

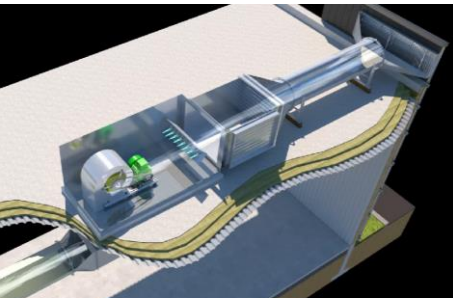


Your built environment as an energy source

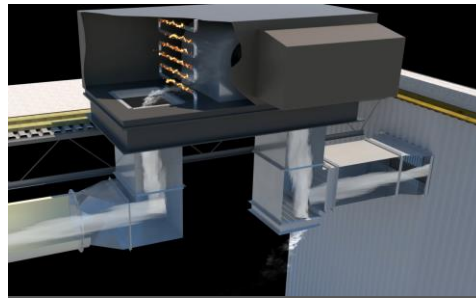


The **Calento SL** is the most efficient solar air heater in the world. With a certified peak efficiency that reaches 90.1%\*, this may well represent a world record for any solar thermal technology. When the sun shines on the collector, its surface warms up. Air is drawn through the thousands of perforations on the collector surface and the passing air heats up to a maximum of 50°C above ambient, contributing to substantial reductions in energy consumption. The collector is always linked to a heating, ventilation or air cooling (HVAC) system in order to achieve useful energy production, hence fuel savings. HVAC integration, including automation and controls, are key factors to successful projects.

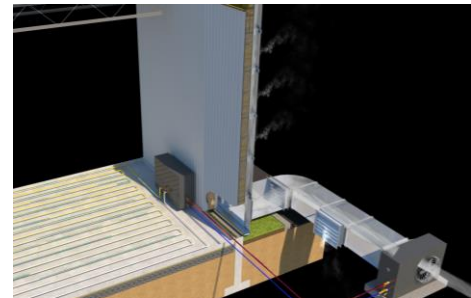
There are numerous ways to connect the Calento SL to a ventilation/heating system. The main system configurations are:



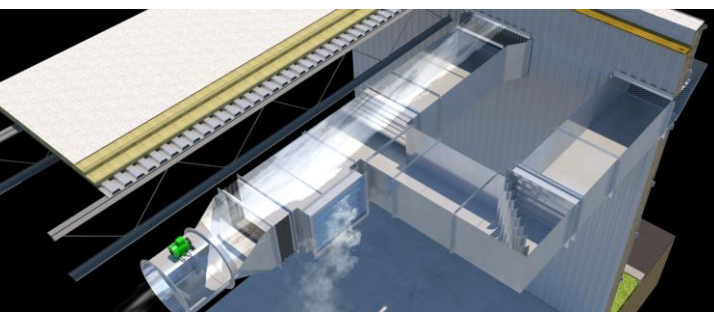
Preheating of make-up air



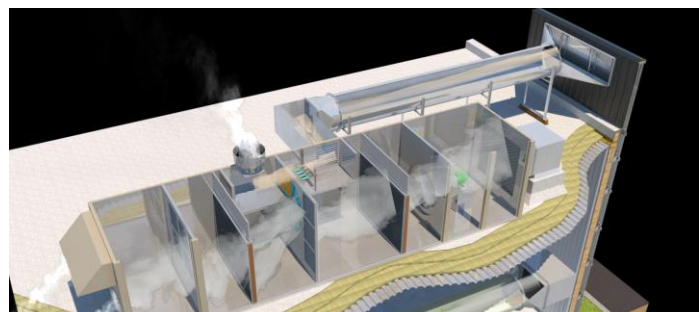
Rooftop unit outside air heating



Heat pump assistance



Stand-alone system (with summer bypass)



Desiccant / heat recovery wheel regeneration



- ❑ Over the years, **Trigo** has developed a series of surface finishes, perforation patterns and profiles to maximize the thermal output the Calento SL series and answer the most stringent needs of engineers and architects.
- ❑ **For engineers**, rated performances allow for a maximum temperature increase of 50°C above ambient, regardless of exterior temperature or time of the year. This enables the integration of the Calento SL in applications like outside air preheating, space heating, heat pump assistance, drying, dessicant wheel regeneration, process heat and any application where warm air is needed.
- ❑ **For architects**, selective colors include blue (the natural optical outcome of our vapor deposition process) and black, which was created specifically for building integration. Three different perforation patterns are available, as well as four different standard profiles. For special projects, a further selection of about 20 profiles is available. We exclusively use aluminum as substrate material for its superior thermal conductivity and properties against corrosion, as perforations cause the metal to be exposed.

Calento SL technical data	IP units	SI units
<b>Technical data</b>		
Solar air collector type	transpired, open loop, unglazed	
Working fluid	air only	
Main use and purpose	Preheating of outdoor air	
Peak solar efficiency, rated	90.1%	90.1%
Maximum power output	285 BTU/hr per sq.ft.	901 W/m <sup>2</sup>
Maximal air throughflow per collector surface	10 cfm per sq.ft.	185 m <sup>3</sup> /h per m <sup>2</sup>
Pressure drop @ maximum throughflow	0.5 in w.g.	125 Pa
Maximum temperature rise above ambient	90°F	50°C
Retscreen simulation model performance factor	1.35	1.35
<b>Absorber panel</b>		
Panel material	Aluminum alloy 99.8, Temper H18	
Absorber panel thickness	0.028 in.	0.7 mm
Panel surface treatment	Highly selective VDP coating	
Available colors, selective	blue, black	
Absorbivity in thermal spectrum	≥94%	
Emissivity in thermal spectrum	≤3%	
Panel porosity	1-4%	
<b>Mounted collector system, on site</b>		
Plenum cavity depth, standard	4 to 8 in.	10 to 20 cm
Framing parts, steel	18 ga	1.31 mm
Weight per surface area, including framing	2 lbs per sq.ft.	5 kg/m <sup>2</sup>
Maintenance requirement	none	
Freeze protection	unnecessary	
Overheating protection	unnecessary	
<b>Ratings &amp; certifications</b>		
Solar Rating Certification Corp. certificate no.	SRCC 10002111	
Solar Keymark certificate no.	011-7S3104 L	
Test laboratory	Fraunhofer ISE, Germany	