

Neptune Series 500 “dia-PUMP”

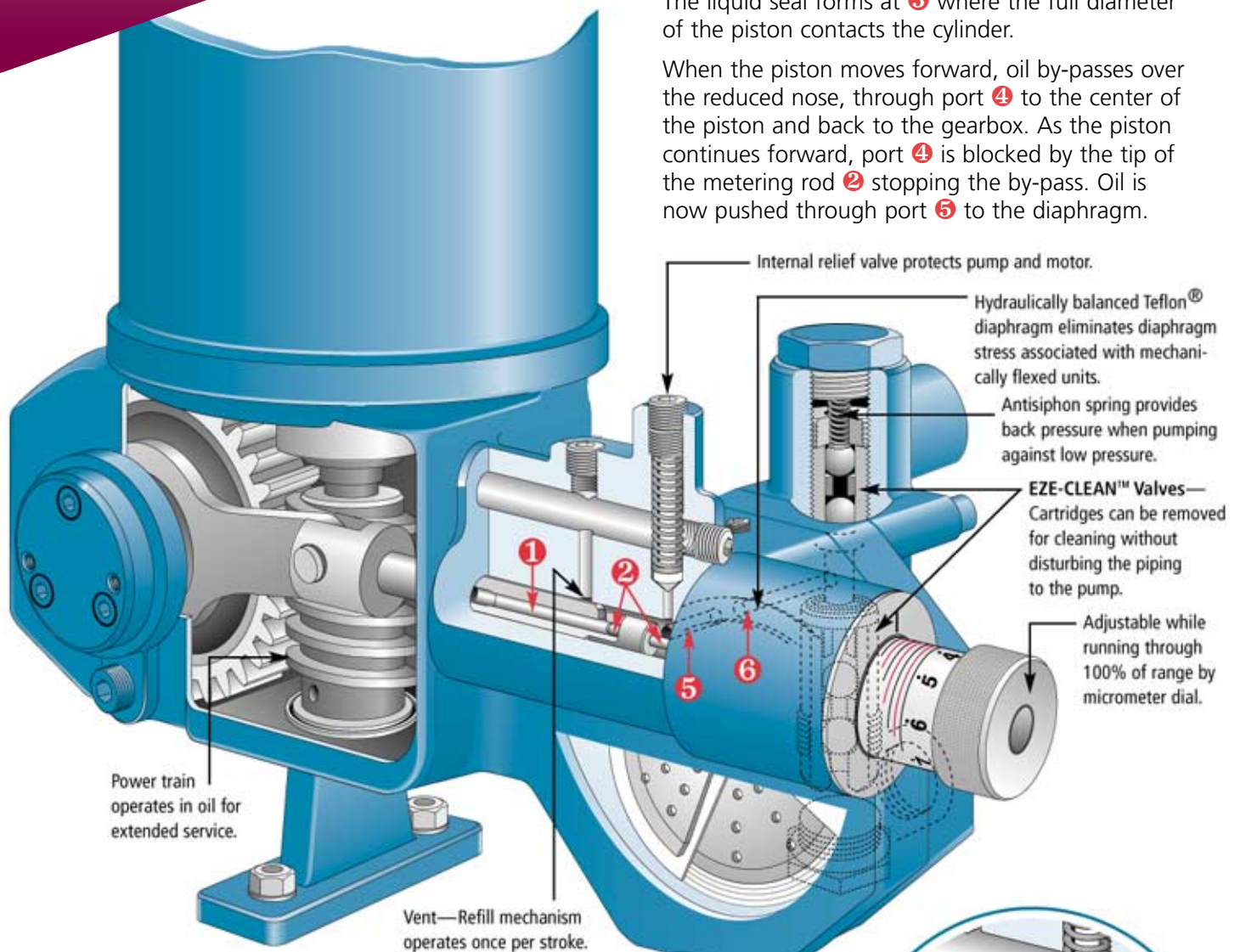
The only pumps with
EZE-CLEAN™ Valves

Variable Oil By-pass™ stroke adjustment allows better valve performance than variable linkage designs. **The valve checks have extra time to seat even in heavy liquids since they are idle during the by-pass portion of the suction and discharge strokes.**

How It Works

Hollow piston ① reciprocates within a cylinder. Metering rod ② fits into the piston. Note the front of the piston, or “nose”, has a reduced diameter. The liquid seal forms at ③ where the full diameter of the piston contacts the cylinder.

When the piston moves forward, oil by-passes over the reduced nose, through port ④ to the center of the piston and back to the gearbox. As the piston continues forward, port ④ is blocked by the tip of the metering rod ② stopping the by-pass. Oil is now pushed through port ⑤ to the diaphragm.



Turning the micrometer dial moves the metering rod and changes the pump capacity. When the metering rod is moved in, the tip of the metering rod closes port ④ sooner in the stroke allowing for less by-pass and more pumping action. Likewise, when the metering rod is moved out, the tip of the metering rod closes port ④ later in the stroke allowing more by-pass and less pumping.

The motion of the piston pushes and pulls the hydraulic fluid through port ⑤, into and out of the diaphragm chamber. The action of the fluid pushes and pulls the diaphragm which, in turn, pushes and pulls chemical through port ⑥. The action of the check valves controls the direction of the liquid.

