

Supply problems got you all at sea?



Air Express is the fastest service you can buy. Use it regularly to ship and receive supplies, equipment and parts. It solves your shortage problems in a matter of hours.

Air Express shipments go on all flights of the Scheduled Airlines. There's no waiting around with this speedy 24-hour service. Special pick-up and delivery is included at no extra cost, and Air Express rates are low. It pays to standardize on Air Express.

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Specify Air Express-World's Fastest Shipping Service

- Low rates—special pick-up and delivery in principal U. S. towns and cities at no extra cost.
- Moves on all flights of all Scheduled Airlines.
- Air-rail between 22,000 off-airline offices.

True case history: Dallas motor repair shop regularly gets supplies by Air Express. Keeps equipment rolling. Typical shipment: 60 lb. carton of rubber hose picked up in Indianapolis 8 p.m., delivered 9:30 a.m. following day, 777 miles. Air Express charge only \$14.74. Any distance similarly inexpensive. Phone Air Express Division, Railway Express Agency, for fast shipping action.



Rates include pickup and delivery door to door in all principal towns and cities

AIR EXPRESS, A SERVICE OF RAILWAY EXPRESS AGENCY AND THE
SCHEDULED AIRLINES OF THE U.S.

140 (509b)

40,000-gal clear well. Two vertical deep well pumps deliver water from clear well to softeners.

All chemical feeders are wet type with electromagnetic proportioning mechanisms operated from a meter in the raw-water inlet.

Water Softeners. Softeners are carbonaceous-zelite type. Two units are now installed, each 7 ft. 6 in. dia. with space for a third unit when plant capacity increases. Each unit has a peak capacity, at 8 gpm per sq ft, sufficient to handle total water requirements when other unit is out for regeneration.

Spray-type deaerator is designed for 200,000 lb per hr. Space for a second unit is provided when required.

Internal Treatment. Phosphate for internal treatment is mixed in an open tank and pumped directly to boiler drums. A 2-cylinder pump is used, one cylinder pumping to each boiler, with a single-cylinder pump as a spare. A timer that operates a 3-way valve in the pump suction-line controls chemical feed. During a part of the timer's 30 min cycle, the valve supplies phosphate solution to the pumps; during remainder of cycle, flushing water is pumped. Pumps also have adjustable strokes for controlling feed to each boiler.

Chemical Feed Tanks. All chemical feed tanks are on the operating floor. They are designed for 24-hr storage; that charging the tanks is done once each day. A chemical storage room near the equipment can store several months' supply of phosphate, caustic and ferric sulphate. Salt is purchased in carload lots and stored in an underground brick tank. Sulphuric acid, purchased in tank cars, is stored in an outside steel tank from which it flows by gravity to the measuring tank in the building.

This system, in operation over a year, is satisfactory in every way.

The Bookshelf

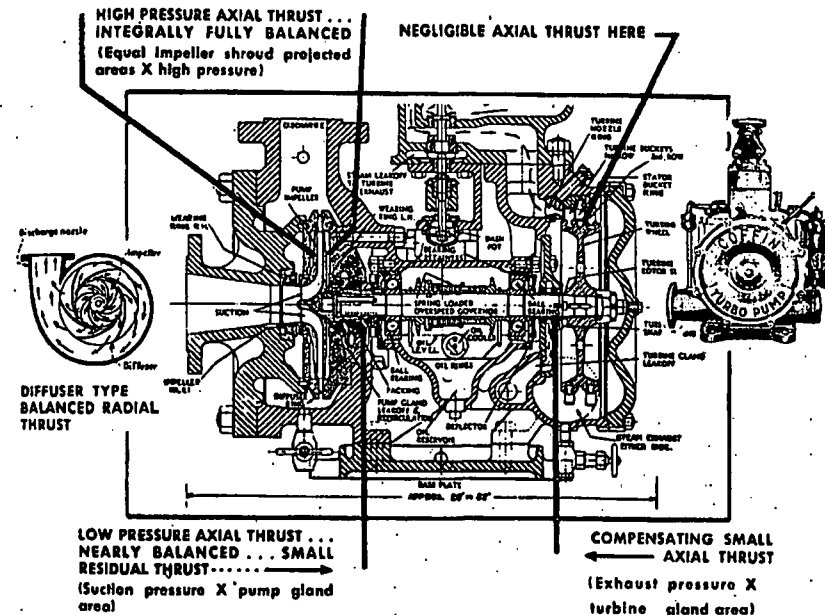
(Continued from page 136)

SYNTHETIC PETROLEUM FROM THE STRENGTH PROCESS (1948) By G. H. P. State eng'g experiment station, Georgia School of Technology, and J. C. Lane, chemistry division, Gulf Research and Development Co. 303 pp, 518, illus, tables, \$5.75. Chemical Publishing Co., Brooklyn, N. Y.

With future domestic-oil supplies mentioned in many quarters, synthetic petroleum commands attention by both producers and users of petroleum products. Among the processes receiving current consideration, the synthetic (or coal-

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- 8 -

Exact Hydraulic Balance....

... without floating balancing devices and regardless of loss of suction or "flashing."

Bearing Troubles Minimized



Standardized
Boiler Feed
Units for:

Steam Pressures to 140 PSI
Steam Temperatures to 750 F
Back Pressures to 60 PSI

Pump Capacities to 500 GPM
Discharge Pressures to 750 PSI
(Heads to 1800 feet)
Liquid Temperatures to 300 F

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1. Standardized Steam Turbine Centrifugal Pump and Governor Sets, individually engineered, assembled, and tested... for IMMEDIATE SHIPMENT.
2. No destructive casing erosion-corrosion.
3. No interstage leakage.
4. Wide range exact pressure governing.
5. Loss of suction reduces speed without tripping; automatic speed recovery with suction restoration.
6. High efficiency pump plus high speed two-bearing row turbine result in minimum steam consumption.
7. Matched Pump, Turbine and Governor under one responsibility.

8. Exact hydraulic and mechanical balance—light weight rotor—large bearings result bearing troubles practically unknown.
9. Pump Gland Lockoff provides adequate recirculation; suction pressure only on packing.
10. Right on-place steel casing plus heavy shaft plus ample clearances result in no damage from dry operation.
11. All parts made to gage and replaceable without fitting; all parts in stock at factory with wearing parts available from depositories' stocks.
12. Proved for performance over a period of more than twenty years in service.
13. Compact, light in weight, quiet and low in maintenance.

Literature sent on request; specific proposals on receipt of operating data.

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