



# Trane Creative Solutions

Voyager™ III Integral  
Energy Recovery



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## Voyager III Energy Wheel Options:

Trane Creative Solutions has the flexibility to provide various types of wheels for total energy recovery, however most applications are well served with the option of a desiccant coated aluminum media, with laminar flow, eliminating or reducing the need for filtration on both sides of the wheel.

Trane Creative Solutions has developed an integral energy recovery wheel (ERW) option for Voyager III units that will install on a standard roof curb. Extended curb supports, separate lifts, and separate power feeds are not required. Customized, integrated controls are included to allow for easy commissioning and startup.

Partial outside air with economizer or 100% outside air versions are available.

With 95 DB/73 WB outside air, typical wheel leaving air is conditioned to 81 DB/64 WB at 65-75% wheel efficiency, depending on wheel selections and face velocity. Savings in cooling, heating, and humidification expenses can be calculated, and reduces owner operating costs along with better comfort control.

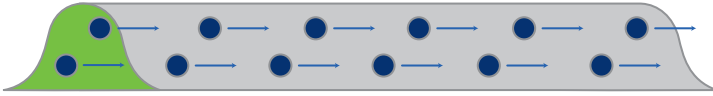


Velocity	Recovery
400	86.0
600	80.5
800	77.0
1000	74.5
Velocity (fpm)	Pressure Loss (in w.g.)
400	0.37
400	0.37
600	0.56
800	0.79
1000	1.05

## Laminar Flow Results in Low Pressure Drops

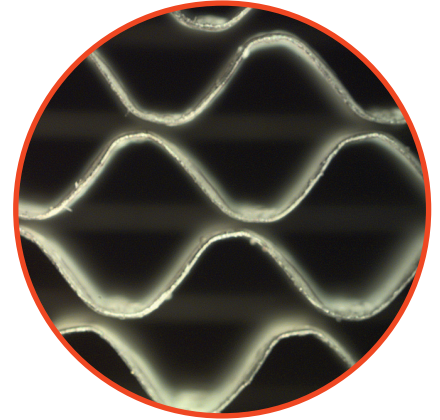
### Laminar Flow: Particles pass through flute

- No plugging of wheel 800 Micron Particle can pass
- Lowest pressure drop, most efficient operation



### Turbulent Flow: Particles collect on the flute wall

- High pressure drop
- Flutes plug



### Non Clogging, Cleanable Media

Years of applications in airstreams, as severe as smoke laden Casino exhaust air, have proven that this wheel design can be applied without the expense of providing and maintaining filters which adds to the cost of fan energy.

## Features

- Up to 100% Outside Air
- Economizer Bypass Option
- Aluminum Self Cleaning Wheel
- Single Point Power - Single Lift
- Constant Volume or VAV Supply and Exhaust Fans
- Vertical or Horizontal Configuration
- Optional TRAQ Dampers for Outside Air Measurement
- Standard Factory Roof Curb

## Typical Air Flow Capabilities

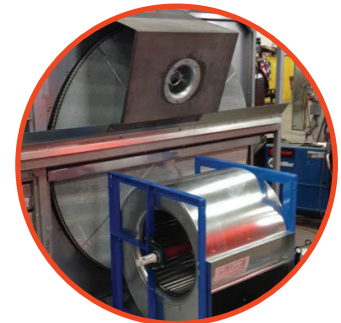
27.5 - 35 Ton		40 - 50 Ton	
CFM	APD	CFM	APD
5,000	0.36	8,000	0.45
6,000	0.46	9,000	0.53
7,000	0.57	10,000	0.61
8,000	0.69	11,000	0.70
9,000	0.83	12,000	0.80
10,000	0.97	13,000	0.90



Low Leak Bypass Dampers



Removable Wheel for Cleaning & Service



Custom Exhaust Fans & Outside Air Flow Measurement

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Learn more at [trane.com/creativesolutions](https://trane.com/creativesolutions)



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