KIENE
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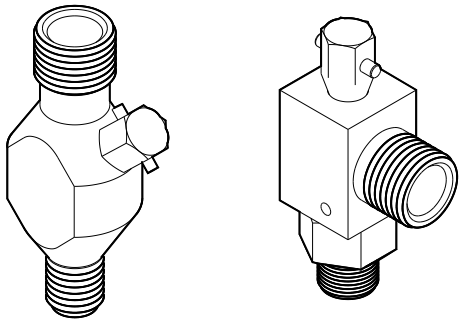
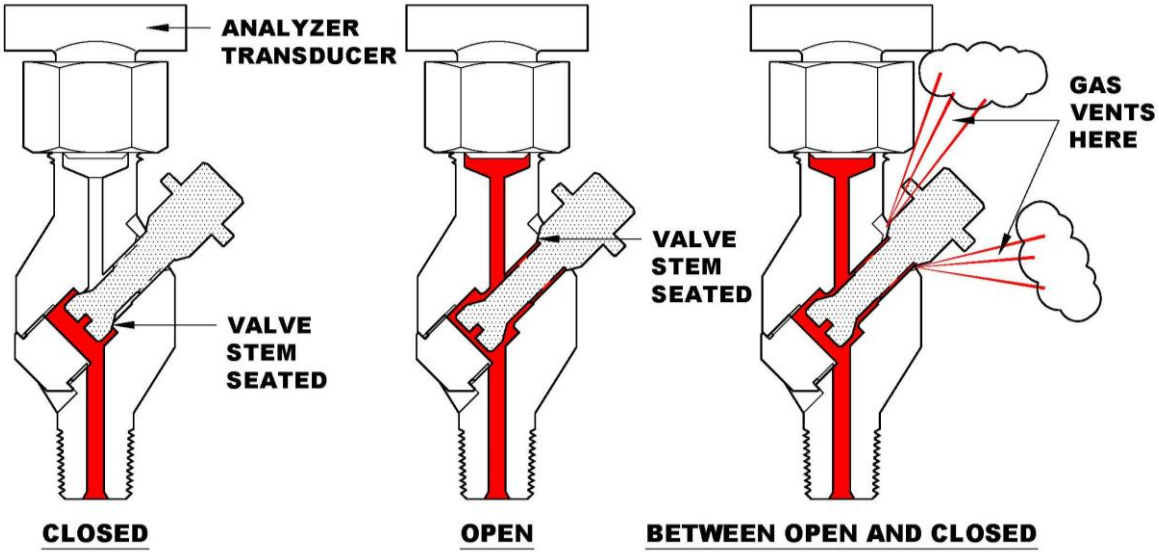
CHOOSING THE CORRECT KIENE INDICATOR VALVE FOR COMPRESSOR APPLICATIONS

Kiene Diesel's V-Line and A-Line valves - including the V-10 and V-44 - were developed for use on diesel engines. They have small passageways and all-steel construction. This makes them ideal for use natural gas engine power cylinders. However, they are also often used for compressor cylinder applications - but they are not suitable for this. The V-Line and A-Line valves should be limited to power cylinder applications.



KIENE V-LINE AND A-LINE VALVES NOT IDEAL FOR COMPRESSORS

There are two reasons that V-Line and A-Line valves are not ideal for use on compressors. The first is a safety issue. Due to their all-steel construction, these valves have no packing. As a result they vent gas to atmosphere as they are opened or closed as illustrated below. While acceptable for power cylinders, this can create an unsafe condition on gas compressors.



Second, the passageway in the V-Line and A-Line Valves is not a straight-through flow path. As shown in the above graphic, the valve stem interrupts the flow path in these valves. This causes distortion of the pressure signal as it travels through the valve which can affect the compressor analysis results, particularly at higher compressor speeds.

Fortunately, Kiene has available a number of valves that are designed specifically for use on compressors and that solve the issues described above. These valve models are discussed in order of preference.

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CV-SERIES FULL OPENING BALL VALVE

This valve is the preferred choice for compressor applications. First, and most importantly, the CV-Series valve do not vent gas to the atmosphere during opening/closing. In addition, the ball valve configuration and integrated indicator connection provide a smooth, straight-through flow path which minimizes the effects of channel resonance. Finally, the CV-Series valves are very compact, have an easy-to-use quarter turn open/close, and are equipped with a vent valve to relieve pressure prior to removing the transducer. This valve has been very popular with compressor analysis personnel. The CV-72 is rated for a maximum pressure of 2000 PSI at a temperature of 250 degrees F.

The CV-Series valves are usually our first choice for compressor applications. So when choosing an indicator valve, start by checking to see if the expected pressure/temperature is within the CV Series' pressure/temperature capability.

KN-22 NEEDLE-TYPE VALVES

Our KN-Series valves were developed in order to meet those situations where the pressure and/or temperature are too high for the CV-Series Ball Valve. KN-Series valves are rated at up to 4000 PSI (please see attached data sheet). They are a needle-type design although they are unusual in that they have a straight through flow path in the open position---most needle-type valves have a Z-shaped flow path which can cause distortion in the pressure signal. KN Series valves also have an integrated indicator connection. As with the CV-72, this minimizes the effects of channel resonance and other distortion and provides a compact form. As with the CV-Series valves, the KN-series valves do not vent gas to the atmosphere.