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## ПНЕВМАТИЧЕСКИЙ НАСОС ДЛЯ ГИДРОСТАТИЧЕСКИХ ИСПЫТАНИЙ

## PNEUMATIC HYDROSTATIC TEST PUMP

AIR OPERATED Hydrostatic Pressure Test Pump is having maximum pressure range up to 2500 bar (36000 PSI). This product is recommended where frequent Hydro Testing is not required, as working cost is higher than electric driven pump. However, the initial cost of the product is economic with compare to electric driven hydro testing pump.



### Difficulties with Pneumatic testing:

Pneumatic tests are potentially more dangerous than hydrostatic tests because of the higher level of potential energy stored during compressing the gas. Care must be exercised to minimize the chance of brittle failure during testing by initially assuring the system is suitable for pneumatic testing. Pneumatic tests could be performed only when at least one of the following conditions exists:

- When the systems are designed in such a way that it cannot be filled with water.
- When the systems are such that it is to be used in services where traces of the testing medium cannot be tolerated.

Using a pneumatic test instead of hydrostatic requires approval from proper authority or body.

# Comparison of Hydrostatic and Pneumatic Testing

Triplex Plunger Pump	Pneumatic Pump
Test pressure is normally 30% higher than the design pressure	Test pressure is normally 10% higher than the design pressure
Recommended for high pressure applications	Recommended only for low pressure applications
Test media (Water) used is not compressible by pressure application	Test media (Air) used is compressible by pressure application
Needs thorough cleaning after test to eliminate moisture especially for service which are reactive to moisture / fluids	Easy to clean after testing
Pressure Relief devices are recommended to control sudden increase in pressure during testing	Pressure relief devices are must during test to ensure no over pressurisation
Chances of equipment/ Pipe / test apparatus failures are very low	Chances of equipment/ Pipe / test apparatus failures are high
Weight of equipment along with test medium as water is high hence special attention should be given to floor and supporting arrangements	Weight of equipment with test medium as air is comparatively less
Needs verification and examination of joints and connections before testing	Needs very careful checking of weld joints thoroughly before testing
Test media can be reused or transferred to other place after testing	Test media can not be reused or transferred to other place after testing
Skilled and semi skilled personnel can carry out the test	Needs involvement of senior experienced staff to monitor the test.
Recommended where large volumes are to be tested at same time (example pipe lines)	If pipe lines are tested should be done with small segmental lengths at a time.
Damages made by failures are less compared to failures in pneumatic testing	Damages made by failures in testing are very huge and extensive
Hydrotest is a regular day to day practice and safe procedure and it can be followed in any work site	Needs special attention and safety precautions

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