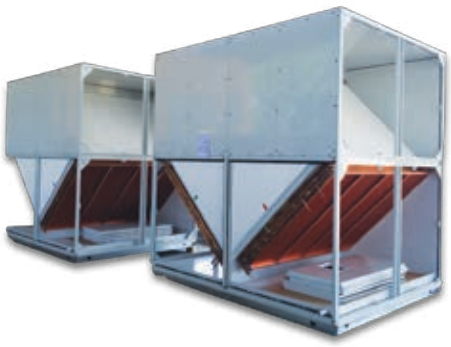
POLY-REK

Recuperation resistant to all...



POLY-REK

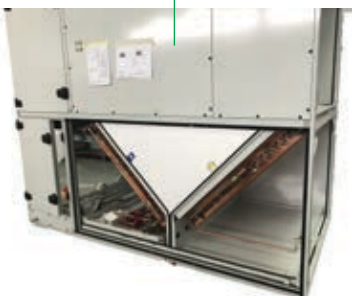
for green environment

POLY-REK is a new company with a vision for the future in heat recovery. Through the years this company has found itself in the wide range field of ventilation.

Focus of the company is not just **HIGH EFFICIENCY** of heat recovery, but also saving of our environment. That is why our heat exchangers are produced from **POLYPROPYLENE** material which is **100% RECYCLEABLE MATERIAL.**

In production of AHU manufacturer with POLY-REK

POOL UNIT



We share our expertize, we consult our clients and designers to choose best solution for their needs.

- You want to save energy?
- Not sure if your idea is possible?
- Need to reconstruct but not sure what to choose?
- Want to produce units with our systems, but don't have time and resources?
- Share yout thoughts with us, and we will do what we can!

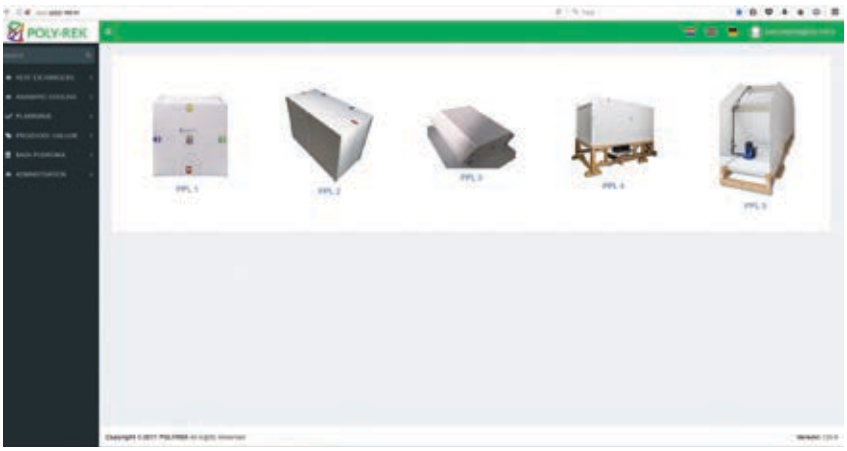
INDIRECT ADIABATIC COOLING UNIT

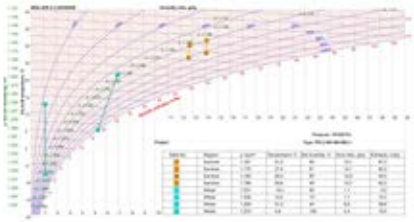
Selection software

POLYREK selection software is online tool for calculation of POLY-REK products. In just few steps you will have all informations for your project **at one** place.

Visit our webpage **www.poly-rek.hr** and simply **use our app in clients corner section.**

www.poly-rek.hr





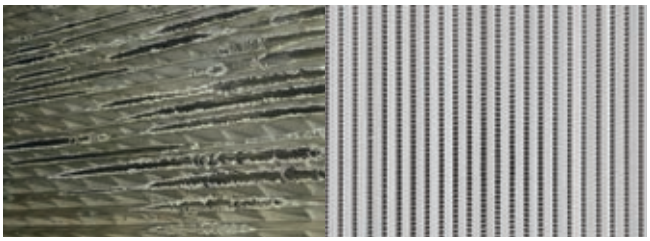
Products

Crossflow plate heat exchangers

are made from polypropylene material and are totally corrosion resistant.

Due to rough construction of plates there is no danger of deformation due to high differential pressure even of 10.000 Pa. Wide range of models gives possibility to make AHU according to any needs.

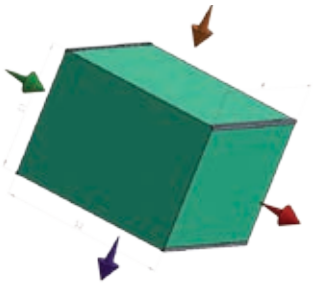
Big exchange surface of our **corrosion free** heat exchager guarantees long life of the unit and great savings on after service.



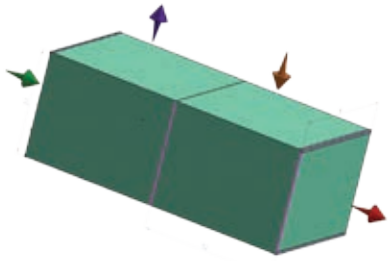
- **easy installation**
- **one block, no connection between cubes**
- **no leakages**
- **square or rectangular cube**
- **easy cleaning and maintanance**
- **hygiene execution**

TYPES

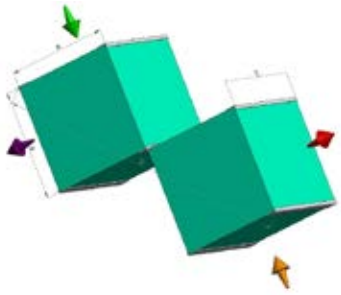
PPL.1 single air flow



PPL.2 double air flow
block arrangement



PPL.2 S double air flow
serial crossflow arrangement



Counterflow plate heat exchangers

with efficiency up to 95% provides to our customers **great** savings in winter and summer period.

Special construction of exchangers ensures lower pressure drop to fulfill requirements of the ECODESIGN 2018 directive.

One block segment for all sizes:

- no combi solutions
- no danger of leakage in comparison to combi solutions
- easier installation

TYPES

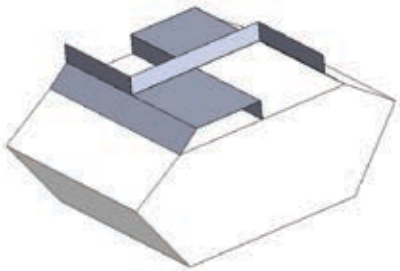
PPL.3+ standard construction

for installation in AHUs with bypass on side

ERP READY 2018 | EN 308 | A++

PPL.3+ special construction

for installations in AHUs with bypass on the top of the heat exchanger, benefits in smaller installation space



Indirect adiabatic evaporative cooling system

are most effective cooling machine in ventilation due to very high efficiency of recuperation and energy of evaporation. Possible **reduction of temperature is over 13°C** for normal air conditions*.

- **PPL.4 HYDRO**

- **PPL.5 HYDRO**

*Normal conditions: ODA 35°C/45% r.h., ETA 26°C/55% r.h.

TYPES

PPL.4 HYDRO
double crossflow flow

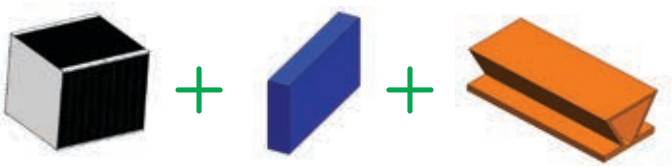
PPL.5 HYDRO
counterflow

- **big energy saving in summer and winter period**
- **electrical consumption minor in comparison to conventional cooling systems**
- **wide range of sizes to provide solutions for every client**
- **closed water circuit**
- **UV lamp for water disinfection for the most demanding applications**
- **easy maintanance – limescale protection**
- **low exhaust temperature – benefits for integrated cooling (COP over 6) – double step humidification**
- **environmental friendly unit**
- **prepared for easy installation in AHU**
- **full automatic control for water regulation**
- **compact construction gives possibility to install heat pump in very compact design**

Advantages of using indirect adiabatic cooling

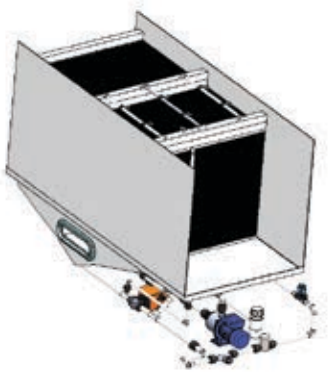
in comparison to conventional cooling sytems

- CONVENTIONAL



heat recovery | cooling coil | cooling machine

- PPL.4 HYDRO
- PPL.5 HYDRO



EXAMPLE of energy saving in summer period

DATAS	PPL.4 HYDRO	CONVENTIONAL SYSTEM
air flow [m3/h]	18.000	18.000
supply extract	18.000	18.000
outdoor air [°C/%r.H.]	35/45	35/45
extract air [°C/%r.H.]	26/55	26/55
recuperation efficiency [%]	92,6	80,2
temperature reduction [°C]	14,2	7,2* 7**
electrical power consumption [kW]	1,5	31**

* heat recovery ** cooling coil

ADVANTAGES

- easy installation in AHU
- no additional installation between AHU and cooling machine provides no additional cost
- one supplier – easier startup, easier maintanance
- independent on outdoor conditions
- no additional coils for cooling – lower power consumption on fans

BENEFITS:

- low life cycle cost – 30% annual savings on running costs
- use of water and air energy sources
- 20 times less electrical energy consumption
- investment payback in three years
- low investment cost – EU and government support for big heating and cooling savings

Our areas of application

INDOOR SWIMMING POOL

As pool areas, especially spa and wellness zones together with therapeutic pools are one of the most demanding challenges in modern air conditioning due to very high amount of agressive supstances, we proudly guarantee that our heat exchangers are resistant and 100% corrosion free which gives long lasting life of AHUs.

COMFORT AIR CONDITIONING

Offices, museums, schools, universities, hotels, sport facilities, trade and entertainment centers today are designed as low-cost buildings. Thanks to our special system of heat recovery and adiabatic cooling, systems are able to minimalize consumption of electrical energy for big cooling loads.

INDUSTRIAL, PHARMACEUTICAL AND PROCESS INDUSTRY, DATA CENTERS

Thanks to very high resistance to different chemicals, our products have also found their place in different branches of industry like agriculture, pharmaceutical, car industry, paper industry, food and packaging industry.

HOSPITALS AND HYGIENE AIR CONDITIONING

Our heat exchangers are hygiene tested and possible to install in different applications of hospital applications where other materials are forbidden.

Thanks to special construction, our heat exchangers are easily cleanable, what provides continuus operation of AHUs.

Certification

VDI 6022 Part 1:2011
DIN 1946 Part 4:2008

TÜV NORD

CERTIFICATE

Permission to use the test mark

VOLUNTARY TEST OF HYGIENE REQUIREMENTS

TESTED HYGIENE SUITABILITY OF HEAT EXCHANGERS

TÜV NORD Systems GmbH & Co. KG, Hamburg, Germany,
hereby confirms that the Plate Heat Exchanger of the range

"PPL"

conforms to the requirements set by TÜV NORD Systems GmbH & Co. KG.

POLY-REK d.o.o.,
Samobor, ,CROATIA,

is therefore granted the right to use the test mark shown below in connection with the above-mentioned product.

TÜV NORD Systems GmbH & Co. KG
Expert of Testing Laboratory for Ventilation, Air-Conditioning and Refrigeration

Maximilian Nanni (B.Eng)

Essen, 9 February 2017

The validity of the Certificate is three years. All regulations concerning this Certificate are laid down in the "Agreement concerning the granting of entitlement to use a TÜV NORD test mark".

Hygiene-Institut des Ruhrgebiets

DIN ISO 846 –
material evaluation of the effect to microorganisms

FUTURE?

CONTACT US!

POLY-REK

POLY-REK d.o.o.

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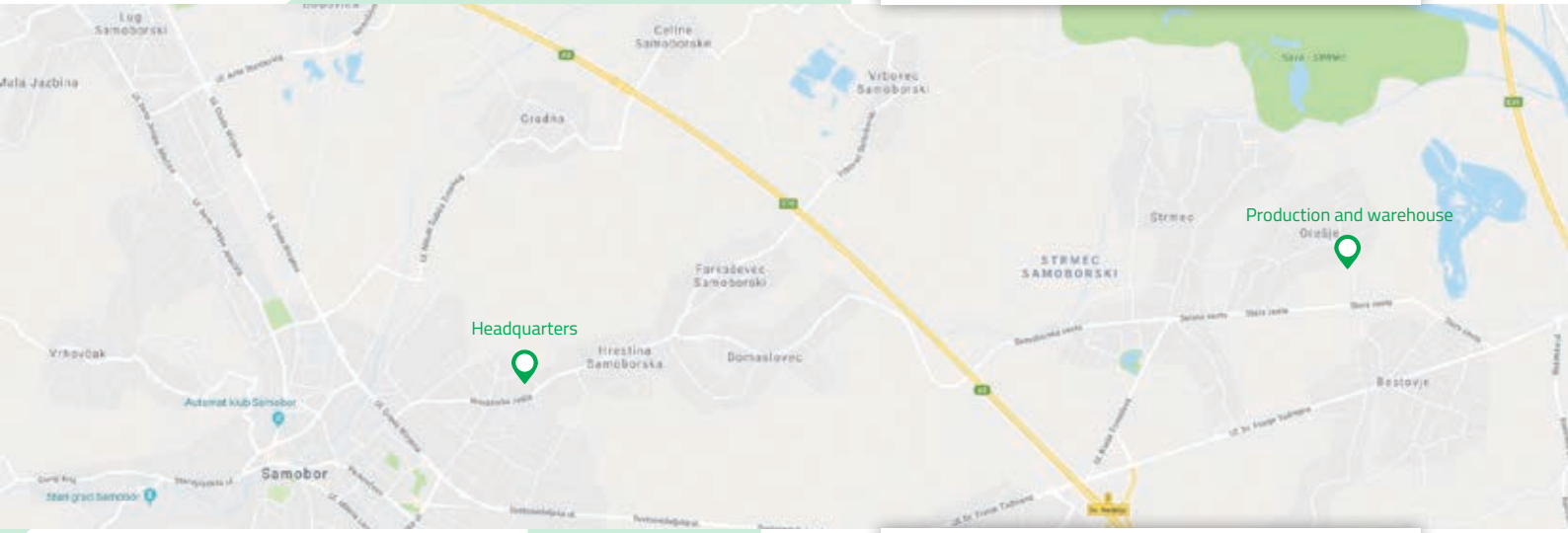

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