

## HS 22 Series Gear Type Hydraulic Starter Gear Motor Hydraulic Starters

- Friction Clutch Inertia Drives These starters are adapted from PRQ's 23/24 and 60/61 series air starters.
  - They can be purchased with or without motors.
- Both use friction clutch starter drives.

### Highlights:

- Continuous duty motors
  - S.A.E. mounting pads
  - Heavy-duty starter drives
  - Models to fit both sides of multi-pad engines
  - Can be purchased less motor
- Side and rear ports

HS-222 1 cu. in. (16.4 cc)

HS-223 2 cu. in. (32.8 cc)

HS-224 3 cu. in. (49.2 cc)

HS-360 5.15 cu. in (84.3 cc)

HS starters are now available with a Smart-R-Valve™ installed and tested at the factory. *How easy is that?*

The HS 22 Series of hydraulic starters are based on the LS 23/24 air/gas starters. The drive housing has been adapted to a Permco hydraulic gear motor to create the starter. The heavy duty friction clutch is used as the drive for the HS 22 series. Different gear widths are used in the series 31 Permco motor to give the correct torque and speed to match different engine requirements. The starters come in both left and right hand rotations. The motors have case drains to relieve excessive back pressure that can cause seal failure. The HS series will take up to 3,000 psi and the oil flow varies with different gear width that are used for different models and applications. The motors have rear ports that have SAE "O" ring boss fittings. The HS 22 series will start engines from 500 CID to 3,000 CID. These starters may be used with closed loop systems used on many "frac" truck applications as well as accumulator based systems. These starters are modular and the front end can be changed without disconnecting the hydraulic motor from the system. Weep holes are placed in the adaptor spool as tell tales if any leaks would occur that could damage the engines clutch or transmission.

