

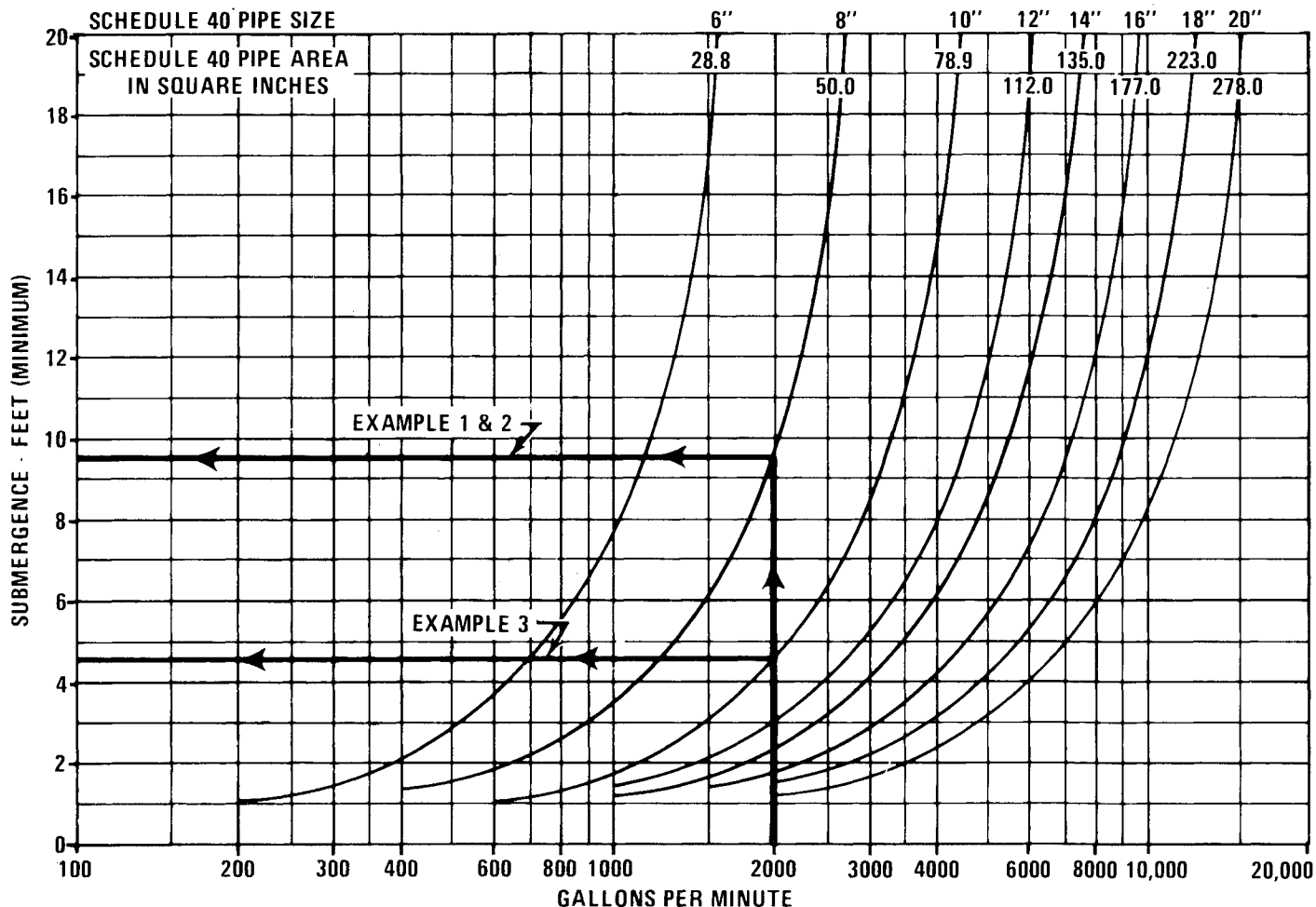
# AURORA 610 SERIES ENGINEERING DATA

SECTION 610 PAGE 71

DATED JUNE 1991

SUPERSEDES PAGE 71

DATED JANUARY 1982

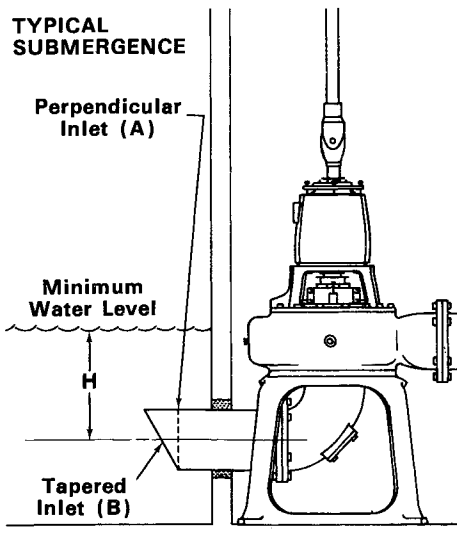


## SUBMERGENCE

Air may be entrained in the pumped liquid if the pump suction is located too close to the free liquid surface in the suction source. Pumping liquid with entrained air can cause a reduction of capacity, rough and noisy operation, vibration, loss of efficiency and wasted power. Excessive wear of close running parts, bearing stresses and shaft damage are also subsequent effects.

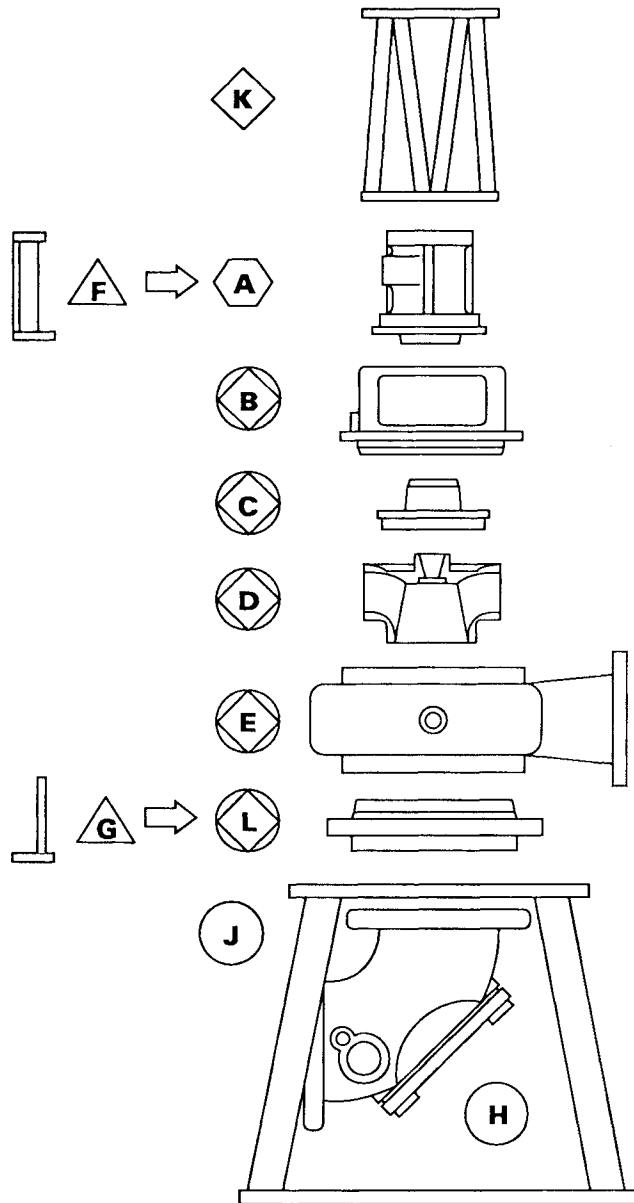
### EXAMPLES:

1. When the pipe size is known, the minimum submergence required for 2000 GPM through an 8" pipe is 9.6 feet.
2. When the inlet area is known, the minimum submergence required for 2000 GPM through a 50 square inch outlet is 9.6 feet. Minimum submergence requirements may exceed the available space requirements. When this occurs a larger pipe size or inlet will reduce the required submergence.
3. The minimum submergence required for 2000 GPM through a 10" pipe is 4.6 feet (5.0 feet less than required for an 8" pipe).



**ENGINEERING DATA**

INTERCHANGEABILITY



Spher-Flo pumps are designed for maximum interchangeability. Model 611A is available in 14 sizes. Model 612A in 17 sizes, Model 613A in 14 sizes, and Model 614A in 6 sizes, offering a model and size precisely fitted to the installation requirements over a wide range of capacities. The 17 sizes are divided into 9 "Power Frames." All parts are interchangeable within a given power frame except for the liquid end and supports. The chart illustrates the degree of interchangeability achieved with the standard Spher-Flo pumps.

- Model 611A Only ..... ▲
- Model 612A Only ..... □
- Model 613A Only ..... ◆
- Models 612A, 613A, & 614A ..... ○
- Models 611A, 612A, & 613A ..... ⬡
- Models 611A, 612A, 613A, & 614A ..... ⊗

|                                 | Qty |
|---------------------------------|-----|
| A - Power Frames .....          | 9   |
| B - Brackets .....              | 6   |
| C - Stuffing Boxes .....        | 4   |
| D - Impellers .....             | 16  |
| E - Casings .....               | 16  |
| F - Mounting Feet (Rear) .....  | 5   |
| G - Mounting Feet (Front) ..... | 4   |
| H - Elbows .....                | 13  |
| J - Bases .....                 | 6   |
| K - Motor Supports .....        | 3   |
| L - Suction Covers .....        | 12  |

**POWER FRAME SELECTION**

| PUMP SIZE | RPM  |      |      |     |     |     |     |     |
|-----------|------|------|------|-----|-----|-----|-----|-----|
|           | 1750 | 1175 | 1150 | 875 | 700 | 585 | 580 | 500 |
| 6x6x12    | 5F   |      | 4D   | 4C  | 4C  |     |     |     |
| 6x6x12B   | 5F   |      | 4D   | 4C  | 4C  |     |     |     |
| 6x8x15    | 5F   |      | 5E   | 5E  | 5E  |     | 5E  |     |
| 8x8x15A   |      |      | 5E   | 5E  | 5E  |     | 5E  |     |
| 10x10x15  |      |      | 5F   | 5E  | 5E  |     | 5E  |     |
| 6x8x18    |      |      | 5F   | 5E  | 5E  |     | 5E  |     |
| 8x10x18   |      |      | 5H   | 5G  | 5G  |     | 5G  |     |
| 8x10x22   |      |      |      | 5H  | 5G  |     | 5G  |     |
| 10x10x22  |      | 6E   |      |     |     |     |     |     |
| 10x12x22  |      |      |      | 6D  | 5H  |     | 5G  |     |
| 12x12x22  |      | 6E   |      |     |     |     |     |     |
| 12x14x22A |      |      |      | 6D  | 5H  |     | 5G  |     |
| 12x14x22B |      |      |      | 6D  | 5H  |     | 5G  |     |
| 14x14x22A |      | 6E   |      |     |     |     |     |     |
| 16x16x28  |      |      |      | 8   | 8   | 8   |     |     |
| 18x18x28  |      |      |      |     | 8   | 8   |     | 8   |
| 20x20x28  |      |      |      |     | 8   | 8   |     | 8   |

# AURORA 610A SERIES ENGINEERING DATA

INTERCHANGEABILITY

