

IT Cooling Solutions

MiniSpace and MiniSpace EC

Reliability for small and medium-sized IT rooms



Precision air conditioning

Reliably protecting your equipment and data

Rooms subject to high thermal loads need constant climatic conditions in order to work reliably. Fluctuating temperatures, humidity and dust jeopardize both function and data stocks. The MiniSpace precision air conditioning system from STULZ cools small servers and equipment rooms with a heat load of up to 28 kilowatts. With MiniSpace, you can keep your computer systems cool more efficiently, reliably and durably than with conventional comfort air conditioning systems. These precision air conditioning units require only little floor space, and their compact size means they can be integrated in existing server rooms without problem.

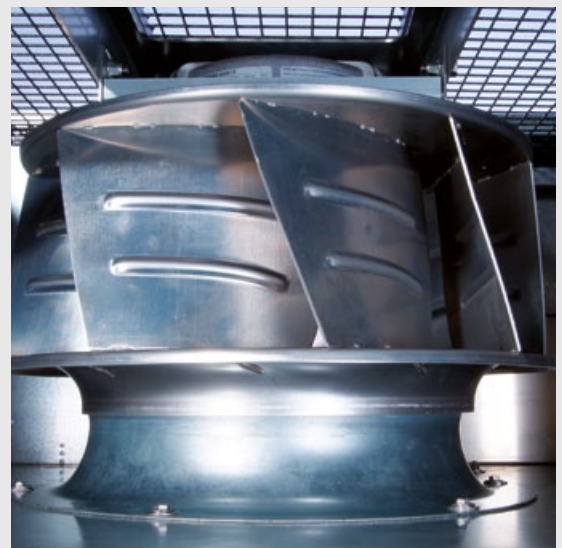


If you need precise, reliable and economical air conditioning for small technology and server rooms, the MiniSpace series provides a space-saving solution with microprocessor control.

Available as an option:
Air cooled outdoor condenser

Higher energy efficiency thanks to EC technology

The MiniSpace series is now also available with EC fans, to further increase energy efficiency. MiniSpace EC fans are powered as standard by energy-saving EC DC motors. The electronically controlled EC fans react steplessly to changing output requirements, run in especially energy-saving partial load mode and are insensitive to fluctuations in voltage. EC fans consume up to 30% less energy than conventional 3-phase fans!

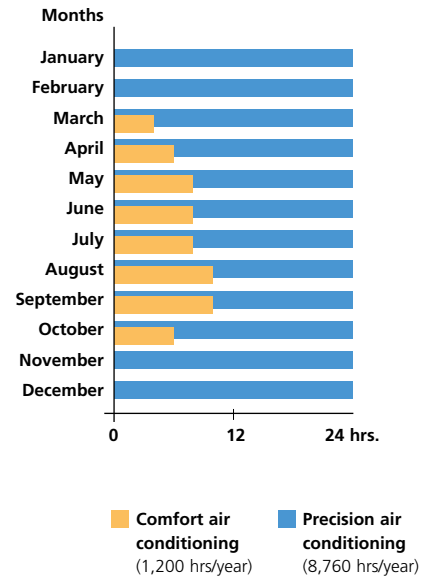


Maintenance-free EC fan

In general, a distinction is made between comfort and precision air conditioning. While comfort air conditioning creates a pleasant environment for people, precision air conditioning technology provides reliable cooling that is geared towards the requirements of technical infrastructure. IT rooms, data centers and switching stations require precisely controlled relative humidity, room temperature, air conduction and air distribution. Precision air conditioning units from STULZ enable you to create precisely defined climatic conditions – with pinpoint accuracy and outstanding reliability.

High operational reliability under continuous load 24/7

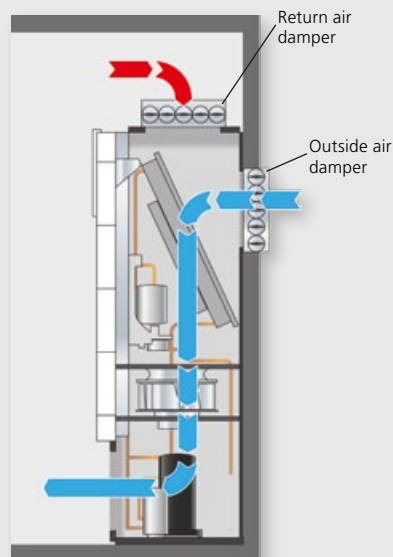
In contrast to comfort air conditioning, precision air conditioning is designed for high operational reliability – around the clock, 365 days a year



MiniSpace Eco-Cool with Direct Free Cooling



MiniSpace Eco-Cool units are available as downflow versions



Air distribution in Free Cooling mode

The Eco-Cool function enables Direct Free Cooling with outside air and achieves energy savings of up to 90%. MiniSpace Eco-Cool combines Free Cooling and compressor cooling in 4 stages:

Free Cooling (outside temperature between supply air set point and antifreeze temperature): Outside air damper opens. Outside air flows through the filter directly into the unit, then into the IT room; compressor off.

Extended Free Cooling (outside temperature above supply air set point): The cooling capacity is kept constant by increasing the air flow. Outside air damper open; compressor off.

Mixed mode (outside temperature continuously increasing): If the fan reaches maximum speed and Extended Free Cooling is no longer sufficient, the compressor is switched on for support; outside air damper open; compressor runs in partial load mode.

DX mode (outside temperature is outside the suitable temperature range): The unit works in Compressor mode; outside air damper closed.

MiniSpace – The air conditioning solution for small and medium-sized IT rooms

Advantages

- › Maximum cooling performance with minimum floor space
- › Choice of cooling with air, with water/glycol mixture or with chilled water
- › Units in downflow and upflow versions
- › Simple installation and maintenance through doors on the front
- › Air filtering with filter class EU 4
- › C1002 microprocessor for climate constancy and central monitoring:
 - Adjustment of set points, control parameters and limit values
 - All parameters are saved so that they are backed up in the event of a power failure
 - Alarms are displayed
 - Can be connected to BMS and STULZ monitoring systems

Options

- › C7000 Advanced user interface with LCD graphic display, RS485 interface and other preinstalled data protocols for connection to BMS
- › Communication via SNMP/HTTP IP protocols
- › Humidifier/heater
- › Air cooled condensers
- › Winter Start Kit
- › Smoke and fire alarms
- › Control of up to 20 air conditioning modules per data bus system



Model		CCD/U 41 A	CCD/U 61 A	CCD/U 81 A	CCD/U 121 A	CCD/U 171 A	CCD/U 201 A	CCD/U 110 CW	CCD/U 200 CW
Air flow	m ³ /h	2,000	2,000	2,000	2,900	6,000	7,000	2,900	7,000
DX cooling capacity (total) ¹⁾ R407C	kW	5.1	6.8	9.2	12.4	18.2	23.1	-	-
DX cooling capacity (sensible) ¹⁾ R407C	kW	4.8	6.2	8.3	10.6	17.3	21.3	11.2	-
Compressor power consumption ¹⁾ R407C	kW	1.4	1.7	2.4	3.0	4.3	5.5	-	-
CW cooling capacity (total) ²⁾	kW	-	-	-	-	-	-	10.6	28.1
CW cooling capacity (sensible) ²⁾	kW	-	-	-	-	-	-	10.2	24.0

Downflow									
Noise level ³⁾	dB(A)	51	51	51	52	58	60	51	61
Fan power consumption ⁴⁾	kW	0.7	0.7	0.7	0.7	1.4	2.2	0.7	2.3

Upflow									
Noise level ³⁾	dB(A)	51	51	51	52	58	60	51	61
Fan power consumption ⁴⁾	kW	0.7	0.7	0.7	0.7	1.4	2.1	0.7	2.2

Dimensions (HxWxD)	mm	1850 x 600 x 600					1850x1000x810			
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Humidifier and heating capacity										
Max. humidifier capacity	kg/h	2					4			
Max. possible heating steps		2					2			
Max. overall heating capacity	kW	4					12			

Condenser									
Condenser model ⁵⁾		KSV006 A11p	KSV008 A11p	KSV012 A11p	KSV016 A11p	KSV021 A21p	KSV029 A21p	-	-
Dimensions (HxWxD)	mm	910 x 910 x 670			910 x 970 x 770		910x1880x770		-

Remarks: All data applies at 400V/3 ph/50 Hz

¹⁾ DX cooling capacity for A and G units; return air conditions: 24°C/50% r. h.; condensing temperature: 45°C

²⁾ CW cooling capacity for CW units; return air conditions: 24°C/50% r. h.; water temperature: 7/12°C; glycol fraction: 0%

³⁾ Noise level at 1 m distance in free-field conditions

⁴⁾ The electric power consumption of the fans must be added to the room load

⁵⁾ Condenser for type A units with R407C; condensing temperature: 45°C; ambient temperature: 32°C

Technical data subject to change without notice.

MiniSpace EC – Even more benefits and options with EC technology

Advantages

- › MiniSpace EC offers all the advantages and options of MiniSpace units
- › Variable-speed fan
 - High motor efficiency up to 92 % which means considerably lower operating costs
 - Quiet running, long life, maintenance-free
 - Pinpoint adjustment to the prevailing conditions
- › Filter control management for a constant air flow
- › C7000 IO controller for controlling and monitoring the air conditioning system
- › Use of CW standby management
- › Modbus preinstalled

Options

- › Eco-Cool with Direct Free Cooling
- › R134a high-temperature refrigerant

**MORE EFFICIENCY –
MORE POSSIBILITIES!**



Model	CCD/U 51 A/G	CCD/U 71 A/G	CCD/U 91 A/G	CCD/U 131 A/G	CCD/U 151 A/G	CCD/U 181 A/G	CCD/U 221 A/G	CCD/U 251 A/G	CCD/U 100 CW	CCD/U 150 CW	CCD/U 190 CW	CCD/U 250 CW
Air flow m ³ /h	2,500	2,500	2,500	3,500	3,600	7,000	7,000	8,000	2,000	3,600	5,500	7,500
DX cooling capacity (total) R407C 1)	6.4	7.5	9.6	12.1	13.8	18.1	21.9	26.0	-	-	-	-
DX cooling capacity (sensible) R407C 1)	6.4	7.5	8.3	11.1	11.9	18.1	21.9	24.1	-	-	-	-
Compressor power consumption R407C	1.3	1.7	2.4	2.9	3.6	3.7	4.7	5.5	-	-	-	-
DX cooling capacity (total) R134a 1)	6.8	7.5	8.4	12.4	13.6	17.5	19.7	21.8	-	-	-	-
DX cooling capacity (sensible) R134a 1)	6.8	7.5	7.9	11.2	11.9	17.5	19.7	21.8	-	-	-	-
Compressor power consumption R134a	1.4	1.7	2.1	2.9	3.3	3.3	3.9	4.3	-	-	-	-
CW cooling capacity (total) 2)	-	-	-	-	-	-	-	-	10.0	15.0	23.4	31.8
CW cooling capacity (sensible) 2)	-	-	-	-	-	-	-	-	8.3	13.6	21.1	28.7

Downflow													
Noise level 3)	dB(A)	49	49	49	57	57	58	58	60	44	61	48	56
Fan power consumption 4)	kW	0.3	0.3	0.3	0.8	0.9	1.1	1.1	1.6	0.1	0.8	0.6	1.4

Upflow													
Noise level 3)	dB(A)	52	52	52	59	59	59	59	62	47	63	51	58
Fan power consumption 4)	kW	0.3	0.3	0.3	0.9	0.9	1.6	1.6	2.4	0.2	0.9	0.6	1.5

Dimensions (HxWxD)												
mm	1850 x 600 x 600					1850x1000x810			1850 x 600 x 600		1850x1000x810	

Humidifier and heating capacity													
Max. humidifier capacity	kg/h	3					3			3		3	
Max. possible heating steps		2					2			2		2	
Max. overall heating capacity	kW	4					12			4		12	

Condenser														
Condenser model 5)	KSV 008A11p	KSV 012A11p			KSV 016A11p		KSV 021A21p		KSV 029A21p		-	-	-	-
Dimensions (HxWxD)	mm	910 x 910 x 670			910 x 970 x 770			910x1880x770			-	-	-	-

Remarks: All data applies at 400 V/3 ph/50 Hz
 1) DX cooling capacity for A and G units; return air conditions: 24 °C, 50 % r. h.; condensing temperature 45 °C
 2) CW cooling capacity for CW units; return air conditions: 24 °C, 50 % r. h.; water temperature: 7 °C/12 °C; glycol fraction: 0 %
 3) Noise level at 1 m distance in free-field conditions
 4) The electric power consumption of the fans must be added to the room load
 5) Condenser for type A units with R407C, condensing temperature 45 °C, ambient temperature: 32 °C
 Technical data subject to change without notice.

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IT Cooling Solutions

Close to you all over the world.

... With specialist, competent partners in our subsidiaries and exclusive sales and service partners around the world. Our five production sites are in Europe, North America and Asia.