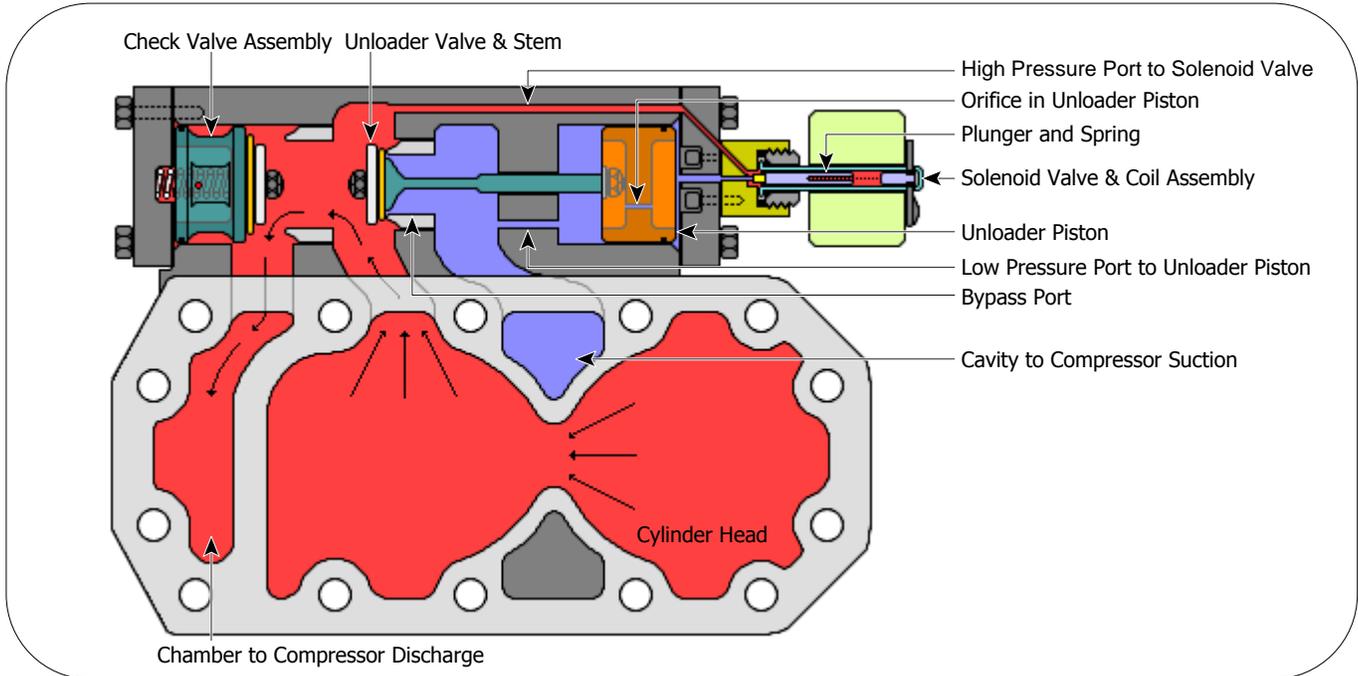


**Trane  
R Model Compressors  
Unloading Characteristics**

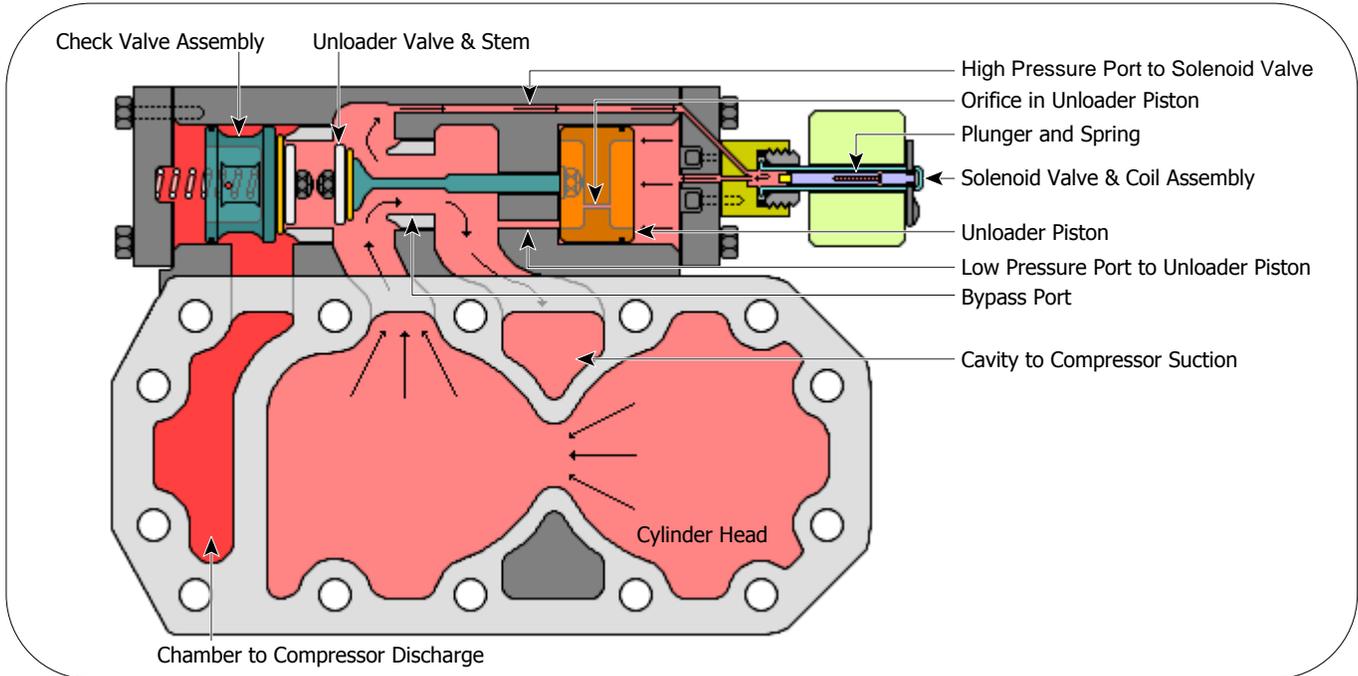
**Loaded - De-energized**



With the solenoid valve closed suction pressure is imposed on both sides of the unloader piston. There is a port machined in the unloader head casting which communicates the unloader piston cavity to the compressor suction. Gas pressure that was on the solenoid valve side of the unloader piston, during the unloaded phase, escapes to the low side by means of an orifice drilled in the unloader piston. Gas pressure that is discharged from the cylinders is imposed on the unloader valve and the valve and stem assembly is forced towards the solenoid valve which closes the bypass port. As high pressure gas is discharged from the cylinders the discharge port check valve assembly is forced open and the high pressure gas is circuited to the compressor discharge. The cylinders are now loaded.

**Trane  
R Model Compressors  
Unloading Characteristics**

**Unloaded - Energized**



When the solenoid valve is energized a port is opened within it that allows high pressure discharge gas to flow into the unloader piston cavity. The unloader piston and valve/stem assembly are forced away from the solenoid valve opening the bypass port. Gas that is discharged from the cylinders now flows through the bypass port to the suction side of the compressor. This lowers the pressure in the cylinder head and the discharge port check valve closes due to its spring pressure and discharge pressure from the remaining loaded cylinders. Gas within the cylinder head only is bypassed to the suction side of the compressor. The cylinders are now unloaded.