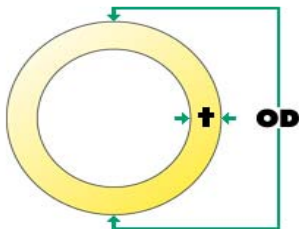


## DETERMINING FUSION GAUGE PRESSURE

### EXAMPLE 1:

Using a No.28 Machine from Chart A (at right) we will determine our gauge pressure.

Pipe Size = **8" IPS**  
 OD of Pipe = **8.625**  
 DR of Pipe = **11**  
 IFP = **75 PSI**  
 Measured Drag = **30 PSI**



#### VARIABLE DEFINITIONS:

**OD** = Outside diameter

**T** = Wall thickness

**PI** = 3.1416

**DR** = Dimensional ratio

**IFP** = Manufacturers recommended interfacial pressure

**TEPA** = Total effective piston area

**DRAG** = Force required to move pipe

#### TOTAL EFFECTIVE PISTON AREA

Model	High Force Standard	Medium Force High Velocity	Low Force Extra High Velocity
No.28	4.71	NA	1.67
No.412	11.78	6.01	3.14
No.618	11.78	6.01	3.14
Trac 500 II	NA	6.01	NA
No.824	29.44	15.32	9.45
No.1236	29.44	15.32	9.45
Trac 900	NA	15.32	NA
No.1648	31.42	14.14	NA
No.2065	31.42	NA	NA

### Step 1. Calculating Wall Thickness:

To determine wall thickness we will be using **Example 1** (from above).

**The Formula:**  $T = \frac{OD}{DR} = \text{Wall Thickness}$

Now using **Example 1** and the formula above we will find the wall thickness.

**Calculated Wall Thickness:**  $T = \frac{8.625}{11} = .784$

### Step 2. Finding Total Effective Piston Area

Use Chart A (above right) to find the TEPA of your machine.

**TEPA = 4.710** (we are using the No.28 as an example)

### Step 3. Calculating Gauge Pressure

**Calculating Gauge Pressure** Using the information we have gathered from above.

**The Formula**  $\frac{(OD - T) \times T \times PI \times IFP}{TEPA} + DRAG = \text{Gauge Pressure}$

### Step 4. Completed Formula

Now using all the information from above, and the formula above we will find the gauge pressure.

**Calculated Gauge Pressure**  $\frac{(8.625 - .784) \times .784 \times 3.1416 \times 75}{4.710} + 30 \text{ PSI} = 338 \text{ PSI}$