PWB

API 610 BB5
Barrel Pump
**DESIGN FEATURES AND BENEFITS**

**Bearing Housing**
- Finned design improves heat dissipation for cooler running bearing
- Optional KTB bearing housing for higher speed or energy density applications (Shown)
- Large bearing housing easily accommodates vibration switches, transmitters and proximity probes

**Seal Chamber**
- API 610 seal chamber allows user to install any API 682 cartridge seal to meet process requirements
- Renewable throat bushing for controlled seal chamber environment

**Double Volute**
- Precision cast hydraulic passageways minimizes radial thrust for less shaft deflection and bearing loading

**Renewable Wear Rings**
- All wear rings are replaceable permitting re-establishing initial running clearances and efficiency

**Quality**
- Manufactured and tested in the USA

**Impeller**
- Precision cast for maximum efficiency
- Dynamically balanced to 4W/N before mounting
- Opposing impeller design to limit axial thrust to maximize thrust bearing life
- Individually keyed, shrunk fit and restrained in the direction of thrust by split ring
- Mounted on shaft with vane tips staggered for reduced pressure pulsation
- Optional double suction large eye first stage impeller for lower NPSH performance

**Flanges**
- ANSI B16.5 Class 1500# RTJ flanges – standard
- Optional 900# or 2500# flange rating

**Nozzles**
- Cast integrally in the lower half casing, permitting disassembly without disturbing piping connections
- Standard side-side design for pipeline applications
- Optional top-top design available

**Labyrinth Oil Seal**
- ISOMAG™ bearing isolators to provide optimum bearing housing environment

**Bearing Lubrication**
- Ring oil lubrication to ensure effective lubrication
**ePOD Pump Selector**
- Access to end users and specifiers to select your pump online at [www.pumpworks610.com](http://www.pumpworks610.com) – no password or login required

**Center Bushing**
- Split design facilitates inspection, removal and replacement
- Sized to balance axial thrust
- Provides maximum rotating element support and dampening

**Case Studs & Bolts**
- Torque to 42,000 psi stress for maximum clamping force on the split line
- Case nuts are high strength “Turbine” type cap nuts

**Auxiliary Connections**
- Integrally cast vent, process, and drain connections

**Balance Line**
- Dual internal balance lines in the inner casing maintains equal seal chamber pressure, and proper hydraulic thrust

**Casing**
- Centerline mounted feet cast integral to case barrel to minimize thermal growth in hot service
- Wide feet design to minimize affects of forces and moments imposed by the system piping
- Hydrostatic test of pressure containing parts to 1.5 MAWP

**Bearing Design**
- Standard - Sleeve / Ball
- Optional - Sleeve / Kingsbury™

**Delivery**
- 48 weeks for standard design API 610 material class S-4, S-5, S-6, S-8, C-6, & A-8
- Refer to the factory on deliveries for other API material classes and customer specific material combinations
HYDRAULIC PERFORMANCE COVERAGE

50 Hz Performance Coverage

FLOW (m³/h)

TOTAL HEAD PER STAGE (FT)

FLOW (GPM)

TOTAL HEAD PER STAGE (METERS)

60 Hz Performance Coverage

FLOW (m³/h)

TOTAL HEAD PER STAGE (FT)

FLOW (GPM)

TOTAL HEAD PER STAGE (METERS)

Capabilities
- Capacities to 5,400 gpm | 1,227 m³/hr
- Heads to 23,000 ft | 7,010 m
- Temperature Range = 800°F | 427°C
- Pressures to 6,250 psig | 431 barg

Visit our web site at www.pumpworks610.com and specify flow and performance needs and obtain pump selection and performance curve.

STANDARD MATERIALS OF CONSTRUCTION

<table>
<thead>
<tr>
<th>API MATERIAL CLASS</th>
<th>S-4</th>
<th>S-6</th>
<th>S-8</th>
<th>C-6</th>
<th>A-8</th>
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<tbody>
<tr>
<td>CASING</td>
<td>A-216 GRADE WC8</td>
<td>A216 GRADE WC8</td>
<td>A216 GRADE WC8</td>
<td>A487 GRADE CA6NM</td>
<td>A351 GRADE CF3M</td>
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<td>IMPELLER</td>
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<td>A487 GRADE CA6NM</td>
<td>A743 GRADE CF3M</td>
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<td>A479 TYPE XM-19</td>
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<td>A216 GRADE WC8</td>
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<tr>
<td>IMPELLER WEAR RINGS</td>
<td>CAST IRON</td>
<td>410 SS HT; 255-302 BHN</td>
<td>316 SS HARD FACED</td>
<td>410 SS HT; 255-302 BHN</td>
<td>316 SS HARD FACED</td>
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<tr>
<td>CASING WEAR RINGS</td>
<td>CAST IRON</td>
<td>420 SS; 400-450 BHN</td>
<td>316 SS HARD FACED</td>
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<td>316 SS HARD FACED</td>
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<td>THROAT BUSHING</td>
<td>CAST IRON</td>
<td>410 SS HT; 255-302 BHN</td>
<td>316 SS HARD FACED</td>
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<td>A-193 GRADE B-7</td>
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*Other API 610 Material Classes and Combinations are available including D-1 and D-2.*