Fan Wall/Array

To use it or not to use it ... that is the question. And, by the way, what is it?
Let’s focus on air handling units....

When they break their effects are usually pretty immediate.

Repairs can be costly and possibly take some time.

And if they are of significant size then they are...
Considering that a 70 hp fan motor can weigh in excess of 500 pounds and a 150 hp fan motor can weigh in excess of 900lbs....

Picture courtesy of Siemens
This may be your only option.

A “great” way to “hang around” on a Saturday...

And it comes with friends...

Building permits  City Permits  After hours work  Safety plans  Police services  New access to the mechanical room
Now, there is another option available...

Fan Wall/Array

Actually, they have been available for more than twenty years.

First used in cleanrooms they have now been used successfully in all other building applications
A fan array is a combination of direct drive smaller fans stacked to create a wall of fans. This wall replaces a conventional single fan.

Other names you may have heard:
- Fan Wall
- Fan Matrix
- Multi-fan

Picture courtesy of Longhill Energy
A typical squirrel cage or vane-axial fan will draw air mainly from the centre of the coil(s) or filter.
A fanwall/array utilizes the entire surface of the coil. This maximizes:
- Heat or cooling transfer (laminar flow)
- Reduces pumping energy

A fanwall/array may increase unit efficiency as much as 40%.
**Redundancy**
Due to there being multiple fans, if one fan were to fail the other fans would speed up to compensate for the loss minimizing fan downtime during occupied times. Backflow dampers are available to prevent the air from re-circulating through the broken fan.

**Repair**
Replacement fan assemblies can be scheduled at a convenient time and can generally take less than a couple of hours by two people and a minimum of tools.
VFDs
The fans can all be run by one Variable Frequency Drive (VFD) or there can be individual VFDs for each fan.
When Size Matters....

It can be a better fit...
If a picture is worth a thousand words imagine how many words are in these videos (Please note: we are just using these for information purposes. We are not suggesting that these are the only vendors available.)

**Information**


**Construction**


Videos courtesy of Longhill Energy