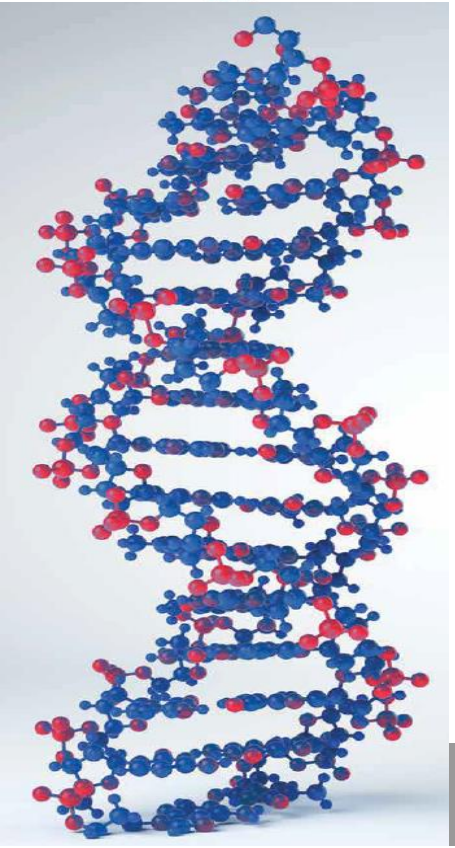
THE EXCELLENCE OF RHOSS

The Excellence of Rhoss

Applied & Air Treatment

- **EXP Systems – EXcellence in Polyvalent Technology**
  - Polyvalent systems: the energy-saving evolution
- **VPF – Variable Primary Flow by RHOSS**
  -VPF RHOSS: a step forward in the variable flow systems
- **Next Air – The evolution of air handling systems**
  - ADV Next Air: the tangible solution to the evolving air handling requirements
- **Air Suite – Rhoss solutions guarantee high quality air**
  - CTA ADV-Custom Hygienic ; VDI 6022 certified range
- **LEED®: Leadership in Energy & Environmental Design**
  - RHOSS: a wide range of products able to meet the requirements of the LEED® credits



EXP SYSTEMS

EXcellence in Polyvalent Technology

Innovation is in our DNA

FOCUS ON UNITS FOR 2-4 PIPES SYSTEMS

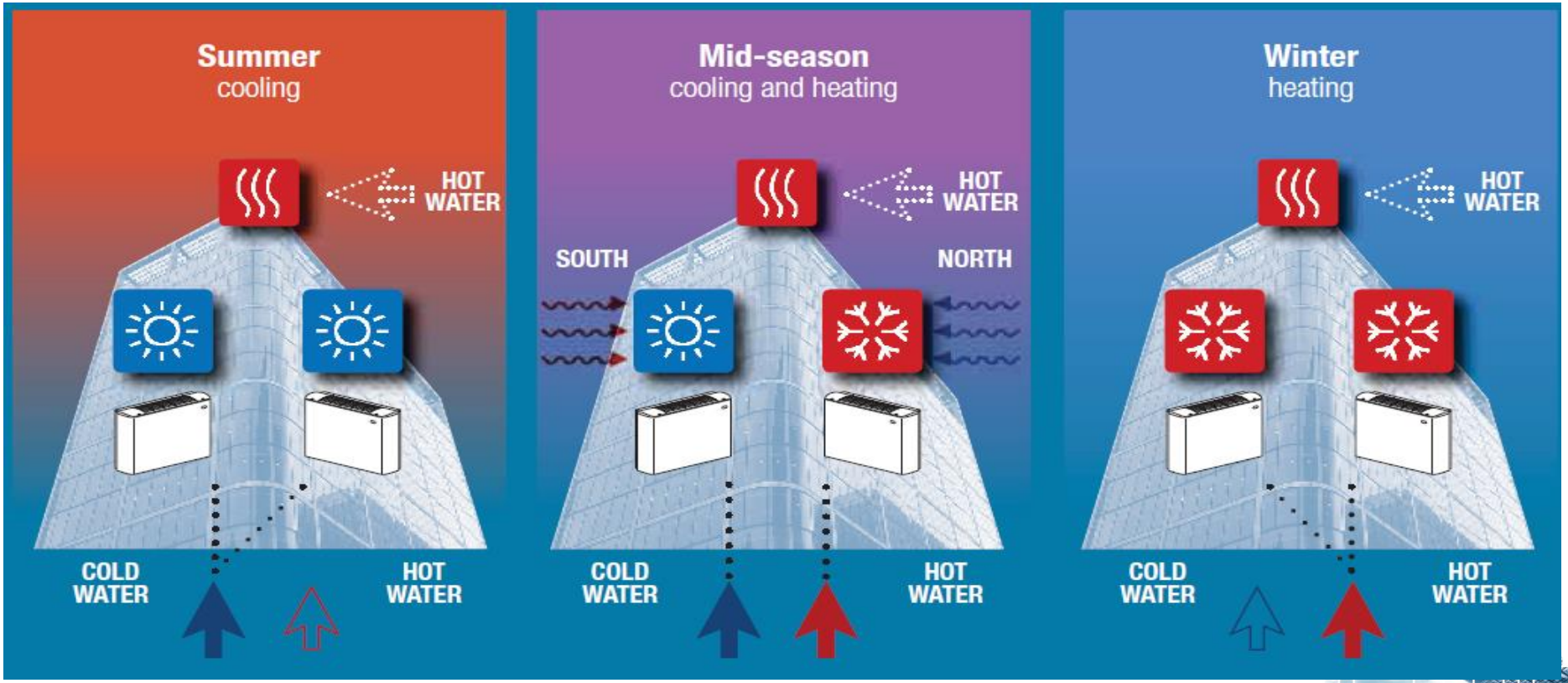
EXP
TECHNOLOGY

EXP is a Hybrid ecological system designed by Rhoss to:

- Meet the simultaneous or independent requests for hot and chilled water
- optimize energy consumptions
- make running easier
- Avoid or reduce the use of fossil fuels
- Increase overall system efficiency
- … With one unit

FOCUS UNITS FOR 2-4 PIPES SYSTEM

EXP TECHNOLOGY

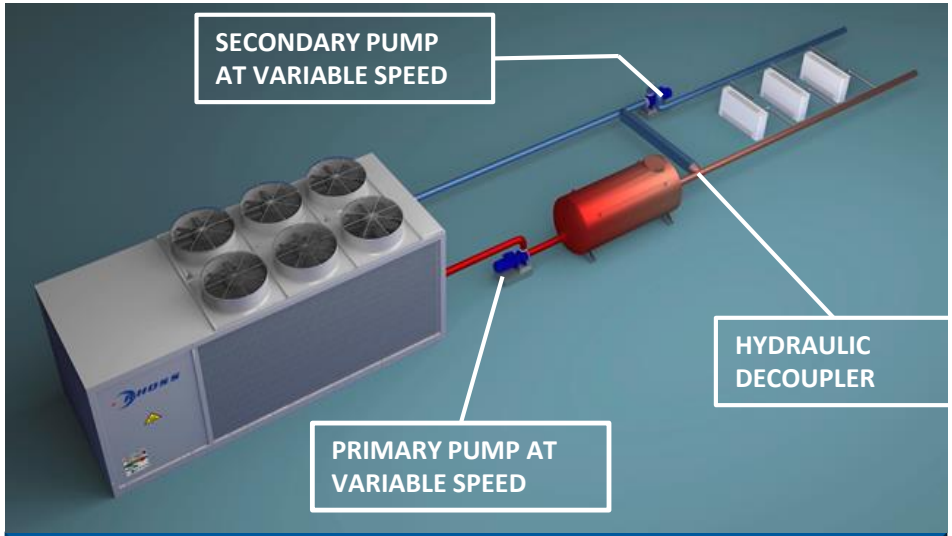


VPF SYSTEMS

The RHOSS solution

VPF by RHOSS

The solution introduced by Rhoss eliminates the critical issues of traditional VPF systems and allows to take advantage of the savings in pumping costs related to variable flow.



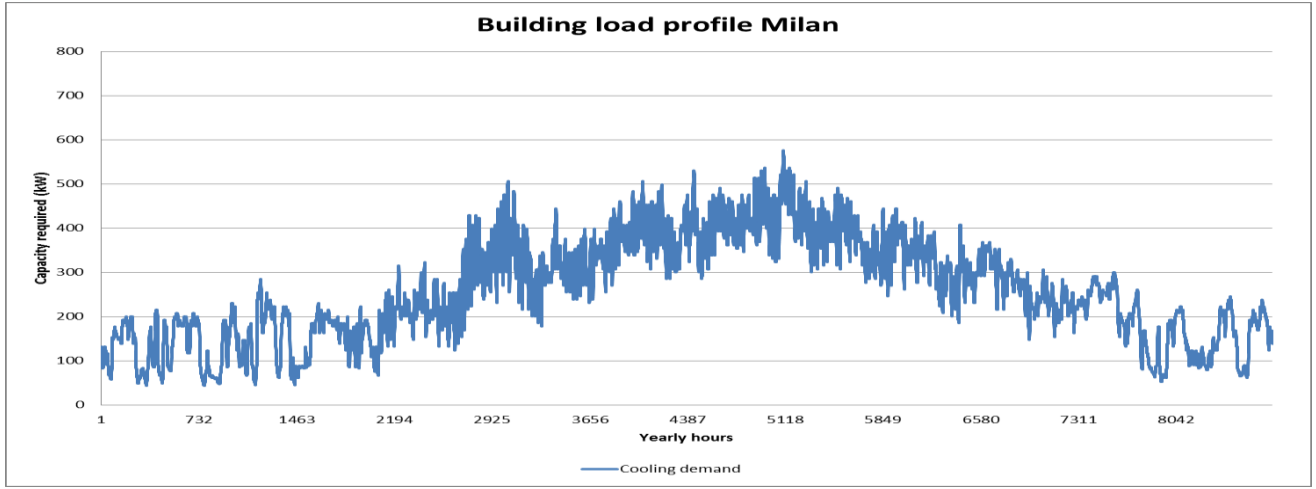
Variable Primary
Variable Secondary

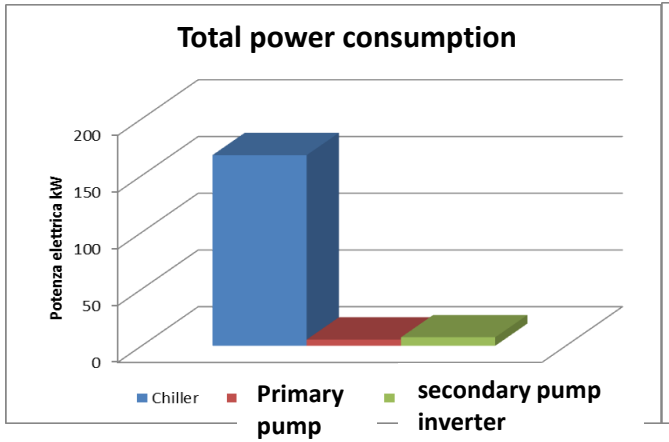
- High stability without oscillations
- High reliability of the chiller
- High reliability of the system-plant components
- **Reduced pumping energy consumption**

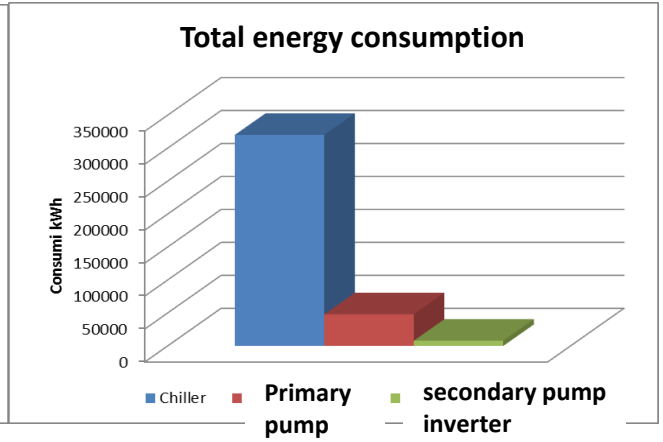
VPF by RHOSS

- The variable flow on the hydraulic circuit is an effective way to reduce pumping consumption.
- The traditional VPF system with by-pass valve has the inherent problems which make it potentially dangerous.
- The system with both primary and secondary variable flow allows to combine the advantages of the primary / secondary system and of the variable flow rate, minimizing the risks.
- The Rhoss solution also allows economical savings compared to the traditional VPF
- Laboratory tests in a laboratory homologated by Eurovent have demonstrated the reliability of the system.

Simulation: primary pump + secondary pump inverter

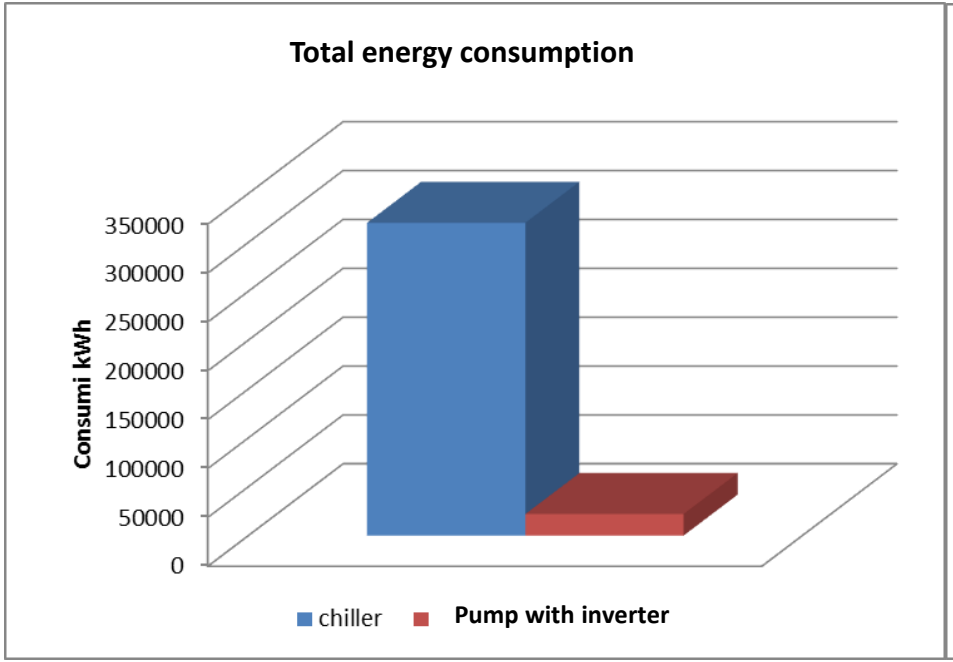


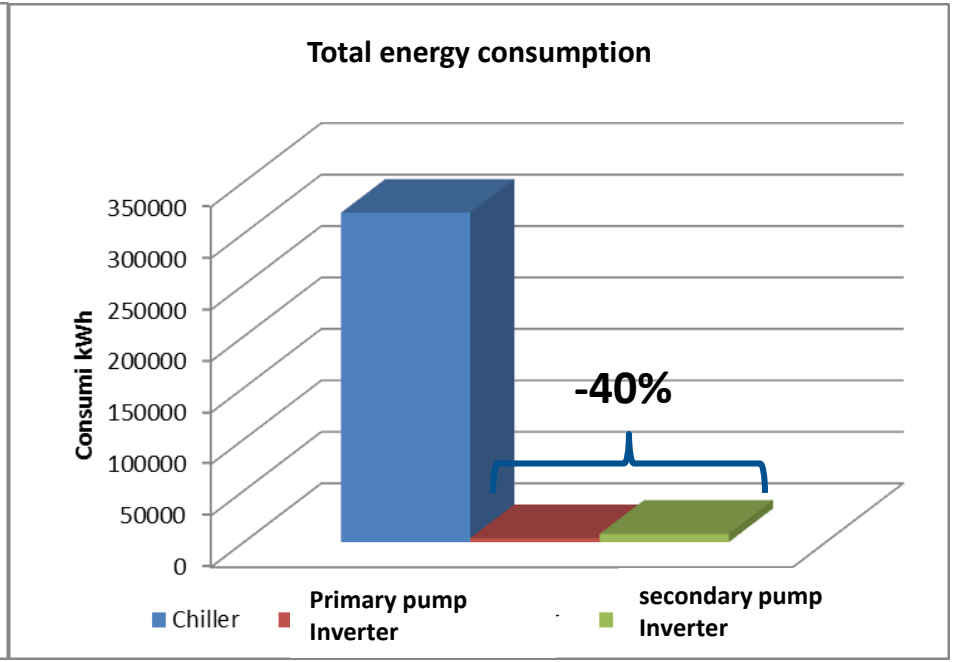




Comparison: VPF traditional with Rhoss solution

The Primary / Secondary system, as both variable flows, is a winning solution, even in comparison with the traditional VPF system: each of the two separate pumps can operate at the best of their characteristics.





The Rhoss proposals: ADV and Next Air

Next Air Range

General features

- Top mechanical features according to Eurovent
- Modular Air Handling Units
- Wide Range: 16 sizes of machines
- Big versatility thanks to the many functional options available
- Range ErP 2018 ready
- Plug and play control system
- A new comfort level thanks to Air suite filters
- Lower lead time thanks to robotic production line

Next Air Range

Mechanical features

Next Air Range

Eurovent classification EN1886

EUROVENT CERTIFIED PERFORMANCE
AHU -09.07.361
Range -ADV
www.eurovent-certification.com

D1	4	←
D2	10	
D3	>10	

Mechanical resistance

Competitors average reference value D1

L1	0,22	←
L2	0,63	
L3	1,9	

Air leackage

Competitors average reference value **L2**

F9	0,5	←
F8	1	
F7	2	
F6	4	

Filters bypass

Competitors average reference value **F8**

T1	<0,5	
T2	1<<0,5	←
T3	1,4<<1	
T4	2<<1,4	

Thermal trasmittance

Competitors average reference value **T3**

TB1	1<<0,75	←
TB2	0,75<<0,6	
TB3	0,6<<0,45	
TB4	0,45<<0,3	

Thermal bridge factor

Competitors average reference value **TB3**

Indoor Air Quality: Biocide Air Suite Filters

Biocide Filters

Low leakages filter frame

Leakage class F9

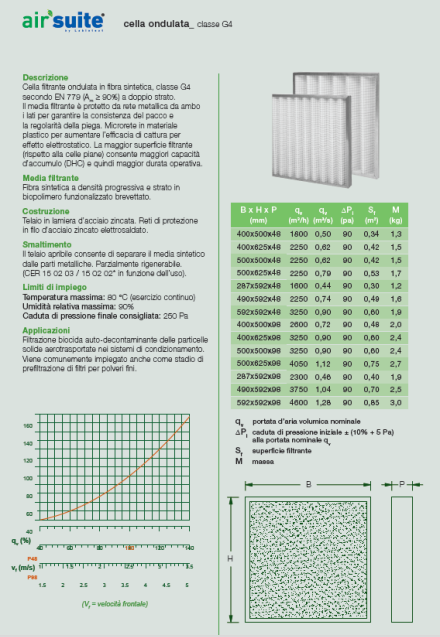
The resilience to the leakage of the filter frame is the essential first step to talk about IAQ. Next Air is equipped with a special Rhoss design frame that ensures, even with side extraction and shorter spaces , very low air leakage .

RHOSS Unique solution

Air Suite Filters

They have been developed in partnership with Labiotest and will be sold exclusively by Rhoss until the end of 2017 . The efficiency of the Biocide power has been certified by the Institute IRSA - CNR

G4-F7-F8-F9



air suite by Labiotest — cella ondulata_ classe G4

Descrizione
Cella filtrante ondulata in fibra sintetica, classe G4 secondo EN 779 (A_m ≥ 90%) a doppio strato.
Il media filtrante è protetto da rete metallica da ambo i lati per garantire la consistenza del pacco e la regolarità della piega. Microrete in materiale plastico per aumentare l'efficacia di cattura per effetto elettrostatico. La maggior superficie filtrante (rispetto alla celle piane) consente maggiori capacità d'accumulo (DHC) e quindi maggior durata operativa.

Media filtrante
Fibra sintetica a densità progressiva e strato in biopolimero funzionalizzato brevettato.

Costruzione
Telaio in lamiera d'acciaio zincata. Reti di protezione in filo d'acciaio zincato elettrosaldato.

Smaltimento
Il telaio apribile consente di separare il media sintetico dalle parti metalliche. Parzialmente rigenerabile. (CER 15 02 03 / 15 02 02* in funzione dell'uso).

Limiti di impiego
Temperatura massima: 80 °C (esercizio continuo)
Umidità relativa massima: 90%
Caduta di pressione finale consigliata: 250 Pa

Applicazioni
Filtrazione biocida auto-decontaminante delle particelle solide aerotrasportate nei sistemi di condizionamento. Viene comunemente impiegato anche come stadio di prefiltrazione di filtri per polveri fini.

B x H x P (mm)	q_n (m³/h)	q_v (m³/s)	ΔP_f (pa)	S_f (m²)	M (kg)
400x500x48	1600	0,50	90	0,34	1,3
400x625x48	2250	0,62	90	0,42	1,5
500x500x48	2250	0,62	90	0,42	1,5
500x625x48	2250	0,79	90	0,53	1,7
287x592x48	1600	0,44	90	0,30	1,2
490x592x48	2250	0,74	90	0,49	1,6
592x592x48	3250	0,90	90	0,60	1,9
400x500x98	2600	0,72	90	0,48	2,0
400x625x98	3250	0,90	90	0,60	2,4
500x500x98	3250	0,90	90	0,60	2,4
500x625x98	4050	1,12	90	0,75	2,7
287x592x98	2300	0,46	90	0,40	1,9
490x592x98	3750	1,04	90	0,70	2,5
592x592x98	4600	1,28	90	0,85	3,0

q_n portata d'aria volumica nominale
ΔP_f caduta di pressione iniziale ± (10% + 5 Pa) alla portata nominale q_n
S_f superficie filtrante
M massa

LEED CERTIFICATION AND SUSTAINABLE DESIGN

THE ROLE OF THE HVAC MANUFACTURER

LEED V4 – The role of the HVAC Manufacturer

- Products, services and technologies generally can not be LEED certified, but can only help meet the prerequisites and credits criteria.
- However, the choice of specific products can affect up to 50% of the total building score.

- An HVAC manufacturer, competent in the LEED certification process, can address some important aspects of certification and make a concrete and significant contribution to all stakeholders (customer, designer, CxA) for the success of certification.

- This expertise goes beyond the single product / technology and involves the whole company and its services.

- **RHOSS, thanks to its products and expertise, can be a point of reference in this context.**