

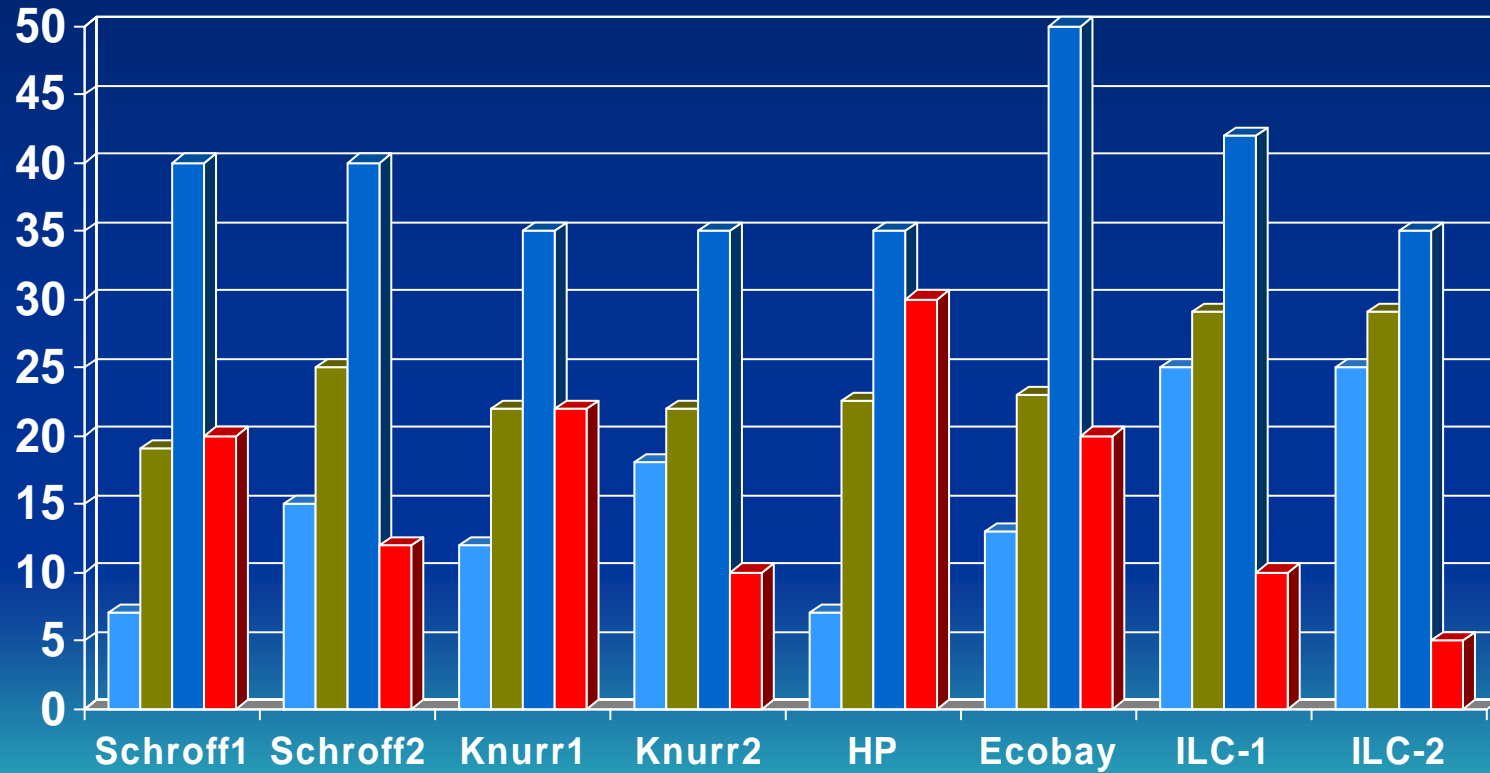
# ILC Linac HLRF System Racks

## Power vs. Water-Air Cooling

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# Water Cooled Racks Performance

■ Inlet Water C ■ Inlet Air C ■ Outlet Air C ■ Power kW



# Comparison with ILC Requirements

- Graph shows vendor data for different water inlet temperatures, internal temperatures, power ratings. For ILC we have specified a maximum of 25C for inlet water
- Knurr1-Knurr2 show that 6 deg C rise in inlet water temp to maintain outlet temp at 35C drops power handling capacity from 22 to 10kW.
- Extrapolation for ILC from Knurr2
  - ILC-1 Raise inlet water 7C to 25C, get 42C outlet air at 10kW
  - ILC-2 Lower power to ~5kW, get ~35C outlet air temp
- Conclusion: With 25C inlet water max power slightly less than 10kW at 40C outlet air, and approx. 5kW at 35C outlet air.