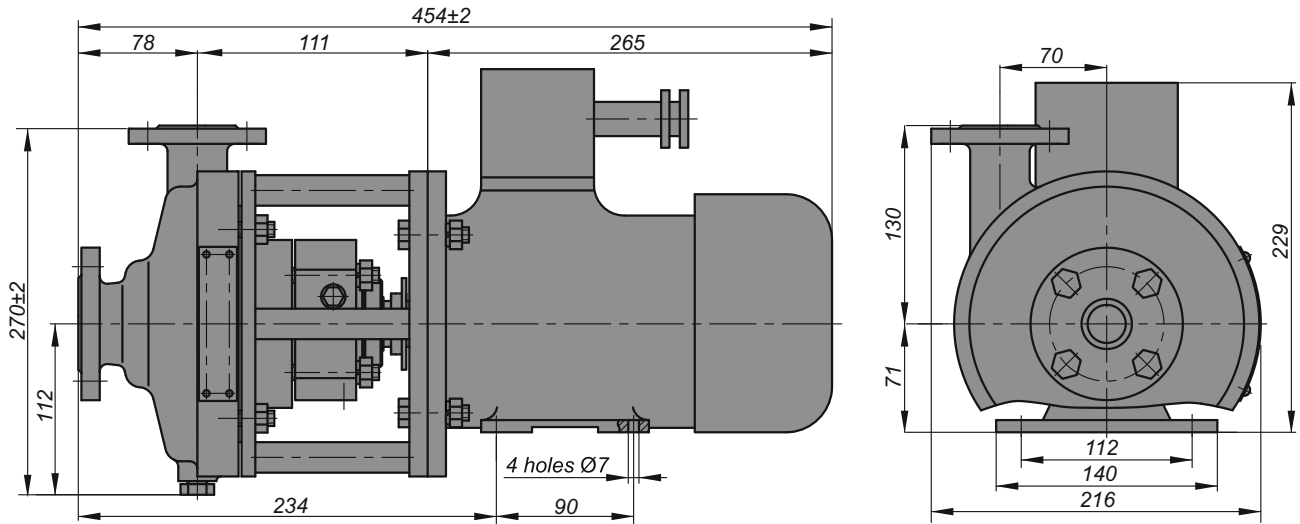


Electric pumping unit (pump) is designed for pumping of oil products (petrol, diesel fuel), flammable and highly inflammable liquids with the temperature to 347K (70°C). Pumping unit is operated at areas with temperate, cold, temperate-and-cold climate (temperature range

-60°C - +45°C), category of location 2,4 according to GOST 15150-60.

Pumping unit is manufactured in versions which differ in material and seal type.

Dimensional drawing of electric pumping unit KhME 25-20-140-D-5



Technical Data

Capacity, m ³ /s (m ³ /hour)	5.6x10 ⁻⁴ (2)
Head, m	25
Rotational speed (synchr.), s ⁻¹ (rpm)	50 (3000)
NPSH, m, no more than	3
Inlet pressure maximum MPa (kgf/cm ²)	0.2 (2)
Power at $\rho=1000$ kg/m ³ , kW,	pump / pumping unit 0.6 / 0.75
Pump efficiency, %, no more than	26 / 21
Solid impurities maximum size, mm	0.1

The example of pump and pumping unit designation

"Electric pumping unit KhME 25-20-140-D-5"

"Pump KhME 25-20-140-D-5",

where KhM - modular pump;

KhME - modular pump in explosive design;

25 - inlet diameter, mm;

140 - impeller diameter, mm;

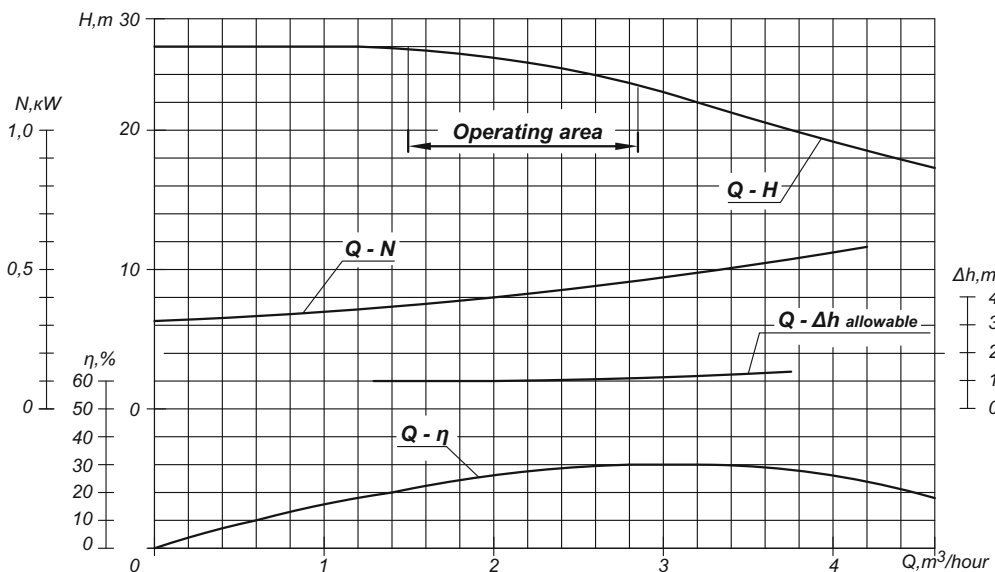
D - material of inner flowing part:

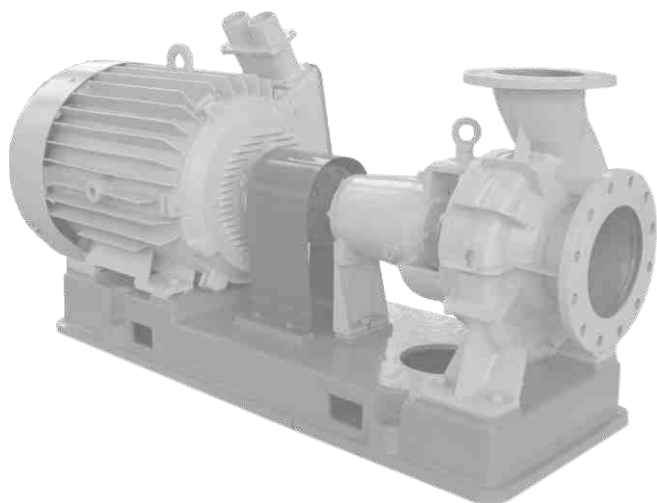
D - steel 20X13Л;

K - steel 12X18H10T;

5 - type of rotor end seal - single end with additional emergency.

Performances and curves of electric pumping unit KhME 25-20-140-D-5 (n=3000 rpm)





Pumps of “Kh” and “KhE” types with the capacity from 6.3 m³/hour to 400 m³/hour and pumping units on their basis are designed for supply of oil, oil light products, chemically active and slightly aggressive liquids which may cause corrosion of pump inner flowing part material not more than 0.1 mm/year, and neutral liquids.

The pumps and pumping units are manufactured for the areas with temperate and cold climate (temperature range - 60°C - +45°C), category of location 2, 4 according to GOST 15150-60.

Pumps and pumping units are used for operation at explosion zones V-1a, V-1r as per Regulations for the design and construction of electrical installations. They are designed for pumping of liquids the vapors of which can form explosive mixtures of II category, groups T2 and T3 as per GOST 12.1.011-78 belonging to hazard categories III and IV according to GOST 12.1.005-88.

The example of pump and pumping unit designation

“Pump KhE 100-65-200-100/50-D-5 TU U3.19-05747991-096-99”

“Electric pumping unit

KhE 100-65-200-100/50-D-5 TU U3.19-05747991-096-99”

The same with first modernization

“Electric pumping unit

1KhE 100-65-200-100/50-D-5 TU U3.19-05747991-096-99”

where KhE - Kh - horizontal, cradle-mounted, single stage pump with axial inlet and radial outlet, with support placed on casing.
The pumps are designed for supply of chemically active, neutral and slightly aggressive liquids;
AKh -the same with open impeller;
KhE -the same designed for supply of flammable and highly inflammable liquids.

Pumps are manufactured in versions which differ in material and seal type:

D - material of inner flowing part:

- A - carbon steel;
- D - steel 20X13Л;
- T - titanium alloy BT 1-0;
- K - steel 12X18H10T;

5 - the type of rotor end seal:

- 5 - single end seal;
- 55 - doubled end seal;
- S - gland seal;
- SD - doubled gland seal (with c hydraulic seal).

The Company improves the pumping equipment and equips pumping units with the motors of different manufactures. Thereby when ordering, please specify overall and mounting dimensions and required parameters according to the recommended form of Data Sheet.

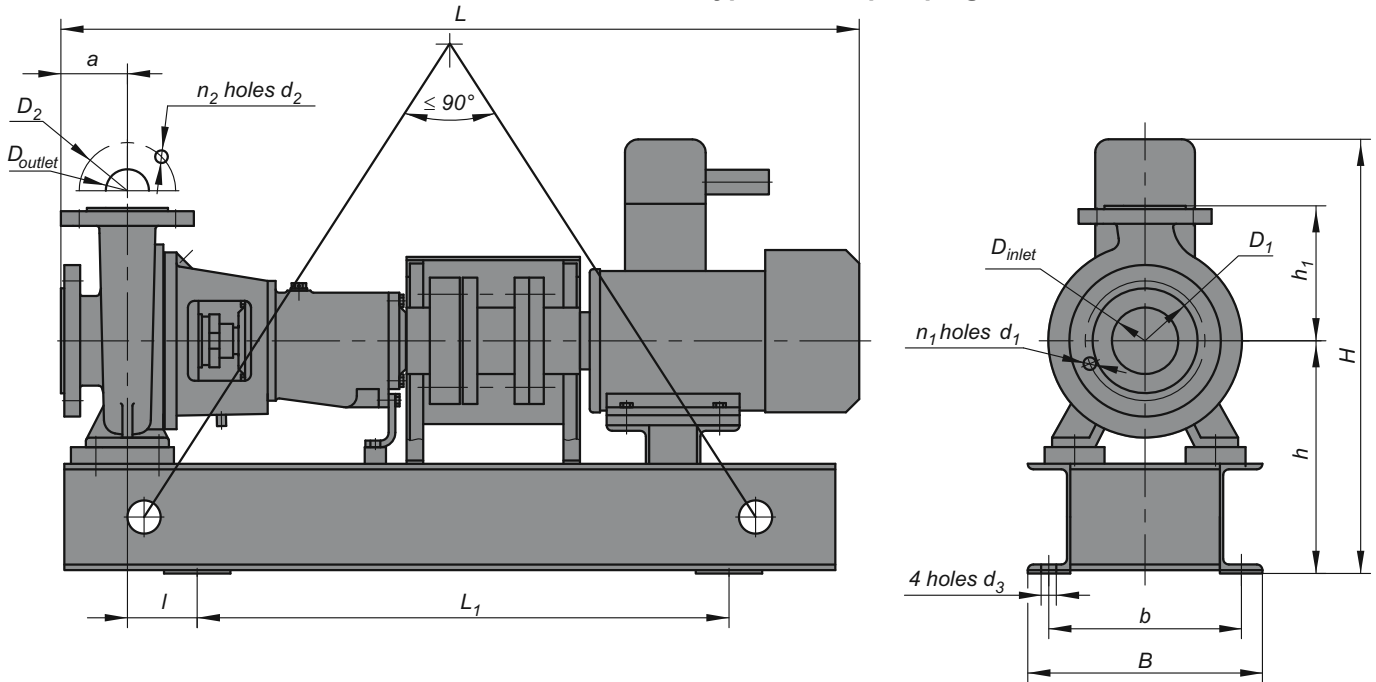
Technical data of Kh type chemical pumps

Designation	Rotational speed (synchr.), rpm	Capacity, m ³ /hour	Head, m	NPSH, m not more	Efficiency, % no less		Power, kW		Motor		
					pump	unit	pump	unit	N, kW	n, rpm	voltage, V
Kh 50-32-125D,K	1500	6.3	5	3.2	52	50	0.2	0.22	0.25	1500	380
	3000	12.5	20	3.5	53	50	1.5	1.7	2.2	3000	380
Kh 50-32-160D,K	1500	6.3	8	3.4	45	42	0.3	0.33	0.37	1500	380
Kh 50-32-200D,K	1500	6.3	12.5	3.4	37	35	0.25	0.28	0.37	1500	380
	3000	12.5	50	3.5	40	38	2	2.2	5.5	3000	380
Kh 65-40-200D,K	1500	12.5	12.5	3.6	56	53	1.1	1.22	1.5	1500	380
	3000	25	50	3.8	57	54	8.5	9.4	15	3000	380
AKh 65-40-200K	3000	25	50	3.8	46	45	7	7.1	11	3000	380
Kh 65-40-250K	1500	12.5	20	3.4	34	30	1.8	2	2.2	1500	380
	3000	25	80	3.8	36	34	14.3	15.7	15	3000	380
Kh 65-40-315K	1500	12.5	32	3.8	30	28	3	3.3	5.5	1500	380
AKh 65-40-315K	3000	25	125	3.2	31	30	28	29	30	3000	380
Kh 65-50-160D,K	1500	12.5	8	3.4	55	52	0.5	0.55	0.75	1500	380
	3000	25	32	3.8	60	56	4	4.4	5.5	3000	380
Kh 80-65-160D,K	1500	25	8	3.8	65	61	1	1.1	1.5	1500	380
	3000	50	32	4	67	63	7.8	8.7	11	3000	380
Kh 80-50-200D,K	1500	25	12.5	3.4	62	59	1.35	1.4	1.5	1500	380
	3000	50	50	3.8	63	60	10	10.8	15	3000	380
Kh 80-50-250D,K	1500	25	20	4.8	57	53	2.3	2.5	5.5	1500	380
	3000	50	80	5	58	54	18.4	20.5	22	3000	380
Kh 80-50-315K	1500	25	32	4.8	45	42	4.8	5.3	11	1500	380
	3000	50	125	5	45	42	38.4	48.7	45	3000	380
Kh 100-65-160D,K	1500	50	8	3.8	72	58	1.5	1.7	2.2	1500	380
	3000	100	32	4	74	70	11.8	13	15	3000	380
Kh 100-65-200D,K	1500	50	12.5	4.4	70	61	2.4	2.7	3	1500	380
	3000	100	50	4.5	71	62	19.5	22	45	3000	380
Kh 100-65-250D,K	1500	50	20	5	66	62	4.1	4.5	11	1500	380
	3000	100	80	6	66	62	32.8	36.5	45	3000	380
Kh 100-65-315K	1500	50	32	6	58	54	7.5	8.3	11	1500	380
	3000	100	125	8	58	54	60	67	75	3000	380
Kh 125-80-200D	1500	80	12.5	5	72	63	3.6	4	5.5	1500	380
	3000	160	50	5.5	73	64	28.6	32.5	45	3000	380
Kh 125-100-400D	1500	125	50	3.5	64	61	24.8	27.5	37	1500	380
Kh 150-125-400D,K	1500	200	50	3.8	71	62	38.3	43.5	55	1500	380
Kh 200-150-315K	1500	315	32	3.6	82	80	33.5	36	55	1500	380
Kh 200-150-315A,T	1500	315	32	3.6	82	80	33.5	36	55	1500	380
Kh 200-150-400D	1500	400	50	4.2	70	61	80	86	90	1500	380
Kh 200-150-400A,T	1500	400	50	4.2	70	61	80	86	90	1500	380
Kh 250-200-315A,T	1500	500	32	5	80	78	54	60	90	1500	380

Technical data of KhE type chemical pumps

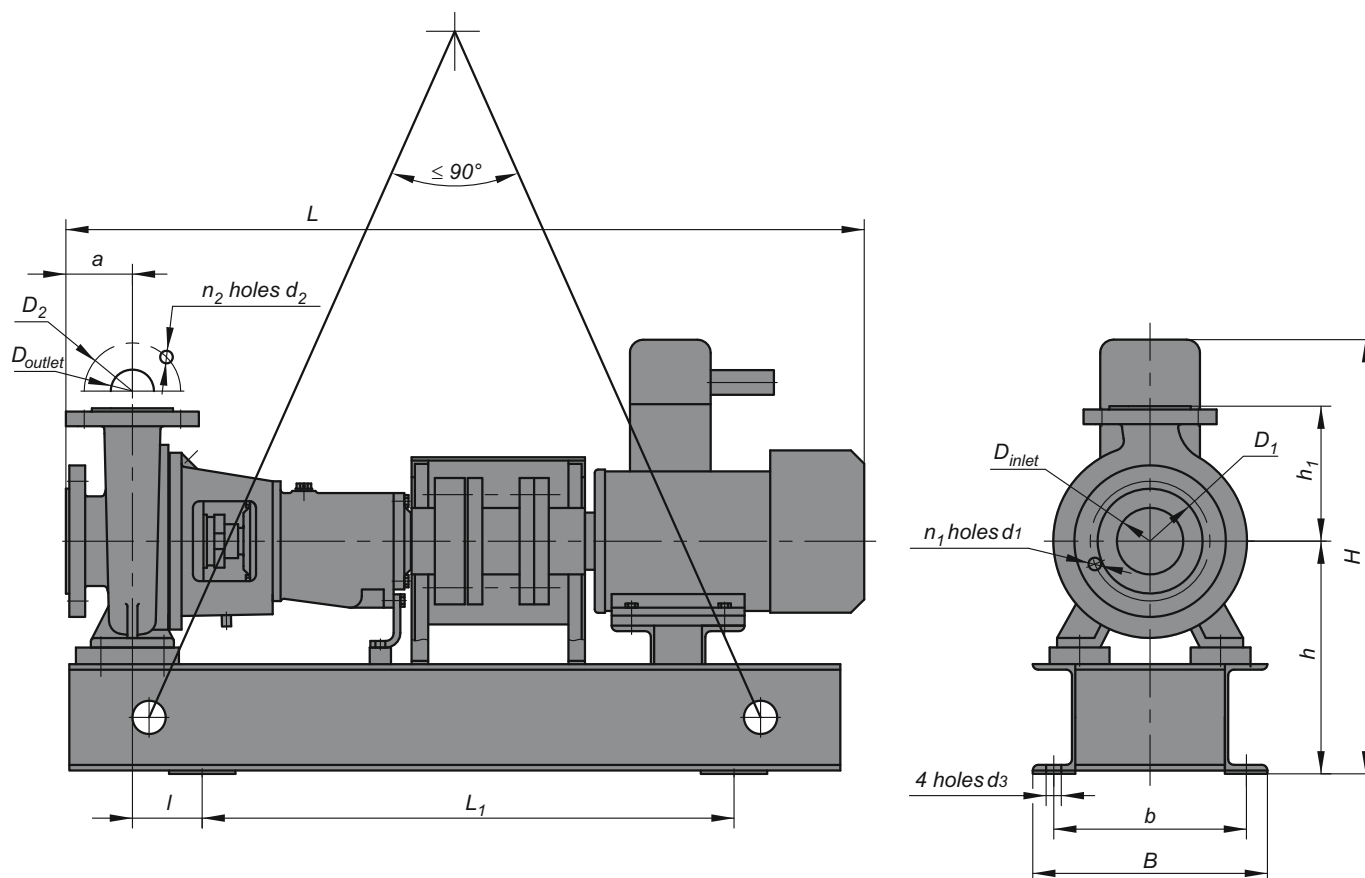
Designation	Rotational speed (synchr.), rpm	Capacity, m ³ /hour	Head, m	NPSH, m not more	Efficiency, % no less		Power, kW		Motor		
					pump	unit	pump	unit	N, kW	n, rpm	voltage, V
KhE 50-32-125D	1500	6.3	5	3.2	52	50	0.2	0.22	0.25	1500	380
	3000	12.5	20	3.5	53	50	1.5	1.7	3	3000	380
KhE 50-32-200K	3000	12.5	50	3.5	40	38	2	2.2	4	3000	380
KhE 65-40-315D	3000	25	125	3.2	31	30	28	29	30	3000	380
KhE 65-50-160D	1500	12.5	8	3.4	55	52	0.5	0.5	0.75	1500	380
	3000	25	32	3.8	60	56	4	4.4	5.5	3000	380
KhE 80-50-200D	1500	25	12.5	3.4	62	59	1.35	1.4	1.5	1500	380
	3000	50	50	3.8	63	60	10	10.8	15	3000	380
KhE 80-50-315D	1500	25	12.5	3.4	62	59	1.35	1.4	1.5	1500	380
KhE 80-65-160K	1500	25	8	3.8	65	61	1	1.1	1.5	1500	380
	3000	50	32	4	67	63	7.8	8.7	11	3000	380
KhE 100-65-200D	1500	50	12.5	4.4	70	61	2.4	2.7	3	1500	380
	3000	100	50	4.5	71	62	19.5	22	45	3000	380
KhE 100-65-315D	1500	50	12.5	4.4	70	61	2.4	2.7	3	1500	380
	3000	100	50	4.5	71	62	19.5	22	45	3000	380
KhE 125-100-400K	1500	125	50	3.5	64	61	24.8	27.5	30	1500	380
KhE 200-150-400D	1500	400	50	4.2	70	61	80	86	90	1500	380

Overall and connection dimensions of Kh type electric pumping units



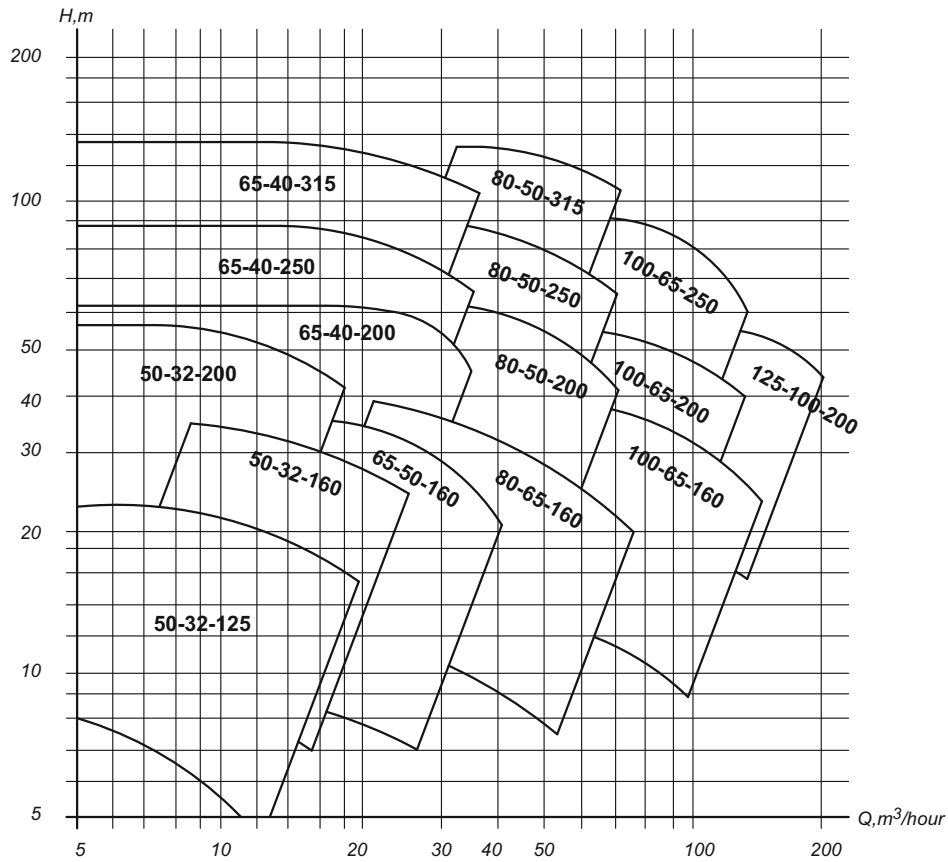
Designation	Rotational speed, rpm	Dimensions, mm																		Weight, kg	
		a	L ₁	l	h	h ₁	B	b	d ₃	D _{inlet}	D ₁	d ₁	n ₁	D _{outlet}	D ₂	d ₂	n ₂	L	H	pump	unit
Kh 50-32-125D,K	1500	80	540	70	192	140	360	320	18	50	125	M16	4	32	100	18	4	885	315	50	123
	3000																				
Kh 50-32-160D,K	1500	80	500	110	212	160	380	330	24	50	125	M16	4	32	100	18	4	1005	390	56	152
	3000																				
Kh 50-32-200D,K	1500	80	500	110	240	180	380	330	24	50	125	M16	4	32	100	18	4	1005	420	88	189
	3000																				
Kh 65-40-200D,K	1500	100	740	130	260	180	490	440	24	65	145	M16	4	40	110	18	4	1205	460	90	293
	3000																				
Kh 65-40-250K	1500	100	800	105	350	225	324	260	23	65	145	19	8	40	110	19	4	1325	575	87	283
	3000																				
Kh 65-40-315K	1500	125	575	100	325	250	400	350	24	65	145	19	4	40	110	19	4	1210	575	98	267
	3000		832	137	355	250	500	450										1520	912	130	400
Kh 65-50-160D,K	1500	80	660	110	222	160	450	400	24	65	145	M16	4	50	125	18	4	1005	395	62	293
	3000																				
Kh 80-50-200D,K	1500	100	700	120	270	200	350	290	23	80	160	18	8	50	125	18	4	1220	470	95	280
	3000																				
Kh 80-50-250D,K	1500	125	800	95	360	225	350	290	23	80	160	19	8	50	125	19	4	1230	663	95	250
	3000																				
Kh 80-50-315K	1500	125	800	105	405	280	406	290	23	80	160	19	8	50	125	19	4	1345	685	112	315
	3000																				
Kh 80-65-160D,K	1500	100	740	130	260	180	490	440	24	80	160	M16	8	65	145	18	4	1140	440	66	293
	3000																				
Kh 100-65-160D,K	1500	100	800	105	350	200	350	290	23	100	180	19	8	65	145	19	4	1220	550	88	297
	3000																				
Kh 100-65-200D,K	1500	100	920	120	406	225	550	490	23	100	180	19	8	65	145	19	4	1550	765	89	580
	3000																				
Kh 100-65-250D,K	1500	125	800	105	380	250	370	290	23	100	180	19	8	65	145	19	4	1385	630	97	310
	3000																				
Kh 100-65-315K	1500	125	830	105	405	280	404	290	23	100	180	19	8	65	145	19	4	1415	685	120	333
	3000																				
Kh 125-80-200D	1500	125	920	120	406	250	550	490	23	125	210	19	8	80	160	19	8	1575	765	95	576
	3000																				
Kh 125-100-400D	1500	140	970	110	410	355	610	560	23	125	210	19	8	100	180	19	8	1690	800	212	690
	3000																				
Kh 150-125-400D,K	1500	140	1000	105	485	400	575	500	23	150	240	24	8	125	210	19	8	1650	885	204	713
	3000																				
Kh 200-150-315K	1500	160	940	175	315	400	650	570	30	200	295	23	12	150	240	23	8	1675	885	155	730
	3000																				
Kh 200-150-400D	1500	162	940	175	485	450	650	570	30	200	295	23	12	150	240	23	8	1750	935	180	840
	3000																				
AKh 65-40-200K	3000	100	740	130	260	180	490	440	24	65	145	M16	4	40	110	18	4	1205	460	90	293
	3000																				
AKh 65-40-315K	3000	125	832	137	355	250	380	330	24	65	415	19	4	40	110	19	4	1520	912	130	400
	3000																				

Overall and connection dimensions of KhE type electric pumping units

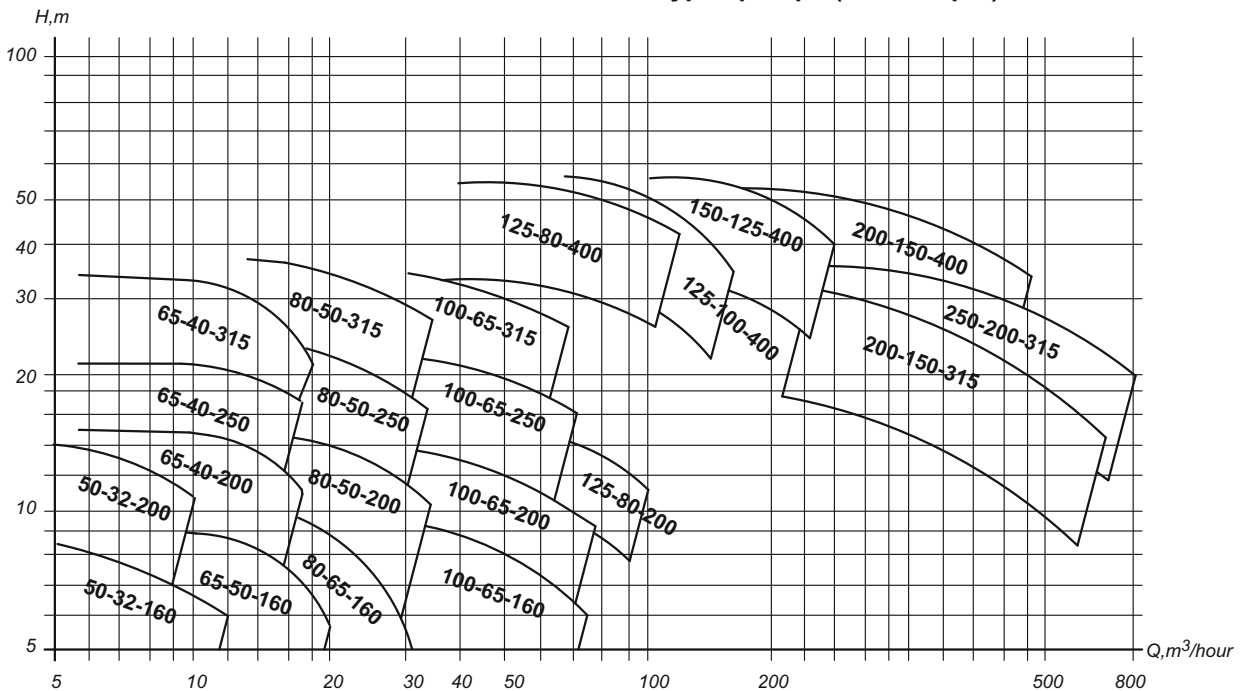


Designation	Rotational speed, rpm	Dimensions, mm																		Weight, kg	
		a	L ₁	l	h	h ₁	B	b	d ₃	D _{inlet}	D ₁	d ₁	n ₁	D _{outlet}	D ₂	d ₂	n ₂	L	H	pump	unit
KhE 50-32-125D	1500	80	540	70	192	140	360	320	18	50	125	M16	4	32	100	18	4	920	425	50	123
	3000	80	540	70	192	140	360	320	18	50	125	M16	4	32	100	18	4	920	425	50	123
KhE 50-32-200K	3000	80	500	110	240	180	380	330	24	50	125	M16	4	32	100	18	4	990	515	88	210
		644	644	35	35	244	244	186	186	1025	1025	94	208	94	208	94	208	94	208	94	208
KhE 65-40-315D	3000	125	803	140	395	250	348	290	24	65	65	19	4	40	110	19	4	1520	645	130	357
KhE 65-50-160D	3000	80	660	110	222	160	450	400	24	65	145	M16	4	50	125	18	4	1085	480	62	224
KhE 80-50-200D	3000	100	700	120	270	200	350	290	23	80	160	19	8	50	125	19	4	1220	663	95	265
KhE 80-50-315D	1500	125	700	105	410	280	350	290	23	80	160	19	8	50	125	19	4	1330	690	124	300
KhE 80-65-160K	3000	100	740	130	260	180	490	440	24	80	160	M16	8	65	145	18	4	1140	518	66	276
KhE 100-65-200D	1500	100	800	105	355	225	350	290	23	100	180	19	8	65	145	19	4	1370	700	89	260
	3000	100	800	105	355	225	350	290	23	100	180	19	8	65	145	19	4	1370	700	89	260
KhE 100-65-315D	1500	140	1000	105	405	280	350	290	23	100	180	19	8	65	145	19	4	1332	690	124	300
KhE 125-100-400K	1500	140	970	110	410	355	610	560	23	125	210	19	8	100	180	19	8	1690	800	212	690 715
KhE 200-150-400D	1500	160	940	175	485	450	650	570	30	200	295	23	12	150	240	23	8	1750	935	180	840

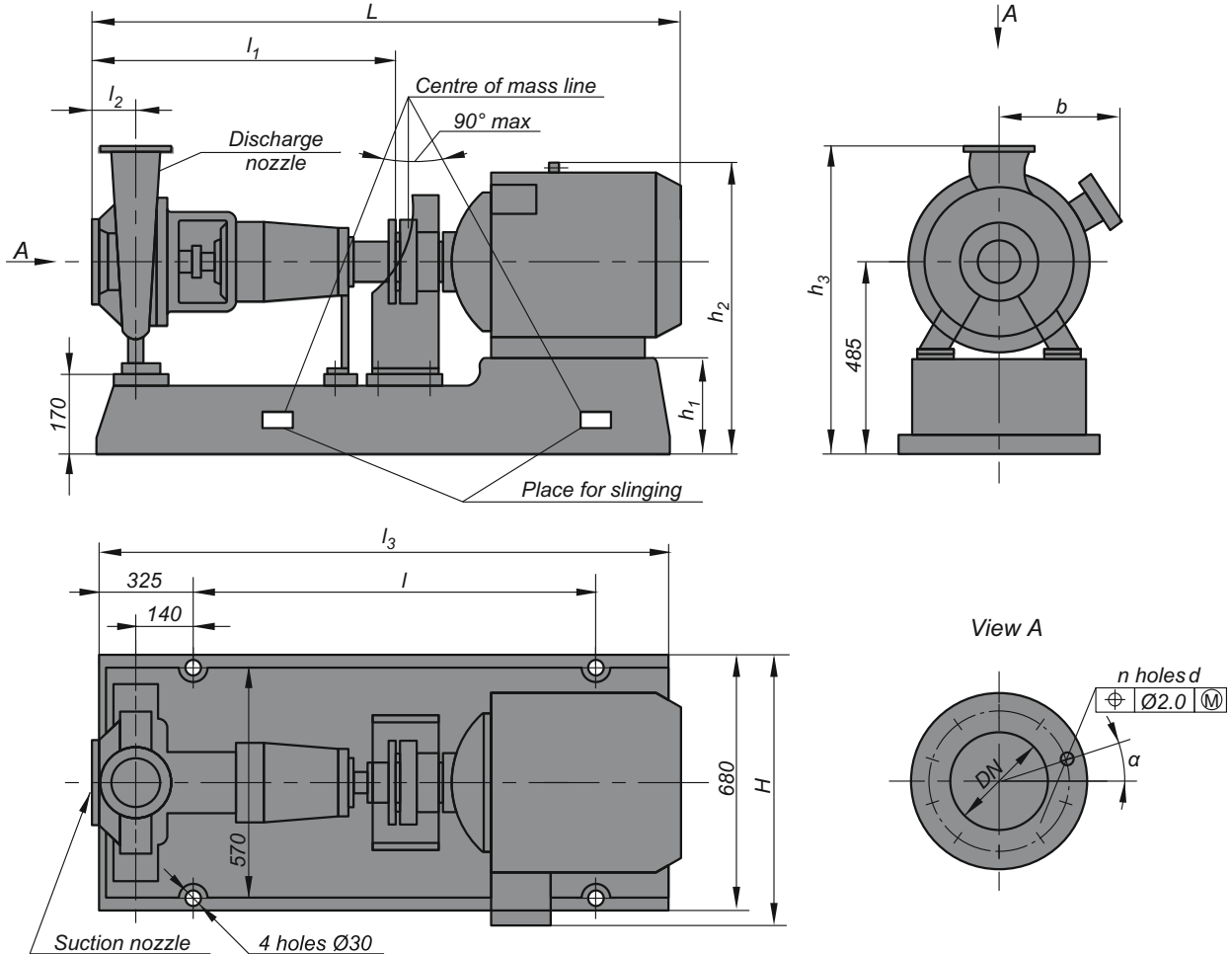
Performances of KhE and Kh types pumps (n=3000 rpm)



Performances of KhE and Kh types pumps (n=1500 rpm)



Overall and connection dimensions of Kh-200-150-315-A,T, Kh-200-150-400-A,T, Kh-250-200-315-A,T electric pumping units

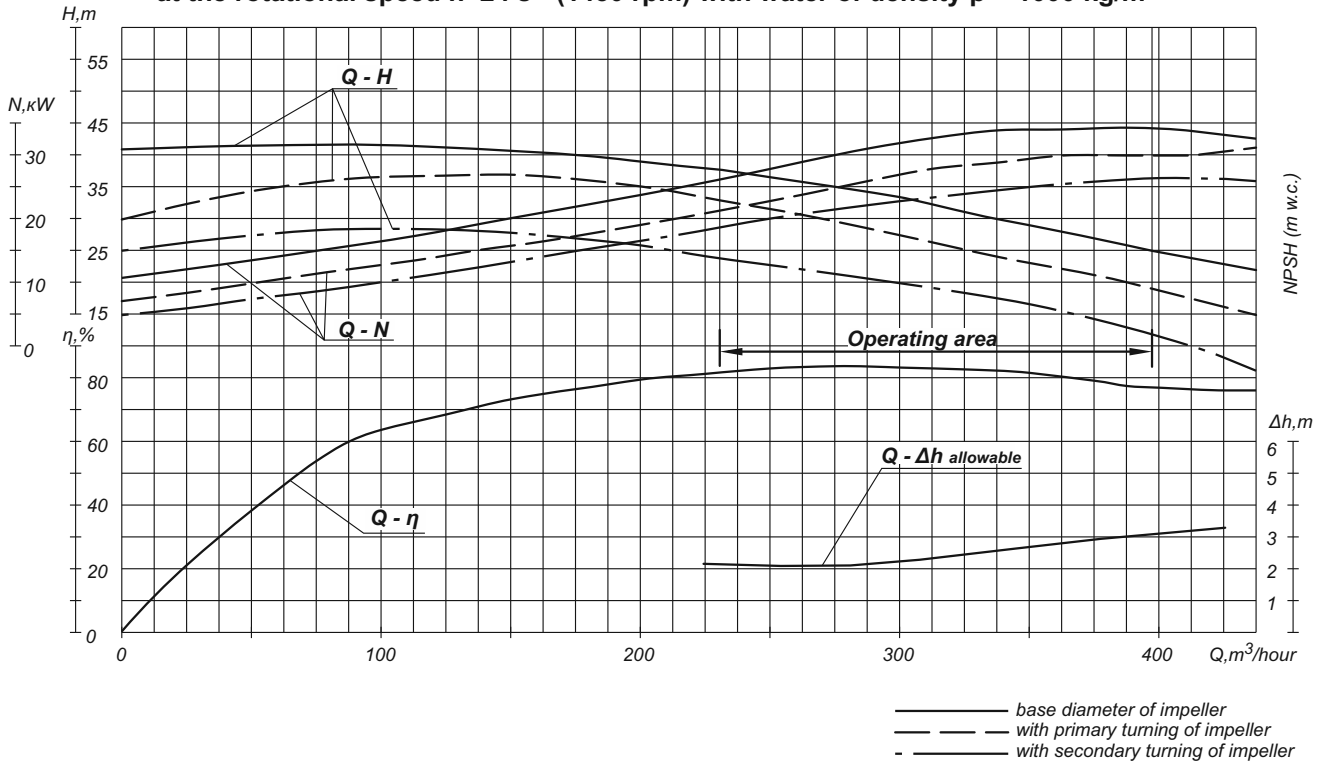


1. Connection dimensions of flange as per GOST 12815-80, version 1, row 2, PN 1.6 MPa (16 kgf/cm²) for DN are shown in the table.
2. $l=940$ mm is for units Kh-200-150-315-A,T, Kh-200-150-400-A,T, $l=1050$ mm is for Kh-250-200-315-A,T.

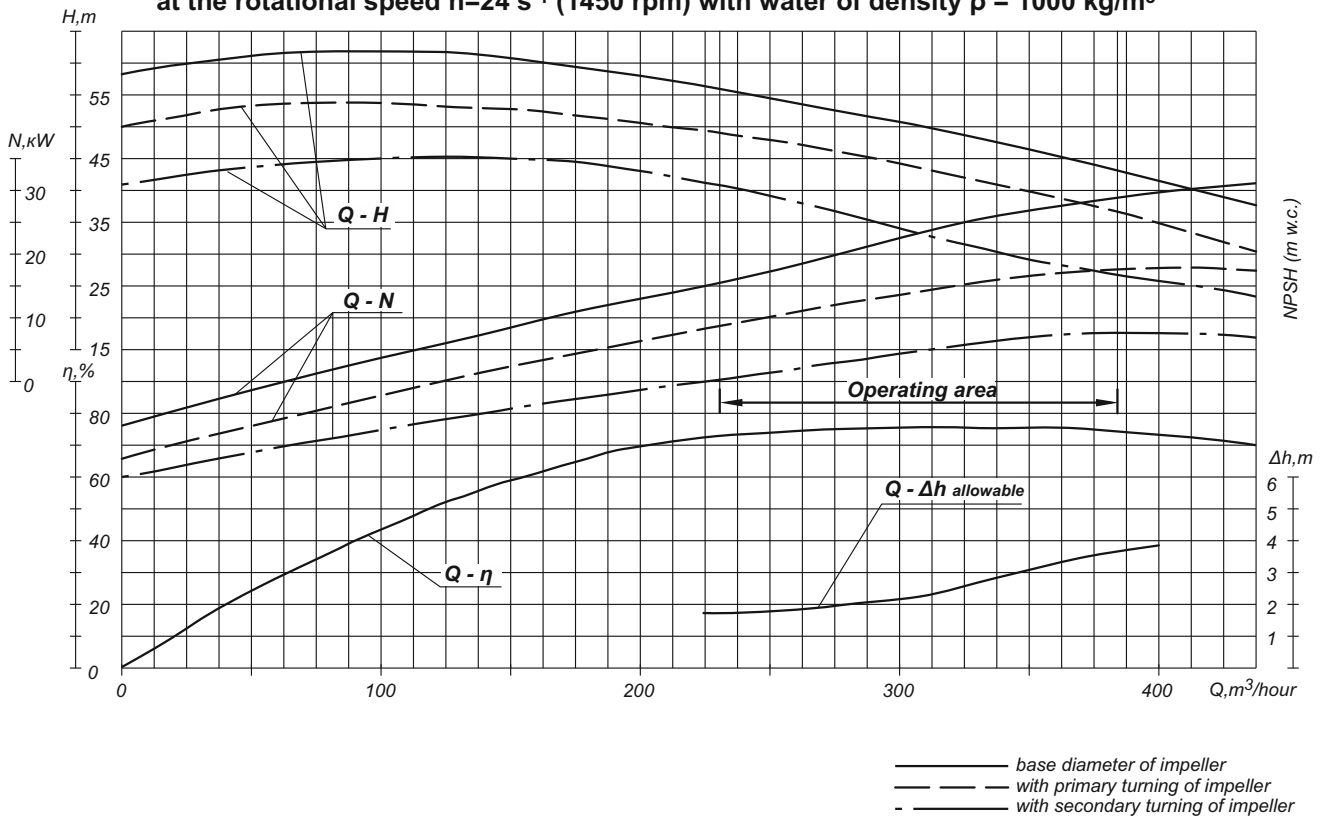
Engine	Dimensions, mm												n, pcs.	Weight of unit, kg
	L	l_1	l_2	l_3	H	h_1	h_2	h_3	b	DN	α	t		
Kh 200-150-315-A,T														
4A225M4	1675	830	160	1580	680	260	835	885	323	150	22°30'	22°	8	690
4A250S4	1750				693	235	875		353	200	15		12	830
V22SM4	1775				750	260	920		410					835
V250S4	1875				840	235	865		500					1020
Kh 200-150-400-A,T														
4A250M4	1790	830	160	1580	680	235	875		-	150	22°30'	22°	8	920
4A280M4	2045			1700	875	205	905		535	200	15		12	1230
4A280S4	2005			1700	875	205	905		535					1180
V250M4	1925			1580	840	235	865	935	500					1145
V280S4	1975			1700	953	205	915		600					1350
4A250S4	1750			1580	850	235	765							840
V250S4	1875			840	235	865	885	500						1020
Kh 250-200-315-A,T														
4A250M4	1850	890	220	1580	680	235	875	885	-	200	22°	15°	12	990
4A280M4	2105			1700	875	205	905		535	250	25°			1200
4A280S4	2065			1700	875	205	905		535					1250
V250M4	1985			1580	840	235	865		500					1215
V280S4	2035			1700	953	205	915							1420

Note: value of discharge nozzle dimension is in numerator, value of suction nozzle dimension is in denominator.

Performances and curves of Kh 200-150-315-A,T pumping unit at the rotational speed $n=24\text{ s}^{-1}$ (1450 rpm) with water of density $\rho = 1000\text{ kg/m}^3$



Performances and curves of Kh 200-150-400-A,T pumping unit at the rotational speed $n=24\text{ s}^{-1}$ (1450 rpm) with water of density $\rho = 1000\text{ kg/m}^3$



Performances and curves of Kh 250-200-315-A,T pumping unit
at the rotational speed $n=24\text{ s}^{-1}$ (1450 rpm) with water of density $\rho = 1000\text{ kg/m}^3$

