

## 2 & 2.2 hp (1.49 & 1.64 kW) Pump Models



### Key Features

- Choice of 16 models, 13 ratios, 46 possible combinations
- Output pressures to 100000 psi (7000 bar)
- Flows to 5 gpm (15 l/min)
- Choice of wetted materials
- Double and triple air heads
- Drive pressure 3 to 100 psi (.2 to 7 bar)

When using high pressure ratio pumps the reliability of the XH models (-452 through -1373) will be improved with an air driven supercharge pump, not only to simplify priming but to reduce fatigue stresses. The higher the supercharge, the better the results. Also install a relief valve to protect the lower pressure pump from potential back pressure. Supercharging of the -1373 model is recommended. This approach will ensure a reasonable life for the seals and other wear components.

| Model                | Nominal Ratio               | Maximum Working Pressure<br><small>Consult chart on page 6 for more information regarding continuous/intermittent pressures.</small> | Displacement per Cycle |
|----------------------|-----------------------------|--|------------------------|
| 2 hp                 | AW, ASF, DF, DSF, DSTV      | -B22 3200 psi (221 bar)  | 4 cu in (66.4 ml)      |
|                      |                             | -B32 4800 psi (331 bar)  | 2.7 cu in (44.3 ml)    |
|                      |                             | -52 8000 psi (552 bar)   | 1.6 cu in (26.6 ml)    |
|                      |                             | -72 11000 psi (758 bar)  | 1.2 cu in (19 ml)      |
|                      |                             | -122 19000 psi (1310 bar)  | .7 cu in (11 ml)       |
| 2.2 hp               | HF, HSF, DHF, DSHF          | -202 33000 psi (2275 bar)  | .4 cu in (6.7 ml)      |
|                      |                             | -302 50000 psi (3448 bar)  | .28 cu in (4.5 ml)     |
|                      | DXHF, DSXHF                 | -452 70000 psi (4827 bar)  | .18 cu in (3.0 ml)     |
|                      |                             | -602 75000 psi (5171 bar)  | .14 cu in (2.3 ml)     |
|                      | DXHF, DSXHF                 | -683 70000 psi (4827 bar)  | .18 cu in (3.0 ml)     |
|                      |                             | -903 75000 psi (5171 bar)  | .14 cu in (2.3 ml)     |
| DSXHW                | -1373 100000 psi (6895 bar) | .09 cu in (1.4 ml)   |                        |
| AFD, DSFD, DFD, ASFD | -B60 6500 psi (448 bar)     | 1.3 cu in (22 ml)  |                        |

*For service codes, see page 17.  
For weights and dimensions, see page 20.*

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## 3 hp (2.24 kW) Pump Models



### Key Features

- One model available in 8 ratios
- Output pressures to 33000 psi (2275 bar)
- Flow rates to 8 gpm (30 l/min)
- Single air head
- Drive pressure 3 to 150 psi (.2 to 10 bar)

| Model | Nominal Ratio | Maximum Working Pressure<br><small>Consult chart on page 6 for more information regarding continuous/intermittent pressures.</small> | Displacement per Cycle |
|-------|---------------|--|------------------------|
| ASFD  | 10            | 1600 psi (110 bar)   | 8.1 cu in (132.8 ml)   |
|       | 15            | 2400 psi (165 bar)   | 5.4 cu in (88.6 ml)    |
|       | 25            | 4000 psi (276 bar)   | 3.3 cu in (53.2 ml)    |
|       | 35            | 5700 psi (393 bar)   | 2.3 cu in (38 ml)      |
|       | 60            | 9800 psi (676 bar)   | 1.3 cu in (22 ml)      |
|       | 100           | 16500 psi (1138 bar)   | .8 cu in (13.4 ml)     |
|       | 150           | 20000 psi (1379 bar)   | .6 cu in (9 ml)        |
|       | 202           | 33000 psi (2275 bar)   | .8 cu in (13.4 ml)     |

*For service codes, see page 17.  
For weights and dimensions, see page 21.*

## Optional Modifications (for 2 hp, 2.2 hp and 3 hp pump models)

| Number | Description   |
|--------|---|
| -C     | Air controls (filter, regulator, gauge, shut-off. ½" NPT.   |
| -CP    | Air controls with precision regulator. ½" NPT.  |
| -CO    | Air controls with recycle button. ½" NPT.   |
| -CPO   | Air controls with precision regulator and recycle button. ½" NPT.   |
| -B     | Bottom Inlet (designate "B" before ratio dash number, "BR" on -B10, -B15, -B22 and -B32) 1.5 hp and 2 hp pumps (not applicable to high output, chemical, 2.2 hp, or AWD series pumps) |
| 16821  | Assures reliable drive operation with pressures low as 3 psi as long as 20 psi or more is provided to the separate ½" NPT port.   |
| 16831  | Low temperature modification. For special sealing in air drive for operating temperatures from as low as -20°F up to normal +120°F.   |
| 16834  | Exhaust adapter. With back pressure balance piston.   |
| 17860  | Electrical stroke counter provision. Includes BZE6-2RQ microswitch.   |
| 25721  | Mechanical stroke counter. Installed (6 digit).   |
| 27964  | Interconnecting inlet-outlet tubing. ½" female for 4:1 ratio series pumps (ATV-4 or DTV-4).   |
| 28000  | Threaded vent (or purge) ports on standard distance piece. Except 1.5:1 ratio and 3 hp pump.  |
| 28003  | Test port. Provides access port in pump's body between inlet and outlet check valves for 1.5 hp and 2 hp pumps, -10 ratio or higher, single acting.                                   |
| 28881  | External air pilot. Provides ½" NPT port for external air to pilot for remote start/stop operation.   |
| 29376  | Three-way cycling spool. For 1.5 hp and 2 hp single acting pumps.   |
| 29702  | Single stroke modification. Except 3 hp pump.   |
| 29806  | Double distance piece. For 1.5 hp and 2 hp pumps only, except 1.5:1 ratio.  |
| 51050  | Extreme service cycling modification. Not recommended for long stall periods.   |

| Number  | Description   |
|---------|---|
| 51056   | Exhaust/pilot vent combiner.  |
| 51331   | EPR (Ethylene propylene) static seals in wetted section. Applies to distance piece pumps only.  |
| 51345   | Sour gas drive provision to N.A.C.E. specifications. 1.5 hp to 2.2 hp distance piece pumps only, single air head and double air head. |
| 52788   | Viton seals. Air drive only – 1.5 hp to 2.2 hp pumps only.  |
| 53925   | Severe Arctic low temperature service. -25, -35, -60, -100, -150, -151, -225, -300, -450 ratios except 3 hp pump.                     |
| 53925-4 | Severe Arctic low temperature service. -10, -15, -22, -32   |
| 54885   | Rotate pump body 90° from standard. Except 3 hp pump.   |
| 54935   | SS trim for 5/3 air drive.  |
| 55191   | Mounting ring kit for AWD series.   |
| 55192   | 3/4 NPT inlet port installed on AWD series (in place of threaded port).   |
| 55193   | Extra foot bracket installed.   |
| 55305   | Tube ports. ⅝" SAE inlet and outlet – for 1.5 hp to 2 hp pumps, 15 pump minimum.  |
| 55465   | Ceramic Plunger -60 Ratio.  |
| 55516   | Polyurethane "W" seal in "F" series pumps-except high output models.  |
| 55630   | Stainless steel (SS-316) distance piece – for 1.5 thru 2 hp pumps.  |
| 59353   | Noise reduction kit fitted. Not available on AFD, DFD, ASFD or DSFD.  |
| 59888   | Cycle timer installed.  |
| 81453   | 3/8 HP outlet fitting.  |
| 81453-2 | 1/4 HP inlet fitting.   |
| 82460   | HNBR Seals in air drive section.  |
| 82500   | ATEX modification (not available on AW or DSXHW pumps).   |
| 86337   | Extended life air drive.  |

