McQuay®
Air Conditioning

Easdale International

ENERGY

Air flow from 1.000 to 50.000 m³/h

APPLIED SYSTEM

AIR HANDLING UNITS

Большая библиотека технической документации
http://splitoff.ru/tehn-doc.html
каталоги, инструкции, сервисные мануалы, схемы.

Energy concept

McQuay leads the way to energy efficiency, the Energy Series represent the highest expression in air handling units. Easdale International Energy is thought and designed in order optimize the Energy consumption and consequently minimize the running cost.
Having low running cost compared with standard units means a lower power consumption all around the year impacting positively on the energy bill.
Looking at the whole Life Cycle Cost (LCC) of an Air Handling Unit, easily we can identify three major expenses one is the capital cost when you are buying the equipment, the second one is related with the energy costs and the last one is the maintenance. The biggest portion in the life cycle cost in terms of value is the Energy cost, that represents in average between 70% and 80% of the total life cycle cost. Our unit are built in order to guarantee an exceptional mechanical performance in accordance with EN 1886, that avoid loss of energy through the casing and the structure of the AHU, this is proven by EUROVENT certified Characteristics.

Eurovent Certification

McQuay is participating in the **EUROVENT CERTIFICATION** Programme for Air Handling Units. Easdale International is certified under the number 10.10.502 and presented on www.eurovent-certification.com. ASTRA Air Handling Unit selection software and performances are certified according to EN 13053-1999.

EUROVENT CERTIFIED PERFORMANCE
AHU N°: 10.10.502
Range: Easdale International
www.eurovent-certification.com

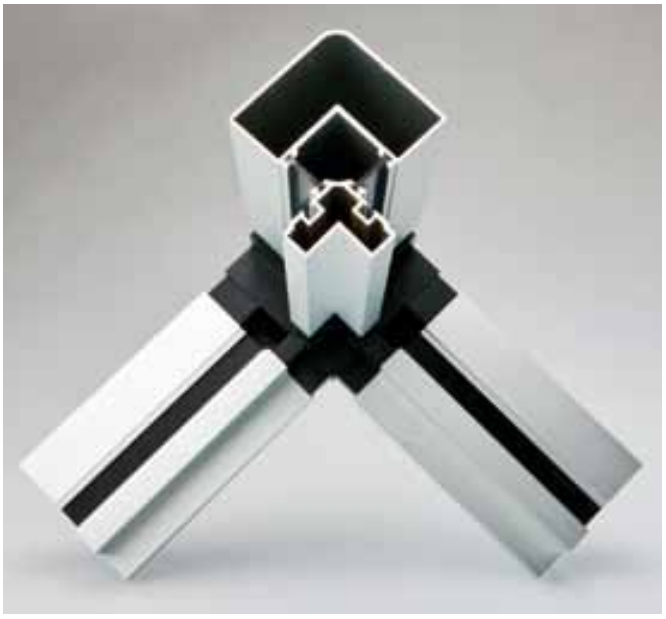
MODEL BOX-SP65		EUROVENT CLASSIFICATION ACCORDING TO EN1886					
		CASING MECHANICAL STRENGTH					
Casing mechanical strength	D1	Casing Class	D1	D2	D3		
		Maximum relative deflection mm x m^{-1}	4,00	10,00	EXCEEDING10		
		CASING AIR LEAKAGE					
Casing air leakage Negative pressure -400 Pa	L1	Leakage Class	L1	L2	L3		
		Maximum leakage rate (f_{400}) l x s^{-1} x m^{-2}	0,15	0,44	1,32		
		CASING AIR LEAKAGE					
Casing air leakage Positive pressure +700 Pa	L1	Leakage Class	L1	L2	L3		
		Maximum leakage rate (f_{700}) l x s^{-1} x m^{-2}	0,22	0,63	1,90		
		FILTER BYPASS LEAKAGE					
Filter bypass leakage	F9	Filter Class	F9	F8	F7	F6	G1 TO F5
		Maximum filter bypass leakage rate k in % of the volume flow rate	0,50	1	2	4	6
		THERMAL TRANSMITTANCE					
Thermal transmittance	T2	Class	T1	T2	T3	T4	T5
		Thermal transmittance (U) W/m^2 x K	U <= 0.5	0.5 < U <= 1	1 < U <= 1.4	1.4 < U <= 2	No requirements
		THERMAL BRODGING OF THE CASING					
Thermal brodging of the casing	TB2	Class	TB1	TB2	TB3	TB4	TB5
		Thermal bridging facto (kb) W x m^{-2} x K-1	0.75 < K_b <= 1	0.6 < K_b <= 0.75	0.45 < K_b <= 0.6	0.3 < K_b <= 0.45	No requirements

Energy Design

Specific Fan Power (SFP) is a parameter that helps to evaluate the level of energy consumption related with AHU. As defined in EN 13053 and EN 13779, the lowest SFP value will represent the lowest power consumption value for the entire AHU.
McQuay Energy series has been designed with the goal of achieving the minimum SFP level using also the most efficient component designed to provide an optimized solution that match all your needs.
McQuay Energy series will be a perfect answer to the EPBD energy performance of building directive to reduce global warming impact.

Все каталоги и инструкции здесь: http://splitoff.ru/tehn-doc.html

Engineered Thermal Break Design



Design

McQuay unifying the long experience together with extensive research has identified an exclusive design of the thermal break profile, that differentiate with current available technology by providing client a consistent thermal performance.

The core of the innovative profile are two special polyamide bars that avoid heat transfer from the internal part of the profile to the external part of it, so avoid heat loss from inside of the unit towards the outside environment.
The peculiarity of this solution is that the thickness of the bars is 20 mm instead of 16 mm that are available on the mass market, having increased the bars of 25% McQuay increased the thermal performance of the profile when in presence of a temperature gradient.

Obviously slowing down the thermal losses, this special profile, avoids also unwanted condensation on the outside of the unit. Using the special McQuay Design profile the client matches is need with no technical compromise and more important without paying a premium price.

Section to section profile

Along with the innovative thermal break design, McQuay went further and developed a new concept in AHUs profiles, the special section to section profile is the answer to a huge thermal losses when joining two AHU sections.

Normally AHU are shipped to the field in various sections, and are joined together at job site, the figure 1 shows the classical section assembly using angle profile which create heavy energy losses.

The figure 2 features the McQuay exclusive engineered profile that create a discontinuity between the internal and the external wall of the AHU guarantying a REAL thermal break profile on the ENTIRE Unit excluding any thermal losses.

COMMON DESIGN

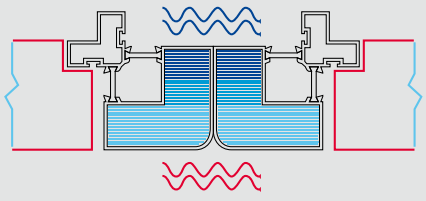


Figure 1

NEW MCQUAY DESIGN

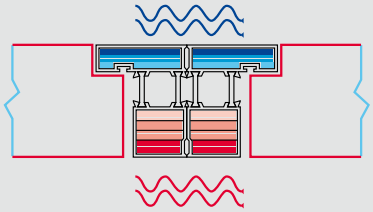


Figure 2

Все каталоги и инструкции здесь: http://splitoff.ru/tehn-doc.html

High Efficient Selected Components

High Efficiency Heat Recovery

McQuay Energy series are equipped with high efficiency heat recovery equipment that deliver minimum of 65% of heat recovery and could go up to the exceptional value of 90% heat recovery. Client can chose between different equipment in particular the heat recovery section could be arranged with:

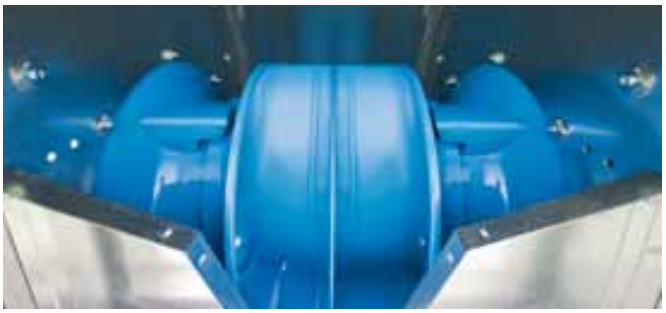
CONDENSATION WHEEL
ENTHALPY WHEEL
SORPTION WHEEL

Premium Efficiency Motor

Premium efficiency motor as per REG 640_2009 EU available on the Energy series in order to further reduce electrical power consumption.

High Efficiency Fan

Double Width Double Inlet AIRFOIL blades backward curved Fans available with efficiency up to 85% as well as reinforced bearing type for longer lifetime.

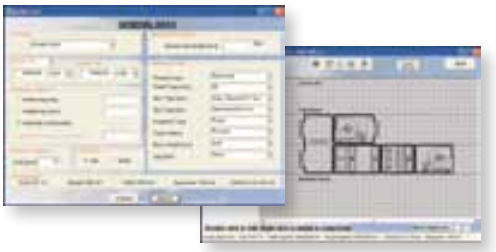


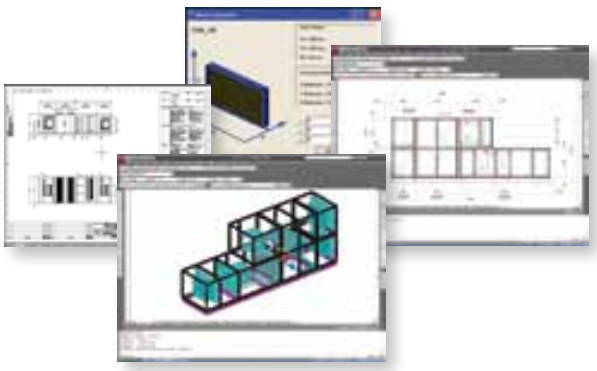
Controls

McQuay engineered a control system that can be offered in order to manage efficiently all components selected either independently or through external supervision system.The control package features: control panel, advanced microprocessor, sensors (temperature, humidity, air quality) and more other features.

Software

ASTRA is the powerful software package that McQuay has developed to offer a quick and comprehensive service for the customer, in order to make the proper technical choice and economic evaluation of each AHU. It is a complete tool that can configure any type of product and respond exactly to the strictest design needs. The result is a comprehensive economic offer including all the technical data and drawings, the psychometric diagram with the relative air treatment and the fans' performance curves. However, McQuay didn't stop there, but went further.





MECCANO is another, powerful software tool developed and designed to quickly convert the offer to an executable order: i.e., technical drawings to be sent and approved by the client, executive drawings for the production, bill of material, code generation for each component used, are just a few of the many functions of this package.
The ASTRA-MECCANO integration has therefore made possible the complete automated management of the process, to reduce the manufacturing lead time and delivery and improve our service to our customers.

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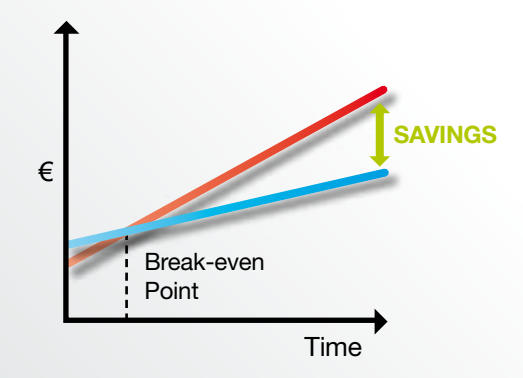
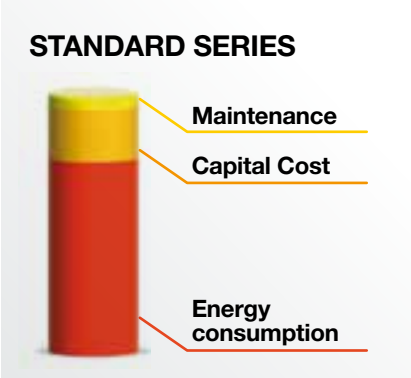
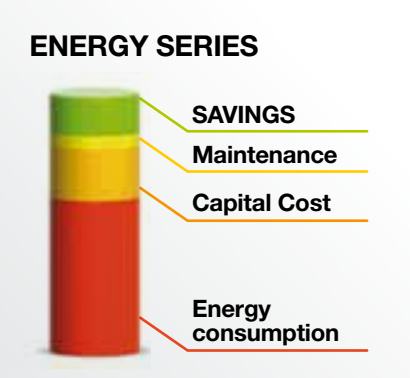
Return on Investment

Air Handling Units are critical product, despite the equipment prices that client is paying (investment costs) that could seem high, the Energy consumption related with the Life cycle of the equipment (average 15 years), is much higher. Usually product that are competitive on the initial investment are surely not competitive if we take into account the total Life Cycle cost of the unit. Our Energy series is design in order to reach exceptional performance in efficiency providing to customer the benefit of a smaller energy bill. That is paying back the initial different of investment. The client after a short period see the difference of investments paid back. After the breakeven point the client will just benefit of a lighter energy bill resulting in a consistent saving at the end of the equipment life. Nowadays, this savings are reinforced by the continues increase of energy prices, so in the end the client will enjoy consistent saving today and in case of further increase of energy prices higher saving tomorrow.

AHU Life Cycle Cost (LCC)







SFP

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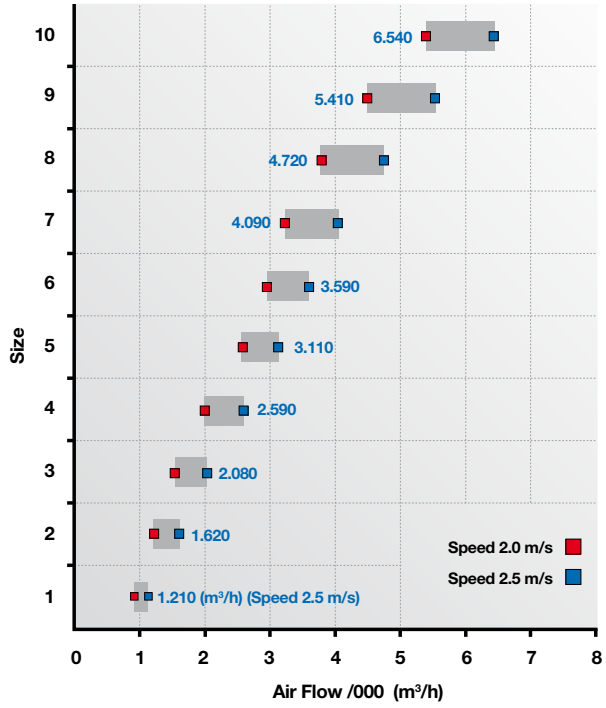
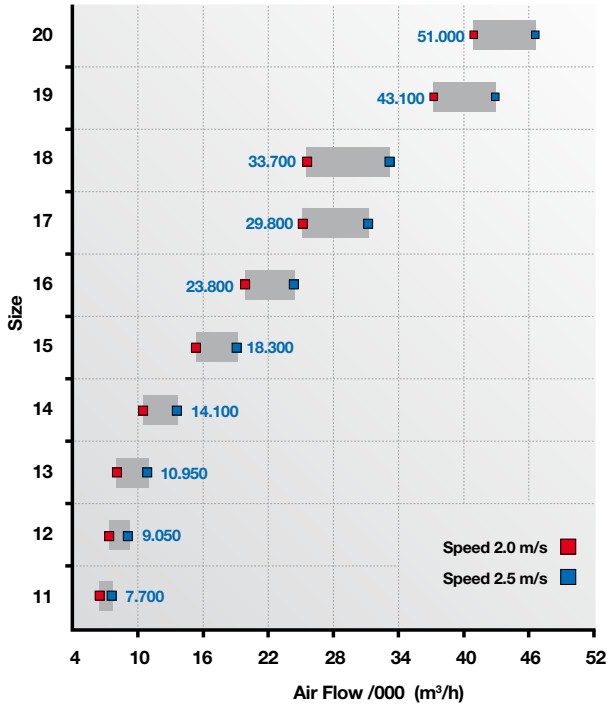
Easdale International ENERGY

TECHNICAL DATA

EASDALE ENERGY 1-10



EASDALE ENERGY 11-20



EASDALE ENERGY 1-20

Size	Air Flow (m³/h) Speed 2.5 m/s	Height - mm	Width - mm
1	1.210	580	720
2	1.620	610	770
3	2.080	680	820
4	2.590	750	870
5	3.110	750	990
6	3.590	750	1.100
7	4.090	800	1.110
8	4.720	810	1.240
9	5.410	870	1.270
10	6.540	970	1.370
11	7.700	1.050	1.370
12	9.050	1.110	1.470
13	10.950	1.180	1.620
14	14.100	1.360	1.720
15	18.300	1.480	1.970
16	23.800	1.610	2.270
17	29.800	1.740	2.570
18	33.700	1.900	2.710
19	43.100	2.090	3.060
20	51.000	2.220	3.360

Example

Air Flow (m³/h)	Unit Size	Height - mm	Width - mm	Face Velocity m/s
15.000	Size 15	1.480	1.970	2.04
	1.480 x 1.660	1.480	1.660	2.50

INFINITELY VARIABLE SIZES

FLEXIBLE SIZING FOR AHU OPTIMIZATION

- 1 cm increment for width & height dimensions
- No additional cost for customized unit size
- No additional lead time

ISO 9001, ISO 14001 and ISO 18001 certified company

Misto
Gruppo di prodotti provenienti da foreste correttamente gestite, da altre provenienze controllare e da legno o fibre riciclate
www.fsc.org Cert no. SA-COC-002023
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McQuay® International
a member of DAIKIN group

A Global Leader In System Solutions for Air Conditioning, Heating, Ventilating and Refrigeration

FKDesign

KBRAH00303-12EN - McQuay reserves the right to change design and specifications without prior notice.

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