

## CENTRAL AIR HANDLING UNITS

### TROX AUTOMATICALLY CHECKS ENERGY EFFICIENCY ACCORDING TO ECODESIGN DIRECTIVE

ErP-Stage		January 2016	January 2018	
Heat recovery system (HRS) BVU with a regulator device		demande	demande	
HRS BVU heat recovery efficiency $\eta$ [%]	Run-around coil system	63	68	
	Plate heat exchangers, rotary heat exchanger, miscellaneous	67	73	
Filter differential pressure monitoring		–	demande	
Fan speed regulation		demande	demande	
Fan efficiencies UVU $\eta_{fan}$ [%]				
	$P_{fan} \leq 30$ kW	$6,2 \times \ln(P_{fan}) + 35$	$6,2 \times \ln(P_{fan}) + 42$	
	$P_{fan} > 30$ kW	56,1	63,1	
Internal SFP-Value reference configuration [W/(m³/s)]	BVU			
	Run-around coil system	$q < 2$ m³/s $1700+E-300 \times q2-F$	$1600+E-300 \times q2-F$	
	Plate heat exchangers, rotary heat exchanger, miscellaneous	$q \geq 2$ m³/s	$1400+E-F$	$1300+E-F$
		$q \geq 2$ m³/s	$1200+E-300 \times q2-F$	$1100+E-300 \times q2-F$
UVU		250	230	
HRS-Efficiency bonus E [W/(m³/s)]	Run-around coil system	$(\eta-0,63) \times 3000$	$(\eta-0,68) \times 3000$	
	Plate heat exchangers, rotary heat exchanger, miscellaneous	$(\eta-0,67) \times 3000$	$(\eta-0,73) \times 3000$	
Filter correction value F [W/(m³/s)]	Reference configuration	0	0	
	Filter M5 is missing	160	150	
	Filter F7 is missing	200	190	
	Filters M5 + F7 are missing	360	340	

With the adoption of the Kyoto Protocol, the European Union has committed itself to reducing CO2 emissions by at least 20 percent by 2020. In order to reach this goal, the EU adopted already in 2005 the Energy-Using Products Directive. The Energy-Related Products Directive 2009/125/EG, colloquially called 'ecodesign directive', defines minimum requirements for many energy-related products. Within the European Union, air handling units have to meet new energy efficiency requirements from 1 January 2016 onwards. The next step after that will become effective two years later, on 1 January 2018.

TROX air handling units of Type X-CUBE are configured to individual customer requirements with a dedicated configuration software. This software automatically considers the new energy efficiency requirements for all X-CUBE air handling units and hence ensures their correct configuration. All X-CUBE air handling units that are produced and placed on markets of the European Union from 1 January 2016 onwards meet the new requirements.

Please find attached the table ErP – Efficiency Requirements as of 2016

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