

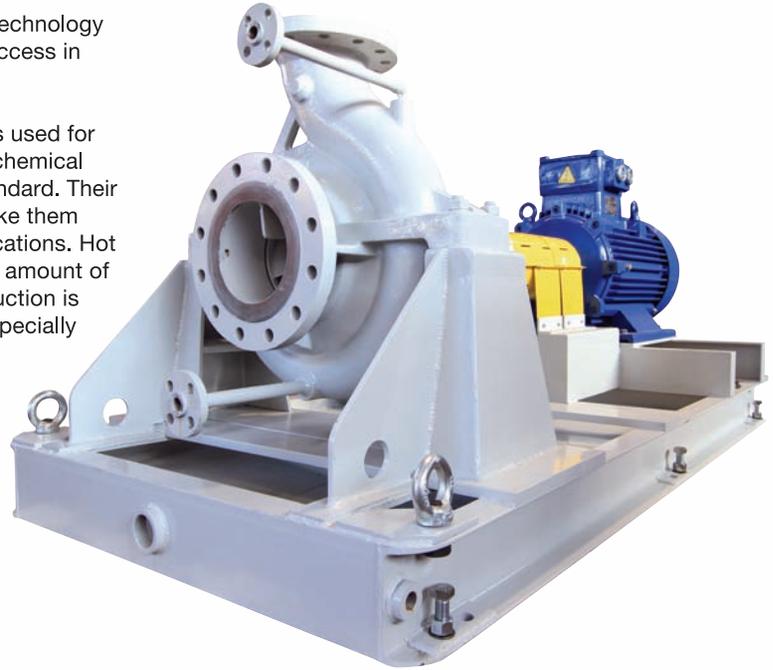
API-610 PROCESS PUMPS

A broad range of products and sophisticated materials technology combined with application know-how are the keys to success in industrial plants .

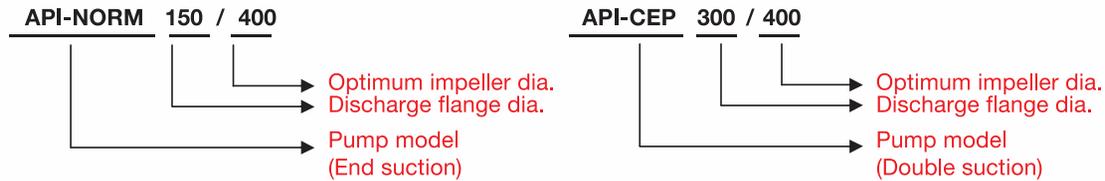
Türbosan API-Process pumps are special type of pumps used for pumping fluids in complicated processes such as petrochemical processes. They manufactured according to API-610 standard. Their long endurance life, reliable and robust construction make them suitable to meet requirements of most demanding applications. Hot or cold fluids, fluids without particles or fluids with small amount of particles pumped with these pumps. Mechanical construction is different than that of conventional pumps and they are specially designed

Applications :

- Petrochemical plants
- Chemical industry
- Paper industry
- Power plants
- Oil refineries
- Iron and steel industry



Pump designation :



DEFINITIONS PUMP	API-NORM PUMPS	API-CEP PUMPS
Discharge flange diameter (mm)	Ø50 ÷ Ø200	Ø125 ÷ Ø500
Capacity (Q) (m3/h)	Max. 750	Max. 3600
Discharge head (m)	Max. 150	Max. 160
Operating temperature (°C)	-30 ÷ +300	-30 ÷ +300
Speed (rpm)	Max. 3000	Max. 1500

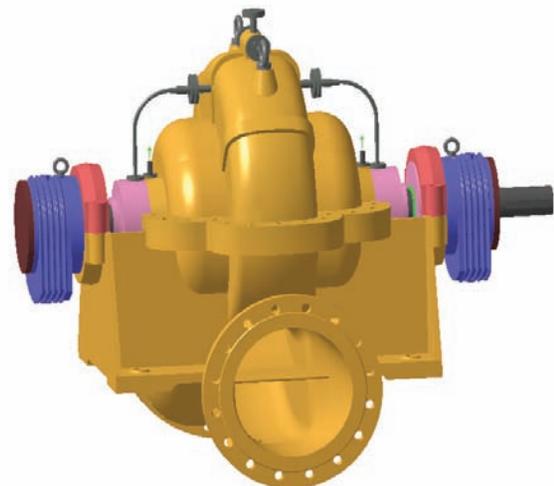
DESIGN SPECIFICATIONS OF API PUMPS :

CASINGS :

- Long life, wear resistant
- Complies with API 610 standart.
- For low capacity values end suction type, for higher capacities double suction type.
- Pump flanges according to ANSI or DIN norms.

IMPELLERS :

- High efficiency, closed type.
- Wide operating range.
- Statically and dynamically balanced according to ISO 1940 class 2.5 .



API-610 PROCESS PUMPS

MECHANICAL SEALS :

- According to API 682 (ISO 21049) single or double cartridge type or special double cartridge type mechanical seals are used.
- Various API / ISO shaft seal cooling systems applicable.

WEAR RINGS:

- Casing and impeller can be fitted with wear rings. Impeller wear ring is optionally available upon request.
- Wear rings are replaceable.
- Made of durable, surface hardened material.

SHAFTS :

- Heavy duty type shafts are used.
- Large shaft diameters for achieving low deflection.
- Available in different material grades.

BEARINGS:

- Heavy duty type two off 7300 series bearings with 40° angle of contact.
- Norm series pumps have 1 off NU 300 series bearing on impeller side, Cep series pumps have 1 off 6300 C3 series heavy duty type bearing on non drive end.
- Bearing housings are heavy duty type, stable and designed according to API 610.
- Bearings are oil lubricated. For high temperature applications additional cooling systems applied.
- Bearing frame material of split case pumps is same as pump casing material.



BASE PLATES :

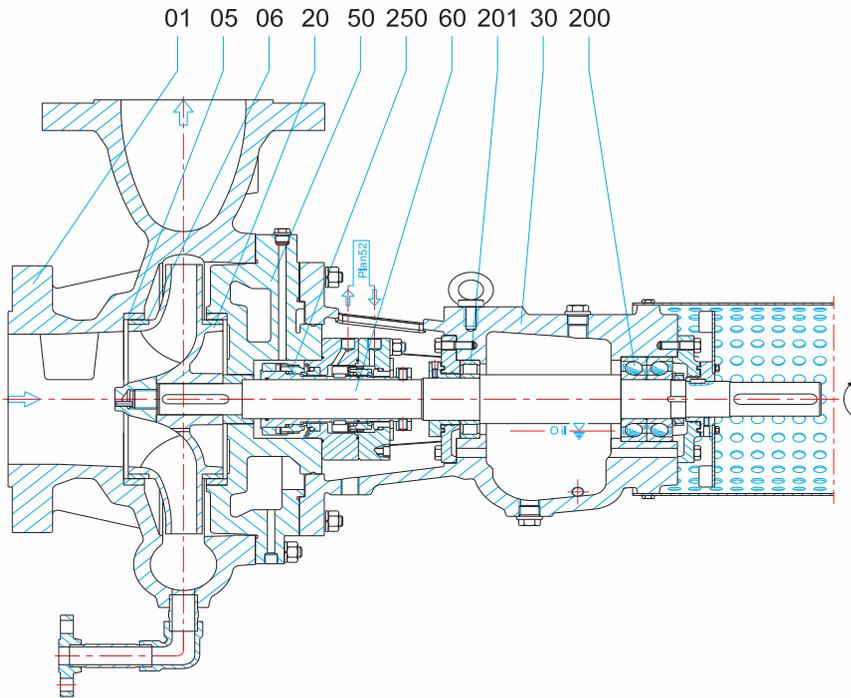
- Base plates are heavy duty type and have leakage collection reservoirs and lifting rings according to API specifications. They are of sheet metal construction.

COMPONENT	API MATEARIAL CLASSIFICATIONS				
	S1	S-8	C6	A-8	D1
Volute casing	EN-10213 A216GrWCB (1.0619)	EN-10213 (A216 WCB) (1.0619)	A743GrCA15 (1.4008)	A351GrF8M (1.4408)	Duplex 1.4517 EN 10213-4
Impeller	Cast iron EN-632-250 GG 25	AISI 316 (1.4401)	A743GrCA15 (1.4008)	A351GrF8M (1.4408)	Duplex 1.4517 EN 10213-4
Casing wear ring	Cast iron EN-632-250 GG 25	AISI 316 (1.4401)	AISI 420 (1.4021)	AISI 316 (1.4401)	Duplex 1.4517 EN 10213-4
Stuffing box	EN-10213 A216GrWCB (1.0619)	EN-10213 (A216 WCB) (1.0619)	A743GrCA15 (1.4008)	A351GrF8M (1.4408)	Duplex 1.4517 EN 10213-4
Shaft	AISI 420 (1.4021)	AISI 316 (1.4401)	AISI 420 (1.4021)	AISI 316 (1.4401)	AISI 316 (1.4401)
Bearing housing	Cast iron EN-632-250 GG 25	Ductile cast iron EN-GJL-400- 15 GGG-40	Ductile Cast iron EN-GJL-400-15 GGG-40	Ductile Cast iron EN-GJL-400-15 GGG-40	Ductile Cast iron EN-GJL-400-15 GGG-40
Casing studs	AISI 4140 (42CrMo4) 1.7225	AISI 4140 (42CrMo4) 1.7225	AISI 4140 (42CrMo4) 1.7225	AISI 4140 (42CrMo4) 1.7225	AISI 316 (1.4401)
Mechanical seals	API 682				

Other materials defined in API 610 available on request.

API-610 PROCESS PUMPS

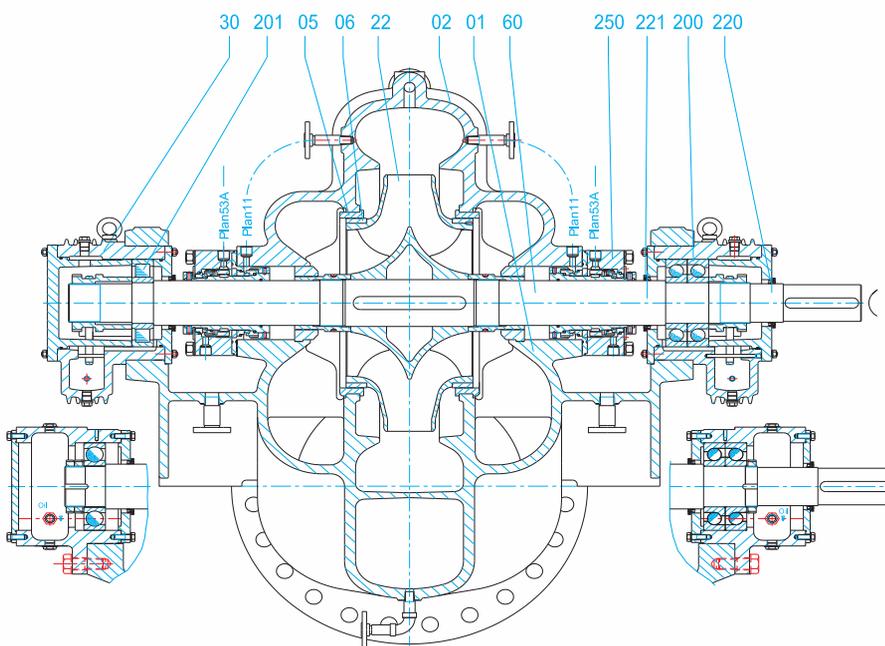
API NORM PUMPS:



API NORM PUMPS PARTS LIST

01	Volute
05	Wear ring (Casing)
06	Wear ring (Impeller)
20	Impeller
30	Bearing housing
50	Stuffing box
60	Pump shaft+
200	Bearing 7300 series
201	Bearing NU300 series
250	Mechanical seal (API-682)

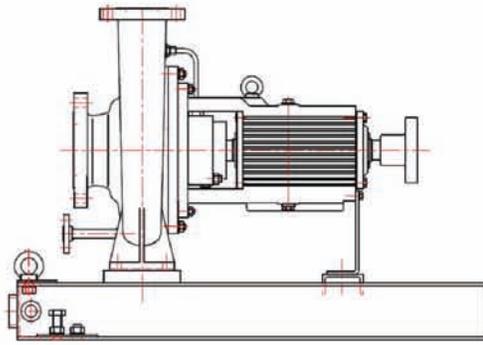
API CEP PUMPS:



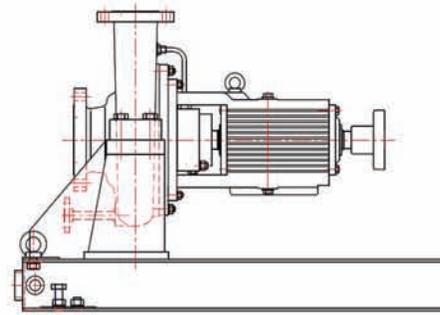
API CEP PUMPS PARTS LIST

01	Casing
02	Casing cover
05	Wear ring (Casing)
06	Wear ring (Impeller)
22	Impeller
30	Bearing housing
60	Pump shaft
200	Bearing 7300 series
201	Bearing NU300 series
220-21	Labtectra ring
250	Mechanical seal (API-682)

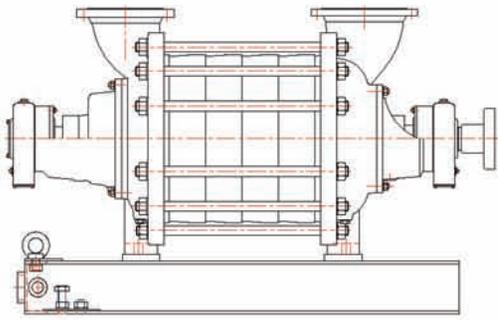
API-610 PROCESS PUMP DESIGNATIONS



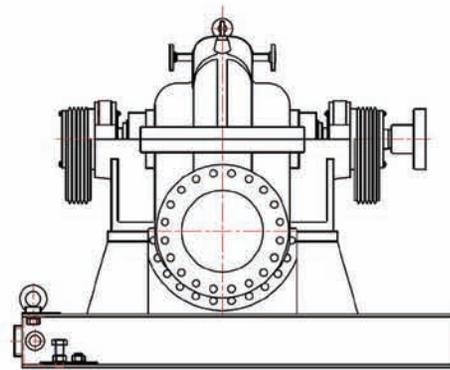
Pump type OH1



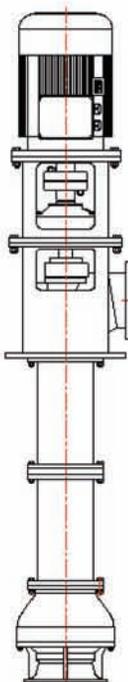
Pump type OH2



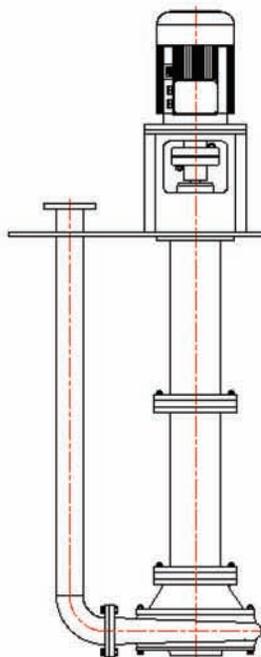
Pump type BB4



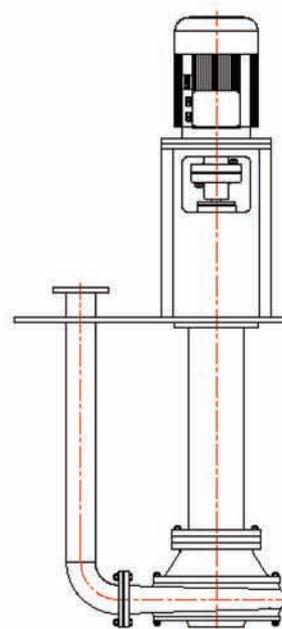
Pump type BB1



Pump type VS3



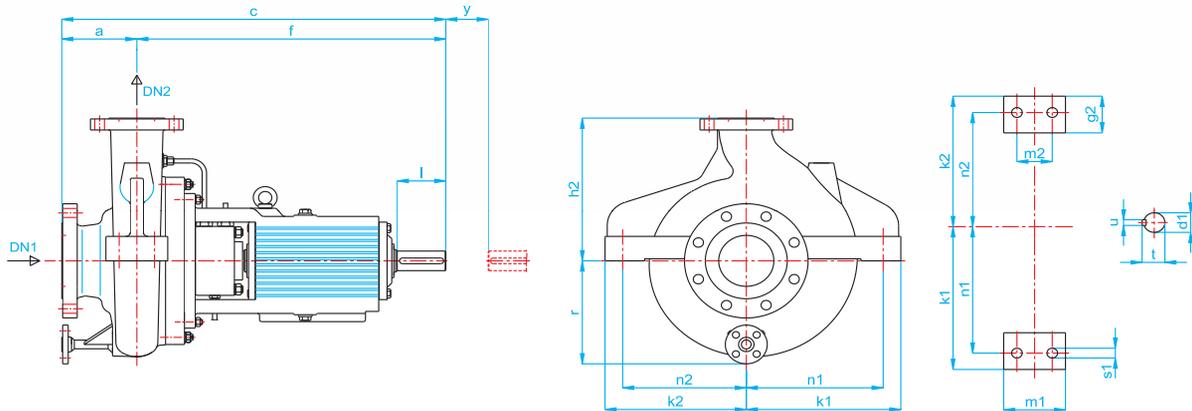
Pump type VS4



Pump type VS5

API-610 PROCESS PUMPS

API NORM SERIES DIMENSIONS TABLE



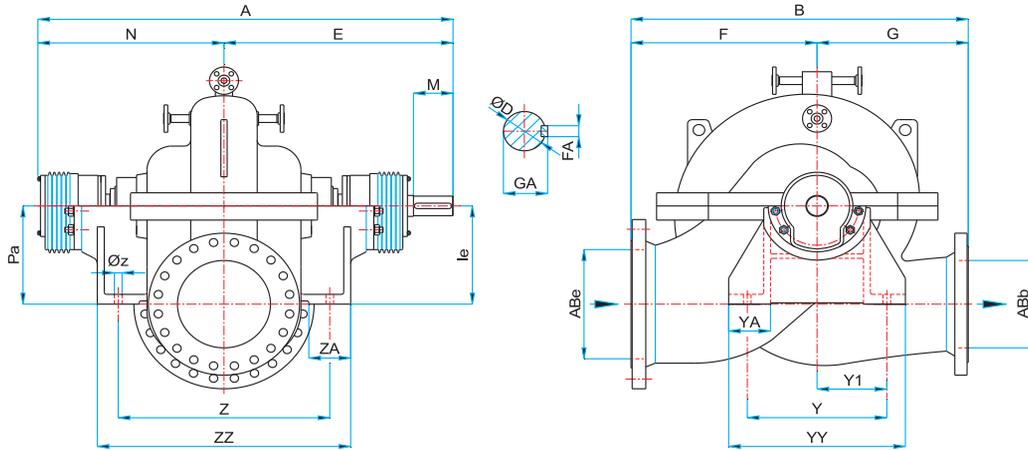
PUMP SIZE	Weight(kg)	BEARING BRACKET	DN1	DN2	a	f	c	h2	r	d1	l	t	u	y	k1	k2	n1	n2	m1	m2	g2	s1
API- NORM-SN 40-250	190	B09	65	40	130	610	740	225	32	80	35	10	100	245	230	220	195	130	70	50	17.5	
API- NORM-HD 40/315	235						250	210														225
API- NORM 50-250	280		80	50	140	750	225	210	48	110	49	12	140	285	270	260	245	170	90	65	22	
API- NORM-HD 50-250	285						280	220														220
API- NORM-HD 50-315	295	B12	100	65	150	700	850	250	60	140	64	18	170	290	260	265	235	190	180	100	80	26
API- NORM-HD 65-250	305						280	240														
API- NORM-HD 65-315	310		125	80	170	870	280	240	60	140	64	18	140	350	320	310	280	170	90	65	22	
API- NORM-HD 80-250	320						280	255														255
API- NORM-HD 80-315	330	B15	100	175	820	995	315	265	60	140	64	18	140	360	340	330	310	180	100	80	26	
API- NORM-EFF 100-250	340						280	255														290
API- NORM 100-315	355		150	125	190	700	890	355	275	60	140	64	18	170	320	285	295	260	190	100	80	26
API- NORM 100-400	370							290	255													
API- NORM 125-250	365	B15	150	125	200	820	1020	400	60	64	18	180	410	360	380	330	295	200	110	33		
API- NORM-SN 125-250	375							340													295	315
API- NORM 125-315	390		200	150	230	1160	530	390	60	140	67.5	20	170	480	445	435	400	220	120	90		
API- NORM-HD 125-315	395						340	295													315	270
API- NORM 125-400	405	B17	250	200	930	1180	500	390	60	64	18	180	410	360	380	330	295	200	110	33		
API- NORM 150-315	420						395	370													360	335
API- NORM-EFF 150-315	425		300	250	250	930	1180	450	335	60	64	18	170	425	380	385	340	200	110	33		
API- NORM 150-400	495							415	380												330	295
API- NORM-HD 150-400	510	B17	250	200	930	1180	500	420	60	64	18	180	410	360	380	330	295	200	110	33		
API- NORM 150-500	595						450	405													405	360
API- NORM-EFF 150-500	595		300	250	250	930	1180	500	390	60	64	18	170	480	445	435	400	220	120	90		
API- NORM 200-400	750							450	405												405	360
API- NORM 200-500	790	B17	250	200	930	1180	500	420	60	64	18	180	410	360	380	330	295	200	110	33		
API- NORM-EFF 200-500	795						450	405													405	360
API- NORM 250-400	730		300	250	250	930	1180	500	390	60	64	18	170	475	420	430	375	250	130	36		
API- NORM-EFF 250-400	735							490	445												445	415
API- NORM 250-450	890	B24	350	300	300	1100	545	400	95	170	100	25	280	500	440	455	395	310	200	100		
API- NORM 250-500	910						515	470													470	425
API- NORM-EFF 250-500	905		350	300	300	1100	1400	500	450	95	170	100	25	280	540	475	495	430	310	200	100	
API- NORM 300-400	890							600	500													540
API- NORM-EFF 300-400	885	B24	350	300	300	1100	500	430	95	170	100	25	280	540	460	495	415	310	200	100		
API- NORM 300-500	920						560	495													515	450
API- NORM-EFF 300-500	925		575	505	530	460																

NOTE:
 The weights are approximate. It is for general information. Weight varies according to application and material.
 Flanges conforming to ANSI B 16.5
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API-610 PROCESS PUMPS

API CEP SERIES DIMENSIONS TABLE



PUMP TYPE	ABb	ABe	A	B	N	E	F	G	le	Pa	M	D	GA	FA	Y	Y1	YY	YA	Z	ZZ	ZA	Øz	Weight (kg)
ÇEP-EFF 125/300	125	200	1245	680	565	680	370	310	200	200	110	42	45	12	410	205	475	100	570	730	140	23	405
ÇEP 125/315			1165	740	525	640		370							95	480		620	105	420			
* ÇEP-EFF 125/380	125	200	1245	850	565	680	450	400	235	235	110	42	45	12	400	200	480	100	620	730	105	23	570
ÇEP-EFF 125/500			1165		525	640		295	250	120					530	650		130	645				
* ÇEP 125/590	125	200	1305	950	580	725	525	425	330	330	140	62	66	18	410	205	500	110	795	150	23	805	
ÇEP-EFF 150/300			1320	900	605	715	500	400	200	200					110	42		45	12	400		200	465
ÇEP-EFF 150/360	150	200	1305	860	595	710	460	400	200	200	110	48	51.5	14	360	180	465	100	590	750	135	23	650
ÇEP 150/400			250	1275	850	580	695	455	395	230									230	400	780		130
ÇEP-EFF 150/410	150	200	1305	900	595	710	450	450	260	260	140	62	66	18	445	222.5	525	125	680	880	195	23	950
ÇEP-EFF 150/500			1385	1030	620	765	430	315	315	140					62	66	18	500	250	600	150		670
* ÇEP-EFF 150/600	150	200	1355	1050	605	750	600	450	350	245	140	62	66	18	420	210	500	115	710	865	170	23	1015
ÇEP 150/630			1365		615	760			350	350					500	250	600	150	670	820	1055		
* ÇEP-EFF 150/650	150	200	1355	1050	605	750	600	450	350	350	140	62	66	18	500	250	600	150	670	820	140	23	1055
ÇEP-EFF 200/320			1345		900	615			730	450					240	240	110	42	45	12			400
ÇEP-EFF 200/420	200	200	1345	930	600	745	500	430	255	255	140	62	66	18	420	210	500	110	670	820	140	23	795
ÇEP-EFF 200/530			1500	1100	680	820	600	500	310	310					150	70	74.5	20	510	255			610
ÇEP 200/690	200	200	1435	1250	645	790	700	400	250	250	150	70	74.5	20	500	250	600	150	700	890	160	23	1475
* ÇEP EFF 200/700			1565	1200	710	855	650	550	350	350					620	150	880	1060	190	1475			
ÇEP 250/315	250	300	1320	850	585	835	450	400	225	225	140	62	66	18	420	210	500	110	620	750	130	23	1000
ÇEP-EFF 250/320			1465	1100	660	805	600	500	260	260					500	250	600	150	800	970	190		1025
* ÇEP-EFF 250/360	250	300	1465	1100	660	805	600	500	275	275	140	62	66	18	420	210	500	140	800	950	150	23	745
ÇEP 250/400			1320		1000	585			735	550					450	225	225	500	250	600	150		780
* ÇEP-EFF 250/490	250	300	1465	1150	660	805	600	550	300	300	140	62	66	18	500	250	600	150	780	930	160	23	850
ÇEP 250/500			1320		1050	585			735	550					500	240	240	420	210	500	110		620
ÇEP-EFF 250/620	250	300	1595	1200	725	870	650	550	370	370	170	70	74.5	20	500	250	600	150	910	1090	180	23	1530
ÇEP 250/630			400	1755	1205	785	970	695	510	390					390	210	95	100.4	25	590	295		715
* ÇEP-EFF 250/800	250	300	1880	1500	850	1030	800	700	425	425	170	90	95	25	90	95	980	1195	190	2105	23	2105	
ÇEP 300/315			1425	1095	640	785	585	510	315	315					62	66		18	450	225		550	125
ÇEP 300/400	300	350	1425	1005	640	785	505	500	250	250	140	70	74.5	20	500	250	610	160	680	860	160	23	980
ÇEP-EFF 300/450			400	1570	1200	715	855	650	310	310					490	245		180	880	1060	190		1380
ÇEP 300/500	300	350	1495	1130	675	820	580	320	320	170	90	95	25	500	250	760	165	780	950	165	23	1225	
* ÇEP-EFF 300/560			1935	1350	875	1060	700	350	350					640	320		760	180	1000	1250		220	2130
ÇEP-EFF 300/720	300	350	1950	1400	885	1065	750	400	400	170	90	95	25	590	295	715	175	1070	1270	190	23	2530	
ÇEP-EFF 350/360			1625	1250	740	885	700	550	325					325	140	70	74.5	20	500	250		600	150
ÇEP 350/400	350	400	1505	1100	680	825	600	500	315	315	140	70	74.5	20	500	250	600	150	800	970	190	23	1545
ÇEP-EFF 350/450			500	1805	1500	830	975	850	650	400					400	640		320	760	180			1060
ÇEP 350/500	350	400	1505	1200	680	825	650	550	355	355	170	90	95	25	500	250	600	150	800	965	190	23	1490
* ÇEP-EFF 350/520			2095	1500	955	1140	850	650	400	400					640	320		760	180	1180			1420
ÇEP-EFF 350/580	350	400	2100	1550	960	1140	700	400	400	170	90	95	25	680	340	800	175	1290	1080	190	23	1500	
* ÇEP-EFF 350/720			2010	1600	915	1095	850	750	405					405	680	340	800	175	1290	1080		190	33
ÇEP 400/500	400	500	1645	1230	750	895	680	550	355	355	140	70	74.5	20	640	320	760	160	930	1110	180	23	2475
* ÇEP-EFF 400/520			2130	1550	975	1155	850	700	400	400					640	320	760	180	1180	1420	235		2515
ÇEP-EFF 400/600	400	500	2060	1550	940	1120	800	750	395	395	170	90	95	25	600	300	770	180	1100	1380	240	23	3520
ÇEP 400/630			1785	1450	800	985	800	650	450	450					600	300	770	180	1085	180	2185		
* ÇEP-EFF 400/700	400	500	2090	1750	955	1135	1000	750	405	405	170	90	95	25	640	320	760	180	1150	1400	240	23	3395
ÇEP 500/500			1910	1455	865	1045	800	655	450	450					640	320	760	180	1000	1200	180		2600
ÇEP-EFF 500/600	500	600	2130	1900	975	1155	1100	800	455	455	170	90	95	25	680	340	800	200	1260	1450	190	23	4120
ÇEP-EFF 500/700			2205	2100	1015	1090	1200	900	455	455					680	340	800	200	1350	1550	200		5520

NOTE:

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Flanges conforming to ANSI B 16.5

(*) Pumps in project phase

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