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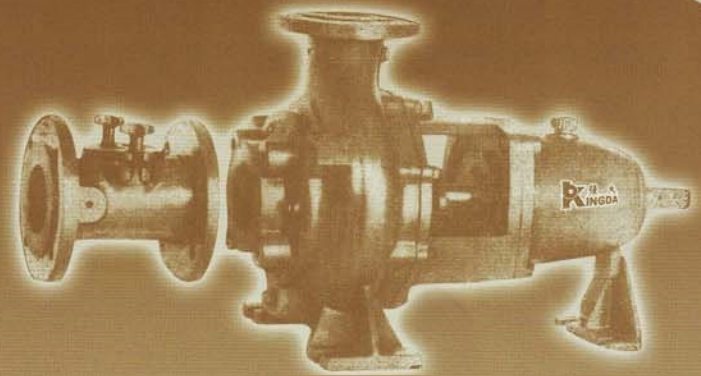
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SHIJIAZHUANG KINGDA PUMP INDUSTRY GROUP CO., LIMITED
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KWP

Non-Clogging Centrifugal Pumps

KINGDA

GENERAL

Series of KWP non-clogging centrifugal pump is a new type high-efficiency, energy-saving non-clogging pump made by our works under the license technology introduced from KSB Co.

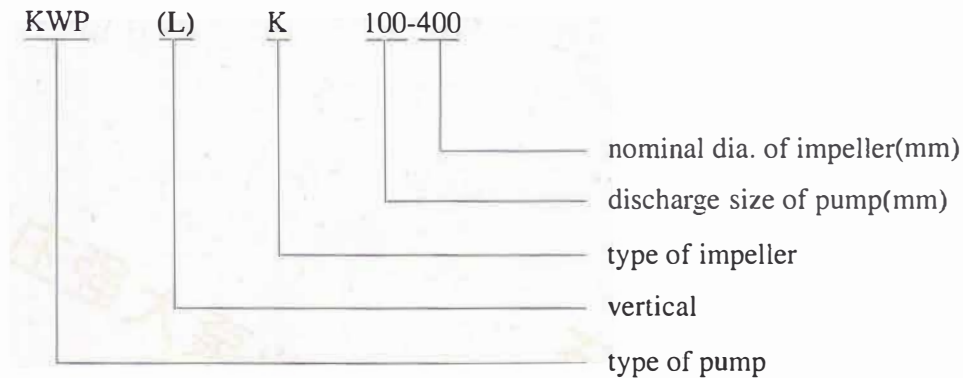
The type of KWP pump is of single-stage, centrifugal pump which is specially used for the city water supply, the sewage and effluent treatment, chemicals, iron & steel industries and the paper, sugar & caned food industries. It features high efficiency, non-clogging and back pull-out design which can allow the rotor to be removed from the pump casing without disturbing the piping or dismantling the casing. This not only simplifies maintenance but also allows fast inter change of the impellers and wear plate of suction side, thereby permitting the pump to be rapidly modified to suit different operating conditions.

The type of KWP pump can deliver all kinds of sewage, clear water, seawater, bittern water, waste water and sludge so that it can be used in water supply plant, sewage treatment works, breweries, mines as well as the chemicals and construction industries.

The KWP is from 40mm to 500mm allording to outlet diameter.

Type KWP pump normally is suitable for delivering the neutral media (PH value is 6-8 about). For the applicatin of corrosive fluid and other special requirements, please quote this information when making order.

Notation:



Impeller:

The series KWP pump is supplied with 4 kinds of impeller for selection.

“K” impeller-Closed non-clogging impeller

For clear water, the sewage and fluids containing solids and sludge which do not liberate gas.

“N” impeller-Closed multi-vane impeller

For clear water, the fluid containing slight suspension such as treated sewage, screen water, pulp water, sugar juices, and so on.

“O” impeller-Open impeller

Same applications as “N” impeller but also including fluids containing air.

“F” impeller-Free-flow impeller

For fluids containing coarse solids liable to bunch or plait (such as long fibre admixtures, sticky particles and so on) and fluids containing air.

Shaft seal:

Gland seal: There are two kinds of design: standard's and high-temperature's.

The high temperature type should be used when the temperature is higher than 90°C.

The stuffing box of this type can be cooled in order to be suitable for the transporting duty in high temperature.

Mechanical seal: It also be used for the application where leakage is not allowed.

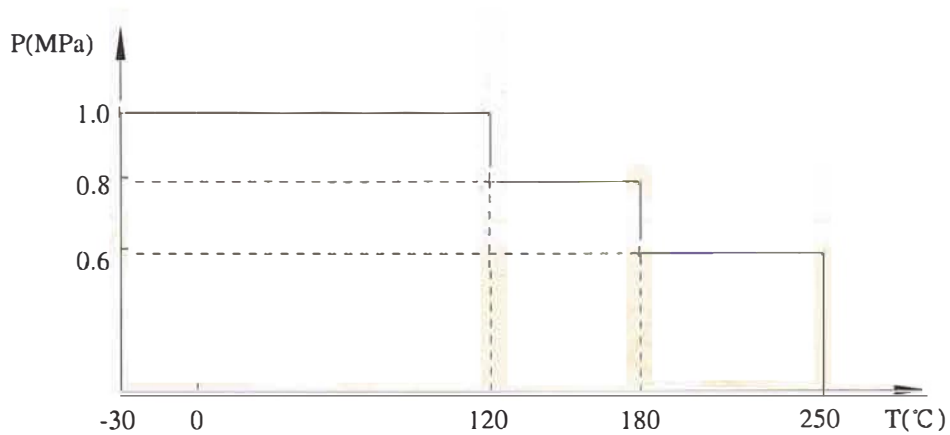
Rotating direction:

The rotating direction of the pump is clockwise as viewed from the end of drive.

Drive:

In general, they are directly coupled. They are also indirectly coupled with belt, the range of drive ratio is from 1:1 to 1:2.

Permissible pressure and media temperature should be in accordance with the following table



For type KWP 500-630 the pressure limit should be 0.6MPa

Quantity of cooling liquid for cooled stuffing box

The stuffing box with a cooling case must be used when the temperature of transported media is higher than 90 °C (or 105 °C for non-corrosive). The quantity of cooling liquid should be so enough that the temperature of cooling liquid passing the discharge nozzls is about 20 °C. See the following table for reference.

Bearing Braket	Quantity (L/min)	
	media Temperature $\leq 150^{\circ}\text{C}$	media Temperature $> 150^{\circ}\text{C}$
P02as	3	4
P03ax	4	5
P04ax	6	7
P05ax	8	9
P06x	10	11
P10as, P12s	12	13

Pressure and quantity of gland seal (shaft seal) and spraying liquid

The pressure of the sealing liquid should be 0.05-0.1 MPa higher than intrinsic pressure before the stuffing is packed. For simple and convenient, it may approximately be calculated according to following formula.

$$P=0.025 \times P_B+P_z+\Delta P$$

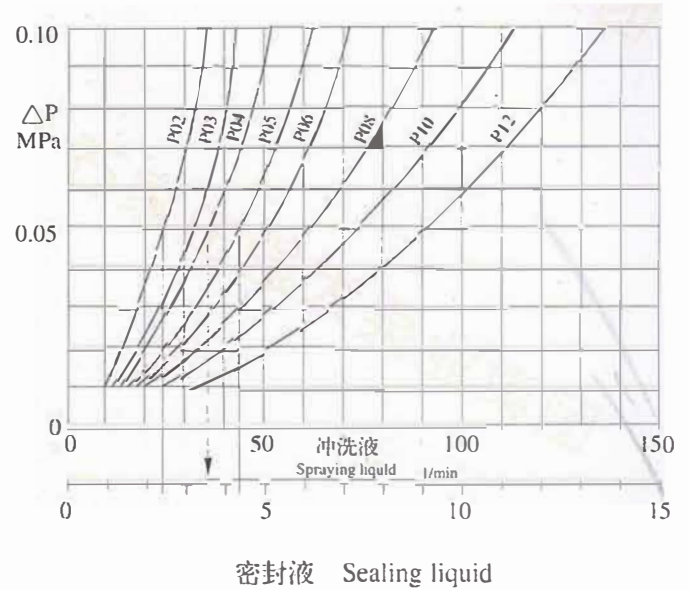
Where:

P: Pressure of gland sealing liquid(MPa)

P_B: Working pressure of pump(MPa)

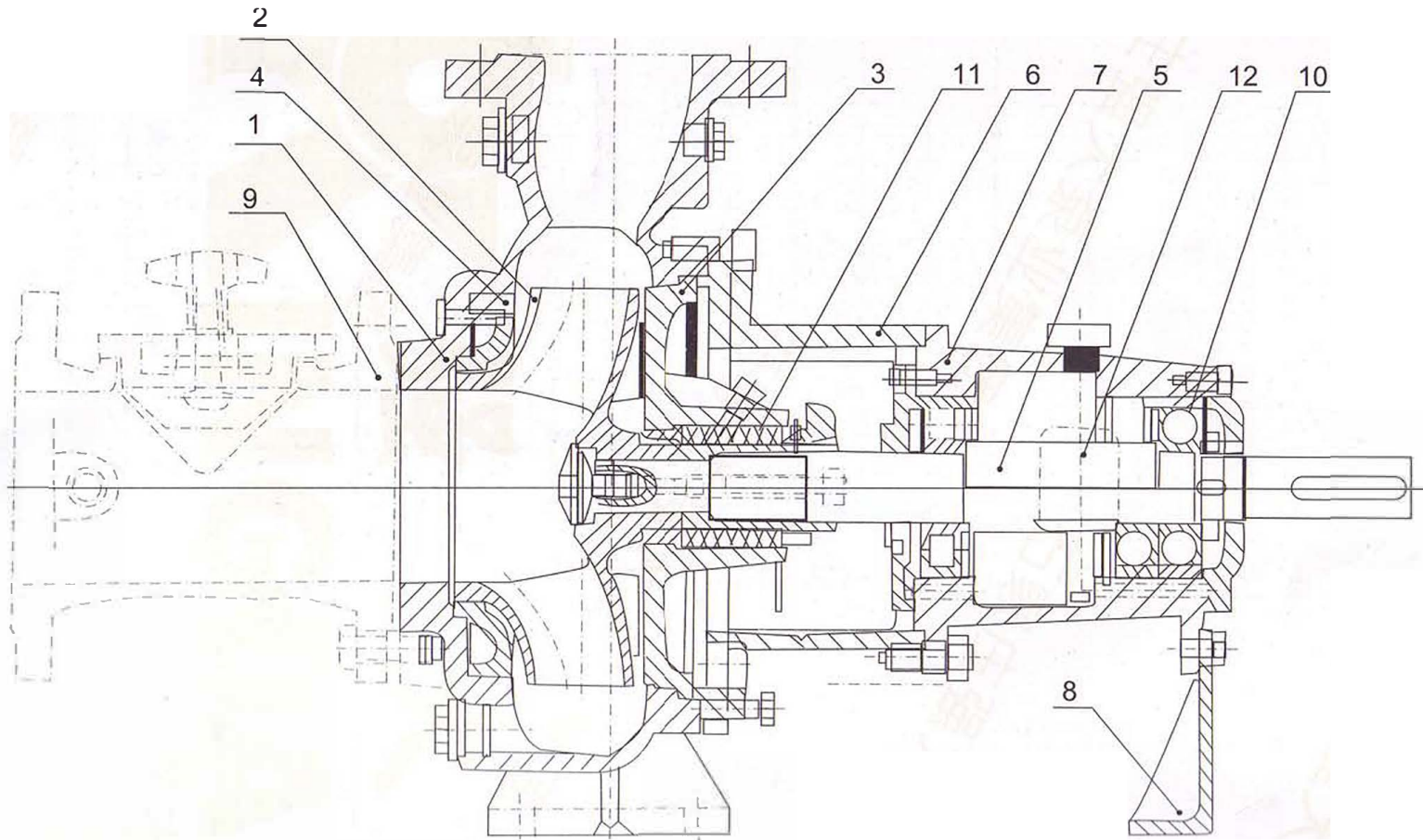
P_z: Inlet pressure of pump(MPa)

ΔP: Take ΔP=0.05-0.1(MPa)



For spraying liquid, its pressure should be 0.01-0.02Mpa higher than intrinsic pressure before the stuffing is packed. It also can be calculated according to above formula but ΔP=0.01-0.02MPa.

Constructional Drawing



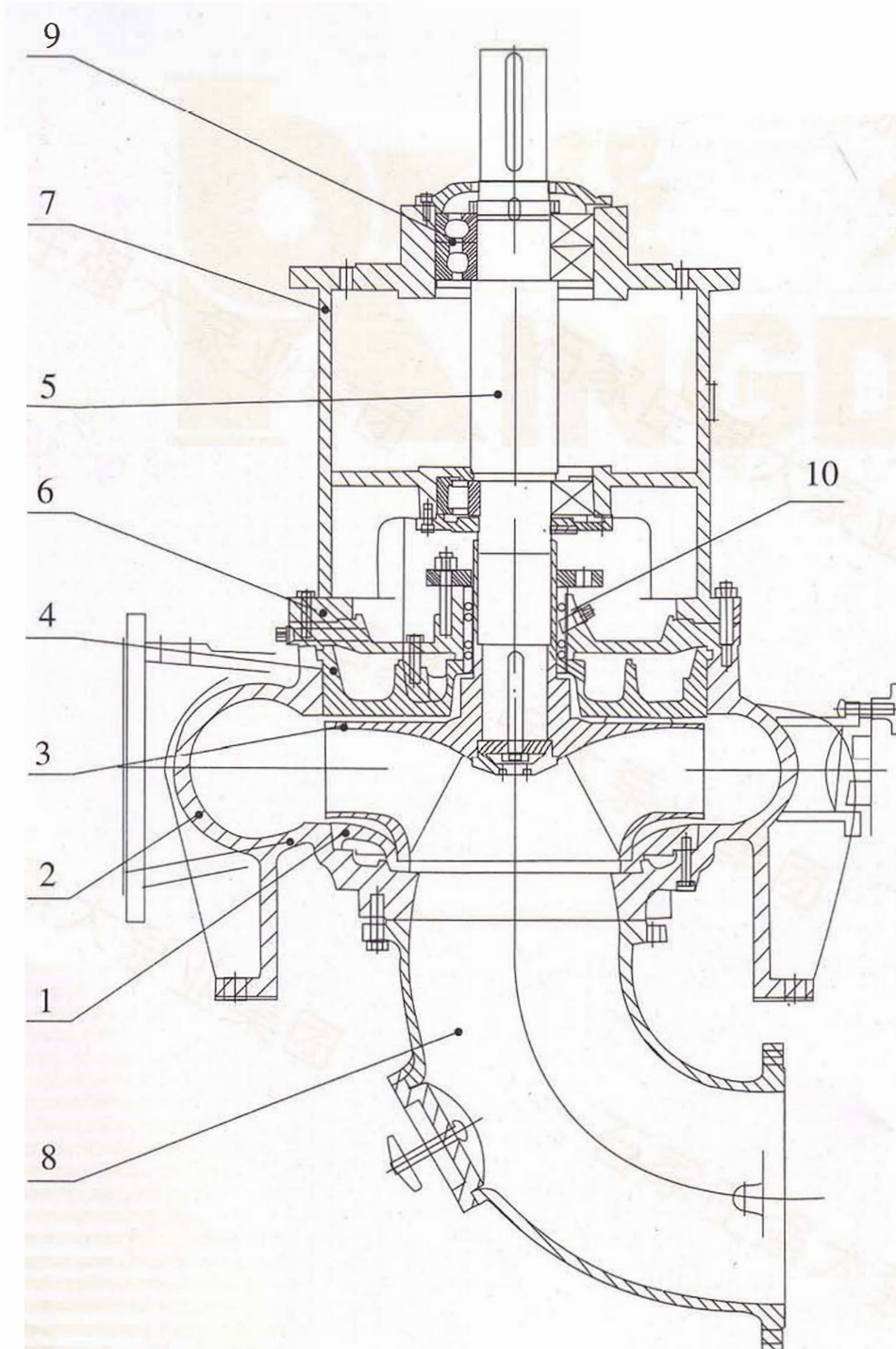
1.Pump casing
5.Shaft
9.Suction pipe

2. Impeller
6. Jointer
10 Bearing

3.Discharge cover
7.Bearing bracket
11.Packing

4.Wear plate of suction side
8.Support foot
12. oilleveler

Constructional Drawing



1.Front volute Plate
5.Shaft
9 .Bearing

2.ump casing
6.Stuffing box
10.Packing

3Impeller
7.Bearing brcket

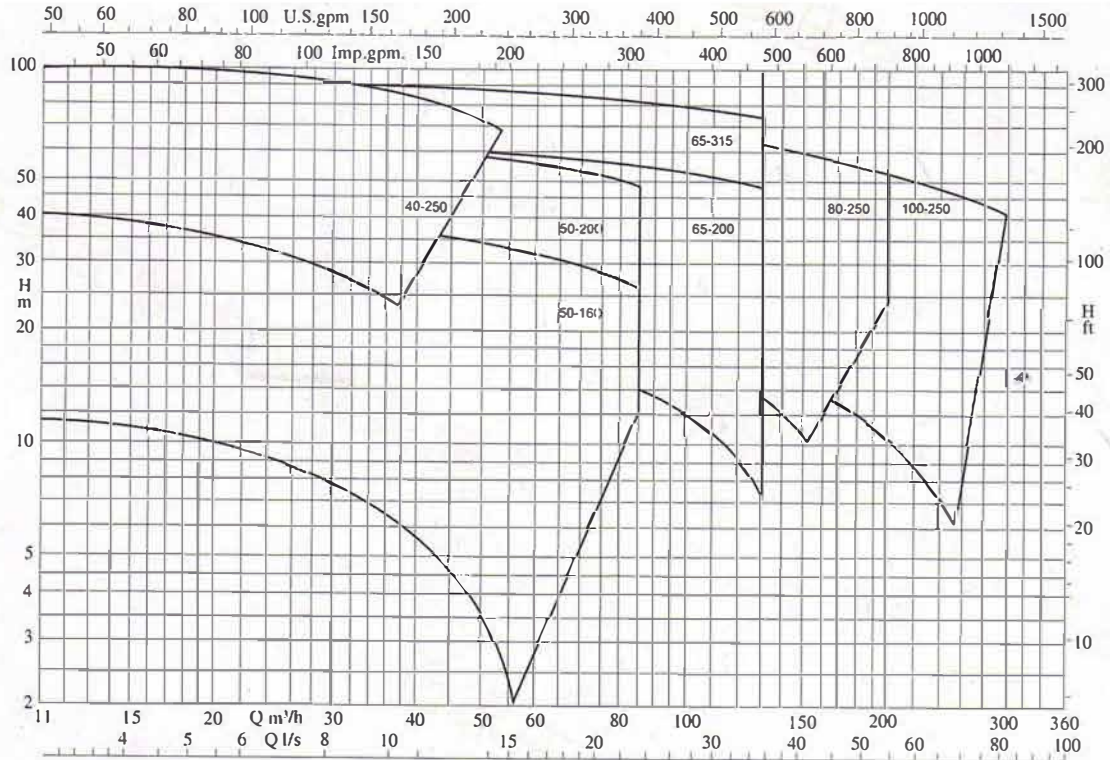
4.Rear volute Plate
8.Suction Pipe

Selection charts

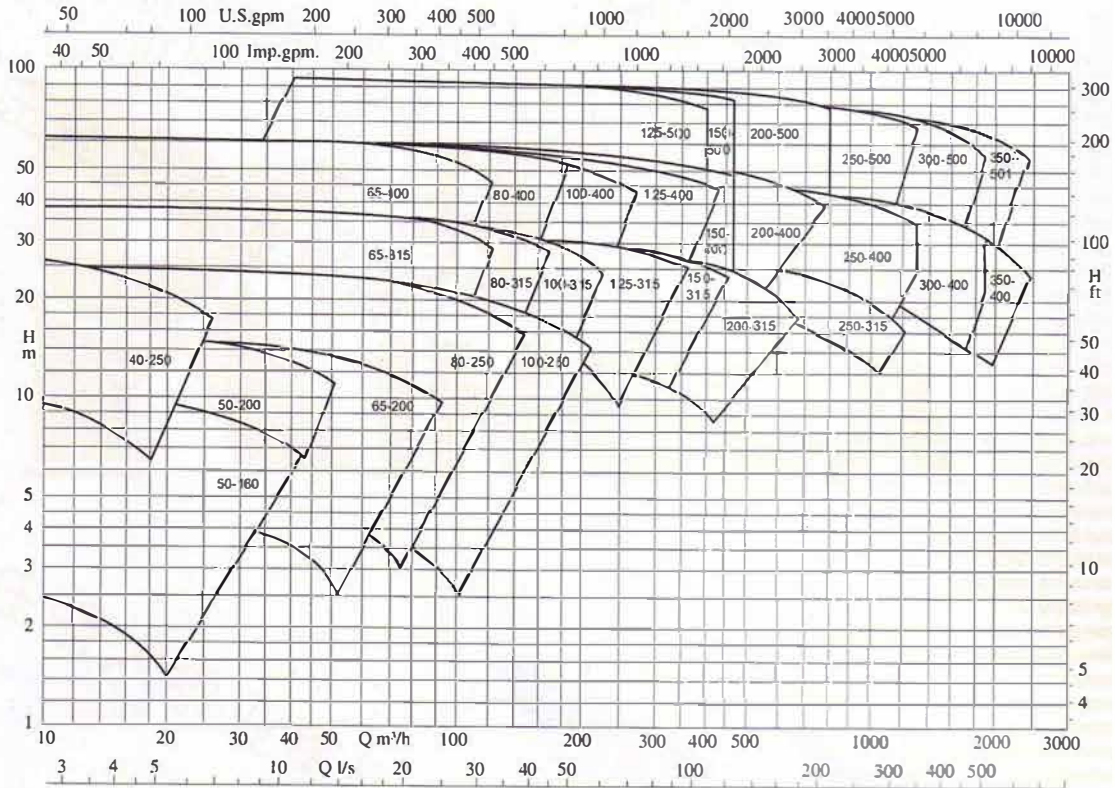
"K" impeller

KWPK
n=2900 r/min

50Hz

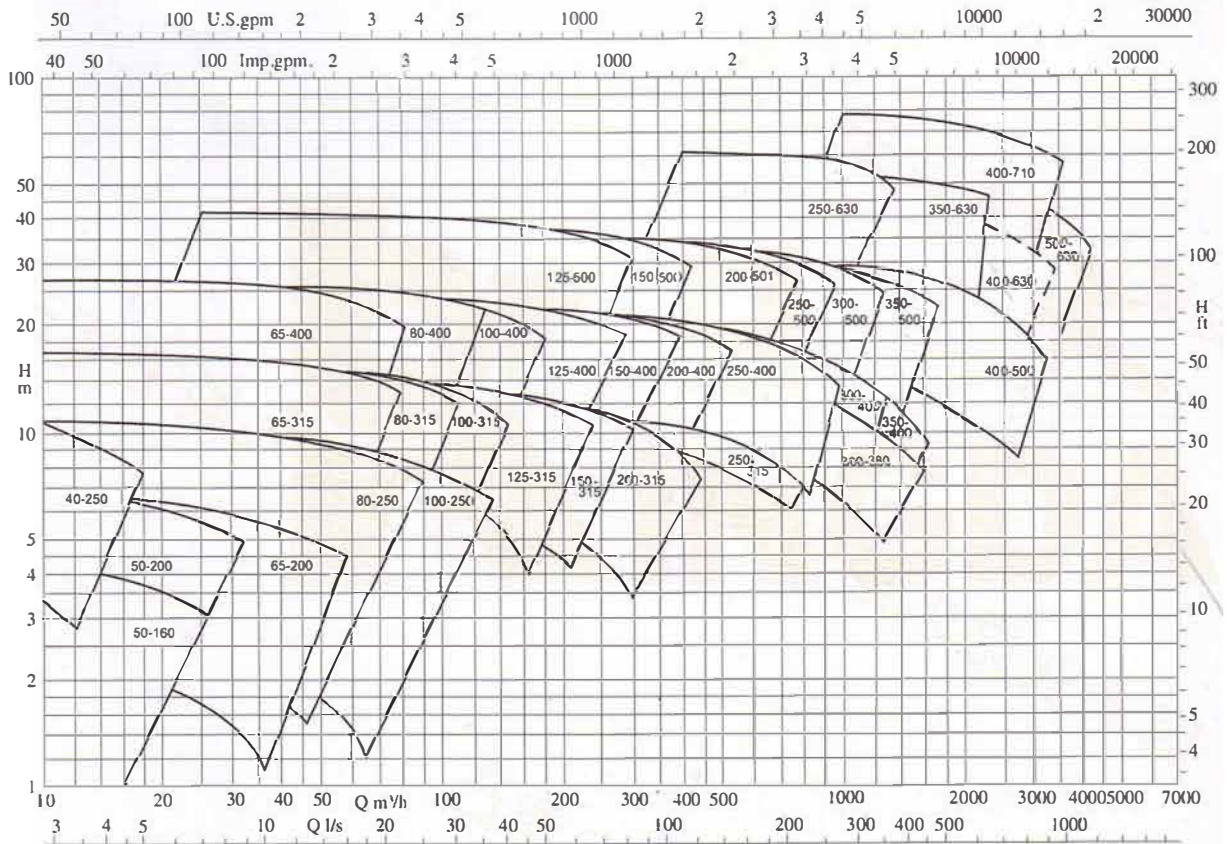


n=1450 r/min

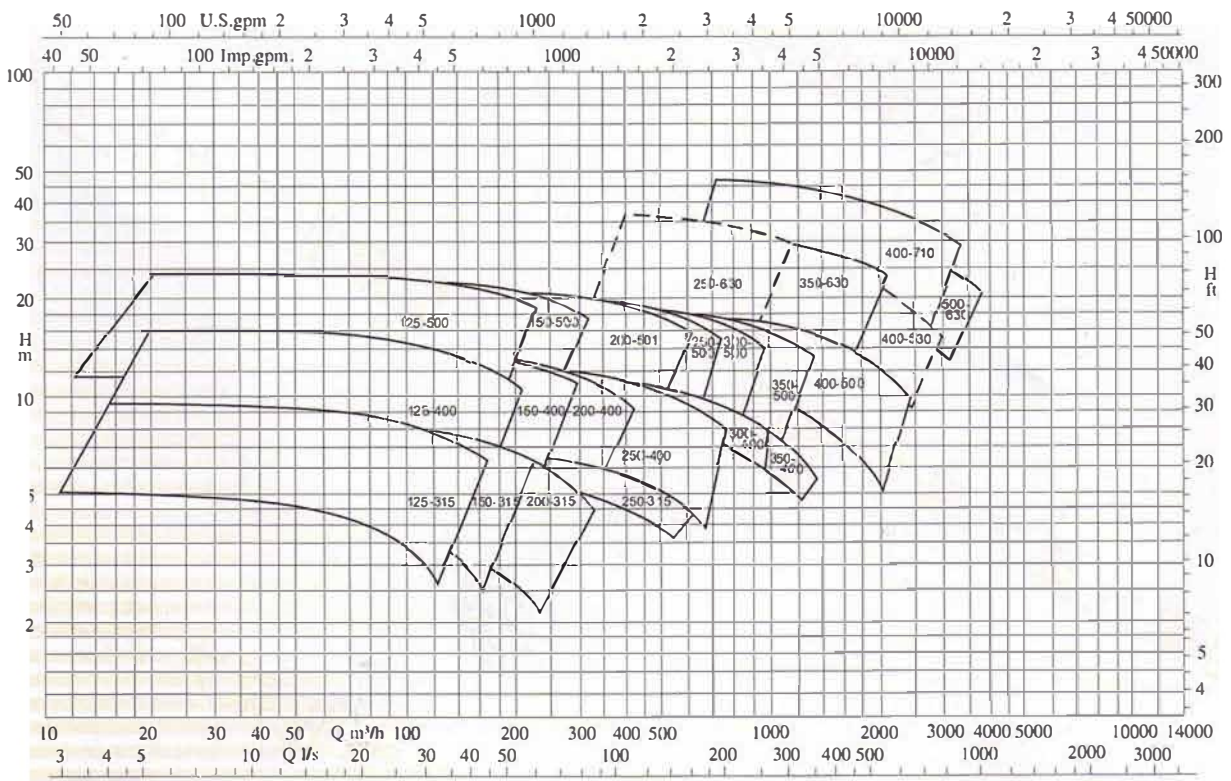


n=960 r/min

50Hz



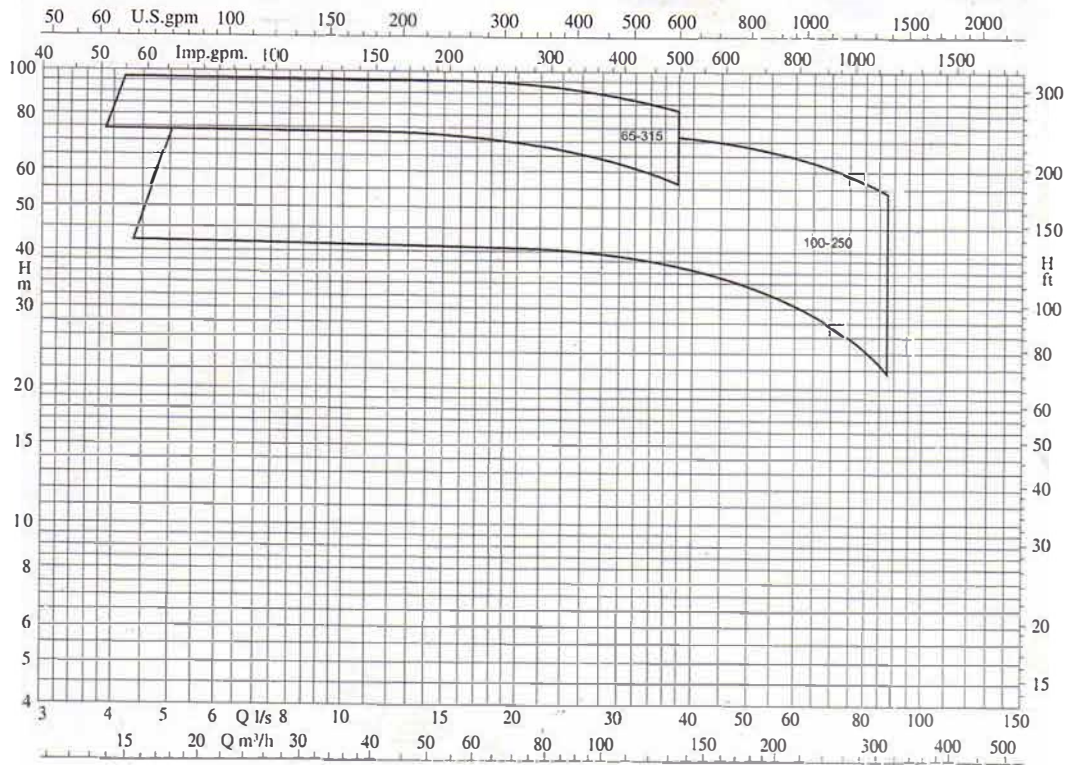
n=725 r/min



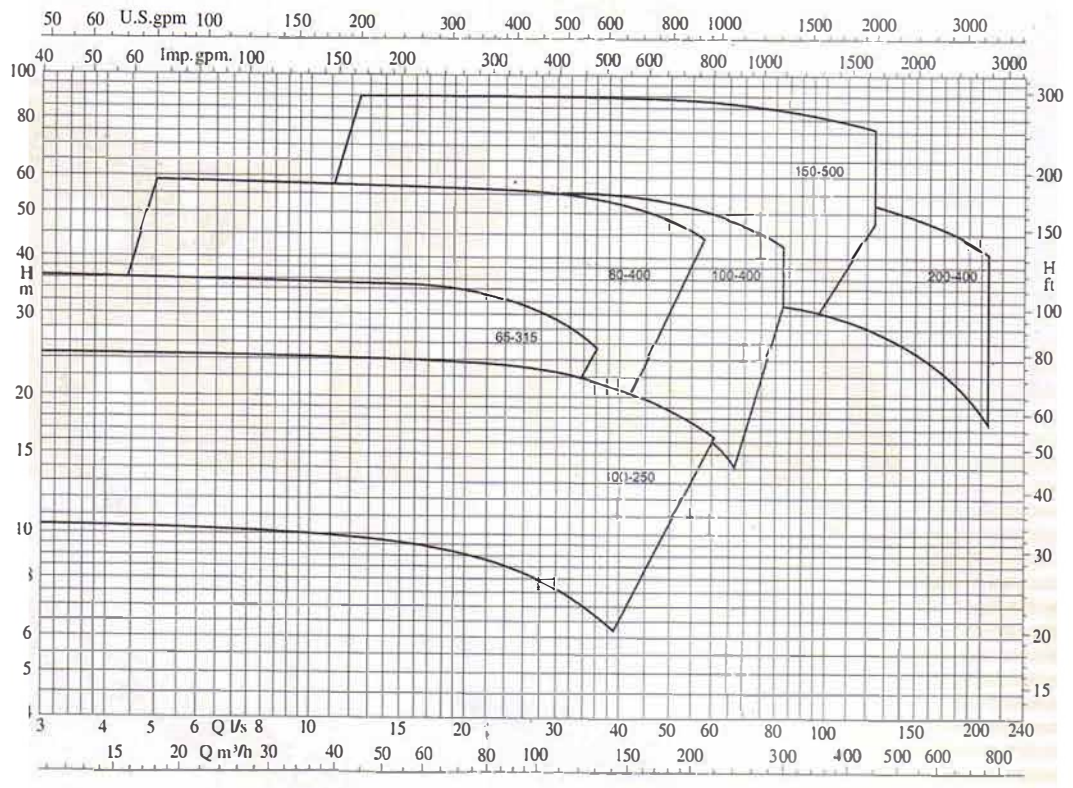
“N” impeller

KWPN
n=2900 r/min

50Hz

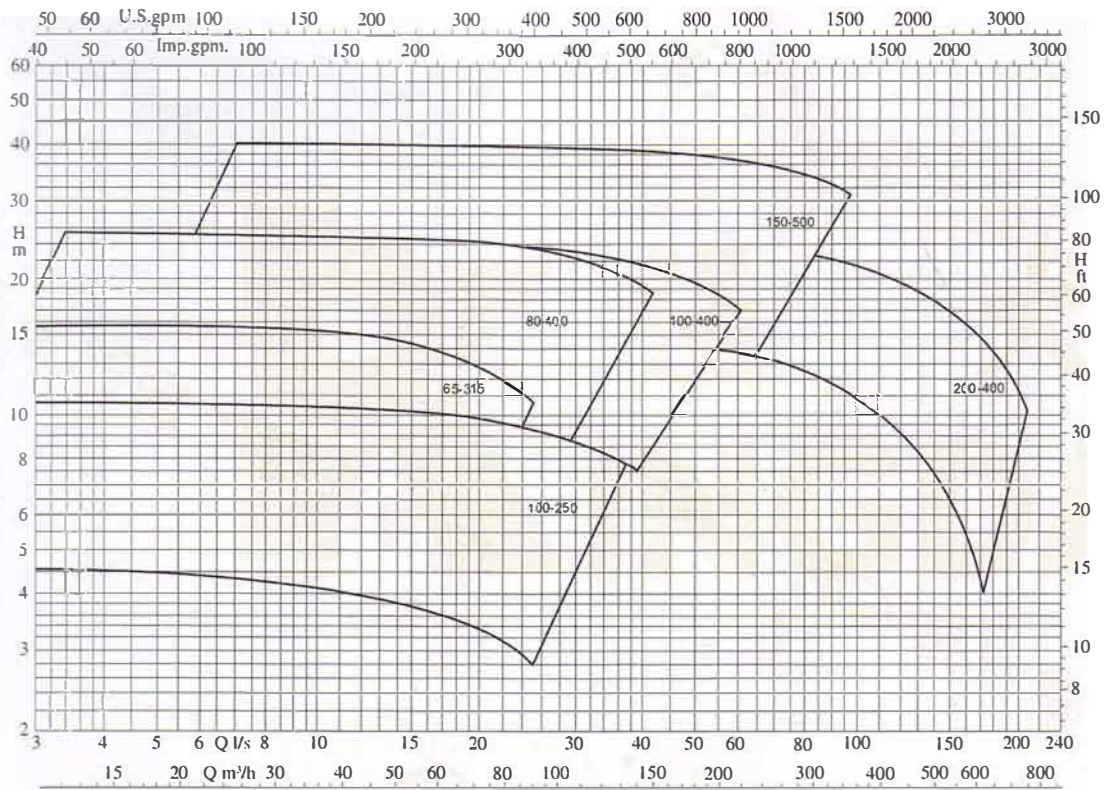


n=1450 r/min

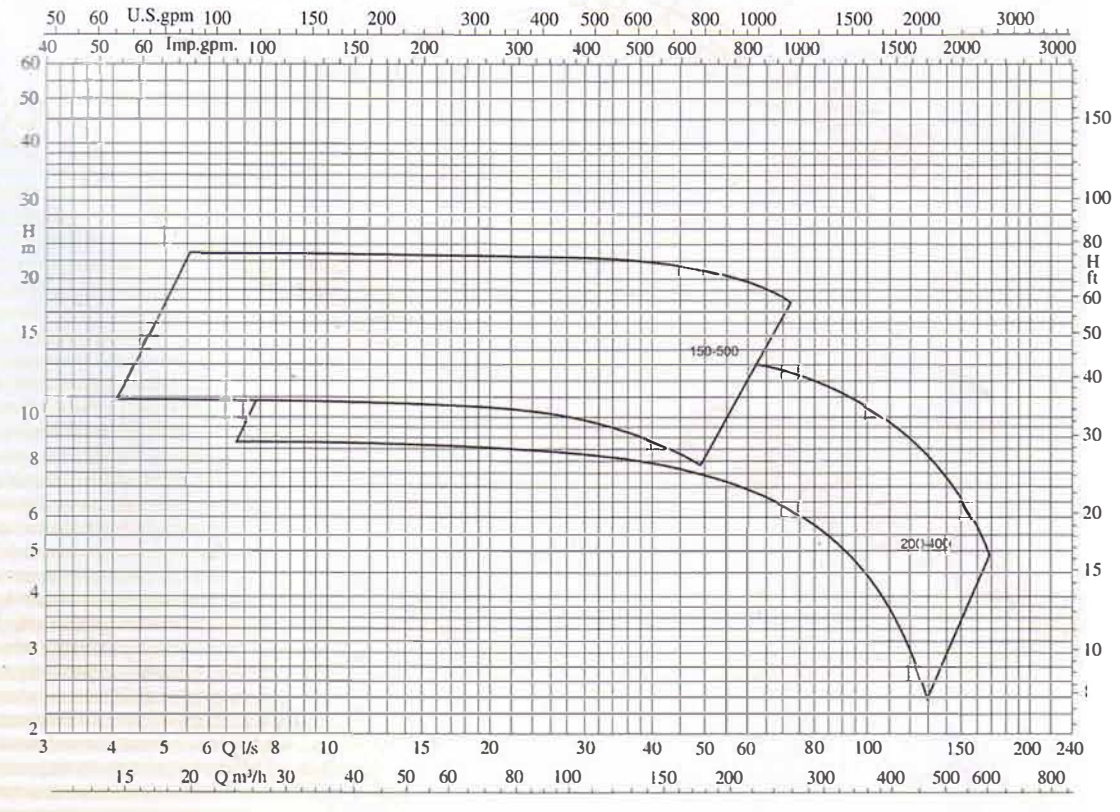


n=960 r/min

50Hz



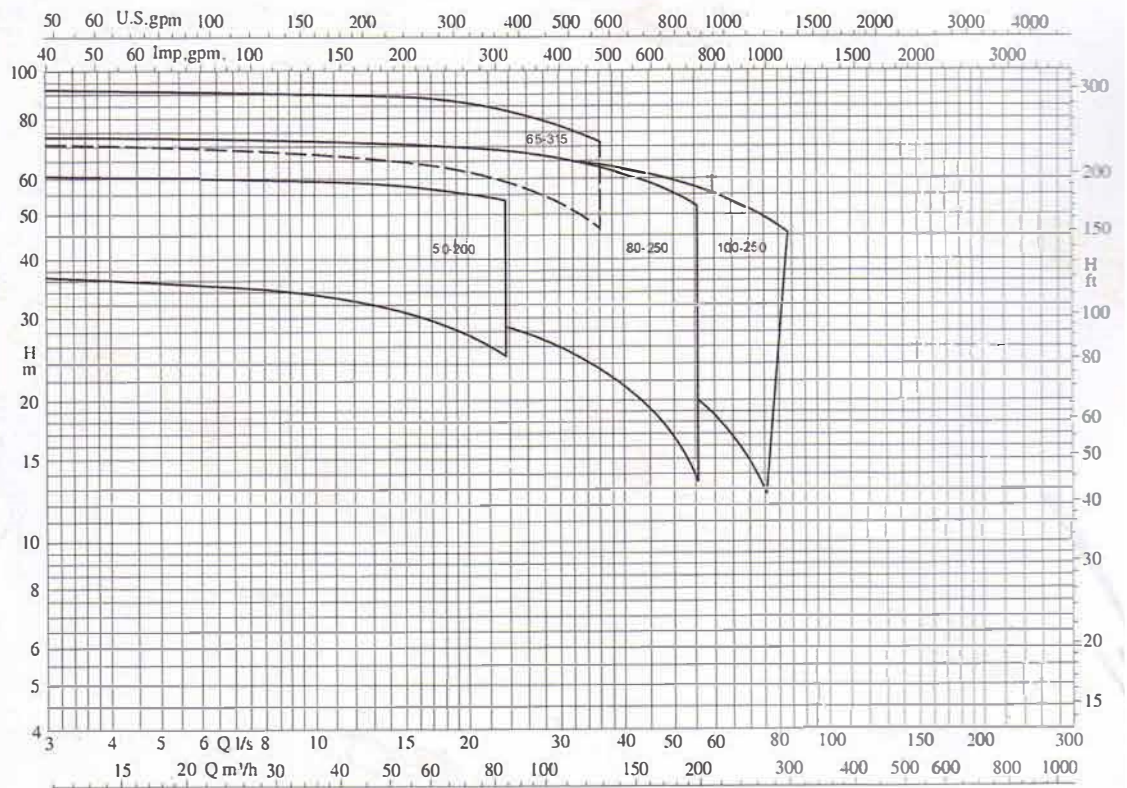
n=725 r/min



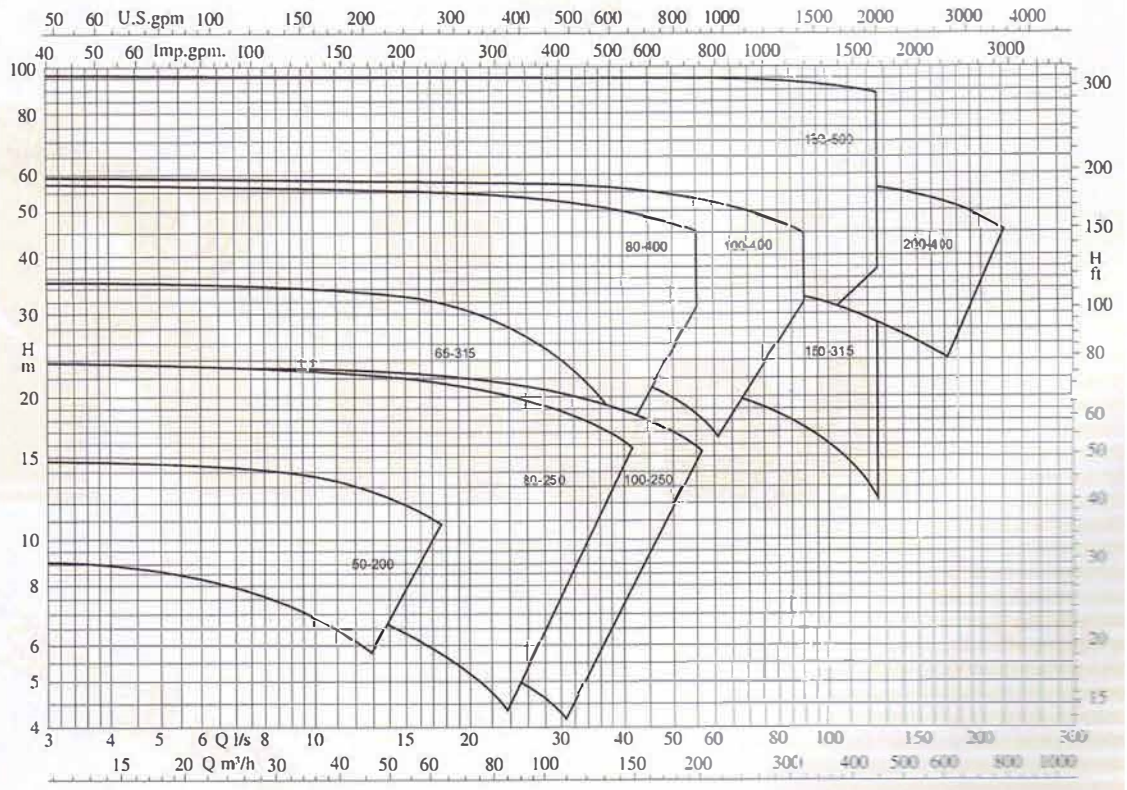
“O” impeller

KWPO
n=2900 r/min

50Hz

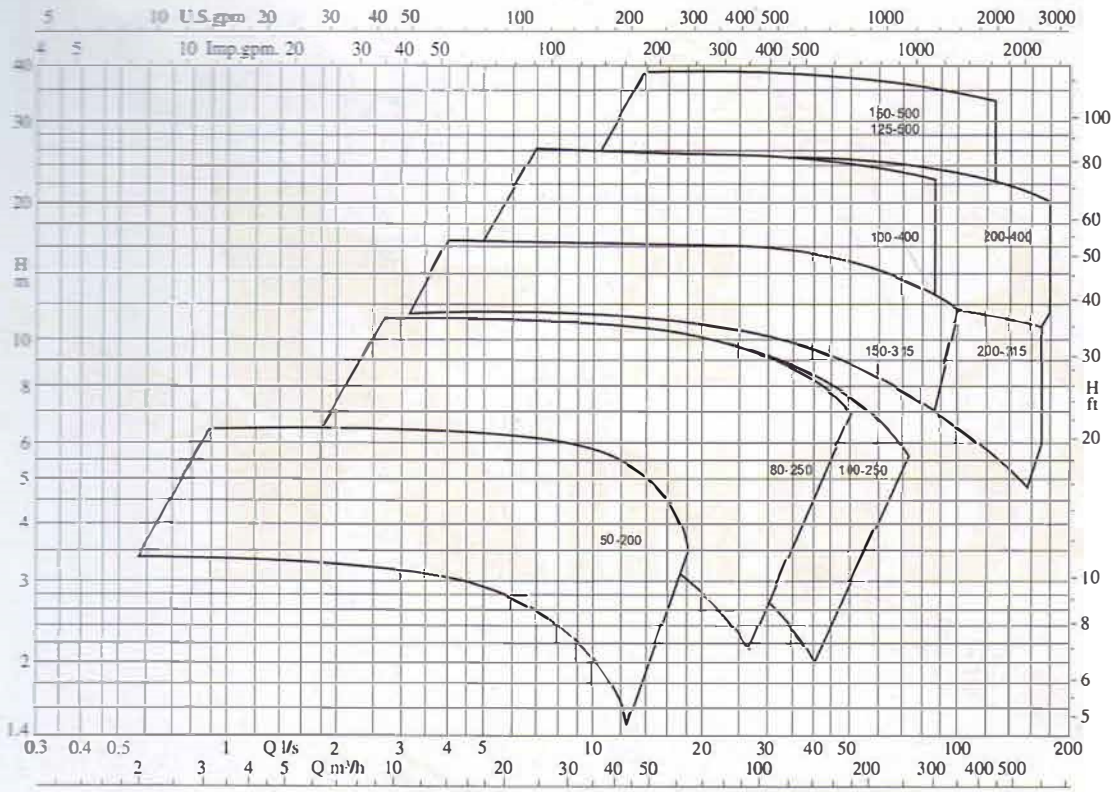


n=1450 r/min

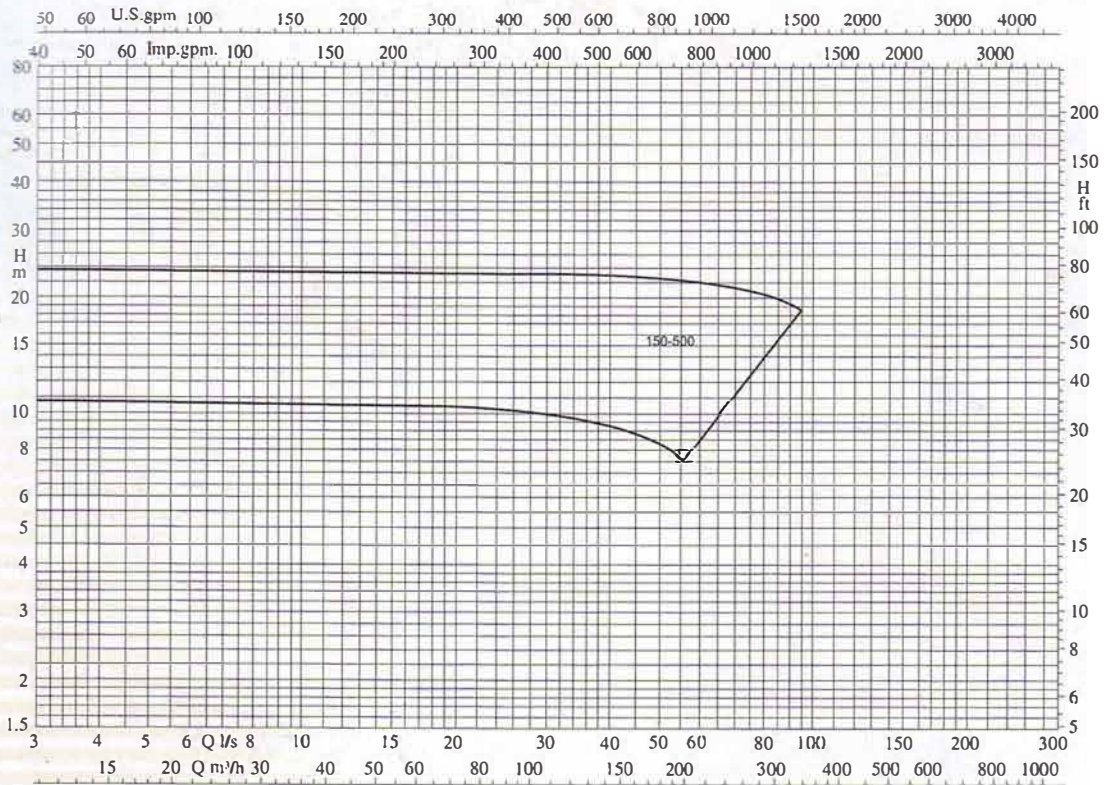


n=960 r/min

50Hz

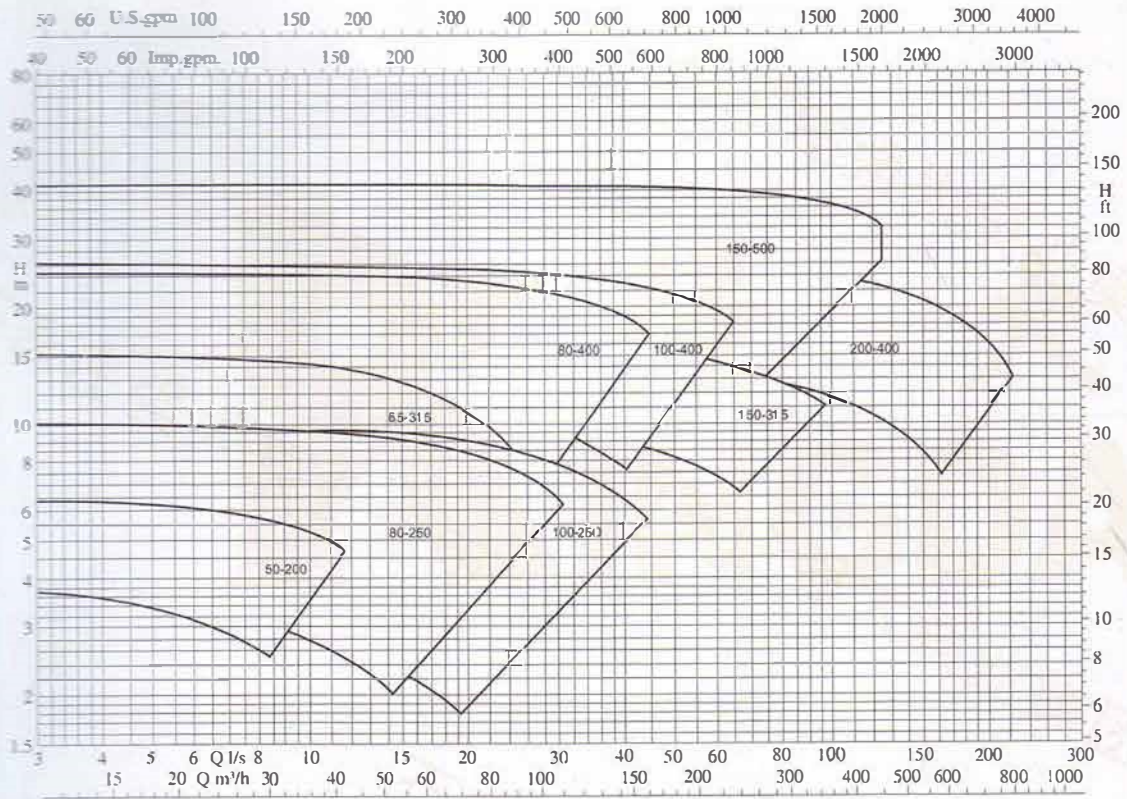


n=725 r/min

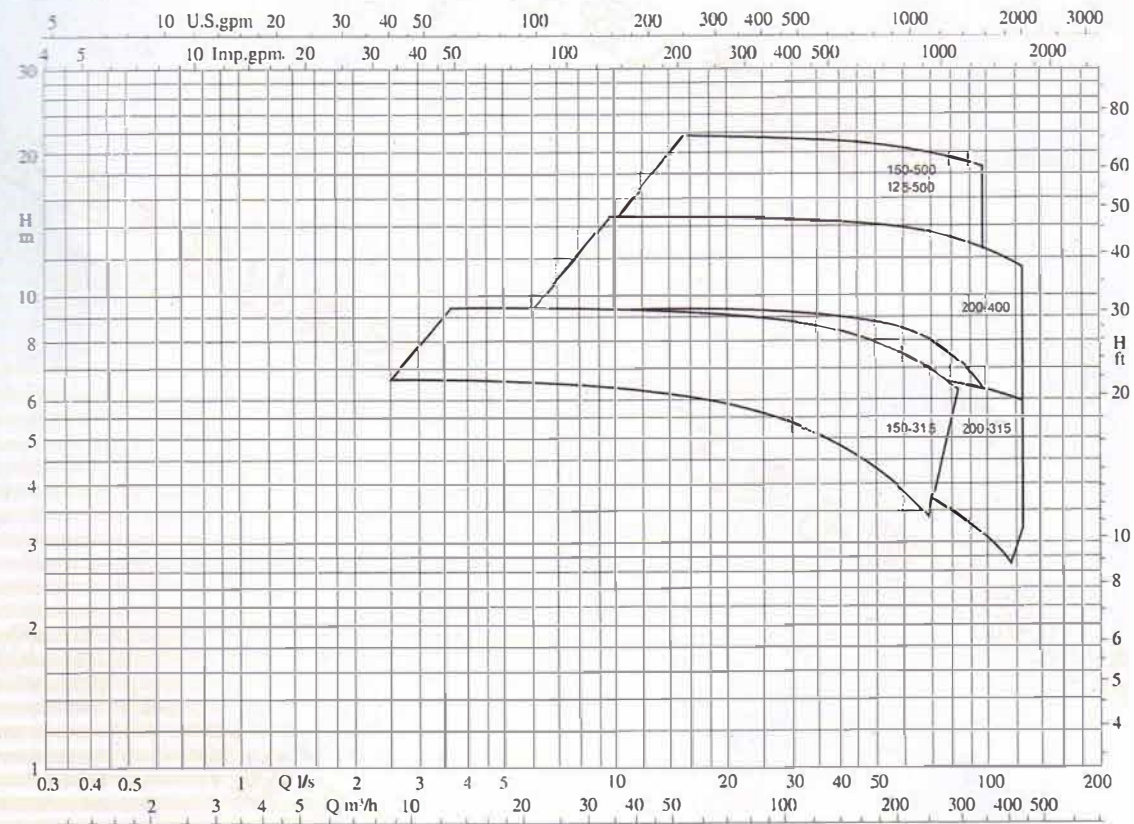


$n=960$ r/min

50Hz



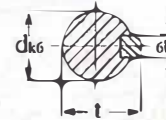
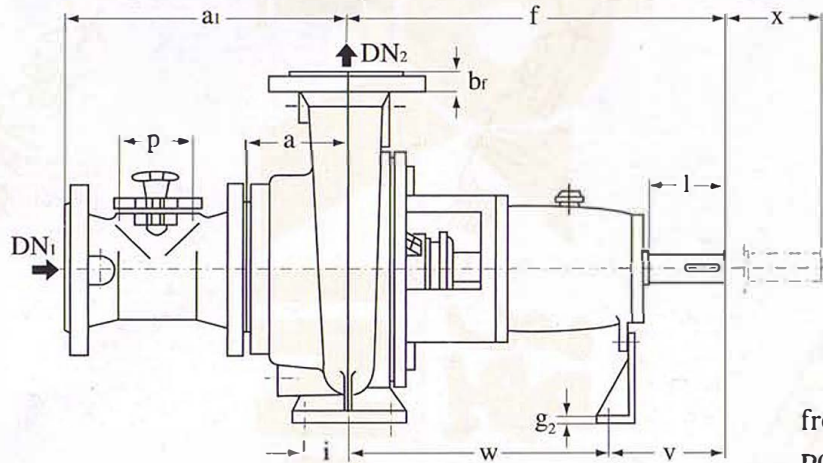
$n=725$ r/min



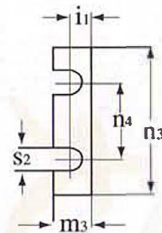
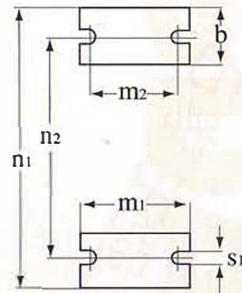
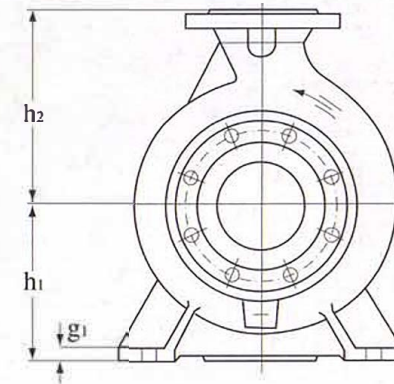
Outline dimensions

X=Dismantling dimension

(in case of dismantling without disconnecting the motor)



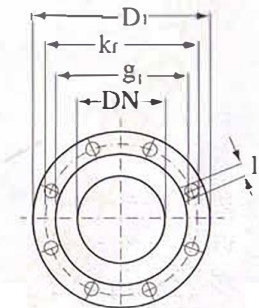
from bearing bracket
P06x "n6"



Flanges

DN	Dr	kr	br	gr	1r ¹⁾	Zr
40	150	110	18	88	18/M16	4
50	165	125	20	102	18/M16	4
65	185	145	20	122	18/M16	4
80	200	160	22	138	18/M16	8
100	220	180	22	158	18/M16	8
125	250	210	24	188	18/M16	8
150	285	240	24	212	23/M20	8
200 ¹⁾	340	295	26	268	23/M20	8

Zf=Number of hole



1)For suction flange: 18ø or 23ø for pumps With flange spacer piece M16 or M20 for Pumps without flange spacer piece

Pump flanges

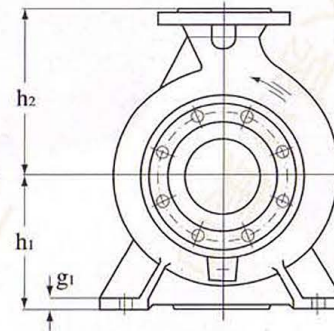
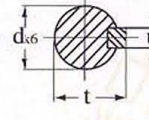
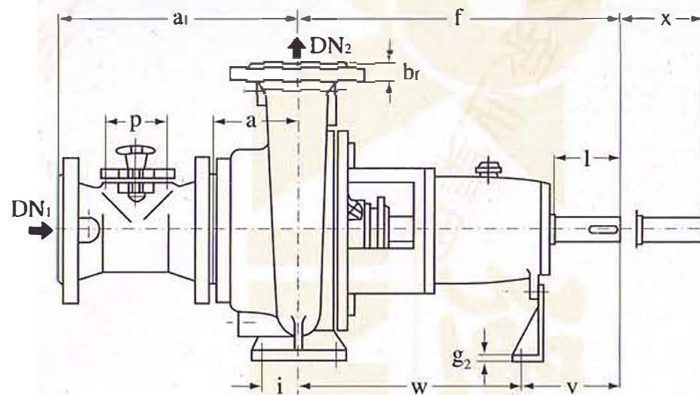
Pump Sizes up to 200-400, Bearing Bracket Normal and Adjustable

Pump sizes	Bearing bracket	Pump dimensions															Shaftend					Binding bolts							kg		
		DN ₁	DN ₂	a	a ₁	b	f	g ₁	g ₂	h ₁	h ₂	m ₁	m ₃	n ₁	n ₃	p	d	l	t	u	x	i	i ₁	m ₂	n ₂	n ₄	s ₁	s ₂		v	w
40-250	P03ax	65	40	100	302	65	500	16	8	180	225	125	47	320	160	80	32	80	35,3	10	140	47	30	95	250	110	16	14	130	370	96
50-160	P02as	65	50	100	302	50	385	14	8	160	180	100	45	265	160	80	24	50	26,9	8	100	35	29	70	212	110	14	14	100	285	42
50-200	P03ax	65	50	112	314	50	500	14	8	160	200	100	47	265	160	80	32	80	35,3	10	100	35	30	70	212	110	14	14	130	370	74
65-200	P03ax	80	65	125	327	65	500	16	8	180	225	125	47	320	160	80	32	80	35,3	10	120	47,5	30	95	250	110	14	14	130	370	79
65-315	P04ax	80	65	140	342	80	530	18	12	225	280	160	52	400	160	80	42	110	45,1	12	120	60	33	120	315	110	18	14	160	370	130
65-400	P04ax	80	65	140	342	80	530	18	12	280	355	160	52	435	160	80	42	110	45,4	12	120	60	33	120	355	110	19	14	160	370	190
80-250	P03ax	100	80	125	377	80	500	18	8	225	280	160	47	400	160	120	32	80	35,2	10	120	60	30	120	315	110	18	14	130	370	102
80-315	P04ax	100	80	140	392	80	530	18	12	225	280	160	47	400	160	120	42	110	45,1	12	120	60	33	120	315	110	19	14	160	370	140
80-400	P05ax	100	80	140	392	80	670	18	12	280	355	160	60	435	200	120	48	110	51,5	14	120	60	39	120	355	140	18	18	170	500	231
100-250	P04ax	125	100	140	392	80	530	18	12	225	280	160	52	400	160	120	42	110	45,1	12	140	60	33	120	315	110	18	14	160	370	114
100-315	P04ax	125	100	140	392	80	530	18	12	250	315	160	52	400	160	120	42	110	45,1	12	140	60	33	120	315	110	18	14	160	370	145
100-400	P05ax	125	100	140	392	100	670	20	12	280	355	200	60	500	200	120	48	110	51,5	14	160	75	39	150	400	140	23	18	170	500	240
125-315	P05ax	150	125	160	412	100	670	22	12	280	355	200	60	500	200	150	48	110	51,5	14	160	75	39	150	400	140	23	18	170	500	230
125-400	P05ax	150	125	160	412	100	670	22	12	315	400	200	60	500	200	150	48	110	51,5	14	160	75	39	150	400	140	23	18	170	500	255
125-500	P06x	150	125	160	412	100	720	24	12	355	450	200	60	550	200	150	60	140	64,2	18	160	75	39	150	450	140	23	18	205	515	370
150-315	P05ax	150	150	180	432	100	670	22	12	315	400	200	60	550	200	150	48	110	51,5	14	160	75	39	150	450	140	23	18	170	500	240
150-400	P05ax	150	150	160	412	100	670	22	12	315	450	200	60	550	200	150	48	110	51,5	14	160	75	39	150	450	140	23	18	170	500	280
150-500	P06x	150	150	160	412	100	720	24	12	375	500	200	60	550	200	150	60	140	64,2	18	180	75	39	150	450	140	23	18	205	515	385
200-315	P05ax	200	200	200	552	100	670	22	12	355	450	200	60	550	200	200	48	110	51,5	14	160	75	39	150	450	140	23	18	170	500	290
200-400	P06x	200	200	180	532	100	720	24	12	355	500	200	60	550	200	200	60	140	64,2	18	160	75	39	150	450	140	23	18	205	515	375

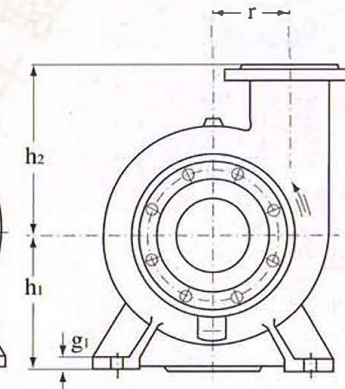
Pump Sizes up to 200-500 to 400-500

X=Dismantling dimension

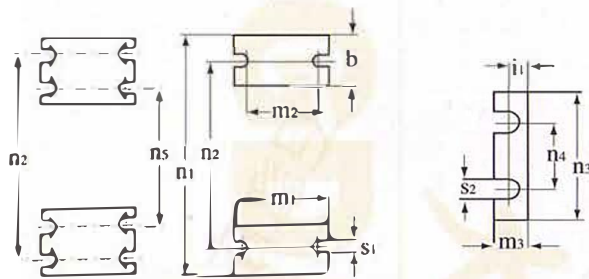
(in case of dismantling without disconnecting the motor)



Pump size 200-500



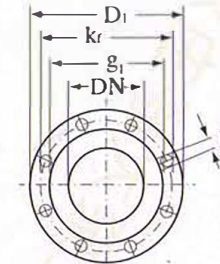
Pump size 250-315



Flanges

DN	Df	kr	br	gr	1r ¹⁾	zf
200	340	295	26	268	23/M20	8
250	395	350	28	320	23/M20	12
300	445	400	28	370	23/M20	12
350	505	460	30	430	23/M20	16
400	565	515	32	482	27/M24	16
500	670	620	34	585	27/M24	20

Zf=Number of hole



Pump flanges

Bearing bracket	Dimensions			
	d	l	t	u
P06x	60	140	64.2	18
P08s	75	150	79.7	20
P10as	95	220	100.2	25
P12s	110	220	116.2	28

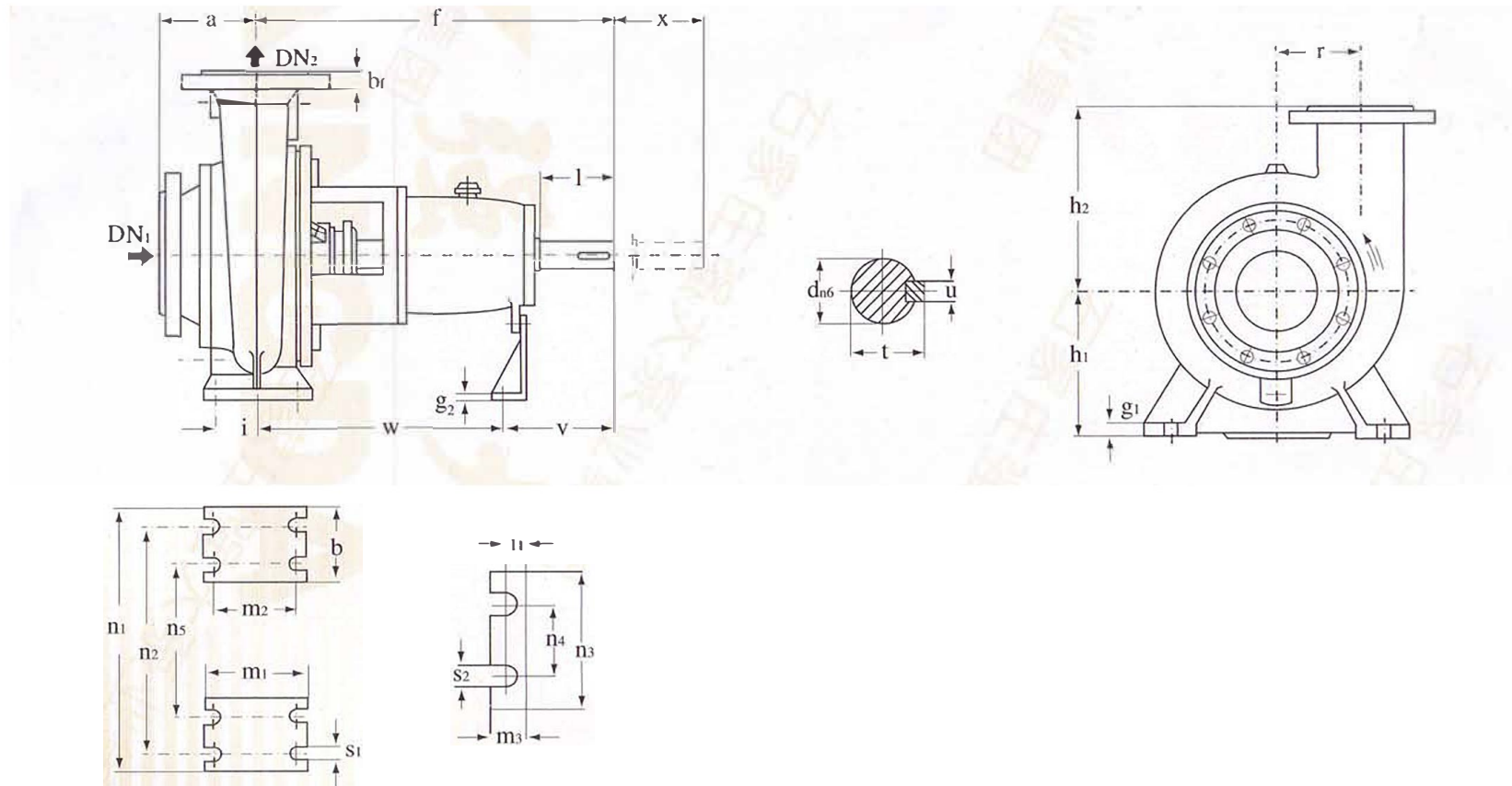
- For suction flange:
23ø or 27ø for pumps With flange spacer piece M20 or M24 for Pumps without flange spacer piece

Pump sizes	Bearing bracket	Pump dimensions					f														kg
		DN ₁	DN ₂	a	a ₁	b	P	P	P	P	g ₁	g ₂	h ₁	h ₂	m ₁	m ₃	n ₁	n ₃	P	r	
							06x	08s	10as	12as											
200—500	P10as	250	200	200	552	120	—	970	1160	1160	24	12	375	560	200	60	700	200	200	—	640
250—315	P06x	250	250	215	617	130	720	—	—	—	26	12	500	400	260	60	800	200	200	315	550
250—400	P10as	250	250	180	582	130	—	1000	1190	—	26	12	425	375	260	60	800	200	200	300	650
250—500	P12s	250	250	200	602	130	—	1000	1190	1190	26	12	425	400	260	60	800	200	200	315	740
250—630	P12s	250	250	200	602	150	—	1000	1190	1190	32	12	500	450	260	60	900	200	200	400	1070
300—400	P10as	300	300	180	582	180	—	1000	1190	—	32	12	500	400	360	60	900	200	200	390	850
300—500	P12s	300	300	200	602	130	—	1000	1190	—	26	12	450	450	260	60	800	200	200	315	940
350—400	P10as	350	350	200	602	225	—	1000	1190	—	32	12	560	450	400	60	1080	200	200	395	1060
350—500	P12s	350	350	290	617	225	—	1000	1190	1190	32	12	560	500	400	60	1080	200	200	415	1100
350—630	P12s	350	350	250	652	150	—	1000	1190	1190	32	12	560	560	360	60	900	200	200	400	1180
400—500	P12s	400	400	260	862	250	—	—	1190	1190	40	16	670	500	400	85	1150	216	200	490	1490
500—540	P08s/P10as/P12s	500	500	425	—	250	—	1000	1190	1190	40	16	800	630	400	85	1400	216	—	585	—

Pump sizes	Bearing bracket	Binding bolts								v				w				x
		i	i ₁	m ₂	n ₂	n ₄	n ₅	s ₁	s ₂	P	P	P	P	P	P	P	P	
										06x	08s	h ₂	12s	06x	08x	10as	12s	
200—500	P10as	75	39	150	560	140	—	23	18	—	220	560	300	—	780	860	860	250
250—315	P06x	95	39	190	670	140	—	26	18	205	—	400	—	515	—	—	—	160
250—400	P10as	95	39	190	670	140	—	26	18	—	220	375	—	—	780	890	—	315
250—500	P12s	95	39	190	670	140	—	28	18	—	220	400	300	—	780	890	890	315
250—630	P12s	95	39	190	750	140	—	26	18	—	220	450	300	—	780	890	890	315
300—400	P10as	125	39	250	750	140	—	28	18	—	220	400	—	—	780	890	—	315
300—500	P12s	95	39	190	670	140	—	28	18	—	220	450	300	—	780	890	890	315
350—400	P10as	150	39	300	1000	140	750	28	18	—	220	450	—	—	780	890	—	315
350—500	P12s	150	39	300	1000	140	750	28	18	—	220	500	300	—	780	890	890	315
350—630	P12s	125	39	250	750	140	—	28	18	—	220	560	300	—	780	890	890	350
400—500	P12s	150	—	300	1040	140	800	39	18	—	—	500	425	—	—	765	765	400
500—540	P08s/P10as/P12s	150	—	300	1290	140	1050	39	18	—	220	630	435	—	780	755	755	400

Pump Sizes up to 400-710 & 500-630

X=Dismantling dimension (for dismantling without having to remove the motor)



Shaftend



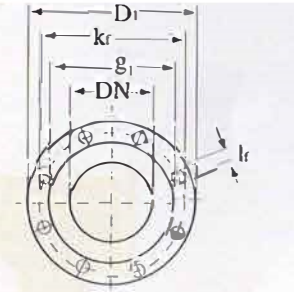
轴承托架 Bearing bracket	尺寸 Dimensions			
	d	l	t	u
P10as	95	220	100.2	25
P12s	110	220	116.2	28

Flanges

DN	D _r	k _r	b _r	g _r	1r ¹⁾	z _r
400	565	515	32	482	27	16
500	670	620	34	585	27	20

1) For suction flange. (only pump size 500-630)
 27ø for pumps With flange spacer piece
 M24 for Pumps without flange spacer piece

Z_f=Number of hole



Pump flanges

Pump sizes	Bearing bracket	Pump dimensions				f														kg
		DN ₁	DN ₂	a	b	P10as	P12s	P16	P20	g ₁	g ₂	g ₃	h ₁	h ₂	m ₁	m ₃	n ₁	n ₃	r	
400-630	P10as/P12s	400	400	215	250	1190	1190	1305	—	40	16	—	670	600	360	85	1150	216	500	—
400-710	P10as/P12s	500	400	350	250	1205	1205	1320	—	40	16	—	670	600	400	85	1150	216	480	1870
500-630	P10as/P12s	500	500	375	250	1190	1190	1305	—	40	16	—	750	630	400	85	1400	216	575	1850

Pump sizes	Bearing bracket	Binding bolts																		x	
		i ₁										v				w					
		i	P10as	P12s	P16	P20	m ₂	n ₂	n ₄	n ₅	s ₁	s ₃	P10as	P12s	P16	P20	P10as	P12s	P16		P20
400-630	P10as/P12s	125	30	1190	50	—	250	1040	140	800	39	18	425	425	425	—	765	765	880	—	30
400-710	P10as/P12s	150	30	1205	57	—	300	1040	140	800	39	18	425	425	415	—	780	780	905	—	350
500-630	P10as/P12s	150	57	1190	50	—	300	1290	140	1050	39	18	435	435	425	—	755	755	880	—	400