Amarinth V Series pumps are designed to API 610 11th edition specifications for the Petrochemical, Chemical and Oil & Gas markets and are fully ATEX compliant. All API materials are available as standard to match your application, plus bespoke options including NACE compliant materials. Standard Documentation, Testing and NDT packs are offered. Alternatively bespoke packages can be tailored to fit your exact requirements.

**General description**
A range of vertical long shaft single stage centrifugal end suction sump pumps 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 bar g at 38°C (pressure containing parts)

**Operating temperature rating**
-40°C to 100°C (standard construction)

**Performance envelope**

<table>
<thead>
<tr>
<th>Flowrate</th>
<th>Differential head</th>
<th>Speed</th>
<th>Configurations</th>
<th>Frame sizes</th>
<th>Design life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 500 m³/h</td>
<td>Up to 225 m</td>
<td>Up to 3600 rpm</td>
<td>Flange mount</td>
<td>040x025x145 to 200x150x410</td>
<td>30 years (3 years uninterrupted operation)</td>
</tr>
</tbody>
</table>
API 610 VS4 SUMP PUMPS

key features

• VS4 vertical long shaft single stage end suction centrifugal pumps
• Pressure containing parts rated to 20 barg
• ATEX compliance, on application
• Shrouded or Semi open impellers
• Lubrication options using product or external flush
• Tested to API 610 / ISO 13709 procedures – Head, Flow, NPSH, Noise & Vibration
• A range of alloys available on request including NACE compliant materials
• -40°C to 100°C temperature applications
• Up to 6m sump depth

materials

<table>
<thead>
<tr>
<th>Materials</th>
<th>Casing</th>
<th>Impeller</th>
</tr>
</thead>
<tbody>
<tr>
<td>A8 SS 316L / SS 316L</td>
<td>ASTM A351 CF 3M</td>
<td>ASTM A351 CF 3M</td>
</tr>
<tr>
<td>I1 Cast iron / Cast iron</td>
<td>ASTM A278 Class 30</td>
<td>ASTM A278 Class 30</td>
</tr>
<tr>
<td>S8 Carbon Steel / SS 316L</td>
<td>ASTM A216 WCB</td>
<td>ASTM A351 CF 3M</td>
</tr>
<tr>
<td>S6 Carbon steel / 12% Cr SS</td>
<td>ASTM A216 WCB</td>
<td>ASTM A217 Gr CA 15</td>
</tr>
<tr>
<td>D1 Duplex SS / Duplex SS</td>
<td>ASTM A890 Gr 4A (UNS J92205)</td>
<td>ASTM A890 Gr 4A (UNS J92205)</td>
</tr>
<tr>
<td>D2 Super Duplex SS / Super Duplex SS</td>
<td>ASTM A890 Gr 5A (UNS J93404)</td>
<td>ASTM A890 Gr 5A (UNS J93404)</td>
</tr>
<tr>
<td>Hastelloy B / Hastelloy B</td>
<td>ASTM A494 Gr N 7M</td>
<td>ASTM A494 Gr N 7M</td>
</tr>
<tr>
<td>Hastelloy C / Hastelloy C</td>
<td>ASTM A494 Gr CW 12MW</td>
<td>ASTM A494 Gr CW 12MW</td>
</tr>
<tr>
<td>Monel / Monel</td>
<td>ASTM A494 Gr M35 1</td>
<td>ASTM A494 Gr M35 1</td>
</tr>
<tr>
<td>Titanium / Titanium</td>
<td>ASTM B367 Gr C2</td>
<td>ASTM B367 Gr C2</td>
</tr>
<tr>
<td>Customer specified</td>
<td>Other alloys available on request including NACE compliant materials</td>
<td>Other alloys available on request including NACE compliant materials</td>
</tr>
</tbody>
</table>

V Series hydraulic coverage

typical applications

• Biocide / rain
• Condensate return
• Flare knock out drum
• MEG 75% with H₂O
• Oily water separator
• Sour water sump
• Storm water
• Utilities
• Wash down sumps