

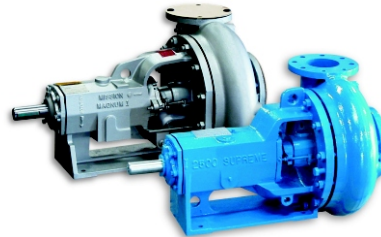
Mission™ Pumping Technology Oilfield and Industrial Pumps



Rotary Positive Displacement
Progressing Cavity Pumps



Reciprocating Positive
Displacement Multiplex Pumps



Centrifugal Pumps

ROTARY POSITIVE DISPLACEMENT PROGRESSING CAVITY PUMPS:

E Range

E Range pumps combine reliability with low operating costs utilizing the unique PowerDrive™ with **5-Year Warranty**. It eliminates both wearing items and product contamination from lubricants used for dynamic joints.

More than 50 varieties are available, in cast iron and stainless steel, with capacities up to 1850 GPM and pressures up to 1050 PSI.

B Range

B Range close coupled pumps offer the benefits of progressing cavity pumps with a compact footprint. The pump uses the bearings from the prime mover, consequently reducing length and cost. 33 models are available in cast iron and stainless steel with capacities up to 990 GPM and pressures up to 350 PSI.

W Range

W Range pumps are offered for semi-solid products, which do not readily flow. Having a built-in auger that constantly feeds the pumping element, its design is ideal for thickened sludges, slurries and dewatered sludges.

The W Range Pumps are available in cast iron and stainless steel with capacities up to 945 GPM and pressures up to 700 PSI.

LF Range

LF Range pumps are designed for use where accurate intermittent or continuous dosing is required, with a repeatability ±2%. Positive displacement for process control and variable speed for accurate dosing. Available in UHMW polyethylene or stainless steel with capacities up to 2.4 GPM and 175 PSI pressure.

All of these progressing cavity pumps are available with a variety of sealing options.

Universal™ Products

Monoflo™ provides a comprehensive offering of replacement pumps and wear components for virtually all progressing cavity pumps regardless of original manufacturer. Genuine Monoflo™ parts for Monoflo™ pumps set the industry standard for quality, availability, and affordability. Monoflo's™ innovative Universal™ product range allows us to provide replacement pumps and renewal components for common units.

RECIPROCATING POSITIVE DISPLACEMENT MULTIPLEX PUMPS:

At our three manufacturing facilities, National Oilwell Varco manufactures quality and reliability into every continuous and intermittent duty reciprocating pump. These field proven and time tested pumps are available in simplex, duplex, triplex and quintuplex designs. Piston and plunger designs are available from 2 HP to 2250 HP. There is not a more complete offering of rugged and reliable reciprocating pumps anywhere in the world.

Each power frame and fluid end is rugged and able to withstand the toughest conditions. Each frame is precision-bored to provide stability and matched alignment.

Complete line of reciprocating plunger, piston and intermittent duty pumps

Constant delivered flow independent of system pressure

High mechanical efficiency (90%) and high volumetric efficiency (95%)

Low speed for long service life

Easily field maintained and repaired

Low operating cost

Liquid end metallurgy and trim available for almost any suitable application

Plunger Pumps

Flow range.....0.7 GPM to 1500 GPM

Discharge pressure.....up to 8000 PSI

Horsepower range.....2 to 1069 BHP

Piston Pumps

Flow range.....6 GPM to 700 GPM

Discharge pressure.....up to 1800 PSI

Horsepower range.....4 to 258 HP

Intermittent Duty Pumps

Flow range.....5 GPM to 1500 GPM

Discharge pressure.....up to 20,000 PSI

Horsepower range.....33 to 2250 HP

CENTRIFUGAL PUMPS:

National Oilwell Varco offers a complete line of centrifugal pumps for a variety of applications. These centrifugal pump lines feature thick-walled, concentric style casings and wide impellers that are ideal for handling abrasive slurry fluids. These pumps are available with mechanical seals or packing.

Mission™ Magnum™ and 2500 Supreme™ Magnum™ and 2500 Supreme™ pumps are proven as reliable, heavy-duty, low-cost slurry pumps. The 3x2x13 through 10x8x14 pumps all feature the same power end which ensures low cost production and reduced spare part inventory requirements. These pumps are equipped with a heavy duty 2½" shaft protected by a stainless steel shaft sleeve, double row outboard bearings and inboard roller bearings. Magnum™ and 2500 Supreme™ pumps are rated for continuous service in applications up to 200 HP. Available* in hard iron, stainless steel, aluminum bronze, Magnachrome™ and Supreme Hard™ with capacities up to 2600 GPM and pressure head up to 550 feet.

Magnum XP™

The 8x6x18 through 14x12x22 produce high volumes and pressures at low operating speeds. Lower operating speeds reduce the abrasive wear rate of slurry fluids while the large capacity fluid end allow high volume transfer. Available in Hard Iron™ or Magnachrome™ with capacities up to 7300 GPM and pressure head up to 520 feet.

1780 Type "W"™

2x3R through 6x8R pumps are a low cost alternative for Magnum™ and 2500 Supreme™ pumps for applications where horsepower demands are 100 HP or less. Featuring 1½" shafts these pumps are available* in hard iron, stainless steel and aluminum bronze with capacities up to 1600 GPM and pressure head up to 350 feet.

1180 Type "S"™ & SpaceSaver™

1x1 1/2C through 3x4R11 pumps are available with 1½" shafts, 1180, or as close coupled units, SpaceSaver™. With capacities up to 600 GPM and pressure head up to 320 feet these pumps are ideal for a variety of applications. Available in cast iron, aluminum bronze and stainless steel.*

* Alternate fluid end materials are not available on all models.

Mission™ Pumping Technology
Oilfield and Industrial Pumps

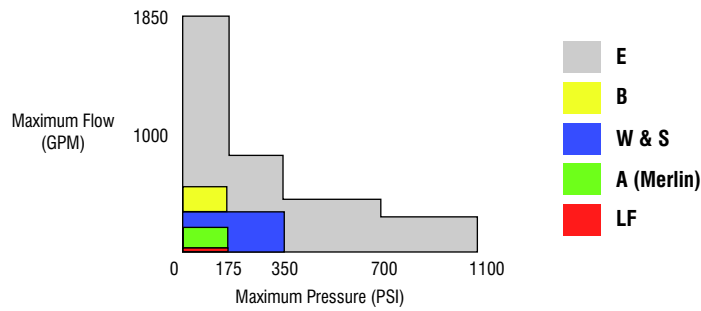
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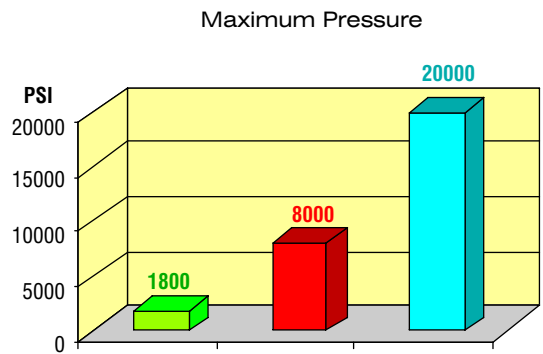
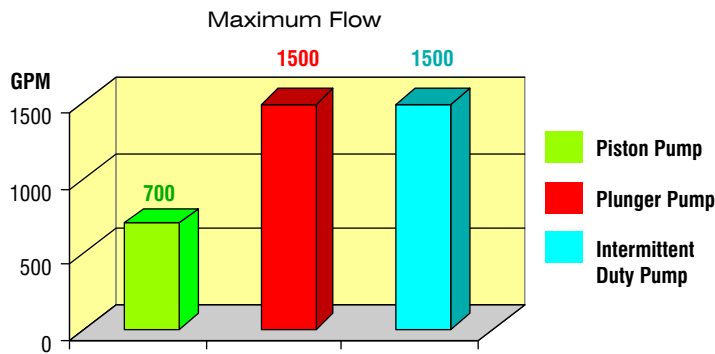
 **NATIONAL OILWELL VARCO**

Mission™ Pumping Technology Oilfield and Industrial Pumps

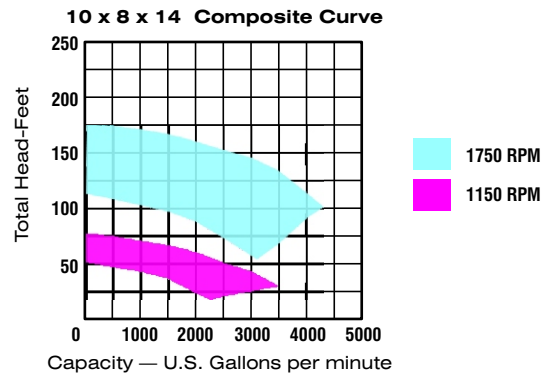
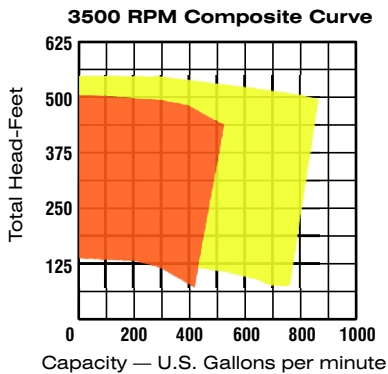
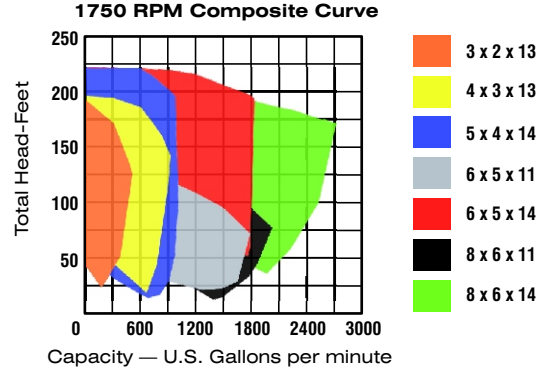
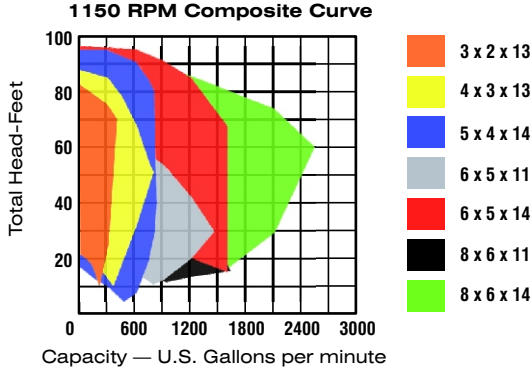
Progressing Cavity Hydraulic Envelope



Multiplex Operating Capacities of Reciprocating Pumps



Magnum™ and 2500 Supreme™ Composite Curves



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