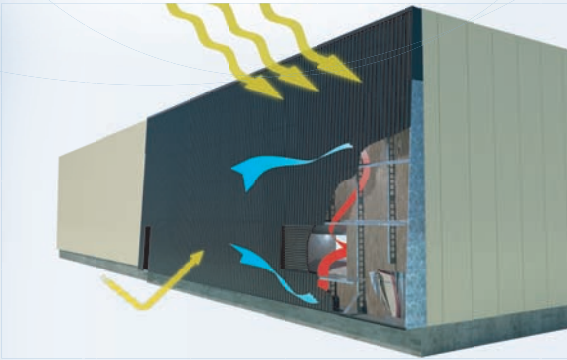


MatrixAir™

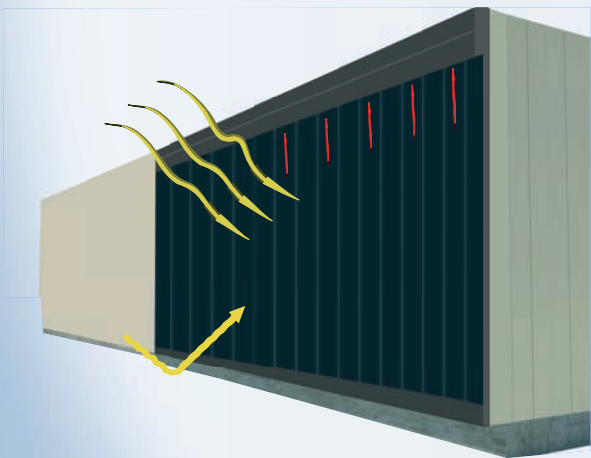
Solar Air Heating Systems

Since 1990 Matrix has supplied over 400,000 ft² of solar air heating collector area. Spanning hundreds of projects within the commercial, industrial, institutional and agricultural markets we have supplied over 2.3 million CFM of preheated fresh air providing more than 103,000 GJ in energy savings. Our unglazed, MatrixAir™ products are characterized by their high operating efficiencies coupled with competitive returns on investment.



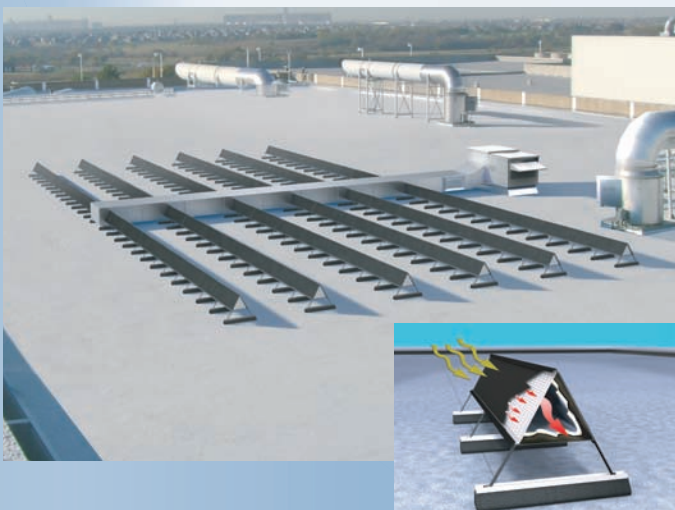
MatrixAir™ TR, Transpired System

Designed for new construction or retrofits this patent-pending, unglazed transpired solar air heating collector resembles conventional exterior metal siding. Recommended for solar air heating systems with total fresh air flow needs of at least 3000 CFM, MatrixAir™ TR (Transpired) collectors come in a variety of cladding profile and colours. These transpired solar air collectors have a CSA Performance Factor of 0.86 and require the use of an air outlet below the mid point of the collector.



MatrixAir™ BP, Backpass System

Ideal for heavy traffic areas the MatrixAir™ BP (Backpass) system is constructed of heavy 22 ga steel and is characterized by its horizontal plenum located along the top of the collector or roof mounted behind the vertical cladding to facilitate integration with ceiling or roof mounted HVAC and a wide range of CFM requirements. Ideally suited for new construction with collector heights ranging from 12 – 24 ft, this backpass solar air collector performs to within 99% of the performance of our transpired solar air heating collector with its 0.85 CSA Performance Factor.



MatrixAir™ DT, Roof-Mounted Modular System

Our roof mounted modular solar air heating collector is the ideal solution when no wall area is suitable for a façade mounted collector.

The unique, triangular design minimizes wind and snow loading in accordance with Canada's National Building Code. Arranged in a series and parallel configuration for unlimited fresh air requirements, orientation of the solar array makes optimization of available sunlight, and energy savings, possible. Each 20 ft² insulated, solar heating module delivers 250 CFM and incorporates a dual, transpired absorber to achieve near 89% operating efficiency (CSA Factor 0.81) typically providing energy savings of 1100 kWh annually. Each module is shipped partially pre-assembled for speed and ease of installation.



Sizing Guidelines for MatrixAir™ solar air collectors

MatrixAir™ solar air heating systems are a highly efficient and very cost effective means of providing solar air heating and ventilation on new or existing commercial, industrial or institutional buildings.

Calculating the AREA of collector surface needed according to total CFM required for façade mounted systems :

Transpired solar air heating collector MatrixAir™(TR)

- * Total CFM required divided by 3 = Maximum total ft² of collector required.
- * Total CFM required divided by 6 = Average total ft² of collector required.
- * Total CFM required divided by 9 = Minimum total ft² of collector required.

Backpass solar air collector * MatrixAir™(BP)

- * Total CFM required divided by 35 = Maximum number of 12 inch wide modules
- * Total CFM required divided by 60 = Average number of 12 inch wide modules
- * Total CFM required divided by 90 = Minimum number of 12 inch wide modules
- * MatrixAir™ BP collector should be a minimum of 10 ft and no more than 34 ft high.

Calculating the AREA of collector surface needed according to total CFM required for roof mounted systems :

Delta Roof top MatrixAir™ (DT)

- * Total CFM required divided by 250 = Number of modules required.

Calculating the CFM that may be produced according to available Wall area for façade mounted systems

Transpired solar air heating collector MatrixAir™(TR)

- * Total wall area (ft²) multiplied by 9 = Maximum recommended CFM delivered
- * Total wall area (ft²) multiplied by 6 = Average recommended CFM delivered
- * Total wall area (ft²) multiplied by 3 = Minimum recommended CFM delivered

Backpass solar air collector * MatrixAir™(BP)

- * One half of the overall wall width (in feet) multiplied by 180 = Maximum recommended CFM delivered
- * One half of the overall wall width (in feet) multiplied by 150 = Average recommended CFM delivered
- * One half of the overall wall width (in feet) multiplied by 100 = Minimum recommended CFM delivered

Calculating the CFM that may be produced according to available Roof area for roof mounted systems

Delta Roof top MatrixAir™ (DT)

- * Total roof area (ft²) multiplied by 4.4 = Maximum CFM delivered (for most North American locations).
- * Based on multiple row configurations. Use a factor of 6.6 for single row installations.

