ISO 9001

CERTIFIED GROUP

CAHR

AXIAL FLOW CIRCULATION PUMPS

Industries :

- *Chemical industry*
- *Petrochemical industry*
- *Sugar industry*
- *De-Sulphurization*

ENSIVAL-MORET

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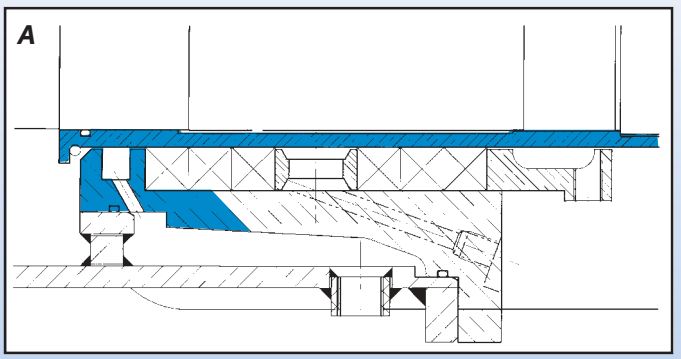
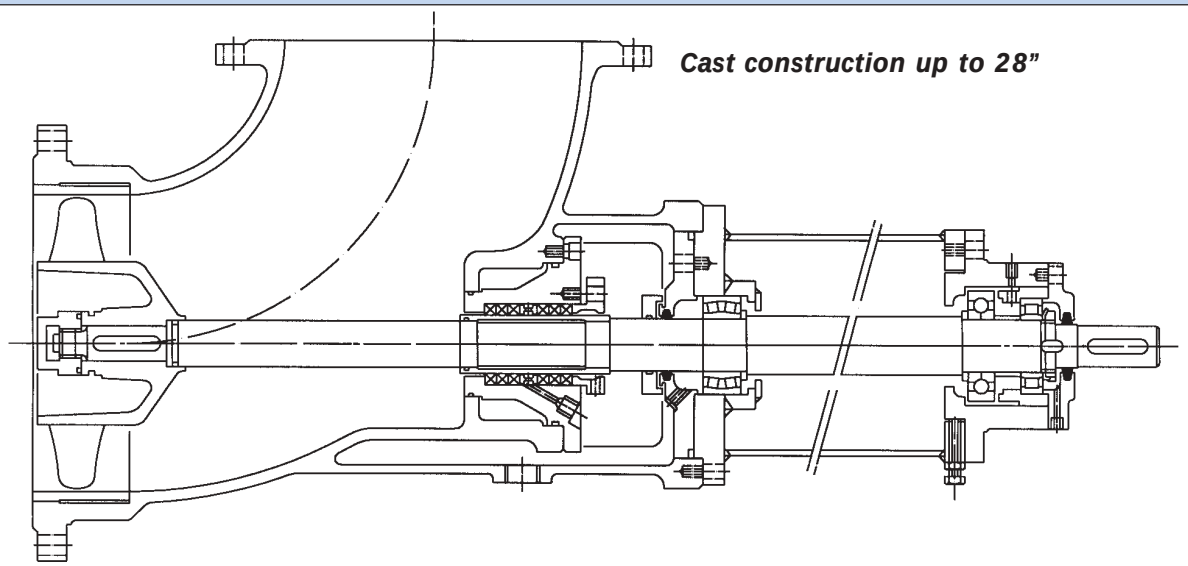
Construction

The pump :

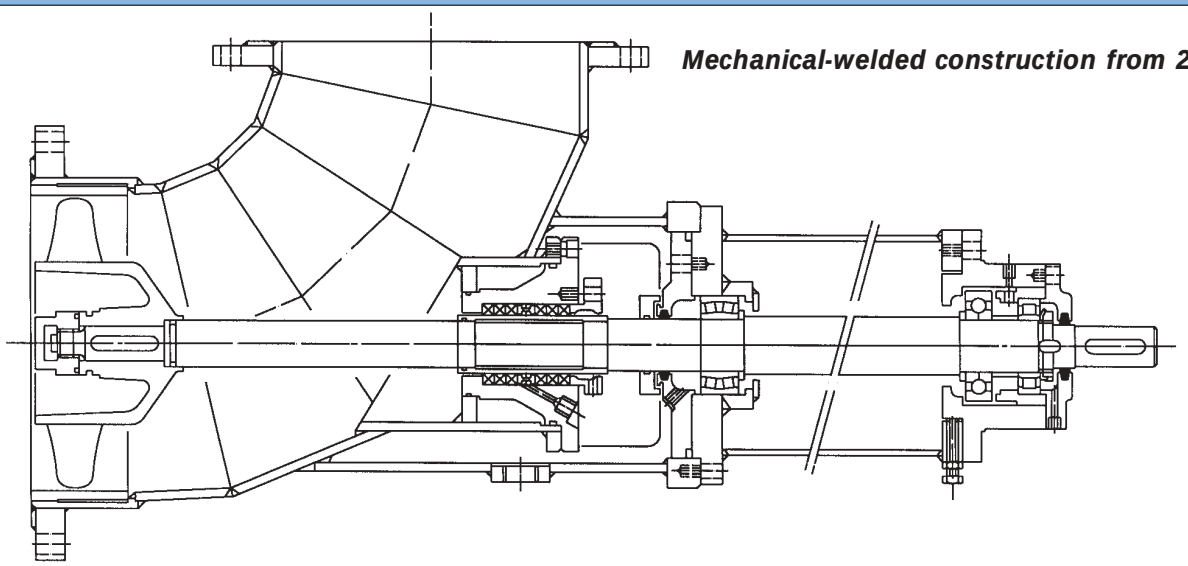
- *No bearings in the process liquid.*
- *Low maintenance.*
- *Operation with corrosive liquids, as well as with liquids containing solids.*
- *Installation on a baseplate or suspended in the pipework.*
- *Shaft supported by two bearings with grease-lubricated roller and ball bearings.*
- *Stuffing box cooling possibility in the standard design.*
- *Shaft protected by a removable sleeve.*
- *Low shaft deflection ensures long-term reliability of shaft seal.*
- *Shaft seal by packing rings or by standard, single, double, or tandem-mounted mechanical seal.*
- *Optional feature : Replace packing rings while pump is stopped, without having to drain the circuit (figure A).*



Cast construction up to 28”

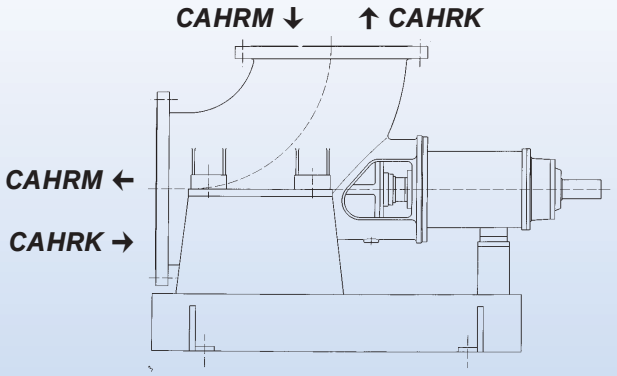


Mechanical-welded construction from 24”



CAHR

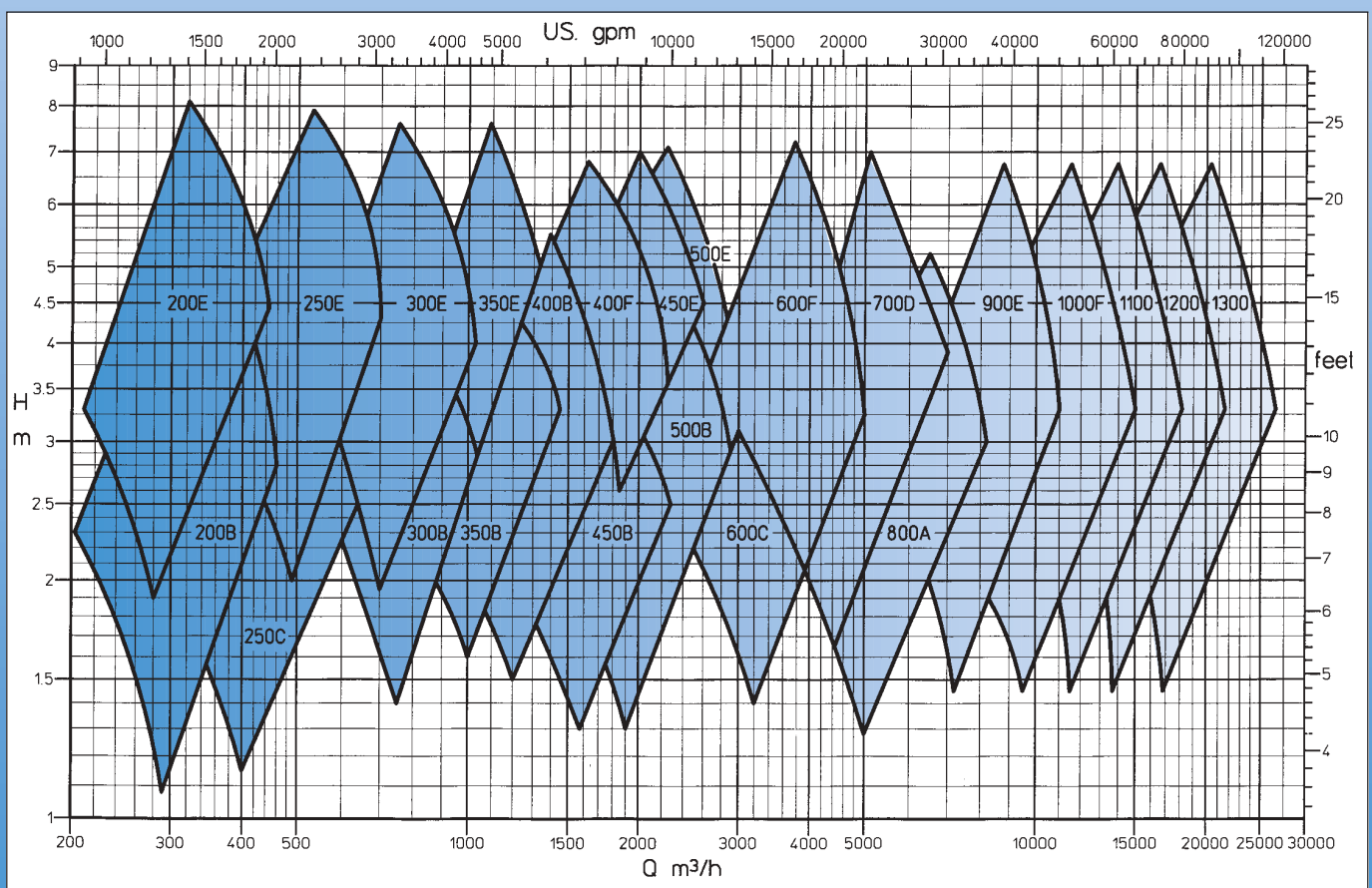
- *Capacity : up to **110 000 gpm**.*
- *Head : up to **26 ft**.*
- *Maximum operating pressure : up to **150 psi**.*
- *Temperature : from **-40 to 360°F**.*
- *Maximum rotation speed : **2100 rpm** depending on size.*



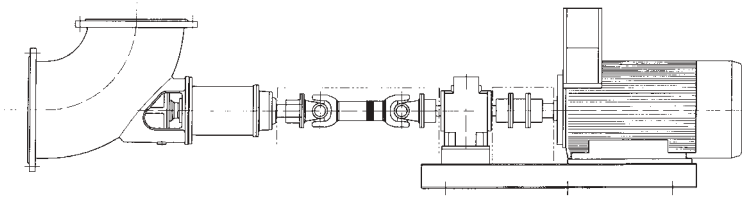
Materials of construction

Construction	Cast iron	18/10/2,5 stainless steel	22/6/3 Duplex	20/25/4 + Cu stainless steel
Pump casing	A48 gr. 35	A351 gr. CF3M	UNS S31803	A743 gr. CN7M
Impeller	A743 gr. CA15	A351 gr. CF3M	A351 CD4MCu	A743 gr. CN7M
Wear ring	A743 gr. CA15	UNS S31803	UNS S31803	A743 gr. CN7M
Shaft	A576 gr. 1035	A276 gr. 316L	UNS S31803	A743 gr. CN7M
Shaft sleeve	A276 gr. 410	UNS S31803	UNS S31803	A743 gr. CN7M
Stuffing box	A48 gr. 35	A351 gr. CF3M	A351 CD4MCu	A743 gr. CN7M

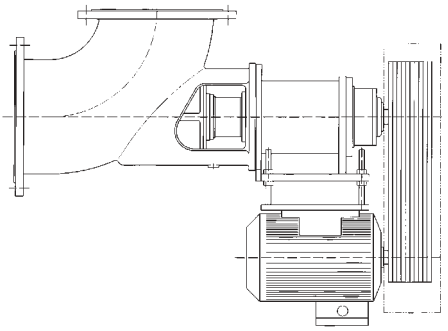
Other materials on request : Titanium, Nickel, Monel,...



1

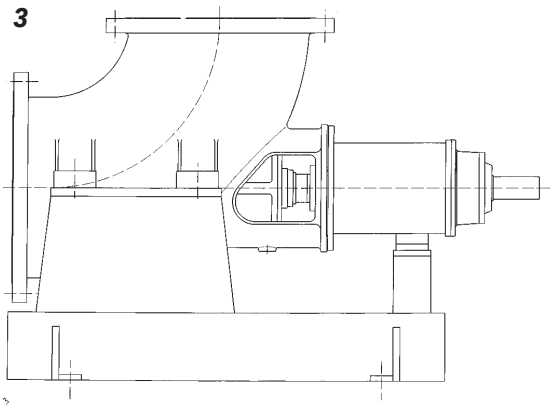


2



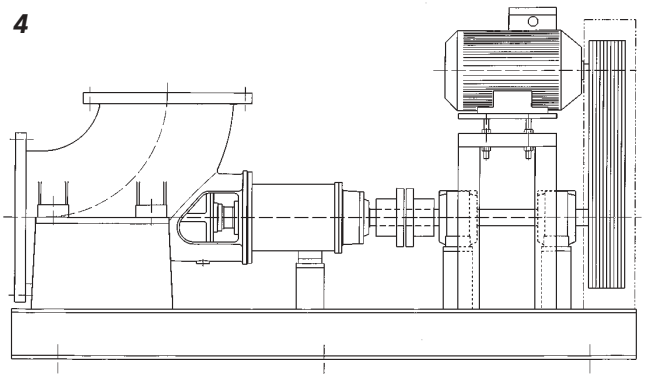
Arrangements 1 and 2 eliminate the requirement for expansion joints and baseplates. Therefore, pump foundations are also not required under these arrangements.

3



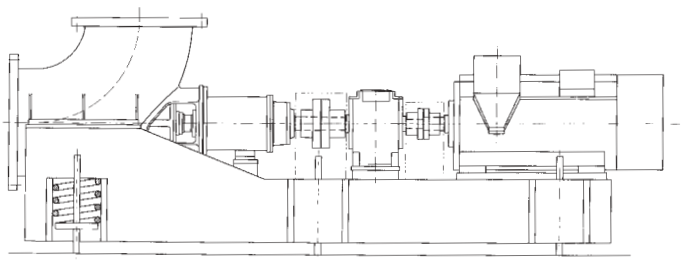
In arrangement 3, the motor is installed on slide-rails ; the driven pulley is mounted directly on pump shaft end.

4



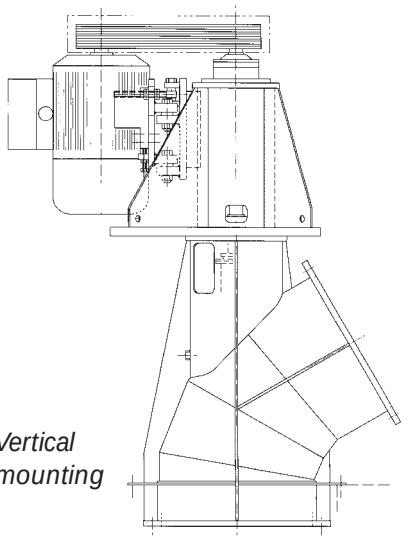
In arrangement 4, the pump is driven by V-belt transmission via a spacer coupling and an intermediate shaft (jack-shaft). Motor is installed on a support bracket with a V-belt tensioning device. A common basplate is used for the pump and motor.

5

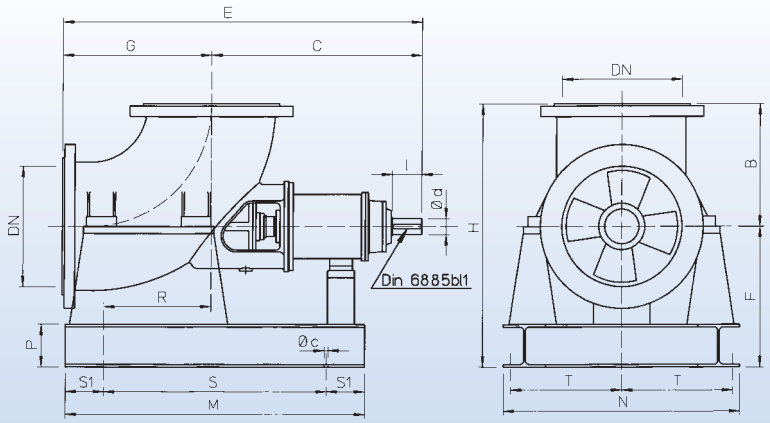


In arrangement 5, the baseplate is spring mounted, thus eliminating the use of expansion joints.

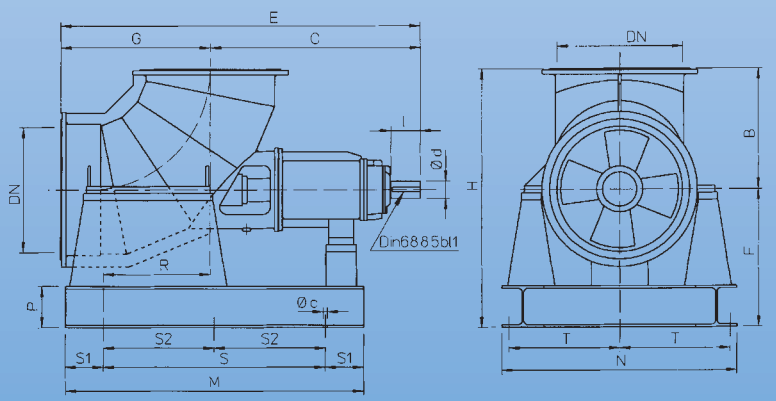
6



Vertical mounting



Type	ND	Pump				Baseplate											Shaftend		Weight
		B	C	G	E	M	N	P	R	S	S1		T	c	F	H	d	l	
200	8	8	25	10 1/4	35	29	24	4 3/4	6 1/2	21	4		11	1	12 1/2	20 1/2	1 1/4	2	440
250	10	10	29	13	42	33	26	4 3/4	9	25	4		12	1	14 1/2	24 1/2	1 3/8	4 1/2	594
300	12	12	30	16	46	38	29	5 1/2	12	30	4		13	1 1/8	16	28	1 3/4	4 1/2	825
350	14	14	32	18 1/2	50	42	32	6 1/2	12 1/2	30	6		14 1/2	1 1/8	17 1/2	31 1/2	2 2/8	4 3/8	1 012
400	16	16	34	20	54	46	34	6 1/2	14 1/2	34	6		15 1/2	1 1/8	19 1/2	35 1/2	2 2/8	4 3/8	1 298
450	18	18	38 1/2	23	61	52	36	6 1/2	17 1/4	40	6		16 1/2	1 1/8	20 1/2	38 1/2	2 2/4	5 5/8	1 540
500	20	20	38	25	63	54	40	6 1/2	17 1/4	38	8		18 1/2	1 1/8	21 1/2	41 1/2	2 3/4	5 5/8	1 914
600	24	24	45	29	75	62	45	6 1/2	19 1/2	42	10		21	1 1/8	24	48	3 2/8	6 3/4	2 673
700	28	28	49	34	83	70	50	8	24	50	10		23	1 1/8	28	56	3 2/4	6 3/4	3 476



Type	ND	Pump				Baseplate											Shaftend		Weight
		B	C	G	E	M	N	P	R	S	S1		T	c	F	H	d	l	
600	24	24	45	29	75	62	45	6 1/2	19 1/2	42	10	/	21	1 1/8	24	48	3 2/8	6 3/4	2 673
700	28	28	49	34	83	70	50	8	24	50	10	/	23	1 1/8	28	56	3 2/4	6 3/4	3 476
750	30	30	52	36	88	74	52	8	24	50	12	/	24	1 1/8	30	60	3 3/4	6 3/4	3 740
800	32	32	56	38	94	78	56	8 1/2	32	/	6	33	26	1 1/8	32	36	4	8 3/8	4 400
900	36	36	60	42 1/2	102	86	62	8 1/2	36 1/2	/	6	37	29	1 1/8	34	68	4 3/8	8 3/8	5 170
1000	40	40	65	45	110	94	68	10 1/2	37	/	8	39	31 1/2	1 1/8	37	74	4 3/4	8 3/8	6 402
1100	44	44	73	48	121	102	70	10 1/2	38 1/2	/	10	41	32 1/2	1 1/8	38	78	5 1/4	10	7 480
1200	48	48	80	54	132	114	78	12	44	/	10	47	36	1 1/8	42	90	5 5/8	10	12 540
1300	52	52	92	57	148	130	84	12	43	/	14	51	39	1 1/8	44	90	7 1/4	12	15 620

Vertical construction :

A vertically designed axial flow pump is mainly used to circulate between a tank that is open to atmosphere and an evaporator that is under vacuum.

Application example : Flash cooler on a phosphoric acid reactor unit.

Typical direction of liquid flow : Axial suction with the discharge at an angle relative to pump shaft.

Reverse direction of flow is also possible upon request.

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