



# Performance Curves

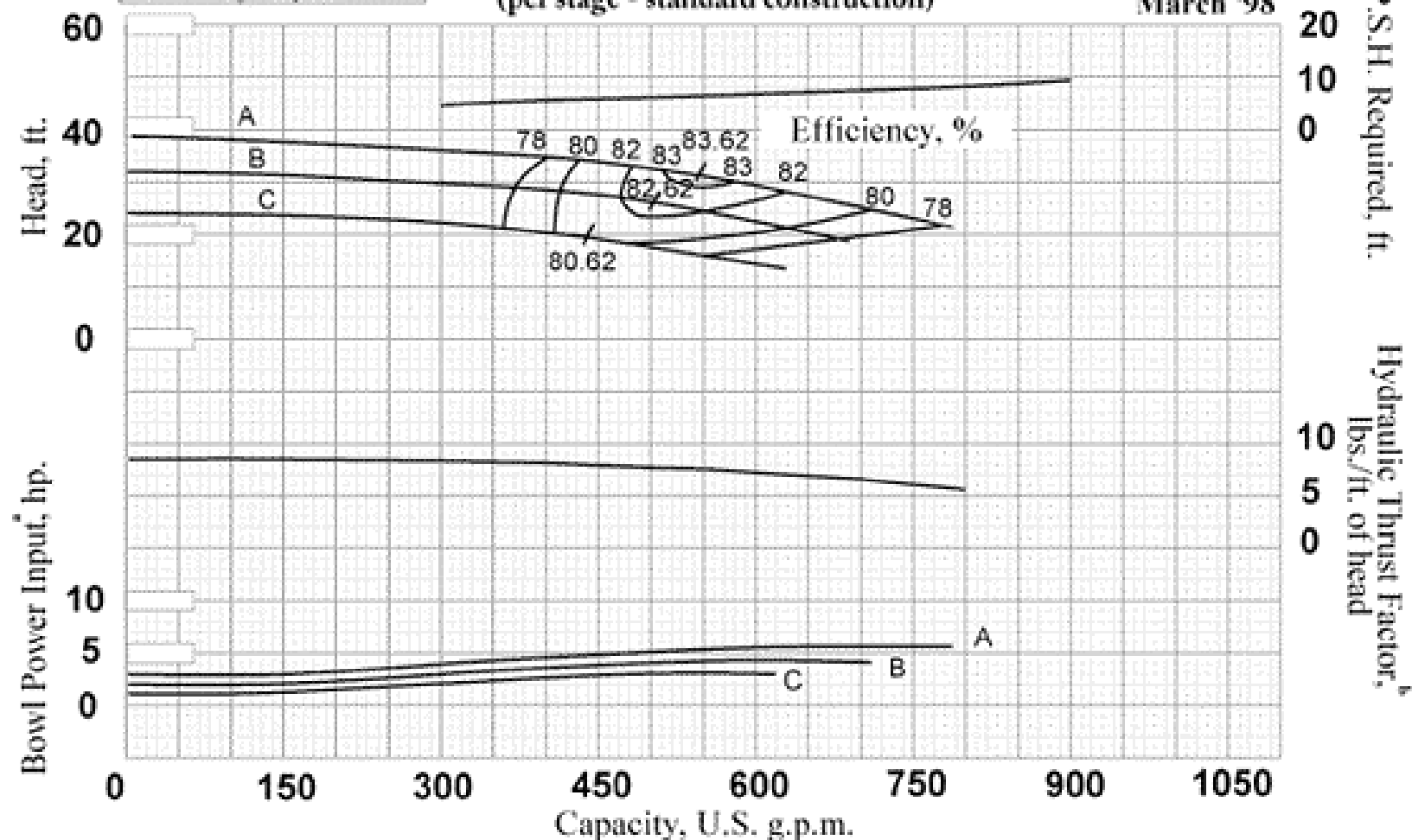
12-M-80

1170 RPM

Number of Stages Required:

(per stage - standard construction)

March '98



## 12-M-80 1170 RPM

| Impeller Data                                        |                                       |   |                                            |                                           |    | Bowl Data                 |                 |
|------------------------------------------------------|---------------------------------------|---|--------------------------------------------|-------------------------------------------|----|---------------------------|-----------------|
| Impeller Model                                       | 12-M-80                               |   |                                            |                                           |    | Bowl Model                | 12-M            |
| Type                                                 | Enclosed                              |   |                                            |                                           |    | Connection Type           | Bolted          |
| Diameter: A=                                         | 9.300"                                |   |                                            |                                           |    | Outside Diameter: nominal | 12.000"         |
| B=                                                   | 8.700"                                |   |                                            |                                           |    | minimum                   | 11.850"         |
| C=                                                   | 7.900"                                |   |                                            |                                           |    | Column Pipe Size: minimum | 8"              |
| Hydraulic Thrust Factor                              | 7.6 lbs/ft of head @ peak efficiency  |   |                                            |                                           |    | maximum                   | 10"             |
| Impeller Weight                                      | 11.7#                                 |   |                                            |                                           |    | Suction Pipe Size         | 8"              |
| Number of Vanes                                      | 7                                     |   |                                            |                                           |    | Shaft Size: standard      | 1.687"          |
| Specific Speed (Ns)                                  | 2076                                  |   |                                            |                                           |    | maximum                   | Consult Factory |
| Effective Eye Area                                   | 19 in²                                |   |                                            |                                           |    | Lateral: standard         | 0.625"          |
| W (r sq.)                                            | 0.720 lbs -ft²                        |   |                                            |                                           |    | maximum                   | Consult Factory |
| Eye Fluid Velocity                                   | 0.02 ft/sec/gpm                       |   |                                            |                                           |    | Shaft Bearing Clearance   | 0.010"          |
| Peripheral Velocity                                  | 5.11 ft/sec/inch of impeller diameter |   |                                            |                                           |    | Impeller Skirt Clearance  | 0.015"          |
|                                                      |                                       |   |                                            |                                           |    | Maximum Sphere Size       | 0.750"          |
| Efficiency Correction for Impeller Data              |                                       |   |                                            |                                           |    | *Maximum Head @ 1.0 s.g.: |                 |
| Number of Stages                                     | 1                                     | 2 | 3                                          | 4                                         | 5+ | with nominal outside dia. | 897 ft          |
| Deduct No. Points                                    | 4                                     | 3 | 2                                          | 1                                         | 0  | with minimum outside dia. | 853 ft          |
| Lengths                                              |                                       |   |                                            | Operational                               |    |                           |                 |
| Column Adapter                                       | 1.500"                                |   | Minimum Required Submergence               |                                           |    | Consult Factory           |                 |
| Discharge Case                                       | 4.750"                                |   | Standard Construction Materials            |                                           |    |                           |                 |
| Bowl                                                 | 10.000"                               |   | Bowl                                       |                                           |    | A48-30 c.i. (porcelain)   |                 |
| Suction Case                                         | 10.125"                               |   | Impeller                                   |                                           |    | C83800 br.                |                 |
| Suction Bell                                         | 8.500"                                |   | Bowl Shaft                                 |                                           |    | 416 stainless steel       |                 |
| Submersible Motor Adapter                            | Consult Factory                       |   | Shaft Coupling                             |                                           |    | C1215 steel               |                 |
| Approximate Shipping Weights                         |                                       |   |                                            | Lock Collet                               |    |                           | C1215 steel     |
| First Stage                                          | 266#                                  |   | Cap Screw                                  |                                           |    | grade 5                   |                 |
| Additional Stage                                     | 107#                                  |   | Bowl Bearing                               |                                           |    | C93200 br./buna-N A40     |                 |
|                                                      |                                       |   |                                            | Suction/Submersible Motor Adapter Bearing |    |                           | C93200 br.      |
| Miscellaneous                                        |                                       |   |                                            | Throttle Bearing                          |    |                           | C93200 br.      |
| Hub Projection on Bell Suction                       | 1.625"                                |   | Sand Collar                                |                                           |    | C93200 br.                |                 |
| Cable Guard Height                                   | 0.500"                                |   | Column Adapter/Discharge Case/Suction Case |                                           |    | A48-30 c.i.               |                 |
| Distance from Impeller Eye to Bottom of Bell Suction | 8.532"                                |   | Submersible Motor Adapter                  |                                           |    | A48-30 c.i.               |                 |
|                                                      |                                       |   | Tube Adapter                               |                                           |    | cl. 65-45-12 ductile iron |                 |

\* Not valid for submersible applications -- o-rings required if the maximum operating head will exceed 500'