



STULZ the natural choice

Advanced Stulz EC series



Largest production facility in India
for precision airconditioning using EC fan technology



First globally & in India, to produce
Precision Air Conditioning
equipment with EC Fan technology for
green data centres.

Global Production Centres

China

India

USA

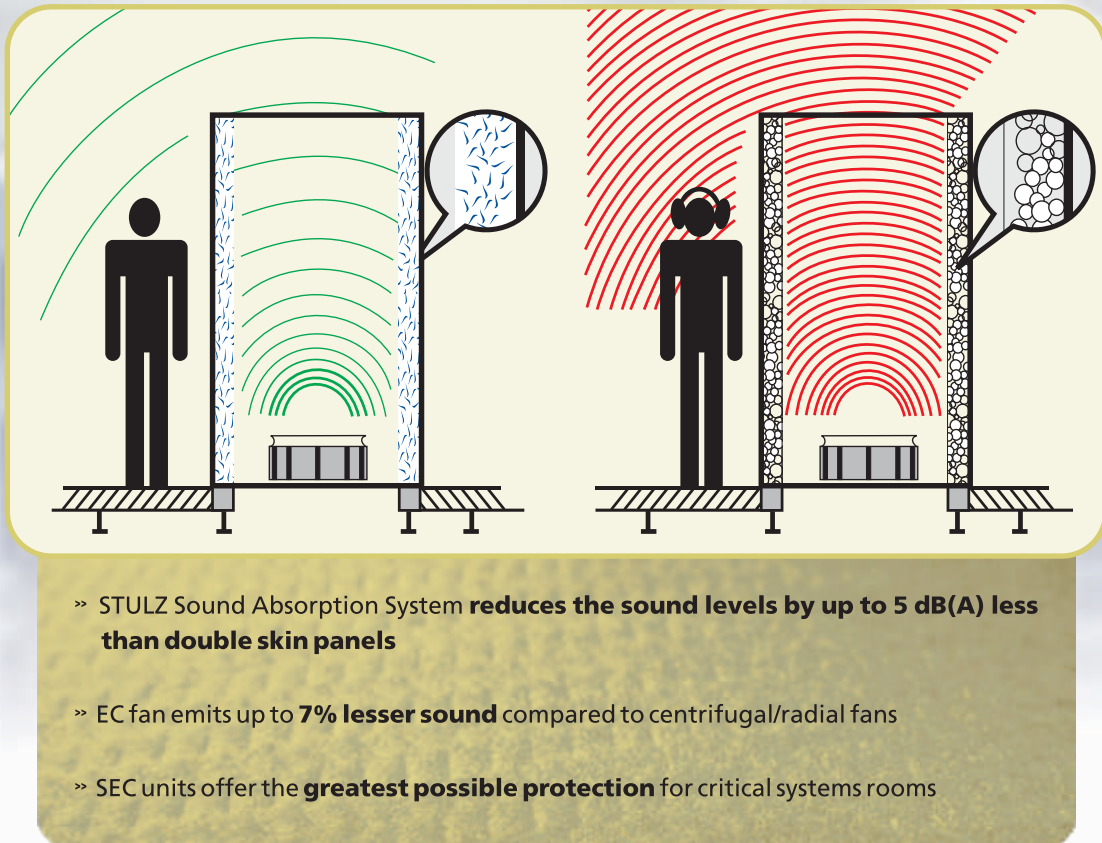
Germany

Italy

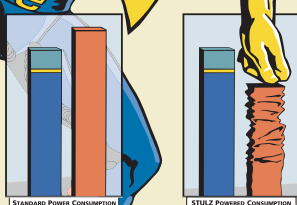


■ Powerful Sound Absorption instead of reflection

SEC's innovative design produces tangible benefits. Our engineers have one aim: The perfect blend of design and materials. Each design and component has been repeatedly tested. STULZ has specialised in the protection of critical systems for more than three decades. The result: More and more clients throughout the world trust our product and system solutions.



■ Powerful Savings in operating costs



- UPS
- Others
- IT
- Air Conditioning

Powerful Savings in operating costs

Optimised design and state-of-the-art equipment can
cut energy consumption by up to 50%

That's all thanks to the Stulz EC (SEC) Series

>> High efficiency with **energy savings up to 30%**

>> **Frees up precious energy resources** for core processes

The company CLEVER runs a medium-sized computer centre with a thermal load of 350 kW. Instead of using air conditioning units with traditional belt-driven centrifugal fans, the company decided for the SEC precision air conditioning solution with EC fans. Although this solution presented a higher capital investment, the additional procurement costs have already been recouped after 7.1 months. Considerable savings in operating costs can be achieved using SEC with EC fan technology over the service life of the equipment.

Comparison of operating costs SEC/BAS Line

Unit type	BAS1002 A	SEC ASD 1052 A
Number of units	4	4
Air flow m ³ /h	96,000	96,000
Cooling capacity (total) kW	375.0	375.0
Cooling capacity (sensible) kW	296.0	296.0
Compressor power consumption kW	102.4	100.0
Fan power consumption kW	34.0	23.5
Total power consumption kW	136.5	123.5
Noise level 2 m, free field dB(A)	70	67
Purchase price Rs.	37,50,000.00	41,50,000.00
Operating costs per annum Rs.	71,74,440.00	64,91,160.00
Saving in energy costs Rs.		6,83,280.00
Payback in months		7.1 months

Cost saving
Rs. 683,280.00
annually

Payback period
7.1 months

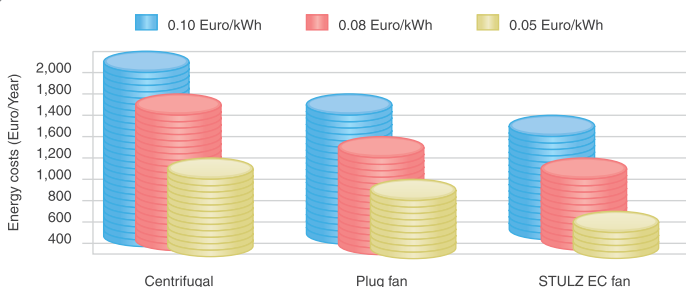
Energy costs Rs. 6/kWh •/kWh, operating conditions: return air 24 °C, 50 %, external static pressure 20 Pa

EXAMPLE A

EC FAN TECHNOLOGY NOTHING COMES CLOSE TO IT

What is an EC motor?

- An Ec motor is a DC motor with a **shunt characteristic**.
- The rotary motion is achieved by **supplying the power via a switching device** – the commutator.
- **Previously, the commutator was realised using mechanical carbon brushes**, and hence, had a limited service life of only a few thousand hours.
- On Ec motors, this commutation is performed electronically, and therefore, wear free **offering a service life of 80,000 hours**.



Energy cost saving with EC fan compared to ordinary fans.
At 8,500 m³/h and 350 Pa



Stulz SEC Series

SEC Series is equipped with electronically commutated fan motor for maximum energy savings.



All models available in three flow options.

Powerful Statistics - 3 way air flow

Technical Specifications: SEC Series

Dx and Dual fluid Aircooled/watercooled Precision Airconditioners : SEC(D/U/F) A / G - A/CW												
Model	161	221	251	271	301	351	361	431	382	452	451	402
Dx Cooling Capacity-kw (total)	15.8	22.7	24.5	27.7	29.7	34.6	35.6	43.1	38.7	45.8	45.6	39.8
Dx Cooling Capacity-kw (sensible)	15.8	22.3	22.5	24.9	27.1	30.8	35.0	41.0	35.8	44.0	44.0	38.5
CW Cooling Capacity-kw (total)	16.0	26.8					40.2					45.2
CW Cooling Capacity-kw (sensible)	16.0	25.5					40.2					40.6
Airflow-CMH @ 2.5mm ESP	3000-4600	5500-7700					8500-10500					13500-15500
No Of Fans	1	1	1	1	1	1	1	1	1	1	2	2
Type Of Fan	EC-Radial	EC-Radial	EC-Radial	EC-Radial	EC-Radial	EC-Radial	EC-Radial	EC-Radial	EC-Radial	EC-Radial	EC-Radial	EC-Radial
No Of Motors	1	1	1	1	1	1	1	1	1	1	2	2
Fan Power (KW)	0.6	0.8	1.1	1.3	1.5	1.9	1.9	1.9	1.9	1.9	2.5	2.5
Type Of Drive	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct
No Of Compressors	1	1	1	1	1	1	1	1	2	2	1	2
Type Of Compressor	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Reheat (kw)	6	6	6	6	6	6	6	6	6	6	6	6
Humidifier Capacity (kg./hr.)	1.5	5	5	5	5	5	5	5	5	5	5	5
DIMENSIONS (MM)												
Height	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980
Width	610	1010	1010	1010	1010	1010	1410	1410	1410	1410	1760	1760
Depth	810	920	920	920	920	920	920	920	920	920	920	920
Weight (Kgs)	Dx195 / Dual240		DX 295 / Dual 340				DX 440 / Dual 510				DX 590 / Dual690	

Dx and Dual fluid Aircooled/watercooled Precision Airconditioners : SEC(D/U/F) A / G - A/CW												
MODEL	462	521	542	652	692	702	802	852	1002	1052	1103	1393
Dx Cooling Capacity-kw (total)	46.5	53.2	54.5	62.3	69.3	72.0	80.5	87.1	98.1	105	107	138.4
Dx Cooling Capacity-kw (sensible)	45.2	49.5	50.6	57.4	61.2	68.8	73.4	78.9	90.3	99.8	103	128.1
CW Cooling Capacity-kw (total)	45.2	54.6					73.5	97.4			98.6	127.5
CW Cooling Capacity-kw (sensible)	40.6	48.5					70.7	85.4			94.1	125.3
Airflow-CMH @ 2.5mm ESP	13500-15500	13500-15500					17000-21000	20000-24500			29000	33000
No Of Fans	2	2	2	2	2	2	2	3	3	3	3	3
Type Of Fan	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial
No Of Motors	2	2	2	2	2	2	2	3	3	3	3	3
Fan Power (KW)	2.5	3.0	3.0	3.0	3.0	4.0	4.7	5.7	6.0	6.5	6.5	6.8
Type Of Drive	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct
No Of Compressors	2	1	2	2	2	2	2	2	2	2	3	3
Type Of Compressor	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Reheat (KW)	6	6	6	6	6	6 / 12	6 / 12	6 / 12	6 / 12	6 / 12	6 / 12	6 / 12
Humidifier Capacity (kg./hr.)	5	5	5	8	8	8 / 10	8 / 10	8 / 10	8 / 10	8 / 10	8 / 10	8 / 10
DIMENSIONS (MM)												
Height	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980
Width	1760	1760	1760	1760	1760	2150	2150	2500	2500	2500	2500	2900
Depth	920	920	920	920	920	920	920	920	920	920	920	920
Weight (Kgs)	Dx590 / Dual690		Dx740 / Dual840				Dx880 / Dual1000		Dx950 / Dual1070		Dx980 / Dual1090	Dx1020 / Dual1210

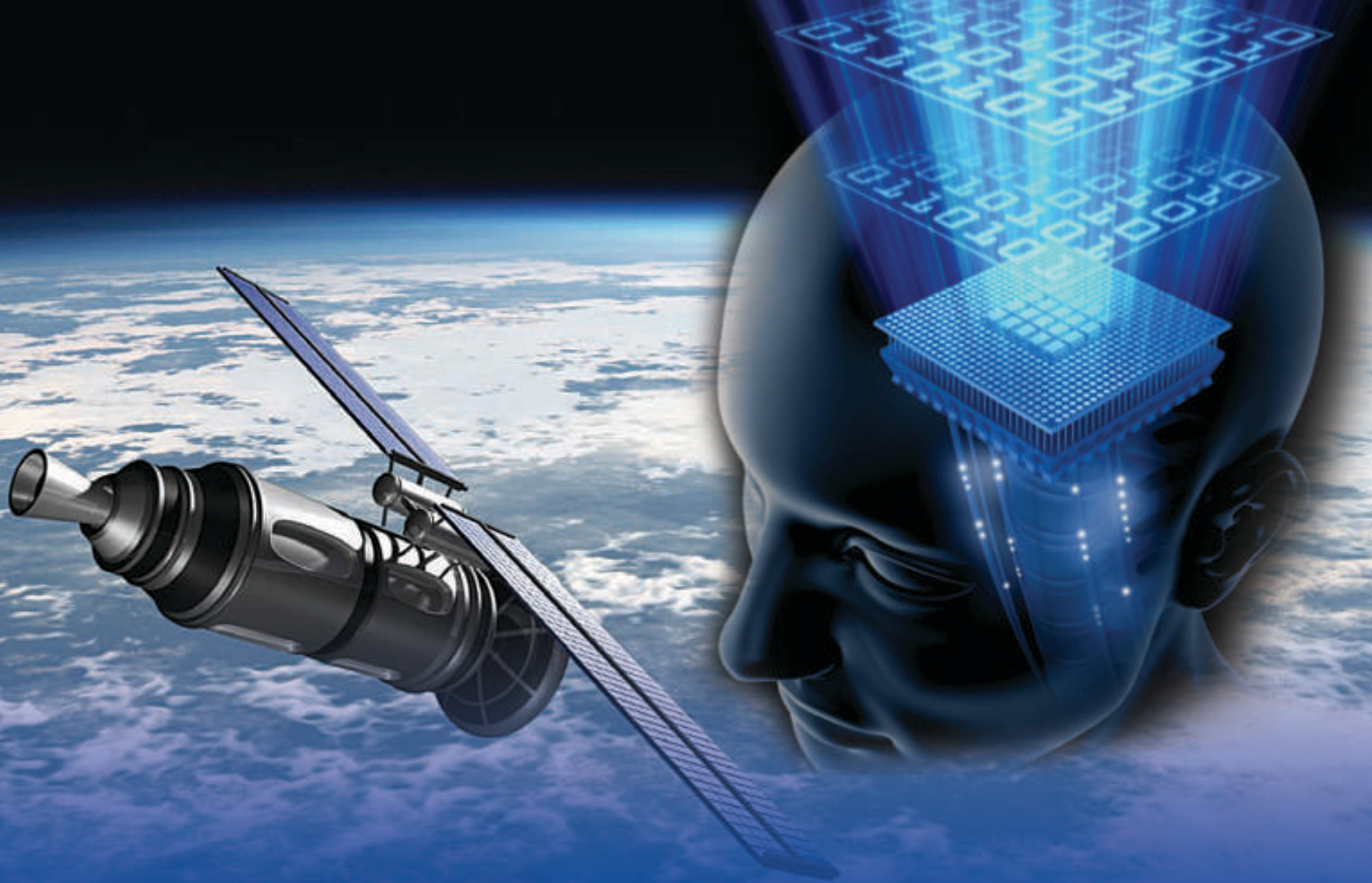
Chilled Water Air Handling Units : SEC(D/U/F) - CW										
MODEL	160	300	400	500	660	900	1100	1500	1600	1900
CW Cooling Capacity-kw (total)	20.0	30.0	38.7	50.1	65.0	98.9	114.7	145.5	154	187.2
CW Cooling Capacity-kw (sensible)	16.5	25.5	33.1	42.1	54.5	75.7	95.6	122.2	133	166.6
Airflow-CMH @ 2.5mm ESP	3600 - 4600	6500 - 8500			10000 - 13500		19000	23000	30500	33900
No Of Fans	1	1	1	1	1	2	2	3	3	3 / 4
Type Of Fan	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial	Ec-Radial
No Of Motors	1	1	1	1	1	2	2	3	3	3 / 4
Fan Power (KW)	0.6	0.7	1.6	1.1	2.4	5.1	5.2	8.0	8.3	8.3 / 11.0
Type Of Drive	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct
Reheat (KW)	2	6	6	6	6	6	6 / 12	6 / 12	6 / 12	6 / 12
Humidifier Capacity (kg./hr.)	3	5	5	5	5	5	8 / 10	8 / 10	8 / 10	8 / 10
DIMENSIONS (MM)										
Height	1560	1980	1980	1980	1980	1980	1980	1980	1980	1980
Width	760	1010	1010	1410	1410	1760	2150	2500	2500	2900
Depth	710	930	930	930	930	930	930	1010	1010	1010
Weight (Kgs)	140	165			230		440	690	770	850

Gross capacity based on 45 deg c midpoint condensing temperature at 25Pa- ESP at sea level
Capacities are for 24deg c return air temperature and 50% RH and for chilled water inlet temperature of 7 deg c inlet and 12 deg c outlet
Technical data subject to change without notice, All right reserved worldwide
For Upflow units consider minimum 50 Pa ESP for selection.

Stulz SEC – DP Series



Supply Air Section Below
False Floor



■ Powerful Innovation for energy saving

Stulz SEC DP series is equipped with electronically commutated fan motor under the false floor for better static and maximum efficiency.

- Fan section below false floor
- Reduced fan power consumption
- Increased air flow / capacity upto 20%
- Lowest dynamic pressure
- Largest face area heat exchanger for efficient heat transfer
- Available in
 - CW : Chilled water
 - DX : Air cooled
 - : Water cooled
 - A/CW : Dual fluid
 - CW₂ : Dual chilled water
- Wide choice of refrigerants (R22/R407C/R410A/R134A)

* Technical Data for the DP series can be provided on request

High Efficiency high capacity Air Cooled Condensers



Available in front discharge / top discharge



■ **STULZ Quality Assurance** for energy saving and reliability

STULZ has developed a strict set of guidelines, which all STULZ production sites worldwide must adhere to. These Quality Assurance Parameters ensure you get the best possible product.

- » **Machine Pipe Bending**
- » **Vibration Absorber**
- » **Automated Electronic Nitrogen Testing**
- » **Power Monitoring Switch**
- » **Gasflux**
- » **Hi-Pot Testing**
- » **Wire cut and strip technologies**
- » **Witness Testing Facility**
- » **Clients assured of capacity and performance parameters of units.**
- » **Operational/witness testing of units at design conditions in addition to standard dry run testing.**

Powerful access for more savings

STULZ has worked towards lowering expenses by reducing operating costs, life cycle costs and power consumption. And now, the same German efficiency will be available in India at an unbeatable price advantage!

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INDIA.**

Your STULZ dealer/representative
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