



Rodelta TAZN API 610 VS4

The pump type TAZN (VS4) is a modular single stage centrifugal sump pump that uses hydraulic components from our Z range which comply with API 610 (ISO 13709). This pump offers solutions for thin or slightly contaminated liquids. For less stringent "NON API" applications this versatile unit can be supplied with a wide variety of competitive hydraulic options.

See our pump types TAN, TAF, TAE pumps for details.



Features:

- According API 610 (VS4)
- Double volute casing above 80mm reduces radial loads
- Low NPSHr suits many duties
- Modular line shaft – Lengths up to 8m
- Easy maintenance Spacer coupling permits inspection of top bearings, replaceable wear plate
- Top mounted mechanical seal option
- Media or external lubrication option
- Space saving construction
- Circular or rectangular cover plate to suit (see figure 3)

Specifications:

- Delivery size up to 150mm
- Capacity up to 300m³/hr
- Head up to 250m per stage
- Suitable for liquid Temperature: Up to 250°C
- Sealing Arrangement: Gland packing or with mechanical seals
- Flanges rating: Cl. 150/300
- API material options available, NACE & ATEX approvals available on request

Applications:

- Light/medium slurries
- Light/medium hydrocarbons
- Amine Sumps
- Condensate return
- Flare knock out drum
- Oily water separation
- Sour/storm/rain water sumps
- Wash down pumps
- Caustic solutions
- Regen acid tanks
- Fuel oil/diesel oil sumps





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Constructional features:

- Fully compliant to industrial and customer standards like Norsok, Shell DEP, Global practices
- Low OPEX and CAPEX which results in a low total cost of ownership
- Performance of the pump can be customized to customer requirements by means of a closed, open and semi-open impeller
- All VS4 models are fully designed to fit mechanical seal in accordance to API682
- Compact, space saving construction
- Possibility for extended suction pipe construction. This results in a larger immersion suction depth and can also lead to lower purchase costs.

Explanation extended suction pipe construction.

The vertical immersible sump pump (VS4) is installed at the top of a sump/tank (Figure 1)

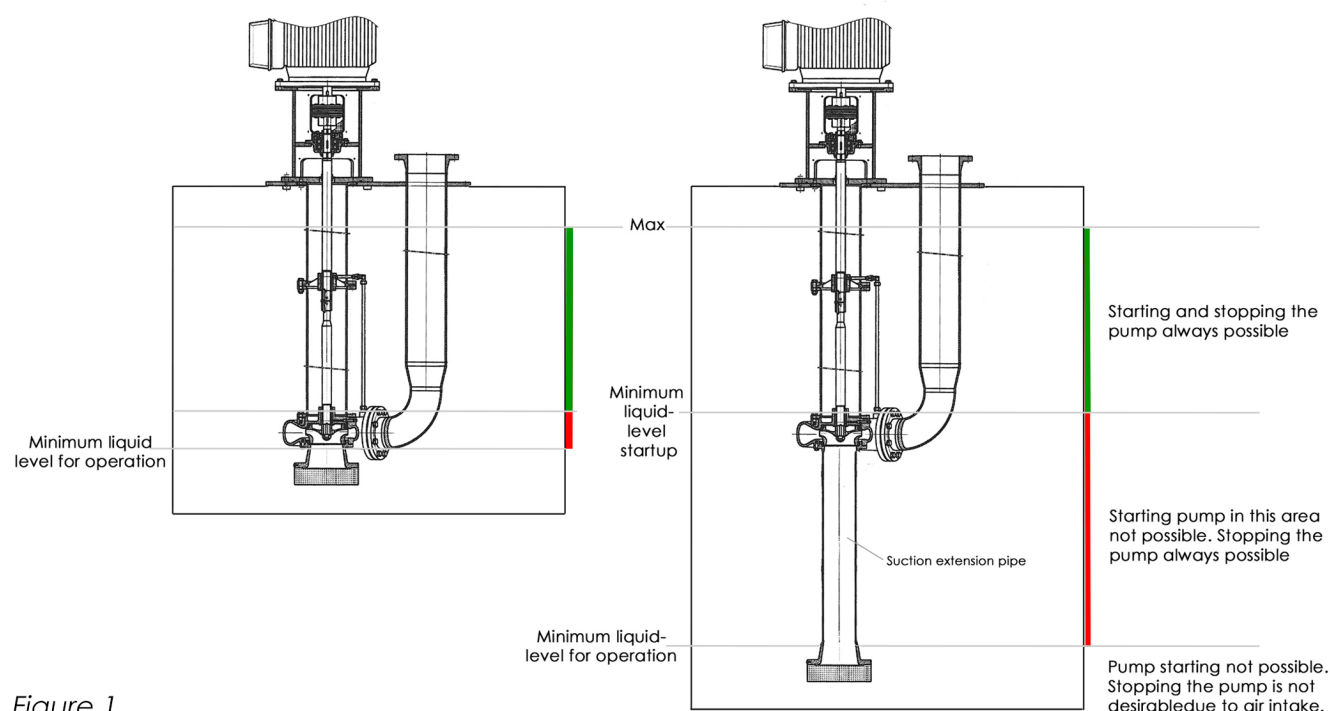


Figure 1

With the fluid level above the impeller of the pump, the pump can be turned on and off at any time. The pump can pump the medium away until the minimum liquid level for operation is reached. Longer pumping is technically unwise because the liquid coverage will become too small, which causes the pump to draw air whirls. This has an adverse effect on the life time of the impeller.

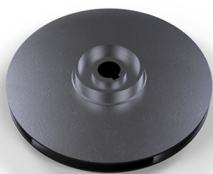
As soon as the liquid level is below the impeller at the suction extension and the pump is switched off the pump will no longer be primed, the liquid flows away and the impeller becomes dry. The pump can no longer be started in this area.

The liquid level for pump operation is also limited by cavitation. When the liquid level drops, the pressure at the impeller inlet and thus the NPSHa decreases. When the margin between NPSHa and NPSHr becomes too small, cavitation erosion will damage the impeller and operating the pump is not recommended. The pump can be started again when the impeller is primed. (Above minimum liquid level for start-up.) Suction extensions of 5 meters are possible in many cases, depending on the operating conditions.

Suction pipe extension can also lead to cost savings. The cost savings can be significant, especially with expensive material versions such as duplex and super duplex. Extending the suction pipe can lead to fewer shafts and shaft bearings being required. However, the operating conditions in the system must allow this.

By applying suction pipe extension, the advantages of vertical immersible sump pumps can also be used with deeper pump basements or liquid tanks.

For less stringent "NON API" applications this versatile unit can be supplied with a wide variety of competitive hydraulic options. (Figure 2)
See our pump types TAN (VS4), – TAF (VS4), – TAE (VS4) pumps for details.



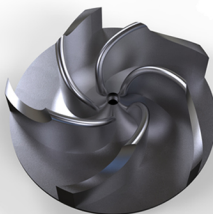
TAN (VS4)

The TAN has a closed impeller and can be supplied with a wide variety of competitive hydraulics.



TAF (VS4)

The TAF has a vortex fully open impeller and can be supplied with a wide variety of competitive hydraulics



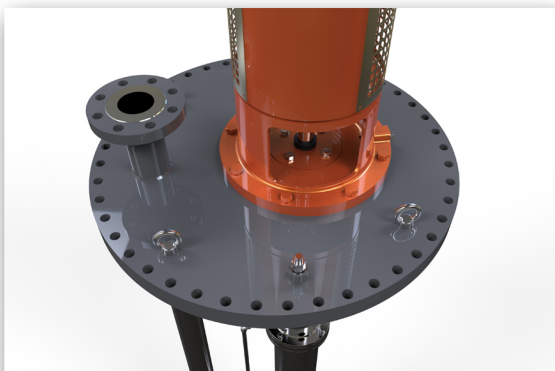
TAE (VS4)

The TAE has a semi open impeller and can be supplied with a wide variety of competitive hydraulics..

Figure 2

If required, these hydraulic models can also be supplied in API version on request.

*Mounting flange according
ASME B16.5 or ASME B16.47*



Square mounting plate

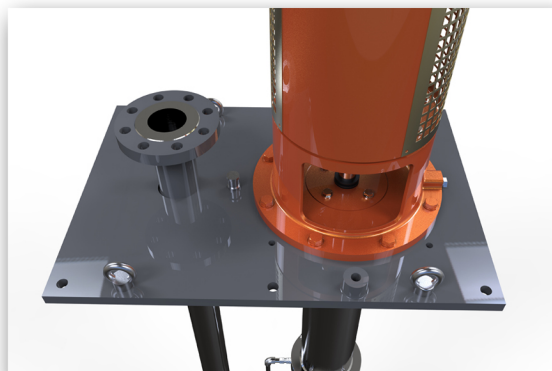
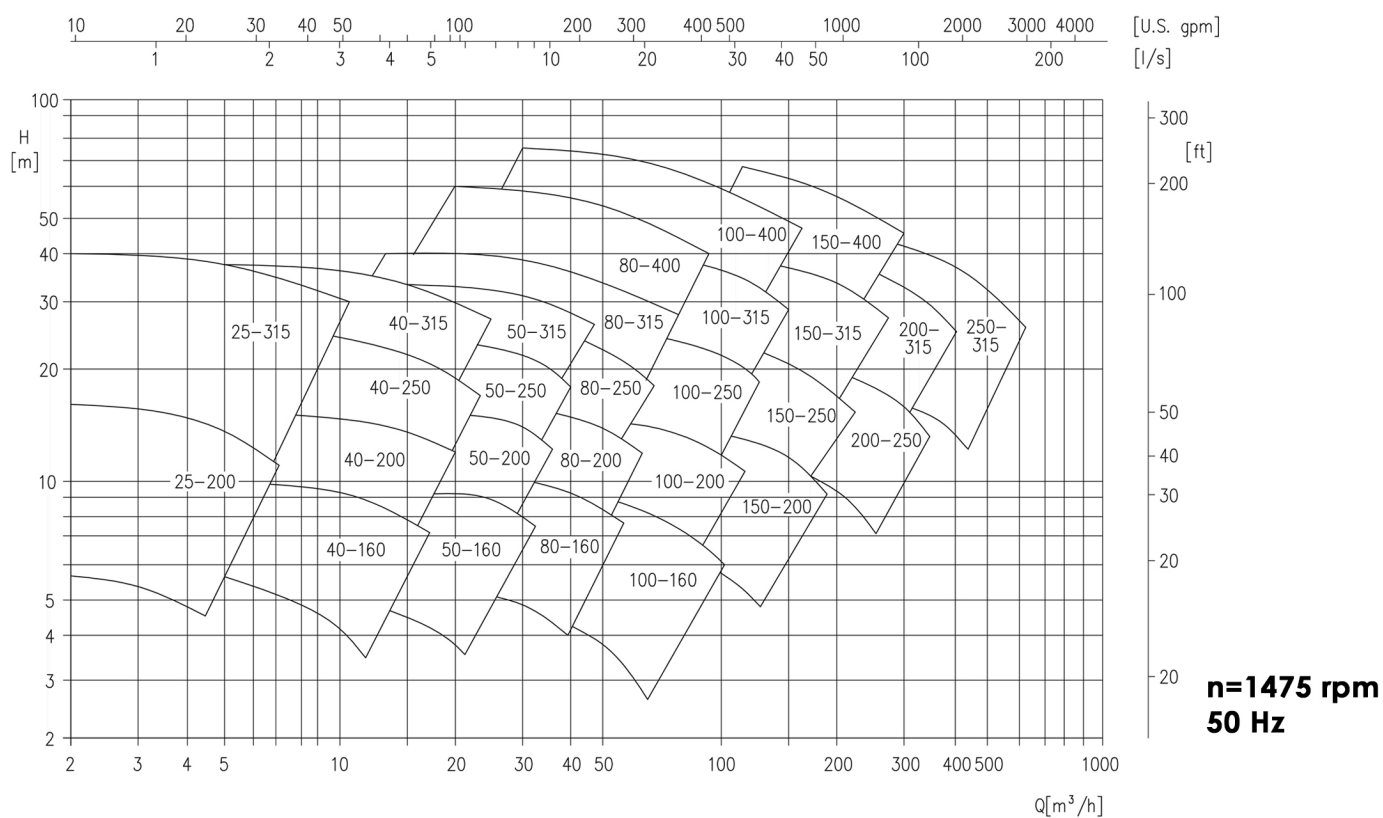
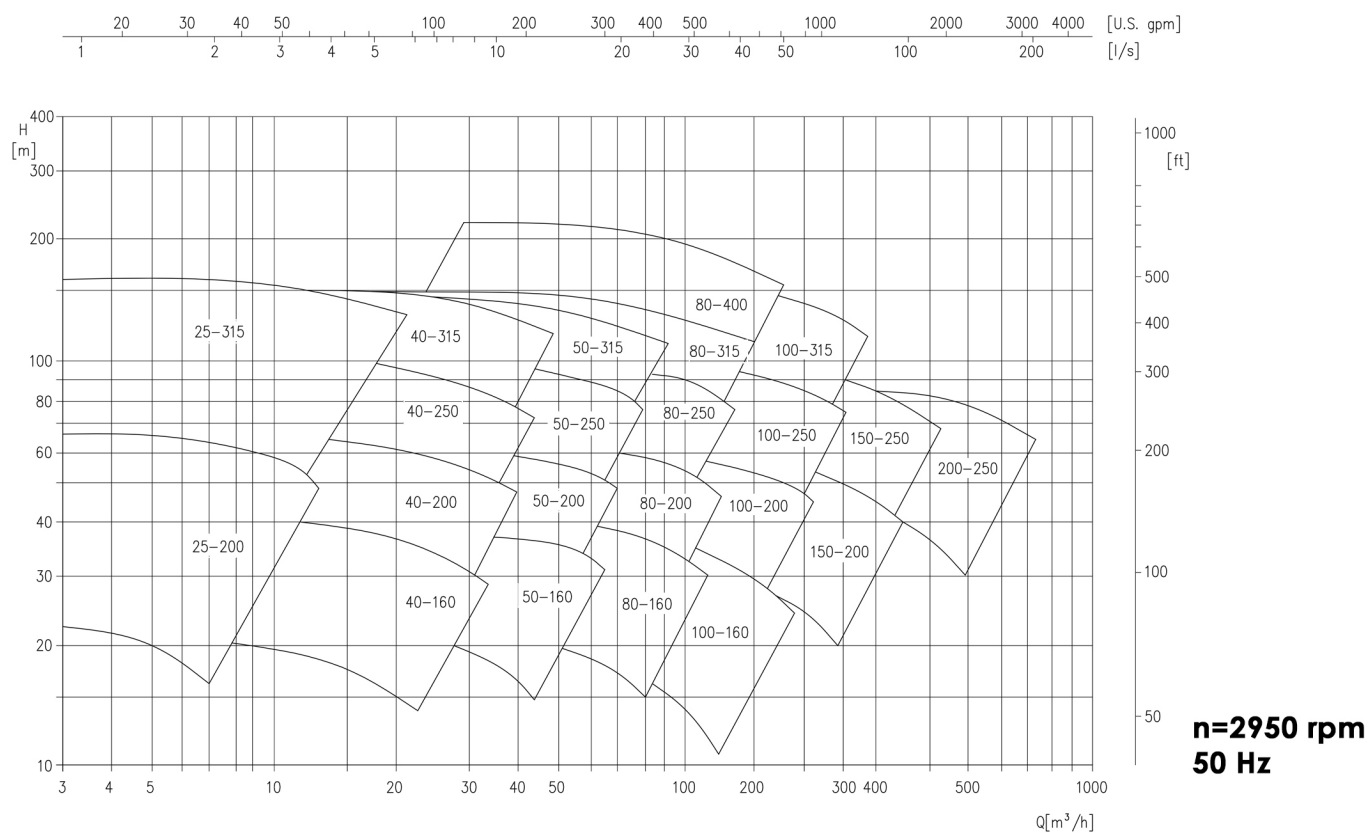


Figure 3



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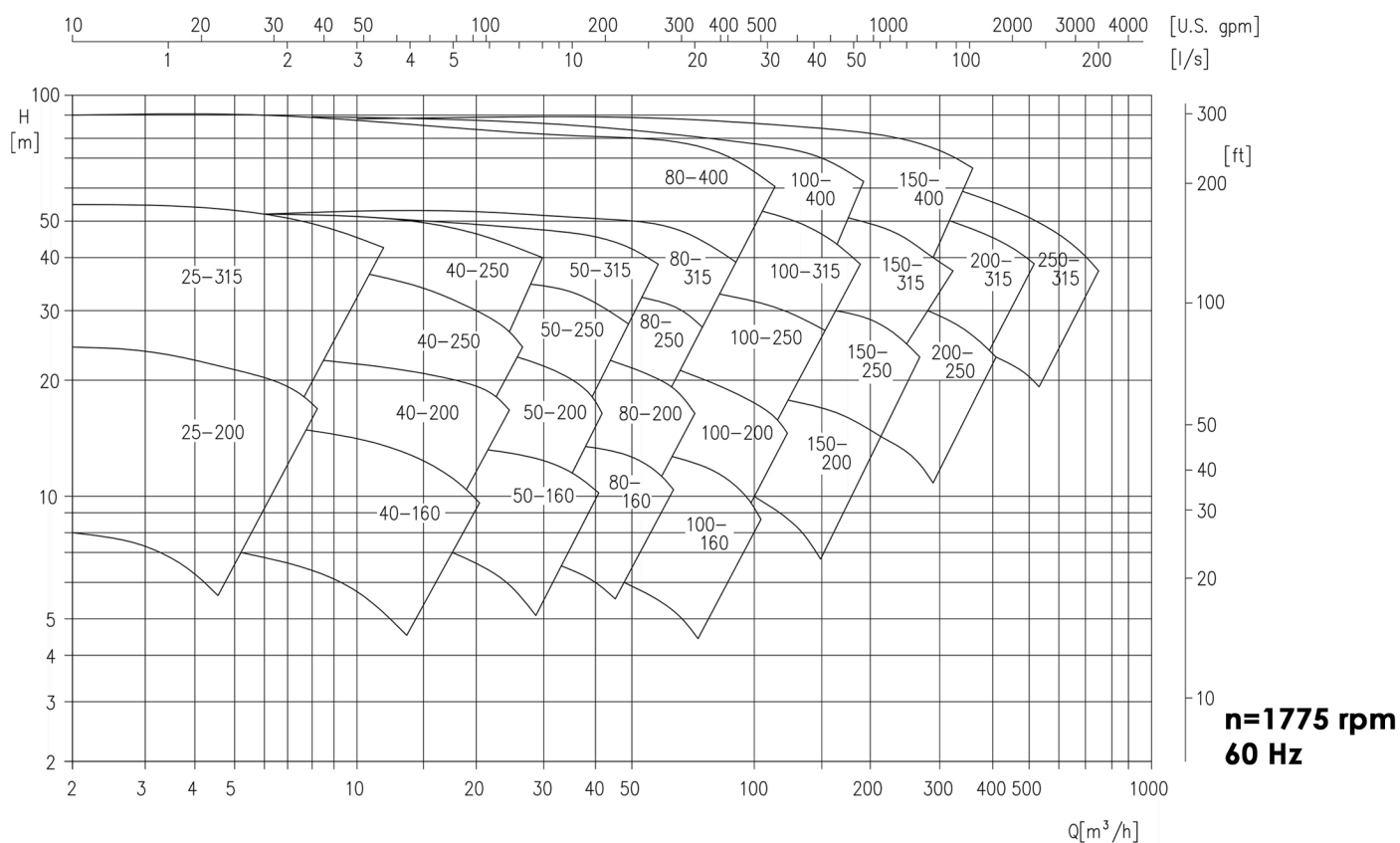
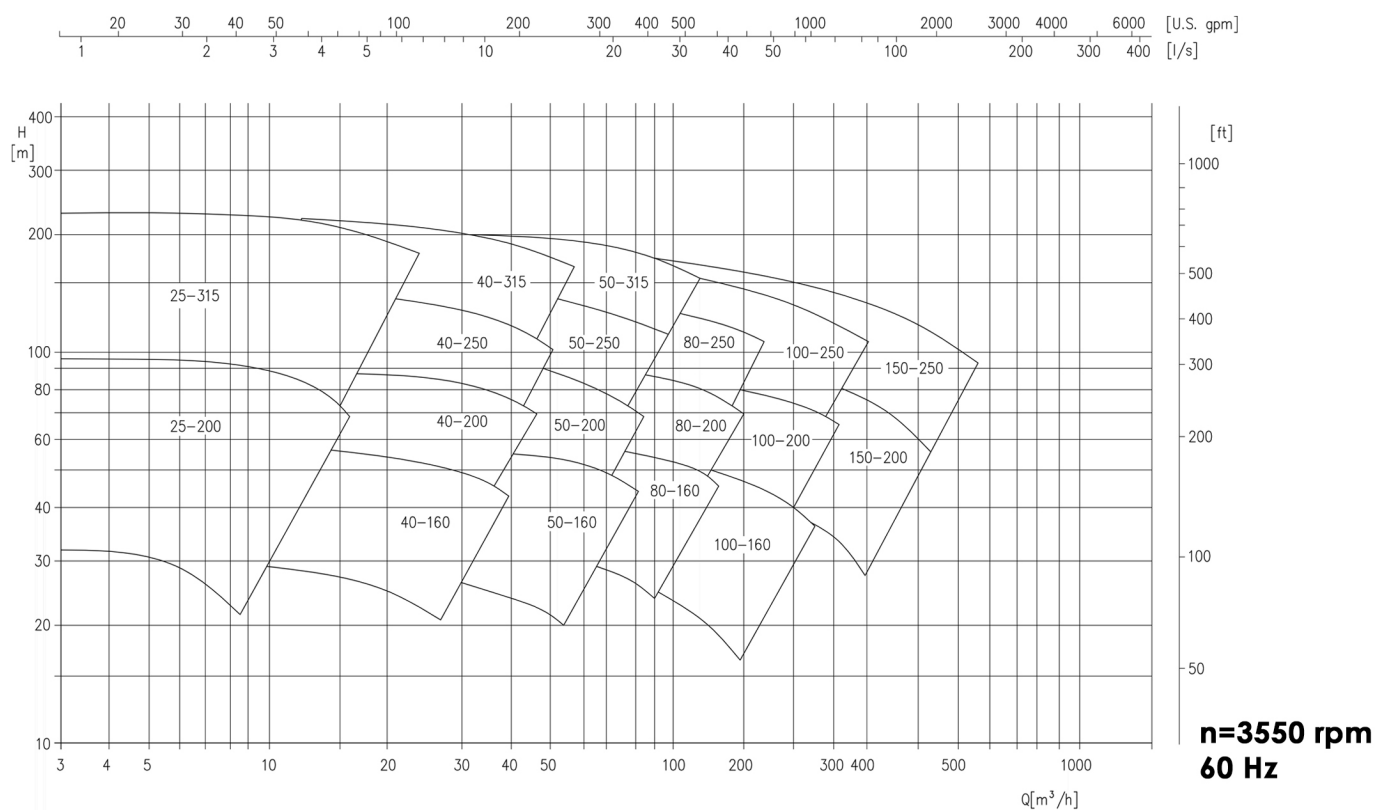
Capacity overview 50Hz





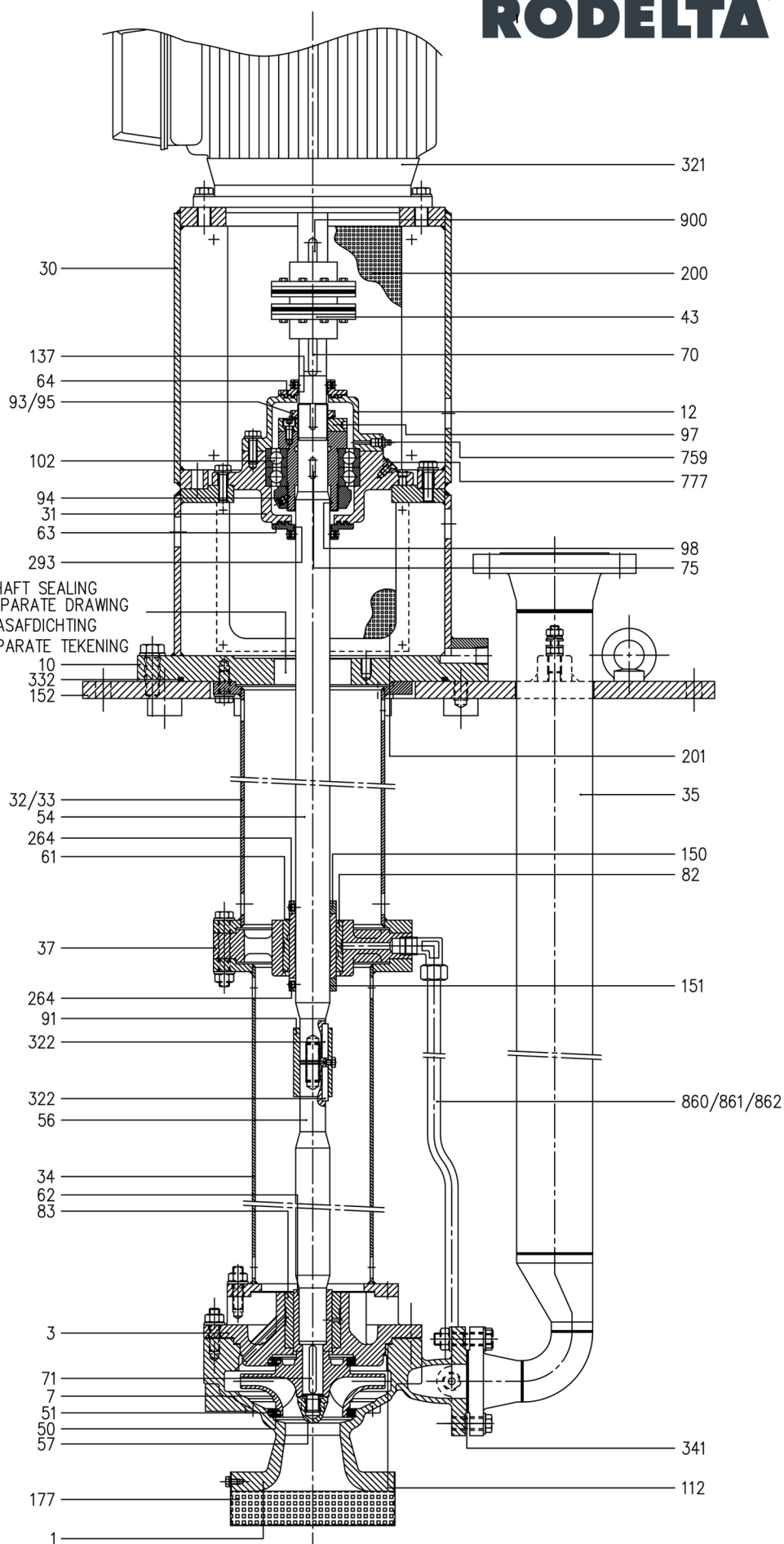
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Capacity overview 60Hz



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Cross sectional drawing



Partlist TAZN.

POS. NO.	PART	ONDERDEEL
1	PUMP CASING	POMPHUIS
3	STUFFING BOX COVER	PAKKINGBUSDEKSEL
7	IMPELLER	WAAIER
10	BEARING BRACKET	LAGERSTOEL
12	BEARING COVER	LAGERDEKSEL
30	MOTOR SUPPORT	MOTORSTOEL
31	BEARING HOUSING	LAGERHUIS
32	COLUMN	KOLOM
33	COLUMN	KOLOM
34	COLUMN	KOLOM
35	DISCHARGE PIPE	PERSPIJP
37	BEARING SPIDER	TUSSENLAGERHUIS
43	COUPLING	KOPPELING
50	WEARRING	DICHTINGSRING
51	WEARRING	DICHTINGSRING
54	TOP SHAFT	TOPAS
56	PUMP SHAFT	POMPAS
57	IMPELLER NUT	WAAIERMOER
61	SHAFT SLEEVE	ASBUS
62	SHAFT SLEEVE	ASBUS
63	DEFLECTOR	SPATRING
64	RING	RING
70	KEY	SPIE
71	KEY	SPIE
75	SPACERRING	AFSTANDRING
82	BEARING BUSH	LAGERBUS
83	BEARING BUSH	LAGERBUS
91	COUPLING SHAFT	KOPPELBUS
93	BEARING NUT	ASMOER
94	BEARING NUT	LAGERMOER
95	RING	RING
97	RING	RING
98	BALL BEARING SLEEVE	KOGELLAGERBUS
102	RAD. BALL BEARING	RADIAAL KOGELLAGER
112	GASKET	PAKKING
137	O-RING	O-RING
150	RING	RING
151	RING	RING
152	SUPPORT PLATE	OPLEGPLAAT
177	SUCTION STRAINER	ZUIGKORF
200	COUPLING QUARD	BESCHERMKAP
201	COUPLING QUARD	BESCHERMKAP
264	GRUB SCREW	STELSCROEF
293	O-RING	O-RING
321	MOTOR	MOTOR
322	KEY	SPIE
332	O-RING	O-RING
341	GASKET	PAKKING
759	GREASE NIPPEL	VEETNIPPEL
777	NIPPLE	NIPPEL
860	PIPE COUPL.	PIJPKOPPELING
861	PIPE COUPL.	PIJPKOPPELING
862	LUBRICATION PIPE	SMEERLEIDING
900	KEY	SPIE



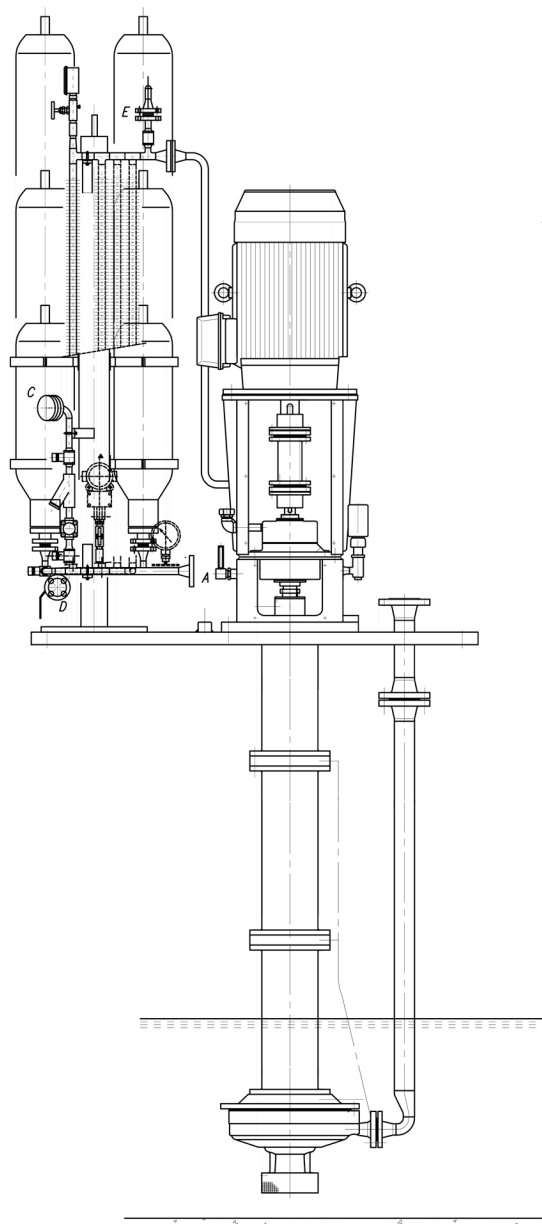
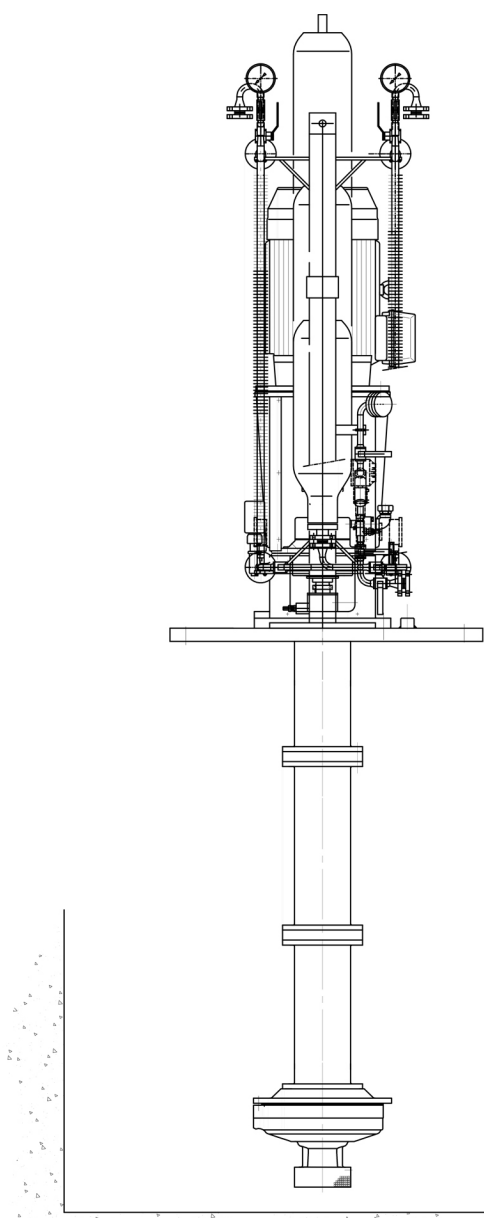
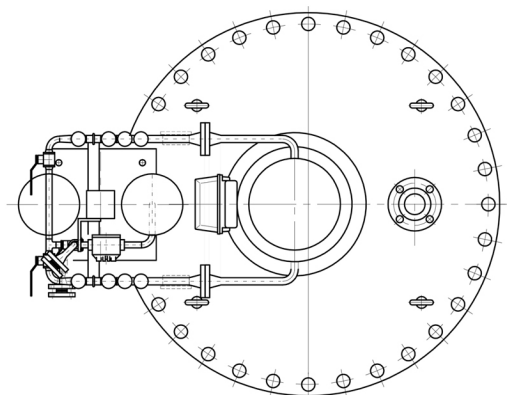
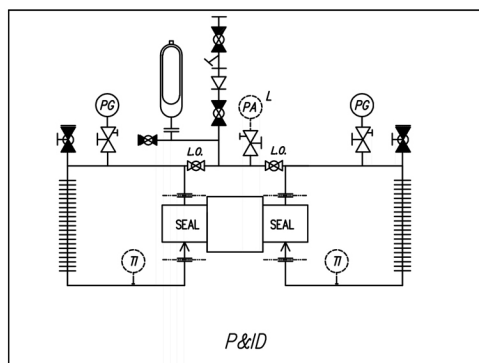
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Example of outline drawing

28" ASME B16.47 Baseplate

Double seal arrangement

Seal flushing acc. API plan 53 mod.





Design standard	ISO 13709
Features	Vertical suspended, volute VS4 type (API610)
Capacity @ BEP	Upto 300 m ³ /hr
Head	Upto 220 m
Temperature range	-20 to 250 °C
Discharge pressure	Upto Cl. 150#
Nozzle Orientation (suc/dis)	Discharge through side discharge pipe
Standard Motor Sync. Speed	1000/1500/3000 rpm
Max. Operating Speed	3600 rpm
Flange ratings(#RF)	Cl. 150/300
Maximum Suspension Length	14m (higher lengths can be engineered)