

boiler feed pumps drop off very rapidly for the smaller sizes of pumps and for low load conditions. For this reason centrifugal pumps are not

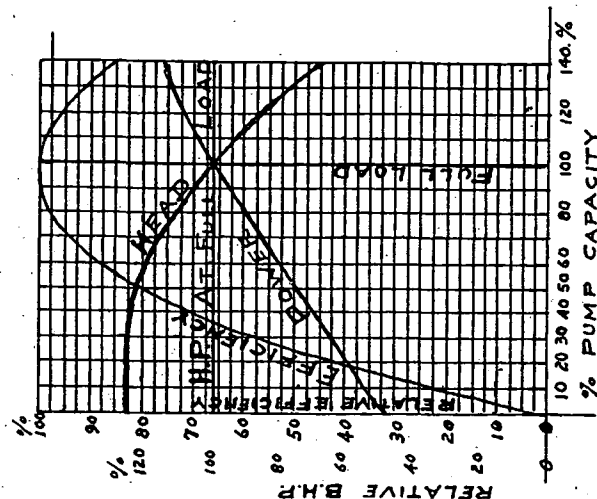


FIG. 41. FOR SELECTION OF SIZE AND STAGE OF CENTRIFUGAL BOILER FEED PUMPS

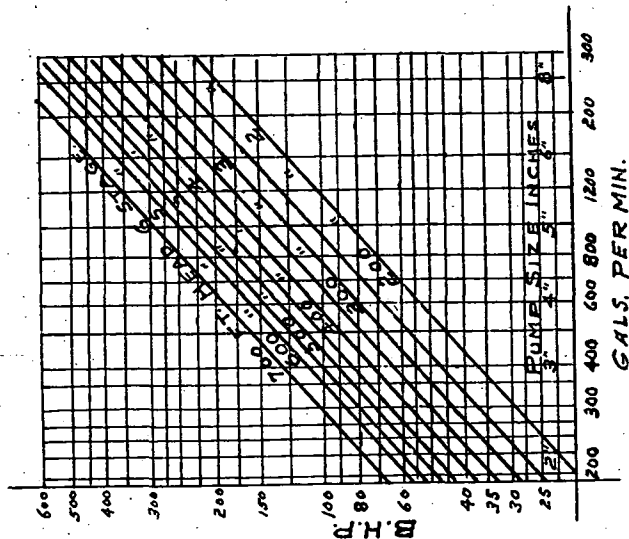


FIG. 40. TYPICAL CHARACTERISTICS OF CENTRIFUGAL BOILER FEED PUMPS

usually employed for installations of less than 1000 boiler horsepower. Screw pumps may be used with good economy for small capacities.

TABLE 67. SCREW PUMPS

Since the capacity and pressure at which Screw Pumps will operate is almost infinite, we can only give some idea of their capacity. Efficiencies range from 60 per cent to 70 per cent.

| SIZE | G. P. M.  | MAX. REV. | SUCTION INCHES | DISCHARGE INCHES |
|------|-----------|-----------|----------------|------------------|
| 2    | 2-15      | 1600      | 2              | 1½               |
| 2½   | 10-20     | 1600      | 2              | 1½               |
| 3    | 20-50     | 1600      | 2½             | 2½               |
| 3½   | 40-60     | 1600      | 3              | 2½               |
| 4    | 55-100    | 1500      | 4              | 3                |
| 4½   | 85-200    | 1400      | 4              | 4                |
| 5    | 175-275   | 1200      | 5              | 4                |
| 5½   | 200-325   | 1200      | 5              | 4                |
| 6    | 275-475   | 1200      | 6              | 6                |
| 7    | 300-600   | 1000      | 8              | 6                |
| 8    | 450-750   | 875       | 8              | 8                |
| 9    | 700-1000  | 720       | 10             | 10               |
| 10   | 800-1400  | 700       | 12             | 12               |
| 12   | 1200-2100 | 600       | 14             | 14               |
| 16   | 1750-4200 | 425       | 16             | 15               |

TABLE 68. SIZES, REVOLUTIONS PER MIN. HEADS PUMPED AGAINST, POWER REQUIRED AND BOILER HORSE POWER FOR SEVERAL COMMERCIAL SIZES OF CENTRIFUGAL BOILER FEED PUMPS

| SIZE OF PUMP<br>INCHES                   | H. P. | PIPE SIZES<br>INCHES |           | CAPACITY<br>GALLONS<br>PER MIN. | BOILER H. P.<br>SERVED WITHOUT<br>FACTOR<br>OF SAFETY |
|------------------------------------------|-------|----------------------|-----------|---------------------------------|-------------------------------------------------------|
|                                          |       | Suction              | Discharge |                                 |                                                       |
| Two Stage for 100 lb. Working Pressure   |       |                      |           |                                 |                                                       |
| 2                                        | ..... | 2½                   | 2         | 100                             | 1450                                                  |
| 2½                                       | ..... | 3                    | 2½        | 150                             | 2175                                                  |
| 3                                        | ..... | 4                    | 3         | 225                             | 3262                                                  |
| 4                                        | ..... | 5                    | 4         | 400                             | 5800                                                  |
| 5                                        | ..... | 6                    | 5         | 620                             | 8990                                                  |
| 6                                        | ..... | 8                    | 6         | 900                             | 13,000                                                |
| 8                                        | ..... | 10                   | 8         | 1600                            | 23,000                                                |
| Three Stage for 150 lb. Working Pressure |       |                      |           |                                 |                                                       |
| 2                                        | ..... | 2½                   | 2         | 100                             | 1450                                                  |
| 2½                                       | ..... | 3                    | 2½        | 150                             | 2175                                                  |
| 3                                        | ..... | 4                    | 3         | 225                             | 3262                                                  |
| 4                                        | ..... | 5                    | 4         | 400                             | 5800                                                  |
| 5                                        | ..... | 6                    | 5         | 620                             | 8990                                                  |
| 6                                        | ..... | 8                    | 6         | 900                             | 13,000                                                |
| 8                                        | ..... | 10                   | 8         | 1600                            | 23,000                                                |
| Four Stage for 250 lb. Working Pressure  |       |                      |           |                                 |                                                       |
| 2                                        | ..... | 2½                   | 2         | 100                             | 1450                                                  |
| 2½                                       | ..... | 3                    | 2½        | 150                             | 2175                                                  |
| 3                                        | ..... | 4                    | 3         | 225                             | 3262                                                  |
| 4                                        | ..... | 5                    | 4         | 400                             | 5800                                                  |
| 5                                        | ..... | 6                    | 5         | 620                             | 8990                                                  |
| 6                                        | ..... | 8                    | 6         | 900                             | 13,000                                                |
| 8                                        | ..... | 10                   | 8         | 1600                            | 23,000                                                |