



TAB 4043

June 4, 2013

### **Pigging Recommendations for 4½” FGS High Pressure Star and Centron Fittings**

Fiber Glass Systems has changed the design of the Centron fittings to be consistent with Star design to achieve consolidated manufacturing techniques and improve reliability. In accomplishing this, there have been questions regarding the pigging of 4½ inch pipe lines for cleaning purposes. FGS has performed a complete battery of pigging tests and recommends the following pig types for cleaning of 4½ inch lines. The following cleaning pigs recommended by pig manufactures successfully passed through STAR and CENTRON fittings during the FGS testing.

- 4 ½ medium density coated pig, bullet shaped
- 4 ½ medium density coated pig, blunt on both ends
- 4” PV6 PIPETECH cleaning pig DH – solid full size (4.5” OD)
- 4” PV7 PIPETECH cleaning pig DH – solid full size (4.5” OD)





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Multiple cup and 4¼ inch or smaller OD pigs have the potential to get trapped and are not recommended. Pigs for 4½ inch high pressure fittings must be the same size as the fittings 4.52" inside diameter. If they are too big or too small, they may become trapped. The longer double cup or triple cups do not work. The following were tested and are not recommended for pigging.

- The CPC is a double-cup pig has a 4.25 inch OD and is not recommended.
- The triple-cup pigs get trapped, even those that are 4.5" OD are not recommended.





$$P_r = \frac{2S_s S_f t}{D}$$

$$P = \rho \left[ E_s t \frac{E}{\rho(E + D E_s)} \right]^{0.5} \delta V$$

$$\delta = \frac{W L^4}{384 E I}$$