IEA HEAT PUMPING TECHNOLOGIES

Research, Development, Demonstration and Promotion of Heat Pumping Technology
IEA HPT TP Annex (35 +) 48: Commercial and Industrial Heat Pump Application
Welcome to the IEA Technology Collaboration Programme on Heat Pumping Technologies, HPT TCP, and Heat Pump Centre, the central information activity of the programme.

– http://heatpumpingtechnologies.org

The goal is to accelerate the implementation of heat pumps and related heat pumping technologies, including air conditioning and refrigeration.
• HPT TCP is member of IEA International Energy Agency (IEA) and the programme was founded in 1978. We have been active in almost 40 years.

• There are 16 member countries: Austria, Belgium, Canada, Denmark, Finland, France, Italy, Germany, Japan, the Netherlands, Norway, South Korea, Sweden, Switzerland, United Kingdom and the United States.
Annexes = Projects
One of the main activities within the programme is to run collaborative research, development, demonstration and deployment projects. It is called annexes and they are conducted on a combination of cost sharing and task-sharing basis by the participating countries.

One person/organization is appointed to manage the Annex, to be the Operating Agent of the Annex.
• IEA HPT TCP Annex 48: Industrial Heat Pumps, Second Phase

• IEA countries A CH DK F JAP UK
• Operating agent: IZW e.V. Germany
• Start date: 01st April 2016
• End date: 31st March 2019
Heat Source and Heat Sink in Industrial Heat Pumps

- Space Heating
- Drying Process
- Process Other Heat

Heat Sink: Condenser

Heat Source: Evaporator

- Ground-Air-Water
- Cooling Tower
- Excess Waste Exhaust
- Heat
- Others

Compression Work
Outlook

• Main Goal of the HPT TCP-Annex 48 is to overcome difficulties and barriers for the market introduction of industrial heat pumps.
• Collected cases studies of industrial branches with a large potential, should be analyzed
• Development of a web based information platform for heat pumps in industrial and commercial application
• Creating information material for IHP (training) courses
• The IHP potential for more efficient use of energy and reduction of greenhouse gas emission should be prepared for policy makers
INDUSTRIAL HEAT PUMPS IN AUSTRIA
Current status and future potentials

V. Wilk, A. Arnitz, R. Rieberer
Industrial Heat Pump Applications in Japan

Chillventa CONGRESS 2018
Nuremberg, Germany
October 15, 2018

Takenobu KAIDA
Central Research Institute of Electric Power Industry (CRIEPI)
Semi-hermetic NH3 Chiller/Heatpump

Agenda

• Introduction of SRM

• Project
  – Objective
  – Technical Solution
  – Summary and Conclusion
Decreasing energy consumption of heating and air conditioning system with energy-efficient heat pump combined with natural energy

Xianting Li
Department of building science
Tsinghua University
2018/11/5
Revisiting R22 Replacement Options
Comparison between R-22, R-404A, R-448A, R-407A and R-407H

Authors:
Ivan Rydkin – Daikin America
Hitomi Arimoto, Shun Ohkubo – Daikin Industries
Matej Visek, Xinzhong Li, Pega Hrnjak – Creative Thermal Solutions
Heat Pumping Technologies for Commercial and Industrial Applications

Professor Neil J Hewitt
High Temperature Heat Pumps

1) Market & Research Status, Refrigerants, Application Potentials
2) Results with a laboratory-scale heat pump using HCFO R1233zd

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Chillventa, 15 October 2018, Nuremberg
Chillventa CONGRESS 2018
Industrial Heat pumps in District Heating
Denmark

Lars Reinholdt
“Application of existing models”
Technical hints

Chillventa CONGRESS 2018