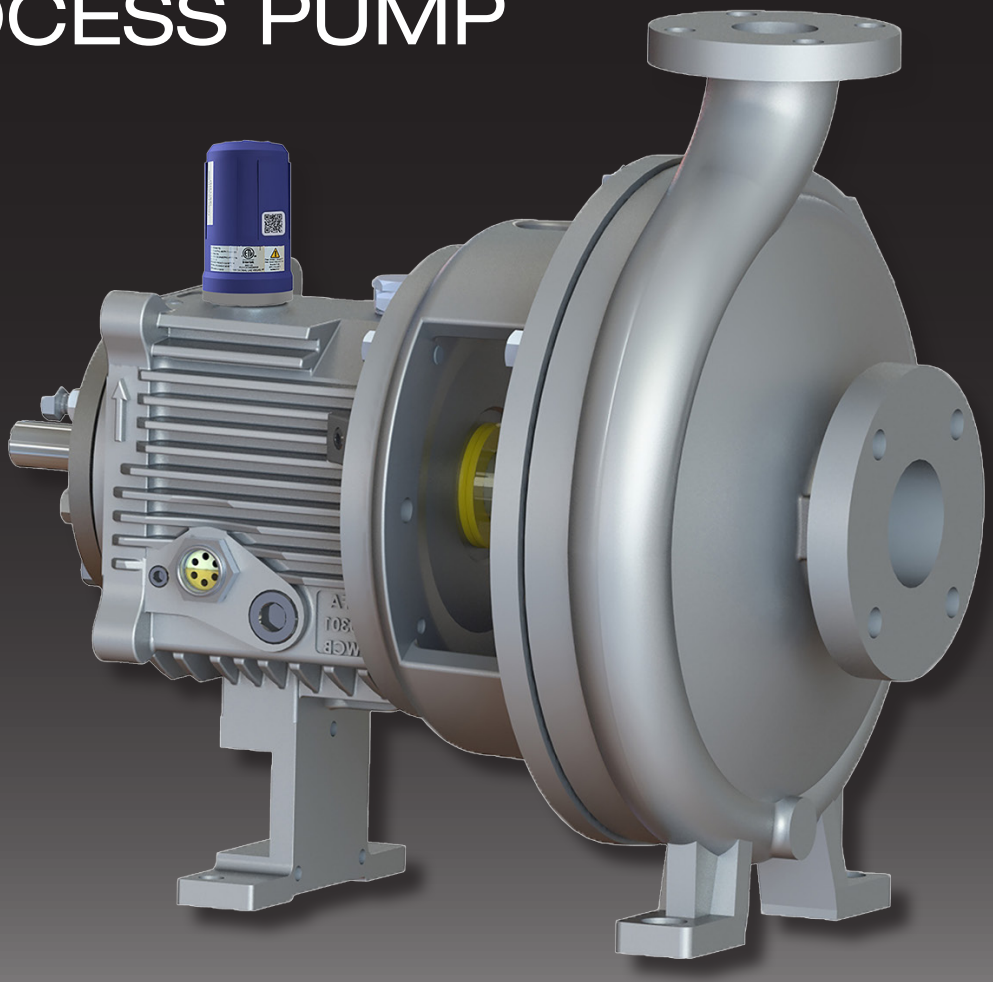
# PWA GEN 2

## ANSI/ASME B73.1 PROCESS PUMP



PumpWorks™

Engineered, Assembled, & Tested in the USA

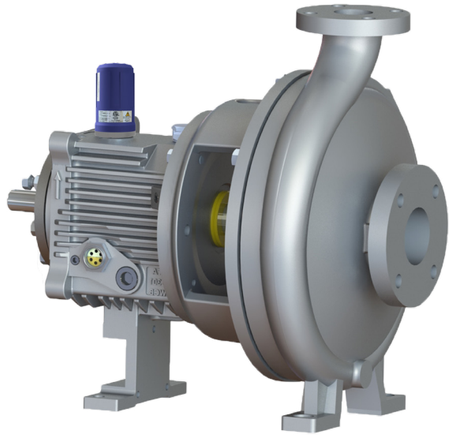
## COMPETITIVE ADVANTAGES

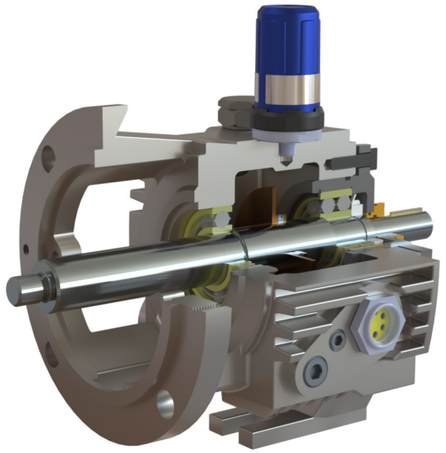
### Carbon Steel vs. Ductile Iron

High strength, impact resistant Carbon Steel liquid ends for improved durability and pressure containment.

Replaces non-repairable, ductile iron casing and impellers, with repairable carbon steel, for extended component life.

30% Higher Thermalconductivity than Cast Iron for improved heat dissipation, lower oil temperature and longer bearing life.





### Innovative Power Frame Features

All new power frame design for enhanced reliability. US Patent 10,288,081.

25% more cooling surface than PWA GEN 1.

Sealed lubrication chamber.

ISOMAG™ magnetic seals IP65 rated Power Frame sealing.

Sloped and segregated drain for contaminant isolation.

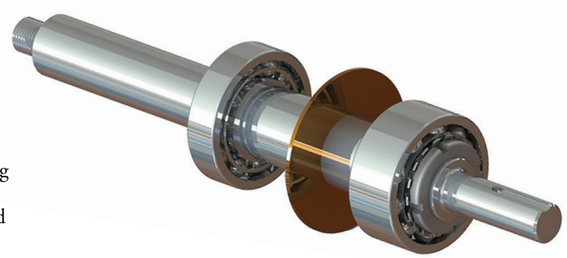
Optional Predict-Plus™ GEN 2 proactive pump monitor.

Zero power frame oil maintenance for up to 5 years when using SHELL Turbo S4 x 32 lubricant.

### Shaft and Bearing Assembly

Upgraded 316L SS vs. 4140 steel pump shaft is standard at no additional cost.

Proven flinger disk lubrication device to ensure effective bearing lubrication. Provides 30% increased bearing L-10 life and minimun 15ºF lower bearing operating temperatures compared to flood oil design.





PWA | GEN 2 ANSI/ASME B73.1 PROCESS PUMP

## LEVERAGING TECHNOLOGY

### PumpWorks Industrial leverages technology by providing:

- Superior manufacturing capabilities.
- Extensive inventory selection.
- Professional, reliable service.

### Manufacturing

All of our pumps are engineered, assembled and tested in the United States of America, utilizing exclusive state-of-the-art manufacturing equipment for all castings.This ensures consistent quality, product availability, and low cost of ownership.

### FOUNDRY PumpWorks Castings

Precision investment cast impellers yields exceptionally smooth surface finish ensuring repeatable, efficient hydraulic performance.

One ton piece part capacity. Metallurgies from Carbon Steel through Titanium.

Complete in house casting inspection includes certified spectrographic, hardness, physical properties and live casting X-ray analysis.

### Inventory

Pump and component inventory in a variety of material options are strategically located through the Northern Hemisphere ensuring consistent, rapid shipment tailored to customer requirements.

### Service

Fully staffed professional sales and service teams providing superior customer support is available 24/7/365.

ePOD Pump Selector access by end users and specifiers available online at no additional cost at www.pumpworks.com.

## Quality

Engineered, assembled and tested in the USA

## ePod Pump Selector

Access to end users and specifiers to select your pump application online at www.pumpworks.com, no password or login required.

## Delivery

Pump components strategically inventoried for rapid shipment in a variety of material options.

**CASING**

Carbon Steel ASTM A216 material standard for improved durability and pressure containment

Precision serrated flange face finish for optimum gasket retention and sealing

Class 150# standard and 300# option

Self venting, centerline mounted discharge flange

Casing thickness exceeds ASME B73.1specification for increased casing life

Back pull out design for easy maintenance

Full line of corrosive resistant materials

**CASING GASKET**

Fully confined to maximize liquid sealing

Protects casing fits from corrosion, therefore increases maintenance ease and proper alignment during reassembly

**SEAL CHAMBER/SEALING OPTIONS**

Multiple seal chambers for maximum sealing flexibility for all process applications

Accommodates all mechanical seal manufacturer's component and ANSI cartridge seal configurations

Supports the full array of CPI seal support system options

Ensures superior leak protection with maximum heat dissipation, maximizing seal life and pump reliability

**IMPELLER**

Semi open for increased corrosion, abrasion and solids wear resistance

Back pump out vanes for reduced thrust loading and seal chamber operating pressure

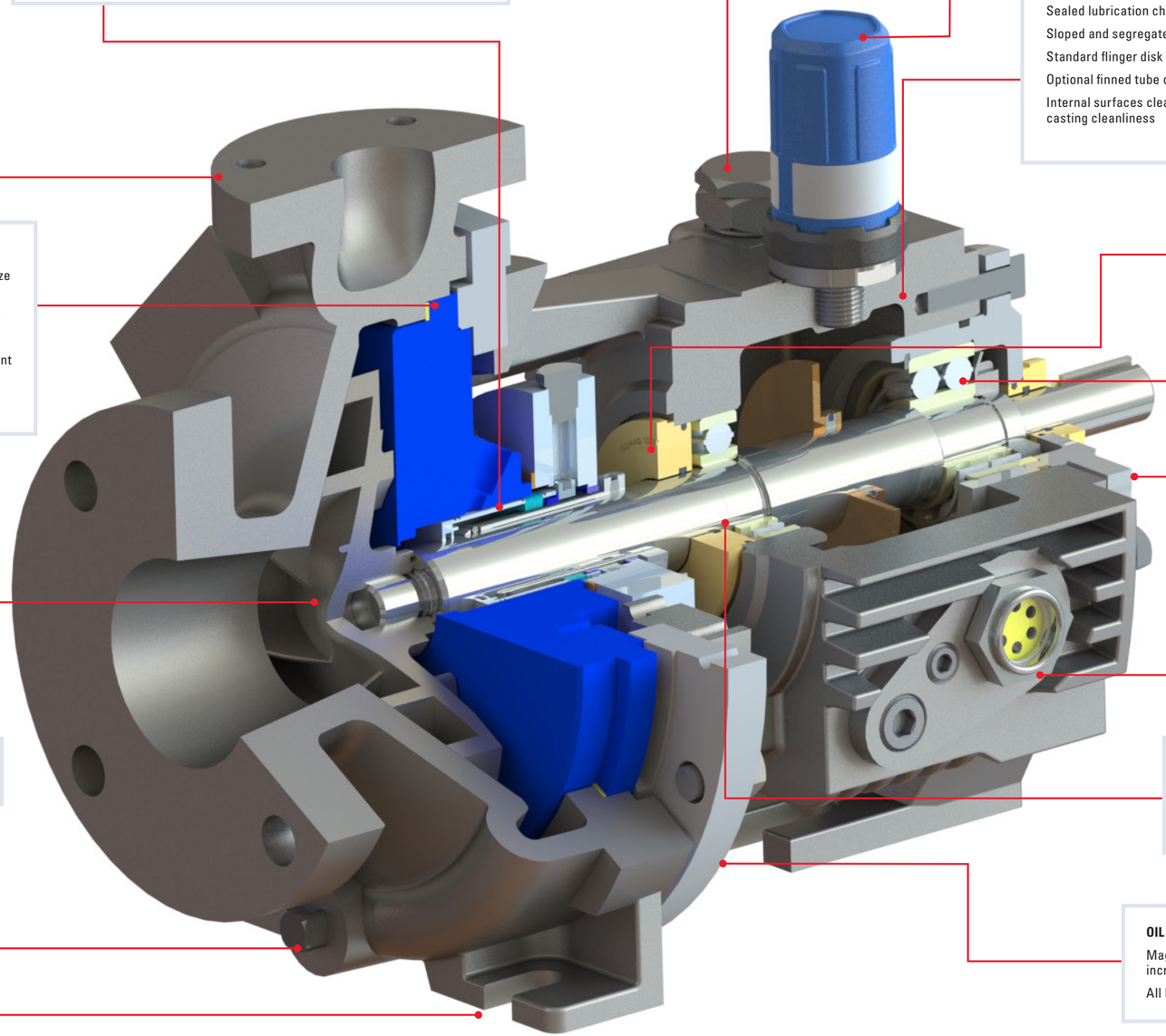
**CASING DRAIN**

Optional casing drain

**FOOT MOUNTED CASING**

Maximum casing stability and support for back pull out maintenance feature

Reduced vibration





PWA | GEN 2 ANSI/ASME B73.1 PROCESS PUMP

**PREDICT-PLUS ™ GEN 2 PROACTIVE PUMP MONITOR**

Temperature and 3 axis vibration monitoring

IP66 and Class 1, Div.1 compliant

**SEALED FILL CAP**

Oversized for easier oil changes

**BEARING HOUSING**

25% additional cooling surface area than PWA GEN 1

Sealed lubrication chamber

Sloped and segregated drain for isolation of contaminants

Standard flinger disk design with optional purge or pure oil mist lubrication

Optional finned tube cooler for process temperatures above 450° F

Internal surfaces cleaned, rust preventative applied, and enamel coated assuring internal casting cleanliness

**ISOMAH MAGNETIC SEALS**

IP 65 rated Power Frame sealing

**THRUST BEARING**

Heavy duty double row standard

Optional duplex angular contact thrust bearing

**EXTERNALLY ADJUSTABLE SHAFT AND IMPELLER SYSTEM**

Easily adjust impeller to front casing clearance without removal of pump from piping

Restoration to factory efficiencies

**TWO OIL LEVEL SIGHT GLASSES**

1" sight glass located on each side of bearing housing for flexible viewing

**SHAFT AND BEARING SYSTEM**

Rigid, heavy duty design for increased reliability

Exceeds ANSI/ASME B73.1 bearing life specifications requirements

316L SS shaft material is standard with optional material upgrades available

**OIL SUMP DRAIN PLUG (OPPOSITE SIDE)**

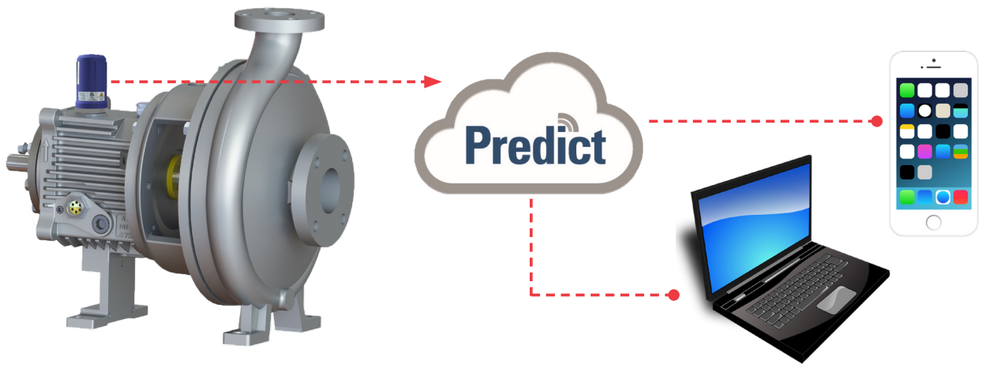
Magnetic plug to maintain bearing housing cleanliness and increased protection

All PWA drain plugs located on side of frames for easy access

# Predict-Plus™

YOUR PUMP WANTS TO TALK TO YOU™

**Predict-Plus is the only wireless, cloud connected, continuous machinery health monitor designed specifically for your rotating equipment needs.**




### Always On
Predict-Plus is CONTINUOUSLY monitoring and logging your pump's health.

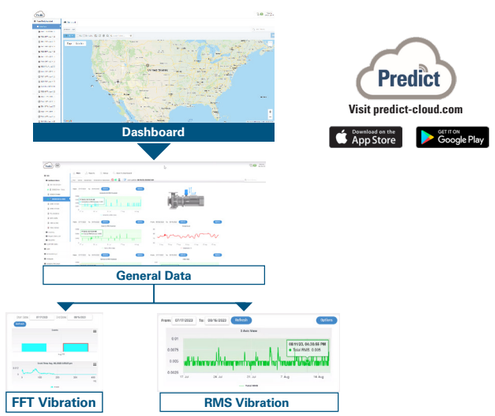
### Class 1, Division 1
Intrinsically safe

### Vibration
Self-Calibrating Tri-Axial Accelerometer to capture FFT and RMS vibration data.

### Bearing Temperature
Integrated RTD for bearing temperature monitoring.

### Alerts
Proactive alerts via email and SMS from Predict-Cloud.

- 24/7 online vibration and temperature monitoring device
- Automatic device registration on the cloud via cellular interface
- Proactive alerts from the Predict-Cloud
- Long term storage of trend data including Fast Fourier Transform (FFT)
- Affordable & available for new and existing rotating equipment



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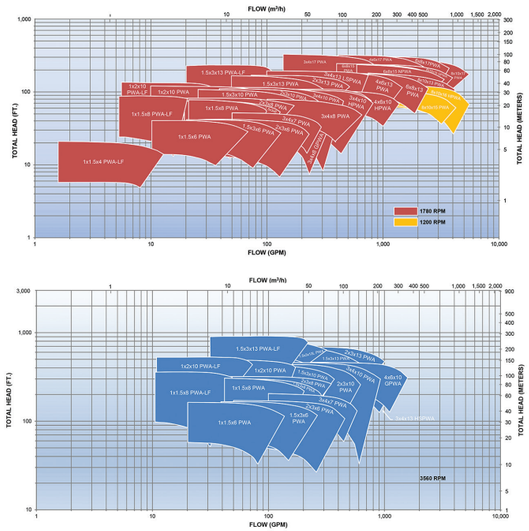
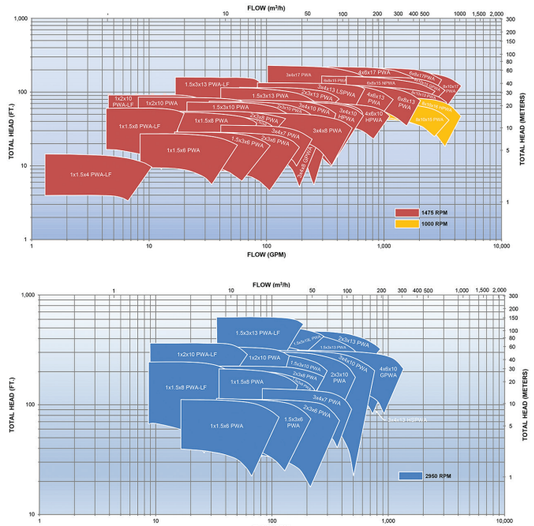
## HYDRAULIC PERFORMANCE COVERAGE

### 60 Hz Performance Coverage




### 50 Hz Performance Coverage




### Capabilities

- Capacities to 1,364 m³/h | 7,000 GPM
- Heads to 223 m | 730 ft
- Temperatures to 371° C | 700° F
- Pressures to 26 bar | 375 PSIG

### Capabilities

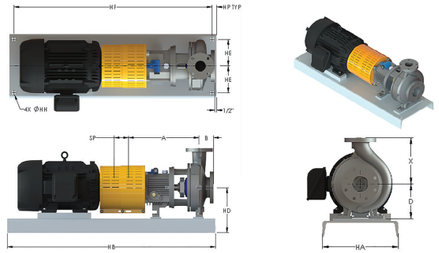
- Capacities to 1,130 m³/h | 5,800 GPM
- Heads to 154 m | 503 ft
- Temperatures to 371° C | 700° F
- Pressures to 26 bar | 375 PSIG

ePOD ELECTRONIC PUMP ON DEMAND

Visit our web site at www.pumpworks.com and specify flow and performance needs and obtain pump selection and performance curve.

*Performances shown are nominal and are to be used for preliminary selection only.*

## PUMP DIMENSIONS & WEIGHTS





| NEMA MOTOR FRAME | WEIGHT lbs (kg) |
|---|---|
| 182 T | 98 (45) |
| 184 T | 128 (58) |
| 213 T | 197 (89) |
| 215 T | 226 (103) |
| 254 T | 375 (170) |
| 256 T | 412 (187) |
| 284 T | 495 (225) |
| 286 T | 519 (235) |

| NEMA MOTOR FRAME | WEIGHT lbs (kg) |
|---|---|
| 324 T | 700 (318) |
| 326 T | 756 (343) |
| 364 T | 948 (430) |
| 365 T | 1009 (458) |
| 405 T | 1330 (603) |
| 444 T | 1820 (826) |
| 445 T | 1893 (859) |
| 447 T | 2343 (1073) |
| 449 T | 3020 (1370) |

*Not to be used for construction unless certified by manufacturer.*

| FRAME | SIZE | ANSI DESIGNATION | DISCHARGE SIZE | SUCTION SIZE | X | A | B | D | SP | WEIGHT BARE PUMP lbs (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| GROUP 1 | 1 x 1.5 x 6 | AA | 1 | 1.5 | 6.5 (165) | 13.5 (343) | 4.0 (102) | 5.25 (133) | 3.75 (95) | 88 (40) |
| | 1.5 x 3 x 6 | AB | 1.5 | 3 | | | | | | 97 (43) |
| | 2 x 3 x 6 | AC | 2 | 3 | | | | | | 100 (45) |
| | 1 x 1.5 x 8 | AA | 1 | 1.5 | | | | | | 105 (47) |
| | 1.5 x 3 x 8 | AB | 1.5 | 3 | | | | | | 113 (51) |
| GROUP 2/ GROUP 3 | 3 x 4 x 7 | A70 | 3 | 4 | 11 (280) | 19.5 (496) | 4 (102) | 8.25 (210) | 3.75 (95) | 231 (104) |
| | 2 x 3 x 8 | A60 | 2 | 3 | 9.5 (242) | | | | | 210 (95) |
| | 3 x 4 x 8 | A70 | 3 | 4 | 11 (280) | | | | | 231 (104) |
| | 3 x 4 x 8G | A70 | 3 | 4 | | | | | | |
| | 1 x 2 x 10 | A05 | 1 | 2 | 8.5 (216) | | | | | 210 (95) |
| | 1.5 x 3 x 10 | A50 | 1.5 | 3 | | | | | | 231 (109) |
| | 2 x 3 x 10 | A60 | 2 | 3 | 9.5 (242) | | | | | 242 (109) |
| | 3 x 4 x 10 | A70 | 3 | 4 | 11 (280) | | | | | 278 (125) |
| | 3 x 4 x 10H | A40 | 3 | 4 | 12.5 (318) | | | 10 (254) | | 289 (130) |
| | 4 x 6 x 10G | A80 | 4 | 6 | 13.5 (343) | | | | | 320 (144) |
| | 4 x 6 x 10H | A80 | 4 | 6 | | | | | | |
| | 1.5 x 3 x 13 & 13L | A20 | 1.5 | 3 | 10.5 (267) | | | | | 257 (116) |
| | 2 x 3 x 13 | A30 | 2 | 3 | 11.5 (292) | | | | | 289 (130) |
| | 3 x 4 x 13 | A40 | 3 | 4 | 12.5 (318) | | | | | 347 (156 |
| | 4 x 6 x 13 | A80 | 4 | 6 | 13.5 (343) | | | | | 425 (191) |
| GROUP 4/ GROUP 4–17 | 6 x 8 x 13 | A90 | 6 | 8 | 16 (406) | 27.875 (708) | 6 (152) | 14.5 (368) | 5.25 (133) | 588 (265) |
| | 8 x 10 x 13 | A100 | 8 | 10 | 18 (457) | | | | | 704 (317) |
| | 6 x 8 x 15 | A110 | 6 | 8 | | | | | | 641 (288) |
| | 8 x 10 x 15 | A120 | 8 | 10 | 19 (483) | | | | | 777 (350) |
| | 8 x 10 x 15G | A120 | 8 | 10 | | | | | | 746 (336) |
| | 8 x 10 x 16H | A120 | 8 | 10 | | | | | | 893 (402) |
| | 3 x 4 x 17 | - | 3 | 4 | 16 (406) | | | | | 620 (279) |
| | 4 x 6 x 17 | A105 | 4 | 6 | | | | | | 683 (307) |
| | 6 x 8 x 17 | A110 | 6 | 8 | 18 (457) | | | | | 767 (345) |
| | 8 x 10–17 & 17H | A120 | 8 | 10 | 19 (483) | | | | | 872 (392) |

*Dimensions in inches (mm), weights in lbs.(kg). Weights and dimensions are approximate and not to be used for construction.*

## BASEPLATE DIMENSIONS & WEIGHTS

| MAX NEMA FRAME | ANSI BASEPLATE NUMBER | HA | HB | HD MAX | | | | HE | HF | HH | HP TYP | WEIGHT lb (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | D=5.25 (133) | D=8.25 (210) | D=10 (254) | D=14.5 (368) | | | | | |
| 184 T | 139 | 12 (381) | 39 (991) | 9 (229) | | | | 4.5 (114) | 36.5 (927) | 0.75 (19) | 1.25 (32) | 124 (56) |
| 256 T | 148 | 15 (457) | 48 (1219) | 10.5 (267) | | | | 6 (152) | 45.5 (1156) | 0.75 (19) | 1.25 (32) | 195 (89) |
| 326 TS | 153 | 18 (533) | 53 (1346) | 12.88 (327) | | | | 7.5 (191) | 50.5 (1283) | 0.75 (19) | 1.25 (32) | 258 (117) |
| 184 T | 245 | 12 (381) | 45 (1143) | | 12 (305) | 13.75 (349) | | 4.5 (114) | 42.5 (1080) | 0.75 (19) | 1.25 (32) | 133 (61) |
| 215 T | 252 | 15 (457) | 52 (1321) | | 12.38 (314) | 14.13 (359) | | 6 (152) | 49.5 (1257) | 0.75 (19) | 1.25 (32) | 189 (86) |
| 286 T | 258 | 18 (533) | 58 (1473) | | 13 (330) | 14.75 (375) | | 7.5 (191) | 55.5 (1410) | 1 (25) | 1.25 (32) | 278 (127) |
| 365 T | 264 | 21 (533) | 64 (1626) | | 13.88 (353) | 14.75 (375) | | 7.5 (191) | 61.5 (1562) | 1 (25) | 1.25 (32) | 395 (180) |
| 405 TS | 268 | 24 (660) | 68 (1727) | | 14.88 (378) | 14.88 (378) | | 9.5 (241) | 65.5 (1664) | 1 (25) | 1.25 (32) | 430 (196) |
| 449 TS | 280 | 26 (660) | 80 (2032) | | 15.88 (403) | 15.88 (403) | | 9.5 (241) | 77.5 (1969) | 1 (25) | 1.25 (32) | 437 (198) |
| 286 T | 368 | 24 (660) | 68 (1727) | | | | 19.25 (489) | 9.5 (241) | 66.5 (1664) | 1 (25) | 1.25 (32) | 456 (208) |
| 405 T | 380 | 26 (660) | 80 (2032) | | | | 19.25 (489) | 9.5 (241) | 77.5 (1969) | 1 (25) | 1.25 (32) | 580 (263) |
| 449 T | 398 | 26 (660 | 98 (2489) | | | | 19.25 (489) | 9.5 (241) | 95.5 (2426) | 1 (25) | 1.25 (32) | 839 (382) |

*Dimensions in inches (mm), weights in lbs.(kg). Weights and dimensions are approximate and not to be used for construction.*



PWA | GEN 2 ANSI/ASME B73.1 PROCESS PUMP

## PWA INTERCHANGEABILITY CHART

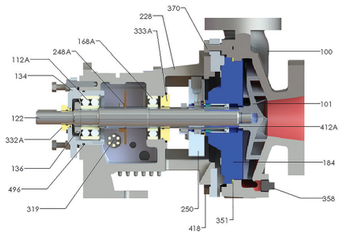
| FRAME | SHAFT & FRAME ASSEMBLY | ADAPTER | COVER | IMPELLER | CASE | SIZE |
|---|---|---|---|---|---|---|
| GROUP 1 1-3/8" Shaft Dia. Max BHP-40 HP | | | | | | 1 x 1.5 x 6 AA<br>1.5 x 3 x 6 AB<br>2 x 3 x 6 AC<br>1 x 1.5 x 8 AA<br>1.5 x 3 x 8 AB |
| GROUP 2 1-3/4" Shaft Dia. Max BHP-122 HP | | | | | | 3 x 4 x 7 A70<br>2 x 3 x 8 A60<br>3 x 4 x 8 A70<br>3 x 4 x 8G A70<br>1 x 2 x 10 A05<br>1.5 x 3 x 10 A50<br>2 x 3 x 10 A60<br>3 x 4 x 10 A70<br>3 x 4 x 10H A40<br>4 x 6 x 10G A80<br>4 x 6 x 10H A80<br>1.5 x 3 x 13 A20<br>2 x 3 x 10 A30<br>3 x 4 x 13 A40<br>4 x 6 x 13 A80 |
| GROUP 3 2-1/8" Shaft Dia. Max BHP-200 HP | | | | | | 1 x 2 x 10 A05<br>1.5 x 3 x 10 A50<br>2 x 3 x 10 A60<br>3 x 4 x 10 A70<br>3 x 4 x 10H A40<br>4 x 6 x 10G A80<br>4 x 6 x 10H A80<br>1.5 x 3 x 13 A20<br>2 x 3 x 13 A30<br>3 x 4 x 13 A40<br>4 x 6 x 13 A80 |
| GROUP 4 Max BHP-250 HP Group 4-17 H Max BHP-350 HP | | | | | | 6 x 8 x 13 A 90<br>8 x 10 x 13 A100<br>6 x 8 x 15 A110<br>8 x 10 x 15 A120<br>8 x 10 x 15G A120<br>8 x 10 x 1gH A120<br>4 x 6 x 17 A105<br>6 x 8 x 17 A110<br>8 x 10 x 17 A120 |

## PARTS LIST AND MATERIALS OF CONSTRUCTION

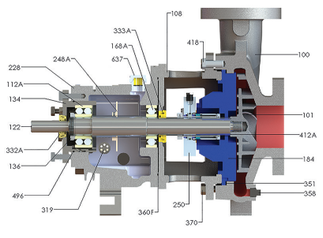
| ITEM REF NUMBER | PART NAME | CARBON STEEL | CARBON STEEL W/ 316L SS IMPELLER | 316L SS | CA6NM (12 % CHROME) | Duplex SS CD4 Gr1B | Super Duplex SS CD4 Gr5A | ALLOY 20 | MONEL | NICKEL | HASTELLOY B, C, & G | TITANIUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | Casing | • | Carbon Steel | • | • | • | • | • | • | • | • | • |
| 101 | Impeller | • | 316L SS | • | • | • | • | • | • | • | • | • |
| 105 | Lantern Ring | Glass Filled Teflon | | | | | | | | | | |
| 106 | Packing, Stuffing Box | Teflon–Impregnated Fibers | | | | | | | | | | |
| 108 | Adapter, Frame | Carbon Steel | | | | | | | | | | |
| 112 A | Thrust Bearing | Double Row Angular Contact–note (1) | | | | | | | | | | |
| 122 | Shaft–Less Sleeve | 316L SS (Optional Alloy 20 & Duplex SS A2205) | | | | Duplex A2205 | | • | • | • | • | • |
| 122 | Shaft with Sleeve | 316L SS (Optional Alloy 20 & Duplex SS A2205) | | | | | | | | | | |
| 126 | Shaft Sleeve | 316L SS (Optional Alloy 20 & Duplex SS A2205) | | | | Super Duplex SS | Super Duplex SS | • | • | • | • | • |
| 134 | Thurst Bearing Housing | Carbon Steel | | | | | | | | | | |
| 136 | Bearing Lock Nut and Lock Washer | Steel | | | | | | | | | | |
| 168 A | Radial Bearing | Signle Row Deep Groove | | | | | | | | | | |
| 184 | Cover, Stuffing Box (Packed Box) | • | Carbon Steel | • | • | • | • | • | • | • | • | • |
| 184 | Seal Chamber (Mechanical Seal) | • | Carbon Steel | • | • | • | • | • | • | • | • | • |
| 228 | Frame, Bearing | Carbon Steel | | | | | | | | | | |
| 248 A | Flinger with Set Screws | Bronze with Steel Set Screws | | | | | | | | | | |
| 250 | Gland–Seal/Packing | 316L SS | | | • | • | • | • | • | • | • | • |
| 370 | Stud/Nut, Cover to Adapter | 304 SS | | | | | | | | | | |
| 319 | Sight Glass–Oil | Glass/Steel | | | | | | | | | | |
| 332 A | Labyrinth Seal (Outboard) | Bronze | | | | | | | | | | |
| 333 A | Labyrinth Seal (Inboard) | Stainless Steel/Bronze | | | | | | | | | | |
| 351 | Gasket, Casing | Aramid Fiber with Binder | | | | | | | | | | |
| 358 | Plug, Casing Drain (Optional) | • | Carbon Steel | • | • | • | • | • | • | • | • | • |
| 360 F | Gasket, Frame to Adapter | Buna Rubber | | | | | | | | | | |
| 360 C | Gasket, Bearing End Cover | Cellulose Fiber with Binder | | | | | | | | | | |
| 370 | Cap Screw, Adapter to Casing | Stainless Steel, ASTM A193 | | | | | | | | | | |
| 412 A | O-Ring, Impeller | Glass Filled Teflon | | | | | | | | | | |
| 418 | Jacking Bolt | 304 SS | | | | | | | | | | |
| 469 B | Dowel Pin, Frame to Adapter | Steel | | | | | | | | | | |
| 496 | O–Ring, Bearing Housing | Buna Rubber | | | | | | | | | | |
| 637 | Filter Vent | Carbon Steel | | | | | | | | | | |

*(1) Duplex angular contact bearing Standard on Group 3, Bearing Frame and optional on Group 1, 2, and 4.*

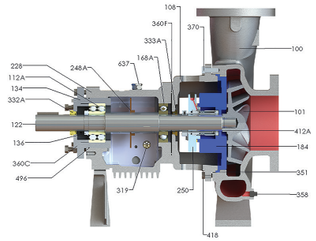
### Group 1 *Sectional View PWA Gen 2*




### Group 2/3 *Sectional View PWA Gen 2*




### Group 4 *Sectional View PWA Gen 2*






PWA | GEN 2 ANSI/ASME B73.1 PROCESS PUMP

## TECHNICAL DATA

*All dimensions in inches (mm).*

| | | GP1 | GP2 | GP3 | GP4 |
|---|---|---|---|---|---|
| Shaft* | Shaft Diameter at Impeller | 0.75 (19) | 1 (25) | 1.25 (32) | 1.5 (38) |
| | Diameter in Stuffing Box/Seal Chamber<br>Less Sleeve<br>With Sleeve | <br>1.375 (35)<br>1.125 (29) | <br>1.75 (45)<br>1.5 (38) | <br>2.125 (54)<br>1.875 (48) | <br>2.5 (64)<br>2 (51) note 1 |
| | Diameter Between Bearings | 1.5 (38) | 2.125 (54) | 2.5 (64) | 3.125 (79) |
| | Diameter at Coupling | 0.875 (22) | 1.125 (29) | 1.875 (48) | 2.375 (60) |
| | Overhang | 6.125 (156) | 8.375 (213) | 8.375 (213) | 9.969 (253) |
| | Maxium Shaft Deflection | 0.002 (0.05) | | | |
| | Shaft Deflection Index ($L^3/D^4$)<br>Less Sleeve<br>With Sleeve | <br>64<br>143 | <br>63<br>116 | <br>29<br>48 | <br>25<br>62 |
| Sleeve* | Outside Diameter thru Stuffing Box/Seal Chamber | 1.375 (35) | 1.75 (45) | 2.125 (54) | 2.5 (64)<br>note 1 |
| Bearings | Radial | 6207 | 6309 | 6311 | 6313 |
| | Thrust | 3306 | 3309 A/C3 | 7310 | 3313 |
| | Bearing Span | 4.125 (105) | 6.75 (171) | 6.875 (164) | 9.25 (235) |
| Large Bore Seal Chamber* | Bore | 2.875 (73) | 3.5 (89) | 3.875 (98) | 4.75 (120)<br>note 1 |
| Stuffing Box* | Bore | 2 (51) | 2.5 (64) | 2.875 (73) | 3.375 (86)<br>note 1 |
| Maximum Power Limits | HP (kW) per 100 RPM | 1.1 (0.82) | 3.4 (2.6) | 5.6 (4.2) | 14 (10.5)<br>note 2 |
| Maximum Allowable Working Pressure (note 3) | MAWP PSI (Kap)** | up to 285 PSI (1965 Kpa) at 100°F with 150 # flanges | | | |
| | | up to 375 PSI (2586 Kpa) 100°F with 300 # flanges | | | |
| | | *Consult Pressure Temperature chart for various temperatures | | | |
| Maximum Temperature (note 4) | Oil or Grease Lubricated Bearing Frame without Optional Cooling | 350°F (177°C) | | | |
| | Oil Lubricated Power Frame with Optional Cooling | 700°F (370°C) | | | |
| Casing | Corrosion Allowance | 0.125 minimum | | | |

*NOTES:*

1. *17 inch pump sizes - Shaft diameter at Stuffing Box / Seal Chamber is 2.25 inches (57) with sleeve. Shaft Sleeve Outside Diameter is 2.75 inches (70) for packing and 2.5 inches (64) for mechanical seals. Seal chamber bore is 4.75 inches (121). Stuffing box bore is 3.625 inches (92).*
2. *17 inch pump sizes power limitation per 100 RPM is 20HP (15kW).*
3. *Hydro-static test pressure equal to 1.5 times Maximum Allowable Working Pressure.*
4. *Pressure ratings to 740 PSI (5137 kPa) – consult factory.*
5. *Tube Finned Cooler, Jacketed Seal Chamber, Graphite Impeller O-ring and Casing Gasket for temperatures between 450° F (232° C) to 700° F (370° C).*

### Test Facilities

- Test flows up to
- 7,500 GPM.

- Discharge test pressures up to 740 PSI.
- Supply tank rated from full vacuum to 65 psi.
- 460 volt through 500 HP, 3600 RPM.
- Variable Frequency Drive for precise speed control through 500 HP @ 460 volt.

*See our Test Facilities Brochure for more information.*

### Typical Industries

- Chemical/Petrochemical
- Pulp and Paper
- Food and Beverage
- Oil and Gas
- Primary Metals Manufacturing
- Mining
- Power Generation
- Waste Treatment
- General Industrial

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