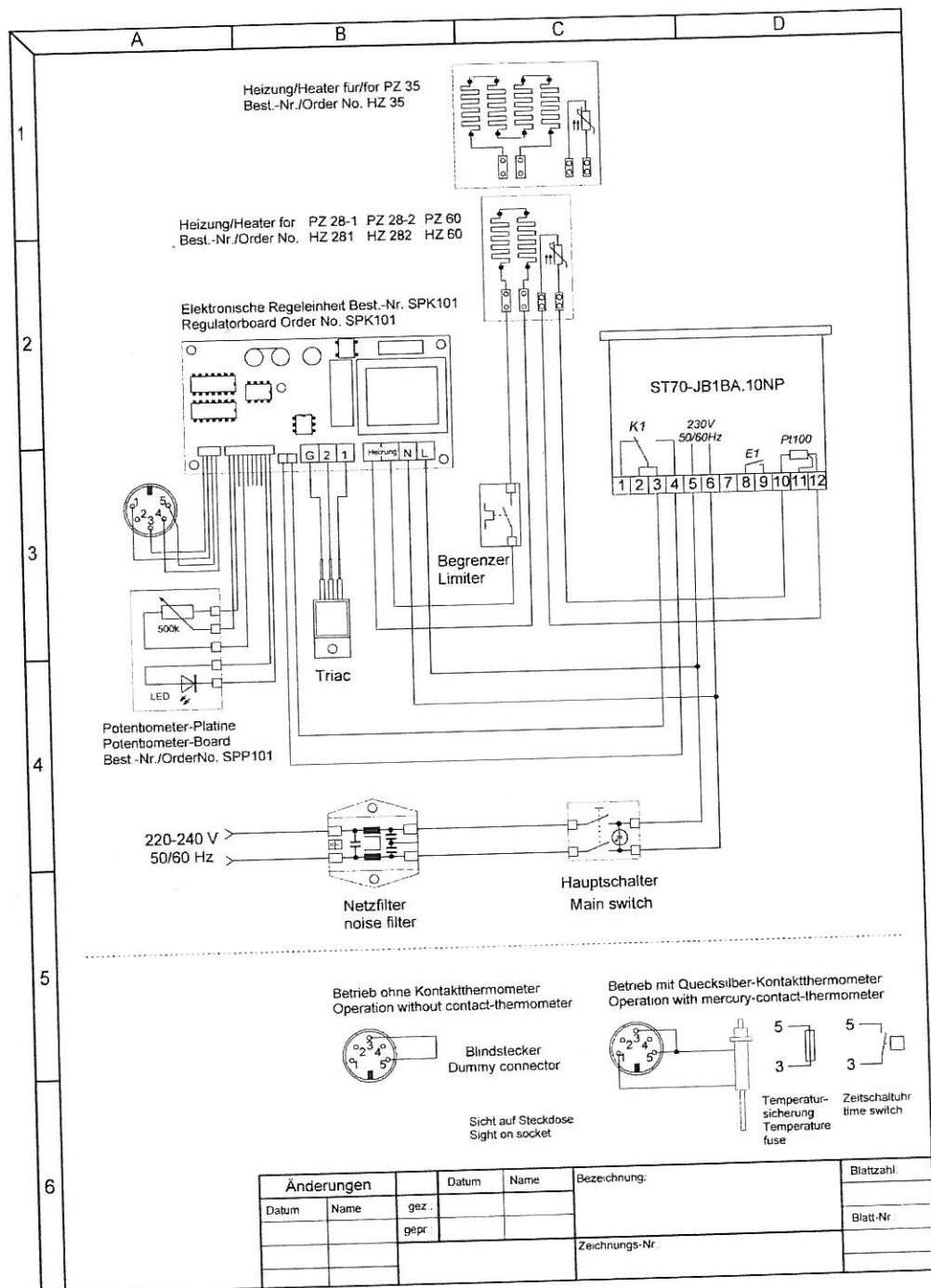
Netzleitung (Standard 1,5 m)
Mains cable (standard length 1.5 m)
Fühlerleitung (Standard 1,5 m)
Sensor cable (standard length 1.5 m)
andere Längen auf Anfrage
Other length available upon request



2860 EB



2860 SR



Ersatzteile

Best.-Nr. /
Order No.

Spare parts

Digital Temp.-Thermostat für
PZ 28-1 - 28-1SR - 28-1EB
PZ 14 - 20 - 28-2 - 35 - 60
PZ...SR, PZ...EB

ST 70JB-110
ST 70-JB-300

Digital thermostat for
PZ 28-1 - 28-1SR - 28-1EB
PZ 14 - 20 - 28-2 - 35 - 60
PZ...SR, PZ...EB

Elektronische Regeleinheit
für PZ 28-1, PZ 28-2
für PZ 35 - 60

SPK 101-28
SPK 101

Regulator board for
PZ 28-1, PZ 28-2
PZ 35-60, DT 3434, 6015

Aluplatte incl. Heizung und
Fühler
für PZ 14
für PZ 20
für PZ 28-1
für PZ 28-2
für PZ 35
für PZ 60

AP 14
AP 20
AP 281
AP 282
AP 35
AP 60

Aluminium plate incl. Heating
and sensor for
PZ 14
PZ 20
PZ 28-1
PZ 28-2
PZ 35
PZ 60

Heizung incl. Isolierung*
für PZ 14
für PZ 20
für PZ 28-1
für PZ 28-2
für PZ 35
für PZ 60

HZ 14
HZ 20
HZ 281
HZ 282
HZ 35
HZ 60

Heating incl. Insulation for
PZ 14
PZ 20
PZ 28-1
PZ 28-2
PZ 35, DT 3434
PZ 60, DT 6015

PT 100 Fühler
Leuchtwippenschalter
Netz kabel

PT 100
WS 16
NK 75

PT 100 sensor
Rocker-switch
Cable

Potentiometer-Platine
Drehknopf mit Pfeil
Drehknopf 23/40 mm Ø

SPP 101-PZ
DK 23-P
DK 23/40

Potentiometer-Board
Knob
Knob 23/40 mm Ø

Triac (nur PZ 28...)
Triac
Netzfilter PZ 28-1, PZ 28-2
Netzfilter

BT 16
BT 26
NFK 6
NF 16

Triac (only PZ 28...)
Triac
Noise filter, PZ 28-1, PZ 28-2
Noise filter

Thermostat (nur PZ 28-1)
Thermostat (für PZ ...)
Thermostat (für PZ ... SR/EB)

T 55.10/110
T 55.10/300
T 55.10/350

Thermostat (only PZ 28-1)
Thermostat (for PZ...)
Thermostat (for PZ ... SR/EB)

Bei Ersatzteilbestellung bitte
Typ und Serien-Nr. des Gerätes
angeben.

Please state serial number and
type of the device in any spare
order.

Notizen / notices

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