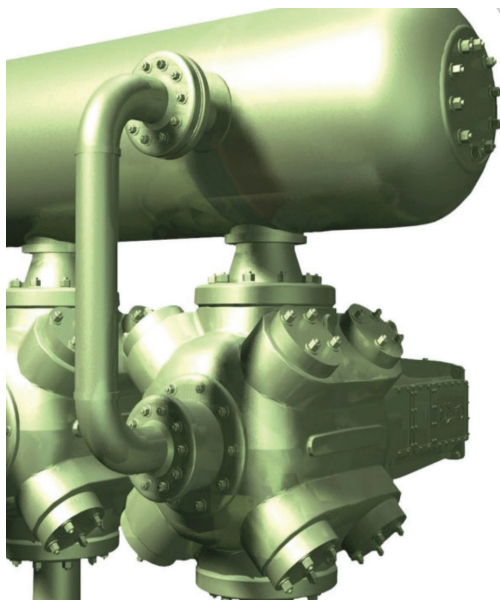


# SIMPLEX™ & DUPLEX™ UNLOADERS

## SimPlex™ and DuPlex™ Head-End Bypass Unloaders



Head-end bypass systems deliver unique unloading capabilities that offer versatility and cost savings unmatched by other reciprocating compressor unloaders. ACI's SimPlex™ and DuPlex™ devices provide efficient front head-end deactivation through the use of 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 features an integrated clearance volume pocket, making it ideal for applications that require either partial head-end unloading or complete head-end deactivation.



ACI's bypass unloaders are applicable to both new O.E.M. cylinders and 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.

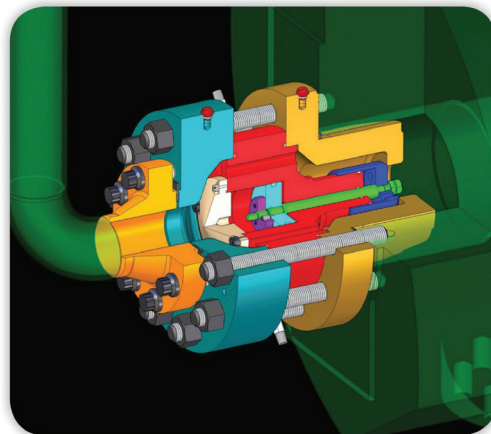
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## The ACI SimPlex™ Unloader

ACI SimPlex™ unloaders offer a simple and economical approach to 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 specially designed ACI valve cap or, alternately, to the suction drum or suction header of the unit.

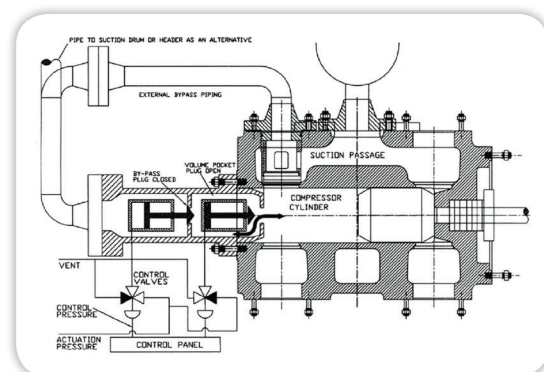


This bypass concept provides efficiency advantages by eliminating the need for suction valve plate depressors (finger unloaders) or plug-type suction valve unloaders often used for end deactivation in other approaches. Device implementation may be accomplished by either manual or pneumatic (air or gas)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

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.

## The 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 can be supplied on new O.E.M. cylinders or 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 re-route gas back to suction pressure for complete head-end deactivation. Standard designs route gas to suction through a specially designed ACI 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 need for 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.

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