

### **API 610 VS4 SUMP PUMPS**

Amarinth V Series pumps are designed to API 610 10th 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 10th: 2004

ATEX EC-Directive 94/9/EC

-40°C to 100°C (standard construction)

**Design pressure rating** 20 bar g at 20°C (pressure containing parts)

**Operating temperature rating** 

**Design temperature** 

150°C

**Performance envelope** 

**Flowrate Differential head** 

**Speed** 

Up to 500m<sup>3</sup>/h Up to 200m Up to 3600 rpm

**Configurations** ANSI mount flange

Rectangular plate

**Frame sizes** 040x025x145 to 200x150x410

**Design life** 20 years (3 years uninterrupted operation)

## **API 610 VS4 SUMP PUMPS**

# key features

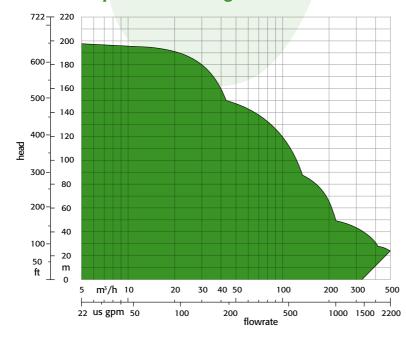
- VS4 vertical long shaft single stage end suction centrifugal pumps
- · Pressure containing parts rated to 20 bar
- Full ATEX compliance
- · Shrouded or Semi open impellers
- · Lubrication options using product or external flush
- Tested to API 610/ISO13709 procedures Head, Flow, NPSH, Noise & Vibration
- A range of alloys available on request including NACE compliant materials
- · -40°C to 100°C temperature applications
- Up to 6m sump depth



#### materials

Materials	Casing	Impeller
A8 - SS 316 / SS 316	ASTM A744 CF-8M	ASTM A744 CF-8M
I1 - Cast Iron / Cast Iron	ASTM A278 Class30	ASTM A278 Class30
S8 - Carbon Steel / SS 316	ASTM A216 WCB	ASTM A744 CF-8M
S6 - Carbon steel / 12% Cr SS	ASTM A216 WCB	ASTM A217 Gr CA 15
D1 - Duplex SS / Duplex SS	ASTM A890 Gr 1B CD-4MCuN	ASTM A890 Gr 1B CD-4MCuN
D2 - Super Duplex SS / Super Duplex SS	ASTM A890 Gr 5A (UNS J93404)	ASTM A890 Gr 5A (UNS J93404)
Hastelloy B / Hastelloy B	ASTM A949 Gr N-7M	ASTM A949 Gr N-7M
Hastelloy C / Hastelloy C	ASTM A494 GrCW-12MW	ASTM A494 GrCW-12MW
Monel / Monel	ASTM A494 GrM35-1	ASTM A494 GrM35-1
Customer specified	Other alloys available on request including NACE compliant materials	Other alloys available on request including NACE compliant materials

# **V Series hydraulic coverage**



# typical applications

- · Biocide / rain
- · Condensate return
- · Flare knock out drum
- MEG 75% with H<sub>2</sub>O
- · Oily water separator
- Sour water sump
- · Storm water
- Utilities
- · Wash down sumps



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