



TRANE®

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CFAS/CFAE *one-way cassette fan coil*

High efficiency motor for optimum comfort in an attractive package



Unobtrusive high performance

Designed for mounting in suspended false ceilings at the edge of the room in offices from 12 to 40 m², the units in the Trane CFAS/CFAE one-way cassette fan coil range feature a purpose designed, self-contained return and supply air plenum.

The plenum fascia is sited flush with the ceiling tiles, with a return air louvered grill that takes the air from the bottom and air damper diffusers which blow supply air parallel to the ceiling and evenly throughout the room.

The result is the Coanda effect, ensuring that air is blown smoothly, at the right velocity and throw distance, through the air conditioned space, at any fan speed.

Thanks to specifically designed damper diameters and orifices perfectly sized for the air volume of each unit, plus a linear louvered return air grill, the risk of air being recycled directly from the supply to the return is completely eliminated.

The Trane CFAS/CFAE one-way cassette is available in sizes 16, 26 and 36 with unit capacities ranging from 1.6 kW to 3.6 kW at medium speed. It offers almost silent sound levels in the air conditioned space at 35 dB(A) at medium speed or below.





Improved appearance

Installed by the inner wall of the room and blowing air in the direction of the outside window, the cassette provides an unobtrusive appearance. Unlike other units that employ perforated sheet metal grills, the Trane cassette's linear louvered return air grill designed with a 45° pitch angle, ensures that occupants will never be able to see the unit's filter.

Fast, easy installation with a cost advantage

The Trane CFAS/CFAE one-way cassette is designed for installation in office or healthcare buildings in which individual rooms are grouped around a building's perimeter surrounding a corridor or a common circulation zone – and where the water and electrical supplies are laid out in the false ceiling. The unit is installed in the false ceiling and the plenum inserted within the ceiling tiles.

The unit can be integrated into most standard false ceiling types and comes ready equipped with hanging brackets. Installation – including connecting water, electricity, the ducting in of fresh air and, where necessary piping for condensate drainage – is as fast and simple as for a 4-way cassette and offers the same benefits in terms of ambient and sound comfort – but at even lower installation cost.

EC fan motor technology

The model CFAE is equipped with a fan motor operating using EC technology – known for its high efficiency enabling building owners to achieve significant savings on their energy bill.

It also provides lower sound levels to optimize comfort for building occupants.

Design optimized to deliver added value

Combining optimum HVAC performance and unobtrusive good looks in the office environment with fast, easy installation, the Trane model CFAS/CFAE one-way cassette units are tailor-made to ensure an unbeatable mix of comfort, low initial cost and ongoing value for money.



Infrared remote controller RT03

A **unique optional infrared remote controller**, with receiver inserted into a ceiling tile alongside the unit, allows remote control of fan speed, on/off, and cooling or heating mode.



EC fan motor technology provides 67% savings in electrical power consumption.

Fast, simple to install and commission, **low cost remote or wired group control option** allows a single user interface to control up to 20 units connected together via an RS485 serial link.



T-MB wall thermostat

A **2-row additional heating coil** delivers more heating capacity with less hot water, allowing higher heat pump/chiller efficiency.

A **raised version of the unit**, with drain outlet height increased from 100 to 160 mm, can avoid the need for a condensate pump, further increasing operational cost-effectiveness.

A **45° pitch angle louvered return air grill** conceals the filter from sight, so ceilings look better when the filter needs cleaning. It provides a 100% opening, compared with 60% with perforated grills, leaving the full filter face area free to collect dust, thus extending filter maintenance intervals.

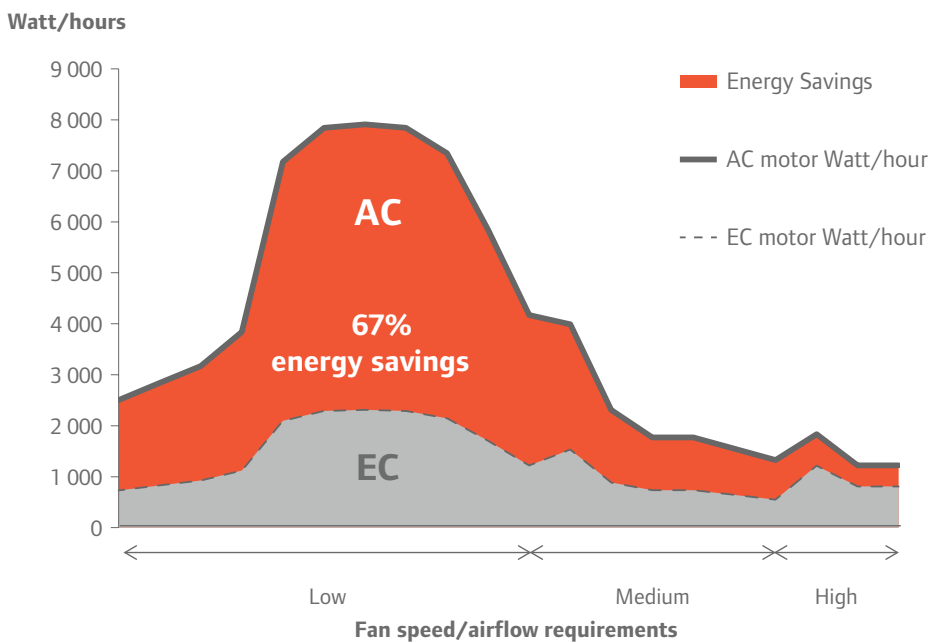
ø170 mm discharge air dampers optimize airflow throw, sound emission at each fan speed, and appearance compared to designs with multiple small or bigger diameters.

EC fan motor boosts savings and comfort

Trane's model CFAE operates with an EC fan motor technology providing an average of 67% **electrical power consumption savings**. It significantly reduces the building's cost of ownership.

Finally, **comfort is at optimal levels** because the EC fan motor allows for a more punctual reply to the variation of the thermal loads and a greater stability of the requested ambient temperature.

Associated with continuous variable fan speed drive Trane controls, it **minimizes sound emission** by avoiding noisy fan speed switches.



Typical fan motor loads of an office building in Paris

Typical system architecture

Trane's TODS solution

- Allows for weekly time-of-day scheduling
- Up to 60 units + 1 chiller + 1 air handling unit
- Simple dipswitch commissioning
- Takes vacation periods into account



TODS Time of Day Scheduler



T-MB thermostat



CFAS / CFAE
1-way cassette



CFAS / CFAE
1-way cassette

RS485 Modbus serial link

An easy-to-install Building Management System

The models CFAS and CFAE feature a unique type of Modbus communicant control with **RS485 serial link** providing high flexibility of installation for all types of buildings. It is designed to control the full air-conditioning system - from the terminals to the chiller and air handling units - using a **weekly time-of-day scheduling** therefore closely controlling comfort and energy utilization 7 days a week.

Fast and simplified commissioning

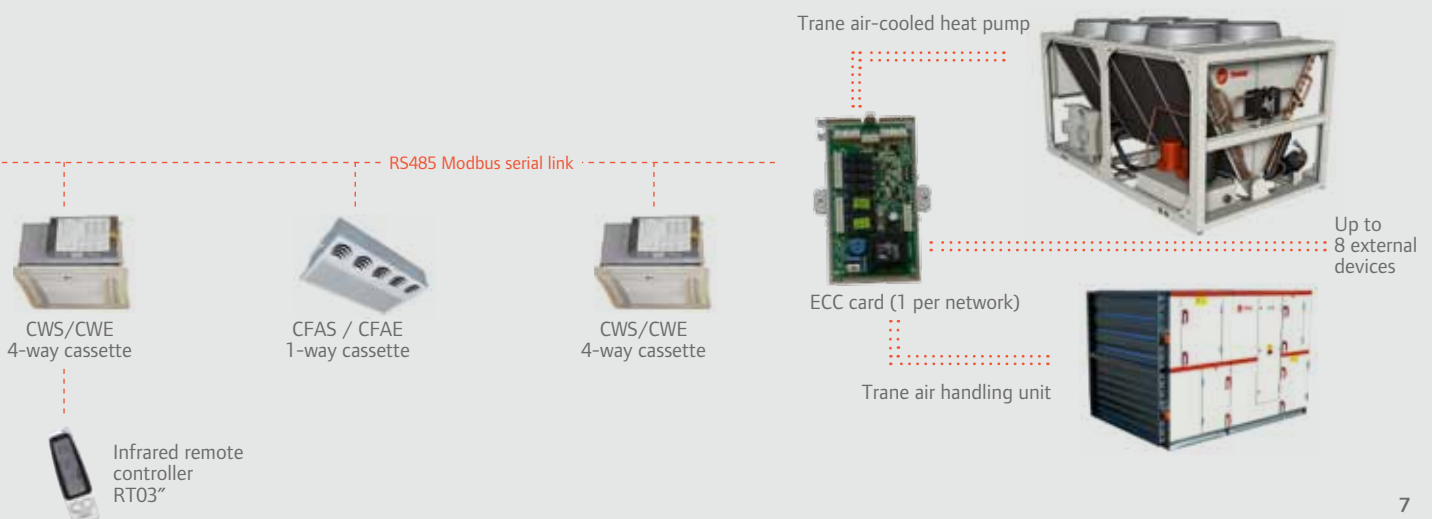
Commissioning is easy through dip switches addressing configuration and with menu settings displayed by T-MB or Time-of-Day Scheduling (TODS) user-friendly human interfaces.

The T-MB user interface is a thermostat that can control one unit terminal when used with the TODS or

up to 20 units without the TODS. It oversees ambient temperature or return air temperature on the terminal.

The TODS can control up to 60 units 7 days a week over up to 4 periods per day with ambient set points so as to obtain the most efficient use of energy based on occupancy times. It can start and stop external equipment as the chiller, the cooling or heating mode, the fresh air diffusion from the air handling unit using the ECC control board.

The unit controller will control air-conditioning based on the last instructions communicated by either the T-MB or the TODS scheduler, enabling room occupants to take control.



CFAE (EC fan motor)		16			26			36		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
Airflow at 0 Pa	(m ³ /h)	130	205	295	215	370	540	275	430	620
Total / sensible cooling capacity ⁽¹⁾	(kW)	0.8 / 0.6	1.2 / 0.9	1.6 / 1.2	1.5 / 1.1	2.3 / 1.7	3.2 / 2.4	1.9 / 1.4	2.8 / 2.1	3.8 / 2.8
FCEER / Eurovent Energy class		89 / C			152 / B			156 / B		
Heating capacity 2-pipe ⁽²⁾	(kW)	1	1.5	2	1.7	2.8	3.9	2.2	3.3	4.5
FCCOP / Eurovent Energy class		514 / A			536 / A			394 / A		
Heating capacity 4-pipe ⁽³⁾	(kW)	0.9	1.2	1.5	1.6	2.3	3	2	2.8	3.6
FCCOP / Eurovent Energy class		538 / A			1331 / A			975 / A		
Sound power level ⁽⁴⁾	(dB(A))	35	46	55	34	46	56	36	48	58
Sound pressure level	(dB(A))	26	37	46	23	36	47	26	39	49
NR Level (medium speed)	(dB(A))	22	32	41	18	30	42	18	33	44
NC Level (medium speed)	(dB(A))	21	30	39	17	28	40	16	31	42

CFAS (AC fan motor)		16			26			36		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
Airflow at 0 Pa	(m ³ /h)	140	180	280	200	240	380	360	505	620
Total / sensible cooling capacity ⁽¹⁾	(kW)	1.2 / 0.9	1.5 / 1.2	1.7 / 1.3	1.7 / 1.2	2.6 / 1.9	3.1 / 2.3	2.5 / 1.8	3.5 / 2.6	4.0 / 3.0
FCEER / Eurovent Energy class		55 / D			61 / D			53 / E		
Heating capacity 2-pipe ⁽²⁾	(kW)	1.4	1.9	2.1	2	3.1	3.8	2.9	4.2	4.8
FCCOP / Eurovent Energy class		65 / E			72 / D			62 / E		
Heating capacity 4-pipe ⁽³⁾	(kW)	1.1	1.3	1.5	1.7	2.3	2.7	2.5	3.3	3.6
FCCOP / Eurovent Energy class		65 / E			72 / D			62 / E		
Sound power level ⁽⁴⁾	(dB(A))	41	49	52	36	48	48	41	52	55
Sound pressure level	(dB(A))	32	40	43	27	39	39	32	43	46
NR Level (medium speed)	(dB(A))	27	34	38	18	33	40	24	37	40
NC Level (medium speed)	(dB(A))	25	33	36	16	31	38	22	35	38

Electrical data										
Power supply	(V/Ph/Hz)	230/1/50								
Fan motor absorbed power CFAE	(W)	8	14	29	8	16	37	10	19	42
Fan motor absorbed power CFAS	(W)	16	22	49	27	44	57	46	52	57
Electric heater capacity	(W)	350 / 550			700 / 1150			900 / 1400		
Electric heater current	(A)	1.5 / 2.4			3 / 5			3.9 / 6.1		

Weights and dimensions										
Length	(mm)	592			970			1192		
Width	(mm)	592			592			592		
Standard height / raised height	(mm)	309 / 369			309 / 369			309 / 369		
Weight range ⁽⁵⁾	(kg)	16-21			33-40			42-51		

(1) Cooling conditions: Leaving/entering water temperature 7/12°C, return air temperature dry/wet bulb 27/19°C, 48% humidity as per Eurovent

(2) Heating conditions: 2-pipe entering water temperature 50°C, return air 20°C

(3) Heating conditions: 4-pipe entering/leaving water temperature 70°C/50°C, return air 20°C

(4) Sound power levels are 9 dB(A) lower than sound pressure levels and apply to the reverberant field of a 100m³ room and a reverberation time of 0.5 sec.

(5) Range takes into account different coil configurations



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