



# DATA CENTER SOLUTIONS



Tailor-made solutions for  
Data Center **air-conditioning systems**

## WHAT CAN WE OFFER ?

### For small and medium size CRAHU:

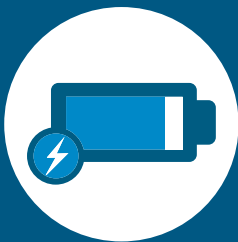
- ✓ Pre-fabricated kits with PICV
- ✓ EQM (Equal percentage) PICV
- ✓ Modulating actuators
- ✓ Insulation shells
- ✓ Flexible hoses
- ✓ Venturi devices
- ✓ Non-return valves
- ✓ Unions and fittings

### For big size CRAHU:

- ✓ Equalpercentage PICV
- ✓ Modulating actuators
- ✓ Flushing 3-way ball valve
- ✓ DZR ball valve with integrated strainer Filterball®
- ✓ Isolation ball valve with integrated Venturi
- ✓ Insulation shells
- ✓ PT gauges
- ✓ Unions and fittings



## OUR STRENGTHS



### Energy saving

- ✓ Widest range of PICVs: from 150 l/h up to 500.000 l/h
- ✓ Optimal cooling power control
- ✓ Low start-up pressure
- ✓ Pump head optimisation



### Easy system commissioning and maintenance

- ✓ Flushing by-pass for pipes cleaning
- ✓ Easy flow rate setting through the PICV
- ✓ Dry strainer cleaning of Filterball®
- ✓ Improved system reliability
- ✓ Less maintenance required



### System control

- ✓ Pressure and Temperature gauges integrated
- ✓ Valve test points
- ✓ Full authority – always the least flow rate

# ENERGY SAVING ASSESSMENT

How to save 49 MWh of pump energy with Pettinaroli EQM (Equal percentage) PICVs (draft calculation)

Scenario:

2 Data Halls

Redundance level: 2

Total cooling capacity: 3.300 kW

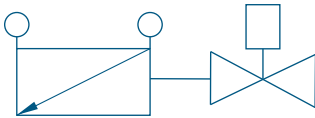
28 CRAHU with double coil

8760 operating hours

Average cooling load 50%

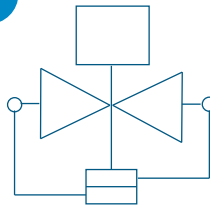
3 options:

1



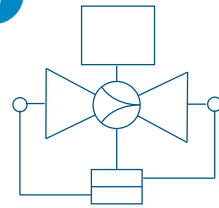
Autoflow + 2-way control valve

2

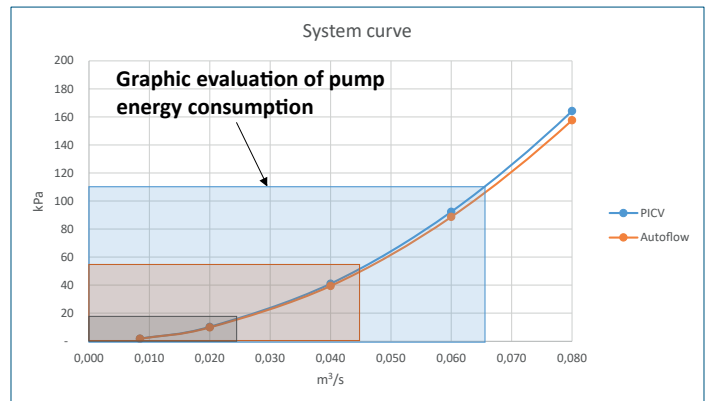
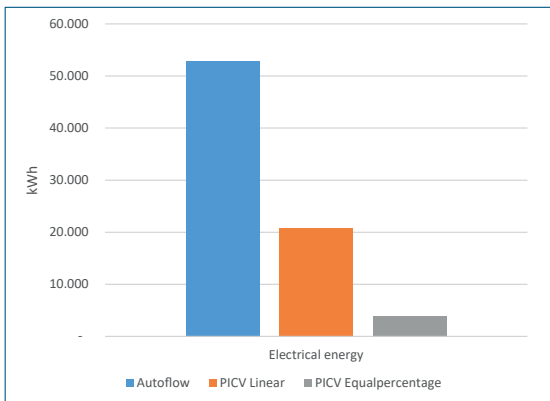


Linear PICV

3



EQM (Equal percentage) PICV



1

Autoflow + 2-way control valve energy consumption: **52,9 MWh/y**

- ON/OFF control and pulse effect: pulsing very high flow rate
- Energy waste

2

Linear PICV energy consumption: **20,8 MWh/y**

- Modulating control but still high flow rate
- Energy waste

3

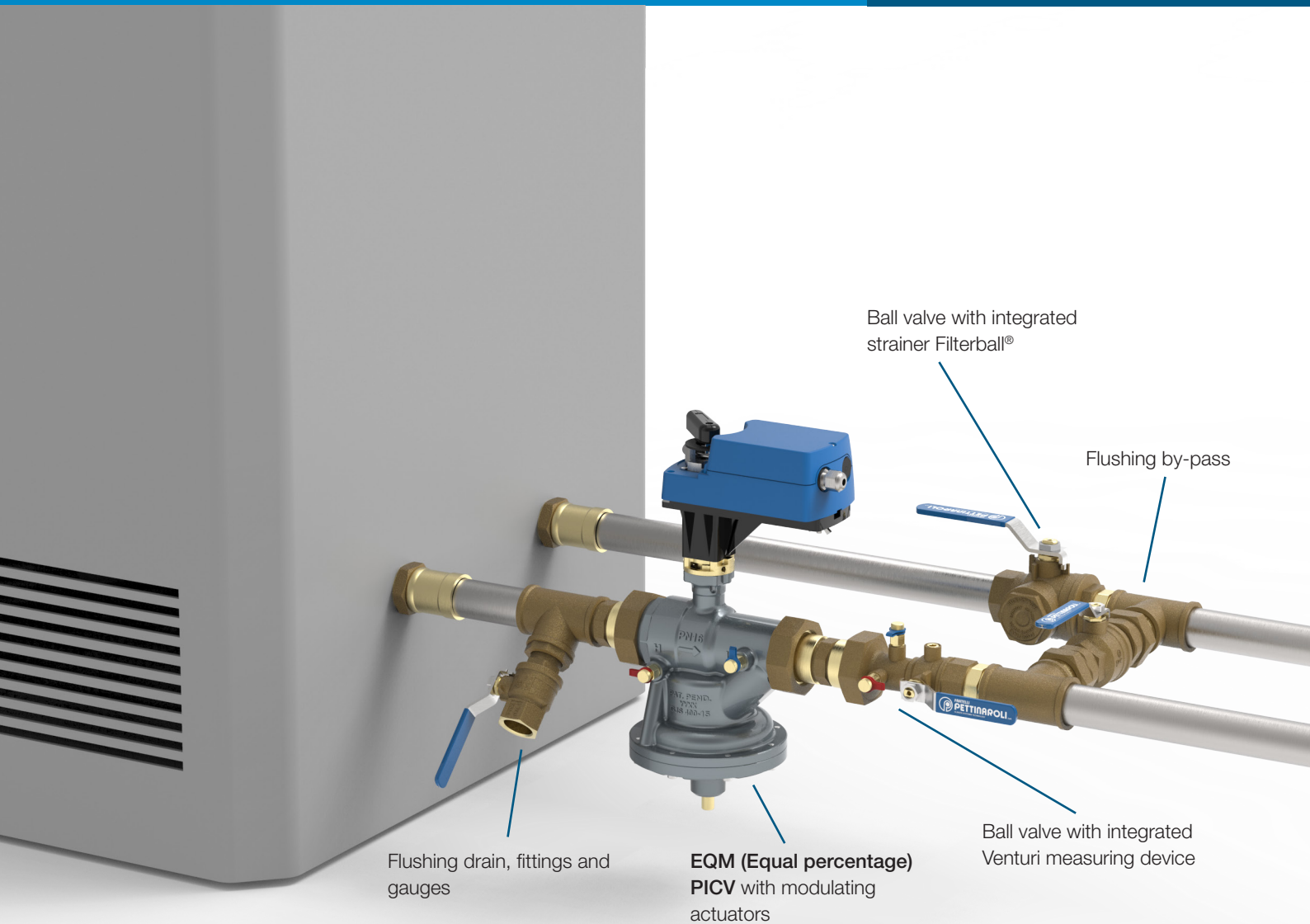
EQM (Equal percentage) PICV energy consumption: **3,9 MWh/y**

- **Continuous control at minimum suitable flow rate**
- **Energy savings**



----- Save now on your power costs! -----

## PETTINAROLI SOLUTION



And many other optionals: insulation shells, flexible hoses, unions, etc.

- - - **BIM files and technical support available** - - -