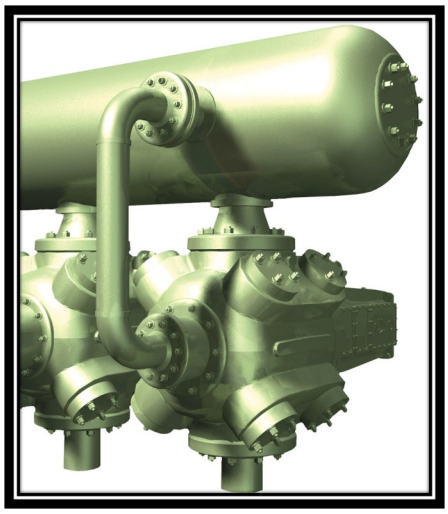
SimPlex & DuPlex Unloaders

SimPlex™ and DuPlex™ Head End Bypass Unloaders



Head end bypass systems offer unique unloading abilities that provide versatility and economy not possible with other types of reciprocating compressor unloaders. ACI's SimPlex™ and DuPlex™ devices provide efficient, front head end deactivation utilizing external bypass piping.

The gas bypass arrangement provides efficiency advantages by avoiding interfering with valve performance.

- Finger-type unloaders always negatively affect valve performance.
- Radial valve unloaders always add additional fixed clearance.
- Plug-type unloaders either affect valve performance and/or add additional fixed clearance.

The DuPlex™ device additionally incorporates a useful clearance volume pocket for applications that may require partial head end unloading as well as total head end deactivation.

ACI's bypass unloaders are applicable to both new OEM cylinders and to reapplied compressor cylinders. Device actuation can be either manual or pneumatic (air or gas).

Contact ACI to review the advantages of integrating SimPlex™ and/or DuPlex™ unloaders into new and existing applications.

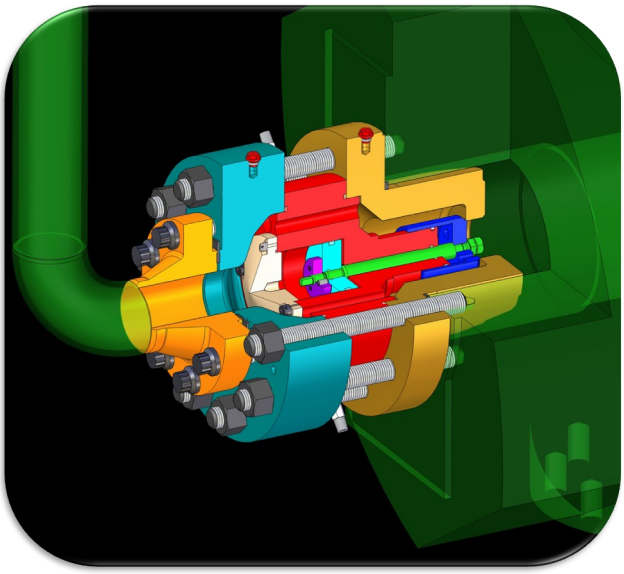
Photo courtesy of Waukesha Engine

ACI Services, Inc.

Reciprocating Compressor Experts

125 Steubenville Ave. • Cambridge, Ohio 43725
Phone: (740) 435-0240 • Fax: (740) 435-0260
Visit our websites: www.ACIServicesInc.com
www.CompressorConnection.com

The ACI SimPlex™ Unloader

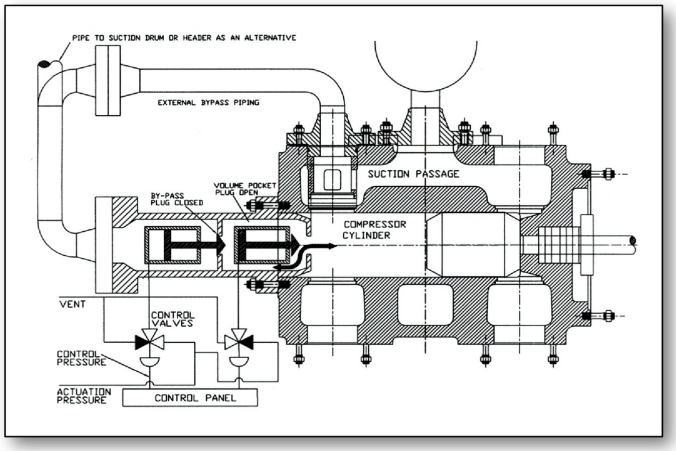


ACI SimPlex™ unloaders offer a simple and economical approach for compressor cylinder front head end deactivation. The system utilizes external bypass piping combined with a new ACI style front head designed to replace the conventional cylinder head. Head end compression chamber gas is bypassed back to suction pressure for complete head end deactivation. Typically, the bypassed gas is routed to suction through a special ACI design valve cap, or alternately to the suction drum or suction header of the unit.

This bypass concept provides efficiency advantages by eliminating the need for suction valve plate depressors (finger unloaders) or plug type suction valve unloaders often used for end deactivation in other approaches. Device implementation may be accomplished by either manual or pneumatic (air or gas) actuation to open and close the bypass plug. The ACI SimPlex™ system can be supplied on new OEM cylinders or may be custom-designed for reapplying existing compressors.

With ACI's eRCM™ performance software, ACI can evaluate the advantages of integrating the SimPlex™ unloading concept into an existing application. Additionally, ACI can develop optimum unloading sequences, PLC algorithms for automation, or even a complete automation solution.

ACI DuPlex™ Unloader



ACI DuPlex™ unloaders offer versatility and economy not possible with many other systems. They provide both clearance volume unloading and efficient compressor front head end deactivation, combined in a new ACI style front head designed to replace the conventional cylinder head. These devices may be supplied on new OEM cylinders or they can be custom-designed when reapplying existing compressor cylinders.

DuPlex unloaders provide custom-sized clearance volume pockets for partial head end unloading, and external piping to effectively reroute gas back to suction pressure for complete head end deactivation. Standard designs route gas to suction through a special ACI designed valve cap, or alternately to the suction drum or suction header of the unit.

DuPlex™ devices may be either manual or pneumatic (air or gas) actuated, with local or remote control. The first step of unloading opens the clearance volume pocket plug: the second step opens the bypass plug. This bypass concept provides efficiency advantages by eliminating the use of suction valve plate depressors (finger unloaders) or plug type suction valve unloaders often used for end deactivation. With ACI's eRCM™ compressor performance software, ACI can evaluate the advantages of integrating the DuPlex™ unloading concept into an existing application. Additionally, ACI can develop optimum unloading sequences, performance prediction algorithms for PLC automation, or even a complete automation solution.