

# LAW FIRM REDUCES THE EUI OF THEIR HVAC BY 71%

CASE STUDY OFFICES



*Dramatic reduction in energy consumption saves money and allows for promotion of environmental stewardship.*

A law practice created new offices by remodeling an old 1909 historic warehouse. The replacement of the HVAC system involved removing nine aging rooftop packaged units and replacing them with four Ventacity VS1000 Heat Recovery Ventilators (HRVs) and one VRF system. Lighting, windows and the building envelope were also improved and upgraded. The energy use index (EUI) of the office building dropped from 57.4 to 19.4 kBtu / ft<sup>2</sup> / year. Specifically the HVAC portion of the EUI dropped by nearly 71%. These kind of dramatic improvements are possible because HVAC is typically the single greatest energy user in an office, and combining a very highly efficient HRV with a VRF heating and cooling system is currently the most energy efficiency type of HVAC system.

## BUILDING FACTS

<b>Building Construction Year</b>	1909
<b>Occupancy Type</b>	Office
<b>Number of Stories</b>	2
<b>Conditioned Area</b>	12,000 ft <sup>2</sup>
<b>Ownership</b>	Private
<b>Existing HVAC System Types</b>	9 RTU's (Eight 4-Ton, One 3-Ton) Gas and Electric
<b>New System</b>	(1) Mitsubishi VRF System (4) Ventacity Systems VS1000 RT Ventilator

	BEFORE	AFTER	
	Old RTUs	After VRF + HRV Solution Upgrade	
<b>Equipment</b>	9	1	4
<b>Tons Heating</b>	43	18	
<b>Tons Cooling</b>	35	16	
<b>HVAC EUI (kBtu/ft<sup>2</sup>/yr)</b>	60*	14.6	

\*New RTUs are estimated at least 20% more efficient for analysis purposes

At least 71% HVAC energy reduction from former equipment

## ENERGY USE (MODELED & ACTUAL)

