
General description
A range of vertical long shaft single stage centrifugal end suction pump manufactured in a variety of alloys. Designed to suit customer requirements with lengths available up to 6m sump depth.

Construction
Heavy duty modular design maximising flexibility to suit customer’s application.

Design methodology
Advanced computer techniques including 3D modelling, FEA & CFD

Design standards
API 610 11th : 2010, ISO 13709 : 2010
ATEX EC-Directive 94/9/EC

Design pressure rating
20 barg at 38°C (pressure containing parts)

6.7 barg at 38°C (steam jacketing)

Operating temperature rating
-40°C to 160°C (standard construction)

Performance envelope

Flowrate
Up to 715 m³/h

Differential head
Up to 225 m

Speed
Up to 1750 rpm

Configurations
Flange mount

Plate mount (circular / rectangular)

Frame sizes
040x025x225 to 200x150x325

Design life
20 years (3 years uninterrupted operation)

Material options

<table>
<thead>
<tr>
<th>Casing</th>
<th>Impeller</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM A351 CF 3M</td>
<td>ASTM A351 CF 3M</td>
</tr>
<tr>
<td>Cast iron</td>
<td>Cast iron</td>
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<tr>
<td>ASTM A278 Class 30</td>
<td>ASTM A278 Class 30</td>
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<td>ASTM A278 Class 30</td>
<td>ASTM A278 Class 30</td>
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<tr>
<td>ASTM A216 WCB</td>
<td>ASTM A216 WCB</td>
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<td>ASTM A680 Grade 6A (UNS J93380)</td>
<td>ASTM A680 Grade 6A (UNS J93380)</td>
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<td>ASTM A494 Gr N 7M</td>
<td>ASTM A494 Gr N 7M</td>
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<td>ASTM A494 Gr C 2/2</td>
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<tr>
<td>ASTM A494 Gr CW 12/12</td>
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<td>ASTM A494 Gr M 3/3</td>
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<td>ASTM A494 Gr M 3/3</td>
<td>ASTM A494 Gr M 3/3</td>
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<tr>
<td>ASTM B367 Gr C2</td>
<td>ASTM B367 Gr C2</td>
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<tr>
<td>Titanium</td>
<td>Titanium</td>
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<tr>
<td>ASTM B367 Gr C2</td>
<td>ASTM B367 Gr C2</td>
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</tbody>
</table>

*Pressure containing parts include volute casing, casing adaptor & delivery pipework. Process wetted parts include shaft, impeller, same rings, columns, impeller hubcap, shaftsleeve & screws. A full range of testing and documentation can be tailored to suit your asset requirements. Amarinth reserves the right to alter any information within this document without prior notification. © Copyright 2005-2017. Amarinth Limited. E&OE.*

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<td><strong>Construction</strong></td>
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<tr>
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<td>Stainless steel 304L</td>
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<tr>
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<tr>
<td>Cartridge seal manufacturer</td>
<td>Eagle Burgmann, John Crane or customer specified</td>
<td>Matched to site standard</td>
<td></td>
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</table>

**Features**

- **Steam jacket pipe**
- Steam jacket supply flange standard: ASME class 150
- Steam jacket supply pipework construction: Schedule 40 seamless pipe screwed with compression fittings and tubing
- Steam jacket supply pipework material: Stainless steel 316
- **Thrust bearing / motor pedestal**
- Thrust bearing type: Heavy duty bearing unit
- Thrust bearing lubrication: Grease
- Design bearing life: 25,000 hours (1,100 @ standard duties)
- Running temperature: Less than 40°C above ambient
- Motor pedestal construction: Heavy duty fabrication with machined abutments
- Monitoring: Vibration monitoring points
- **Motor pedestal material**
- Carbon steel
- Stainless steel 304L
- Customer specified

**Coupling & guard**

- Coupling style: Space type with metal membranes
- Construction: Bored & keyed with extraction holes
- Balancing: Inherent by design
- ISO 1940 G 2.5
- Prolonged pump life
- Manufacturer: John Crane
- Customer specified
- Matched to site standard
- **Standard**
- ATEX
- **Support plate**
- Style: ASME class 150 Flange
- Construction: One piece with 4 lifting eye bolts
- Standards: ASME B16.5, ASME B16.47
- Earthing points: 2 off M10 studs / nuts / washers
- Material: Stainless steel 304L
- Customer specified
- Matched to customer requirement
- **Driver**
- Motor type: Easa, Exe, Exds, Exd
- Motor mounting: Flanged for vertical mounting (V1)
- Standards: ISO frames
- **Supply**
- Refinery specification: 2 coat system (Min DFT 200µm) – RAL 7004 (grey)
- Offshore specification: 2 coat system (Min DFT 200µm) – RAL 7004 (grey)
- **Paint**
- **Packing**
- Flange blanking: Metal closures with rubber gaskets
- Road: Palletised & clip wrap
- Seafreight / airfreight: Wooden box paper lined
- **Contact**
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