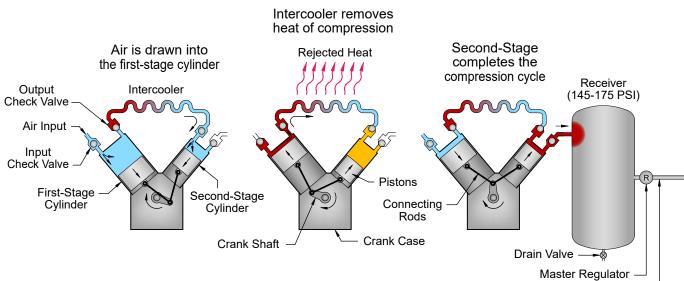
## **Technical Bulletin 20**

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## So, Why a Two-Stage Compressor? . . . Efficiency Simply Stated: Two-Stage Air Compressors Produce More SCFM Per KwH Used.

by Brian S. Elliott

There is a reason that two-stage compressors are the preferred choice for most small businesses. They are considerably more efficient than their single-stage counterparts. Simply stated, they produce more SCFMs of compressed air per KwH used. The way that these compressors accomplish this is to compress the air in two distinct stages. The first stage generally pumps the pressure up to about 35 PSI. The output of the first stage is cooled through an intercooler. Cooling the first-stage air allows a densified charge to be delivered to the second stage. The second stage then pumps the air up to about 175 PSI, which is then directed to the receiver. The system's efficiency can be further improved by adding an aftercooler between the output of the second stage and the input of the receiver. The illustrations below show the basic steps of compressing air in two stages.



Output to Shop (90-120 PSI) —

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