Τεχνολογίες Ψύξης

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Cooling topologies

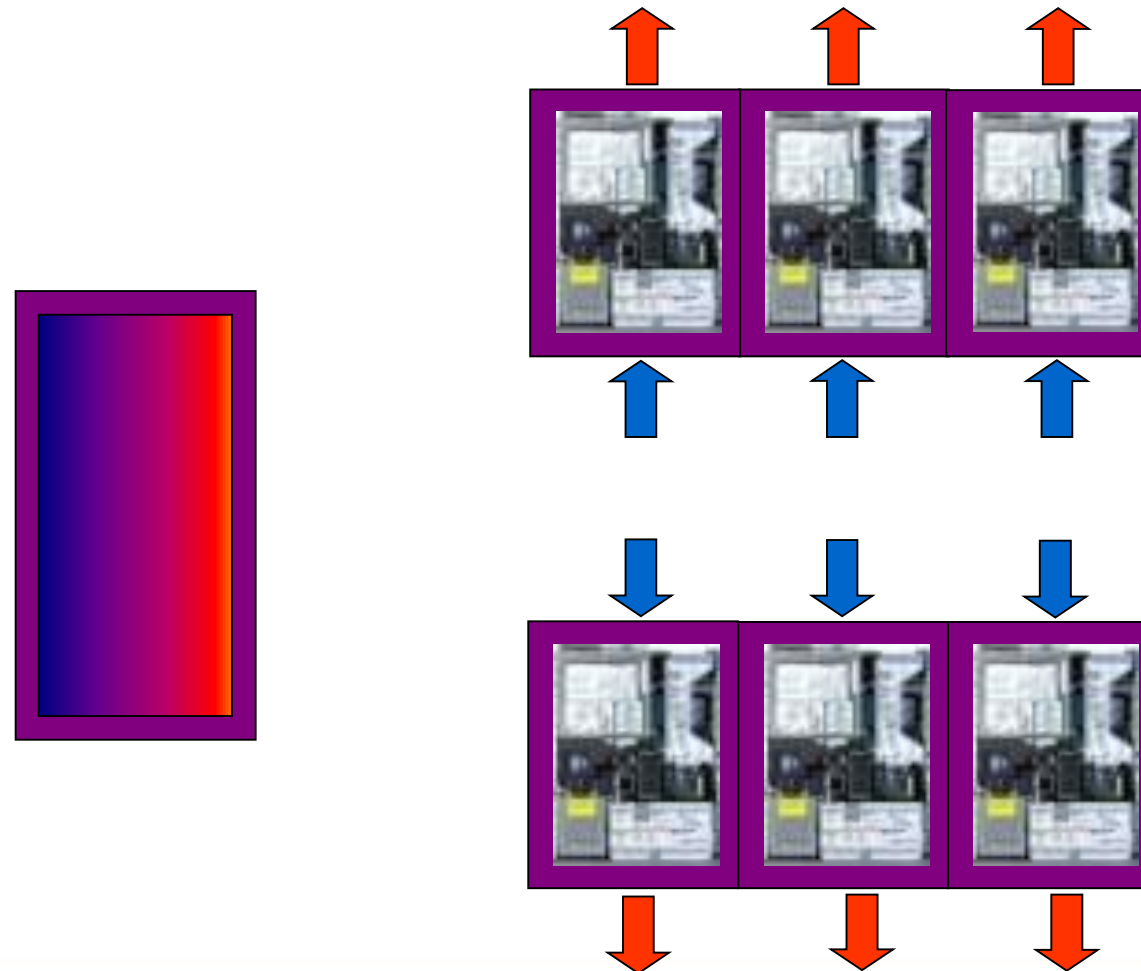**4 Basic Types**

Scalable DC: **Low Density**

Scalable DC: **Mid Density 1**

Scalable DC: **Mid Density 2**

Scalable DC: **High Density**

Cooling topologies

Scalable DC: Low Density

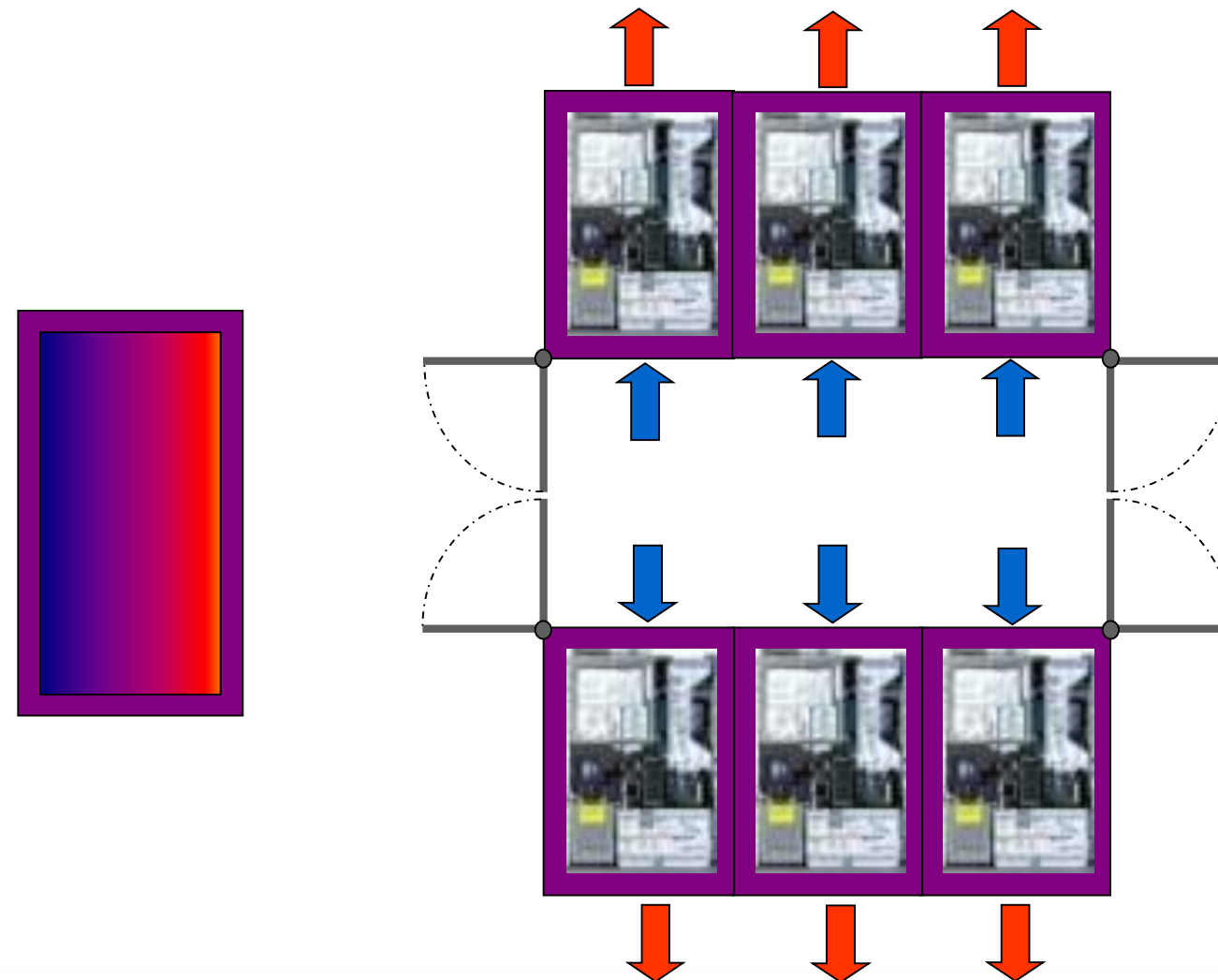Standard raised floor climatisation with downflow

Cooling topologies

Scalable DC: Mid Density 1

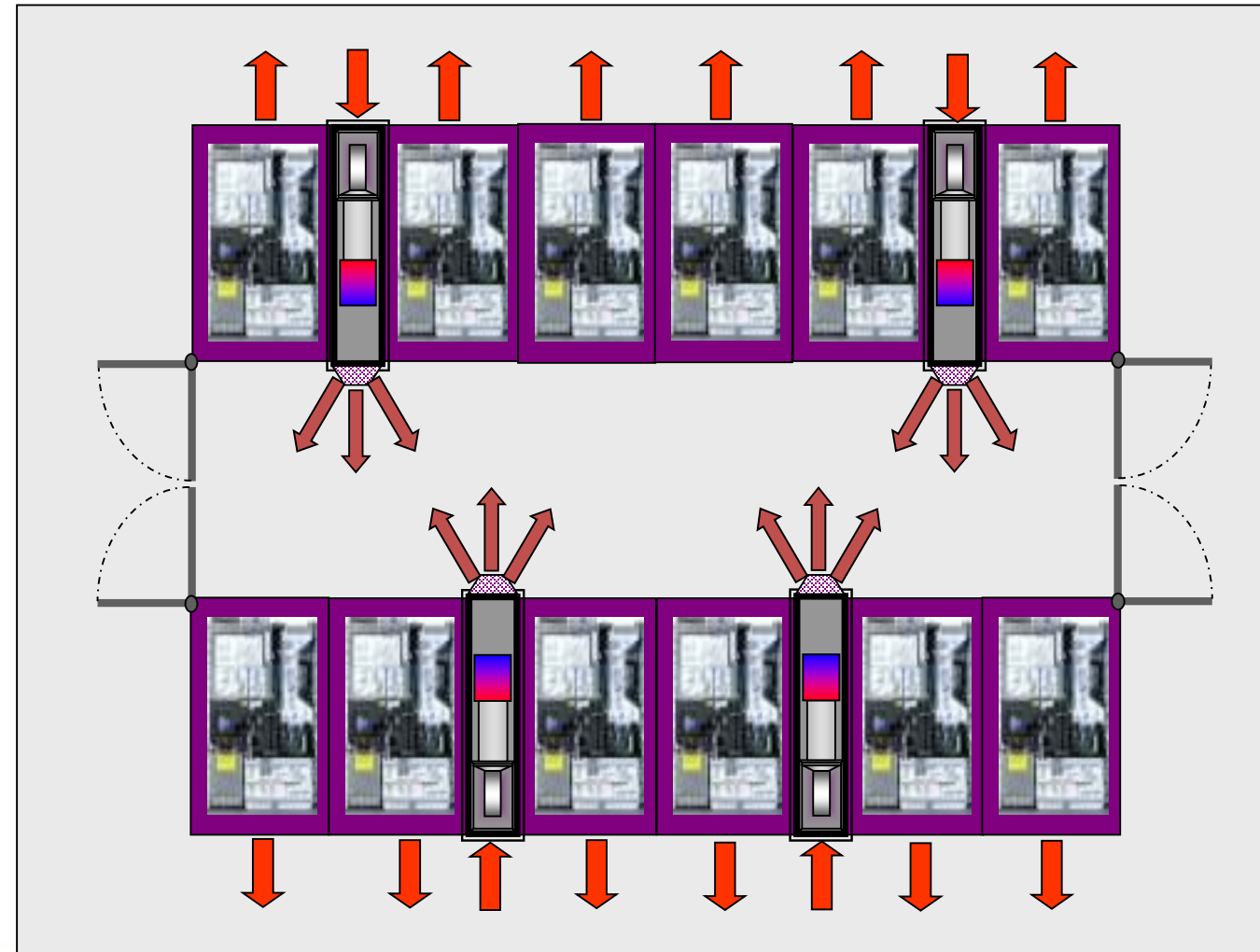Standard raised floor climatisation with downflow and aisle containment

Cooling topologies

Scalable DC: Mid Density 2

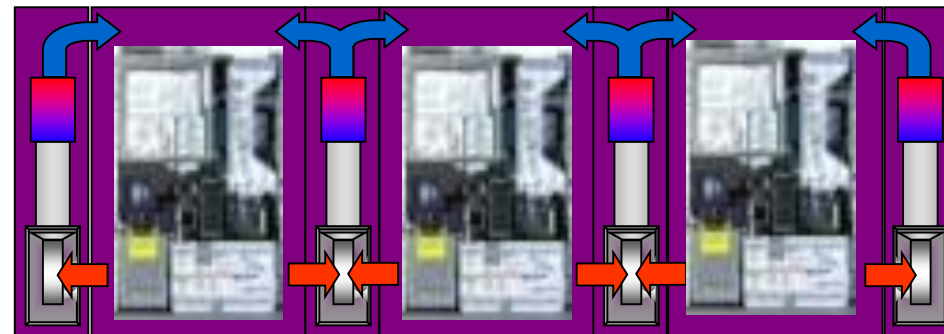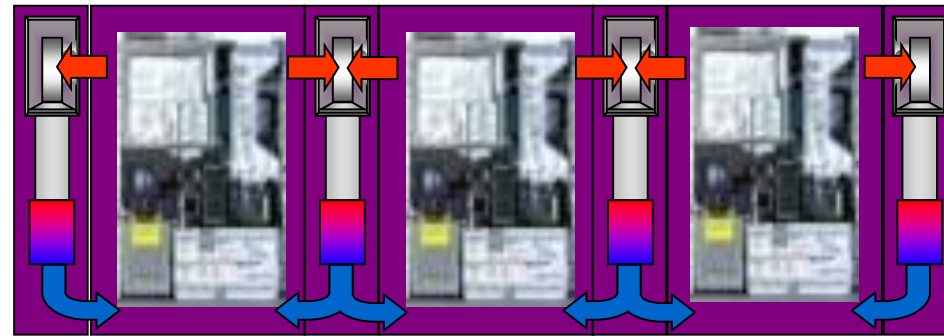Rowbased Cooling with:Aisle Containment and LCP Inline

Cooling topologies

Scalable DC: High Density
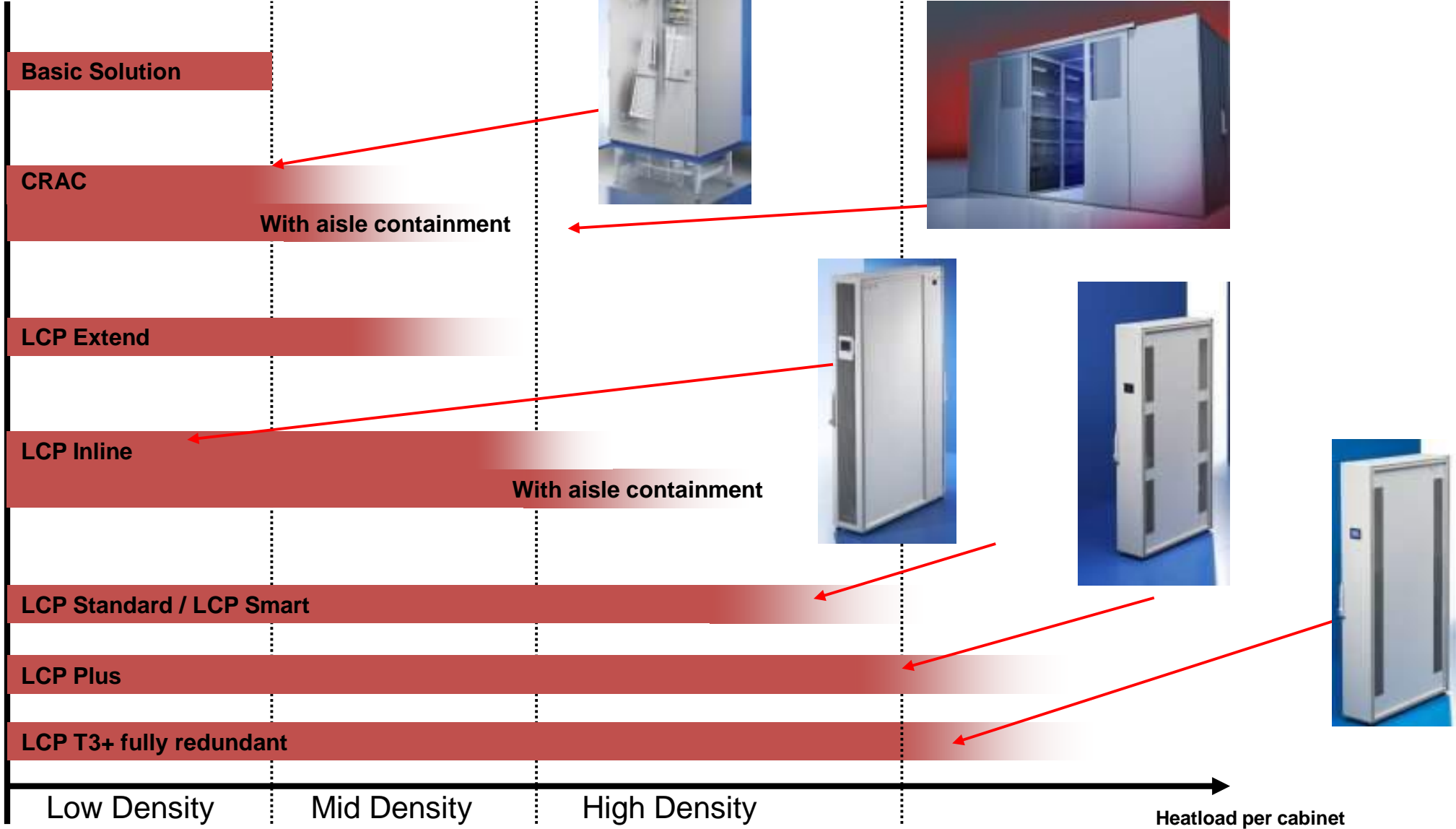
Rackbased Cooling with LCP

Perfect fit into The System
Complementary Technology

	Low Density	Mid Density	High Density		Heatload per cabinet

- Basic Solution
- CRAC — With aisle containment
- LCP Extend
- LCP Inline — With aisle containment
- LCP Standard / LCP Smart
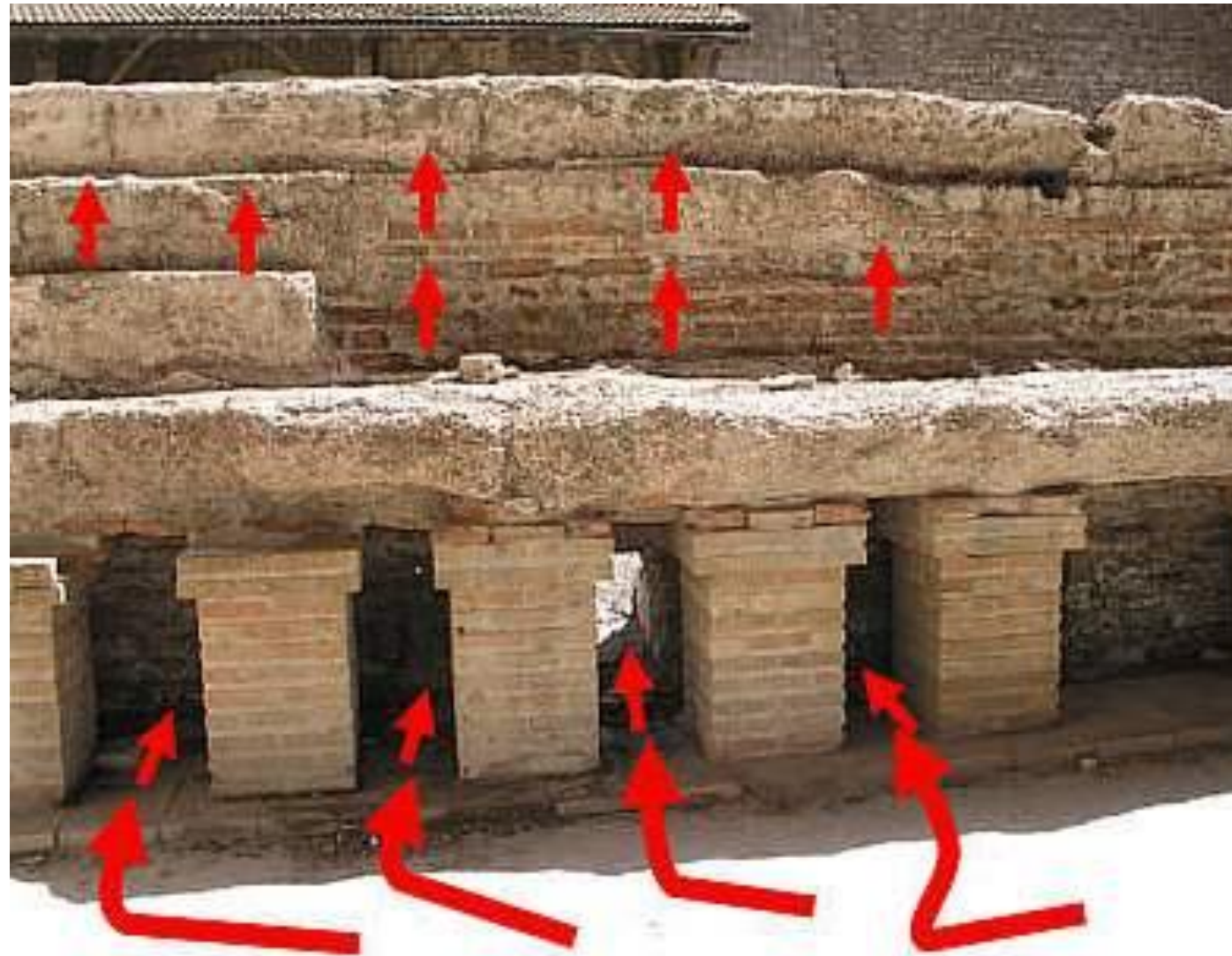- LCP Plus
- LCP T3+ fully redundant

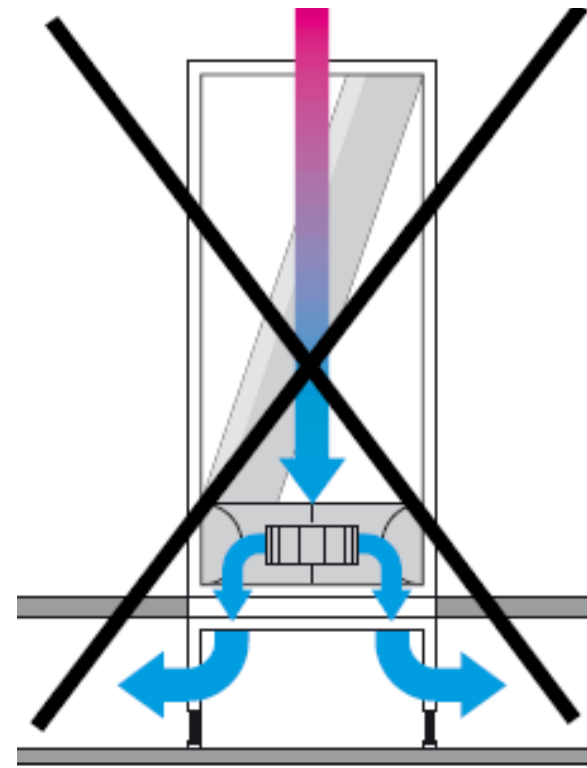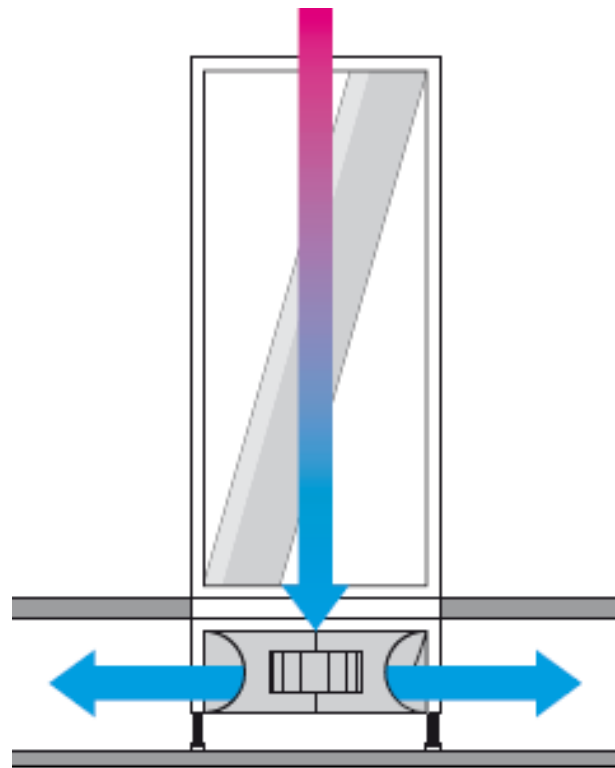# Best practices in cooling

Best practices in cooling

Old technologies!!!

Best practices in cooling

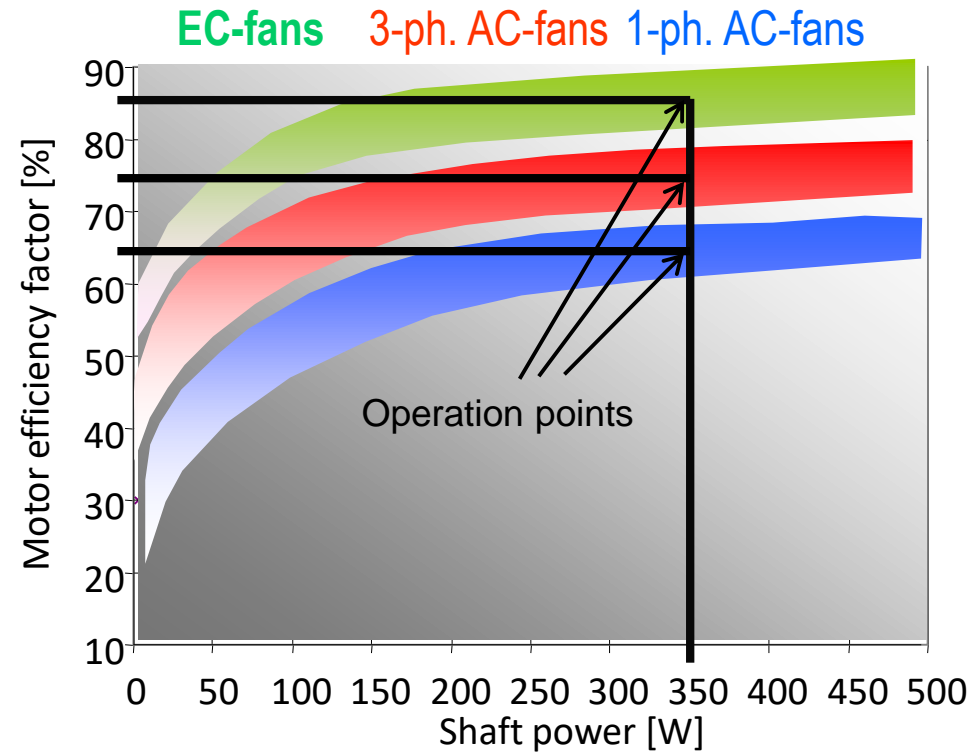## Downflow units VS Traditional

Airside pressure drop reduced due to moving the fan into the raised floor:

Energy savings around: 15 to 47%

Best practices in cooling

EC-FANS VS Traditional

Usage of EC-type fans:

Electrical energy saving up to 24% per se

Best practices in cooling

Water Temperatures

With bigger HEX you can increase water inlet temperatures – this results in increased free-cooling performance.

Best practices in cooling

- **With conventional room climatisation (downflow) or in-line without contaiment**

Assumptions:

- 26kW of installed equipment

- Room dim 10x4x5 (width x depth x height)

- 8 racks 800x1000x42U

- 20 C inside temperature

Results :

- Required cooling of the equipment 24 kW

- Required cooling for the room with ΔT=15C (inner –outer temp difference) 10 kW

- Total required cooling capacity of units: 34 kW
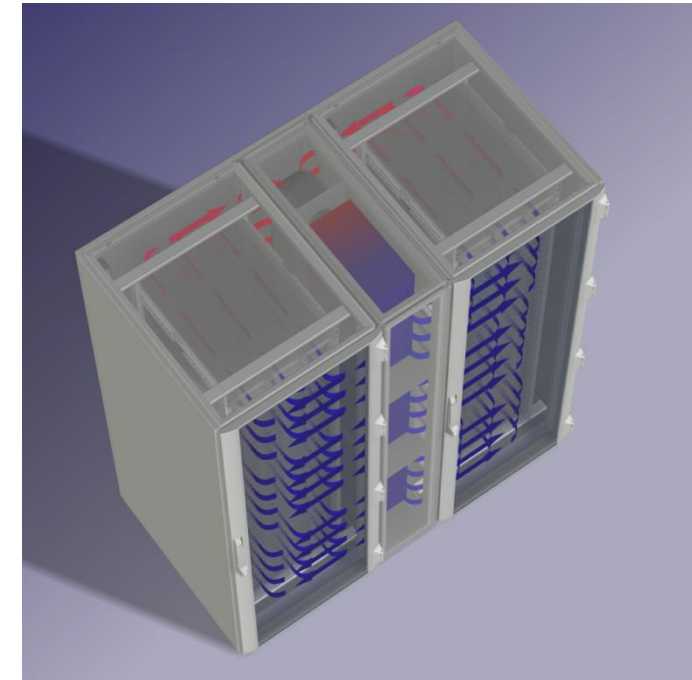
Best practices in cooling

- **With Rack –based climatisation**

Assumptions:

- 26kW of installed equipment

- Room dim 10x4x5 (width x depth x height)

- 8 racks 800x1000x42U (dim 6.4 x 1 x 2)

- 21 C inside temperature

Results :

- Required cooling of the equipment 24 kW

- Required cooling for the racks with ΔT=5C (inner –outer temp difference) 3 kW

- Total required cooling capacity of units: 27 kW

- Energy saving 20- 25%

Ευχαριστούμε πολύ!!