

ISO  
9001

CERTIFIED GROUP

# VAS

Vertical Acid Pump

**Industries :**

- H<sub>2</sub>SO<sub>4</sub> production plants :
  - Absorption
  - Drying
  - transfer



**ENSIVAL-MORET**



# VAS 150 - 32

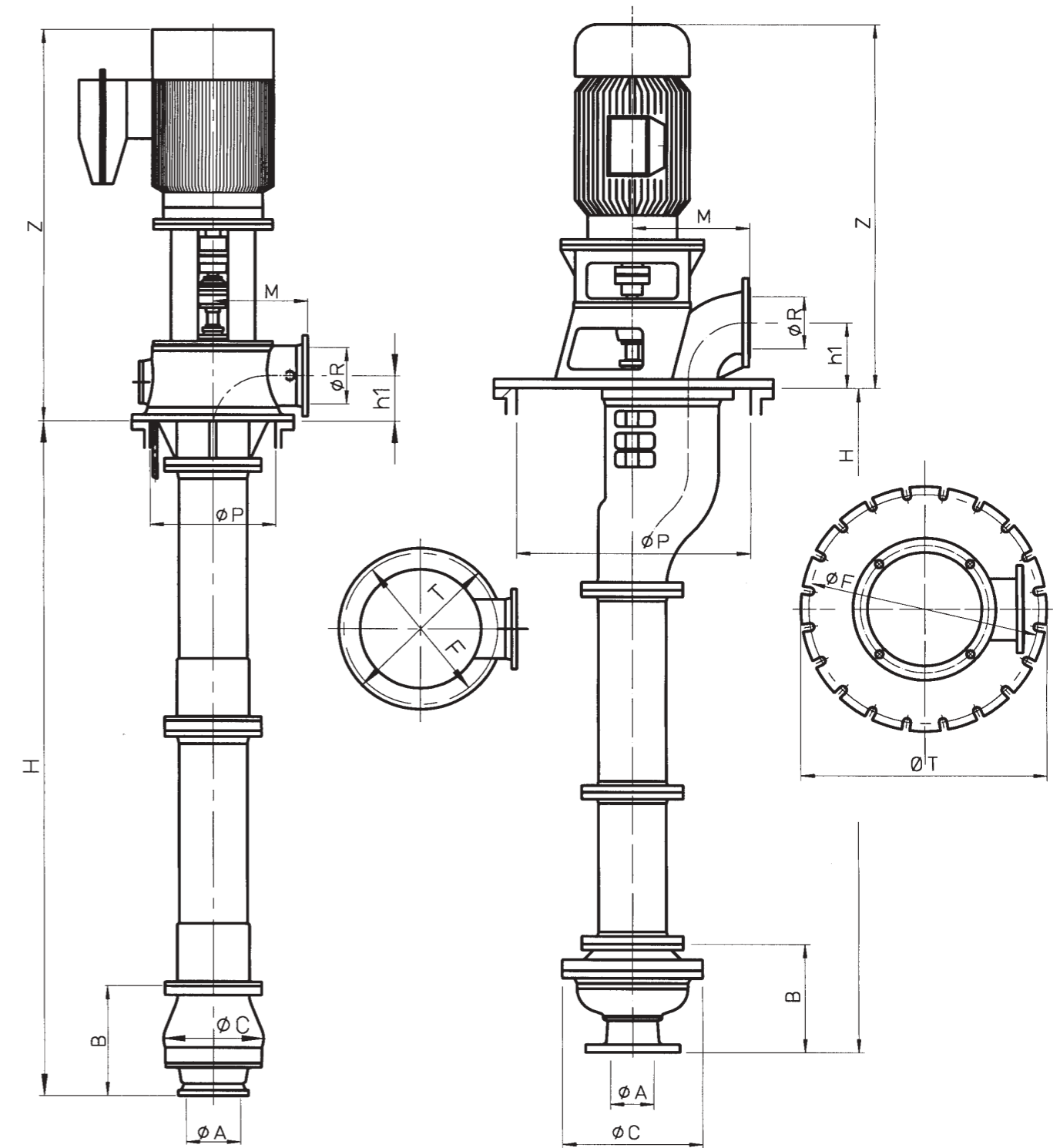
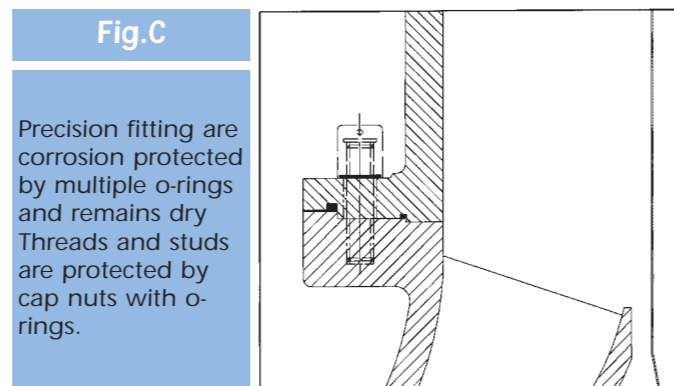
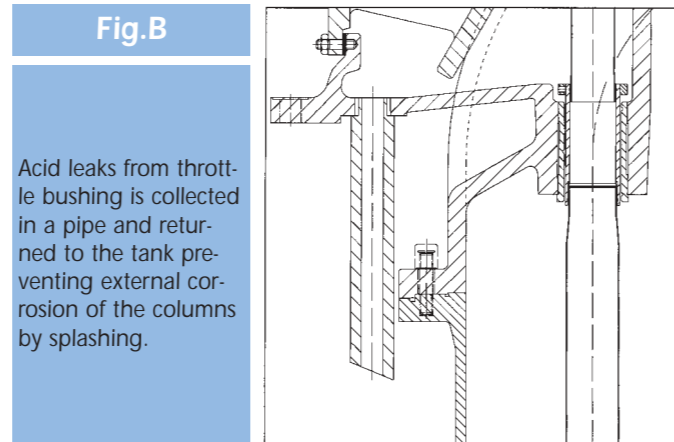
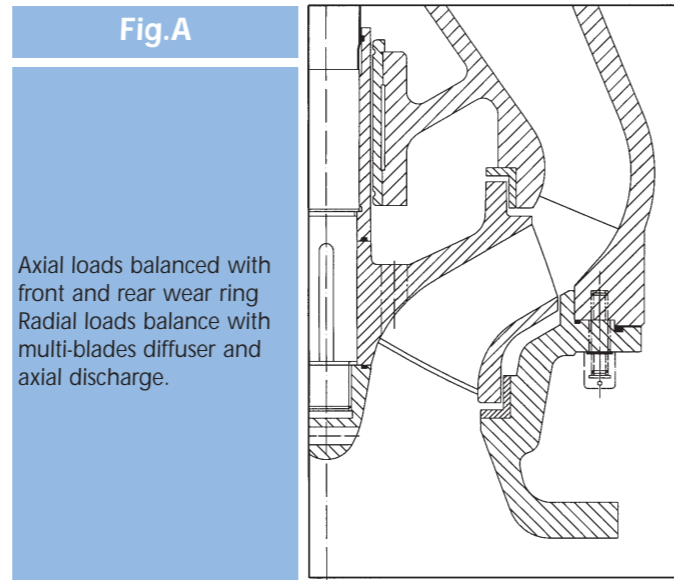
PUMP FAMILY      DISCHARGE ORIFICE (in mm)      IMPELLER DIAMETER (in cm)

## Main features

- Vertical shaft.
- Single-stage with closed impeller.
- Multi-blades diffuser type hydraulic in place of volute, and concentric discharge, provides absolute balance of radial forces, and prevents the submerged bearings to operate under load.
- Multi-stage construction upon request
- Axial loads fully balanced with front and rear renewable wear rings. (fig A)
- Ball trust bearing is a double-acting angular contact grease-lubricated.
- Shaft seal is reduced to a throttle bushing, the leakage is drained and returned to the tank (fig B), no other seal of any type in contact with the liquid.
- Auxiliary gland packing stop acid vapors, providing corrosion protection for ball bearings, and safety for maintenance.
- Precision fitting in the pump are corrosion protected, multiple o-rings keep them dry. (fig C)
- Threads and studs are corrosion protected by cap nuts with o-rings.
- Three basic constructions :
  - Lateral discharge for small sizes (fig 1)
  - Discharge through sump header for large sizes (fig 2)
  - Dry installation outside tank (fig 3)

## Materials

- Pump casing in acid proof cast iron.
- Impeller, wear rings and shaft sleeves in 14/40/5/5 special stainless steel (NZ 144).
- Bearings in Ferro-silicium.
- Shaft in 20/25/4 stainless steel (1.4539) with FEP lining.



	Casing			Baseplate			Discharge		
	φA	B	φC	φP	φF	φT	φR	M	H1
150-28A	9 5/8	14 3/4	14 3/8	20	24	25 3/4	6	17	8
150-32	9 5/8	17 1/4	16 3/8	20	24	25 3/4	6	17	8
200-30A	12	18	16 3/4	24	28 1/4	30 1/4	8	19	8
200-30B	12	19 1/4	18	24	28 1/4	30 1/4	8	19	8
250-44	17 5/8	26 3/8	24 5/8	24	28 1/4	30 1/4	10	21	9 5/8
300-44	17 5/8	28	26 3/8	28	32 3/8	34 3/8	12	21	10

	Casing			Baseplate			Discharge		
	φA	B	φC	φP	φF	φT	φR	M	H1
50-26	3 1/4	12 1/4	16 1/4	20	24 3/4	26 3/4	2	11	6
50-32	4	12 3/8	18 3/8	20	24 3/4	26 3/4	2	11	6
80-26	6	14 1/8	17 3/8	20	24 3/4	26 3/4	3 1/4	11	7
80-32	6	14	19 1/4	20	24 3/4	26 3/4	3 1/4	11	7
100-26	6	14	17 1/4	24	29	31 1/4	4	14	7 3/8
100-32	6	14	20	24	29	31 1/4	4	14	7 3/8

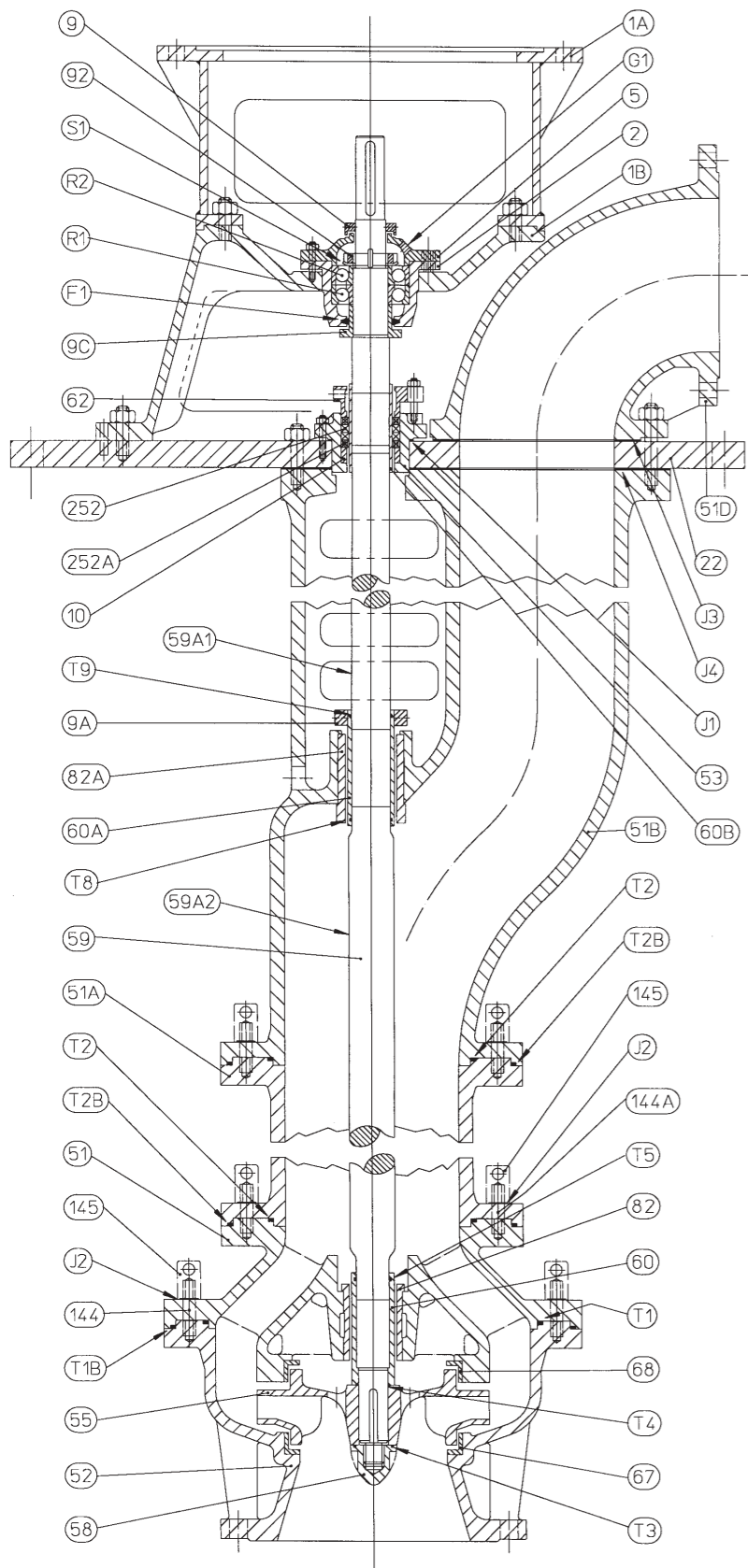


Fig.1

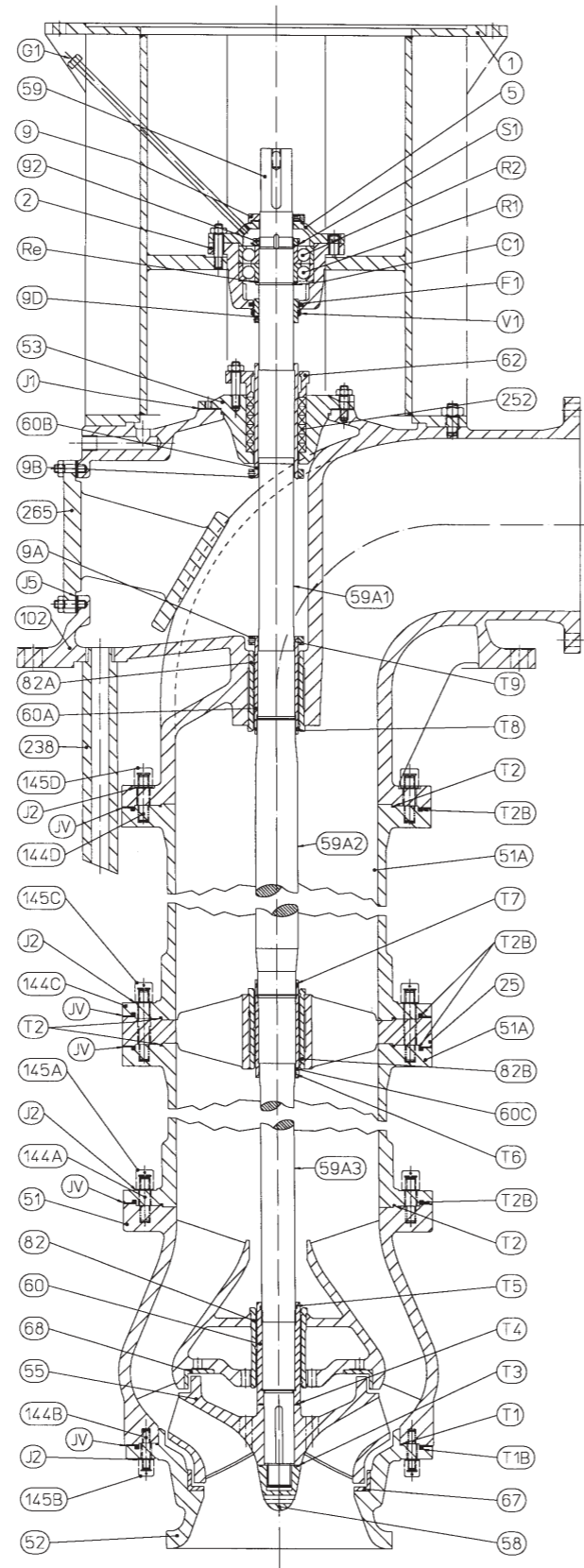


Fig.2

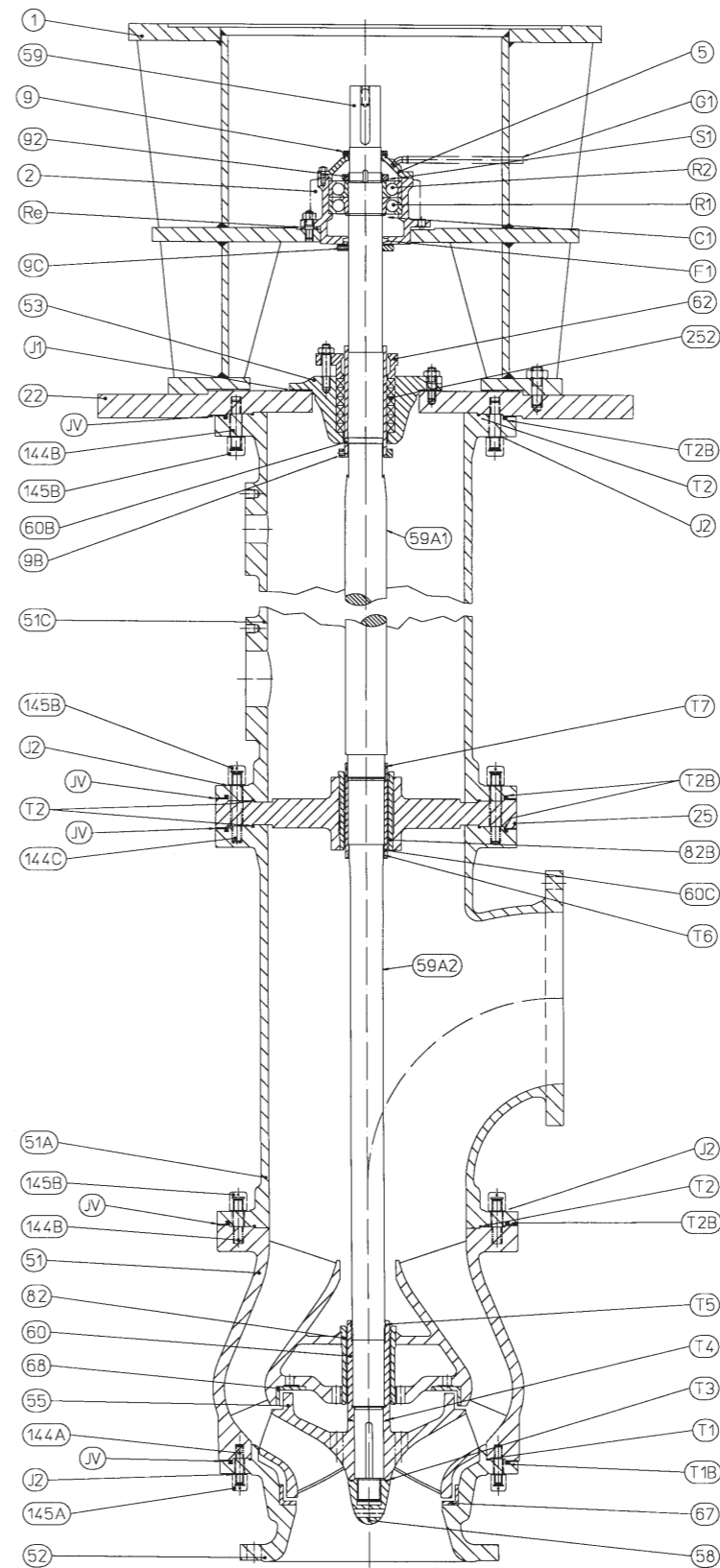


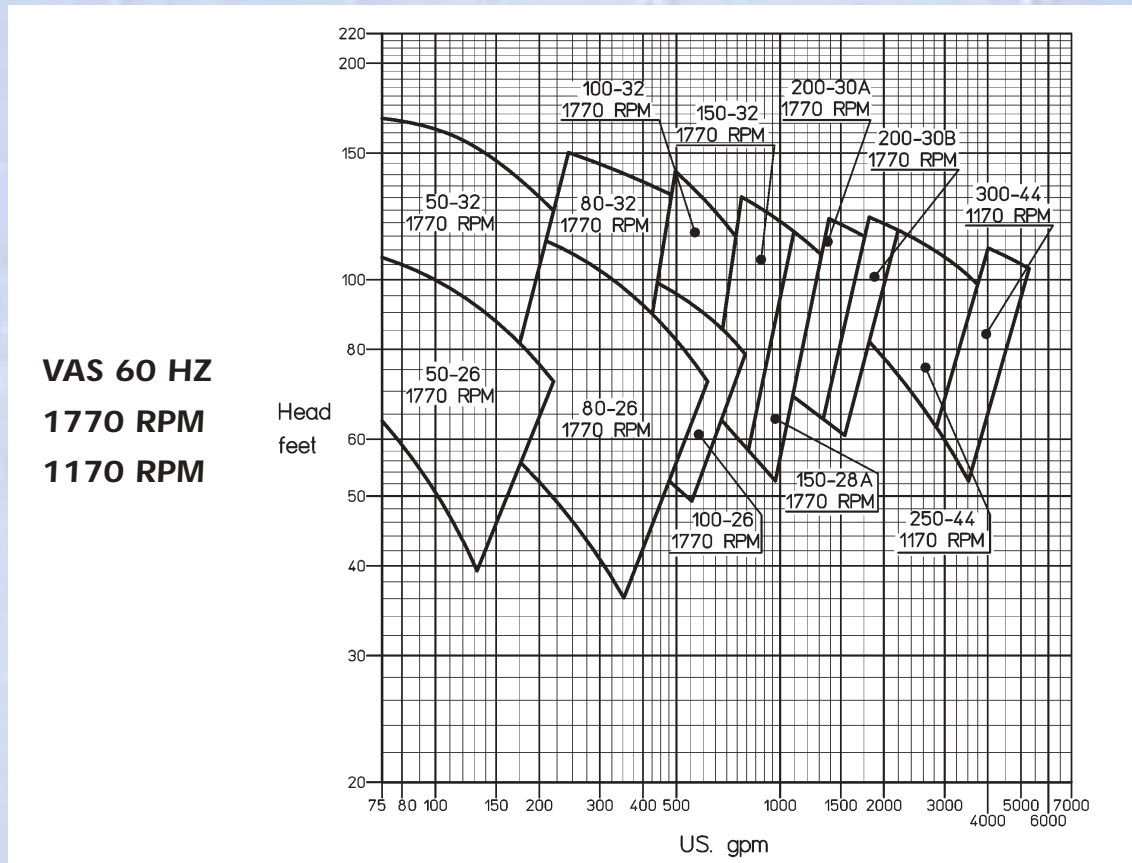
Fig.3

REP.	DESIGNATION
1	BEARING FRAME MOTOR SUPPORT
1A	MOTOR SUPPORT FRAME
1B	BEARING FRAME
2	BEARING HOUSING
5	BEARING COVER
9	DEFLECTOR DISC
9A	DEFLECTOR DISC
9B	DEFLECTOR DISC
9C	DEFLECTOR DISC
9D	V-RING RETAINING RING
10	THROAT BUSHING
22	BASE PLATE
25	INTERMEDIATE BEARING
51	DISCHARGE COLLECTOR
51A	DISCHARGE PIPE
51B	DISCHARGE PIPE WITH SIDE BRANCH
51C	HANG PIPE
51D	DISCHARGE BEND
52	SUCTION COVER
55	IMPELLER
58	IMPELLER LOCK NUT
59	SHAFT
59A1	DOUBLE SHEATHING
59A2	DOUBLE SHEATHING
59A3	DOUBLE SHEATHING
60	SHAFT SLEEVE
60A	SHAFT SLEEVE
60B	SHAFT SLEEVE
60C	SHAFT SLEEVE
62	GLAND
67	CASING WEAR RING
68	CASING WEAR RING
82	SLEEVE BEARING
82A	SLEEVE BEARING
82B	SLEEVE BEARING
92	BEARING LOCK NUT
102	SUMP HEAD
144	STUD-BOLT
144A	STUD-BOLT
144B	STUD-BOLT
144C	STUD-BOLT
144D	STUD-BOLT
145	CAPNUT
145A	CAPNUT
145B	CAPNUT
145C	CAPNUT
145D	CAPNUT
238	RELIEF PIPE
252	PACKING RING
252A	PACKING RING
265	SIGHT HOLE
R1	BALL BEARING
R2	BALL BEARING
Re	SETTING WASHER
G1	GREASE-NIPPLE
C1	SNAP RING
S1	SAFETY WASHER
F1	FELT OIL SEAL
V1	V-RING
J1	GASKET
J2	GASKET
J3	GASKET
J4	GASKET
J5	GASKET
JV	VANETEX TAPE GASKET
T1	O-RING
T1B	O-RING
T2	O-RING
T2B	O-RING
T3	O-RING
T4	O-RING
T5	O-RING
T6	O-RING
T7	O-RING
T8	O-RING
T9	O-RING



## Performances and operating range :

- Capacity : up to **8 800 USGPM**.
- Total head : up to **130 ft**.
- Maximum operating pressure : up to **300 Psi**.
- Operating temperature range : up to **250 °F**.
  - Special construction for high temperature : Heat Recovery System Service upon request.
- Maximum speed : **1 800 rpm** depending on size.



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