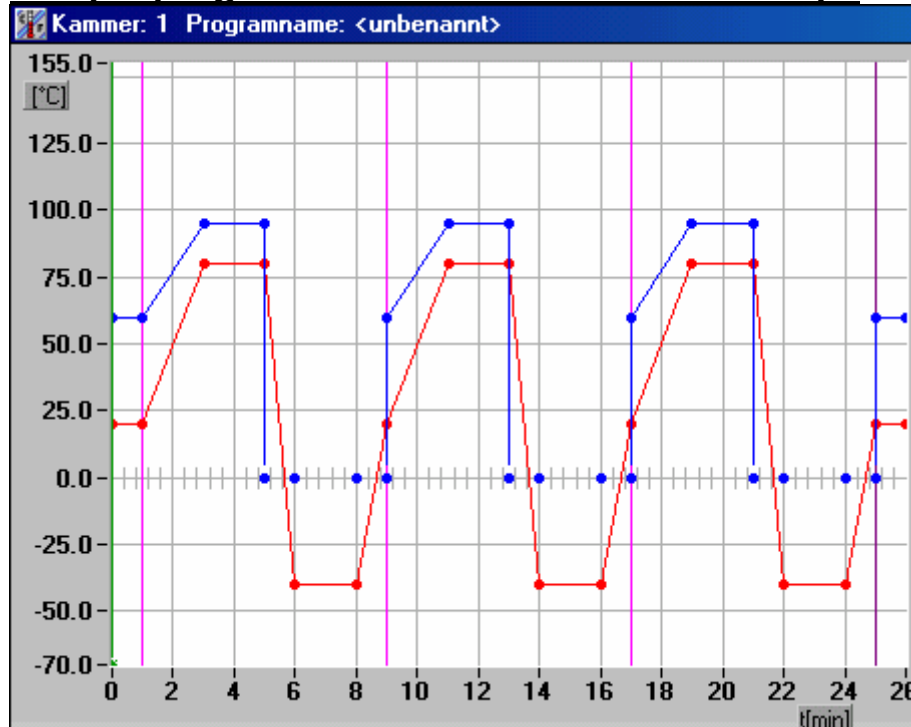


Sample programme with waitfunction and loops



| Line | Time (h) | Temper. (°C) | Humidity (% r.H.) | comment |
|------|----------|--------------|-------------------|---|
| 0 | 0 | 20 | 60 | define start values of programme |
| 1 | 1 | 20 | 60 | Remaining at 20°C for 1 hour |
| 2 | 3 | 20 | 60 | Define beginning of loop (display SA) Repeat the lines between SA and SE three times.. This line is not active ! |
| 3 | 2 | 80 | 95 | Change Temperature in 2 hours up to 80 °C |
| 4 | 2 | 80 | 95 | Remaining at 80°C for 2 hours |
| 5 | 0 | 80 | 0 | Switch off humidity regulation. Without this line the humidity will be switched off when temperature falls below +10°C |
| 6 | 1 | -40 | 0 | Change temperature within 1 hour down to -40°C |
| 7 | | -40 | 0 | Activate waitfunction for temperature channel. Tolerance for waitfunction is 1Kelvin This line is not active |
| 8 | 2 | -40 | 0 | Remaining at -40°C for 2 hours |
| 9 | 1 | 20 | 0 | Change temperature in 1 hour up to +20°C |
| 10 | 0 | 20 | 60 | Switch on humidity regulation. Without programming this line humidity will be switched on after the 3 loops are done in line 11 after 10 minutes where humidity setpoint reaches 10% r.H. |
| 11 | | 20 | 0 | Define end of loop (display SE). This line is not active ! |
| 12 | 1 | 20 | 60 | Remaining at 20°C for 1 hour |

Comments:

- The timebase of the programme is hours. This is because in the example only programmesteps with whole hours are used.
- Always set a starting value for the programme (first line with time t=0). In other case the controller starts the programme with the last used setvalues
- We suggest to create the testcycles via CID-Software, because programme generation with CID is very easy.

Programming:

The programme should be saved as Prog.No. 12.

| Display | Key | Comment | | |
|---|--------|---------|----------|--|
| <table border="1"><tr><td>xyz</td></tr><tr><td>xyz</td></tr></table> | xyz | xyz | | It's not necessary to switch off the chamber to edit a new programme |
| xyz | | | | |
| xyz | | | | |
| <table border="1"><tr><td>0</td></tr><tr><td></td></tr></table> | 0 | | E | Start Edit-Mode |
| 0 | | | | |
| | | | | |
| <table border="1"><tr><td>12</td></tr><tr><td>PL 0</td></tr></table> | 12 | PL 0 | +/- Temp | if there is a programme saved under Prog.No 12, the number of used Lines of this programme are displayed with PL... . In This case the existing programme should be erased before. (See Operating Instructions to do so) |
| 12 | | | | |
| PL 0 | | | | |
| <table border="1"><tr><td>12</td></tr><tr><td>h</td></tr></table> | 12 | h | 2 | Timebase hours |
| 12 | | | | |
| h | | | | |
| <table border="1"><tr><td>P 0.0</td></tr><tr><td>- - - -</td></tr></table> | P 0.0 | - - - - | S | Save header of the programme |
| P 0.0 | | | | |
| - - - - | | | | |
| <table border="1"><tr><td>P 20.0</td></tr><tr><td>- - - -</td></tr></table> | P 20.0 | - - - - | +/- Temp | Set startvalue for temperature T = +20 °C |
| P 20.0 | | | | |
| - - - - | | | | |

| | |
|---|------|
| P | 20.0 |
| | 60.0 |

+/- Humidity Set startvalue for humidity H= 60 % r.H.

S time of the first line is 0, therefore continue with **S** instead of **+/- Temp** to change time

| | |
|---|----|
| | 0h |
| L | 0 |

S Finish first line. Last value pair of temp./hum. is used as default for the next line. Because we want to use this values continue with **S** rather than **+/- Temp** to set new temp. value

| | |
|---|------|
| P | 20.0 |
| | 60.0 |

S

| | |
|---|----|
| | 0h |
| L | 1 |

+/- Temp Set duration of 1. Line stay at +20 °C / 60 % r.H. for one hour

| | |
|---|----|
| | 1h |
| L | 1 |

S Last valuepair is used as default
Start of inactive programme line

| | |
|---|------|
| P | 20.0 |
| | 60.0 |

S

| | |
|---|----|
| | 0h |
| L | 2 |

+ Humidity Set start of loop

| | |
|----|---|
| SA | 1 |
| L | 2 |

+/- Humidity Number of loops to do
End of inactive line

| | |
|----|---|
| SA | 3 |
| L | 2 |

S Last valuepair is used as default

| | |
|---|------|
| P | 20.0 |
| | 60.0 |

+/- Temp Put in new temperature value +80 °C

| | |
|---|------|
| P | 80.0 |
| | 60.0 |

+/- Humidity Put in new Humidity value 95 % r.H.

| | |
|---|------|
| P | 80.0 |
| | 95.0 |

| | |
|---|----|
| | 0h |
| L | 3 |

+/- Temp Set duration of 3. Line
Change in 2 hours to +80 °C / 95 % r.H.

| | |
|---|----|
| | 2h |
| L | 3 |

S Use last value pair as default, continue with **S**
because this values are correct

| | |
|---|------|
| P | 80.0 |
| | 95.0 |

S

| | |
|---|----|
| | 0h |
| L | 4 |

+/- Temp Set duration of 4. Line
Stay at +80 °C / 95 % r.H. for 2 hours

| | |
|---|----|
| | 2h |
| L | 4 |

S Use last value pair as default

| | |
|---|------|
| P | 80.0 |
| | 95.0 |

+/- Humidity Switch off Humidity („-“ Key until 0)

| | |
|---|------|
| P | 80.0 |
| - | - |

S Duration of this line t=0 hours

| | |
|---|----|
| | 0h |
| L | 5 |

S Use last value pair as default

| | |
|---|------|
| P | 80.0 |
| - | - |

+/- Temp Set new Temp. value -40 °C

| | |
|---|-------|
| P | -40.0 |
| - | - |

S

| | |
|---|----|
| | 0h |
| L | 6 |

+/- Temp Duration of line 6
Change to -40°C in 1 hour

| | |
|---|----|
| | 1h |
| L | 6 |

S

| | |
|---|---------|
| P | -40.0 |
| - | - - - - |

S Use last value pair as default
Start of inactive programme line

| | |
|---|----|
| | 0h |
| L | 7 |

S

| | |
|------|-----|
| Hold | 0 |
| lo | 0.0 |

1 Set WAIT-Function on temperature channel

| | |
|------|-----|
| Hold | 0 |
| lo | 1.0 |

+/- Humidity Set Tolerance for Wait-function to ± 1 Kelvin
End of inactive line

| | |
|---|---------|
| P | -40.0 |
| - | - - - - |

S Use last value pair as default

| | |
|---|----|
| | 0h |
| L | 8 |

S

| | |
|---|----|
| | 2h |
| L | 8 |

+/- Temp Set duration of line 8
 Stay at -40 °C for 2 hours

| | |
|---|---------|
| P | -40.0 |
| - | - - - - |

S Use last value pair as default

| | |
|---|---------|
| P | 20.0 |
| - | - - - - |

+/- Temp Set new temperature value to +20 °C

| | |
|---|----|
| | 0h |
| L | 9 |

S

| | |
|---|----|
| | 1h |
| L | 9 |

+/- Temp Duration of line 9
 Change in 1 hour to +20 °C

| | |
|---|---------|
| P | 20.0 |
| - | - - - - |

S Use last value pair as default

+/- Humidity Switch on Humidity. New value is 60%r.H.

| | |
|---|------|
| P | 20.0 |
| | 60.0 |

S Duration of line 10 is 0 hours

| | |
|---|----|
| | 0h |
| L | 10 |

S Use last value pair as default
Start of inactive programme line

| | |
|---|------|
| P | 20.0 |
| | 60.0 |

S

| | |
|---|----|
| | 0h |
| L | 11 |

+ Humidity Set end of loop (SE)
End of inactive line

| | |
|----|----|
| SE | |
| L | 11 |

S Use last value pair as default

| | |
|---|------|
| P | 20.0 |
| | 60.0 |

S

| | |
|---|----|
| | 0h |
| L | 12 |

+/- Temp Duration of line 12
Stay at +20 °C for 1 hour

| | |
|---|----|
| | 1h |
| L | 12 |

S Finish and save last programme line

| | |
|---|------|
| P | 20.0 |
| | 60.0 |

P Save the whole programme