

# Wärmepumpe vamp<sup>air</sup> : Werkseinstellungen

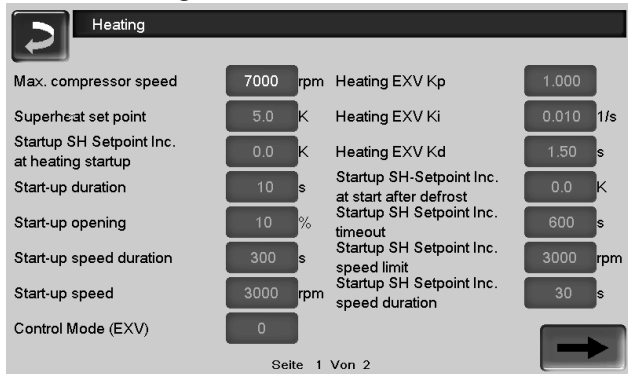
Die folgenden Masken zeigen die Werte (Werkseinstellung) wesentlicher Servicemenü-Parameter.

Sie finden die Masken in der Regelung **eco<sup>manager-touch</sup>**, unter *Servicemenü* | Button *Wärmepumpe*.

## 1 vamp<sup>air</sup> K 10

Die folgenden Masken zeigen den Stand der Parameter zum Datum 01.03.2018.

### Maske Heating

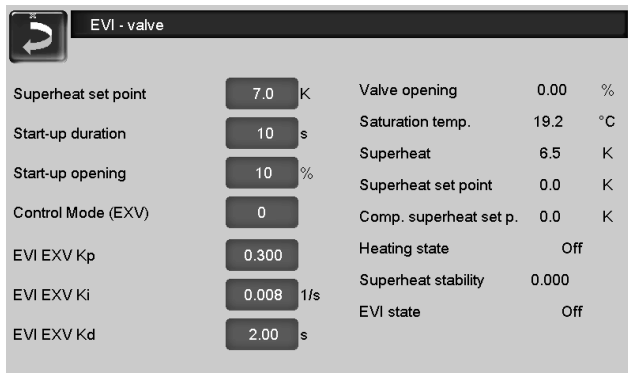


Parameter	Value	Parameter	Value
Max. compressor speed	7000 rpm	Heating EXV Kp	1.000
Superheat set point	5.0 K	Heating EXV Ki	0.010 1/s
Startup SH Setpoint Inc. at heating startup	0.0 K	Heating EXV Kd	1.50 s
Start-up duration	10 s	Startup SH-Setpoint Inc. at start after defrost	0.0 K
Start-up opening	10 %	Startup SH Setpoint Inc. timeout	600 s
Start-up speed duration	300 s	Startup SH Setpoint Inc. speed limit	3000 rpm
Start-up speed	3000 rpm	Startup SH Setpoint Inc. speed duration	30 s
Control Mode (EXV)	0		

Seite 1 Von 2

Abb. 1-1\_17-510-01

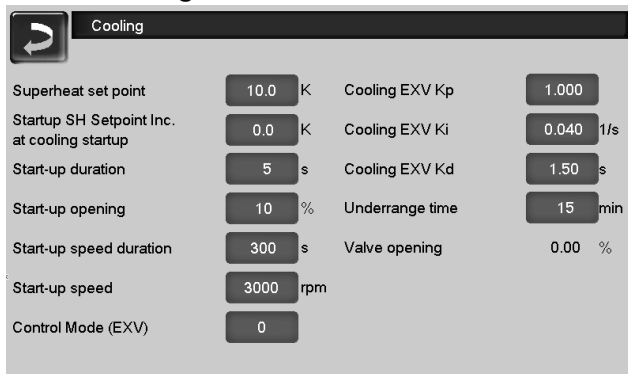
### Maske EVI - valve



Parameter	Value	Parameter	Value
Superheat set point	7.0 K	Valve opening	0.00 %
Start-up duration	10 s	Saturation temp.	19.2 °C
Start-up opening	10 %	Superheat	6.5 K
Control Mode (EXV)	0	Superheat set point	0.0 K
EVI EXV Kp	0.300	Comp. superheat set p.	0.0 K
EVI EXV Ki	0.008 1/s	Heating state	Off
EVI EXV Kd	2.00 s	Superheat stability	0.000
		EVI state	Off

Abb. 1-2\_17-512

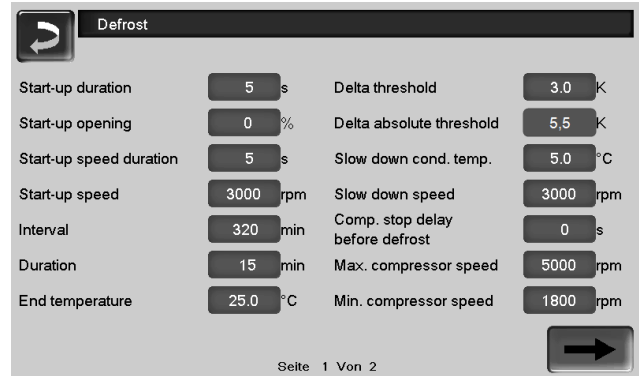
### Maske Cooling



Parameter	Value	Parameter	Value
Superheat set point	10.0 K	Cooling EXV Kp	1.000
Startup SH Setpoint Inc. at cooling startup	0.0 K	Cooling EXV Ki	0.040 1/s
Start-up duration	5 s	Cooling EXV Kd	1.50 s
Start-up opening	10 %	Underrange time	15 min
Start-up speed duration	300 s	Valve opening	0.00 %
Start-up speed	3000 rpm		
Control Mode (EXV)	0		

Abb. 1-3\_17-513

### Maske Defrost

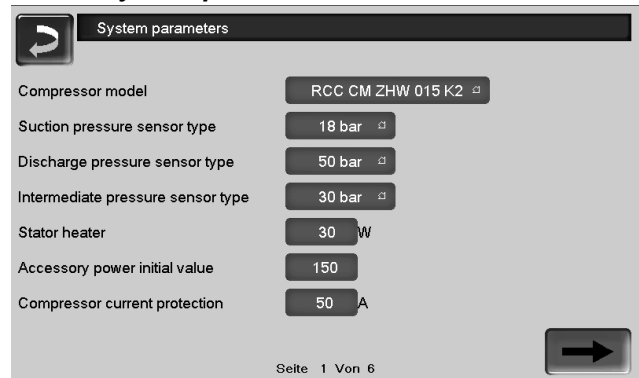


Parameter	Value	Parameter	Value
Start-up duration	5 s	Delta threshold	3.0 K
Start-up opening	0 %	Delta absolute threshold	5.5 K
Start-up speed duration	5 s	Slow down cond. temp.	5.0 °C
Start-up speed	3000 rpm	Slow down speed	3000 rpm
Interval	320 min	Comp. stop delay before defrost	0 s
Duration	15 min	Max. compressor speed	5000 rpm
End temperature	25.0 °C	Min. compressor speed	1800 rpm

Seite 1 Von 2

Abb. 1-4\_17-514-03

### Maske System parameters – Seite 1 von 6

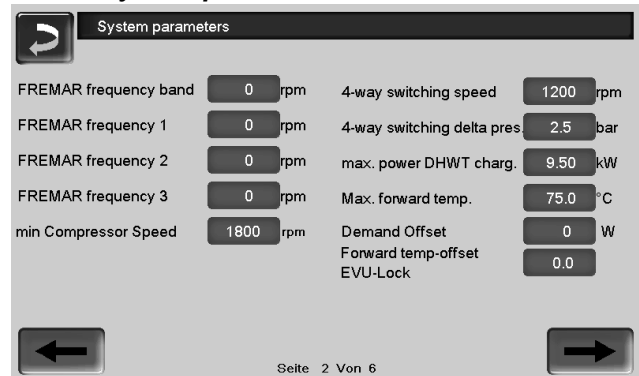


Parameter	Value
Compressor model	RCC CM ZHW 015 K2
Suction pressure sensor type	18 bar
Discharge pressure sensor type	50 bar
Intermediate pressure sensor type	30 bar
Stator heater	30 W
Accessory power initial value	150
Compressor current protection	50 A

Seite 1 Von 6

Abb. 1-5\_17-516-01

### Maske System parameters – Seite 2 von 6

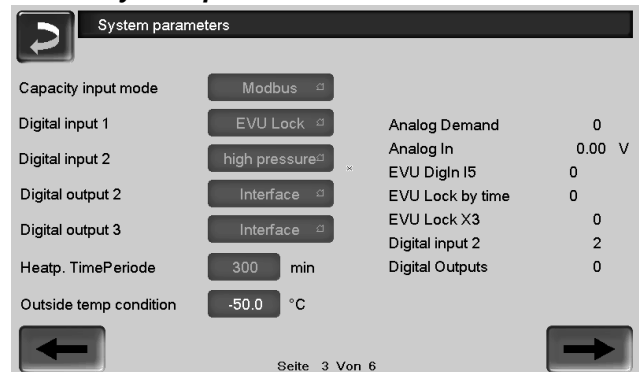


Parameter	Value	Parameter	Value
FREMAR frequency band	0 rpm	4-way switching speed	1200 rpm
FREMAR frequency 1	0 rpm	4-way switching delta pres	2.5 bar
FREMAR frequency 2	0 rpm	max. power DHWT charg.	9.50 kW
FREMAR frequency 3	0 rpm	Max. forward temp.	75.0 °C
min Compressor Speed	1800 rpm	Demand Offset	0 W
		Forward temp-offset	0.0
		EVU-Lock	

Seite 2 Von 6

Abb. 1-6\_17-517-01

### Maske System parameters – Seite 3 von 6



Parameter	Value	Parameter	Value
Capacity input mode	Modbus	Analog Demand	0
Digital input 1	EVU Lock	Analog In	0.00 V
Digital input 2	high pressure	EVU DigIn I5	0
Digital output 2	Interface	EVU Lock by time	0
Digital output 3	Interface	EVU Lock X3	0
Heatp. TimePeriode	300 min	Digital input 2	2
Outside temp condition	-50.0 °C	Digital Outputs	0

Seite 3 Von 6

Abb. 1-7\_17-518-01

## Maske System parameters – Seite 4 von 6

**System parameters**

Pre-opening phase duration	5 s	Valve scaling threshold	10.00 %
Pre-opening pressure	4.0 bar	Valve scaling minimum	50.00 %
Drive speed rate	67 rpm/s	Release Comp / EVX	Aus
Control speed rate	20 rpm/s		
Comp. speed delta sensitivity	10 rpm/s		
Comp. speed delta scaling	40 %		

Seite 4 Von 6

Abb. 1-8\_17-519-01

## Maske Oil return

**Oil return**

Oil return speed	3600 rpm
Oil return threshold	2800 rpm
Oil return duration	300 s
Oil return threshold duration	1000 s

Abb. 1-12\_17-526

## Maske Fan

**Fan**

Control speed heating	Min. 54 %	Max. 62 %	Fan:	0 rpm
Ctrl speed heating temp.	6.5 °C	-10.0 °C	Fan P:	3 W
Fan Speed CoolingCap	44 %	55 %	Strom:	0.0 A
Cooling Capacity	2500 W	4600 W	IGBT-Temp	20.7 °C
Control speed cooling	20 %	50 %	E-Temp	28.2 °C
Ctrl speed cooling temp.	20.0 °C	30.0 °C	MCU-Temp	22.0 °C
Delay after defrost	0 s		Netzspannung_Vss	324 V
			DC-Spannung	323 V
			State	Online

Abb. 1-9\_17-522-02

## Maske Primary circuit pump

**Primary circuit pump**

Pump Typ	Wilo iPWM1	Flow	1941 l/h
Anti-freeze temperature	2 °C	Pumpe ist aktiv	
Pump runon	120 s	Pumpenansteuerung	19
Set-flow rate anti-freeze	600 l/h		
Min. flow rate	800 l/h		
Max. flow rate	2100 l/h		
Max. speed	100 %		

Abb. 1-10\_17-523-02

## Maske Alarm

**Alarm**

Low superheat threshold	3.0 °C	Envelope alarm delay	10 s
Low superheat delay	90 s	MOP threshold	25.0 °C
Low pressure threshold	1.30 barg	High superheat threshold	30.0 K
Low pressure delay	30 s	High superheat delay	10 s
High condensing pressure threshold	44.40 barg		
High condensing pressure delay	10 s		
Alarm pause	10 min		

Seite 1 Von 2

Abb. 1-11\_17-524

## 2 vamp<sup>air</sup> K 15

Die folgenden Masken zeigen den Stand der Parameter zum Datum 01.08.2018.

### Maske Heating – Seite 1 von 2

Max. compressor speed	7000 rpm	Heating EXV Kp	1.000
Superheat set point	5.0 K	Heating EXV Ki	0.010 1/s
Startup SH Setpoint Inc. at heating startup	0.0 K	Heating EXV Kd	1.50 s
Start-up duration	10 s	Startup SH-Setpoint Inc. at start after defrost	0.0 K
Start-up opening	10 %	Startup SH Setpoint Inc. timeout	600 s
Start-up speed duration	200 s	Startup SH Setpoint Inc. speed limit	3000 rpm
Start-up speed	3000 rpm	Startup SH Setpoint Inc. speed duration	30 s
Control Mode (EXV)	0		

Seite 1 Von 2

Abb. 2-1\_17-510k15

### Maske Heating – Seite 2 von 2

Press. drop adapt. SH SP	0.00		
Valve opening	0.00 %	<b>Compressor</b>	
Superheat	0.3 K	Speed	0 rpm
Superheat set point	0.0 K	Comp. superheat	8.7 K
Heat. COP	0.000	Speed control state	Idle
SCOP	0.000	min. speed	0 rpm
SEER	4.000	max. speed	0 rpm
Superheat stability	0.000	Starts	0

Seite 2 Von 2

Abb. 2-2\_17-511k15

### Maske EVI - valve

Superheat set point	7.0 K	Valve opening	0.00 %
Start-up duration	10 s	Saturation temp.	26.6 °C
Start-up opening	10 %	Superheat	7.8 K
Control Mode (EXV)	0	Superheat set point	0.0 K
EVI EXV Kp	0.300	Comp. superheat set p.	0.0 K
EVI EXV Ki	0.008 1/s	Heating state	Off
EVI EXV Kd	2.00 s	Superheat stability	0.000
		EVI state	Off

Abb. 2-3\_17-512k15

### Maske Cooling

Superheat set point	10.0 K	Cooling EXV Kp	1.000
Startup SH Setpoint Inc. at cooling startup	0.0 K	Cooling EXV Ki	0.040 1/s
Start-up duration	5 s	Cooling EXV Kd	1.50 s
Start-up opening	10 %	Underrange time	15 min
Start-up speed duration	200 s	Valve opening	0.00 %
Start-up speed	3000 rpm		
Control Mode (EXV)	0		

Abb. 2-4\_17-513k15

### Maske Defrost

Start-up duration	5 s	Delta threshold	4.0 K
Start-up opening	0 %	Delta absolute threshold	6.0 K
Start-up speed duration	5 s	Slow down cond. temp.	5.0 °C
Start-up speed	3000 rpm	Slow down speed	3000 rpm
Interval	400 min	Comp. stop delay before defrost	0 s
Duration	15 min	Max. compressor speed	5000 rpm
End temperature	25.0 °C	Min. compressor speed	1800 rpm

Seite 1 Von 2

Abb. 2-5\_17-514k15

### Maske System parameters – Seite 1 von 6

Compressor model	RCC CM ZHW 030 K2
Suction pressure sensor type	18 bar
Discharge pressure sensor type	50 bar
Intermediate pressure sensor type	30 bar
Stator heater	10 W
Accessory power initial value	150
Compressor current protection	50 A

Seite 1 Von 6

Abb. 2-6\_17-516k15

### Maske System parameters – Seite 2 von 6

FREMAR frequency band	0 rpm	4-way switching speed	1200 rpm
FREMAR frequency 1	0 rpm	4-way switching delta pres	2.5 bar
FREMAR frequency 2	0 rpm	max. power DHWT charg.	14.00 kW
FREMAR frequency 3	0 rpm	Max. forward temp.	75.0 °C
min Compressor Speed	1740 rpm	Demand Offset	0 W
		Forward temp-offset EVU-Lock	0.0

Seite 2 Von 6

Abb. 2-7\_17-517k15

### Maske System parameters – Seite 3 von 6

Capacity input mode	Modbus	Analog Demand	On
Digital input 1	EVU Lock	Analog Demand	0 W
Digital input 2	No function	Analog In	3.15 V
Digital output 2	Interface	EVU Dign I5	0
Digital output 3	Stator heater	EVU Lock by time	0
Heatp. TimePeriod	300 min	EVU Lock X3	0
Outside temp condition	-25.0 °C	Digital input 2	0
		Digital Outputs	0

Seite 3 Von 6

Abb. 2-8\_17-518k15

## Maske System parameters – Seite 4 von 6

System parameters

Pre-opening phase duration: 20 s    Valve scaling threshold: 0.00 %

Pre-opening pressure: 2.9 bar    Valve scaling minimum: 100.00 %

Drive speed rate: 67 rpm/s    Release Comp / EVX: Aus

Control speed rate: 20 rpm/s

Comp. speed delta sensitivity: 10 rpm/s

Comp. speed delta scaling: 40.00 %

Seite 4 Von 6

Abb. 2-9\_17-519k15

## Maske Oil return

Oil return

Oil return speed: 3600 rpm

Oil return threshold: 2800 rpm

Oil return duration: 300 s

Oil return threshold duration: 1000 s

Abb. 2-13\_17-526k15

## Maske Fan

Fan

Control speed heating	Min. 28 %	Max. 55 %	Fan:	0 rpm
Ctrl speed heating temp.	6.5 °C	-10.0 °C	Fan P:	3 W
-20° Compressorspeed	3720	6000	Strom:	0.0 A
+15° Compressorspeed	1080	2700	IGBT-Temp	28.0 °C
Control speed cooling	35 %	55 %	E-Temp	30.2 °C
Ctrl speed cooling temp.	20.0 °C	30.0 °C	MCU-Temp	25.3 °C
Delay after defrost	10 s		Netzspannung_Vss	320 V
			DC-Spannung	319 V
			State	Online

Abb. 2-10\_17-522k15

## Maske Primary circuit pump

Primary circuit pump

Pump Typ: 0-10V Pump & FlowSensor DN20

Anti-freeze temperature: 2 °C    Flow: 0 l/h

Pump runon: 120 s

Set-flow rate anti-freeze: 600 l/h    Pumenansteuerung: 0

Min. flow rate: 800 l/h

Max. flow rate: 3800 l/h    Spreizung Heizbetrieb: 2 K

Max. speed: 100 %    Spreizung TWS Ladung: 4 K

Abb. 2-11\_17-523k15

## Maske Alarm

Alarm

Low superheat threshold: 3.0 °C    Envelope alarm delay: 10 s

Low superheat delay: 90 s    MOP threshold: 22.0 °C

Low pressure threshold: 1.30 barg    High superheat threshold: 30.0 K

Low pressure delay: 30 s    High superheat delay: 10 s

High condensing pressure threshold: 44.40 barg

High condensing pressure delay: 10 s

Alarm pause: 10 min

Seite 1 Von 2

Abb. 2-12\_17-524k15