UNIVERSITÀ DI PAVIA

INFN Istituto Nazionale di Fisica Nucleare

# FTK: Pavia

## FTEs in FTK survey

- A. Lanza, HW Infrastructure (VME), 0.3 FTE
- P. Cova (ing. @Parma), Rack Temperature Simulation, 0.3 FTE
- N. Del Monte (ing. @Parma), Rack Temperature Simulation, 0.3 FTE
- A. Negri, Run Control and Monitoring, 0.3 FTE

Pavia, 27 February 2015

# Run Control and Monitoring

- FTK release
  - A package for each board type
  - Skeleton ReadoutModule library available for each package
- FTK release ported to tdaq-05-05-00
  - FTK-00-05-00, nightly and nightly-head
  - Updated FTK partition @lab4
- Next steps
  - Collaborate with developers to populate ReadoutMudule and to revise package architecture
  - Provide generic spyBuffer class
- Hot topic. DCS for VME
  - Combine effort with AUTH
  - Documentation study ongoing ...

# Stato dell'integrazione in USA15

# Rack layout and hardware availability

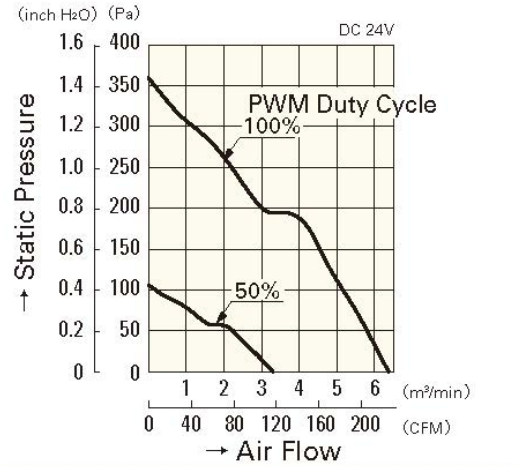
- One rack equipped with turbine cooling system and nominal 20kW power (Y.05-09.A2). All other racks should be equipped by March
- One rack (Y.07-09.A2) temporary modified (side panels removed) for hosting a horizontally cooled ATCA crate for fiber validation
- Fibers not yet put in final position. Storage boxes placed, lateral fiber trays available but not installed

✓ Two bins and two power supplies sent to Wiener for refurbishing. They should be back around Easter. At the moment only one bin and one power supply available and installed in Y.05-09.A2. They will be sent to Wiener for refurbishing as soon as the other two will be back

✓ CDF bin mechanically modified in the Pavia workshop to extend the rear cage to 28 cm. Capacitors on the 3.3V distribution on backplane replaced to allow the use of 48V. The crate will be moved to Cern by middle of March.

# Custom fan unit project

- Fan chosen and ordered: Sanyo Denki 9GV1224P1J011, 24VDC (for compatibility with the Wiener HB), 6.35 $m^3$/min max air flow [5.92 the HB], 360 Pa max static pressure [360 the HB], pulse sensor for speed monitoring [no HB], 25kHz PWM for speed control [no HB], expected lifetime 40k hours [35k for HB]. Cost in small quantities: 32.7 euro each (+ VAT)
- Mechanics under definition. It will be made by alu plates purchased in the Cern Stores
- Electronics to be defined: analog or digital monitor logic? PWM circuitry still to be chosen

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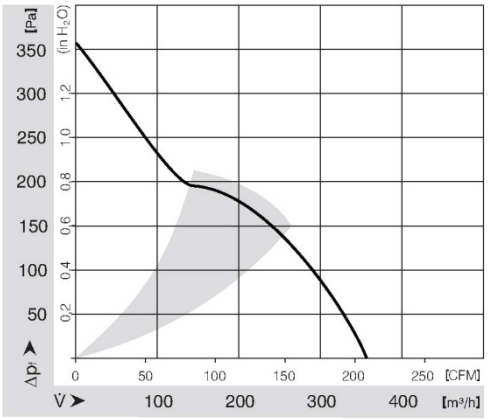


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# Thermal simulations of core crates and racks

✓ Ansys Icepack software requested to INFN CNAF. It should be available in April

✓ 5-licence pack ordered by CNAF, cost 3.6k euro + VAT. INFN Pisa required one licence as well, so cost will be shared

✓ When the package will be available, the plan is to verify the results got by IMEC on the single crate, then to simulate a crate with two fans (one on bottom and the second on top), and finally to simulate one full rack