

VARIABLE PIPE DIFFUSER FOR CENTRIFUGAL COMPRESSOR**ABSTRACT**

A variable pipe diffuser is disclosed for use in a centrifugal compressor. The variable pipe diffuser includes an outer ring and an inner ring which is rotatable circumferentially within the outer ring between a first, open position and a second, closed position. In an open position, complementary air channel sections of the inner and outer rings are aligned with one another to allow a maximum flow of refrigerant through the diffuser. In a closed position, the flow channels of the ring sections are misaligned and the flow of refrigerant through the diffuser is restricted. By adjusting the diffuser rings toward a closed position, surge conditions can be avoided even in the case where a high compressor pressure ratio is required.

Figure 2