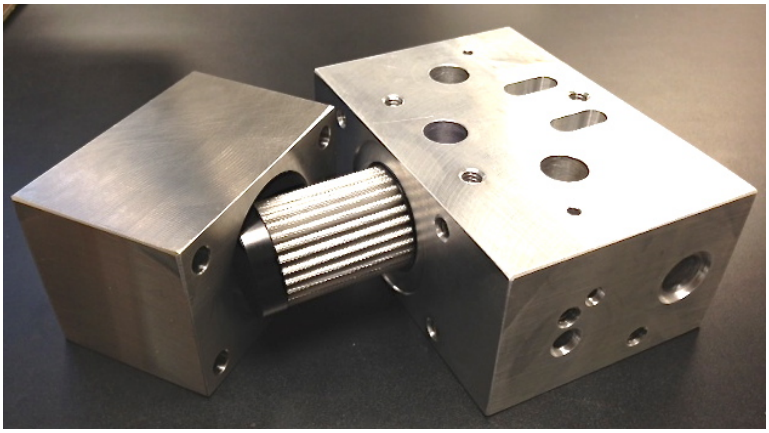
SPECIAL DESIGN FEATURES

INTEGRAL FILTER

All new models include an integral filter in the drive air manifold. This is not a primary particulate filter. The purpose of this filter is to capture any particulates that may remain in the piping or components between the primary filter and the booster during initial system packaging. It also prevents contaminants from entering the booster during installation of replacement or rebuilt boosters.



GAS COMPRESSION SYSTEMS

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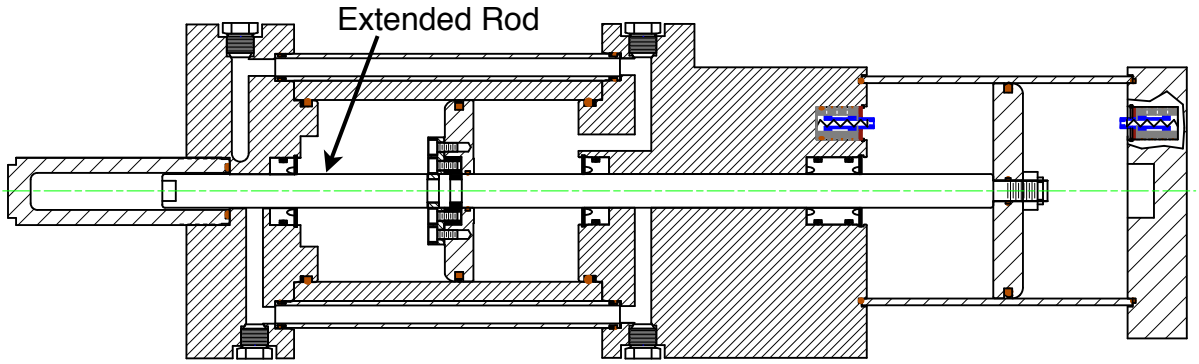
SPECIAL DESIGN FEATURES

EXTENDED ROD

The gas boost piston pressurizes gas in both directions of stroke. One side of this piston is attached to the piston rod. Due to the volume of the piston rod, the volume of gas compressed on the rod side of the piston is lower than the volume compressed on the opposite side. This causes the booster to cycle unevenly and increases the amplitude of the pressure pulsations produced by the reciprocating action of the booster. Furthermore, the force required to compress gas on the piston rod side of the piston is lower than on the opposite side due to the area of the rod. At high gas pressures, high drive air pressure is required to overcome this force difference and enable the booster to cycle at an acceptable rate. Gas Compression Systems developed an extended rod design to overcome these problems.

The 28 MPa, 40 MPa and 55.2 MPa models have the extended rod feature shown below. This feature is optional on the 20 MPa models because the problems described above are usually not important at lower pressures.



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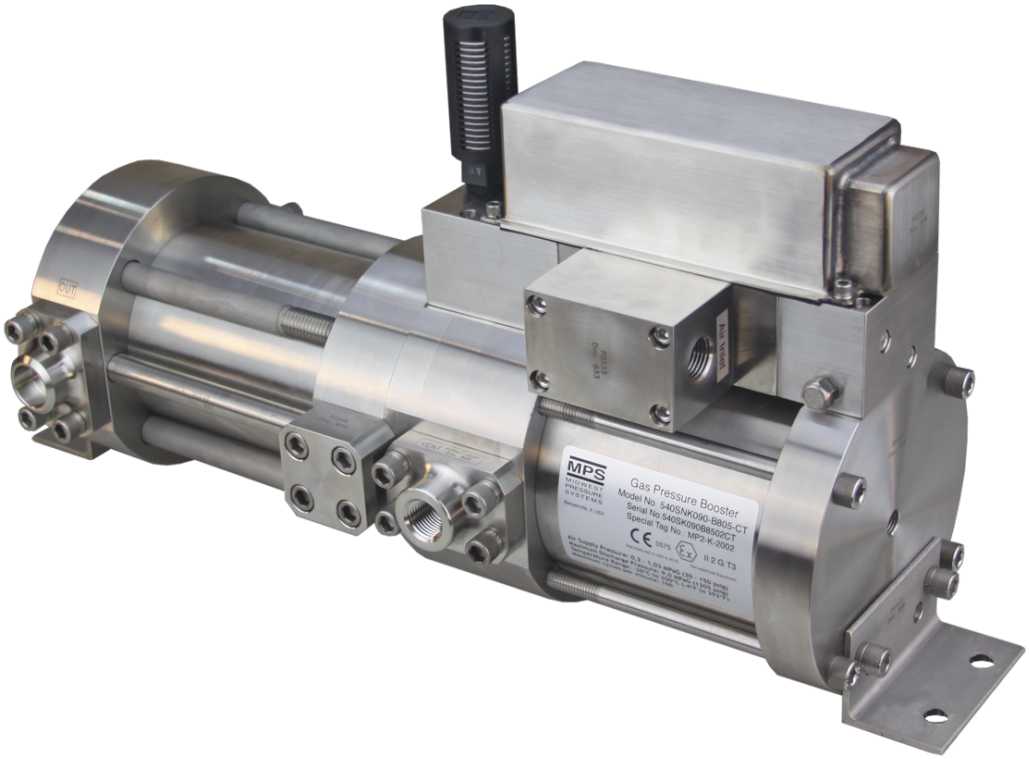
SPECIAL DESIGN FEATURES

5 INCH DRIVE

Standard GCS boosters have a 4 inch diameter drive piston. The boost ratio is determined by the area ratio of the drive and boost pistons. The boost ratio determines the maximum gas discharge pressure. If the drive air pressure is low, a larger diameter drive piston improves booster performance by increasing the boost ratio. In other cases, a high boost ratio and high flowrate is required and it is beyond the capabilities of a single standard 4 inch drive model. GCS developed a 5 inch drive design that can be used to meet these unique application requirements. The 5 inch drive can be combined with the 4 inch boost piston (shown below) or the 3.375 inch boost piston.



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