

## Sizing and Selection Bronze Check Valves

## PRESSURE MOTIVE PUMP

Liquid Capacity - in lbs/hr using steam as motive media at indicated Filling Head

| Motive Press (PSIG) | Total Back Pressure (PSIG) | 1"x1" 6" Head PMPLS | 1 1/2"x1 1/2" 12" Head | 1 1/2"x1 1/2" 12" Head | 2"x1" 12" Head | 2"x1 1/2" 12" Head | 2"x2" 12" Head | 3"x2" 12" Head | 4"x4" 24" Head | 3"x2" Duplex | 3"x2" Triplex | 3"x2" Quadraplex |
|---------------------|----------------------------|---------------------|------------------------|------------------------|----------------|--------------------|----------------|----------------|----------------|--------------|---------------|------------------|
| 5                   | 2                          | 1600                | 2558                   | 2750                   | 3668           | 4031               | 4430           | 5560           | -              | 11,120       | 16,680        | 22,240           |
| 10                  | 5                          | 1700                | 2781                   | 2990                   | 4844           | 5324               | 5850           | 6800           | -              | 13,600       | 20,400        | 27,200           |
| 10                  | 2                          | 2000                | 3134                   | 3370                   | 6227           | 6843               | 7520           | 8960           | -              | 17,920       | 26,880        | 35,840           |
| 25                  | 15                         | 1500                | 3236                   | 3480                   | 4604           | 5060               | 5560           | 6280           | -              | 12,560       | 18,840        | 25,120           |
| 25                  | 10                         | 1800                | 3376                   | 3630                   | 5631           | 6188               | 6800           | 7930           | -              | 15,860       | 23,790        | 31,720           |
| 25                  | 5                          | 2100                | 4064                   | 4370                   | 6476           | 7116               | 7820           | 9470           | -              | 18,940       | 28,410        | 37,880           |
| 50                  | 40                         | 1500                | 3060                   | 3290                   | 3925           | 4313               | 4740           | 5250           | -              | 10,050       | 15,750        | 21,000           |
| 50                  | 25                         | 1800                | 3674                   | 3950                   | 5615           | 6170               | 6780           | 8030           | -              | 16,060       | 24,090        | 32,120           |
| 50                  | 10                         | 2100                | 4064                   | 4370                   | 6227           | 6843               | 7520           | 8960           | -              | 17,920       | 26,880        | 35,840           |
| 75                  | 60                         | 1400                | 3255                   | 3500                   | 4182           | 4596               | 5050           | 5660           | -              | 11,320       | 16,980        | 22,640           |
| 75                  | 40                         | 1800                | 3543                   | 3810                   | 5010           | 5506               | 6050           | 7000           | -              | 14,000       | 21,000        | 28,000           |
| 75                  | 15                         | 2200                | 4018                   | 4320                   | 6227           | 6843               | 7520           | 8960           | -              | 17,920       | 26,880        | 35,840           |
| 100                 | 80                         | 1500                | 3162                   | 3400                   | 4265           | 4687               | 5150           | 5770           | -              | 11,540       | 17,310        | 23,080           |
| 100                 | 60                         | 1700                | 3543                   | 3810                   | 4944           | 5433               | 5970           | 6900           | -              | 13,800       | 20,700        | 27,600           |
| 100                 | 40                         | 1900                | 4111                   | 4420                   | 5548           | 6097               | 6700           | 7830           | -              | 15,660       | 23,490        | 31,320           |
| 100                 | 15                         | 2200                | 4334                   | 4660                   | 6484           | 7125               | 7830           | 9370           | -              | 18,740       | 28,110        | 37,480           |
| 125                 | 115                        | 1300                | 2957                   | 3180                   | 3495           | 3840               | 4220           | 4430           | -              | 8860         | 13,290        | 17,720           |
| 125                 | 100                        | 1400                | 3162                   | 3400                   | 4008           | 4404               | 4840           | 5150           | -              | 10,300       | 15,450        | 20,600           |
| 125                 | 80                         | 1500                | 3441                   | 3700                   | 4604           | 5060               | 5560           | 6280           | -              | 12,560       | 18,840        | 25,120           |
| 125                 | 60                         | 1700                | 3729                   | 4010                   | 5200           | 5715               | 6280           | 7310           | -              | 14,620       | 21,930        | 29,240           |
| 125                 | 40                         | 1900                | 4287                   | 4610                   | 5797           | 6370               | 7000           | 8340           | -              | 16,680       | 25,020        | 33,360           |
| 125                 | 15                         | 2200                | 4520                   | 4860                   | 6567           | 7216               | 7930           | 9680           | -              | 19,360       | 29,040        | 38,720           |

PRESSURE  
MOTIVE PUMPS

Capacity correction factors for different filling heads

| Pump Inlet size | Filling Head |     |      |      |      |     |     |
|-----------------|--------------|-----|------|------|------|-----|-----|
|                 | 6"           | 12" | 18"  | 24"  | 36"  | 48" | 60" |
| 1"              | 1.0          | 1.1 | 1.2  | 1.3  | 1.5  |     |     |
| 1 1/2"-2"       | 0.7          | 1.0 | 1.1  | 1.2  | 1.35 |     |     |
| 3"              | 0.84         | 1.0 | 1.04 | 1.08 | 1.2  |     |     |
| 4"              |              | 0.8 | 1.0  | 1.1  | 1.15 | 1.2 |     |

Capacity correction factors for Gas motive supply

| Pump Size | % backpressure vs. Motive pressure |      |      |      |      |      |      |      |      |
|-----------|------------------------------------|------|------|------|------|------|------|------|------|
|           | 10%                                | 20%  | 30%  | 40%  | 50%  | 60%  | 70%  | 80%  | 90%  |
| 1"        | 1.10                               | 1.13 | 1.16 | 1.20 | 1.25 | 1.30 | 1.35 | 1.40 | 1.45 |
| 1 1/2"-3" | 1.04                               | 1.06 | 1.08 | 1.10 | 1.12 | 1.15 | 1.18 | 1.23 | 1.28 |
| 4"        | No capacity change                 |      |      |      |      |      |      |      |      |

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ASME Sect VIII Div I  
**PP-130**

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