



ARAGON
UMPS

PS SERIES



Single Stage Double Suction
Split Casing Centrifugal Pump

General and Construction

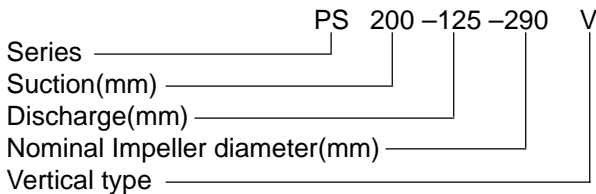
1. Applications

Waterworks, Irrigation, Drainage pumping stations, Power stations, Industrial water supply systems & fire fighting applications in refineries.

2. Operating data

Pump sizes	DN	80	to	900mm
Capacities	Q	up	to	5000l/s
Total heads	H	up	to	200m
Operating pressure	P	up	to	30bar
Operating temperature	t	up	to	+105°C

3. Model code



4. Pump Casing

The casing is axially split, which permits removal of the complete rotor without disturbing either piping or the motor.

Pumps generating high heads have double volutes to reduce radial forces, ensuring minimal shaft deflection and low bearing loads.

Replaceable wear rings protect the casing at the impeller running clearances. High head pumps are also fitted with replaceable impeller wear rings.

Flanges drilled to ISO, DIN, BS or ANSI.

5. Impeller

The closed impellers have double curved vanes. The double suction design gives practically zero axial forces. Each impeller is statically and dynamically balanced according to ISO 1940.

6. Bearings

Both sides are grease lubricated deep groove ball bearings, sealed for life. Oil lubrication are also available as optional.

7. Shaft seal

Uncooled soft - packed stuffing box or uncooled single acting. Unbalanced mechanical seal. According to DIN 24960, independent of direction of rotation.

For operating pressure ≥ 16 bar balanced mechanical seal is used.

8. Materials

	DIN
Volute casing	
Cast iron	GG-25
Ductile cast iron	GGG-40
Cast steel	GS-C25
Impeller	
Cast iron	GG-25
Bronze	G-CuSn10Zn
Stainless steel	1.4581 or 1.4028
Shaft	
C-steel	C45N
Cr-steel	1.4021
Casing wear rings	
Cast iron	GG-25
Bronze	G-CuSn5ZnPb
Brass	G-CuZn15Si4

Note: 304 or 316 stainless steel pump are also available.

Advantages

1. Your technical advantage

Innovative casing

- in-line design
- short distance between bearings and correspondingly short shaft
- leak-tight due to compact joint flange with long, prestressed bolts
- counter-rotation possible with similar parts
- double volute version for appropriate total heads
- easy mounting-self-aligning upper casing

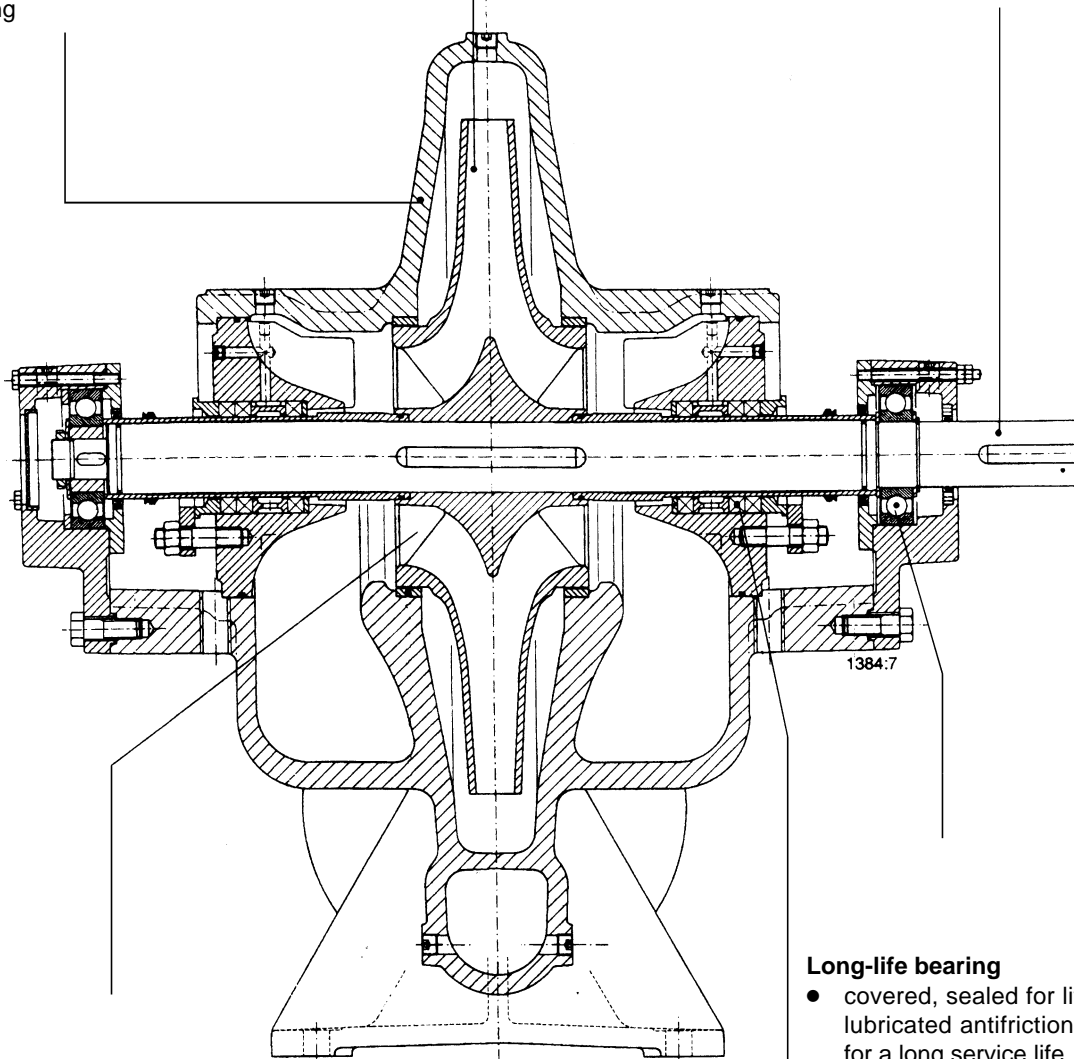
High-performance impeller

- minimal axial thrust due to double-entry impeller
- optional impeller wear rings
- new vane passage with excellent hydraulic characteristics

2. Your service advantage

Service – friendly shaft

- completely sealed and dry for zero corrosion
- short and rigid with negligible vibrations
- replaceable shaft protecting sleeves
- no threads exposed to pumped medium, long operating life and no corrosion
- adjustment-free assembly
- quick and easy assembly/dismantling of the rotor components due to elastically prestressed mountings



Excellent efficiencies

Outstanding NPSH

- computer-optimized double entry impellers
- smooth surfaces inside the casing and on the impeller
- smooth, quiet running also guaranteed by a large impeller eye area
- no drop in efficiency due to cost effective replaceable casing wear rings and impeller wear rings
- smooth, low loss running due to a swirl-free inlet

Long-life bearing

- covered, sealed for life grease lubricated antifriction bearings for a long service life
- open gland, i.e. enough space for service activities
- optional: oil lubrication with constant level oiler

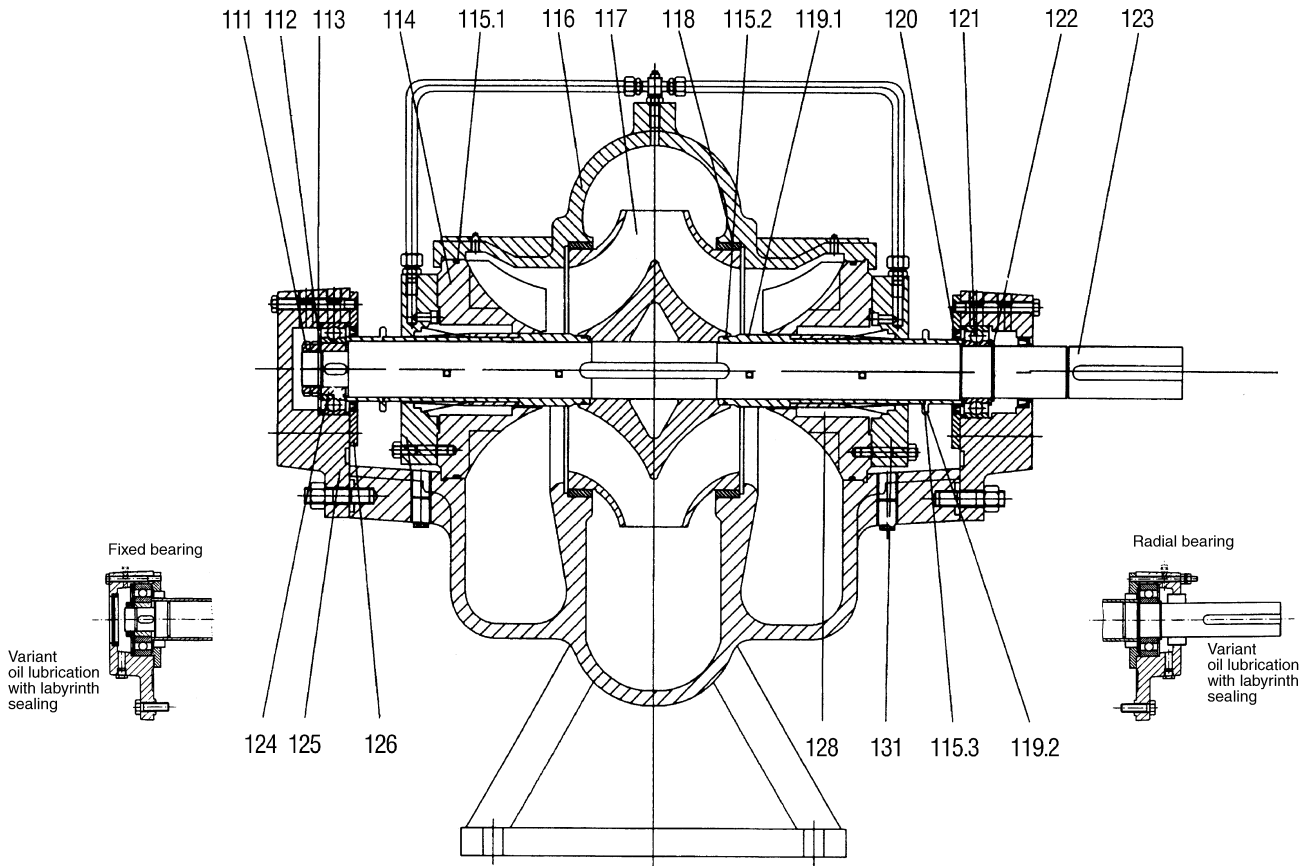
Application-orientated seals

- asbestos-free, potable water quality soft-packed stuffing boxes
- optional: mechanical seals

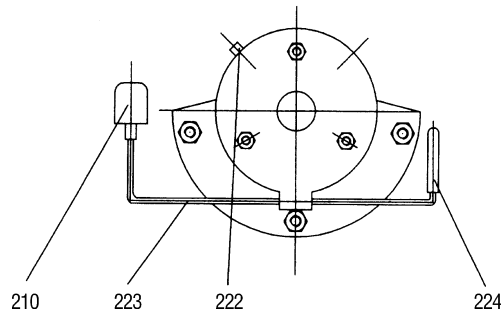
General Arrangement Drawing

125-80-210 up to 400-350-510

Horizontal Installation



Oil supply fixed and radial bearing

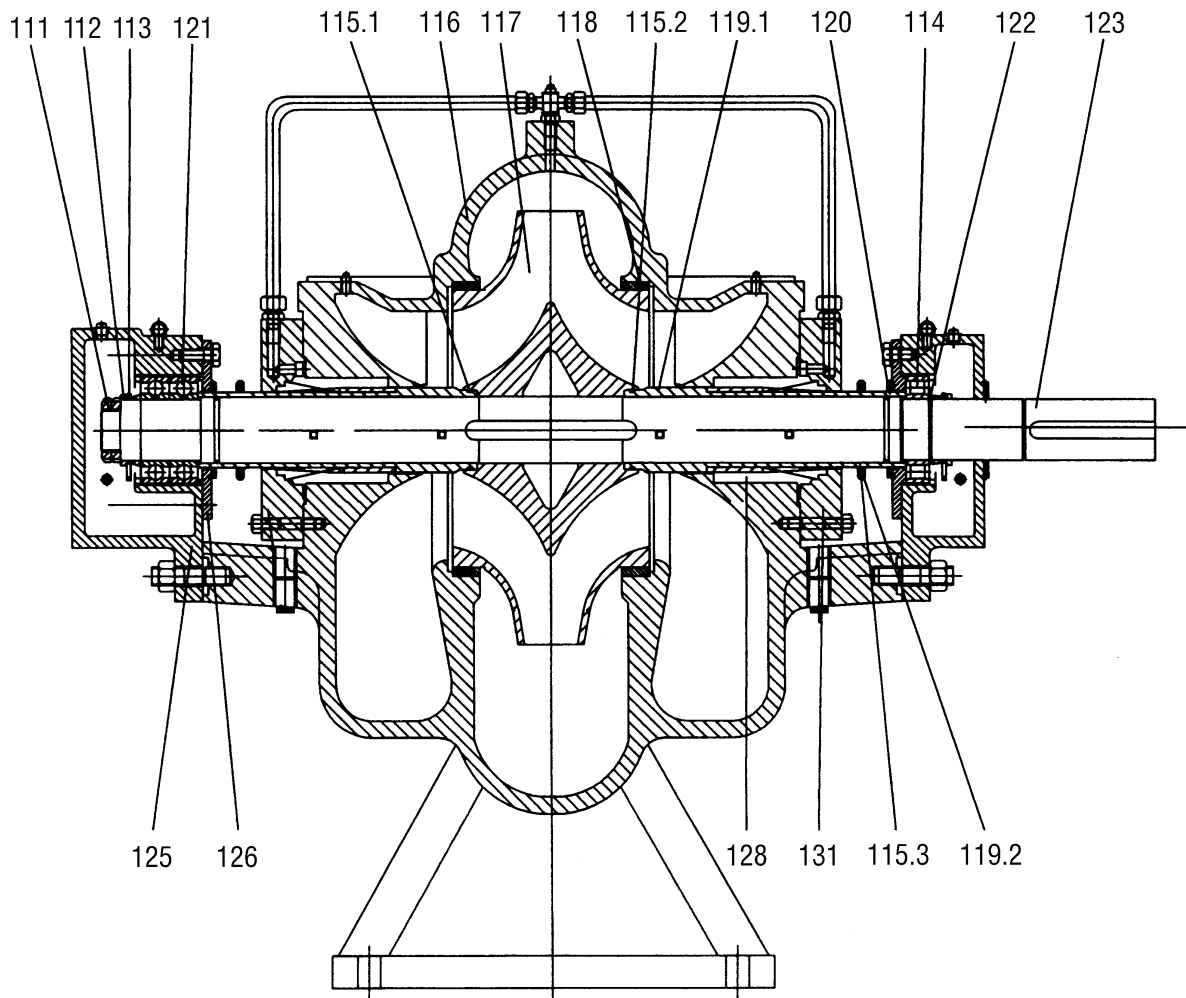


Part No.	Description	Part No.	Description	Part No.	Description
111	Nut	119	Shaft protecting sleeve	128	Seal
112	Spring	120	Radial shaft seal ring	131	Cover
113	Washer	121	Deep groove ball bearing		
114	Shaft seal housing	122	Circlip		
115	O-Ring	123	Pump shaft		
116	Volute casing	124	Sleeve		
117	Impeller	125	Bearing housing		
118	Casing wear ring	126	Bearing cover		

General Arrangement Drawing

500-300-660 up to 900-900-780

Horizontal Installation

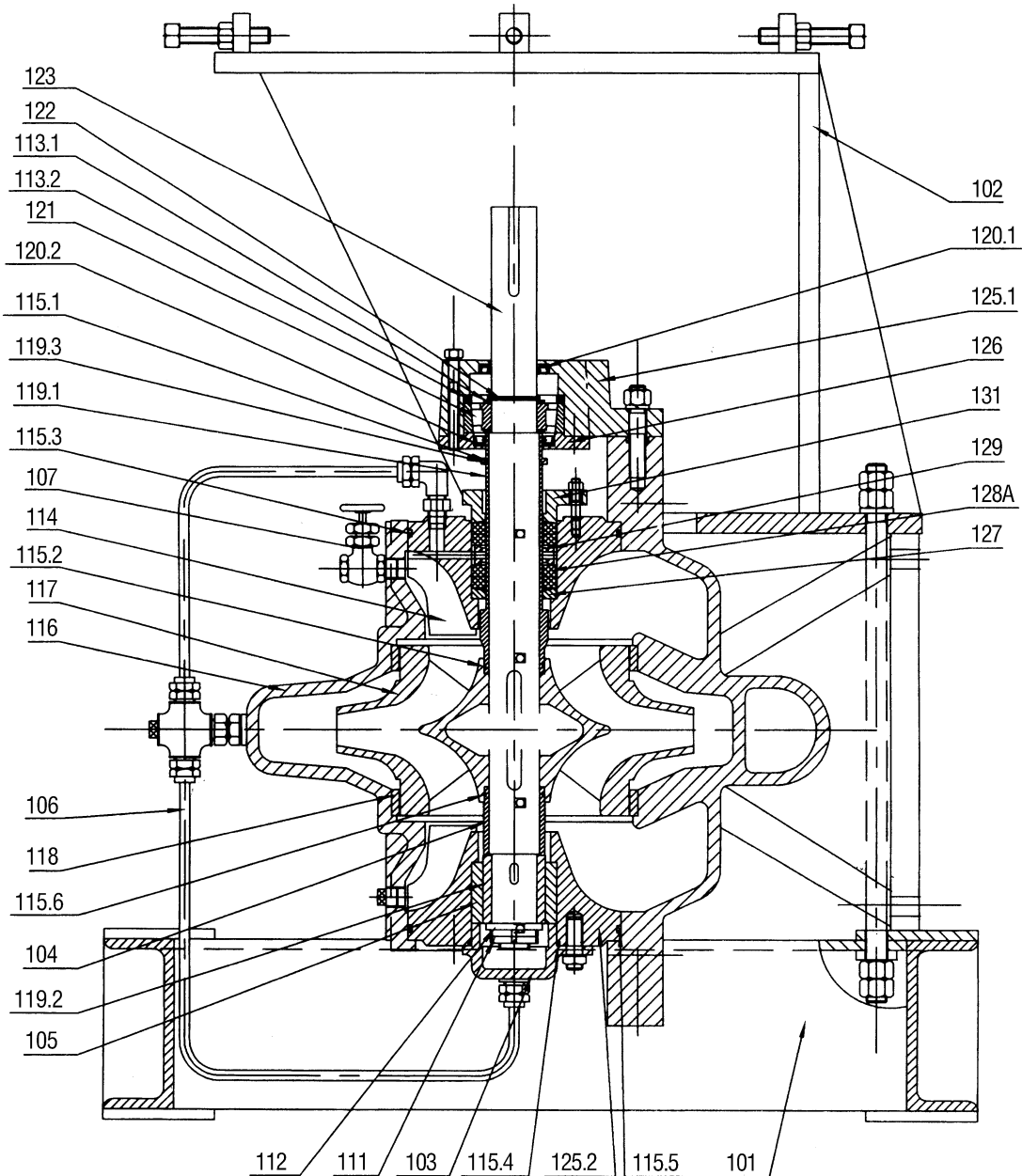


Part No.	Description	Part No.	Description	Part No.	Description
111	Nut	119	Shaft protecting sleeve	128	Seal
112	Oil thrower sleeve	120	Labyrinth sleeve	131	Cover
113	Oil thrower ring	121	Deep groove ball bearing		
114	Radia roller bearing	122	Circlip		
115	O-Ring	123	Pump shaft		
116	Volute casing	124	Sleeve		
117	Impeller	125	Bearing housing		
118	Casing wear ring	126	Bearing cover		

General Arrangement Drawing

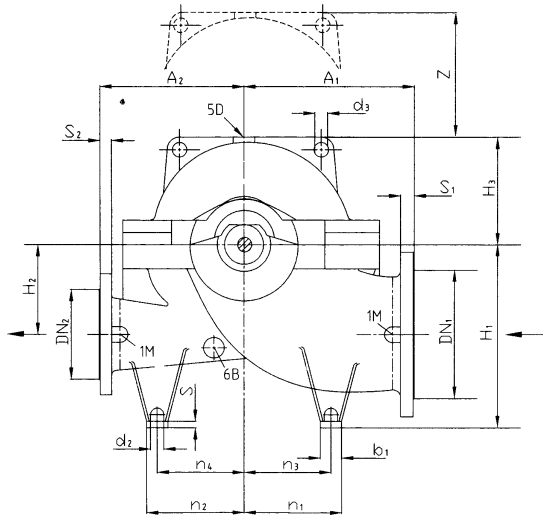
125-80-210V up to 900-900-780V

Vertical Installation

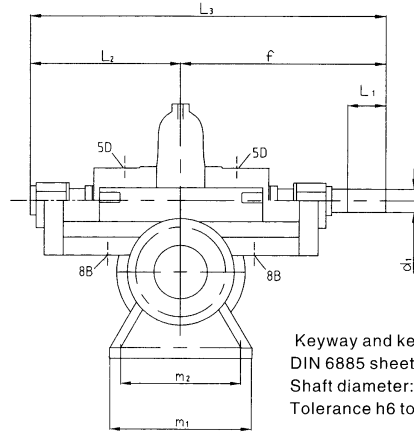


Part No.	Description	Part No.	Description	Part No.	Description
116	Volute casing	112	Spring	118	Casing wear ring
103	Cover	115	O-Ring	119	Shaft protecting sleeve
101	Foot	120	Radial shaft seal ring	104	Spacer sleeve
123	Pump shaft	114	Shaft seal housing	105	Bearing bush
117	Impeller	107	Valve	113	Washer
121	Bearing	128A	Gland packing	106	Flexible tube
102	Motor stool	131	Stuffing box insert	111	Nut
125	Bearing housing	127	Neck ring	122	Circlip
126	Bearing cover	129	Lantern ring		

Pump Dimensions



Direction of rotation: CLOCKWISE



Keyway and key to
DIN 6885 sheet 1
Shaft diameter:
Tolerance h6 to DIN7155

Flanges

- Flat surface flanges
- Flange thickness to ANSI
- Connect pipes without stress

Permissible deviations for:

- Centre line heights DIN 747
- Dimensions without indication of tolerances DIN7168, MEDIUM
- Cast iron parts DIN 1686 GTB 18

Connections:

- 1M Pressure gauge G 1 / 2
- 5D Vent G 1 / 2
- 6B Drainage G 1 / 2
- 8B Leakage liquid drain G 3 / 4

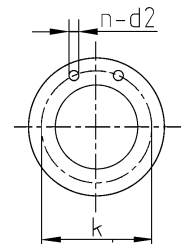
Pump Dimensions and Weights

Pump size	Flange		Pump dimensions																	Shaft		Weights (kg)			
	DN ₁	DN ₂	A ₁	A ₂	d ₃	f	H ₁	H ₂	H ₃	L ₂	L ₃	Z	b ₁	d ₂	m ₁	m ₂	n ₁	n ₂	n ₃	n ₄	s	d ₁	L ₁	pump content	Water
125-80-210	125	80	300	300	20	415	315	140	170	300	715	340	80	17.5	320	270	210	210	170	170	30	35	90	185	10
125-80-270			200	380					195			15													
125-80-370			225	450					205			20													
150-100-250	150	100	330	330	20	415	355	170	225	300	715	390	100	17.5	320	270	250	250	200	200	30	35	90	210	20
150-100-310			225	450					225			25													
150-100-375			260	520					245			30													
200-125-230	200	125	370	370	20	515	400	200	230	365	880	420	80	18	390	340	265	265	225	225	30	45	100	250	35
200-125-290			230	460					275			40													
200-125-365			270	520					300			45													
200-125-500			310	610					330			55													
200-150-290	200	150	400	400	20	515	400	200	245	365	880	490	80	18.5	390	340	265	265	225	225	30	45	100	350	50
200-150-360			275	530					360			60													
200-150-460			300	610					400			75													
200-150-605			370	740					480			90													
250-200-320	250	200	450	450	20	590	500	240	285	421	1011	570	100	23	480	430	330	330	280	280	30	55	110	450	80
250-200-420			310	620					400			95													
250-200-520			370	740					480			110													
250-200-670			430	860					550			130													
300-250-370			500	1000					650			150													
300-250-480	300	250	550	550	20	655	600	300	330	474	1129	640	100	23	480	400	400	400	350	350	35	75	140	665	125
300-250-600			355	526					420			145													
300-250-700			415	526					480			180													
350-300-300			465	515					520			190													
400-300-300	400	300	550	500	20	655	630	300	360	474	1129	720	120	23	480	400	400	400	350	350	35	65	140	630	100
400-300-435			650	730					450			110													
400-300-560			700	808					500			140													
400-300-700			750	880					550			170													
400-300-800			800	960					600			190													
400-350-360	400	350	650	550	25	730	670	350	415	515	1244	820	100	22	600	520	400	400	350	350	35	75	140	865	160
450-350-430	450	750	400	110																					
400-350-510	400	700	450	130																					
450-350-510	400	700	450	130																					

Standard Flange Design:

pump size	GG25 Nominal pressure acc. to:			GGG 40/GS-C25 Nominal pressure acc. to:		
	DIN2501 ISO 7005/2	BS4504	ANSIB 16.1	DIN2501 ISO 7005/2	BS4504	ANSIB 16.1
125 - 80 - 210	PN16	Table 16/11	Class 250	PN25	Table 25/11	Class 250
125 - 80 - 270						
125 - 80 - 370						
150 - 100 - 250	PN16	Table 16/11	Class 250	PN25	Table 25/11	Class 250
150 - 100 - 310						
150 - 100 - 375						
200 - 125 - 230	PN16	Table 16/11	Class 250	PN25	Table 25/11	Class 250
200 - 125 - 290						
200 - 125 - 365						
200 - 125 - 500						
200 - 150 - 290	PN16	Table 16/11	Class 250	PN25	Table 25/11	Class 250
200 - 150 - 360						
200 - 150 - 460						
200 - 150 - 605	PN25	Table 25/11				
250 - 200 - 320	PN16	Table 16/11	Class 250	PN25	Table 25/11	Class 250
250 - 200 - 420						
250 - 200 - 520						
250 - 200 - 670	PN25	Table 25/11				
300 - 250 - 370	PN10	Table 10/11	Class 125	PN25	Table 25/11	Class 250
300 - 250 - 480	PN16	Table 16/11	Class 250			
300 - 250 - 600	PN25	Table 25/11				
300 - 250 - 700						
350 - 300 - 300	PN10	Table 10/11	Class 125	PN25	Table 25/11	Class 250
400 - 300 - 435						
400 - 300 - 560	PN16	Table 16/11	Class 250			
400 - 300 - 700	PN25	Table 25/11				
400 - 300 - 800						
400 - 350 - 360	PN10	Table 10/11	Class 125	PN25	Table 25/11	Class 250
450 - 350 - 430						
400 - 350 - 510						

Other flange designs are available on request



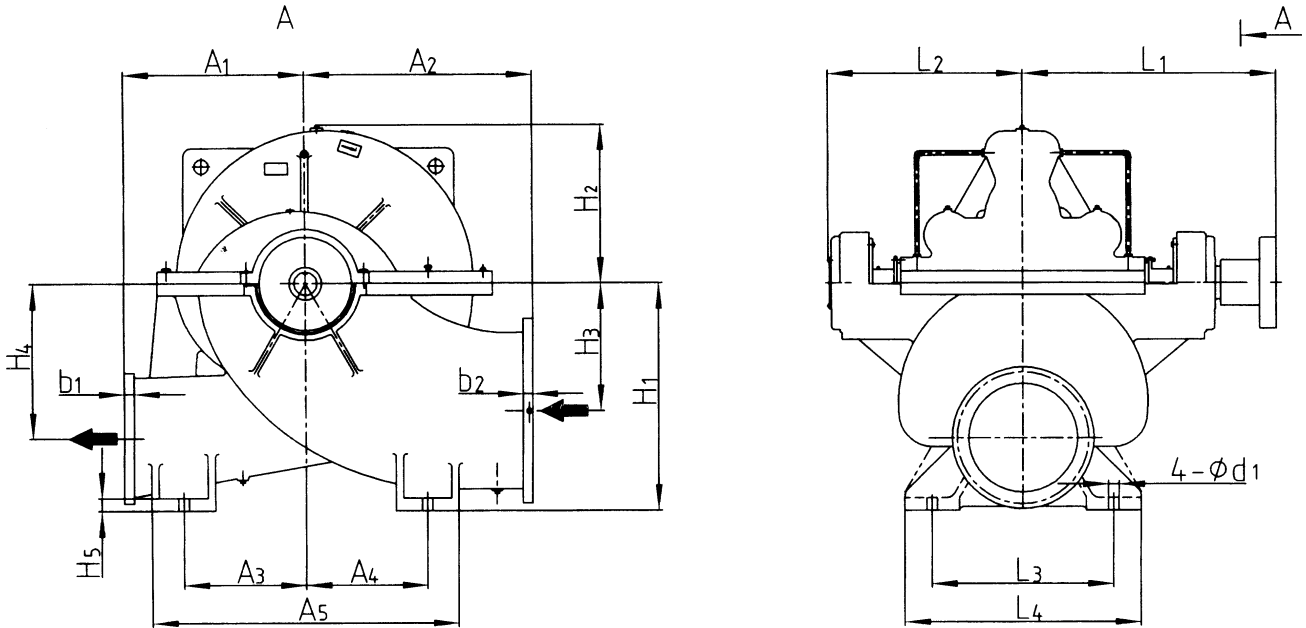
Flange Dimensions – Drilling Diagram

all dimensions in mm

Standard		DN80			DN100			DN125			DN150			DN200		
		d ₂	k	n	d ₂	k	n	d ₂	k	n	d ₂	k	n	d ₂	k	n
ISO 7005/2 DIN 2501	PN16	19	160	8	19	180	8	19	210	8	23	240	8	23	295	12
ISO 7005/2 DIN 2501	PN25	19	160	8	23	190	8	28	220	8	28	250	8	28	310	12
BS4504	Table 16/11	19	160	8	19	180	8	19	210	8	23	240	8	23	295	12
BS4504	Table 25/11	19	160	8	23	190	8	28	220	8	28	250	8	28	310	12
ANSI B 16.1	Class 250	23	168	8	23	200	8	23	235	8	23	270	8	28	330	12

Standard		DN200			DN250			DN300			DN350			DN400			DN450		
		d ₂	k	n	d ₂	k	n	d ₂	k	n	d ₂	k	n	d ₂	k	n	d ₂	k	n
ISO 7005/2 DIN 2501	PN10	23	295	8	23	350	12	23	400	12	23	460	16	28	515	16	28	565	20
ISO 7005/2 DIN 2501	PN16	23	295	12	28	355	12	28	410	12	28	470	16	31	525	16	31	585	20
ISO 7005/2 DIN 2501	PN25	28	310	12	31	370	12	31	430	16	34	490	16	37	550	16			
BS4504	Table 10/11	23	295	8	23	350	12	23	400	12	23	460	16	28	515	16	28	565	20
BS4504	Table 16/11	23	295	12	28	355	12	28	410	12	28	470	16	31	525	16	31	585	20
BS4504	Table 25/11	28	310	12	31	370	12	31	430	16	34	490	16	37	550	16			
ANSI B 16.1	Class 125	23	299	8	28	362	12	28	432	12	28	476	12	28	540	16	31	578	16
ANSI B 16.1	Class 250	28	330	12	28	387	16	31	451	16	31	514	20	34	572	20	34	629	24

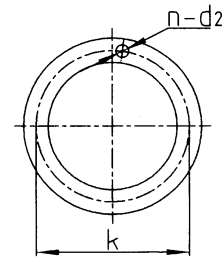
Pump Dimensions



Pump Dimensions and Weights

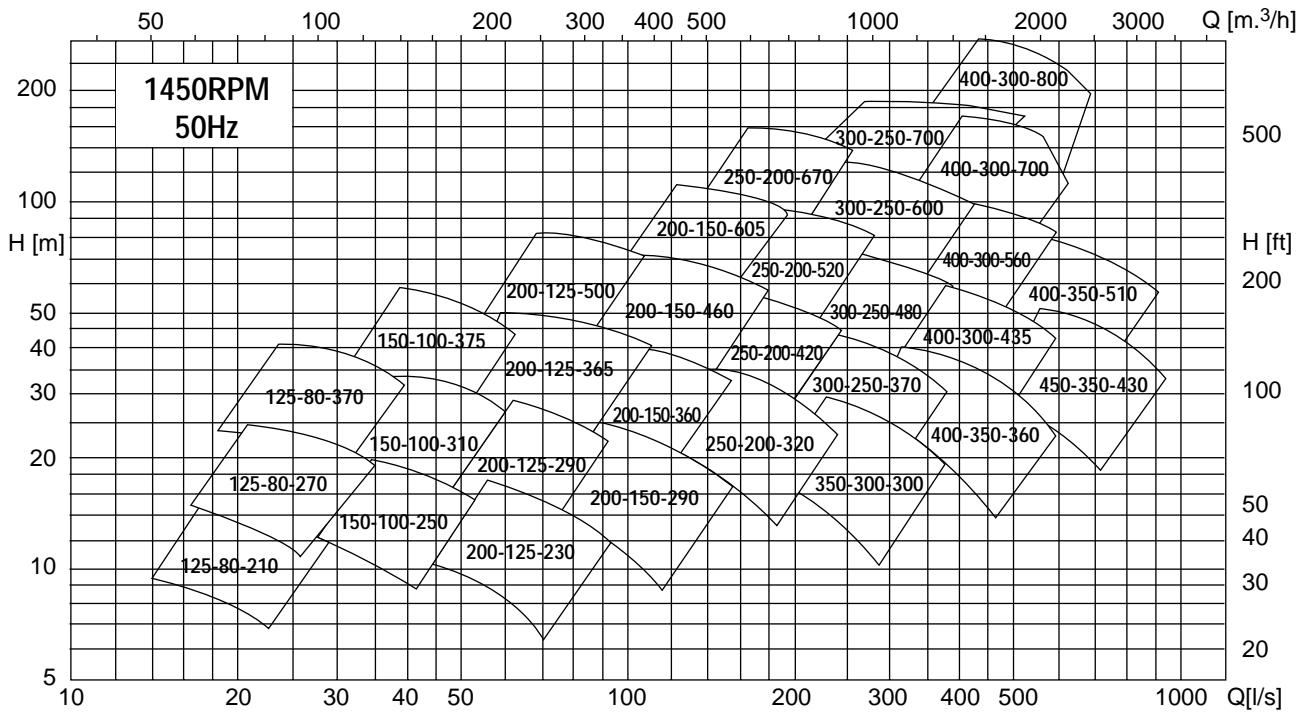
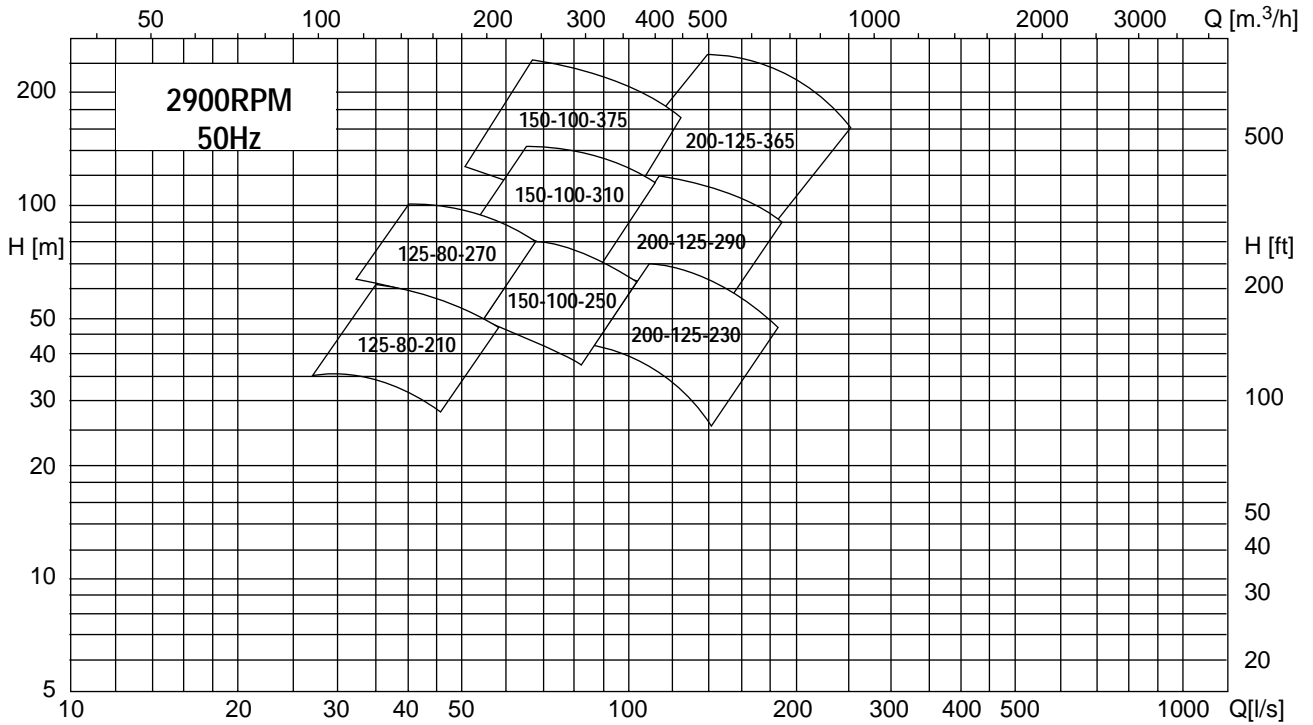
Pump size	Flange		Pump Dimensions																
	DN ₁	DN ₂	A ₁	A ₂	A ₃	A ₄	A ₅	b ₁	b ₂	H ₁	H ₂	H ₃	H ₄	H ₅	L ₁	L ₂	L ₃	L ₄	4-ød ₁
500-300-660	500	300	750	800	400	400	1100	32	34	900	704	425	500	60	1022	878	780	910	4-ø42
500-350-530	500	350	630	720	400	400	1020	36	40	800	480	415	415	70	779	631	580	760	4-ø34
500-400-465	500	400	650	730	320	320	920	32	34	800	600	430	455	50	890	740	600	740	4-ø41
500-400-690	500	400	800	965	345	345	870	40	34	925	565	579	540	70	988.5	795.5	770	870	4-ø40
500-500-390	500	500	650	730	320	400	920	34	34	800	631	400	400	50	790	670	600	740	4-ø42
600-500-545	600	500	740	1020	360	360	960	34	36	900	604	550	525	45	983.5	809	780	940	4-ø35
600-500-550																			
600-500-570																			
600-500-725	600	500	1300	1000	500	500	1300	36	44	950	630	532	692	50	1145	959	900	1100	4-ø42
600-500-890	600	500	950	1050	600	700	1520	54	54	1100	793	650	650	40	1260	1042	1120	1240	4-ø46
700-500-825	700	500	1160	1100	600	600	1500	65	60	1050	762	595	758	50	1265.5	1013.5	1000	1200	4-ø46
700-600-540	700	600	900	1100	550	650	1500	54	54	1100	750	610	610	40	885	692	1100	1250	4-ø33
800-600-710	800	600	750	1400	450	450	1200	36	44	1150	745	690	660	60	1092	912	1000	1200	4-ø42
800-600-990	800	600	1000	1265	675	675	1700	54	54	1250	868	700	850	70	1388	1073	1000	1300	4-ø58
900-800-970	900	800	1300	1400	800	800	2000	54	54	1370	948	760	760	50	1350	1154	1190	1340	4-ø46
900-900-780	900	900	1425	1425	620	620	1680	62	62	1455	970	755	755	80	1365	1040	1260	1500	4-ø65

Pump size	Flange Dimensions					
	Suction			Discharge		
	d ₂	k	n	d ₂	k	n
500-300-660	26	620	20	26	410	12
500-350-530	25	625	20	23	460	16
500-400-465	26	620	20	26	515	16
500-400-690	22	600	20	26	515	16
500-500-390	26	620	20	26	620	20
600-500-545	30	725	20	25	620	20
600-500-550						
600-500-570						
600-500-725	41	770	20	36	650	20
600-500-890	41	770	20	41	660	20
700-500-825	30	840	24	33	650	20
700-600-540	30	840	24	30	725	20
800-600-710	33	950	24	30	725	20
800-600-990	33	950	24	30	725	20
900-800-970	33	1050	28	33	900	24
900-900-780	36	1160	28	39	1050	28

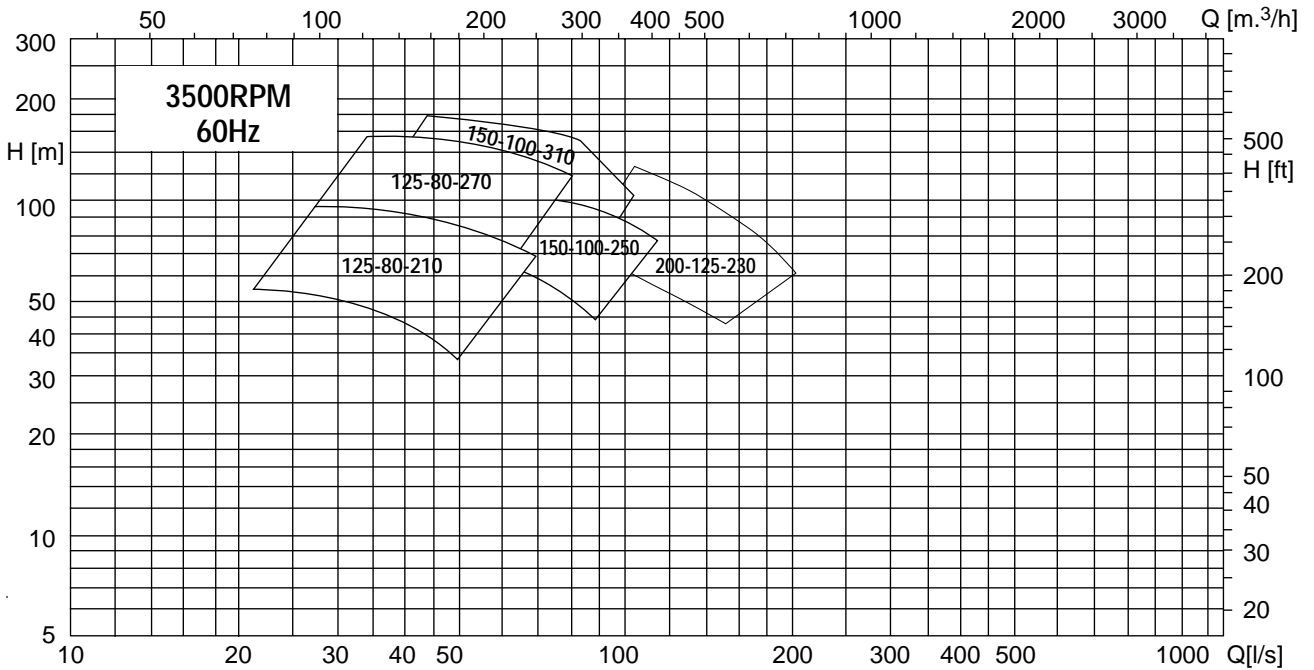
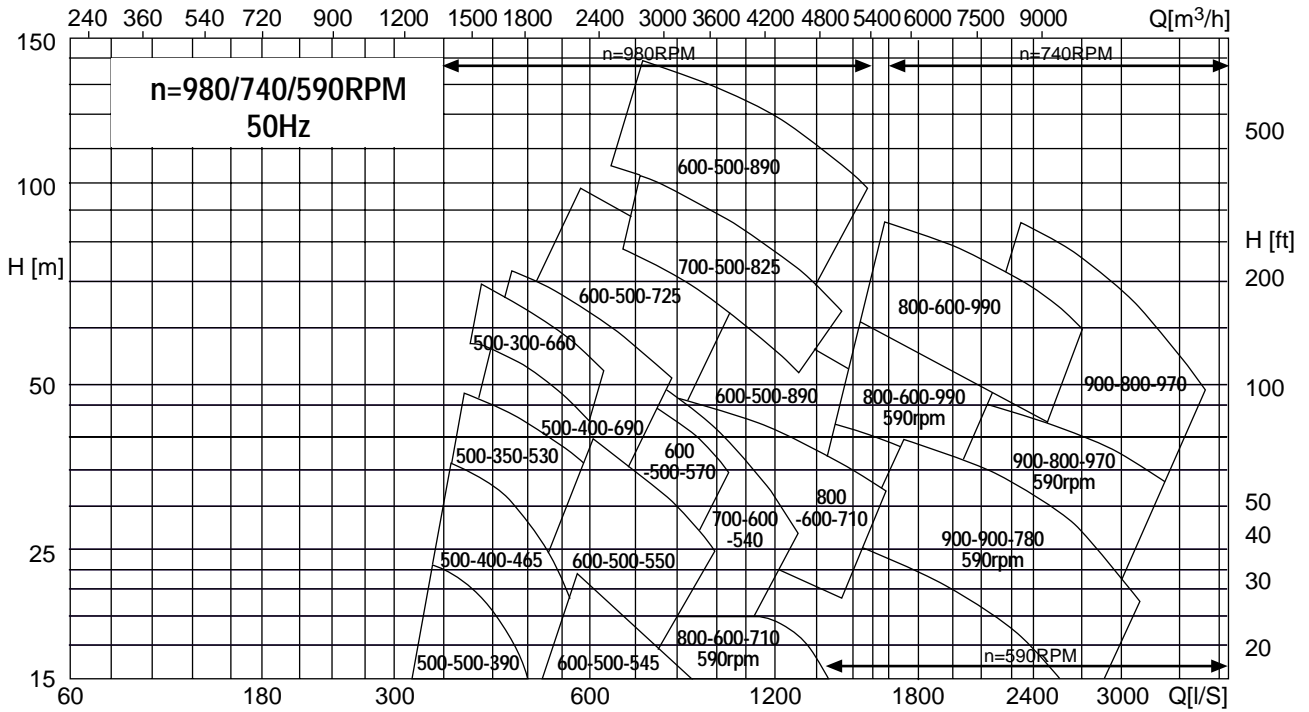


Flange Dimensions

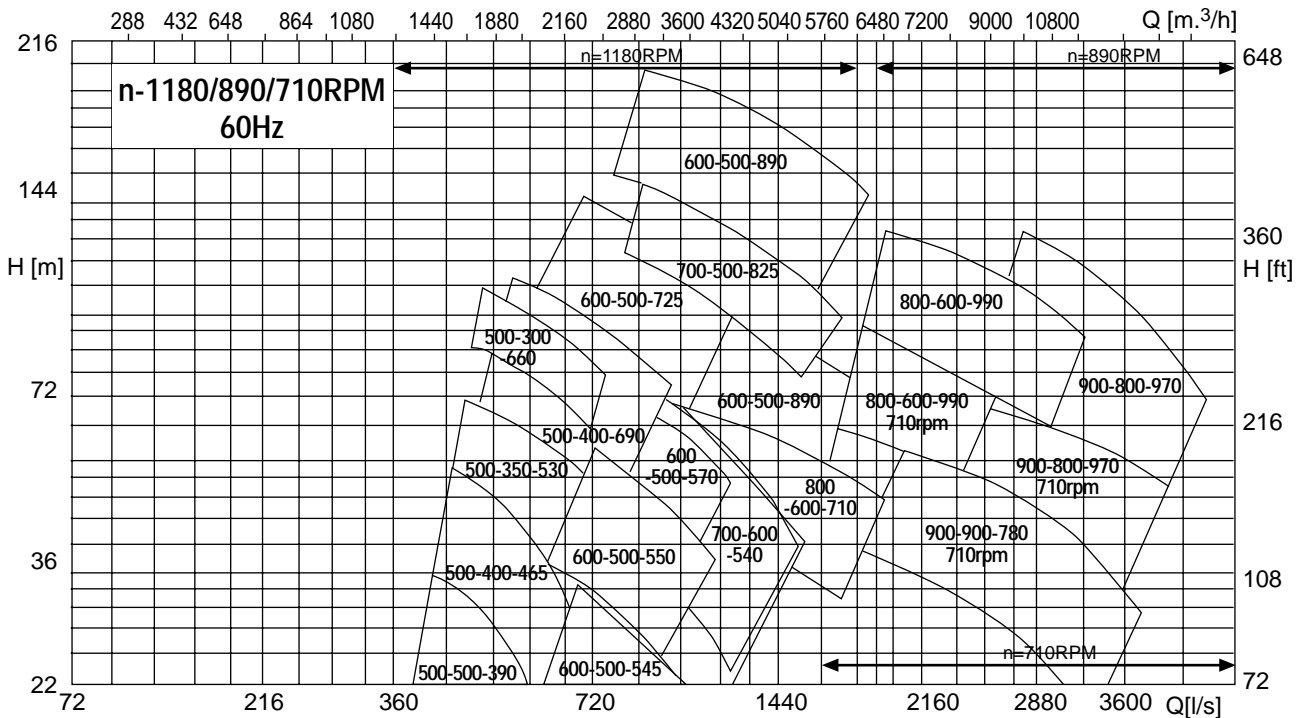
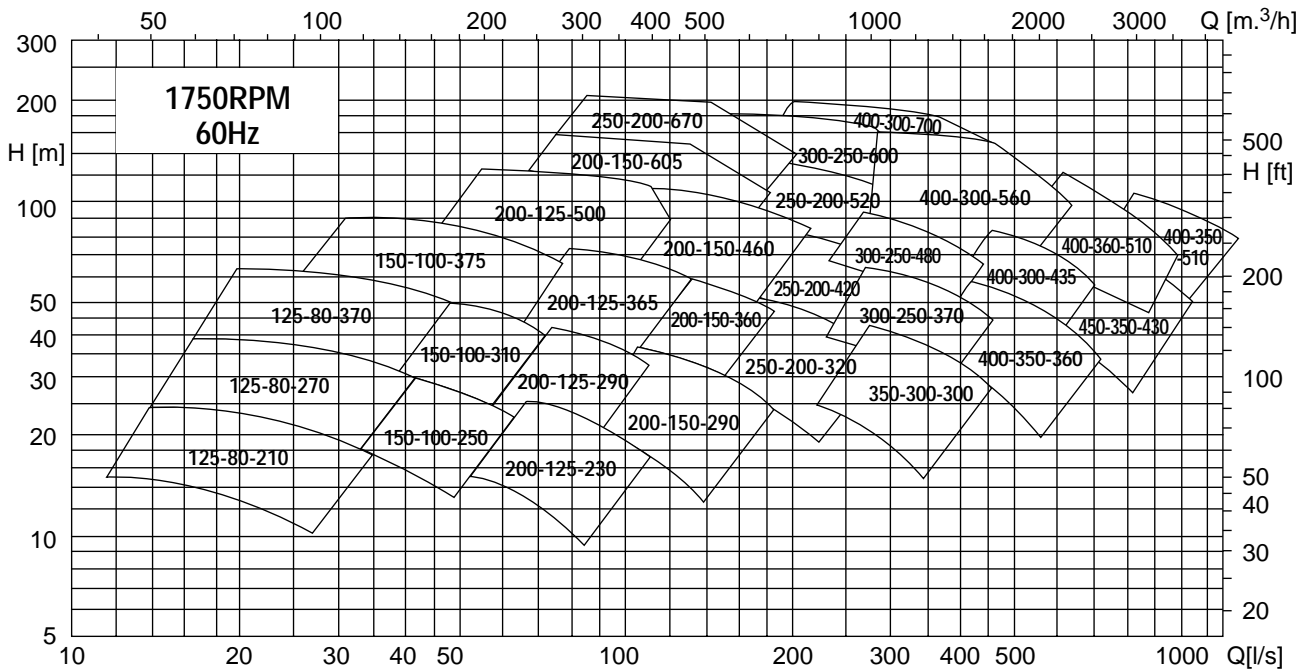
Selection Charts



Selection Charts



Selection Charts



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