Heat curve diagram

Nominal flow temperature [°C] (y-axis: 0, 20, 40, 60, 80, 100)

Setting "T+20" nominal flow temperature at +20°C outdoor

Setting "T-20" nominal flow temperature at -20°C outdoor

nominal flow temperatur at -8°C

Vmax

Vmin

Room temperature influence

Outdoor temperature [°C] (x-axis: 25, 20, 15, 10, 5, 0, -5, -10, -15, -20)

HZR65
Universelle Heizungsregelung

Eingabe   ab   auf

The value can be changed with the blue keys **ab/auf** (down/up).
short tap -> change of 1
holding -> constant increase/decrease of value

The value, which is nearer to the selector switch, will be displayed without pressing of the yellow key "**Eingabe**" (e.g. **T2**). By pressing the yellow key "**Eingabe**" (= input) the second value will be displayed (e.g. **min2**).
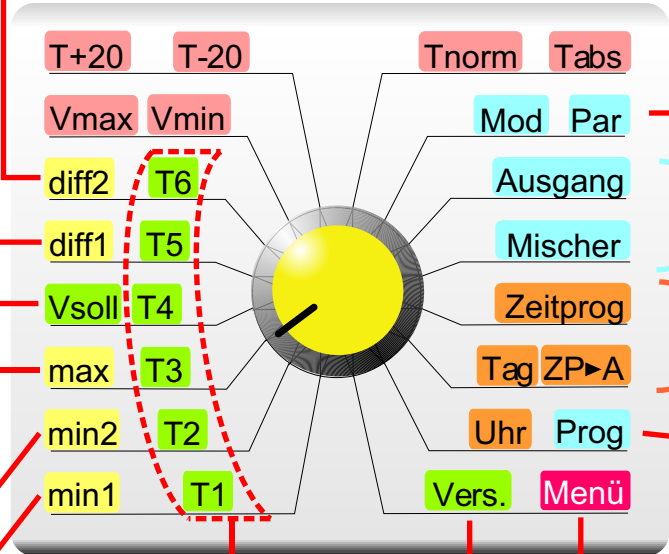

Vmin, Vmax: Minimal resp. maximal allowed flow temperature (limiting the heat curve)

T+20, T-20: Nominal flow temperature at +20°C resp. -20°C outdoor temperature (= setting of rise)

Tabs, Tnorm: Desired room temperature in lowering resp. heating mode (= parallel translation of heat curve)

These values have an effect to the heat curve.

Mod: Switching over modes
Aut - automatic mode
nor - holds heating mode at Tnorm, without time function
AbS - holds lowering mode at Tabs, without time function
PAr - Party function
FEI - Holiday function
UrL - Vacation function
Stb - Standby (frost protection)

Par: Parameter input to modes
Aut: rAS ⇨ T6 is used as room sensor RAS
Std ⇨ T6 is no room sensor, frost protection keeps active over T5
Unb ⇨ T6 no room sensor, no frost protection
nor: no parameters
AbS: no parameters
PAr: Setting the time, at which automatic mode should start again
FEI: Day of input operates as Saturday, input of days - operate as Sunday
Url: Input lengh of vacation in days (lowering mode)
Stb: Input of frost protection threshold at T5 (Decreasing causes lowering mode)

Difference temperatures diff1, diff2
The output will be released, when the temperature difference between two set sensors exceeds this value.
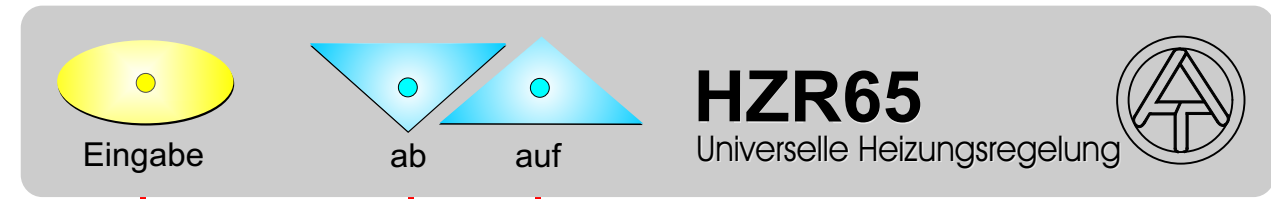The hystereses have an increasing effect.

Nominal flow temperature Vsoll
Check value (not changeable), is calculated based on measured temperatures and heat curve.

Maximum thermostat function max
Hysteresis has an decreasing effect; switch off increasing **max** and switch on decreasing **max - hysteresis**.

Minimum thresholds min1, min2
Hystereses have an increasing effect; switch on increasing **min + hysteresis**, switch off decreasing **min.**

Control panel labels

T+20	T-20
Vmax	Vmin
diff2	T6
diff1	T5
Vsoll	T4
max	T3
min2	T2
min1	T1

Tnorm Tabs
Mod Par
Ausgang
Mischer
Zeitprog
Tag ZP▶A
Uhr Prog
Vers. Menü

Actual temperature of sensors T1 - T6

Ausgang: Selection of output by **auf/ab**
Switch over from a**ut**omatic to **manual** mode (Aut/EIN/Aus = automatic/on/off) by simultaneous pressing the keys „**Eingabe**" and "**auf**" or "**ab**"
Mischer: Switching over mixer control between **Aut**omatic and „**Hand**" (=manual mode) by simultaneous pressing the keys „**Eingabe**" and "**auf**" or "**ab**".

Zeitprog: Input of maximal 5 time programs with each 3 switch on and switch off points.
Tag ZP ⇨ A: Allocation of time programs set under "Zeitpr" to weekdays and outputs
Description of time programs see page 2.
Uhr: Setting of actual time in 10 minutes increments

Prog: Selection of the program number according to the chosen diagram. Setting by the blue keys **ab/auf** (down/up)

Menü: Setting of additional parameters in sub menus
Description of sub menus see page 2

Vers.: Software version of the controller

Menu HZR 65 Vers. P5.6

`P 5.6` Vers. Menü — Eingabe 2 sec

Explanations

`tL 3` The red printed part of the display is changeable with blue *ab/auf* keys.
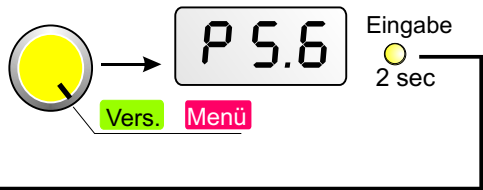
`t 1.0` The red printed part of the display is changeable with yellow "*Eingabe*" or blue "*ab/auf*" keys. The yellow colored text corresponds to yellow "*Eingabe*" key, the blue colored text to the blue "*ab/auf*" keys.

t1=after-running time for A1 (A1-A5)
.2 = after-running time from .1 to .9 (10-90 sec) or 2 to 9 (2-9 min) ew=0

Exit from each display to normal operation occurs by pressing the yellow „*Eingabe*" key for 2 seconds, turning the selector switch or automatically after one minute.
"*ew*" = factory settings (= ex works)

`nnr` Mixer control parameter — Eingabe 2 sec
Eingabe short ↓

`Atr` Outdoor temperature control (= factory setting ew)

`Fir` Fixed value control

`dtr` Difference temperature control

`Arr` Outdoor & room temperature control

`rtr` Room temperature control — Eingabe short

`tL 3` Mixer runtime, adjustable from 10 sec to 9 min (ew=3min) — Eingabe short

`n 5` Averaging time of outdoor temperature, adjustable from 1 to 15 min ew=5 — Eingabe short

`r 50` Percentage of room influence, adjustable from 1 to 90 ew=50 — Eingabe short

`Eu 0` Increase in switch-on power, adjustable from 0 to 9 ew=0 — Eingabe 2 sec → Exit from menu

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`HPu` Heating circuit pump parameter — Eingabe 2 sec
Eingabe short ↓

`r-n` Switch off increasing room temperature J = Yes (activation) ew=r-n — Eingabe short

`rH5` Hysteresis of room sensor, adjustable from 0.1 to 0.9K ew=5 — Eingabe short

`A-n` Switch off increasing average outdoor temp. J = Yes (activation) ew=A-n — Eingabe short

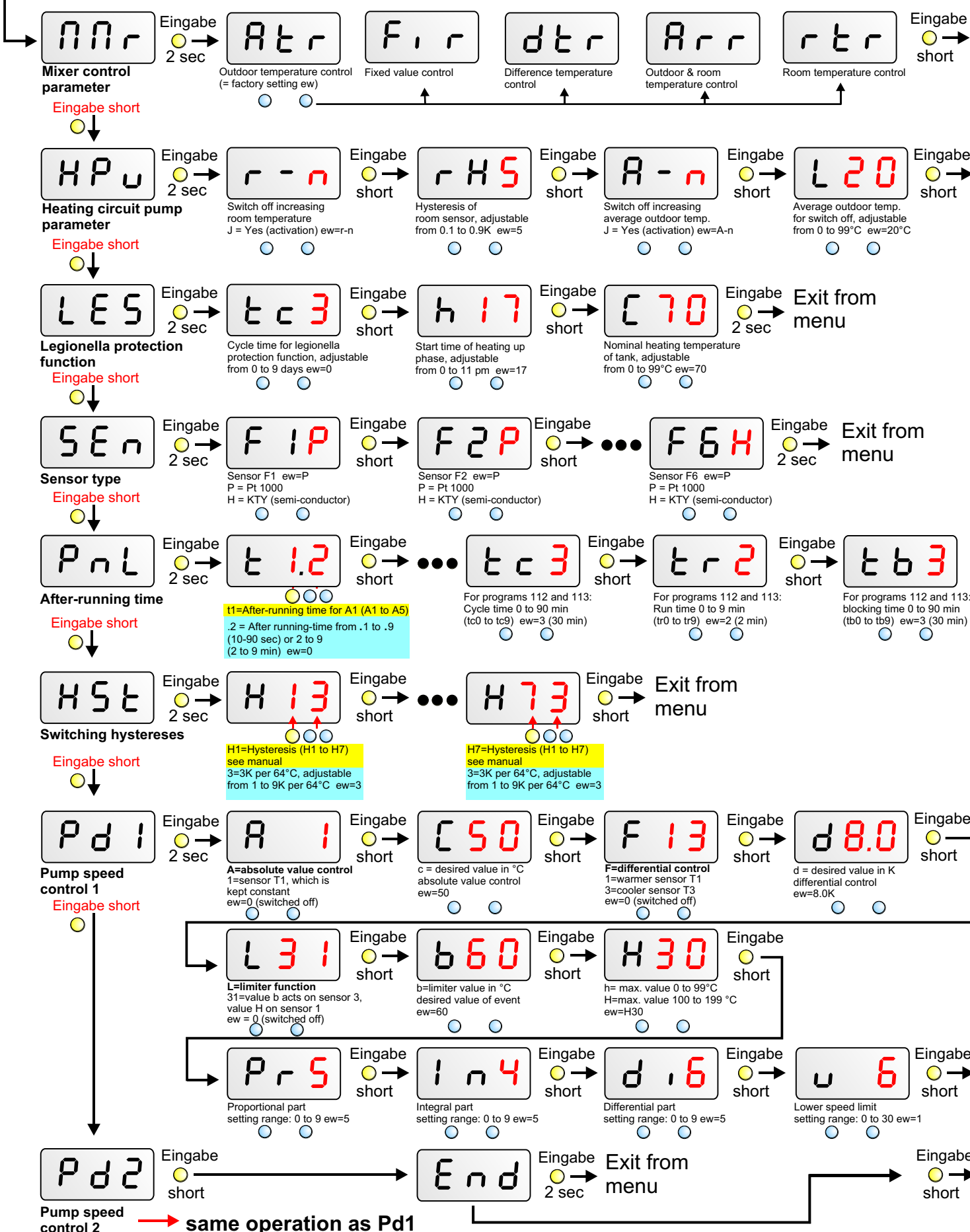**`L 20`** Average outdoor temp. for switch off, adjustable from 0 to 99°C ew=20°C — Eingabe short

`n 5` Power for calculation of average outdoor temperature, setting range: 1 to 15 ew=5 — Eingabe short

`S-J` Switch off when Vsoll < Vmin J = Yes (activation) ew=J — Eingabe short

`U 1` Sensor for excess temperature protection function ew=0 U1 to U3 = Sensor number — Eingabe short

`C 90` Temperature threshold for excess temperature function, setting range: 0 to 99°C, ew=90 — Eingabe short

`nnS` Mixer behavior when heating circuit pump is switched off mS=Mixer closes mu=Mixer unchanged mr=Mixer keeps on controlling mo= Mixer opens — Eingabe 2 sec → Exit from menu

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`LES` Legionella protection function — Eingabe 2 sec
Eingabe short ↓

`tc 3` Cycle time for legionella protection function, adjustable from 0 to 9 days ew=0 — Eingabe short

`h 17` Start time of heating up phase, adjustable from 0 to 11 pm ew=17 — Eingabe short

`C 70` Nominal heating temperature of tank, adjustable from 0 to 99°C ew=70 — Eingabe 2 sec → Exit from menu

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`SEn` Sensor type — Eingabe 2 sec
Eingabe short ↓

`F 1P` Sensor F1 ew=P P = Pt 1000 H = KTY (semi-conductor) — Eingabe short

`F 2P` Sensor F2 ew=P P = Pt 1000 H = KTY (semi-conductor) — Eingabe short •••

`F 6H` Sensor F6 ew=P P = Pt 1000 H = KTY (semi-conductor) — Eingabe 2 sec → Exit from menu

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`PnL` After-running time — Eingabe 2 sec
Eingabe short ↓

`t 1.2` t1=After-running time for A1 (A1 to A5) .2 = After running-time from .1 to .9 (10-90 sec) or 2 to 9 (2 to 9 min) ew=0 — Eingabe short •••

`tc 3` For programs 112 and 113: Cycle time 0 to 90 min (tc0 to tc9) ew=3 (30 min) — Eingabe short

`tr 2` For programs 112 and 113: Run time 0 to 9 min (tr0 to tr9) ew=2 (2 min) — Eingabe short

`tb 3` For programs 112 and 113: blocking time 0 to 90 min (tb0 to tb9) ew=3 (30 min)

`HSt` Switching hystereses — Eingabe 2 sec
Eingabe short ↓

`H 13` H1=Hysteresis (H1 to H7) see manual 3=3K per 64°C, adjustable from 1 to 9K per 64°C ew=3 — Eingabe short •••

`H 73` H7=Hysteresis (H1 to H7) see manual 3=3K per 64°C, adjustable from 1 to 9K per 64°C ew=3 — Eingabe short → Exit from menu

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`Pd 1` Pump speed control 1 — Eingabe 2 sec
Eingabe short ↓

`A 1` A=absolute value control 1=sensor T1, which is kept constant ew=0 (switched off) — Eingabe short

`C 50` c = desired value in °C absolute value control ew=50 — Eingabe short

`F 13` F=differential control 1=warmer sensor T1 3=cooler sensor T3 ew=0 (switched off) — Eingabe short

`d 8.0` d = desired value in K differential control ew=8.0K — Eingabe short

`L 31` L=limiter function 31=value b acts on sensor 3, value H on sensor 1 ew = 0 (switched off) — Eingabe short

`b 60` b=limiter value in °C desired value of event ew=60 — Eingabe short

`H 30` h= max. value 0 to 99°C H=max. value 100 to 199 °C ew=H30 — Eingabe short

`Pr 5` Proportional part setting range: 0 to 9 ew=5 — Eingabe short

`I n4` Integral part setting range: 0 to 9 ew=5 — Eingabe short

`d i6` Differential part setting range: 0 to 9 ew=5 — Eingabe short

`u 6` Lower speed limit setting range: 0 to 30 ew=1 — Eingabe short

`n 18` actual speed stage (between 0 and 30) — Eingabe short → Exit from menu

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`Pd 2` Pump speed control 2 — → same operation as Pd1

`End` — Eingabe 2 sec → Exit from menu

`nnr` Re-entry to first sub menu — Eingabe short

Setting the time switch function

1 Zeitprog

`P 1.1` ab auf
P1= time program 1 (setting range: P1 to P5)
.1 = switching point 1
(1, 3, 5 = ON, 2, 4, 6 = OFF)
Switching over with blue *ab/auf* keys from P1.1 to P5.6
→ Eingabe hold → **`6.0`**
Switching time: 6.0 = switch-on at P1.1 at 6:00 am, adjustable from 0.1 to 23.5 in 10 minutes increments

`P 5.6` → **`P 1.2`** Next switching point (OFF) → Eingabe hold → **`22.3`** Example: Switch-off point 11:30 pm

Time programs P1 - P5 are necessary for allocation to weekdays and outputs

2 Tag ZP▶A

`nno` actual weekday ab auf — Eingabe short

`d i` Switch over to next weekday ab auf — Eingabe 2 sec

`Wt` Switch over to weekdays (Wt) Monday to Friday — Eingabe 2 sec

`A 11` A1= Output 1 (A1 to A5 adjustable, depending to program) 1 (2. number)= time program 1; this time program is allocated to the desired output on the active weekday. (1 to 5 adjustable, depending to number of applied time programs) — Eingabe short

`A 22` A2= Output 2 2 (2. number)= time program 2 — Eingabe 2 sec •••

Example: — Eingabe 2 sec

Exit from menu by turning the selector switch.
At the end of setting and allocation time program the actual weekday has to be set!