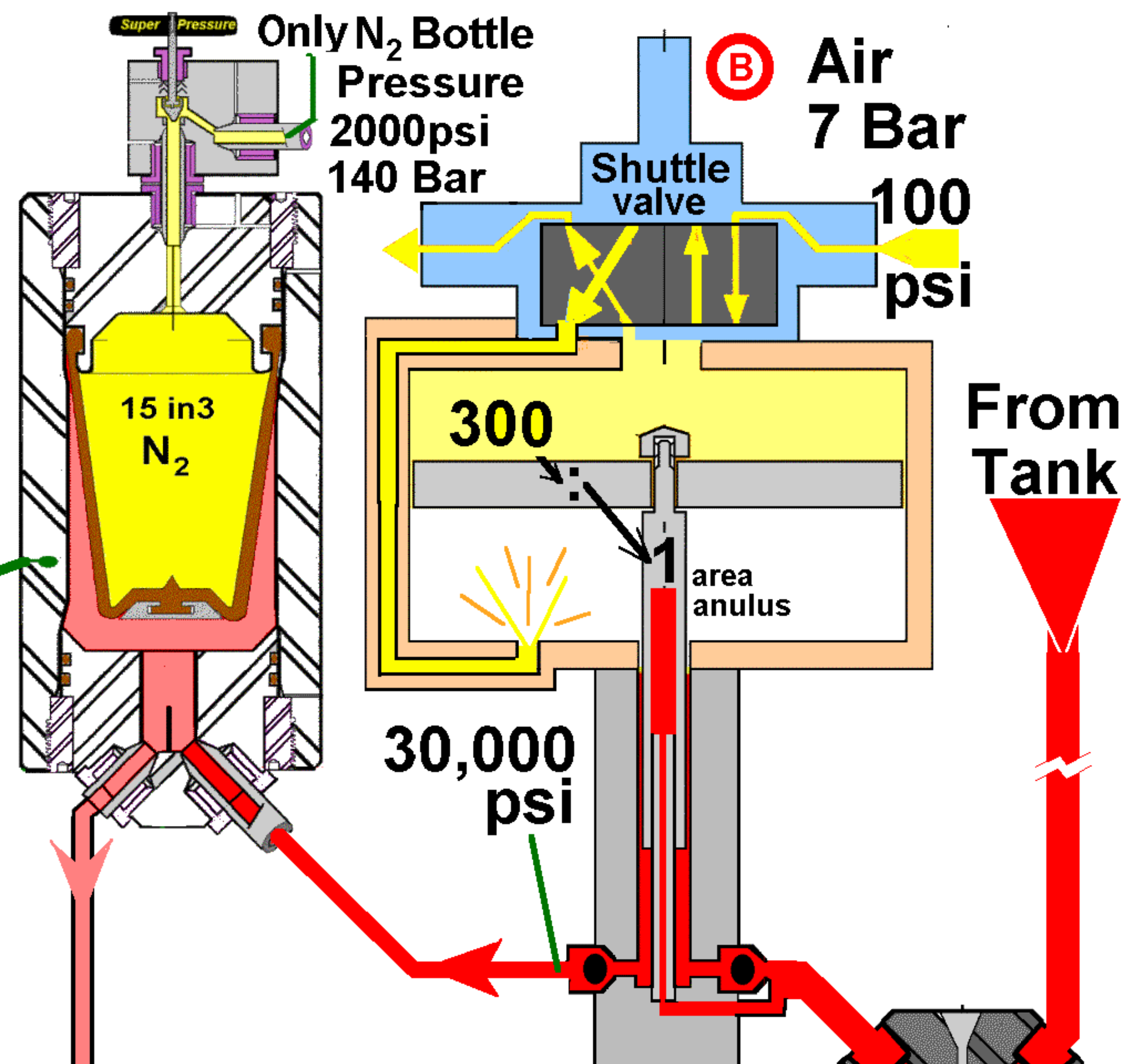


# Suction Problems with High Pressure Systems 10,000 to 30,000 psi Suction has to start with a jump 700 to 2,000 Bar

## PROBLEM 1, 2, & 3. Below

The National Oilwell ("O.W.E.CO") well head test rig (A) below, was re-deployed to 11,500 psi methanol and INHIBITOR pumping, to prove injection systems. The fast return / suction stroke of pump (B) prevented the suction from fully filling. The discharge stroke began with a huge acceleration until the plunger hit (F) the liquid and sent a shock into the system.

1. The pressure set valve (C) was blasted off its seat.
2. The chart recorder (D) was ruptured.
3. The certified gauge (E) immediately lost calibration.

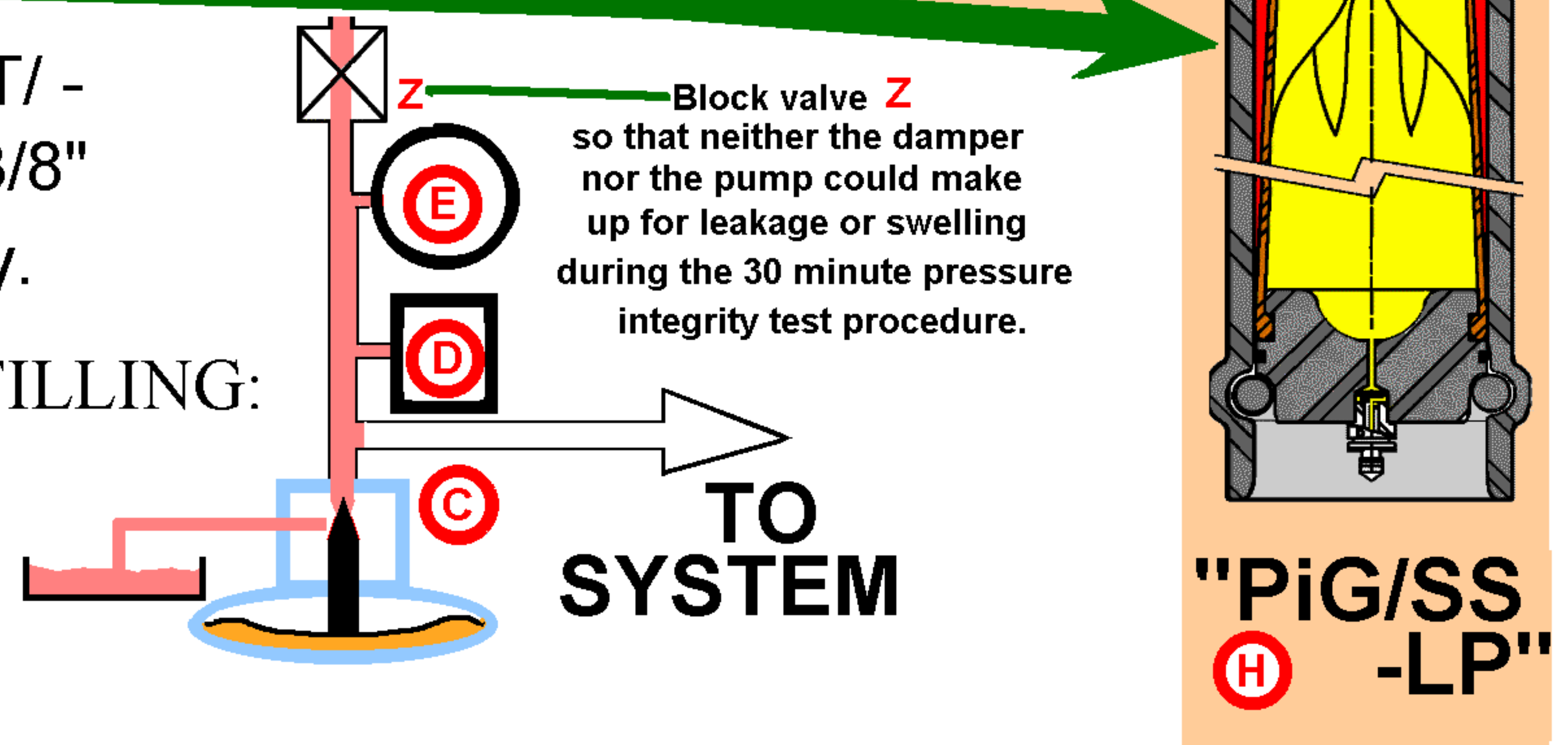


**ANSWER (H) "PiG" PIPEGUARD - LP** see PHOTO. on front cover

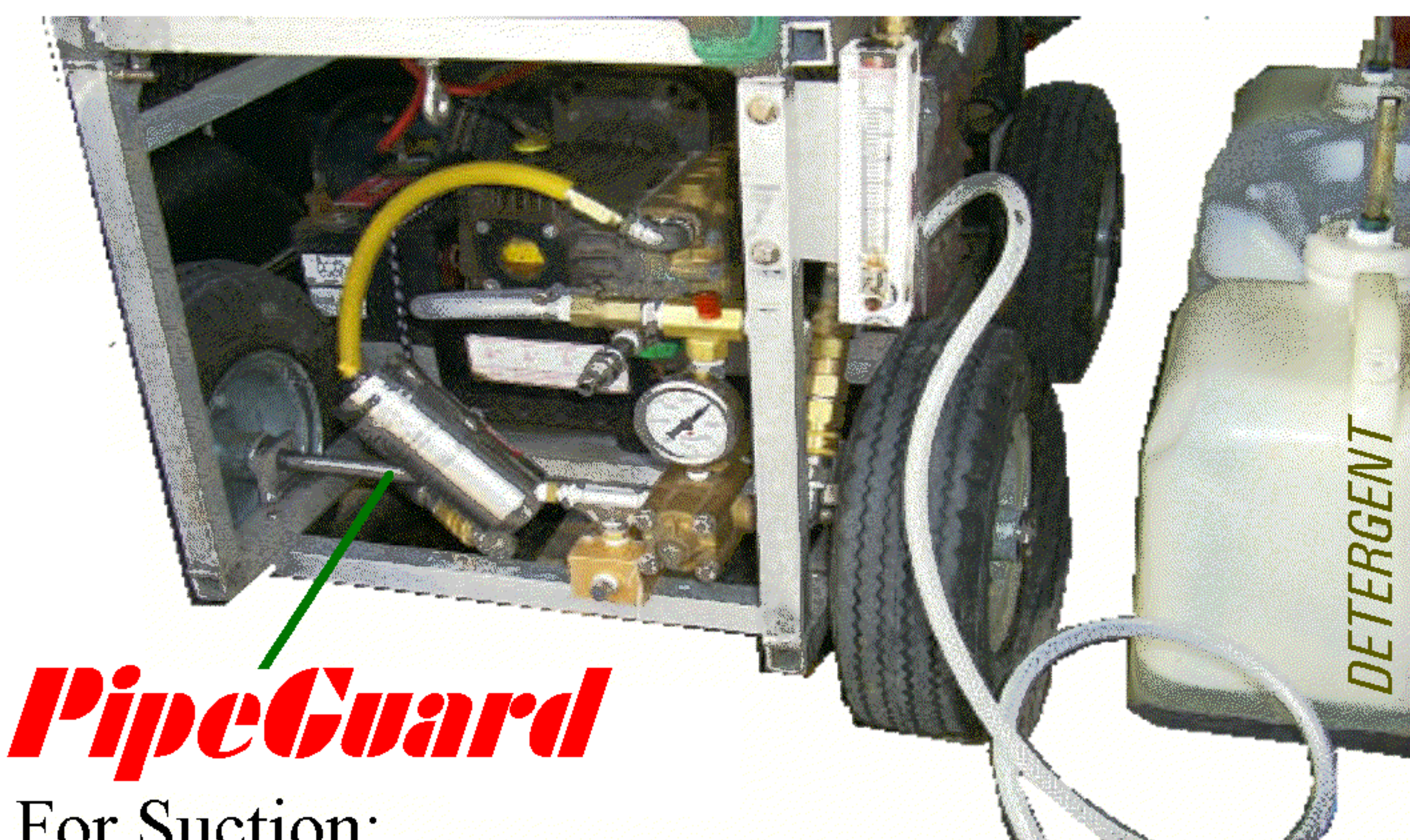
US Pt. No. PigLP/ 15 i / 600p / 1/2" x 3/8" NPT/ -  
Metric Pt.# - PigLp / 0.25 Lt. / 40 Br. / 1/2" x 3/8"  
Just one of 1000 items "off the shelf" Inventory.

## RESULTS FROM PROPER SUCTION FILLING:

1. 70% Reduction in pressure pulsation
2. 225% increase in pumpable rate.
3. A year before recalibration required.



High speed pumping systems, create the same suction problems, as high pressure  
An example is a direct motor driven three plunger 2500 psi wash pump - below.



## PipeGuard

For Suction:  
Pig/ss/LP/15i/600p/ 0.375" in x 0.50" to pmp.  
For Discharge:  
Pig/ss/HP/6i/3000p/0.375" to pmp. x 0.25" out  
(Please also see PipeGuard HP price and dimension Literature.)

## WHITE FINGER

Vibration of the high pressure cleaning lance from pressure pulsation, made it impossible for the operator to clean for more than 2 hours.

After fitting the FLOW-THROUGH **PipeGuard** Pressure Pulsation Interceptor, the two hours waiting time per day, for circulation to return to the hands, was saved.

The **PipeGuard** damper paid for itself in two and one half days.

AND : Pump life between service was tripled.

**DAMPERS THAT DO - FLOW GOES THROUGH - SHOCKS DO NOT**

Similar **PulseGuard Inc** And **PulseGuard Ltd.** Dampers have been in offshore platform service for over 25 years.