

YALE PUMPER

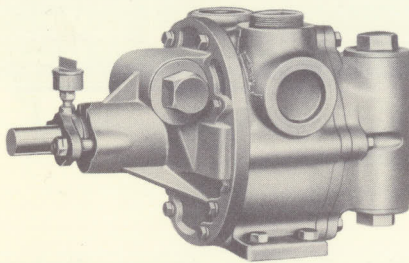


YALE & TOWNE

THE YALE & TOWNE MANUFACTURING CO., STAMFORD, CONN.

PIPE LINES

NEW PULSATION ABSORBER SMOOTHES FLOW IN ANY TRI-ROTOR INSTALLATION



To add still further to the field of application for Tri-Rotors, the Pump Division has developed a pulsation absorber to overcome vibration and pounding encountered in certain pump installations. Reducing vibration 75% or more, the new absorber is a simple piston device which equalizes pulse peaks in either the discharge or suction sides of Tri-Rotor Pumps, making auxiliary dampeners or air chambers unnecessary.

Constructed as an integral part of the Tri-Rotor shaft housing, the new absorber is easily installed on existing Tri-Rotor pumping equipment by a simple change in housings. No piping need be disturbed and down time is cut to a minimum in making this change.

The Tri-Rotor Pulsation Absorber consists of a cylinder connected across the suction and discharge ports of the pump. Within the cylinder is a light plunger which operates against a heavy spring in the suction side of the cylinder, and a light spring in the discharge side. When a pressure peak is produced at the discharge port by a pump impulse, the piston moves toward the suction side. This action relieves the pressure peak, and at the same time, compensates for the corresponding suction increase which is developed at the pump intake. Should the initial pulse occur in the suction line, due to system design, etc., the absorber acts in much the same way to relieve these suction vibrations.

The Yale & Towne Pulsation Absorber automatically adjusts to varying operating pressures and rates of flow, and in no way affects the variable control feature of Tri-Rotor pumps.

Although specifically developed for dampening vibration in jet fuel testing installations, the new pulsation absorber greatly expands the application possibilities for Tri-Rotors, especially in systems where changes in flow rate together with natural vibrating frequencies have caused problems in the past.

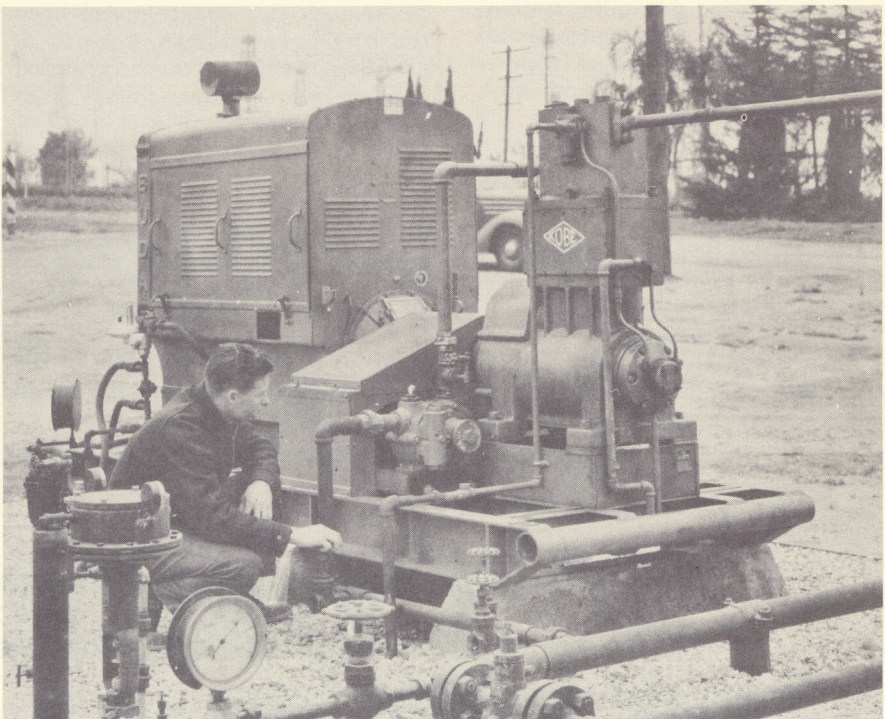
THE EDITOR

TRI-ROTORS KEEP VOLATILE PETROLEUM GASSES IN SOLUTION

YALE CHARGING PUMPS MAINTAIN INTAKE PRESSURE TO PREVENT GAS LOCK IN OIL WELL PUMPING SYSTEM

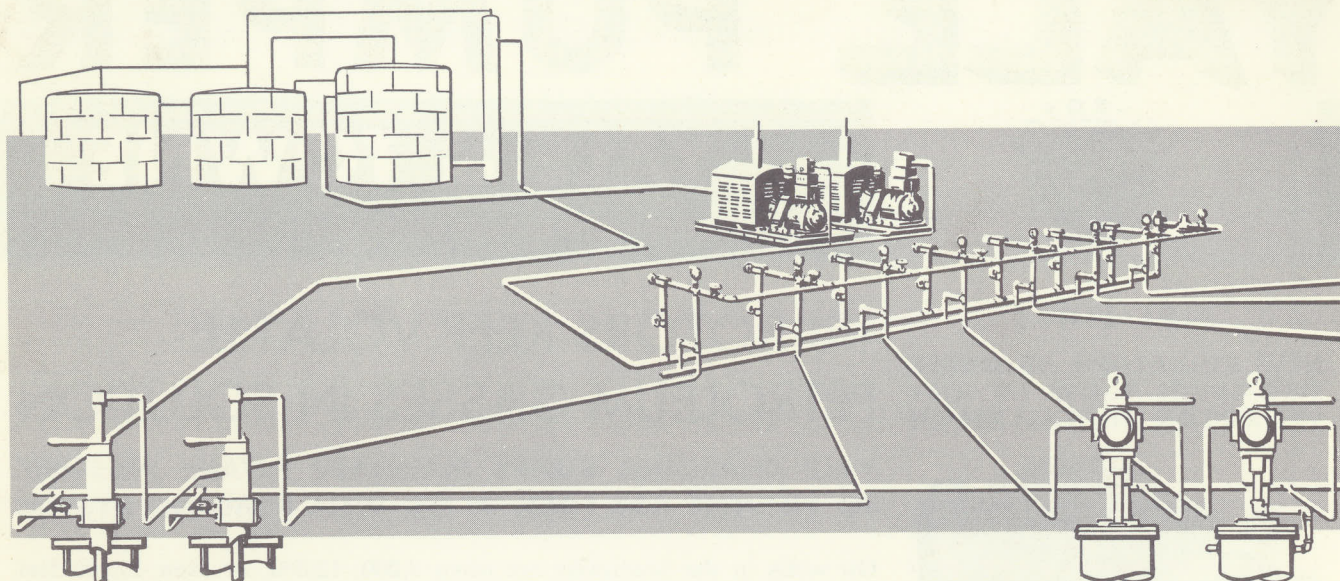
Oil wells in the Southwest are often 8,000, 12,000, or even 15,000 feet deep. Powerful pumps must be installed at the bottom of these wells to drive the crude oil to the surface. Over 2,000 of these pumping systems were built by Kobe, Inc.

Kobe bottom well pumps are operated by hydraulic pressure supplied from Kobe Triplex pumps working above ground. The hydraulic fluid is "power oil" . . . clean crude oil from the well. When this power oil is sucked into the high pressure, above-ground Triplex pumps, gas can flash out of the oil. If enough gas accumulates in the cylinders of the Triplex pumps, the cylinders become gas locked and will not operate. Yale Tri-



Yale Model 80 BV Tri-Rotor pump is a component part of this Size 3 Kobe Triplex. Triplex has maximum capacity of 1600 barrels per day, acts as central power station for bottom-well pumps. The number of bottom-well pumps the Triplex can drive depends on the depth of the wells.

YALE TRI-ROTOR PUMPER



Diagrammatic sketch illustrating above-surface portion of Kobe hydraulic pumping systems.

TRI-ROTORS KEEP (Continued)

Rotor pumps provided the ideal answer by supplying power oil and controlled pressure to the intake of the Triplex pump. Regulated intake pressure, even under the varying loads and volumes inherent in the pumping system, kept gas from separating from the power oil.

Kobe hydraulic pumping systems consist essentially of bottom-well reciprocating pumps driven by power oil pumped to them under high pressure by Triplex pumps at the surface. Part of the crude oil from the wells is piped to settling tanks. At atmospheric pressure this oil is clean, stable, and gas free. This is the supply of power oil which the Triplex pumps draw on for driving the bottom-well pumps.

But, if gas flashes out of the oil as it is sucked into the Triplex, even small amounts reduce the volumetric efficiency of the pumps;

cause shock, and vibration. Larger amounts put the Triplexes out of operation entirely . . . they no longer take in or discharge power oil . . . they just compress and decompress the free gas within their cylinders. At the bottom of the wells the production pumps stop working.

To remedy this situation and keep the production pumps at work at all times, the Kobe company needed a dependable auxiliary pump. This pump had to feed oil into the Triplexes at the proper pressure to keep gas from flashing out. The pressure needed to be easy to set. The action of the pump itself needed to be of a type to keep gas from being released. The pump couldn't emulsify water mixed with the oil. It had to have a pumping capacity equal to or greater than that of the Triplexes and yet be small enough to be a component part.

Yale Tri-Rotor positive displacement pumps met these requirements. Today, at the Kobe factory, every Size 2 Kobe Triplex is equipped with a Yale Model 40 AX and every Size 3 Kobe is equipped with a Yale Model 80 BV Tri-Rotor positive displacement pump. Yale Tri-Rotor pumps are mounted as component parts on the same base as the Triplexes. They run at the same speed, off the same crankshaft.

Equipment manufacturers can often use Yale Tri-Rotor pumps to solve just such simple and straightforward problems. If you can find a manufacturer whose product can be improved by the incorporation of Tri-Rotor pumps as original equipment, you can make not just one sale but a series of repeat sales. The volume of your repeat sales is likely to rise satisfyingly with the rise in the manufacturer's own sales curve.

YALE & TOWNE