High-rise pumping matters

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Why this topic?

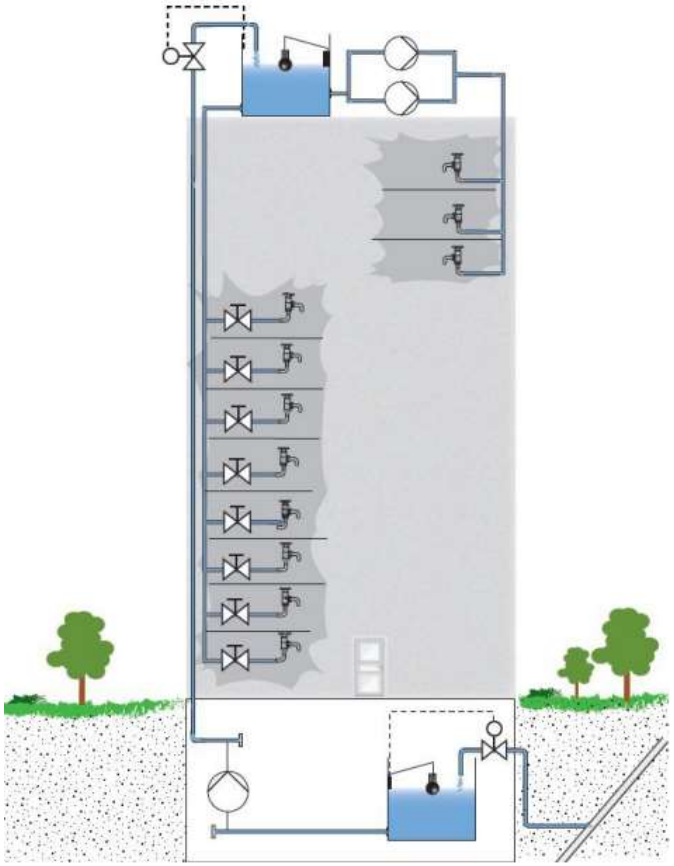
- High-rise buildings on the increase, across the country
- Buildings are taking on increasingly diverse roles – vertical cities
- M&E solutions need to become more integrated at an early design stage
- Need to build in futureproofing
- The impact of digitalization

We will share how you can design-in less complexity, less cost and achieve better overall outcome

MAGNA3 is more than a pump

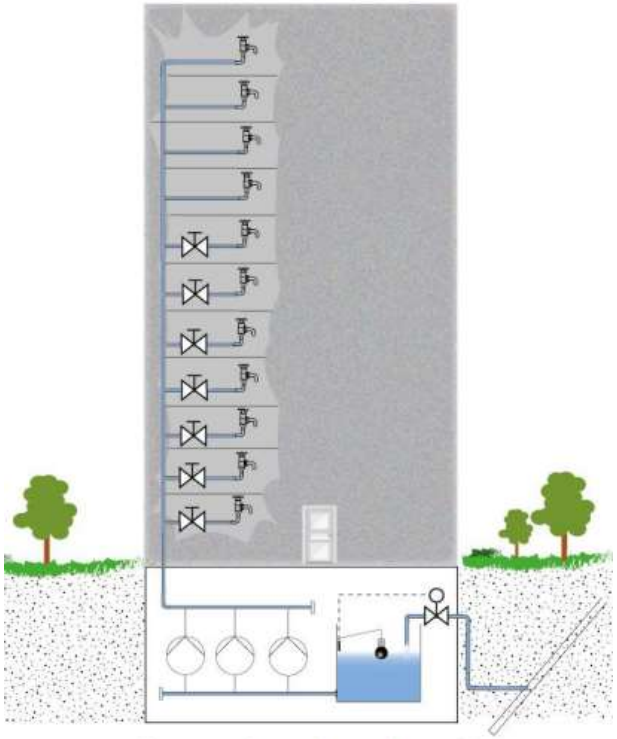
2 Water Boosting

2 Water Boosting – Roof Tank



- Mature technology
- Small booster required at roof to boost upper levels
- Reserve capacity in the tank
- Higher cost than single zone system
- Structural engineering for roof tank
- Tank maintenance
- Water quality – bacterial growth
- PRV required on lower floors
- Pumping past the point of use

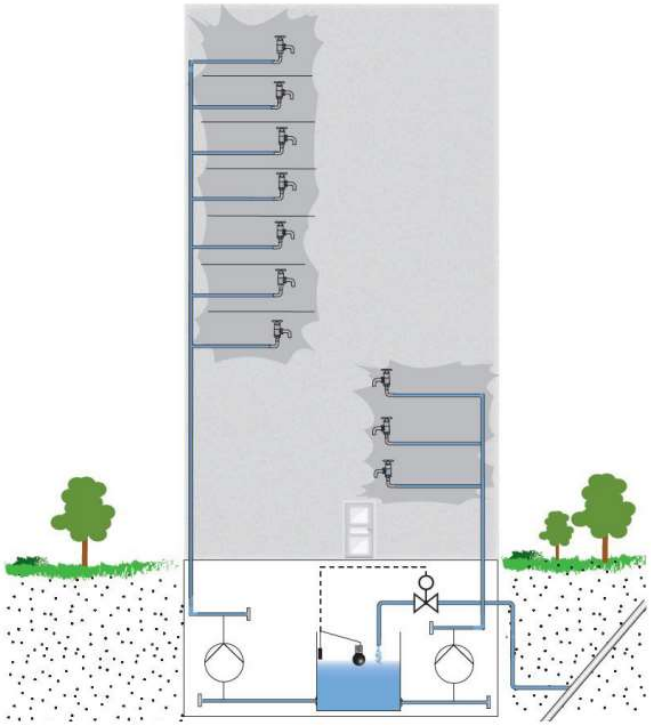
2 | Water Boosting – Direct Boosting



Building with one branch per floor

- Simple design
- One riser required
- No space required on upper floors
- Excess pressure on lower floors in buildings exceeding 10 floors

2 Water Boosting – Zone Divided

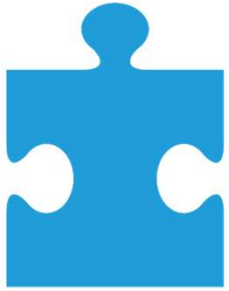


Zone-Divided System

- Manageable pressure zones
- Increased flexbility and security due to zoning
- No space required on upper floors
- Low cost operation due to no residual pressure

- Higher initial cost
- Higher static pressure in upper zones

2 | Water Boosting

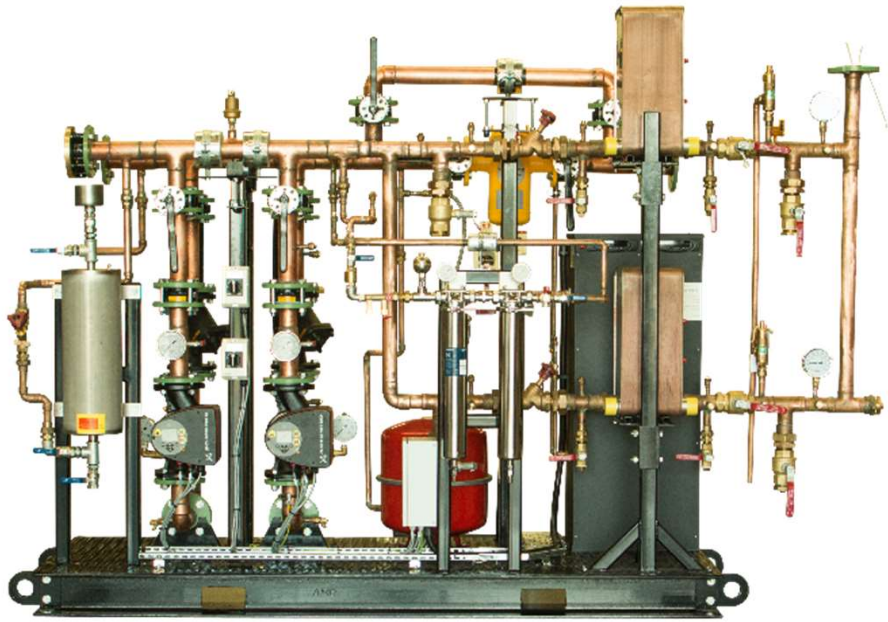


Considerations

Flexibility
Real Estate on mid levels
PRV Valves
High pressure fittings and pipework
Energy efficiency
Tank Maintenance
Water Quality
Power Outages
Mains pressure – is it forever
Complex Controls
Mature technology
Structural engineering for roof tanks
Space
Standard vs Special system

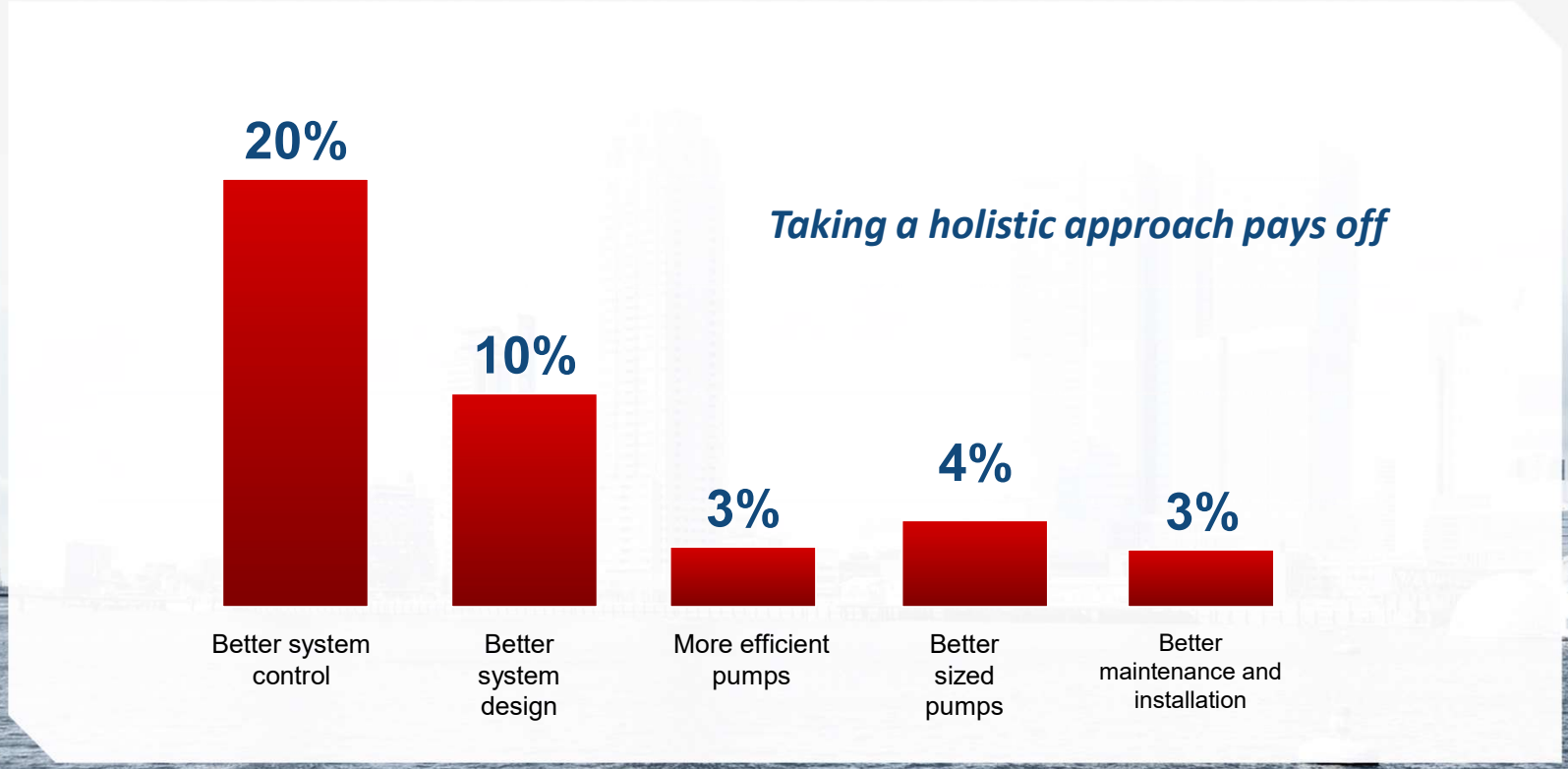
4 Off-site Build

- **Health and safety**: Factory conditions are 80% safer than site conditions
- **Cost:** Site labour is approximately 2.2 times more expensive than factory based labour
- **Productivity:** factory productivity reaches 80% compared with 40% for a typical site
- **Sustainability:** Waste is reduced to just 2-3% in efficient factories and almost all can be recycled



5 Digitalization

- With Cloud based systems you are able to **monitor, control, quickly react to alarms** and optimise all the components in your HVAC, Boosting, Fire and Commercial Hot Water system.
- Unlike current building management systems they enable easy-to-understand user interface, such as phone apps.
- The **built-in control algorithms** make sure that your system is constantly securing the highest amount of comfort while using the minimum amount of energy.

Efficient pumping in heating, cooling and water boosting applications

Energy optimisation - potential in pumping systems