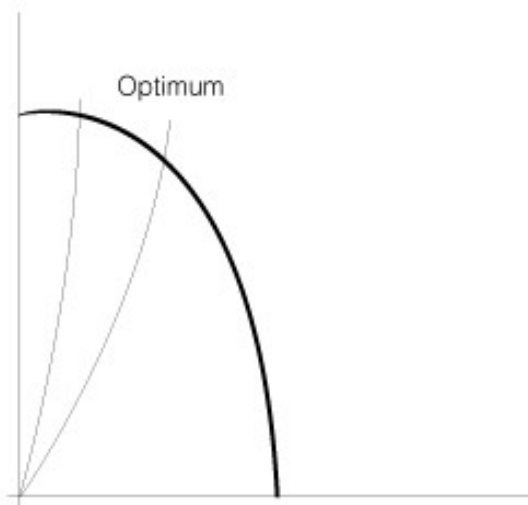


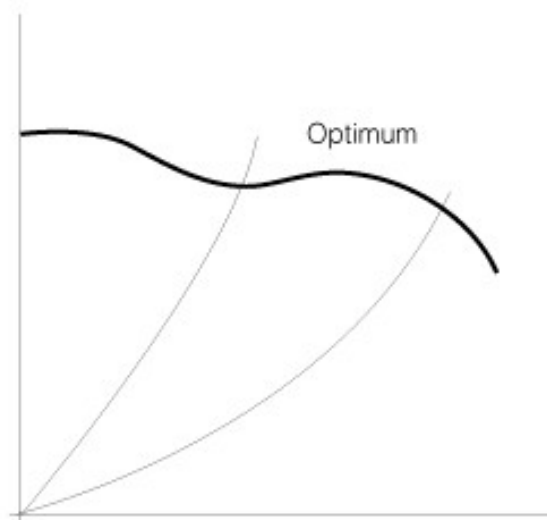
Forward curved centrifugal fan application

Forward curved centrifugal fans can only operate effectively with the use of a scroll. There is a high kinetic energy in the air stream off the impeller that is converted to useful static pressure by the scroll. Forward curved impeller/motors are available without a scroll but is intended that a scroll be fitted around the impeller, possibly incorporated within the application.

The peak efficiency and therefore the optimum point vary depending on whether the impeller is narrow or wide. They generally tend to be high up the pressure curve and therefore these forward curved centrifugal fans are typically be used for high-pressure applications.

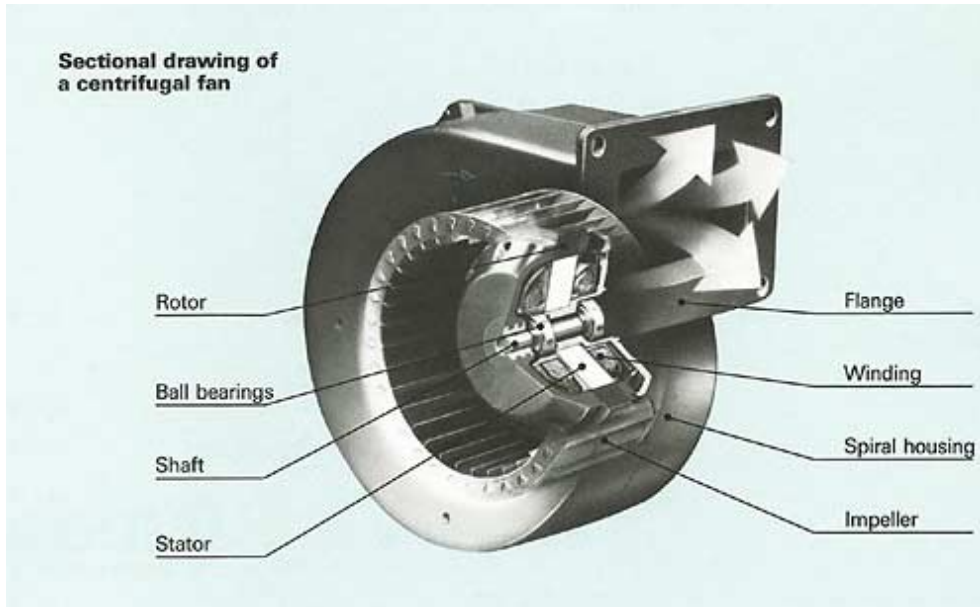


Typical forward curve fan curve with narrow impeller



Typical forward curved fan curve with wide impeller

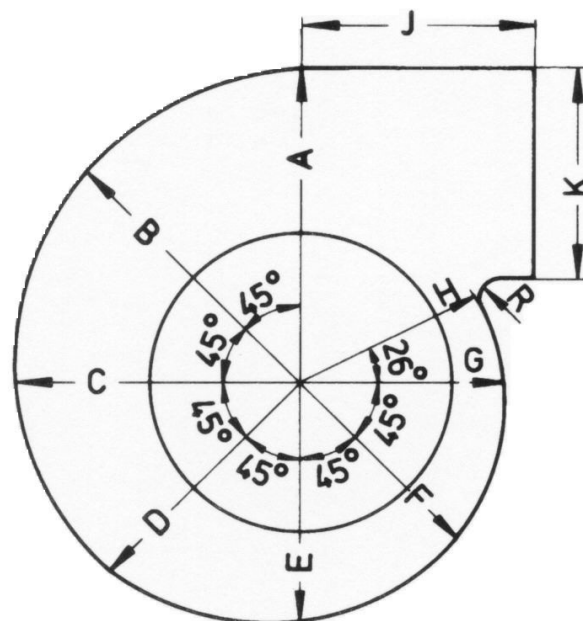
Key components



A picture showing key components of a forward curve blower

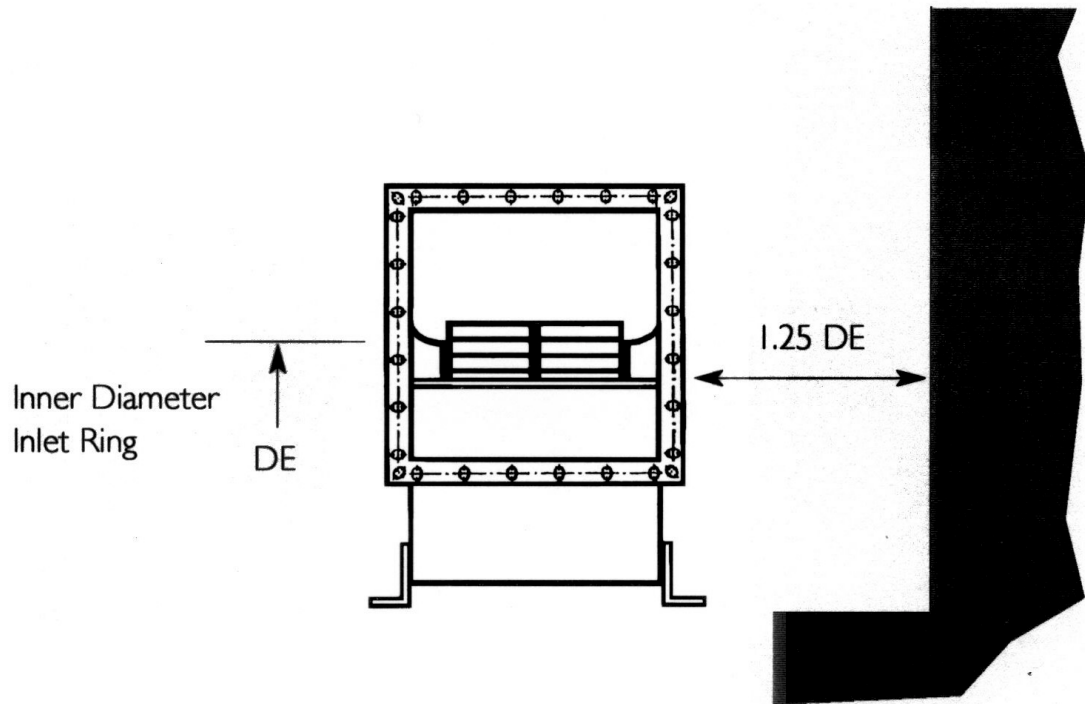
The best performance of a centrifugal forward curved is achieved with a scroll. It also requires the use of an inlet ring to guide the air into the eye of the impeller. The same comments for the backward curves apply here. The impeller could be used without an inlet ring, just a plain round hole, but there will be a reduction of performance in the region of 6%.

If it is intended to incorporate the scroll into the application then the fan manufacturer should be able to advise on the required dimensions.



Sketch of forward curved scroll

Forward curved centrifugal fan layouts and minimum distances



Sketch showing minimum distances