

COOLING SYSTEM DATASHEET

SOETECK · ROOM PRECISION AIR CONDITIONING

Soetec Datacool Inverter Precision Air Conditioner for Server Rooms

DC inverter precision room cooling from 7.5 kW to 122.9 kW with $\pm 1^{\circ}\text{C}$ / $\pm 5\%$ RH control

SKU DATACOOL-RC

Soetec



COOLING CAPACITY

W-007: 7.5 ...

POWER SUPPLY

380-415V/50H...

AIR SUPPLY MODE

Front / side /...

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/soetec-inverter-compressor-room-cooling-...



01 Product overview

The Soetec Datacool inverter series is a family of precision air conditioners for server rooms and data centres that need tight, continuous control of temperature and humidity. Units hold room conditions within $\pm 1^\circ\text{C}$ and $\pm 5\%$ relative humidity, combining cooling, electric PTC reheat and electrode humidification in a single floor-standing cabinet.

Capacity scales from 7.5 kW in the compact W-series up to 122.9 kW in the dual-circuit DA/DW range, with single- and dual-circuit indoor units and matching condensers. Cooling capacities are rated at 24°C / 50% RH return air and 45°C condensing temperature. Upflow and downflow versions, with front, side or underfloor supply, allow installation in rooms with or without a raised floor.

Efficiency by design

A DC inverter scroll compressor and EC fans adjust output continuously to the actual heat load, instead of cycling on and off. A precision electronic expansion valve and an intelligent controller fine-tune refrigerant flow, which lowers energy use at part load – the condition most IT rooms operate in. Besides the standard air-cooled version, water-cooled, glycol-cooled, chilled-water, dual-coil and CW+DX dual-cool variants are offered, including glycol free-cooling configurations.

An RS485 port with Modbus protocol links each unit to DCIM, BMS or remote monitoring platforms for live readings and control. Standard air-cooled outdoor units operate from -15°C , and an optional low-temperature kit extends operation to -35°C . Typical...

KEY SPECIFICATIONS

Air supply mode	Front / side / down
Refrigerant	R410A
Fans	ZIEHL-ABEGG EC fans (AC fans optional on compact models)
Compressor	Panasonic DC inverter scroll
Heating type	PTC
Humidifier	Electrode
Control accuracy	$\pm 1^\circ\text{C}$, $\pm 5\%$ RH
Communication	RS485, Modbus
Rating conditions	24°C / 50% RH return air, 45°C condensing; standard ESP 20 Pa
Outdoor unit ambient range	From -15°C ; -35°C with optional low-temperature kit
Cooling Capacity (kW)	W-007: 7.5 • W-012: 12.5 • W-017: 17.5 • W-020: 21.2 • W-025: 27.5
Sensible Capacity (kW)	W-007: 6.8 • W-012: 11.3 • W-017: 15.9 • W-020: 19.1 • W-025: 25

HIGHLIGHTS

- Cooling capacity from 7.5 kW to 122.9 kW, single- or dual-circuit
- DC inverter scroll compressor, EC fans and electronic expansion valve
- Temperature $\pm 1^\circ\text{C}$ and humidity $\pm 5\%$ RH control accuracy
- Upflow, downflow and front/side air supply options
- RS485 with Modbus for DCIM and BMS integration
- Optional low-ambient kit for outdoor units down to -35°C



02 Full specifications

GENERAL

Air supply mode	Front / side / down
Refrigerant	R410A

Fans	ZIEHL-ABEGG EC fans (AC fans optional on compact models)
Compressor	Panasonic DC inverter scroll
Heating type	PTC
Humidifier	Electrode
Control accuracy	±1 °C, ±5% RH
Communication	RS485, Modbus
Rating conditions	24 °C / 50% RH return air, 45 °C condensing; standard ESP 20 Pa
Outdoor unit ambient range	From -15 °C; -35 °C with optional low-temperature kit

COMPACT MODELS W-007 TO W-025 (FA UPFLOW / DA DOWNFLOW)

Cooling Capacity (kW)	W-007: 7.5 · W-012: 12.5 · W-017: 17.5 · W-020: 21.2 · W-025: 27.5
Sensible Capacity (kW)	W-007: 6.8 · W-012: 11.3 · W-017: 15.9 · W-020: 19.1 · W-025: 25
Sensible heat ratio (%)	W-007: 90.7 · W-012: 90.4 · W-017: 90.9 · W-020: 90.1 · W-025: 90.9
Air volume (m³/h)	W-007: 2250 · W-012: 2850 · W-017: 5000 · W-020: 6200 · W-025: 6700
Heating Capacity (kW)	W-007: 3 · W-012: 4 · W-017: 6 · W-020: 6 · W-025: 6
Humidification (kg/h)	W-007: 2.5 · W-012: 4 · W-017: 4.5 · W-020: 4.5 · W-025: 5
Filter Rating	W-007: G3 · W-012: G3 · W-017: G4 · W-020: G4 · W-025: G4
Weight (kg)	W-007: 128 · W-012: 178 · W-017: 300 · W-020: 318 · W-025: 338
Width (mm)	W-007: 550 · W-012: 650 · W-017: 750 · W-020: 750 · W-025: 850
Depth (mm)	W-007: 450 · W-012: 550 · W-017: 700 · W-020: 700 · W-025: 700
Height (mm)	W-007: 1750 · W-012: 1850 · W-017: 1900 · W-020: 1900 · W-025: 1900
Power supply (option 1)	W-007: 208-240V/50Hz/60Hz/1Ph/2Ph · W-012: 380-415V/50Hz/60Hz/3Ph · W-017: 380-415V/50Hz/60Hz/3Ph · W-020: 380-415V/50Hz/60Hz/3Ph · W-025: 380-415V/50Hz/60Hz/3Ph
FLA option 1, cooling (A)	W-007: 16.5 · W-012: 13.1 · W-017: 14.3 · W-020: 19.4 · W-025: 23.1
FLA option 1, with heating/hum. (A)	W-007: 30.2 · W-012: 19.2 · W-017: 23.4 · W-020: 28.5 · W-025: 32.2
Power supply (option 2)	W-012: 200-230V/60Hz/3Ph · W-017: 200-230V/60Hz/3Ph · W-020: 200-230V/60Hz/3Ph · W-025: 200-230V/60Hz/3Ph
FLA option 2, cooling (A)	W-012: 23.9 · W-017: 26.2 · W-020: 35.4 · W-025: 42.2
FLA option 2, with heating/hum. (A)	W-012: 35.1 · W-017: 42.9 · W-020: 52.1 · W-025: 58.1
Power supply (option 3)	W-012: 460V/60Hz/3Ph · W-017: 460V/60Hz/3Ph · W-020: 460V/60Hz/3Ph · W-025: 460V/60Hz/3Ph
FLA option 3, cooling (A)	W-012: 10.8 · W-017: 11.8 · W-020: 16.0 · W-025: 19.1
FLA option 3, with heating/hum. (A)	W-012: 15.8 · W-017: 19.3 · W-020: 23.5 · W-025: 26.6
Refrigerant pipe connection (mm)	W-007: 10/12 · W-012: 12/16 · W-017: 16/16 · W-020: 16/16 · W-025: 16/22
Drain connection (mm)	20 (all models)
Humidifier water inlet	3/4"G (all models)
Single/Dual System	Single (all models)
Outdoor unit model	W-007: KSF12 · W-012: KSF18 · W-017: KSF24 · W-020: KSF24 · W-025: KSF32
Outdoor units (qty)	1 (all models)

LARGE MODELS SA/SW 30-50 AND DA/DW 45-120 (U UPFLOW / D DOWNFLOW)

Cooling Capacity (kW)	SA30/SW30: 32.5 · SA35/SW35: 37.7 · SA40/SW40: 41.8 · SA50/SW50: 50.0 · DA45/DW45: 43.5 · DA55/DW55: 53.1 · DA65/DW65: 65.1 · DA70/DW70: 71.1 · DA80/DW80: 83.6 · DA90/DW90: 92.1 · DA100/DW100: 100.9 · DA110/DW110: 110.9 · DA120/DW120: 122.9
Sensible Capacity (kW)	SA30/SW30: 29.3 · SA35/SW35: 34.0 · SA40/SW40: 38.1 · SA50/SW50: 45.0 · DA45/DW45: 39.2 · DA55/DW55: 47.8 · DA65/DW65: 58.8 · DA70/DW70: 64.0 · DA80/DW80: 75.3 · DA90/DW90: 83.6 · DA100/DW100: 91.1 · DA110/DW110: 97.1 · DA120/DW120: 105.2
Sensible heat ratio (%)	SA30/SW30: 90.2 · SA35/SW35: 90.2 · SA40/SW40: 91.1 · SA50/SW50: 90.0 · DA45/DW45: 90.1 · DA55/DW55: 90.2 · DA65/DW65: 90.3 · DA70/DW70: 90.0 · DA80/DW80: 90.1 · DA90/DW90: 90.8 · DA100/DW100: 90.2 · DA110/DW110: 87.6 · DA120/DW120: 85.6
Air volume (m³/h)	SA30/SW30: 8325 · SA35/SW35: 8620 · SA40/SW40: 10500 · SA50/SW50: 12400 · DA45/DW45: 10500 · DA55/DW55: 12400 · DA65/DW65: 16650 · DA70/DW70: 17240 · DA80/DW80: 21000 · DA90/DW90: 22600 · DA100/DW100: 24800 · DA110/DW110: 26200 · DA120/DW120: 27100
Heating Capacity (kW)	SA30/SW30: 6 · SA35/SW35: 6 · SA40/SW40: 9 · SA50/SW50: 9 · DA45/DW45: 9 · DA55/DW55: 9 · DA65/DW65: 9 · DA70/DW70: 9 · DA80/DW80: 12 · DA90/DW90: 12 · DA100/DW100: 12 · DA110/DW110: 12 · DA120/DW120: 12
Humidification (kg/h)	SA30/SW30: 8 · SA35/SW35: 8 · SA40/SW40: 10 · SA50/SW50: 10 · DA45/DW45: 10 · DA55/DW55: 10 · DA65/DW65: 10 · DA70/DW70: 10 · DA80/DW80: 12 · DA90/DW90: 12 · DA100/DW100: 12 · DA110/DW110: 12 · DA120/DW120: 12
Filter Rating	G4 (all models)
Weight (kg)	SA30/SW30: 433 · SA35/SW35: 438 · SA40/SW40: 468 · SA50/SW50: 528 · DA45/DW45: 478 · DA55/DW55: 568 · DA65/DW65: 688 · DA70/DW70: 718 · DA80/DW80: 788 · DA90/DW90: 866 · DA100/DW100: 888 · DA110/DW110: 902 · DA120/DW120: 930
Width (mm)	SA30/SW30: 1126 · SA35/SW35: 1126 · SA40/SW40: 1326 · SA50/SW50: 1326 · DA45/DW45: 1326 · DA55/DW55: 1326 · DA65/DW65: 1826 · DA70/DW70: 1826 · DA80/DW80: 2226 · DA90/DW90: 2226 · DA100/DW100: 2226 · DA110/DW110: 2226 · DA120/DW120: 2226
Depth (mm)	990 (all models)
Height (mm)	1975 (all models)
Power supply (option 1)	380-415V/50Hz/60Hz/3Ph (all models)
FLA option 1 (A)	SA30/SW30: 35.5 · SA35/SW35: 36.3 · SA40/SW40: 46.0 · SA50/SW50: 49.6 · DA45/DW45: 48.2 · DA55/DW55: 53.8 · DA65/DW65: 66.4 · DA70/DW70: 67.2 · DA80/DW80: 83.0 · DA90/DW90: 86.6 · DA100/DW100: 90.2 · DA110/DW110: 93.8 · DA120/DW120: 97.2
Power supply (option 2)	460V/60Hz/3Ph (all models)
FLA option 2 (A)	SA30/SW30: 29.3 · SA35/SW35: 30.0 · SA40/SW40: 38.0 · SA50/SW50: 41.0 · DA45/DW45: 39.8 · DA55/DW55: 44.5 · DA65/DW65: 54.9 · DA70/DW70: 55.5 · DA80/DW80: 68.6 · DA90/DW90: 71.5 · DA100/DW100: 74.5 · DA110/DW110: 77.4 · DA120/DW120: 80.3
Power supply (option 3)	208-230V/60Hz/3Ph (all models)
FLA option 3 (A)	SA30/SW30: 64.9 · SA35/SW35: 66.4 · SA40/SW40: 84.0 · SA50/SW50: 90.6 · DA45/DW45: 88.1 · DA55/DW55: 98.3 · DA65/DW65: 121.3 · DA70/DW70: 122.8 · DA80/DW80: 151.7 · DA90/DW90: 158.2 · DA100/DW100: 164.8 · DA110/DW110: 171.3 · DA120/DW120: 177.5
Refrigerant pipe connection (mm)	16/22 (all models)
Drain connection (mm)	20 (all models)
Humidifier water inlet	3/4"G (all models)
Single/Dual System	SA30/SW30: Single · SA35/SW35: Single · SA40/SW40: Single · SA50/SW50: Single · DA45/DW45: Dual · DA55/DW55: Dual · DA65/DW65: Dual · DA70/DW70: Dual · DA80/DW80: Dual · DA90/DW90: Dual · DA100/DW100: Dual · DA110/DW110: Dual · DA120/DW120: Dual

Outdoor unit model	SA30/SW30: KSF38 · SA35/SW35: KSF52 · SA40/SW40: KSF52 · SA50/SW50: KSF62 · DA45/DW45: KSF32 · DA55/DW55: KSF32 · DA65/DW65: KSF42 · DA70/DW70: KSF52 · DA80/DW80: KSF52 · DA90/DW90: KSF62 · DA100/DW100: KSF62 · DA110/DW110: KSF70 · DA120/DW120: KSF76
Outdoor units (qty)	SA30/SW30: 1 · SA35/SW35: 1 · SA40/SW40: 1 · SA50/SW50: 1 · DA45/DW45: 2 · DA55/DW55: 2 · DA65/DW65: 2 · DA70/DW70: 2 · DA80/DW80: 2 · DA90/DW90: 2 · DA100/DW100: 2 · DA110/DW110: 2 · DA120/DW120: 2
Water-cooled: water flow (m³/h)	SA30/SW30: 7.24 · SA35/SW35: 7.96 · SA40/SW40: 9.1 · SA50/SW50: 10.91 · DA45/DW45: 4.88*2 · DA55/DW55: 5.41*2 · DA65/DW65: 7.24*2 · DA70/DW70: 7.96*2 · DA80/DW80: 9.1*2 · DA90/DW90: 9.53*2 · DA100/DW100: 10.91*2 · DA110/DW110: 11.96*2 · DA120/DW120: 13.36*2
Water-cooled: pressure drop (kPa)	SA30/SW30: 53 · SA35/SW35: 50.1 · SA40/SW40: 50.8 · SA50/SW50: 52.2 · DA45/DW45: 48.3 · DA55/DW55: 51.3 · DA65/DW65: 52.6 · DA70/DW70: 50.1 · DA80/DW80: 50.8 · DA90/DW90: 50.4 · DA100/DW100: 52.2 · DA110/DW110: 50.3 · DA120/DW120: 51.7
Water-cooled: water piping (mm)	SA30/SW30: 32 · SA35/SW35: 32 · SA40/SW40: 32 · SA50/SW50: 42 · DA45/DW45: 28 · DA55/DW55: 28 · DA65/DW65: 32 · DA70/DW70: 32 · DA80/DW80: 32 · DA90/DW90: 32 · DA100/DW100: 42 · DA110/DW110: 42 · DA120/DW120: 42

03 Engineered, delivered & supported by ServerInvest

Engineering & sizing

Selected and sized against your real IT load, room and redundancy targets.

Installation

Delivery, installation and commissioning by our engineers across Europe.

Certified processes

ISO 9001, ISO 14001 and ISO 27001 certified project delivery.

Service & support

Maintenance, spare parts and support from a single partner.



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