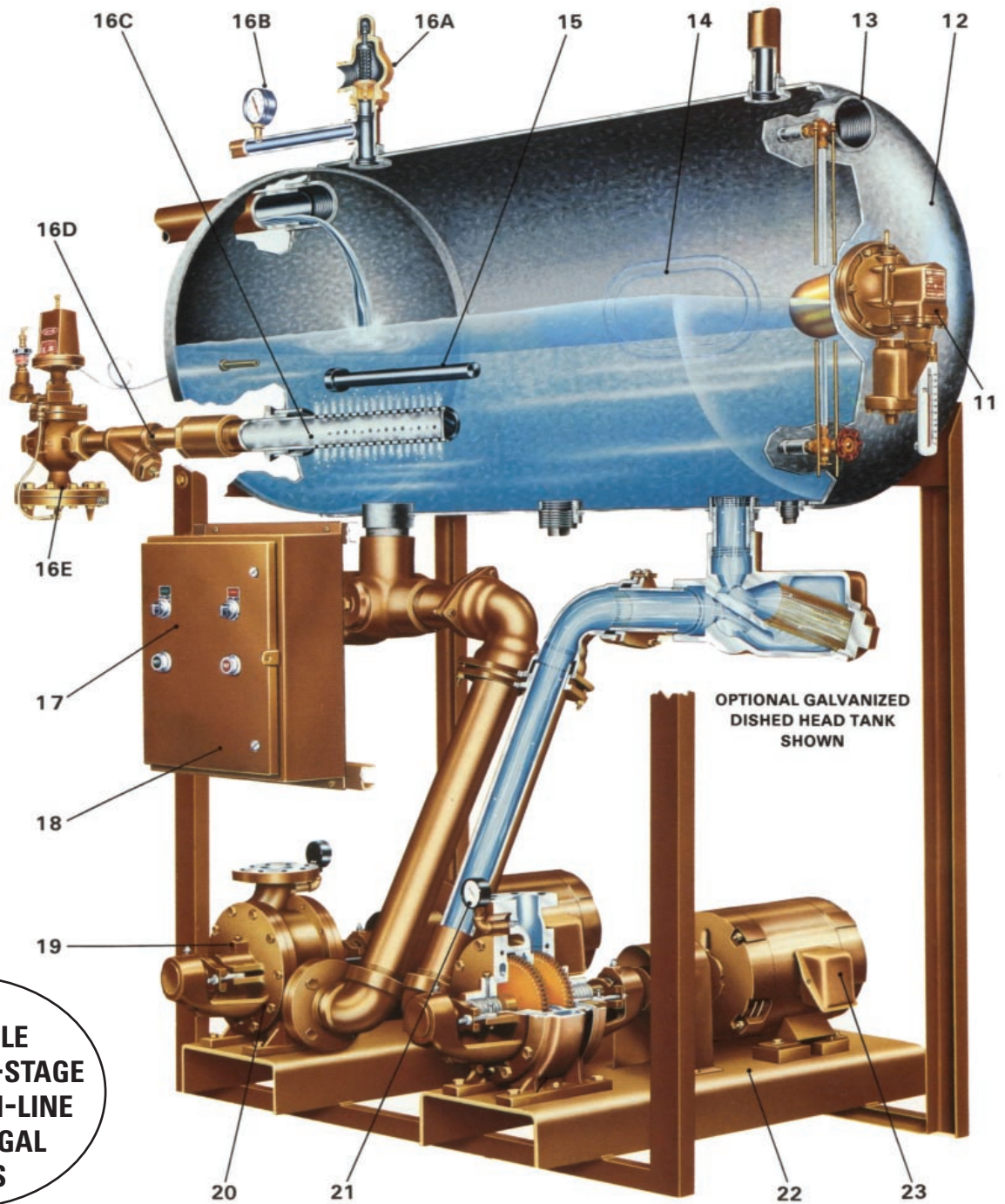


## 280 Optional Equipment



# Optional Accessories

## OPTIONAL BOILER FEED SYSTEM ACCESSORIES

### 11 MAKE-UP FEEDER VALVE.

- A) Series 21 for 30, 60 & 100 gallon receivers.
- B) Series 25 for 200, 250, 350, 500, 750 & 1,000 gallon receivers.

**12 125# ASME CODE RECEIVERS** of equivalent capacity. Manholes 11" x 15" are included in receiver sizes 350 thru 1,000 gallons.

**13 ADDITIONAL PIPE TAPS** in receiver.

**14 MANHOLE 11" x 15"** for receiver capacities of 750 and 1,000 gallons.

**15 MAGNESIUM ANODE** provides electrolytic corrosion protection.

**16 STEAM HEATER PACKAGE** consisting of the following:

**16A** Relief valve

**16B** Pressure gauge

**16C** Preheater tube

**16D** "Y" strainer

**16E** Temperature regulating valve:

- a) Low pressure 25T (5-15 P.S.I. steam) WITHOUT pressure reducing attachment.
- b) High pressure 25PT (50-200 P.S.I. steam) WITH pressure reducing attachment.

**NOTE:** Item 16 components can be provided separately.

**17 PREWIRED CONTROL PANEL** to all integral H.P. motors includes external reset buttons and hand-off automatic switches. See pages 7, 14 and 15 for details.

**18 ELECTRIC ALTERNATOR** mounted and wired on duplex.

**19 MECHANICAL SEALS** for turbine pumps. Mechanical seals are standard on multi-stage vertical in-line pumps.

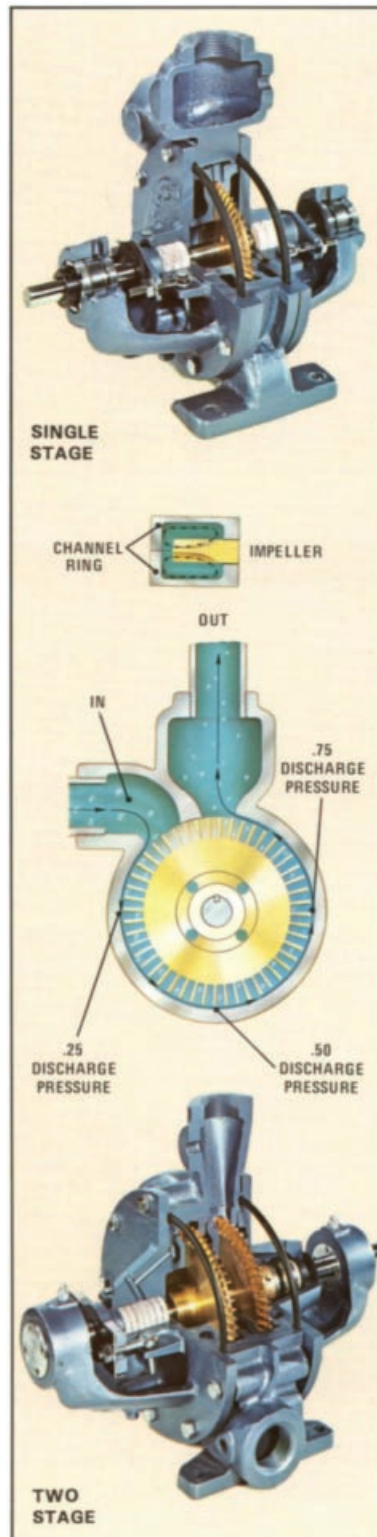
**20 SPECIAL PUMPS** (431B, i.e.)

**21 DISCHARGE PRESSURE GAUGES** ship loose with multi-stage vertical in-line pumps.

**22 DUPLEX, DUAL AND TRIPLEX** units. See pages 7, 14 and 15.

**23 SPECIAL MOTOR DESIGN.**

**24 GALVANIZED INSIDE AND OUT RECEIVER.**



## OPERATION - TURBINE PUMPS

The turbine pump derives its name from the many buckets machined into the periphery of the rotating impeller which permits development of a relatively high pressure in an efficient and economic manner. More pressure is developed within the turbine pump than with a comparable size centrifugal pump. The pumped liquid is directed by the water passage so that it circulates in and out of the buckets many times on its way from the pump inlet to the pump outlet. Additional energy is added to the liquid each time it passes through the buckets so the numerous passes generate a high discharge pressure. The pressure is developed without pulsations. While close clearances are used within the turbine pumps, there is no metal to metal contact. Volatile liquids are handled easily because a turbine pump readily handles vapor and air along with the liquid, thus eliminating the possibility of a vapor lock within the pump. Free-flowing and nonlubricating liquids are handled with a minimum of wear to pump parts because there is no metal to metal contact within the pump channel. The illustrations indicate the principle used in the handling of the liquid and developing of pressure in a regenerative turbine pump.

- Double suction minimizes axial thrust.
- Replaceable channel or wearing rings and impellers.
- Opposed discharges to balance radial loads (two stage).
- Interchangeable packing or mechanical seals.
- Large shaft for minimum deflections.
- O-rings prevent case leakage on One/Two Stage Turbine Pumps.