

Grundlegende Leistungsdaten - WAMAK AiWa 23 EVI H In

| Heizen - EN 14511 | | |
|--|---------------------------|-----------------|
| Wärmeleistung [kW] | A7 / W35 | 26.0 |
| | A2 / W35 | 22.2 |
| | A-7 / W34 | 18.4 |
| Leistungsaufnahme [kW] | A7 / W35 | 5.9 |
| | A2 / W35 | 5.8 |
| | A-7 / W34 | 5.5 |
| Leistungszahl Heizen [COP] | A7 / W35 | 4.40 |
| | A2 / W35 | 3.84 |
| | A-7 / W34 | 3.34 |
| Jahreszeitbedingte Raumheizungs-Energieeffizienz - SCOP EN 14825 | | |
| Klimazone Durchschnitt / Niedrigtemp. [35°C] | SCOP | 4.24 |
| | η [%] | 169.6 |
| | Label | A+++ |
| | Q _{he} [kWh] | 9826.9 |
| | P _{designh} [kW] | 20.8 |
| | Tbivalent [°C] | -7 |
| Kühlung | | |
| Kühlleistung - [kW] | A35 / W23-18 | 24.5 |
| | A25 / W23-18 | 25.7 |
| | A35 / W12-7 | 18.2 |
| | A25 / W12-7 | 18.2 |
| Jahreszeitbedingte Raumkühlungs-Energieeffizienz - SEER EN 14825 | | |
| [W 23 / 18°C] | SEER | 4.29 |
| | Q _{ce} [kWh] | 10920.0 |
| | η_c [%] | 171.6 |
| Schall EN 12102 | | |
| Schalleistungspegel - L _w | dB(A) | 67.2 |
| Schalldruckpegel - L _p | 1 m dB(A) | 59.2 |
| | 5 m dB(A) | 45.2 |
| | 10 m dB(A) | 39.2 |
| Mechanische und Betriebs-Informationen | | |
| Verdichterbauart (3~ 400/50) | SCROLL / 1 / | Ein/Aus |
| Kältemittel | R410A (GWP - 2088) | 7.9 kg |
| Einsatzgrenze Heizungswasser - (min / max) [°C] | | 25 / 65 |
| Einsatzgrenze Wärmequelle - (min / max) [°C] | | -22 / 40 |
| Gewicht | | 315 kg |

Wichtigste technische Daten - WAMAK AiWa 23 EVI H In

| Gehäuse Bezeichnung | | | AiWa-I-1200 | | | Daten von Wärmeabgabe | | | |
|---|----------------------|-------------------|--------------------|----------|----------------------------|---|--------------------|-------------------|------------------|
| Grundlegende Abmessungen | Hohe [mm] | 1760 | Einsatzgrenze | MAX [°C] | 65 | genauer siehe Betriebsgrenzendiagramm | | | |
| | Breite [mm] | 1420 | Heizungswasser | MIN [°C] | 25 | | | | |
| | Länge [mm] | 660 | Kondensator | | | Anschlussdimension | 1.1/4 " | | |
| Gewicht [kg] | 315 | | | | Bauart | BPHE | | | |
| Gehäuse Farbe | Grau | | | | Anzahl | 1 | | | |
| Gehäuse IP Klasse | IP44 | | | | Material | AISI 316 | | | |
| Kältekreis | | | | | | Maximaler Überdruck - Kältemittel [bar] | | | 45 |
| Verdichter | Bauart | Scroll | | | | Maximaler Überdruck - Wasser [bar] | | | 6 |
| | Leistungstufen | 1 | | | | Prüfdruck [bar] | | | 70 |
| | Ein/Aus | | | | | Wärmeträger | | | Wasser |
| | Leistungsfaktor Cosφ | 0.65 | | | | Volumenstrom @ dT 5K (nom) - Wasser [m3/h] | | | 4.49 |
| | Wicklungswiderstand | 1.38 Ohm | | | | Interne Druckdifferenz - Wasser [kPa] | | | 14 |
| Kältemittel | | R410A | | | | ECM Kondensator-pumpe | | | UPMXL GEO 32-125 |
| | Menge | 7.9 kg | | | | Durchflusssensor Abgabe - analog | | | 0..10V |
| | GWP | 2088 | | | | Temperaturdifferenz @ 35°C (nom) | | | 5 K |
| | Sicherheitsklasse | A1 | | | | @ 55°C | | | 8 K |
| Kältemittelöl | POE RL32-3MAF | | | | | @ 65°C | | | 10 K |
| | Ölmenge | 1.77 L | | | | Daten von Erneuerbarer Energiequelle | | | |
| Maximaler Hochdruck - Kältemittel [bar] | | 45 | | | | Einsatzgrenze | MIN [°C] | -22 | |
| | PED Klasse | 1 | | | | Wärmequelle | MAX [°C] | 40 | |
| EVI - Dampfeinspritzung mit Economiser | | | | | | genauer siehe Betriebsgrenzendiagramm | | | |
| APS System mit Flüssigkeitsunterkühlung | | | | | | Verdampfer | Anschlussdimension | 1200mm x 1200mm " | |
| Reversibler Betrieb (Kühlung) | | | | | | | Bauart | Cu-coil /Al-fin | |
| Reversible Abtauung mit Heissgas | | | | | | | Anzahl | 1 | |
| Plattentauscherschutz HG-BYPASS | | | | | | Material | Cu/Al | | |
| Daten von Elektroanschluss | | | | | | Maximaler Überdruck - Kältemittel [bar] | | | 28 |
| Einspeisung [#~ V/Hz] | | 3~ 400/50 | | | | Wärmeträger | | | Luft |
| Strom | Nominal [A] | 11.80 | | | | Volumenstrom - Luft [m3/h] | | | 8030 |
| | Maximal [A] | 18.60 | | | | Interne Druckdifferenz - Luft [kPa] | | | 0.032 |
| | Start [A] | 29.7 | | | | Temperaturdifferenz - Luft | | | 7 K |
| Sanftanlasser | - | | | | Anzahl von Ventilatoren | | | 1 | |
| Hauptsicherung | C32 | | | | Ventilatordurchmesser [mm] | | | 800 | |
| Steuerungssystem | | | | | | | | | |
| Hauptregler | SIEMENS | RVS 21 AVS 55.199 | | | | | | | |
| Erweiterungsmo dul | AVS75.3xx | AVS75.3xx | AVS75.372 | | | | | | |
| Bus Clip-In | | LPB OCI347 | Modbus OCI353 | | | | | | |
| Online-Verbindung | | Web server OZW672 | ToSyMo | | | | | | |
| EEV Regelung | | 1 - EEV H/C | | | | | | | |

*** mit Zubehör

WAMAK AiWa 23 EVI H In

ErP (EU) No 811/2013: Technische Parameter für Wärmepumpen-Raumheizgeräte

| Modell | AiWa 23 EVI H In |
|--------------------------------------|-------------------------|
| Luft-Wasser-Wärmepumpe | ja |
| Sole/Wasser-Wärmepumpe | nein |
| Wasser/Wasser-Wärmepumpe | nein |
| Niedertemperatur-Wärmepumpe | nein |
| Ausgestattet mit einer Zusatzheizung | nein |
| Wärmepumpen-Kombi-Heizgerät | nein |
| Temperaturanwendung | niedrig (35 °C - 30 °C) |
| Klimaverhältnisse | durchschnittlich |

| Angabe | Symbol | Wert | Ein. | Angabe | Symbol | Wert | Ein. |
|---|--------|--------|------|--|----------|-------|------|
| Nennwärmeleistung bei Tdesignh | Prated | 20.8 | kW | Jahreszeitbedingte Raumheizungs-Energieeffizienz | η_s | 169.6 | % |
| Ausgewiesene Heizleistung für Teillast bei einer Innentemperatur von 20 °C und einer Außentemperatur von Tj | | | | Deklarierte Leistungszahl oder Primärenergiekennzahl für Teillast bei einer Innentemperatur von 20 °C und einer Außentemperatur von Tj | | | |
| Tj = -7 °C | Pdh | 18.4 | kW | Tj = -7 °C | COPd | 3.34 | - |
| Tj = +2 °C | Pdh | 22.0 | kW | Tj = +2 °C | COPd | 4.2 | - |
| Tj = +7 °C | Pdh | 25.8 | kW | Tj = +7 °C | COPd | 5.1 | - |
| Tj = +12 °C | Pdh | 30.3 | kW | Tj = +12 °C | COPd | 6.3 | - |
| Tj = bivalente Temperatur | Pdh | 17.8 | kW | Tj = bivalente Temperatur | COPd | 3.2 | - |
| Tj = Betriebsgrenztemperatur | Pdh | 13.0 | kW | Tj = Betriebsgrenztemperatur | COPd | 2.5 | - |
| Bivalente Temperatur | Tbiv | -7 | °C | Tj = Betriebsgrenztemperatur | TOL | -22 | °C |
| Stromverbrauch in anderen Modi als dem aktiven Modus | | | | Betriebsgrenztemperatur des Heizwassers | | | |
| Aus-Zustand | Poff | 0.030 | kW | Zusatzheizung | | | |
| Thermostat-Aus-Modus | Pto | 0.010 | kW | Nennwärmeleistung | Psup | 9.3 | kW |
| Standby-Betrieb | Psb | 0.010 | kW | Art der Energiezufuhr | | | |
| Betriebsart Kurbelwannenheizung | Pck | 0.050 | kW | elektrisch | | | |
| Sonstige Angaben | | | | Für Luft/Wasser-Wärmepumpen: Nennluftvolumenstrom, Außenbereich | | | |
| Leistungsregelung | | fest | | Für Wasser- oder Sole/Wasser-Wärmepumpen: Nenndurchfluss der Sole oder des Wassers, Wärmetauscher im Freien | | | |
| Schalleistungspegel | | | | | | | |
| in Innenräumen | Lwa | 67 | dB | | | | |
| im Freien | Lwa | --- | dB | | | | |
| Jährlicher Energieverbrauch | QHE | 9826.9 | kWh | | | | |

Angaben zum Kontakt: WAMAK, s.r.o., Orovnic 252, 96652, Orovnic, Slovakia, info@wamak.sk

WAMAK AiWa 23 EVI H In

ErP (EU) No 811/2013: Technische Parameter für Wärmepumpen-Raumheizgeräte

| Modell | AiWa 23 EVI H In |
|--------------------------------------|------------------------|
| Luft-Wasser-Wärmepumpe | ja |
| Sole/Wasser-Wärmepumpe | nein |
| Wasser/Wasser-Wärmepumpe | nein |
| Niedertemperatur-Wärmepumpe | nein |
| Ausgestattet mit einer Zusatzheizung | nein |
| Wärmepumpen-Kombi-Heizgerät | nein |
| Temperaturanwendung | mittel (55 °C - 47 °C) |
| Klimaverhältnisse | durchschnittlich |

| Angabe | Symbol | Wert | Ein. | Angabe | Symbol | Wert | Ein. |
|---|-----------------|---------|------|--|----------|-------|-------------------|
| Nennwärmeleistung bei Tdesignh | Prated | 22.1 | kW | Jahreszeitbedingte Raumheizungs-Energieeffizienz | η_s | 135.5 | % |
| Ausgewiesene Heizleistung für Teillast bei einer Innentemperatur von 20 °C und einer Außentemperatur von Tj | | | | Deklarierte Leistungszahl oder Primärenergiekennzahl für Teillast bei einer Innentemperatur von 20 °C und einer Außentemperatur von Tj | | | |
| Tj = -7 °C | Pdh | 19.3 | kW | Tj = -7 °C | COPd | 2.41 | - |
| Tj = +2 °C | Pdh | 22.4 | kW | Tj = +2 °C | COPd | 3.4 | - |
| Tj = +7 °C | Pdh | 26.0 | kW | Tj = +7 °C | COPd | 4.3 | - |
| Tj = +12 °C | Pdh | 30.3 | kW | Tj = +12 °C | COPd | 5.6 | - |
| Tj = bivalente Temperatur | Pdh | 19.0 | kW | Tj = bivalente Temperatur | COPd | 2.2 | - |
| Tj = Betriebsgrenztemperatur | Pdh | 14.4 | kW | Tj = Betriebsgrenztemperatur | COPd | 1.8 | - |
| Bivalente Temperatur | Tbiv | -7 | °C | Tj = Betriebsgrenztemperatur | TOL | -22 | °C |
| Stromverbrauch in anderen Modi als dem aktiven Modus | | | | Betriebsgrenztemperatur des Heizwassers | WTOL | 65 | °C |
| Aus-Zustand | Poff | 0.030 | kW | Zusatzheizung | | | |
| Thermostat-Aus-Modus | Pto | 0.010 | kW | Nennwärmeleistung | Psup | 9.3 | kW |
| Standby-Betrieb | Psb | 0.010 | kW | Art der Energiezufuhr | | | |
| Betriebsart Kurbelwannenheizung | Pck | 0.050 | kW | elektrisch | | | |
| Sonstige Angaben | | | | Für Luft/Wasser-Wärmepumpen: Nennluftvolumenstrom, Außenbereich | | | |
| Leistungsregelung | | fest | | | | 8030 | m ³ /h |
| Schalleistungspegel | | | | Für Wasser- oder Sole/Wasser-Wärmepumpen: Nenndurchfluss der Sole oder des Wassers, Wärmetauscher im Freien | | | |
| in Innenräumen | Lwa | 67 | dB | | | --- | m ³ /h |
| im Freien | Lwa | --- | dB | | | | |
| Jährlicher Energieverbrauch | Q _{HE} | 13169.7 | kWh | | | | |

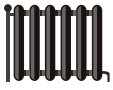
Angaben zum Kontakt: WAMAK, s.r.o., Orovnic 252, 96652, Orovnic, Slovakia, info@wamak.sk



ENERG Y IIA
 енергия - ενεργεια IE IA



AiWa 23 EVI H In



55 °C

35 °C



67 dB

--- dB

| | |
|------|------|
| ■ 24 | ■ 22 |
| ■ 23 | ■ 21 |
| ■ 22 | ■ 20 |
| kW | kW |

2019

811/2013

AiWa 23 EVI H In

ErP Data

| | 55 °C | 35 °C |
|---------------------|-------|-------|
| Energy class | A++ | A+++ |
| η [%] | 135.5 | 169.6 |
| P_{rated} [kW] | 23 | 21 |
| Q_{HE} [kWh/y] | 13170 | 9827 |
| SCOP [-] | 3.39 | 4.24 |
| $T_{bivalent}$ [°C] | -7 | -7 |

CONTROLLER



+ QAA55/75
 - QAA55/75

class VII
 class III

3.5% ↓
 1.5% ↓

Heizleistung Daten

Version: v2024.010-AW

Klimazone Durchschnitt / Niedrigtemp. [35°C]

ZHI23K1P-TFM_R410A_1_AW

| Betriebsbedingungen | | Qh | P | COP |
|---------------------|-------------|------|-----|------|
| 1 | A7 / W30-35 | 26.0 | 5.9 | 4.40 |
| 2 | A2 / W35 | 22.2 | 5.8 | 3.84 |
| 3 | A-22 / W35 | 13.0 | 5.2 | 2.49 |
| A | A-7 / W34 | 18.4 | 5.5 | 3.34 |
| B | A2 / W30 | 22.0 | 5.2 | 4.22 |
| C | A7 / W27 | 25.8 | 5.0 | 5.15 |
| D | A12 / W24 | 30.3 | 4.8 | 6.29 |
| E | A-10 / W35 | 17.8 | 5.6 | 3.19 |
| F | A-7 / W34 | 18.4 | 5.5 | 3.34 |

| SCOP DATA EN 14825:2018 | |
|---|---------|
| Klimazone Durchschnitt / Niedrigtemp. [35°C] | |
| SCOPon | 4.37 |
| SCOPnet | 4.41 |
| SCOP | 4.24 |
| η [%] | 169.63 |
| Label | A+++ |
| Qh [kWh] | 9826.93 |
| Pdesignh [kW] | 20.8 |
| Tbivalent [°C] | -7.00 |

Klimazone Durchschnitt / Mitteltemp. [55°C]

| Betriebsbedingungen | | Qh | P | COP |
|---------------------|-------------|------|-----|------|
| 1 | A7 / W47-55 | 26.5 | 9.0 | 2.93 |
| 2 | A2 / W55 | 23.0 | 8.8 | 2.61 |
| 3 | A-22 / W55 | 14.4 | 7.3 | 1.83 |
| A | A-7 / W52 | 19.3 | 8.0 | 2.41 |
| B | A2 / W42 | 22.4 | 6.7 | 3.36 |
| C | A7 / W36 | 26.0 | 6.0 | 4.32 |
| D | A12 / W30 | 30.3 | 5.4 | 5.60 |
| E | A-10 / W55 | 19.0 | 8.5 | 2.24 |
| F | A-7 / W55 | 19.5 | 8.5 | 2.29 |

| SCOP DATA EN 14825:2018 | |
|--|----------|
| Klimazone Durchschnitt / Mitteltemp. [55°C] | |
| SCOPon | 3.47 |
| SCOPnet | 3.50 |
| SCOP | 3.39 |
| η [%] | 135.52 |
| Label | A++ |
| Qh [kWh] | 13169.66 |
| Pdesignh [kW] | 22.1 |
| Tbivalent [°C] | -7.00 |

Kühlleistung Daten

Niedrigtemperatur Kühlung W 12 / 7°C

| Betriebsbedingungen | | Qc | P | EER |
|---------------------|-------------|------|-----|------|
| A | A35 / W12-7 | 18.2 | 6.9 | 2.64 |
| B | A30 / W12-7 | 18.7 | 6.2 | 3.00 |
| C | A25 / W12-7 | 19.1 | 5.6 | 3.40 |
| D | A20 / W12-7 | 19.4 | 5.1 | 3.83 |

| SEER DATA EN 14825:2018 [W 12 / 7°C] | |
|--|---------|
| SEERon | 3.33 |
| SEER | 3.22 |
| Qc [kWh] | 4131.25 |
| η [%] | 128.82 |

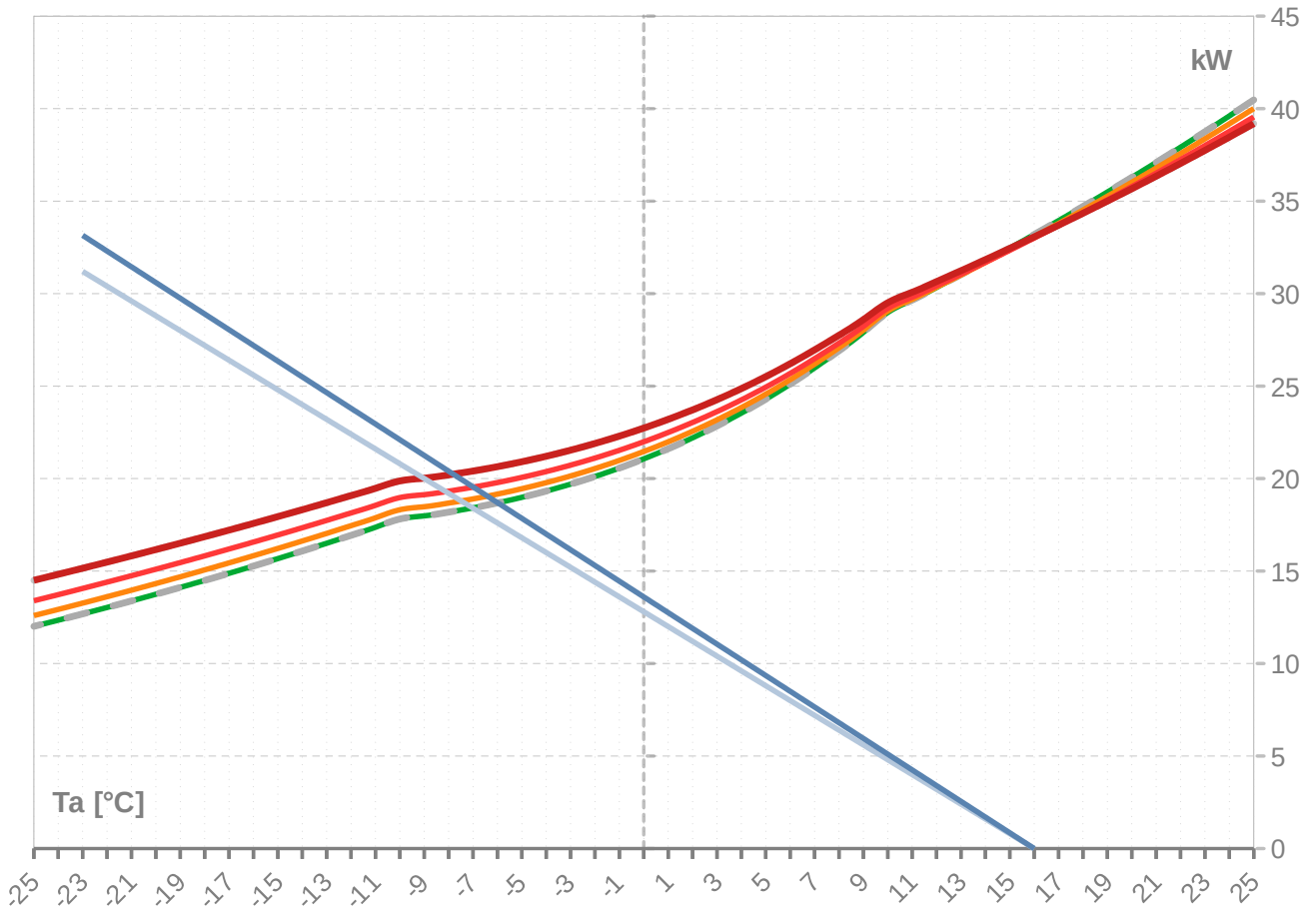
Flächenkühlung W 23 / 18°C

| Betriebsbedingungen | | Qc | P | EER |
|---------------------|--------------|------|-----|------|
| A | A35 / W23-18 | 24.5 | 6.9 | 3.55 |
| B | A30 / W23-18 | 25.2 | 5.9 | 4.05 |
| C | A25 / W23-18 | 25.7 | 5.4 | 4.59 |
| D | A20 / W23-18 | 26.2 | 4.8 | 5.17 |

| SEER DATA EN 14825:2018 [W 23 / 18°C] | |
|---|---------|
| SEERon | 4.48 |
| SEER | 4.29 |
| Qc [kWh] | 3066.91 |
| η [%] | 171.62 |

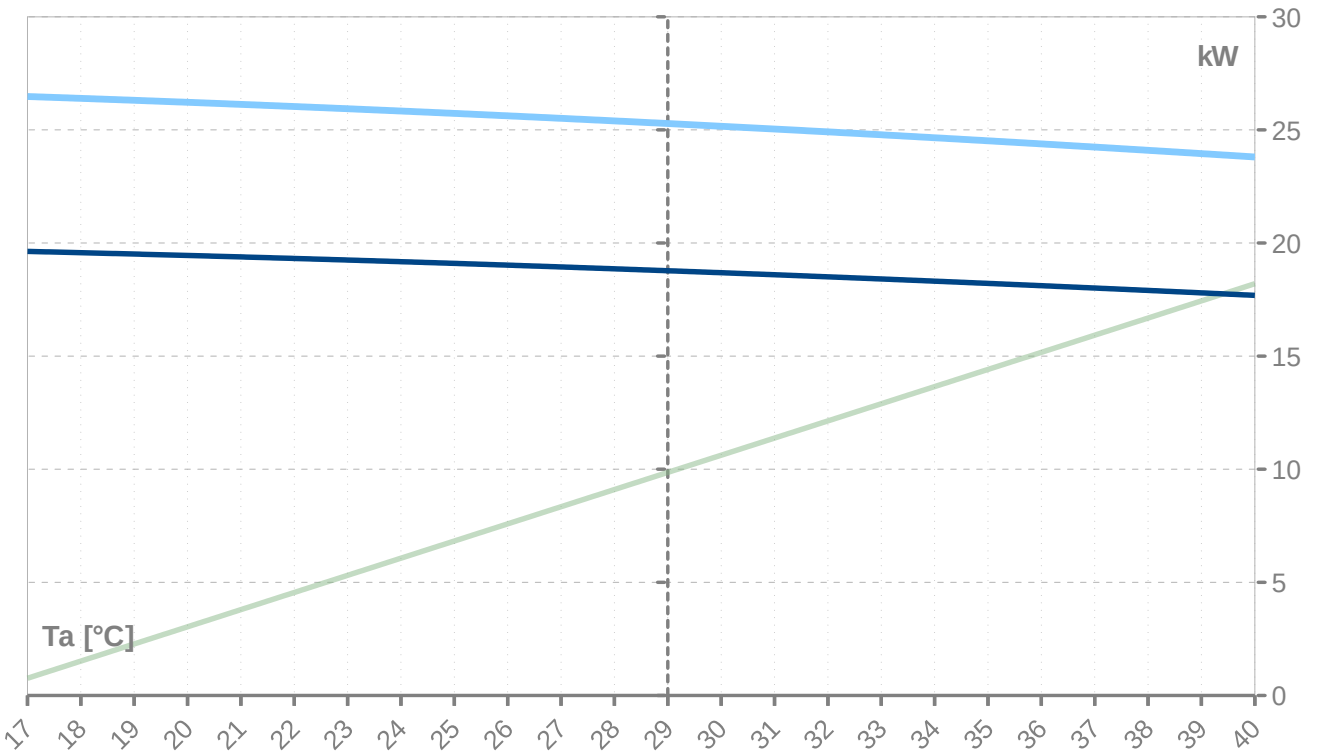
Leistungslinien - Heizen

- Qh-nom-35 — Qh-min-35 - - - Qh-max-65 — Qh-nom-45 — Qh-nom-55
- Qh-nom-65 — Pratedh-35 — Pratedh-55



Leistungslinien - Kühlen

- Pratedc — Qc-12/7 — Qc-23/18



| Th [°C] | | 35 °C | | | | | | | | |
|---------|-------------|-------------|-------------|--------------|--------------|--------------|-------------|-----------|-----------|-----------|
| Ta [°C] | Qh nom [kW] | Qh min [kW] | Qh max [kW] | Pin nom [kW] | Pin-min [kW] | Pin-max [kW] | COP kW / kW | I nom [A] | I min [A] | I max [A] |
| 25 | 33.9 | 33.9 | | 6.1 | 6.1 | | 5.59 | 12.0 | 12.0 | |
| 24 | 33.9 | 33.9 | | 6.1 | 6.1 | | 5.59 | 12.0 | 12.0 | |
| 23 | 33.9 | 33.9 | | 6.1 | 6.1 | | 5.59 | 12.0 | 12.0 | |
| 22 | 33.9 | 33.9 | | 6.1 | 6.1 | | 5.59 | 12.0 | 12.0 | |
| 21 | 33.9 | 33.9 | | 6.1 | 6.1 | | 5.59 | 12.0 | 12.0 | |
| 20 | 33.9 | 33.9 | | 6.1 | 6.1 | | 5.59 | 12.0 | 12.0 | |
| 19 | 33.9 | 33.9 | | 6.1 | 6.1 | | 5.59 | 12.0 | 12.0 | |
| 18 | 33.9 | 33.9 | | 6.1 | 6.1 | | 5.59 | 12.0 | 12.0 | |
| 17 | 33.9 | 33.9 | | 6.1 | 6.1 | | 5.59 | 12.0 | 12.0 | |
| 16 | 33.2 | 33.2 | 33.2 | 6.1 | 6.1 | 6.1 | 5.48 | 12.0 | 12.0 | 12.0 |
| 15 | 32.5 | 32.5 | 32.5 | 6.0 | 6.0 | 6.0 | 5.37 | 12.0 | 12.0 | 12.0 |
| 14 | 31.7 | 31.7 | 31.7 | 6.0 | 6.0 | 6.0 | 5.26 | 12.0 | 12.0 | 12.0 |
| 13 | 31.0 | 31.0 | 31.0 | 6.0 | 6.0 | 6.0 | 5.16 | 12.0 | 12.0 | 12.0 |
| 12 | 30.3 | 30.3 | 30.3 | 6.0 | 6.0 | 6.0 | 5.05 | 12.0 | 12.0 | 12.0 |
| 11 | 29.7 | 29.7 | 29.7 | 6.0 | 6.0 | 6.0 | 4.95 | 11.9 | 11.9 | 11.9 |
| 10 | 29.0 | 29.0 | 29.0 | 6.0 | 6.0 | 6.0 | 4.85 | 11.9 | 11.9 | 11.9 |
| 9 | 27.9 | 27.9 | 27.9 | 5.9 | 5.9 | 5.9 | 4.69 | 11.9 | 11.9 | 11.9 |
| 8 | 26.9 | 26.9 | 26.9 | 5.9 | 5.9 | 5.9 | 4.54 | 11.9 | 11.9 | 11.9 |
| 7 | 26.0 | 26.0 | 26.0 | 5.9 | 5.9 | 5.9 | 4.40 | 11.9 | 11.9 | 11.9 |
| 6 | 25.1 | 25.1 | 25.1 | 5.9 | 5.9 | 5.9 | 4.27 | 11.8 | 11.8 | 11.8 |
| 5 | 24.3 | 24.3 | 24.3 | 5.9 | 5.9 | 5.9 | 4.15 | 11.8 | 11.8 | 11.8 |
| 4 | 23.5 | 23.5 | 23.5 | 5.8 | 5.8 | 5.8 | 4.04 | 11.8 | 11.8 | 11.8 |
| 3 | 22.8 | 22.8 | 22.8 | 5.8 | 5.8 | 5.8 | 3.94 | 11.8 | 11.8 | 11.8 |
| 2 | 22.2 | 22.2 | 22.2 | 5.8 | 5.8 | 5.8 | 3.84 | 11.8 | 11.8 | 11.8 |
| 1 | 21.6 | 21.6 | 21.6 | 5.8 | 5.8 | 5.8 | 3.75 | 11.8 | 11.8 | 11.8 |
| 0 | 21.1 | 21.1 | 21.1 | 5.7 | 5.7 | 5.7 | 3.67 | 11.7 | 11.7 | 11.7 |
| -1 | 20.6 | 20.6 | 20.6 | 5.7 | 5.7 | 5.7 | 3.60 | 11.7 | 11.7 | 11.7 |
| -2 | 20.1 | 20.1 | 20.1 | 5.7 | 5.7 | 5.7 | 3.53 | 11.7 | 11.7 | 11.7 |
| -3 | 19.7 | 19.7 | 19.7 | 5.7 | 5.7 | 5.7 | 3.47 | 11.7 | 11.7 | 11.7 |
| -4 | 19.3 | 19.3 | 19.3 | 5.7 | 5.7 | 5.7 | 3.41 | 11.7 | 11.7 | 11.7 |
| -5 | 19.0 | 19.0 | 19.0 | 5.6 | 5.6 | 5.6 | 3.36 | 11.7 | 11.7 | 11.7 |
| -6 | 18.7 | 18.7 | 18.7 | 5.6 | 5.6 | 5.6 | 3.32 | 11.7 | 11.7 | 11.7 |
| -7 | 18.4 | 18.4 | 18.4 | 5.6 | 5.6 | 5.6 | 3.28 | 11.6 | 11.6 | 11.6 |
| -8 | 18.2 | 18.2 | 18.2 | 5.6 | 5.6 | 5.6 | 3.24 | 11.6 | 11.6 | 11.6 |
| -9 | 18.0 | 18.0 | 18.0 | 5.6 | 5.6 | 5.6 | 3.22 | 11.6 | 11.6 | 11.6 |
| -10 | 17.8 | 17.8 | 17.8 | 5.6 | 5.6 | 5.6 | 3.19 | 11.6 | 11.6 | 11.6 |
| -11 | 17.4 | 17.4 | 17.4 | 5.6 | 5.6 | 5.6 | 3.12 | 11.6 | 11.6 | 11.6 |
| -12 | 16.9 | 16.9 | 16.9 | 5.5 | 5.5 | 5.5 | 3.06 | 11.6 | 11.6 | 11.6 |
| -13 | 16.5 | 16.5 | 16.5 | 5.5 | 5.5 | 5.5 | 3.00 | 11.6 | 11.6 | 11.6 |
| -14 | 16.1 | 16.1 | 16.1 | 5.5 | 5.5 | 5.5 | 2.94 | 11.5 | 11.5 | 11.5 |
| -15 | 15.7 | 15.7 | 15.7 | 5.5 | 5.5 | 5.5 | 2.88 | 11.5 | 11.5 | 11.5 |
| -16 | 15.3 | 15.3 | 15.3 | 5.4 | 5.4 | 5.4 | 2.82 | 11.5 | 11.5 | 11.5 |
| -17 | 14.9 | 14.9 | 14.9 | 5.4 | 5.4 | 5.4 | 2.76 | 11.5 | 11.5 | 11.5 |
| -18 | 14.5 | 14.5 | 14.5 | 5.4 | 5.4 | 5.4 | 2.70 | 11.4 | 11.4 | 11.4 |
| -19 | 14.1 | 14.1 | 14.1 | 5.3 | 5.3 | 5.3 | 2.65 | 11.4 | 11.4 | 11.4 |
| -20 | 13.7 | 13.7 | 13.7 | 5.3 | 5.3 | 5.3 | 2.59 | 11.4 | 11.4 | 11.4 |
| -21 | 13.4 | 13.4 | 13.4 | 5.3 | 5.3 | 5.3 | 2.54 | 11.4 | 11.4 | 11.4 |
| -22 | 13.0 | 13.0 | 13.0 | 5.2 | 5.2 | 5.2 | 2.49 | 11.3 | 11.3 | 11.3 |
| -23 | 12.7 | 12.7 | 12.7 | 5.2 | 5.2 | 5.2 | 2.44 | 11.3 | 11.3 | 11.3 |
| -24 | 12.3 | 12.3 | 12.3 | 5.2 | 5.2 | 5.2 | 2.39 | 11.3 | 11.3 | 11.3 |
| -25 | 12.0 | 12.0 | 12.0 | 5.1 | 5.1 | 5.1 | 2.34 | 11.3 | 11.3 | 11.3 |

* Achtung: Betriebsgrenzen beachten - nicht in Tabelle festgehalten

ZHI23K1P-TFM_R410A_1_AW

| Th [°C] | | 45 °C | | | | | | | | |
|---------|-------------|-------------|-------------|--------------|--------------|--------------|-------------|-----------|-----------|-----------|
| Ta [°C] | Qh nom [kW] | Qh min [kW] | Qh max [kW] | Pin nom [kW] | Pin-min [kW] | Pin-max [kW] | COP kW / kW | I nom [A] | I min [A] | I max [A] |
| 25 | 40.0 | 40.0 | 40.0 | 7.6 | 7.6 | 7.6 | 5.25 | 13.5 | 13.5 | 13.5 |
| 24 | 39.2 | 39.2 | 39.2 | 7.6 | 7.6 | 7.6 | 5.15 | 13.5 | 13.5 | 13.5 |
| 23 | 38.4 | 38.4 | 38.4 | 7.6 | 7.6 | 7.6 | 5.06 | 13.5 | 13.5 | 13.5 |
| 22 | 37.6 | 37.6 | 37.6 | 7.6 | 7.6 | 7.6 | 4.96 | 13.5 | 13.5 | 13.5 |
| 21 | 36.8 | 36.8 | 36.8 | 7.6 | 7.6 | 7.6 | 4.87 | 13.4 | 13.4 | 13.4 |
| 20 | 36.0 | 36.0 | 36.0 | 7.5 | 7.5 | 7.5 | 4.77 | 13.4 | 13.4 | 13.4 |
| 19 | 35.3 | 35.3 | 35.3 | 7.5 | 7.5 | 7.5 | 4.68 | 13.4 | 13.4 | 13.4 |
| 18 | 34.5 | 34.5 | 34.5 | 7.5 | 7.5 | 7.5 | 4.59 | 13.4 | 13.4 | 13.4 |
| 17 | 33.8 | 33.8 | 33.8 | 7.5 | 7.5 | 7.5 | 4.51 | 13.4 | 13.4 | 13.4 |
| 16 | 33.1 | 33.1 | 33.1 | 7.5 | 7.5 | 7.5 | 4.42 | 13.4 | 13.4 | 13.4 |
| 15 | 32.4 | 32.4 | 32.4 | 7.5 | 7.5 | 7.5 | 4.34 | 13.4 | 13.4 | 13.4 |
| 14 | 31.7 | 31.7 | 31.7 | 7.4 | 7.4 | 7.4 | 4.25 | 13.3 | 13.3 | 13.3 |
| 13 | 31.0 | 31.0 | 31.0 | 7.4 | 7.4 | 7.4 | 4.17 | 13.3 | 13.3 | 13.3 |
| 12 | 30.3 | 30.3 | 30.3 | 7.4 | 7.4 | 7.4 | 4.09 | 13.3 | 13.3 | 13.3 |
| 11 | 29.7 | 29.7 | 29.7 | 7.4 | 7.4 | 7.4 | 4.02 | 13.3 | 13.3 | 13.3 |
| 10 | 29.1 | 29.1 | 29.1 | 7.4 | 7.4 | 7.4 | 3.94 | 13.3 | 13.3 | 13.3 |
| 9 | 28.0 | 28.0 | 28.0 | 7.3 | 7.3 | 7.3 | 3.82 | 13.2 | 13.2 | 13.2 |
| 8 | 27.1 | 27.1 | 27.1 | 7.3 | 7.3 | 7.3 | 3.70 | 13.2 | 13.2 | 13.2 |
| 7 | 26.2 | 26.2 | 26.2 | 7.3 | 7.3 | 7.3 | 3.60 | 13.2 | 13.2 | 13.2 |
| 6 | 25.3 | 25.3 | 25.3 | 7.2 | 7.2 | 7.2 | 3.50 | 13.1 | 13.1 | 13.1 |
| 5 | 24.6 | 24.6 | 24.6 | 7.2 | 7.2 | 7.2 | 3.41 | 13.1 | 13.1 | 13.1 |
| 4 | 23.8 | 23.8 | 23.8 | 7.2 | 7.2 | 7.2 | 3.32 | 13.1 | 13.1 | 13.1 |
| 3 | 23.2 | 23.2 | 23.2 | 7.1 | 7.1 | 7.1 | 3.24 | 13.0 | 13.0 | 13.0 |
| 2 | 22.6 | 22.6 | 22.6 | 7.1 | 7.1 | 7.1 | 3.17 | 13.0 | 13.0 | 13.0 |
| 1 | 22.0 | 22.0 | 22.0 | 7.1 | 7.1 | 7.1 | 3.10 | 13.0 | 13.0 | 13.0 |
| 0 | 21.5 | 21.5 | 21.5 | 7.1 | 7.1 | 7.1 | 3.04 | 13.0 | 13.0 | 13.0 |
| -1 | 21.0 | 21.0 | 21.0 | 7.0 | 7.0 | 7.0 | 2.98 | 12.9 | 12.9 | 12.9 |
| -2 | 20.5 | 20.5 | 20.5 | 7.0 | 7.0 | 7.0 | 2.93 | 12.9 | 12.9 | 12.9 |
| -3 | 20.1 | 20.1 | 20.1 | 7.0 | 7.0 | 7.0 | 2.88 | 12.9 | 12.9 | 12.9 |
| -4 | 19.8 | 19.8 | 19.8 | 7.0 | 7.0 | 7.0 | 2.84 | 12.9 | 12.9 | 12.9 |
| -5 | 19.5 | 19.5 | 19.5 | 6.9 | 6.9 | 6.9 | 2.80 | 12.8 | 12.8 | 12.8 |
| -6 | 19.2 | 19.2 | 19.2 | 6.9 | 6.9 | 6.9 | 2.77 | 12.8 | 12.8 | 12.8 |
| -7 | 18.9 | 18.9 | 18.9 | 6.9 | 6.9 | 6.9 | 2.74 | 12.8 | 12.8 | 12.8 |
| -8 | 18.7 | 18.7 | 18.7 | 6.9 | 6.9 | 6.9 | 2.71 | 12.8 | 12.8 | 12.8 |
| -9 | 18.5 | 18.5 | 18.5 | 6.9 | 6.9 | 6.9 | 2.69 | 12.8 | 12.8 | 12.8 |
| -10 | 18.3 | 18.3 | 18.3 | 6.9 | 6.9 | 6.9 | 2.67 | 12.8 | 12.8 | 12.8 |
| -11 | 17.9 | 17.9 | 17.9 | 6.8 | 6.8 | 6.8 | 2.62 | 12.7 | 12.7 | 12.7 |
| -12 | 17.5 | 17.5 | 17.5 | 6.8 | 6.8 | 6.8 | 2.57 | 12.7 | 12.7 | 12.7 |
| -13 | 17.0 | 17.0 | 17.0 | 6.8 | 6.8 | 6.8 | 2.52 | 12.7 | 12.7 | 12.7 |
| -14 | 16.6 | 16.6 | 16.6 | 6.7 | 6.7 | 6.7 | 2.47 | 12.6 | 12.6 | 12.6 |
| -15 | 16.2 | 16.2 | 16.2 | 6.7 | 6.7 | 6.7 | 2.43 | 12.6 | 12.6 | 12.6 |
| -16 | 15.8 | 15.8 | 15.8 | 6.6 | 6.6 | 6.6 | 2.38 | 12.6 | 12.6 | 12.6 |
| -17 | 15.4 | 15.4 | 15.4 | 6.6 | 6.6 | 6.6 | 2.34 | 12.5 | 12.5 | 12.5 |
| -18 | 15.1 | 15.1 | 15.1 | 6.6 | 6.6 | 6.6 | 2.29 | 12.5 | 12.5 | 12.5 |
| -19 | 14.7 | 14.7 | 14.7 | 6.5 | 6.5 | 6.5 | 2.25 | 12.5 | 12.5 | 12.5 |
| -20 | 14.3 | 14.3 | 14.3 | 6.5 | 6.5 | 6.5 | 2.21 | 12.4 | 12.4 | 12.4 |
| -21 | 14.0 | 14.0 | 14.0 | 6.4 | 6.4 | 6.4 | 2.17 | 12.4 | 12.4 | 12.4 |
| -22 | 13.6 | 13.6 | 13.6 | 6.4 | 6.4 | 6.4 | 2.13 | 12.3 | 12.3 | 12.3 |
| -23 | 13.3 | 13.3 | 13.3 | 6.4 | 6.4 | 6.4 | 2.09 | 12.3 | 12.3 | 12.3 |
| -24 | 12.9 | 12.9 | 12.9 | 6.3 | 6.3 | 6.3 | 2.05 | 12.3 | 12.3 | 12.3 |
| -25 | 12.6 | 12.6 | 12.6 | 6.3 | 6.3 | 6.3 | 2.01 | 12.2 | 12.2 | 12.2 |

* Achtung: Betriebsgrenzen beachten - nicht in Tabelle festgehalten

| Th [°C] | | 55 °C | | | | | | | | |
|---------|-------------|-------------|-------------|--------------|--------------|--------------|-------------|-----------|-----------|-----------|
| Ta [°C] | Qh nom [kW] | Qh min [kW] | Qh max [kW] | Pin nom [kW] | Pin-min [kW] | Pin-max [kW] | COP kW / kW | I nom [A] | I min [A] | I max [A] |
| 25 | 39.5 | 39.5 | 39.5 | 9.5 | 9.5 | 9.5 | 4.17 | 15.6 | 15.6 | 15.6 |
| 24 | 38.8 | 38.8 | 38.8 | 9.5 | 9.5 | 9.5 | 4.10 | 15.6 | 15.6 | 15.6 |
| 23 | 38.0 | 38.0 | 38.0 | 9.4 | 9.4 | 9.4 | 4.02 | 15.5 | 15.5 | 15.5 |
| 22 | 37.2 | 37.2 | 37.2 | 9.4 | 9.4 | 9.4 | 3.95 | 15.5 | 15.5 | 15.5 |
| 21 | 36.5 | 36.5 | 36.5 | 9.4 | 9.4 | 9.4 | 3.88 | 15.5 | 15.5 | 15.5 |
| 20 | 35.8 | 35.8 | 35.8 | 9.4 | 9.4 | 9.4 | 3.81 | 15.5 | 15.5 | 15.5 |
| 19 | 35.1 | 35.1 | 35.1 | 9.4 | 9.4 | 9.4 | 3.74 | 15.4 | 15.4 | 15.4 |
| 18 | 34.4 | 34.4 | 34.4 | 9.3 | 9.3 | 9.3 | 3.68 | 15.4 | 15.4 | 15.4 |
| 17 | 33.7 | 33.7 | 33.7 | 9.3 | 9.3 | 9.3 | 3.61 | 15.4 | 15.4 | 15.4 |
| 16 | 33.0 | 33.0 | 33.0 | 9.3 | 9.3 | 9.3 | 3.55 | 15.4 | 15.4 | 15.4 |
| 15 | 32.3 | 32.3 | 32.3 | 9.3 | 9.3 | 9.3 | 3.49 | 15.3 | 15.3 | 15.3 |
| 14 | 31.7 | 31.7 | 31.7 | 9.3 | 9.3 | 9.3 | 3.42 | 15.3 | 15.3 | 15.3 |
| 13 | 31.1 | 31.1 | 31.1 | 9.2 | 9.2 | 9.2 | 3.36 | 15.3 | 15.3 | 15.3 |
| 12 | 30.4 | 30.4 | 30.4 | 9.2 | 9.2 | 9.2 | 3.30 | 15.3 | 15.3 | 15.3 |
| 11 | 29.8 | 29.8 | 29.8 | 9.2 | 9.2 | 9.2 | 3.25 | 15.2 | 15.2 | 15.2 |
| 10 | 29.2 | 29.2 | 29.2 | 9.2 | 9.2 | 9.2 | 3.19 | 15.2 | 15.2 | 15.2 |
| 9 | 28.2 | 28.2 | 28.2 | 9.1 | 9.1 | 9.1 | 3.10 | 15.2 | 15.2 | 15.2 |
| 8 | 27.3 | 27.3 | 27.3 | 9.1 | 9.1 | 9.1 | 3.01 | 15.1 | 15.1 | 15.1 |
| 7 | 26.5 | 26.5 | 26.5 | 9.0 | 9.0 | 9.0 | 2.93 | 15.1 | 15.1 | 15.1 |
| 6 | 25.7 | 25.7 | 25.7 | 9.0 | 9.0 | 9.0 | 2.86 | 15.0 | 15.0 | 15.0 |
| 5 | 24.9 | 24.9 | 24.9 | 8.9 | 8.9 | 8.9 | 2.79 | 15.0 | 15.0 | 15.0 |
| 4 | 24.3 | 24.3 | 24.3 | 8.9 | 8.9 | 8.9 | 2.73 | 14.9 | 14.9 | 14.9 |
| 3 | 23.6 | 23.6 | 23.6 | 8.9 | 8.9 | 8.9 | 2.67 | 14.9 | 14.9 | 14.9 |
| 2 | 23.0 | 23.0 | 23.0 | 8.8 | 8.8 | 8.8 | 2.61 | 14.8 | 14.8 | 14.8 |
| 1 | 22.5 | 22.5 | 22.5 | 8.8 | 8.8 | 8.8 | 2.56 | 14.8 | 14.8 | 14.8 |
| 0 | 22.0 | 22.0 | 22.0 | 8.7 | 8.7 | 8.7 | 2.52 | 14.7 | 14.7 | 14.7 |
| -1 | 21.5 | 21.5 | 21.5 | 8.7 | 8.7 | 8.7 | 2.47 | 14.7 | 14.7 | 14.7 |
| -2 | 21.1 | 21.1 | 21.1 | 8.7 | 8.7 | 8.7 | 2.43 | 14.7 | 14.7 | 14.7 |
| -3 | 20.7 | 20.7 | 20.7 | 8.6 | 8.6 | 8.6 | 2.40 | 14.6 | 14.6 | 14.6 |
| -4 | 20.4 | 20.4 | 20.4 | 8.6 | 8.6 | 8.6 | 2.37 | 14.6 | 14.6 | 14.6 |
| -5 | 20.1 | 20.1 | 20.1 | 8.6 | 8.6 | 8.6 | 2.34 | 14.6 | 14.6 | 14.6 |
| -6 | 19.8 | 19.8 | 19.8 | 8.6 | 8.6 | 8.6 | 2.31 | 14.5 | 14.5 | 14.5 |
| -7 | 19.5 | 19.5 | 19.5 | 8.5 | 8.5 | 8.5 | 2.29 | 14.5 | 14.5 | 14.5 |
| -8 | 19.3 | 19.3 | 19.3 | 8.5 | 8.5 | 8.5 | 2.27 | 14.5 | 14.5 | 14.5 |
| -9 | 19.1 | 19.1 | 19.1 | 8.5 | 8.5 | 8.5 | 2.25 | 14.5 | 14.5 | 14.5 |
| -10 | 19.0 | 19.0 | 19.0 | 8.5 | 8.5 | 8.5 | 2.24 | 14.5 | 14.5 | 14.5 |
| -11 | 18.6 | 18.6 | 18.6 | 8.4 | 8.4 | 8.4 | 2.20 | 14.4 | 14.4 | 14.4 |
| -12 | 18.1 | 18.1 | 18.1 | 8.4 | 8.4 | 8.4 | 2.16 | 14.4 | 14.4 | 14.4 |
| -13 | 17.7 | 17.7 | 17.7 | 8.3 | 8.3 | 8.3 | 2.13 | 14.3 | 14.3 | 14.3 |
| -14 | 17.3 | 17.3 | 17.3 | 8.3 | 8.3 | 8.3 | 2.09 | 14.3 | 14.3 | 14.3 |
| -15 | 16.9 | 16.9 | 16.9 | 8.2 | 8.2 | 8.2 | 2.05 | 14.2 | 14.2 | 14.2 |
| -16 | 16.6 | 16.6 | 16.6 | 8.2 | 8.2 | 8.2 | 2.02 | 14.2 | 14.2 | 14.2 |
| -17 | 16.2 | 16.2 | 16.2 | 8.2 | 8.2 | 8.2 | 1.99 | 14.1 | 14.1 | 14.1 |
| -18 | 15.8 | 15.8 | 15.8 | 8.1 | 8.1 | 8.1 | 1.95 | 14.1 | 14.1 | 14.1 |
| -19 | 15.5 | 15.5 | 15.5 | 8.0 | 8.0 | 8.0 | 1.92 | 14.0 | 14.0 | 14.0 |
| -20 | 15.1 | 15.1 | 15.1 | 8.0 | 8.0 | 8.0 | 1.89 | 14.0 | 14.0 | 14.0 |
| -21 | 14.7 | 14.7 | 14.7 | 7.9 | 7.9 | 7.9 | 1.86 | 13.9 | 13.9 | 13.9 |
| -22 | 14.4 | 14.4 | 14.4 | 7.9 | 7.9 | 7.9 | 1.83 | 13.8 | 13.8 | 13.8 |
| -23 | 14.1 | 14.1 | 14.1 | 7.8 | 7.8 | 7.8 | 1.80 | 13.8 | 13.8 | 13.8 |
| -24 | 13.7 | 13.7 | 13.7 | 7.8 | 7.8 | 7.8 | 1.77 | 13.7 | 13.7 | 13.7 |
| -25 | 13.4 | 13.4 | 13.4 | 7.7 | 7.7 | 7.7 | 1.74 | 13.7 | 13.7 | 13.7 |

* Achtung: Betriebsgrenzen beachten - nicht in Tabelle festgehalten

| Th [°C] | | T-Max @ 65 °C | | | | | | | | |
|---------|----------------|----------------|----------------|-----------------|-----------------|-----------------|----------------|--------------|--------------|--------------|
| Ta [°C] | Qh nom [kW] | Qh min [kW] | Qh max [kW] | Pin nom [kW] | Pin-min [kW] | Pin-max [kW] | COP kW / kW | I nom [A] | I min [A] | I max [A] |
| 25 | 39.2 | 39.2 | 39.2 | 11.8 | 11.8 | 11.8 | 3.31 | 18.4 | 18.4 | 18.4 |
| 24 | 38.5 | 38.5 | 38.5 | 11.8 | 11.8 | 11.8 | 3.26 | 18.4 | 18.4 | 18.4 |
| 23 | 37.7 | 37.7 | 37.7 | 11.8 | 11.8 | 11.8 | 3.20 | 18.4 | 18.4 | 18.4 |
| 22 | 37.0 | 37.0 | 37.0 | 11.8 | 11.8 | 11.8 | 3.15 | 18.3 | 18.3 | 18.3 |
| 21 | 36.3 | 36.3 | 36.3 | 11.7 | 11.7 | 11.7 | 3.10 | 18.3 | 18.3 | 18.3 |
| 20 | 35.7 | 35.7 | 35.7 | 11.7 | 11.7 | 11.7 | 3.05 | 18.3 | 18.3 | 18.3 |
| 19 | 35.0 | 35.0 | 35.0 | 11.7 | 11.7 | 11.7 | 3.00 | 18.2 | 18.2 | 18.2 |
| 18 | 34.3 | 34.3 | 34.3 | 11.6 | 11.6 | 11.6 | 2.95 | 18.2 | 18.2 | 18.2 |
| 17 | 33.7 | 33.7 | 33.7 | 11.6 | 11.6 | 11.6 | 2.90 | 18.2 | 18.2 | 18.2 |
| 16 | 33.1 | 33.1 | 33.1 | 11.6 | 11.6 | 11.6 | 2.85 | 18.1 | 18.1 | 18.1 |
| 15 | 32.4 | 32.4 | 32.4 | 11.6 | 11.6 | 11.6 | 2.81 | 18.1 | 18.1 | 18.1 |
| 14 | 31.8 | 31.8 | 31.8 | 11.5 | 11.5 | 11.5 | 2.76 | 18.0 | 18.0 | 18.0 |
| 13 | 31.2 | 31.2 | 31.2 | 11.5 | 11.5 | 11.5 | 2.72 | 18.0 | 18.0 | 18.0 |
| 12 | 30.7 | 30.7 | 30.7 | 11.5 | 11.5 | 11.5 | 2.67 | 18.0 | 18.0 | 18.0 |
| 11 | 30.1 | 30.1 | 30.1 | 11.4 | 11.4 | 11.4 | 2.63 | 17.9 | 17.9 | 17.9 |
| 10 | 29.5 | 29.5 | 29.5 | 11.4 | 11.4 | 11.4 | 2.59 | 17.9 | 17.9 | 17.9 |
| 9 | 28.6 | 28.6 | 28.6 | 11.3 | 11.3 | 11.3 | 2.52 | 17.8 | 17.8 | 17.8 |
| 8 | 27.7 | 27.7 | 27.7 | 11.3 | 11.3 | 11.3 | 2.46 | 17.7 | 17.7 | 17.7 |
| 7 | 27.0 | 27.0 | 27.0 | 11.2 | 11.2 | 11.2 | 2.40 | 17.7 | 17.7 | 17.7 |
| 6 | 26.2 | 26.2 | 26.2 | 11.2 | 11.2 | 11.2 | 2.35 | 17.6 | 17.6 | 17.6 |
| 5 | 25.5 | 25.5 | 25.5 | 11.1 | 11.1 | 11.1 | 2.30 | 17.5 | 17.5 | 17.5 |
| 4 | 24.9 | 24.9 | 24.9 | 11.1 | 11.1 | 11.1 | 2.25 | 17.5 | 17.5 | 17.5 |
| 3 | 24.3 | 24.3 | 24.3 | 11.0 | 11.0 | 11.0 | 2.21 | 17.4 | 17.4 | 17.4 |
| 2 | 23.7 | 23.7 | 23.7 | 11.0 | 11.0 | 11.0 | 2.17 | 17.3 | 17.3 | 17.3 |
| 1 | 23.2 | 23.2 | 23.2 | 10.9 | 10.9 | 10.9 | 2.13 | 17.3 | 17.3 | 17.3 |
| 0 | 22.7 | 22.7 | 22.7 | 10.9 | 10.9 | 10.9 | 2.09 | 17.2 | 17.2 | 17.2 |
| -1 | 22.3 | 22.3 | 22.3 | 10.8 | 10.8 | 10.8 | 2.06 | 17.2 | 17.2 | 17.2 |
| -2 | 21.9 | 21.9 | 21.9 | 10.8 | 10.8 | 10.8 | 2.04 | 17.1 | 17.1 | 17.1 |
| -3 | 21.5 | 21.5 | 21.5 | 10.7 | 10.7 | 10.7 | 2.01 | 17.1 | 17.1 | 17.1 |
| -4 | 21.2 | 21.2 | 21.2 | 10.7 | 10.7 | 10.7 | 1.99 | 17.0 | 17.0 | 17.0 |
| -5 | 20.9 | 20.9 | 20.9 | 10.6 | 10.6 | 10.6 | 1.96 | 17.0 | 17.0 | 17.0 |
| -6 | 20.6 | 20.6 | 20.6 | 10.6 | 10.6 | 10.6 | 1.95 | 16.9 | 16.9 | 16.9 |
| -7 | 20.4 | 20.4 | 20.4 | 10.6 | 10.6 | 10.6 | 1.93 | 16.9 | 16.9 | 16.9 |
| -8 | 20.2 | 20.2 | 20.2 | 10.6 | 10.6 | 10.6 | 1.91 | 16.9 | 16.9 | 16.9 |
| -9 | 20.0 | 20.0 | 20.0 | 10.5 | 10.5 | 10.5 | 1.90 | 16.8 | 16.8 | 16.8 |
| -10 | 19.9 | 19.9 | 19.9 | 10.5 | 10.5 | 10.5 | 1.89 | 16.8 | 16.8 | 16.8 |
| -11 | 19.5 | 19.5 | 19.5 | 10.5 | 10.5 | 10.5 | 1.86 | 16.8 | 16.8 | 16.8 |
| -12 | 19.1 | 19.1 | 19.1 | 10.4 | 10.4 | 10.4 | 1.84 | 16.7 | 16.7 | 16.7 |
| -13 | 18.7 | 18.7 | 18.7 | 10.3 | 10.3 | 10.3 | 1.81 | 16.6 | 16.6 | 16.6 |
| -14 | 18.3 | 18.3 | 18.3 | 10.3 | 10.3 | 10.3 | 1.78 | 16.6 | 16.6 | 16.6 |
| -15 | 17.9 | 17.9 | 17.9 | 10.2 | 10.2 | 10.2 | 1.76 | 16.5 | 16.5 | 16.5 |
| -16 | | | | | | | | | | |
| -17 | | | | | | | | | | |
| -18 | | | | | | | | | | |
| -19 | | | | | | | | | | |
| -20 | | | | | | | | | | |
| -21 | | | | | | | | | | |
| -22 | | | | | | | | | | |
| -23 | | | | | | | | | | |
| -24 | | | | | | | | | | |
| -25 | | | | | | | | | | |

* Achtung: Betriebsgrenzen beachten - nicht in Tabelle festgehalten

| Tc [°C] | | W 12 / 7 °C | | | | | | | | |
|---------|-------------|-------------|-------------|----------|--------------|--------------|-------------|-----------|-----------|-----------|
| Ta [°C] | Qc nom [kW] | Qc min [kW] | Qc max [kW] | Pin [kW] | Pin min [kW] | Pin max [kW] | EER kW / kW | I nom [A] | I min [A] | I max [A] |
| 40 | 17.7 | 17.7 | 17.7 | 7.7 | 7.7 | 7.7 | 2.30 | 13.6 | 13.6 | 13.6 |
| 39 | 17.8 | 17.8 | 17.8 | 7.5 | 7.5 | 7.5 | 2.37 | 13.4 | 13.4 | 13.4 |
| 38 | 17.9 | 17.9 | 17.9 | 7.4 | 7.4 | 7.4 | 2.43 | 13.3 | 13.3 | 13.3 |
| 37 | 18.0 | 18.0 | 18.0 | 7.2 | 7.2 | 7.2 | 2.50 | 13.1 | 13.1 | 13.1 |
| 36 | 18.1 | 18.1 | 18.1 | 7.1 | 7.1 | 7.1 | 2.57 | 12.9 | 12.9 | 12.9 |
| 35 | 18.2 | 18.2 | 18.2 | 6.9 | 6.9 | 6.9 | 2.64 | 12.8 | 12.8 | 12.8 |
| 34 | 18.3 | 18.3 | 18.3 | 6.8 | 6.8 | 6.8 | 2.71 | 12.7 | 12.7 | 12.7 |
| 33 | 18.4 | 18.4 | 18.4 | 6.6 | 6.6 | 6.6 | 2.78 | 12.5 | 12.5 | 12.5 |
| 32 | 18.5 | 18.5 | 18.5 | 6.5 | 6.5 | 6.5 | 2.85 | 12.4 | 12.4 | 12.4 |
| 31 | 18.6 | 18.6 | 18.6 | 6.4 | 6.4 | 6.4 | 2.93 | 12.3 | 12.3 | 12.3 |
| 30 | 18.7 | 18.7 | 18.7 | 6.2 | 6.2 | 6.2 | 3.00 | 12.2 | 12.2 | 12.2 |
| 29 | 18.8 | 18.8 | 18.8 | 6.1 | 6.1 | 6.1 | 3.08 | 12.0 | 12.0 | 12.0 |
| 28 | 18.9 | 18.9 | 18.9 | 6.0 | 6.0 | 6.0 | 3.16 | 11.9 | 11.9 | 11.9 |
| 27 | 18.9 | 18.9 | 18.9 | 5.8 | 5.8 | 5.8 | 3.24 | 11.8 | 11.8 | 11.8 |
| 26 | 19.0 | 19.0 | 19.0 | 5.7 | 5.7 | 5.7 | 3.32 | 11.7 | 11.7 | 11.7 |
| 25 | 19.1 | 19.1 | 19.1 | 5.6 | 5.6 | 5.6 | 3.40 | 11.6 | 11.6 | 11.6 |
| 24 | 19.2 | 19.2 | 19.2 | 5.5 | 5.5 | 5.5 | 3.49 | 11.5 | 11.5 | 11.5 |
| 23 | 19.2 | 19.2 | 19.2 | 5.4 | 5.4 | 5.4 | 3.57 | 11.4 | 11.4 | 11.4 |
| 22 | 19.3 | 19.3 | 19.3 | 5.3 | 5.3 | 5.3 | 3.66 | 11.4 | 11.4 | 11.4 |
| 21 | 19.4 | 19.4 | 19.4 | 5.2 | 5.2 | 5.2 | 3.74 | 11.3 | 11.3 | 11.3 |
| 20 | 19.4 | 19.4 | 19.4 | 5.1 | 5.1 | 5.1 | 3.83 | 11.2 | 11.2 | 11.2 |
| 19 | 19.5 | 19.5 | 19.5 | 5.0 | 5.0 | 5.0 | 3.92 | 11.1 | 11.1 | 11.1 |
| 18 | 19.6 | 19.6 | 19.6 | 4.9 | 4.9 | 4.9 | 4.01 | 11.1 | 11.1 | 11.1 |
| 17 | 19.6 | 19.6 | 19.6 | 4.8 | 4.8 | 4.8 | 4.10 | 11.0 | 11.0 | 11.0 |

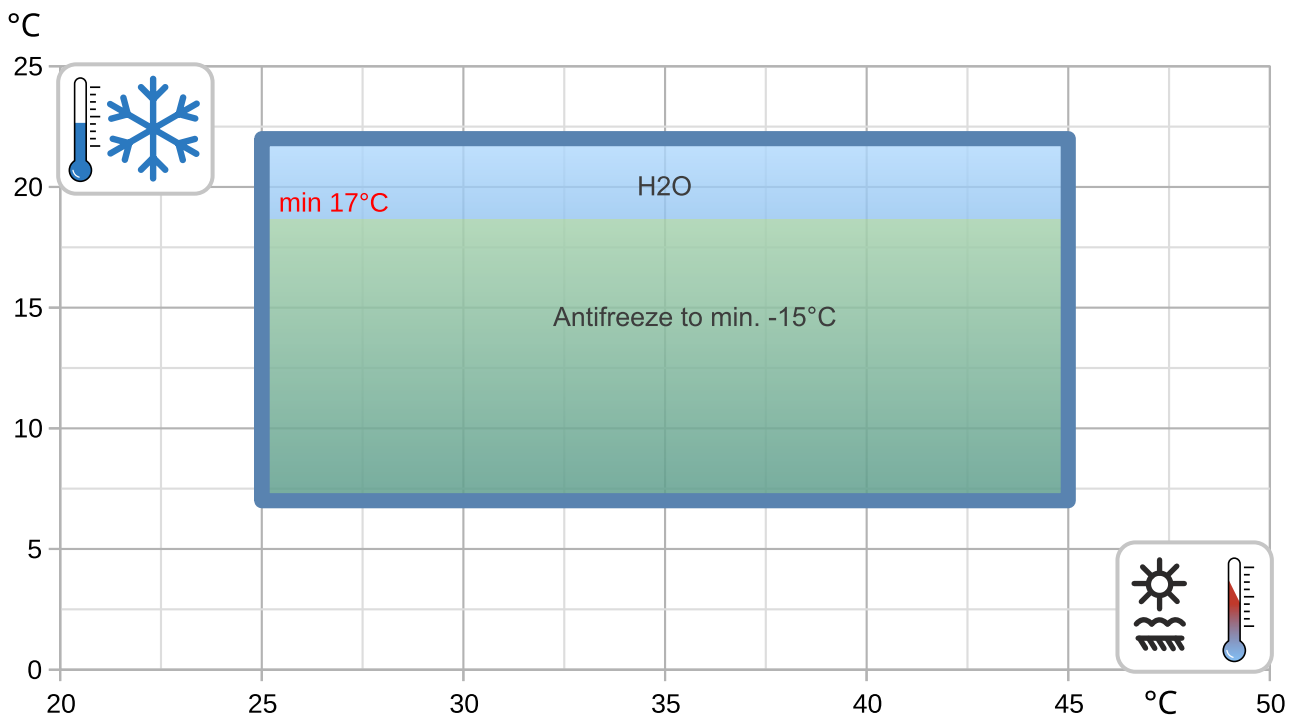
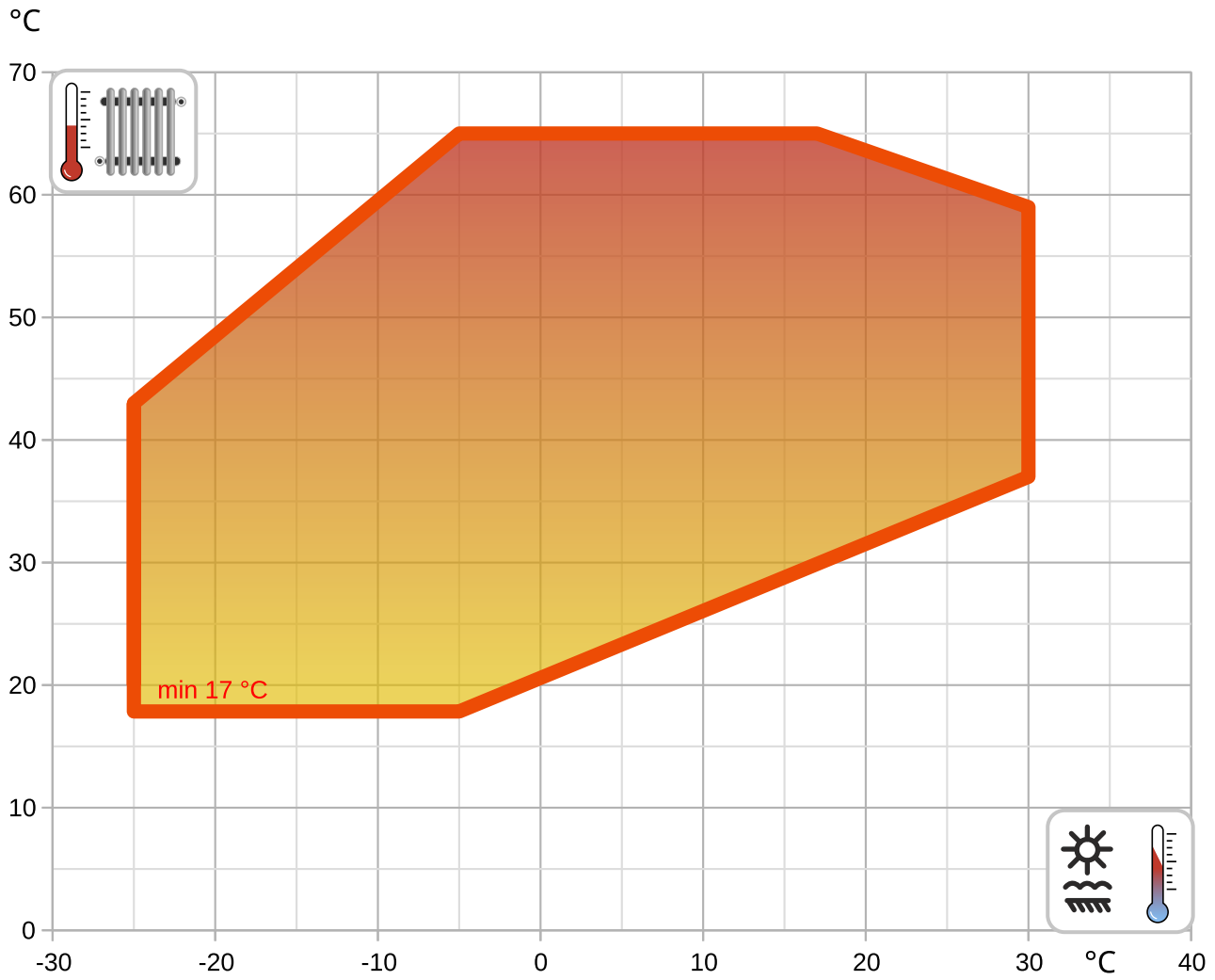
| Tc [°C] | | W 23 / 18 °C | | | | | | | | |
|---------|---------|--------------|-------------|----------|--------------|--------------|-------------|-------|-----------|-----------|
| Ta [°C] | Qc [kW] | Qh-min [kW] | Qh-max [kW] | Pin [kW] | Pin-min [kW] | Pin-max [kW] | EER kW / kW | I [A] | I-min [A] | I-max [A] |
| 40 | 23.8 | 23.8 | 23.8 | 7.7 | 7.7 | 7.7 | 3.10 | 13.8 | 13.8 | 13.8 |
| 39 | 24.0 | 24.0 | 24.0 | 7.5 | 7.5 | 7.5 | 3.19 | 13.7 | 13.7 | 13.7 |
| 38 | 24.1 | 24.1 | 24.1 | 7.4 | 7.4 | 7.4 | 3.27 | 13.5 | 13.5 | 13.5 |
| 37 | 24.2 | 24.2 | 24.2 | 7.2 | 7.2 | 7.2 | 3.36 | 13.3 | 13.3 | 13.3 |
| 36 | 24.4 | 24.4 | 24.4 | 7.1 | 7.1 | 7.1 | 3.46 | 13.2 | 13.2 | 13.2 |
| 35 | 24.5 | 24.5 | 24.5 | 6.9 | 6.9 | 6.9 | 3.55 | 13.0 | 13.0 | 13.0 |
| 34 | 24.7 | 24.7 | 24.7 | 6.8 | 6.8 | 6.8 | 3.65 | 12.8 | 12.8 | 12.8 |
| 33 | 24.8 | 24.8 | 24.8 | 6.6 | 6.6 | 6.6 | 3.74 | 12.7 | 12.7 | 12.7 |
| 32 | 24.9 | 24.9 | 24.9 | 6.5 | 6.5 | 6.5 | 3.84 | 12.6 | 12.6 | 12.6 |
| 31 | 25.0 | 25.0 | 25.0 | 6.4 | 6.4 | 6.4 | 3.94 | 12.4 | 12.4 | 12.4 |
| 30 | 25.2 | 25.2 | 25.2 | 6.2 | 6.2 | 6.2 | 4.05 | 12.3 | 12.3 | 12.3 |
| 29 | 25.3 | 25.3 | 25.3 | 6.1 | 6.1 | 6.1 | 4.15 | 12.2 | 12.2 | 12.2 |
| 28 | 25.4 | 25.4 | 25.4 | 6.0 | 6.0 | 6.0 | 4.26 | 12.1 | 12.1 | 12.1 |
| 27 | 25.5 | 25.5 | 25.5 | 5.8 | 5.8 | 5.8 | 4.36 | 12.0 | 12.0 | 12.0 |
| 26 | 25.6 | 25.6 | 25.6 | 5.7 | 5.7 | 5.7 | 4.47 | 11.9 | 11.9 | 11.9 |
| 25 | 25.7 | 25.7 | 25.7 | 5.6 | 5.6 | 5.6 | 4.59 | 11.8 | 11.8 | 11.8 |
| 24 | 25.8 | 25.8 | 25.8 | 5.5 | 5.5 | 5.5 | 4.70 | 11.7 | 11.7 | 11.7 |
| 23 | 25.9 | 25.9 | 25.9 | 5.4 | 5.4 | 5.4 | 4.81 | 11.6 | 11.6 | 11.6 |
| 22 | 26.0 | 26.0 | 26.0 | 5.3 | 5.3 | 5.3 | 4.93 | 11.5 | 11.5 | 11.5 |
| 21 | 26.1 | 26.1 | 26.1 | 5.2 | 5.2 | 5.2 | 5.05 | 11.4 | 11.4 | 11.4 |
| 20 | 26.2 | 26.2 | 26.2 | 5.1 | 5.1 | 5.1 | 5.17 | 11.3 | 11.3 | 11.3 |
| 19 | 26.3 | 26.3 | 26.3 | 5.0 | 5.0 | 5.0 | 5.29 | 11.2 | 11.2 | 11.2 |
| 18 | 26.4 | 26.4 | 26.4 | 4.9 | 4.9 | 4.9 | 5.41 | 11.2 | 11.2 | 11.2 |
| 17 | 26.5 | 26.5 | 26.5 | 4.8 | 4.8 | 4.8 | 5.54 | 11.1 | 11.1 | 11.1 |

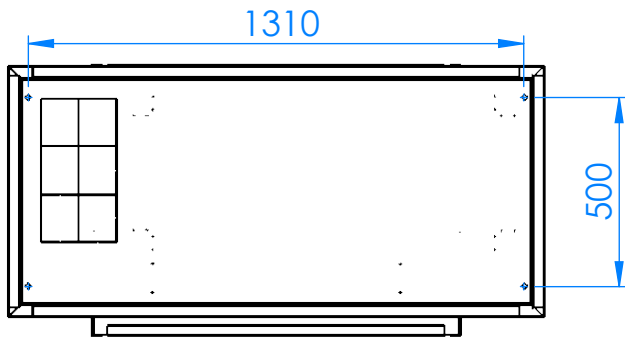
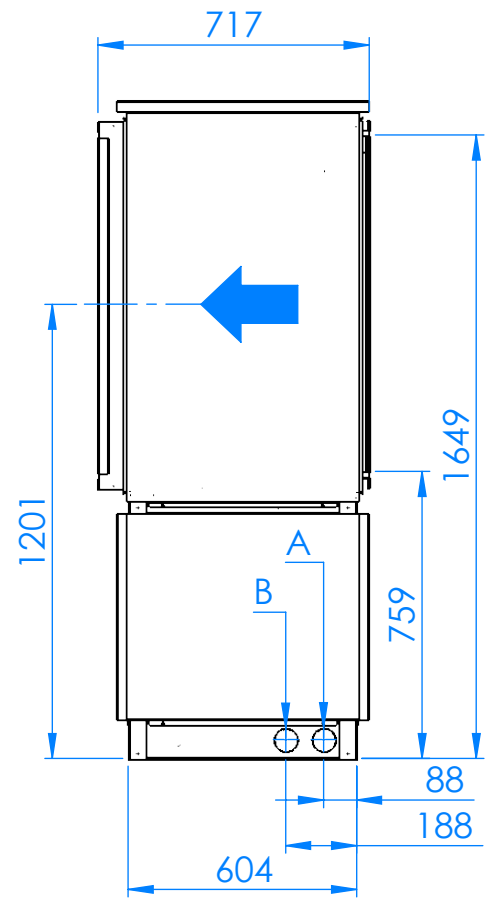
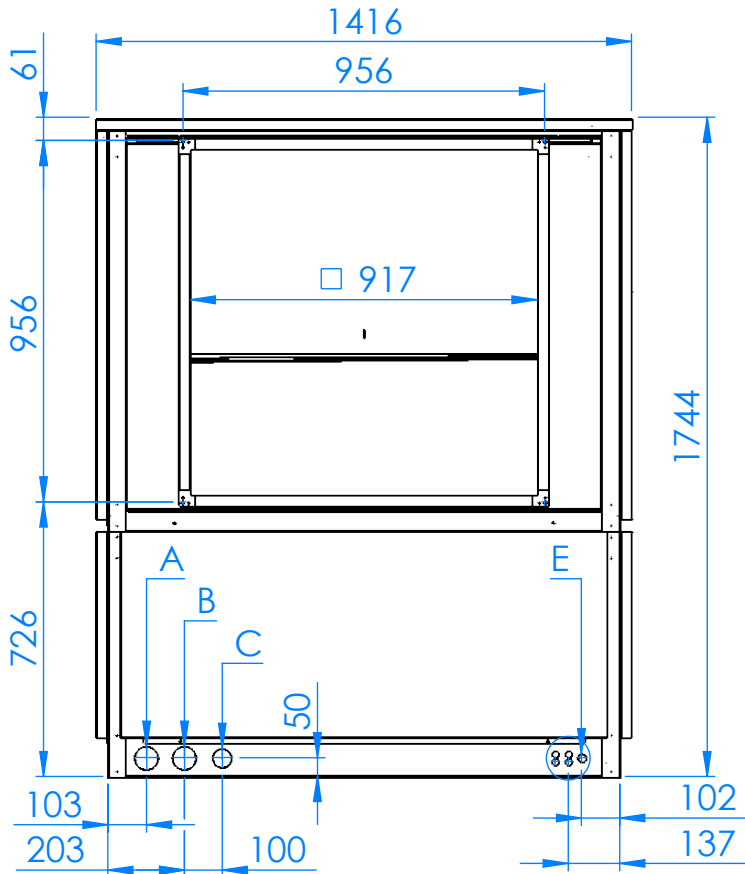
* Achtung: Betriebsgrenzen beachten - nicht in Tabelle festgehalten

LEGENDE:

Twq-RL: Temperatur Wärmequelle - Eintritt [°C]
Tws-VL: Temperatur Wärmesenke - Vorlauf [°C]
Tk-VL: Temperatur Kältesenke - Vorlauf [°C]
Qh nom: Heizleistung nominal
Qh min: Heizleistung minimal
Qh max: Heizleistung maximal
Pin nom: Aufnahme bei nominaler Heizleistung
Pin min: Aufnahme bei minimaler Heizleistung
Pin max: Aufnahme bei maximaler Heizleistung
COP nom: Arbeitszahl bei nominaler Heizleistung
Qc nom: Kälteleistung/Energieentnahme bei nominaler Heizleistung
Qc min: Kälteleistung/Energieentnahme bei minimaler Heizleistung
Qc max: Kälteleistung/Energieentnahme bei maximaler Heizleistung
I nom: Stromaufnahme bei nominaler Heizleistung
EER: Arbeitszahl bei nominaler Kälteleistung

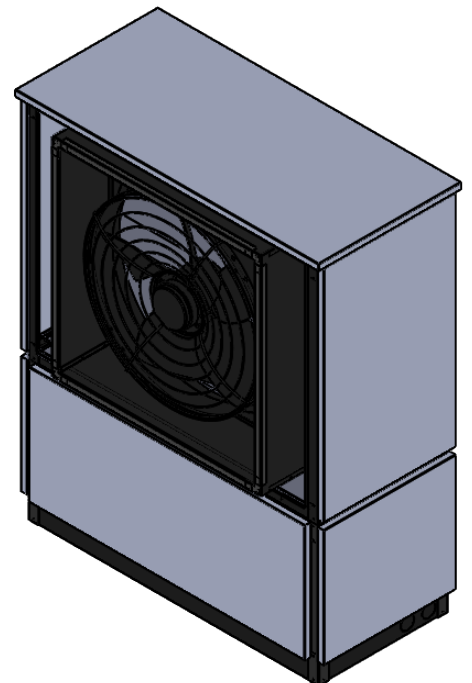
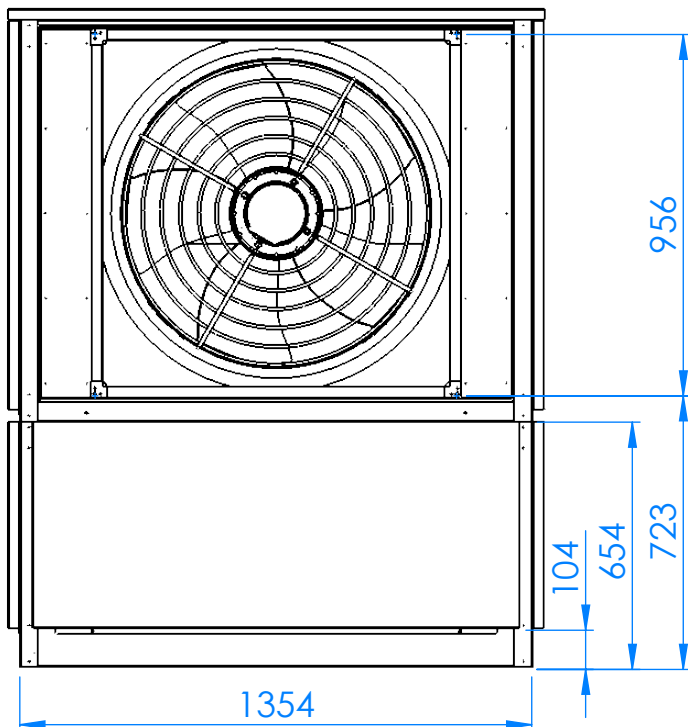
Betriebsgrenzen

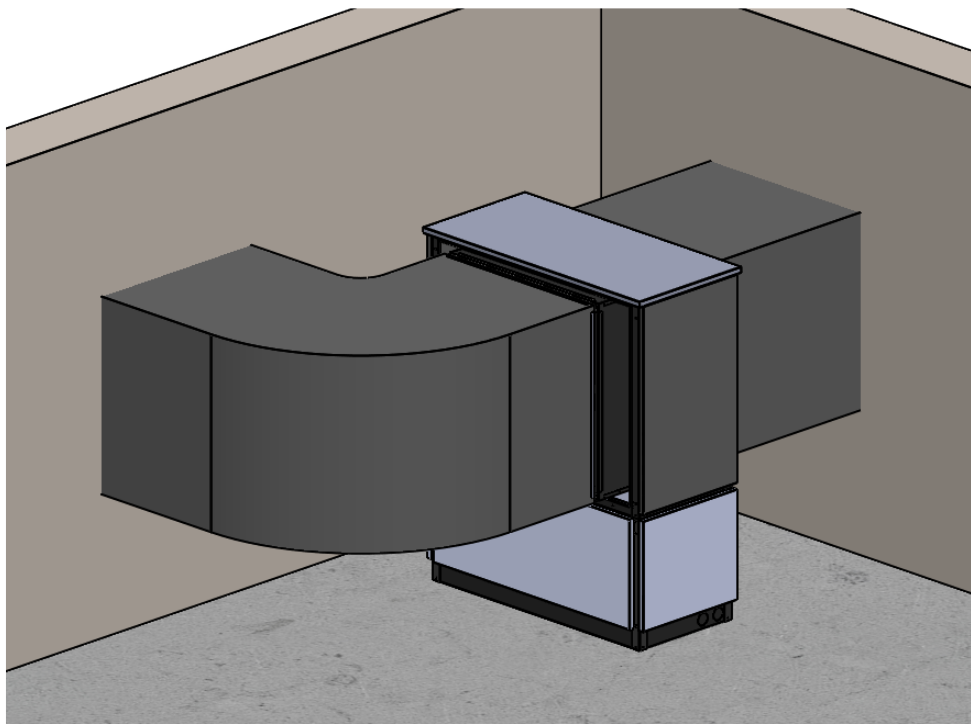
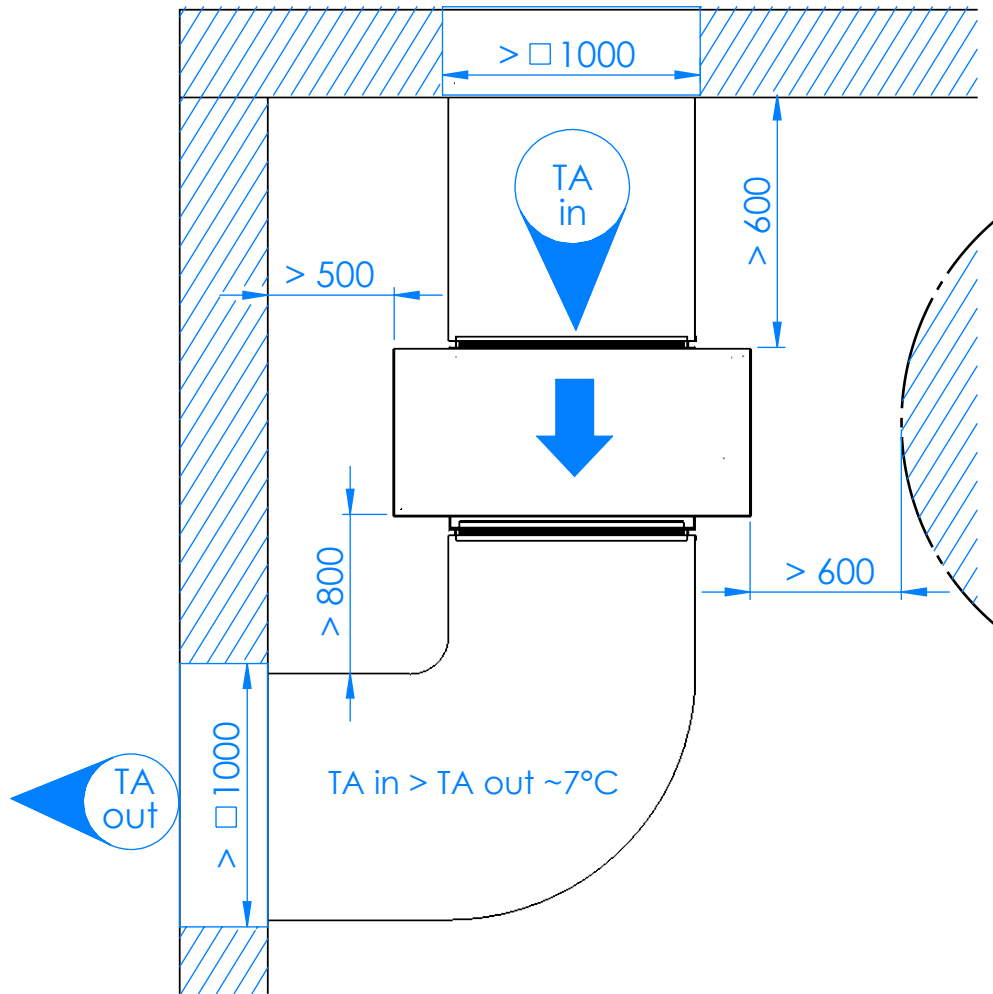


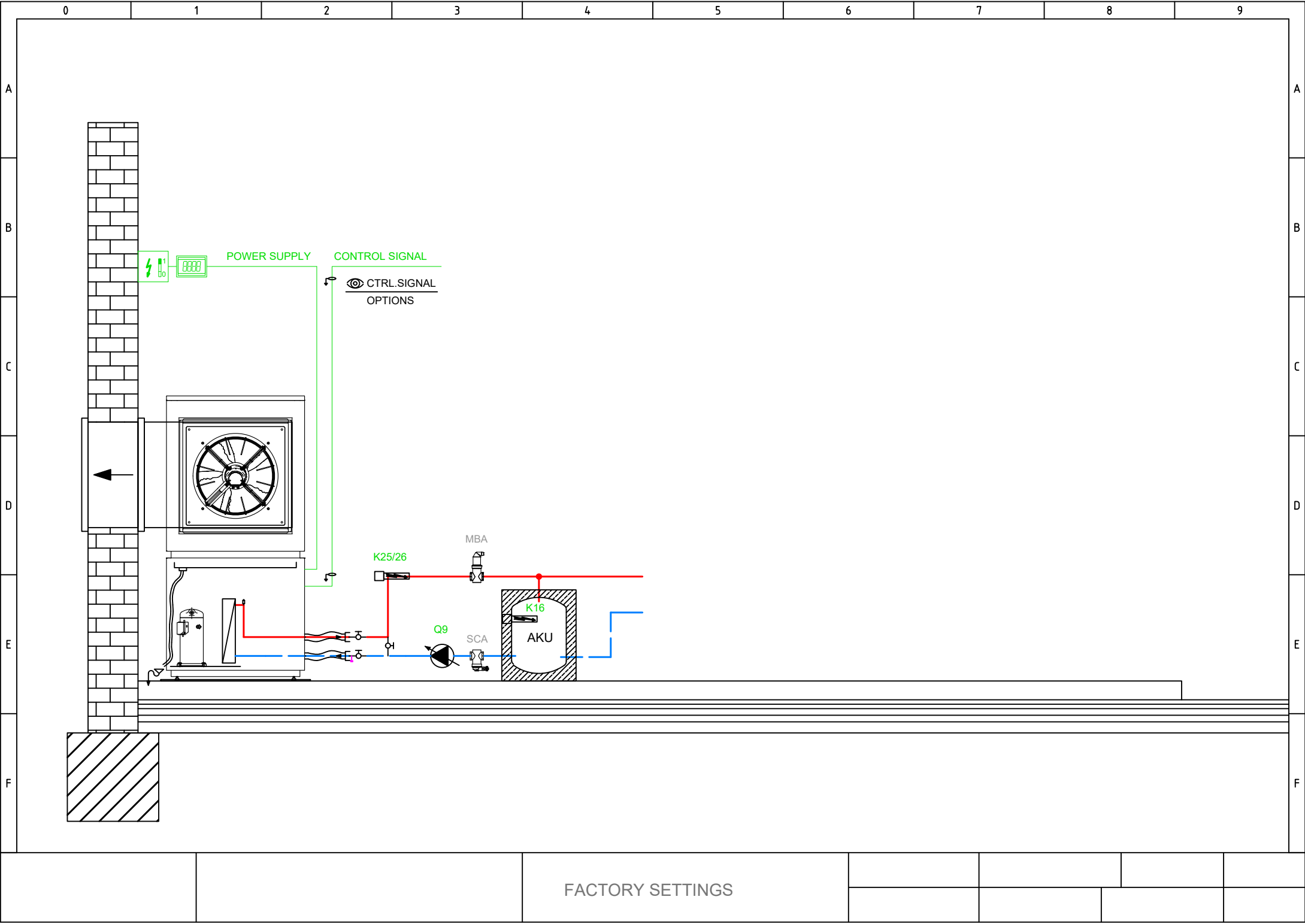


C - condens

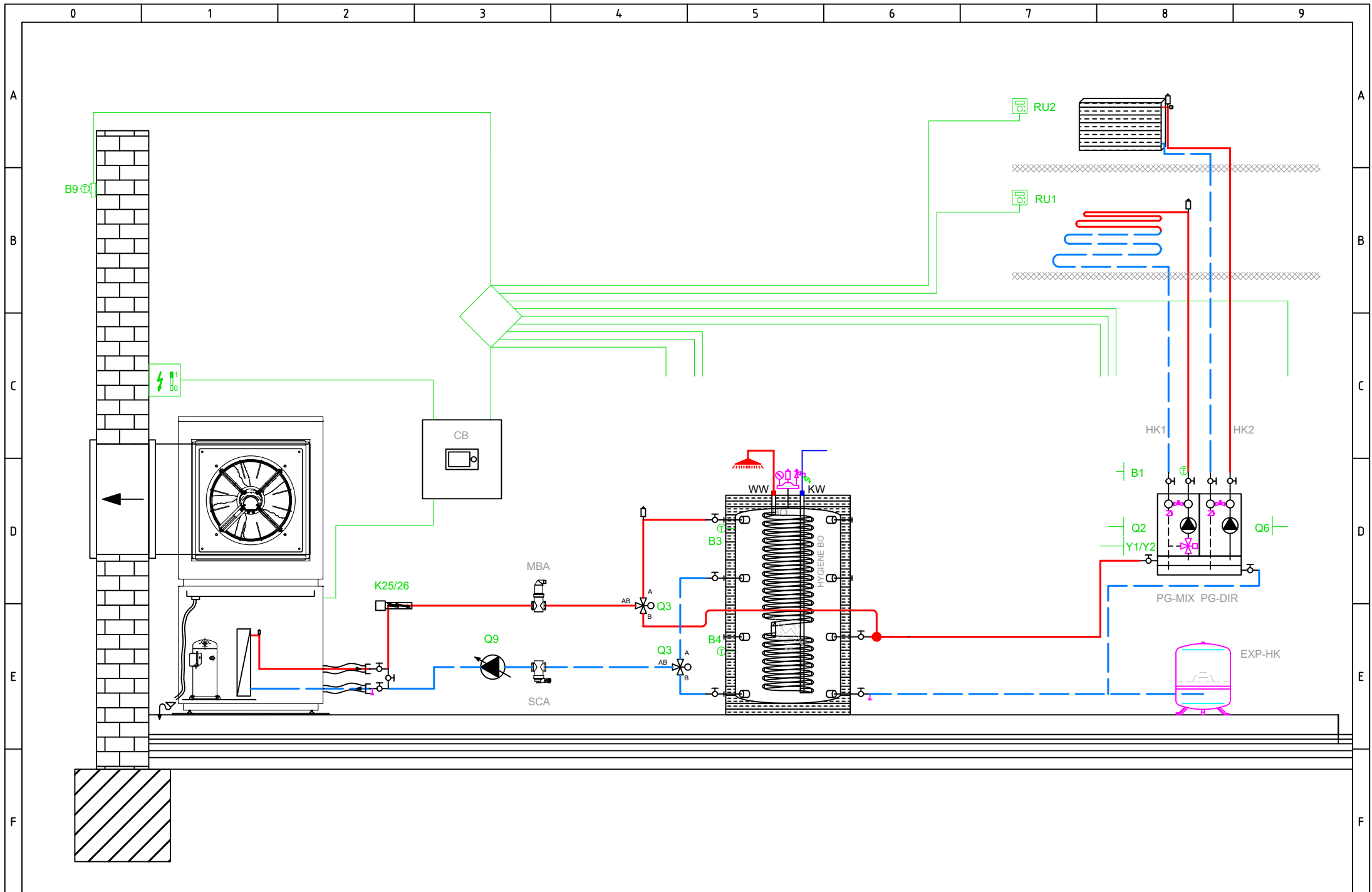
E - electro



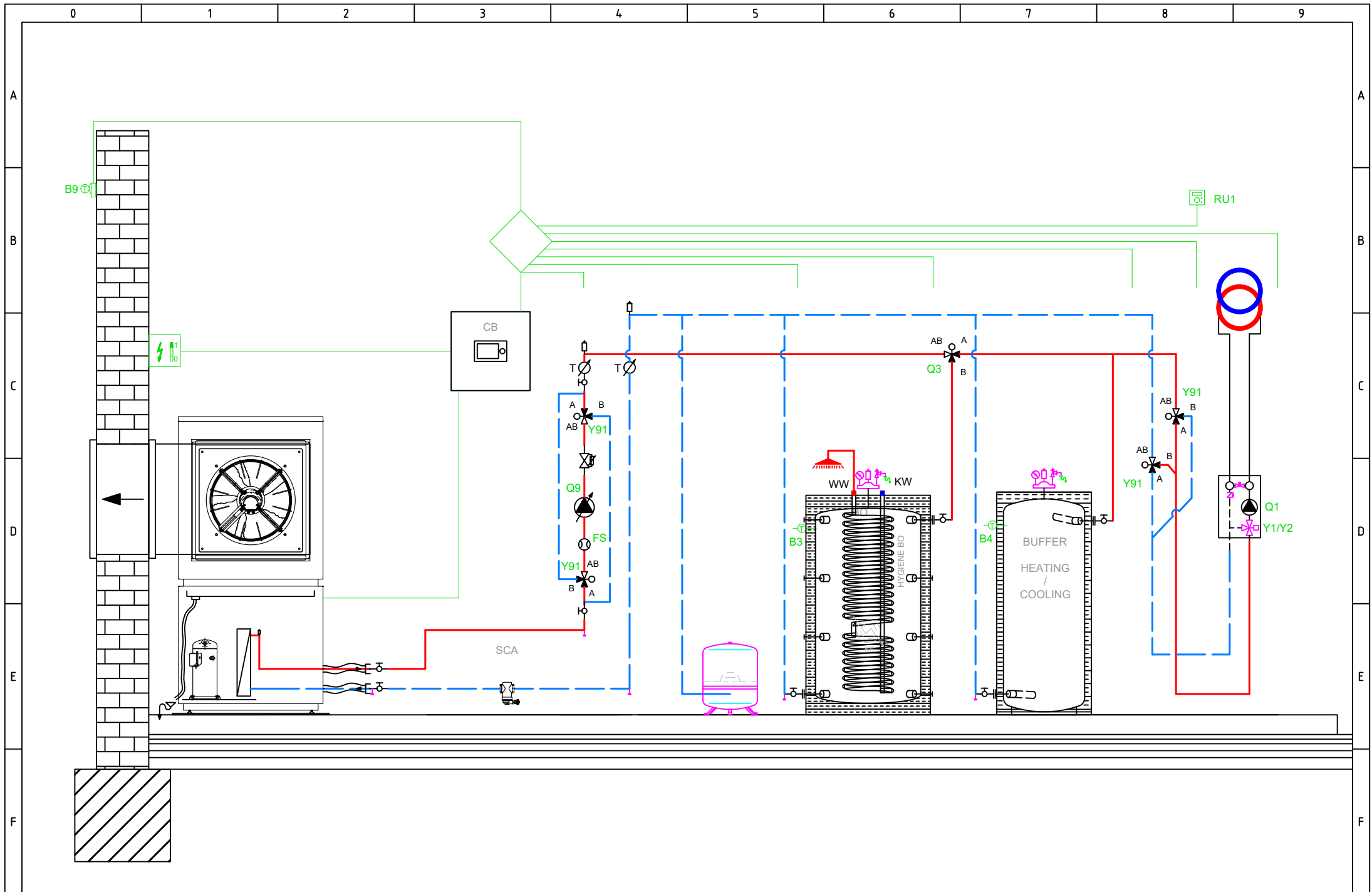




FACTORY SETTINGS



BASIC APPLICATION



OPTIONAL APPLICATION



Netzanschluss 230V / 50 Hz

Erde

Nullleiter

E10 Hochdruckwächter E10

E11 Überlast Verdichter 1 E11

E14 Überlast Quelle E14

E24 Ström'wächter Verbrau E24

K82 Ventil EVI K82

K40 Ölsumpfheizung K40

L Faze 230V

K1 Verdichterstufe 1 K1

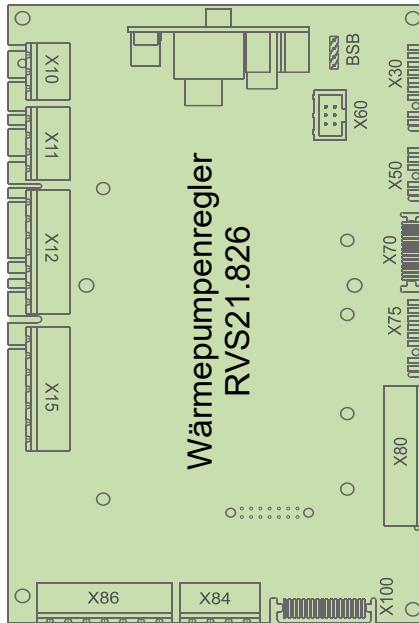
Y22 Prozessumkehrventil Y22

Q9 Kondensatorpumpe Q9

| | | |
|-----|---|------|
| X10 | 1 | L |
| X10 | 1 | PE |
| X10 | 1 | N |
| X11 | 1 | EX1 |
| X11 | 1 | EX2 |
| X11 | 1 | EX3 |
| X11 | 1 | EX4 |
| X12 | 1 | QX1 |
| X12 | 1 | N |
| X12 | 1 | QX2 |
| X12 | 1 | QX2i |
| X12 | 1 | N |
| X12 | 1 | FX3 |
| X15 | 1 | QX3 |
| X15 | 1 | QX4 |
| X15 | 1 | QX4i |
| X15 | 1 | N |
| X15 | 1 | QX5 |
| X15 | 1 | N |
| X15 | 1 | ZX6 |
| X15 | 1 | N |
| X86 | 1 | GX1 |
| X86 | 1 | H3 |
| X86 | 1 | M |
| X86 | 1 | H1 |
| X86 | 1 | G+ |
| X86 | 1 | M |
| X86 | 1 | BSB |



Total: max 6A
1 x QX...: max 2A



| |
|-----|
| BSB |
| X30 |
| X60 |
| X50 |
| X70 |

Anschluss Servicetool (OCI700)
Bediengerät (HMI) AVS37.xxx
Modbus-Clip-In OCI351.01
Erweiterungsmodul AVS75.xxx
LPB clip-in

| |
|-----|
| D1 |
| D2 |
| D3 |
| UX3 |
| M |
| DI6 |
| DI7 |
| M |

D1 Digi Ausgang 1 Heizen
D2 Digi Ausgang 2 Kühlung
D3 Digi Ausgang 3 WP Ein/Aus

DI6 Digi Eingang 6 Abtauen
DI7 Digi Eingang 7 Alarm

| |
|-----|
| BX1 |
| M |
| BX2 |
| M |
| UX1 |
| M |
| UX2 |
| M |

B91 Quelleneintrittfühler B91

B84 Quellenaust'fühler B92/B84

K19 Ventilator K19

0..10V Analogsignal

Q9 Kondensatorpumpe Q9

PWM Signal

| |
|-----|
| BX3 |
| M |
| BX4 |
| M |

B71 WP Rücklauffühler B71

B9 Aussentemperaturfühler B9

Netzanschluss 230V / 50 Hz

Erde

Nullleiter

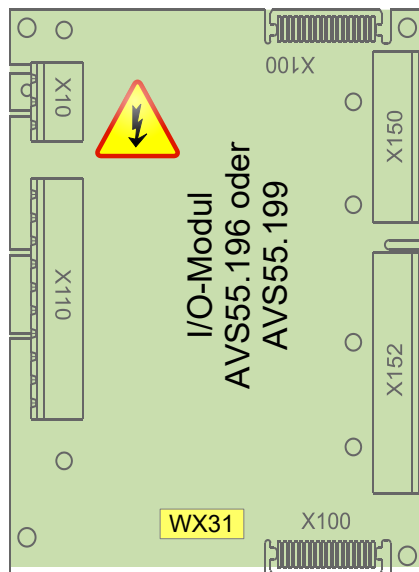
K10 Alarmausgang K10

V81 EEV Verdampfer V81

| | | |
|------|---|-------|
| X10 | 1 | L |
| X10 | 1 | PE |
| X10 | 1 | N |
| X110 | 1 | QX31 |
| X110 | 1 | QX32 |
| X110 | 1 | QX33 |
| X110 | 1 | N |
| X110 | 1 | QX33 |
| X110 | 1 | ZX34 |
| X110 | 1 | N |
| X110 | 1 | QX35 |
| X110 | 1 | QX35i |
| X115 | 1 | N |



I/O-Modul
AVS55.196 oder
AVS55.199



| |
|------|
| BSB |
| M |
| G+ |
| H31 |
| M |
| H32 |
| GX1 |
| H33 |
| M |
| BX31 |
| M |
| BX32 |
| M |
| BX33 |
| M |
| BX34 |
| M |

5V/12V für aktive Fühler
Durchflussmessung 10V

Niederdruck 0..10V

5V/12V für aktive Fühler

Hochdruck 0..10V

B21 WP Vorlauffühler B21

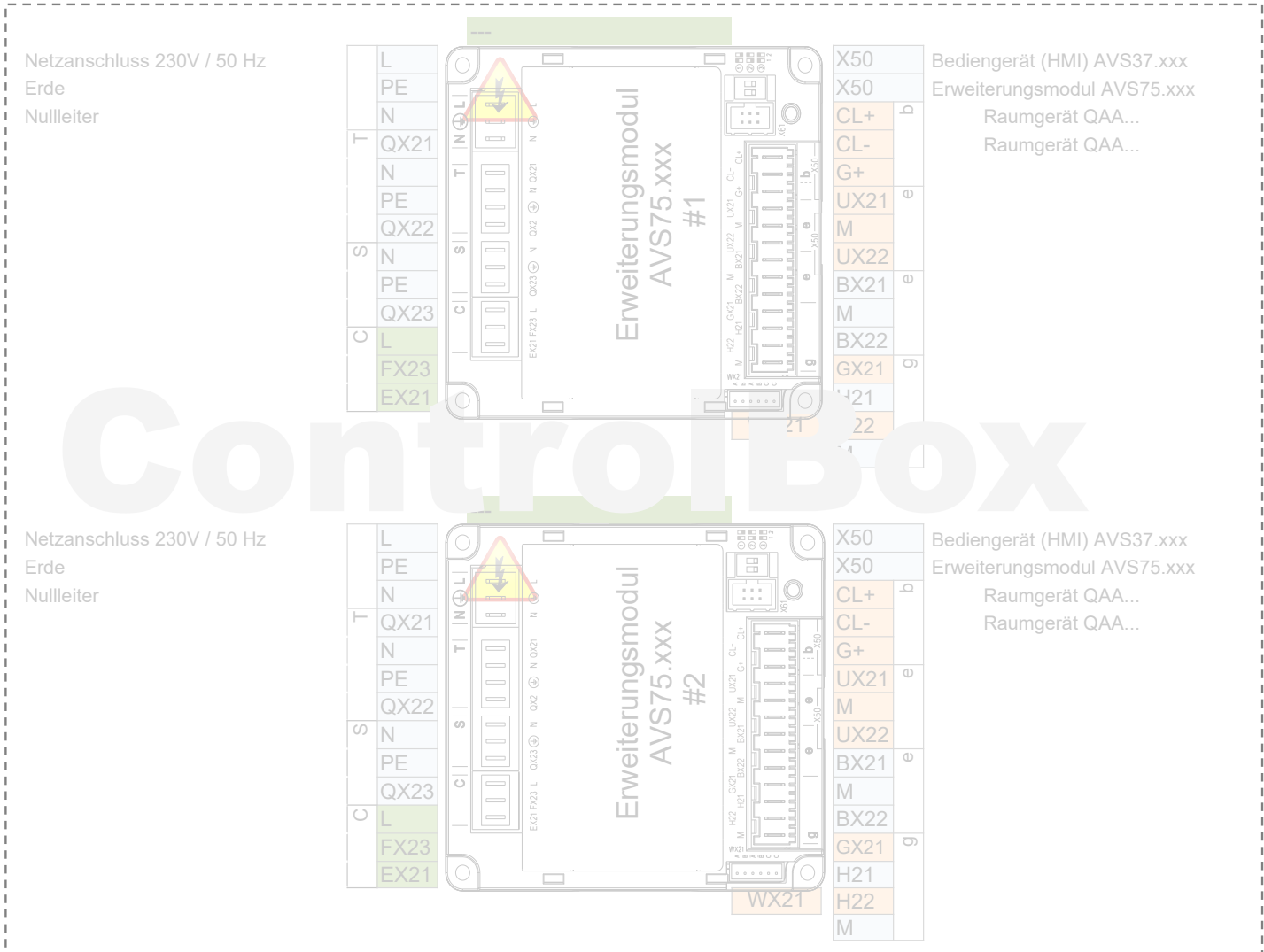
B81 Heissgasfühler B81

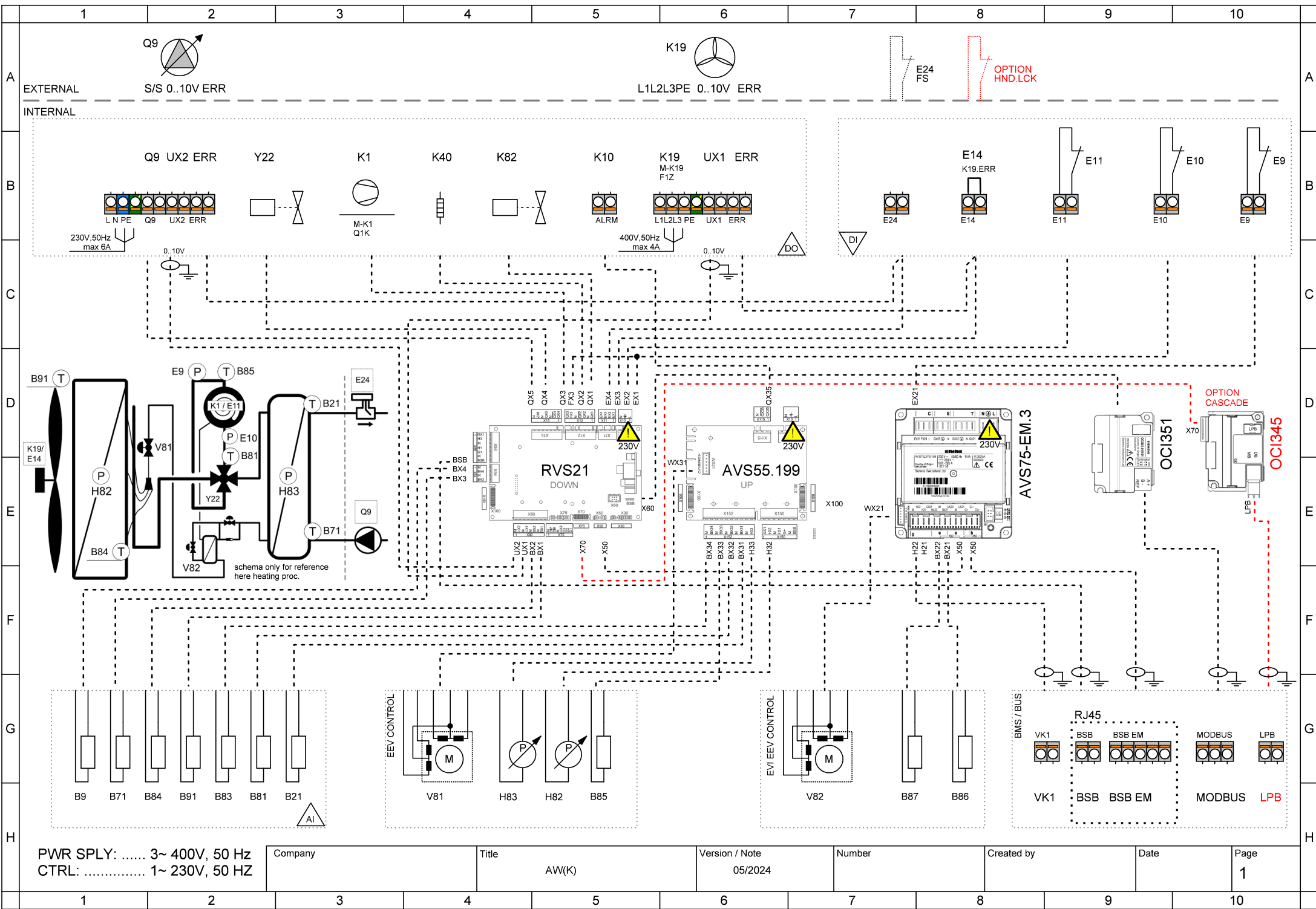
B85 Sauggasfühler B85

B83 Kältemittelfühler flüssig B83



- AVS75.390
- AVS75.391
- AVS75.370







| | | | | | | |
|---------|-------------|----------------|--------|------------|------|------|
| Company | Title | Version / Note | Number | Created by | Date | Page |
| | CONTROL BOX | 05/2024 | | | | 1 |



| | | | | | | |
|---------|-------------|----------------|--------|------------|------|------|
| Company | Title | Version / Note | Number | Created by | Date | Page |
| | CONTROL BOX | 05/2024 | | | | 2 |



| | | | | | | |
|---------|-------------|----------------|--------|------------|------|------|
| Company | Title | Version / Note | Number | Created by | Date | Page |
| | CONTROL BOX | 05/2024 | | | | 3 |



| | | | | | | |
|---------|-------------|----------------|--------|------------|------|------|
| Company | Title | Version / Note | Number | Created by | Date | Page |
| | CONTROL BOX | 05/2024 | | | | 4 |



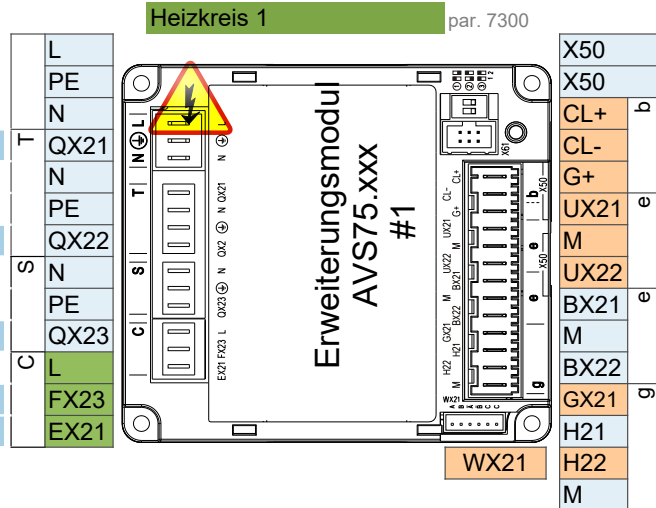
- AVS75.390
- AVS75.391
- AVS75.370

- AVS75.370**
 Netzanschluss 230V / 50 Hz
 Erde
 Nullleiter
Y1 Mischer Auf

Y2 Mischer Zu

Q2 Heizkreispumpe HK1 Q2

L Faze 230V
E61 Smart Grid E61



- Erweiterungsmodul AVS75.xxx
 Raumgerät QAA...
 Raumgerät QAA...

B1 Vorlauffühler 1

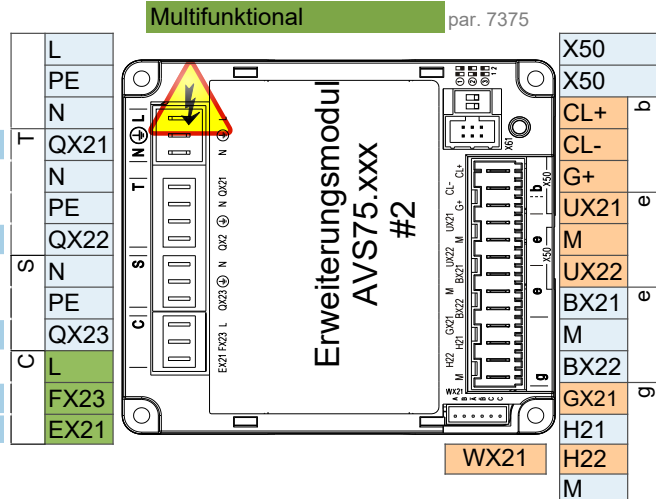
Impulszählung

- AVS75.370**
 Netzanschluss 230V / 50 Hz
 Erde
 Nullleiter
Q3 Trinkwasserstellglied Q3

K6 Elektroeinsatz TWW K6

Q6 Heizkreispumpe HK2 Q6

L Faze 230V
E62 Smart Grid E62

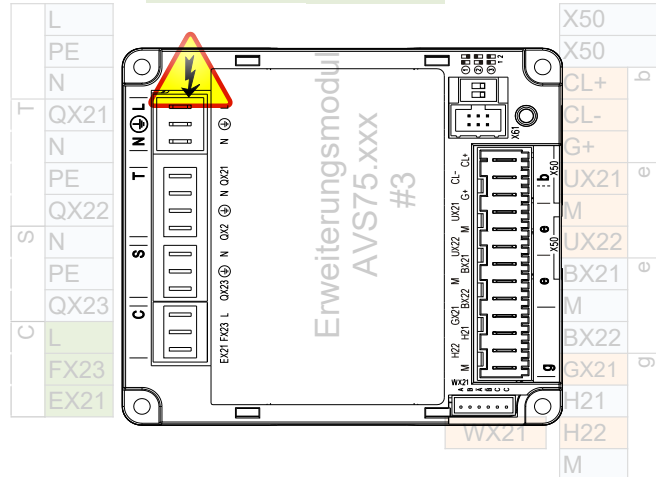


- Bediengerät (HMI) AVS37.xxx
 Erweiterungsmodul AVS75.xxx
 Raumgerät QAA...
 Raumgerät QAA...

B3 Trinkwasserfühler B3

B4 Pufferspeicherfühler B4

- Netzanschluss 230V / 50 Hz
 Erde
 Nullleiter



- Bediengerät (HMI) AVS37.xxx
 Erweiterungsmodul AVS75.xxx
 Raumgerät QAA...
 Raumgerät QAA...

Vorsicht: Erweiterungsmodul 3 ist in der Wärmepumpe

Anschlussmöglichkeiten für die Steuerung

1 ControlBox

ControlBox, mit zwei eingebauten Erweiterungsmodulen, ermöglicht zahlreiche Optionen für die Anwendungssteuerung auf der Verbraucherseite hinter der Wärmepumpe. Weitere Informationen finden Sie im Schaltplan der ControlBox und im Blatt mit den Anwendungsdiagrammen.

2 Fixer Sollwert Vorlauftemperatur - Ein / Aus potentialfreier Kontakt

2-adriges abgeschirmtes Kabel 2 x 0,5 mm² - Sollwert = 45°C (editierbar über Parameter 1859)

Anschlussklemme - siehe Schaltplan

3 Analog 0..10V Vorlauftemperatur-Sollwertregelung

2 Adern geschirmtes Kabel 2 x 0,5 mm² - Sollwert: 0V = 16°C ~ 10V = 60°C (editierbar im Parametersatz)

Anschlussklemme - siehe Schaltplan

4 ModBus RTU-Kommunikationsbefehl

3-adriges abgeschirmtes Kabel min. 3 x 0,25mm²

Für die ModBus-Zuordnungstabelle wenden Sie sich bitte an den technischen Support

5 MQTT IoT-Kommunikationsprotokoll

Für weitere Informationen wenden Sie sich bitte an den technischen Support