

## Rules of Thumb

- Rule #1** Pressure Change of **1 PSI** Results in this Power Consumption Change
- |                          |             |
|--------------------------|-------------|
|                          | %           |
| Single Stage Compressors | <b>0.50</b> |
| Two Stage Compressors    | <b>0.42</b> |
- Rule #2** Inlet Restriction of **4 Inches** of Water Results in Loss of Capacity by 1%.
- Rule #3** For Every **10C ( 18F )** Air Temperature Rise Results in Doubling the Moisture Content.
- Rule #4** For Every **10C ( 18F )** Oil Temperature Rise Results in Reducing Fluid life by 50%.
- Rule #5** Power Consumption of **1 HP** results in Operating Cost of \$450/Year based on 8000 hours operation @ 0.07 \$ / KWHR
- Rule #6** For **1000 CFM** Compressor Fluid Consumption would be **4.41 GAL / YR** based on 8000 Hours of operation @ 1 PPM ( by weight ) Fluid Carryover Rate
- Rule #7** For **100 HP** Water-cooled Compressor Water Consumption would be **23.5 GPM** based on 25F Temperature Rise
- Rule #8** For **100 HP** Compressor Premium Efficiency Motor ( 95.4% vs.94.1% for EPACT Efficiency motor ) saves **605 \$ / YR** based on 8000 Hours of Operation @ 0.07 \$ / KWHR
- Rule #9** For **Direct Drive** Compressor running at **1800 RPM** ( 4 Pole Motor ) Tip Speeds are as follows :
- |                   |
|-------------------|
| Air End Size - MM |
| 102               |
| 163               |
| 255               |
| 321               |
- For **Gear Driven** or **Belt Driven** Compressors multiply above values by **Drive Ratio**
- Rule # 10** For 460 Volt Motor Full Load AMP requirement is 1.2 X Motor HP
- |                 |
|-----------------|
| Motor Size - HP |
| <b>50</b>       |
| <b>100</b>      |