

## **OPERATING MANUAL**

# **DOUBLE ACTING DRILLING INTENSIFIER HYDRAULIC TYPE**

Size : 4.75"

Series : 4501

Reviewed And Approved By: Signature: \_\_\_\_\_ Initials: \_\_\_\_\_ Date: \_\_\_\_\_







The following guidelines should be used to determine the location of the intensifier in the drill string:

- The intensifier must be located above the jar.
- To avoid becoming stuck above the intensifier and jar, the drill string above should not exceed the intensifier and jar diameter.
- Avoid locating the intensifier directly above BHA components of larger diameters.
- A minimum of three drill collars or the equivalent weight in heavy weight drill pipe should be placed between the jar and the intensifier to provide sufficient mass for jarring.
- The buoyed weight placed between the jar and the intensifier should not exceed 40% of the load to fully extend the intensifier at operating temperature.

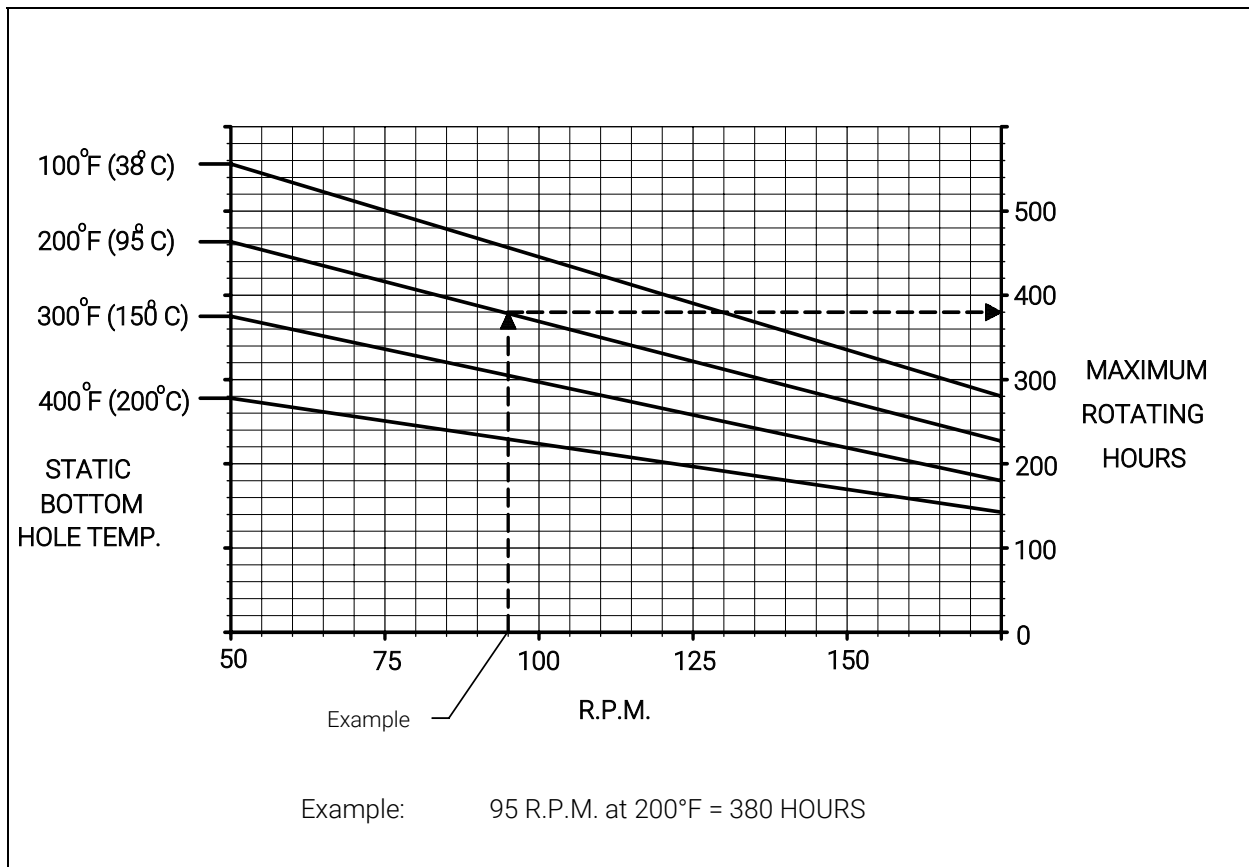
## **2.3 FIELD INSPECTION**

On each round trip the Intensifier should be visually inspected for any indication of damage, excessive wear, or leakage. When the jar is first removed from the hole, a small quantity of fluid may be noticed draining from the balancing ports. This condition is normal and does not indicate a problem.

## 2.4. MAXIMUM ROTATING HOURS

The chart shown below indicates the maximum recommended rotating hours between shop servicings. This chart takes into consideration the rotating speed and static bottom hole temperature, assuming that the intensifier has only been used for short periods of light jarring totaling less than two hours. The intensifier should be serviced as soon as possible, following any continuous heavy jarring.

Chart 2 - 1  
Maximum Rotating Hours



### 3. MAINTENANCE AND STORAGE

New tools are shipped painted. The threaded ends are chemplated with iron-phosphate and coated with rust preventative coating. Thread protectors are installed to eliminate mechanical damage. The rust preventative coating must be removed using petroleum base solvent and a stiff bristle brush before the jar is installed into the drill string.

When the jar is to be laid down the following should be done:

1. Flush all drilling fluid from the bore and from the balancing chamber with fresh water
2. Wash external surfaces of the tool
3. Apply thread compound and protectors to the end connections.

Tools stored horizontally should be rotated to a new position occasionally to prevent seals from setting and resultant fluid leakage.

## 4. SPECIFICATIONS

### DOUBLE ACTING DRILLING JAR INTENSIFIERS

TOOL O.D. (+API Drill Collar Tolerance)	inches (mm)	4.75 (121)
SERIES		4501
MAX. RECOMMENDED HOLE DIA. (Hole Openers Not Recommended)	inches (mm)	7 7/8" (200)
TOOL I.D.	inches (mm)	2.25 (57)
LENGTH	ft (m)	27.68 (8.4)
WEIGHT	lbs (kg)	1,020 (450)
STROKE UP	inches (mm)	12 (305)
STROKE DOWN	inches (mm)	12 (305)
AXIAL LOAD TO FULLY EXTEND (At Maximum Temperature) *	lbs (kN)	90,000 (400)
AXIL LOAD TO FULLY COMPRESS (At Maximum Temperature) *	lbs (kN)	75,000 (334)
MAXIMUM TENSILE LOAD	lbs (kN)	540,000 (2 400)
PUMP OPEN AREA	Inches <sup>2</sup> (cm <sup>2</sup> )	5.41 (34.9)
MAXIMUM TORSIONAL LOAD (TO YIELD BODY CONNECTIONS)	lb-ft (N-m)	18,600 (25 220)

Specifications subject to change without notice.

\* Up to 300°F (150°C) or, With High Temperature seal kit: Up to 500°F (260°C) in a very well circulated hole.