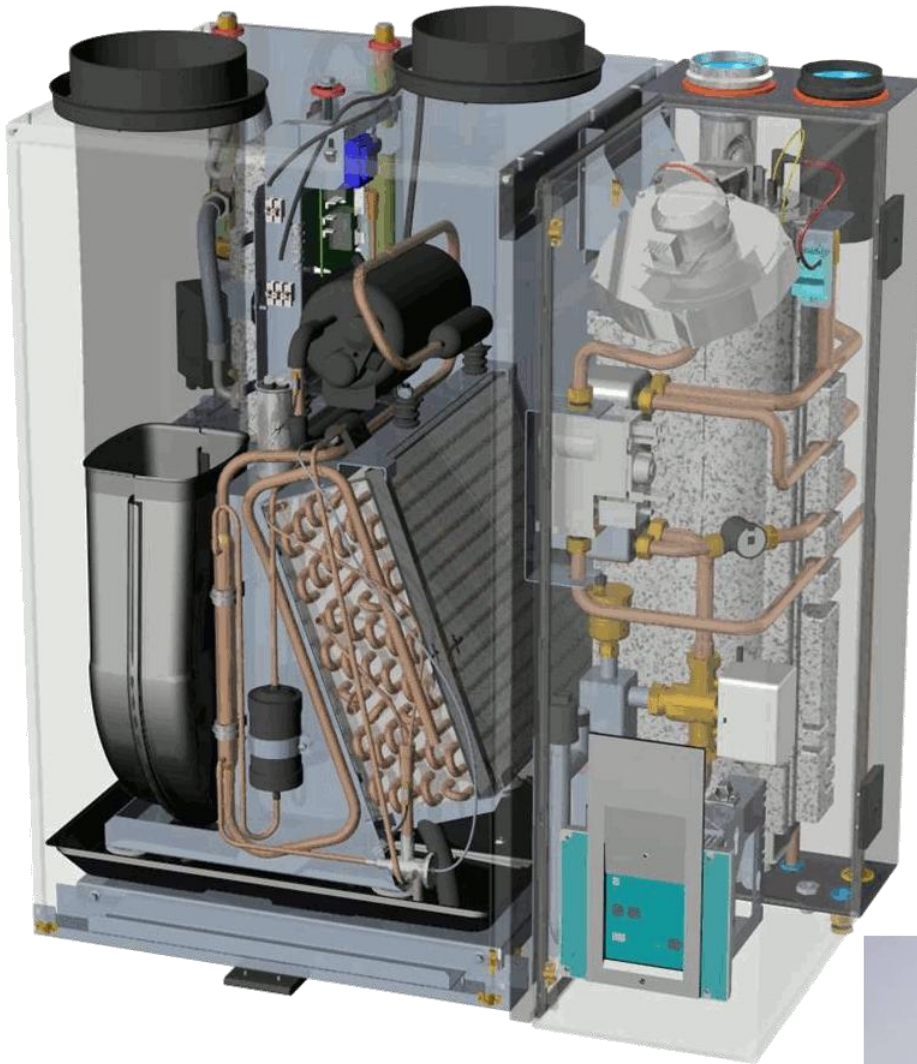




Leaders in low carbon heating

HEATING SYSTEMS

Breakthrough the 100% efficiency barrier!



The Atmos Combinair is a combi with a remarkable difference. Condensing boilers have pushed gas boiler efficiencies from 78% to 91%, a notable improvement.

The Atmos Combinair takes this way beyond the boundary of 100% to as much as 130%. Yes that means you get 30% more energy out than what you put in. How is this possible?

First there is the Atmos Combipact, a 27kW condensing gas combination boiler for heating and hot water. The SEDBUK efficiency is 91%, and classes in the top A rating. However if used with a low temperature heating system such as underfloor heating running at 40 deg C, the efficiency rises to 98% so that virtually all the heat is extracted from the gas.

Then there is the air source heat pump. All modern houses have air extract systems, which extract warm stale air from the kitchen, bathroom and other parts of the house. The boiler has burned gas to heat up this air, which is then thrown away. The Combinair heat pump draws in all this extract air and cools it, thus recovering 100% of the heat that would have otherwise been lost to atmosphere.

Additional heat is taken from the outside air, so that the 665 Watts of electrical energy absorbed by the heat pump produces 2,500 Watts of heat energy. This is an astonishing efficiency of 378%. Put the two together and an overall efficiency of 130% is the result.

Benefits:

- 100% of ventilation heat is recovered
- Combining gas boiler with ASHP maximises CO₂ saving (see table overleaf)
- Can be used with Atmos MonoSolar system to increase £cost & CO₂ savings
- Ideal solution for “Code for Sustainable Homes” level 3 and 4
- Extract fan only required



Fuel	Cost p/kWh * * based on SAP 2005 calculations	Efficiency %	Real cost p/kWh	CO ₂ kg/kWh	CO ₂ actual kg/kWh
Natural gas	1.63	90	1.81	0.194	0.216
LPG	3.71	86	4.31	0.234	0.272
Oil	2.17	87	2.49	0.265	0.305
Electricity Day	7.65	100	7.65	0.422	0.422
Electricity Day - heat pump	7.65	300	2.55	0.422	0.141
Heat pump - DHW	7.65	175	4.37	0.422	0.241
Electricity Night	2.94	100	2.94	0.422	0.422
Wood Pellet	3.00	75	4.00	0.025	0.033
Coal	1.99	70	2.84	0.291	0.416

Table above shows the actual £ cost of fuels, allowing for their efficiency; and then the actual CO₂ emissions. The highlighted figures in red show that the combination of using the ASHP for day time space heating and the gas boiler for the rest maximises the CO₂ savings.

