

# AXIAL Flow Pump

Propeller Pumps

Model	Backpull Out	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F	Dim. F1	Dim. G	Dim. G1	Dim. H	Dim. I	Dim. J	Dim. J1	Dim. K
AF - 6	Y	808	197	156	229	152	276	-	200	-	16	178	385	-	133
AF - 8	Y	858	254	190	229	200	276	-	200	-	16	200	415	-	152
AF - 10	Y	950	307	283	229	254	276	-	200	-	16	254	420	-	180
AF - 12	Y	1306	381	286	279.4	306	276	-	200	-	16	305	620	-	235
AF - 14	Y	1380	444.5	335	279.4	360	276	-	200	-	16	360	670	-	258
AF - 16	N	1590	510	421	330	405	276	300	200	170	16	406	705	280	325
AF - 20	N	1960	535	480	400	470	300	325	225	225	19	500	815	350	406

### SUCTION & DISCHARGE FLANGE

Model	Dim. L	Dim. M	Dim. N	Dim. N1	Dim. P	Dim. Q	Dim. R	Dim. S	Dim. T	Dim. U	Dim. FI	Dim. FR	Dim. FP	Dim. FD	Dim. FH (nx)
AF - 6	125	85	80	-	16	41.1	38.1	10	28	75	150	216	241.3	279	22 (8X)
AF - 8	161	113	80	-	16	41.1	38.1	10	28	75	210	270	298.4	343	22 (8X)
AF - 10	195	164	80	-	19	41.1	38.1	10	32	75	261	324	362	406	25 (12X)
AF - 12	250	190	80	-	19	61.2	57.2	16	34	100	310	381	431.8	482	25 (25X)
AF - 14	300	165	80	-	22	61.2	57.2	16	34	100	357	413	476.2	534	25 (25X)
AF - 16	340	245	80	95	26	70.5	66.5	18	39	127	410	470	539.5	597	28 (28X)
AF - 20	385	247	100	95	32	90.5	85	22	42	160	497	584	635	698	32 (32X)



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 CHEMICAL PROCESS PUMPS & VALVES

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## APPLICATION

The JEC Axial Flow pump is unmatched in the industry for high volume / Low head pumping requirements, especially when corrosive and/or abrasive solutions are involved. Mainly used in the following application:

Evaporator and Crystallizer Circulation  
Phosphate, Soda Ash, Potash and Sodium Chloride Processing  
Polypropylene Reactors, Xylene application  
Black Liquor Evaporator, Chlorine Dioxide Generators  
Sewage Digesters  
Raw Water pumping, Flood control, Marine Ballast transfer

## Designation

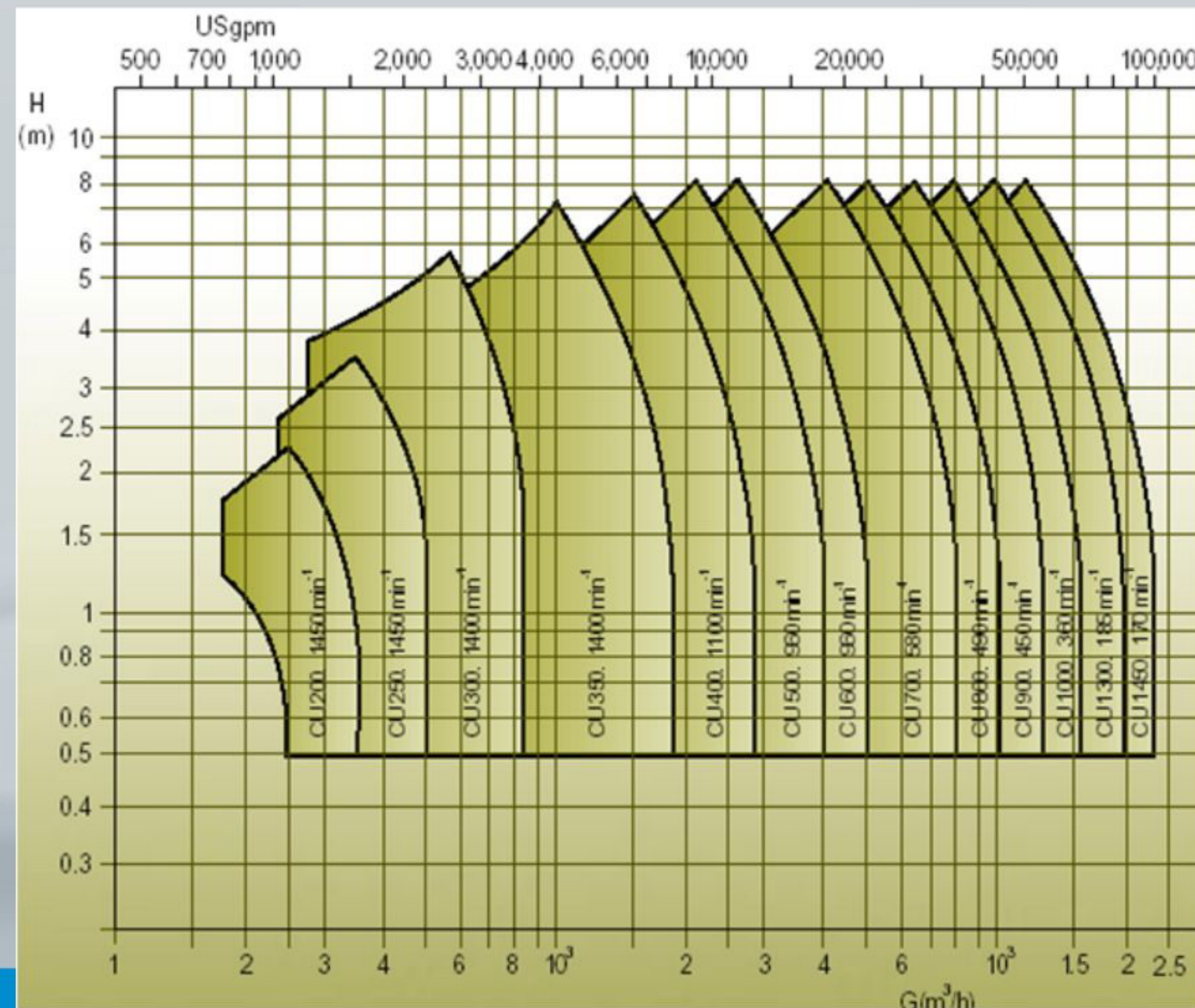
Model / type \_\_\_\_\_ **AF 14**

Suction & Discharge Diameter (inch) \_\_\_\_\_

## OPERATING DATA

Pump size		6 inch to 20 inch
Flow	up to	3000 m <sup>3</sup> /hr
Head	up to	7 m
Temperature	up to	160° c

## FAMILY CURVE



## DESIGN

The Axial Flow pump generates flow by the thrust or lift action of rotating axial vanes of the impeller. The pump has an elbow that directs the flow through the suction and out the discharge end of the pump. It can be used in the top or end suction configuration depending up on the need and Flange dimensions, bolt circle and holes comply with ANSI B16.5, 150#. The back pull out design (up to 14" size) allows for easy maintenance and repair as the rotating element may be removed without disturbing the pipe work. Pump has wear rings as standard and lifting eye on bearing bracket.

## CONSTRUCTION

Horizontal non self priming pump with back pull out design (up to 14" size). The "back pull out" design allows for the maintenance of the pump without disturbing the pipe work connected to the casing, or the pump alignment.

The pup is built with suction and discharge flanges matching in accordance with ANSI B16.5, 150# SORF.

## CASING

Casted or fabricated elbow with precise machined for minimum gap between propeller and casing.

## SHAFT

The shaft is of the wet type, which comes in contact with the pumped liquid.

## BEARING

Oil lubrication – Standard  
Max. Pump temperature 150°C  
The bearing arrangement consists of Single Row Angular Contact Ball Bearing and Spherical Roller Bearing. Oil Level Indicator is provided for oil level checking and maintaining.

Grease lubrication – Optional  
Max. Pump temperature 150°C  
The use of grease as a bearing lubricant is available as an option. Bearing are shielded and greased for life.

## SHAFT SEAL

The shaft sealing is carried out by means of gland packing or by mechanical seal.  
The standard mechanical seal is a Double Mechanical seal with Cartridge type arrangement.  
Other Mechanical Seal options are available on request.

Seal operating temperature - 30°C to +105°C

Absorbed pump Shaft kw	Driver power Reserve
Up to 1.5	Approx 30 %
Up to 12	Approx 20 %
Up to 12	Approx 10 %

## ACCESSORIES

### DRIVE

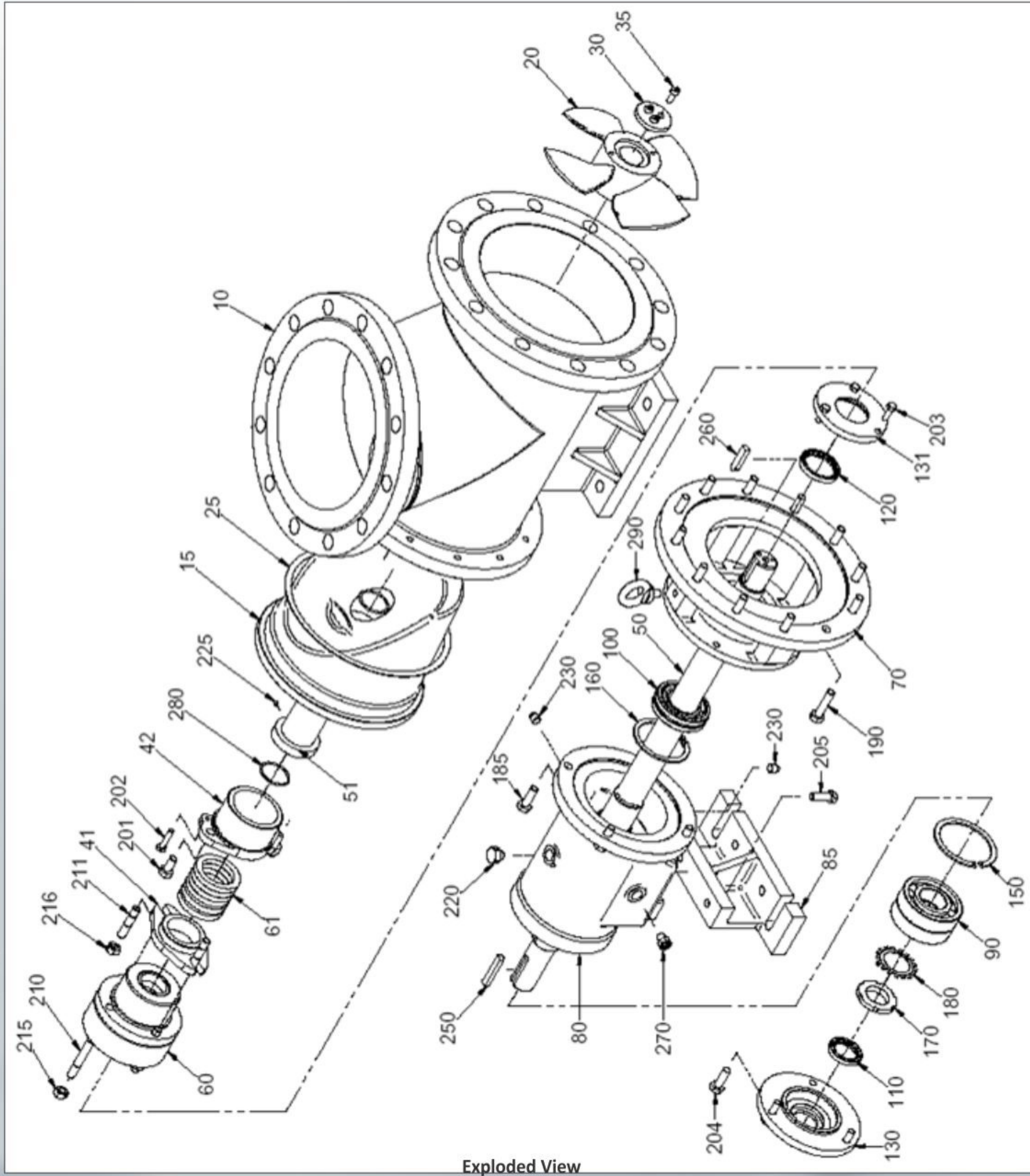
The pump is only recommended for driven through V-belt or direct coupled gear box with spacer coupling. In case of gear box used, spacer coupling allows the benefit of back pull out without disturbing the gear box and pump alignment.

### BASE PATE

Base plates for electric drives are available in two variety of styles.  
Standard: fixed and grouted directly to the foundation  
Anti vibration: rigid base plate on rubber mounts.

### PUMP SELECTION

For pump selection the hydraulic performance curves should be used. These curves are based on water 20°C and Specific Gravity equal to 1.0.  
NPSH values are indicated on the performance curves. At least 1.5m must be added as a safety margin.  
To overcome variation between actual and design system requirements it is recommended that the driver power exceeds the absorbed pump shaft power.



Exploded View

## PART LIST

Po. No	Qty.	Item Name	M.O.C.		
			SS 316	SS 304	Steel
10	1	Casing	AISI-316	AISI-304	M.S.
15	1	Stuffing Box	CF-8M	CF-8	WCB
20	1	Impeller	CF-8M	CF-8	WCB
30	1	Impeller lock washer	AISI-316	AISI-316	M.S.
35	3	Hex bolt	AISI-316	AISI-304	M.S.
41	1	Gland pusher	CF-8M	CF-8	WCB
42	1	Gland bush	CF-8M	CF-8	WCB
50	1	Shaft	AISI-316	AISI-316	M.S.
51	1	Shaft sleeve	AISI-316	AISI-304	M.S.
60 #	1	Mechanical seal			
61	6	Gland packing		TIBA	
70	1	Lantern piece		C.I.	
80	1	Bearing housing		C.I.	
85	1	Support foot		C.I.	
90	2	Bearing – Drive End		Steel	
100	1	Bearing – Non Drive End		Steel	
110	1	Oil Seal – Drive End		Viton / Rubber	
120	1	Oil Seal – Non Drive End		Viton / Rubber	
130	1	Bearing cover – Drive End		C.I.	
131	1	Bearing cover – Non Drive End		C.I.	
150	1	Internal circlip – Drive End		Steel	
160	1	Internal circlip – Non Drive End		Steel	
170	1	Lock nut		Steel	
180	1	Lock washer		Steel	
185	n *	Hex bolt		Steel	
190	n *	Hex bolt		Steel	
201	2	Hex bolt	AISI-316	AISI-304	M.S.
202	2	Hex bolt	AISI-316	AISI-304	M.S.
203	4	Hex bolt		Steel	
204	3	Hex bolt		Steel	
205	2	Hex bolt		Steel	
210 #	4	Stud	AISI-316	AISI-304	M.S.
211 #	2	Stud	AISI-316	AISI-304	M.S.
215	4	Hex nut	AISI-316	AISI-304	M.S.
216	2	Hex nut	AISI-316	AISI-304	M.S.
220	1	Breather plug		Steel	
225	3	Grub screw	AISI-316	AISI-304	M.S.
230	2	Square head plug		Steel	
250	1	Key		Steel	
260	1	Key	AISI-316	AISI-304	M.S.
270	1	Oil level indicator		Aluminum	
280	2	O-Ring		Viton / Rubber	
290	1	Eye bolt		Steel	

\* n - quantity differs model wise.

# - Applicable for Mechanical seal option only