



Quantum KVP

Technical data



Addendum

QAD EN 2439-1
D100004

1 Q48 – Q96KVP

| SPECIFICATION | | Q48 | Q65 | Q81 | Q96 |
|---|-------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Thermal capacity according to EN14511 | | | | | |
| Heating capacity A7/W35 | kW | 40.0 | 57.6 | 66.8 | 80.0 |
| Heating capacity A7/W45 | kW | 40.5 | 57.2 | 67.6 | 81.0 |
| Heating capacity A2/W45 | kW | 35.6 | 50.4 | 59.4 | 71.2 |
| Heating capacity A-5/W65 | kW | 33.1 | 46.6 | 55.2 | 66.2 |
| Heating capacity A-7/W35 | kW | 29.0 | 41.3 | 48.4 | 58.0 |
| COP A7/W35 | | 4.4 | 4.6 | 4.5 | 4.4 |
| COP A7/W45 | | 3.8 | 3.9 | 3.9 | 3.8 |
| Cooling capacity at A35/W7 | kW | 38.6 | 55.0 | 65.0 | 77.2 |
| Cooling capacity at A35/W18 | kW | 52.5 | 74.5 | 88.2 | 105.1 |
| EER at A35/W7 | | 3.03 | 3.22 | 3.13 | 3.03 |
| EER at A35/W18 | | 4.00 | 4.31 | 4.11 | 4.00 |
| SCOP according to EN14825 | | | | | |
| SCOP average climate, 35°C/55°C | | 4.98/4.13 | 5.19/4.29 | 5.08/4.22 | - |
| SCOP colder climate, 35°C/55°C | | 4.54/3.85 | 4.69/3.96 | 4.63/3.92 | - |
| Energy efficiency class | | | | | |
| Energy efficiency class, space heating, 35°C/55°C | | A+++/A+++ | A+++/A+++ | A+++/A+++ | - |
| Condenser | | | | | |
| Condenser flow rate ($\Delta T=7K$ at A7/W45) | l/s | 1.39 | 1.96 | 2.32 | 2.78 |
| Pressure drop condenser including defrosting plate heat exchanger | kPa | 60.0 | 52.0 | 54.0 | 53.0 |
| Maximum operating pressure | | PN10 | PN10 | PN10 | PN10 |
| Max operating temperature | °C | 65 | 65 | 65 | 65 |
| Min outdoor temperature at +65 °C flow temperature | °C | -20 | -20 | -20 | -20 |
| Connection size condenser | mm | Cu35.0 | Cu54.0 | Cu54.0 | Cu54.0 |
| Evaporator | | | | | |
| Evaporator flow rate ($\Delta T=4K$ at A7/W45) | l/s | 2.20 | 3.13 | 3.70 | 4.40 |
| Maximum operating pressure | | PN10 | PN10 | PN10 | PN10 |
| Pressure drop evaporator | kPa | 32.0 | 30.0 | 30.0 | 32.0 |
| Connection size evaporator | mm | Cu35.0 | Cu54.0 | Cu54.0 | Cu54.0 |
| Cooling secondary side | | | | | |
| Flow rate cooling secondary side ($\Delta T=5K$ at A35/W7) | l/s | 1.85 | 2.63 | 3.11 | 3.69 |
| Flow rate cooling secondary side ($\Delta T=5K$ at A35/W18) | l/s | 2.51 | 3.57 | 4.22 | 5.03 |
| Max/Min cooling water temperature | °C | Max 30°C/Min 4°C | Max 30°C/Min 4°C | Max 30°C/Min 4°C | Max 30°C/Min 4°C |
| Maximum operating pressure cooling | | PN10 | PN10 | PN10 | PN10 |
| Dimensions compressor unit | | | | | |
| Weight | kg | 418 | 740 | 750 | 770 |
| Length | mm | 1500 | 2100 | 2100 | 2100 |
| Width | mm | 640 | 640 | 640 | 640 |
| Height | mm | 1410 | 1410 | 1410 | 1410 |
| Dimensions fan unit | | | | | |
| Weight | kg | 298 | 419 | 419 | 545 |
| Length (± 15 mm) | mm | 2510 | 4105 | 4105 | 5954 |
| Width (± 15 mm) | mm | 1541 | 1541 | 1541 | 1541 |
| Height (± 15 mm) | mm | 1396 | 1342 | 1342 | 1342 |
| Recommended pipe size between IDU & ODU | mm | DN65 | DN65 | DN80 | DN80 |
| Connections fan unit | mm | Threaded connection, Cu 42.0 | Threaded connection, Cu 54.0 | Threaded connection, Cu 54.0 | Threaded connection, Cu 54.0 |
| Compressor Fully hermetic scroll | | | | | |
| No. compressors / No. refrigerant circuits | pcs/pcs | 1/1 | 2/1 | 2/1 | 2/1 |
| Refrigerant (GWP) R407C (1774) | | | | | |
| Amount of refrigerant / CO ₂ (e) | kg/tons | 4.6/8.16 | 8.9/15.79 | 9.5/16.85 | 9.9/17.56 |
| Fan unit | | | | | |
| No. fans | pcs | 1 | 2 | 2 | 3 |
| Air volume | m ³ /s | 3.70 | 6.89 | 6.89 | 9.9 |
| Fan unit brine volume | liters | 57.5 | 66.9 | 66.9 | 74.0 |
| Pressure drop fan unit | kPa | 36.0 | 42.0 | 41.0 | 42.0 |
| Sound levels compressor unit | | | | | |
| Sound pressure level, measured at 1 m distance | dB(A) | 47 | 50 | 50 | 50 |
| Sound levels fan unit | | | | | |

| SPECIFICATION | | Q48 | Q65 | Q81 | Q96 |
|---|---------|------------|------------|------------|------------|
| Sound pressure level 10 m EN13487 | dB(A) | 37 | 35 | 35 | 36 |
| Power supply | | | | | |
| Nominal voltage compressor unit and module | V-ph-Hz | 400-3-50 | 400-3-50 | 400-3-50 | 400-3-50 |
| Nominal voltage fans | V-ph-Hz | 400-3-50 | 230-1-50 | 230-1-50 | 230-1-50 |
| Electric consumption (including module and fan unit) | | | | | |
| Max electric consumption compressor unit (3x400V) | A | 30.1 | 41.5 | 50.5 | 59.9 |
| Max starting current (compressor only) | A | 71.0 | 68.6 | 83.0 | 99.4 |
| Max electric consumption module (1x230V) | A | - | - | - | - |
| Recommended fuse compressor unit (3x400V) | A | 50 | 63 | 63 | 80 |

2 Q123 – Q192KVP

| SPECIFICATION | | Q123 | Q144 | Q162 | Q192 |
|---|---------|--------------------------|--------------------------|--------------------------|--------------------------|
| Thermal capacity according to EN14511 | | | | | |
| Heating capacity A7/W35 | kW | 100.2 | 120.0 | 133.6 | 160.0 |
| Heating capacity A7/W45 | kW | 101.4 | 121.5 | 135.2 | 162.0 |
| Heating capacity A2/W45 | kW | 89.1 | 106.8 | 118.8 | 142.4 |
| Heating capacity A-5/W65 | kW | 82.8 | 99.3 | 110.4 | 132.4 |
| Heating capacity A-7/W35 | kW | 72.6 | 87.0 | 96.8 | 116.0 |
| COP A7/W35 | | 4.5 | 4.4 | 4.5 | 4.4 |
| COP A7/W45 | | 3.9 | 3.8 | 3.9 | 3.8 |
| Cooling capacity at A35/W7 | kW | 97.4 | 115.8 | 129.9 | 154.4 |
| Cooling capacity at A35/W18 | kW | 132.3 | 157.7 | 176.5 | 210.2 |
| EER at A35/W7 | | 3.13 | 3.03 | 3.13 | 3.03 |
| EER at A35/W18 | | 4.11 | 4.00 | 4.11 | 4.00 |
| SCOP according to EN14825 | | | | | |
| SCOP average climate, 35°C/55°C | | - | - | - | - |
| SCOP colder climate, 35°C/55°C | | - | - | - | - |
| Energy efficiency class | | | | | |
| Energy efficiency class, space heating, 35°C/55°C | | - | - | - | - |
| Condenser | | | | | |
| Condenser flow rate ($\Delta T=7K$ at A7/W45) | l/s | 3.48 | 4.16 | 4.63 | 5.55 |
| Pressure drop condenser including defrosting plate heat exchanger | kPa | 50.0 | 50.0 | 53.0 | 58.0 |
| Maximum operating pressure | | PN10 | PN10 | PN10 | PN10 |
| Max operating temperature | °C | 65 | 65 | 65 | 65 |
| Min outdoor temperature at +65 °C flow temperature | °C | -20 | -20 | -20 | -20 |
| Connection size condenser | mm | Cu 54.0 | Cu 54.0 | DN65 int thread | DN65 int thread |
| Evaporator | | | | | |
| Evaporator flow rate ($\Delta T=4K$ at A7/W45) | l/s | 5.56 | 6.60 | 7.41 | 8.80 |
| Maximum operating pressure | | PN10 | PN10 | PN10 | PN10 |
| Pressure drop evaporator | kPa | 30.0 | 32.0 | 42.0 | 54.0 |
| Connection size evaporator | mm | DN65 int thread | DN65 int thread | DN65 int thread | DN65 int thread |
| Cooling secondary side | | | | | |
| Flow rate cooling secondary side ($\Delta T=5K$ at A35/W7) | l/s | 4.66 | 5.54 | 6.21 | 7.39 |
| Flow rate cooling secondary side ($\Delta T=5K$ at A35/W18) | l/s | 6.33 | 7.54 | 8.44 | 10.06 |
| Max/Min cooling water temperature | °C | Max 30°C/Min 4°C | Max 30°C/Min 4°C | Max 30°C/Min 4°C | Max 30°C/Min 4°C |
| Maximum operating pressure cooling | | PN10 | PN10 | PN10 | PN10 |
| Dimensions compressor unit | | | | | |
| Weight | kg | 580 | 590 | 680 | 700 |
| Length | mm | 1500 | 1500 | 2100 | 2100 |
| Width | mm | 640 | 640 | 640 | 640 |
| Height | mm | 1410 | 1410 | 1410 | 1430 |
| Dimensions module | | | | | |
| Weight | kg | 400 | 430 | 550 | 580 |
| Length | mm | 1200 | 1200 | 1800 | 1800 |
| Width | mm | 640 | 640 | 640 | 640 |
| Height | mm | 1410 | 1410 | 1410 | 1410 |
| Pipe connections module | mm | Cu 54.0 | Cu 54.0 | Cu 54.0 | Cu 54.0 |
| Dimensions fan unit | | | | | |
| Weight | kg | 667 | 730 | 995 | 1098 |
| Length (± 15 mm) | mm | 4133 | 4749 | 5982 | 5982 |
| Width (± 15 mm) | mm | 2343 | 2343 | 2343 | 2343 |
| Height (± 15 mm) | mm | 1534 | 1534 | 1534 | 1534 |
| Recommended pipe size between IDU & ODU | mm | DN100 | DN100 | DN100 | DN100 |
| Connections fan unit | mm | Flanged connection, DN65 | Flanged connection, DN65 | Flanged connection, DN65 | Flanged connection, DN65 |
| Compressor Fully hermetic scroll | | | | | |
| No. compressors / No. refrigerant circuits | pcs/pcs | 3/1 | 3/1 | 4/2 | 4/2 |
| Refrigerant (GWP) R407C (1774) | | | | | |
| Amount of refrigerant / CO ₂ (e) | kg/tons | 12.2/21.64 | 13.0/23.06 | 2x7.9/28.03 | 2x8.3/29.45 |

| SPECIFICATION | | Q123 | Q144 | Q162 | Q192 |
|---|-------------------|----------|----------|----------|----------|
| Fan unit | | | | | |
| No. fans | pcs | 4 | 4 | 6 | 6 |
| Air volume | m ³ /s | 13.18 | 13.42 | 18.8 | 18.45 |
| Fan unit brine volume | liters | 184.7 | 210.9 | 193.0 | 227.5 |
| Pressure drop fan unit | kPa | 40.0 | 43.0 | 47.0 | 55.0 |
| Sound levels compressor unit | | | | | |
| Sound pressure level, measured at 1 m distance | dB(A) | 51 | 51 | 53 | 53 |
| Sound levels fan unit | | | | | |
| Sound pressure level 10 m <small>EN13487</small> | dB(A) | 37 | 37 | 37 | 37 |
| Power supply | | | | | |
| Nominal voltage compressor unit and module | V-ph-Hz | 400-3-50 | 400-3-50 | 400-3-50 | 400-3-50 |
| Nominal voltage fans | V-ph-Hz | 230-1-50 | 230-1-50 | 230-1-50 | 230-1-50 |
| Electric consumption (including module and fan unit) | | | | | |
| Max electric consumption compressor unit (3x400V) | A | 71.1 | 85.2 | 94.8 | 113.6 |
| Max starting current (compressor only) | A | 106.7 | 127.8 | 130.4 | 156.2 |
| Max electric consumption module (1x230V) | A | 8.0 | 9.0 | 9.5 | 14.5 |
| Recommended fuse compressor unit (3x400V) | A | 125 | 125 | 125 | 2x80 |
| Recommended fuse module (1x230V) | A | 16 | 16 | 20 | 25 |

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