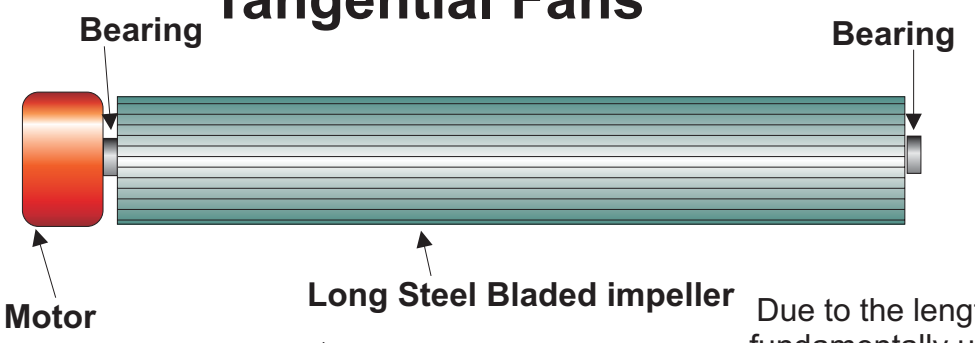
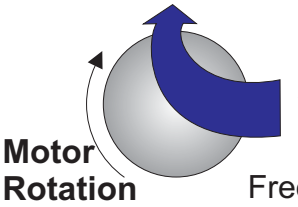
Technical Brief

Selection of Fan is critical

Tangential Fans





Due to the length of the impellers, it is fundamentally unbalanced, collects dirt due to the vanes cutting the air, and with motor weight on one bearing, and none on the other bearing, bearing wear and noise is problematic.
Free convection can occur through the blades also, and due to non aerofoil tips on blades, fans are very noisy.
Tangentials are primarily used in cheap fancoils, or in large commercials where rotational speed can be greatly reduced by using much larger diameter fans. These are cheap air movement devices which have applications, but are not suited to our application.

Backward Curved Impeller

Backward curved operate like a millwheel going backwards. They do not directionally blow air, rather they generate pressure equally in all directions and therefore no scroll housing is needed. As the motor and impeller are all one, they are lifetime balanced, and as the tips are both aerofoil moulded and turning backwards, there is no dirt pickup and very little noise.
They are also impedance protected, and can be spun backwards or indefinitely jammed while powered with no effect whatever.
These are selected for our application and used in an unconventional configuration to ensure that when stopped, there is zero convection, thus eliminating the need for water valves.