



3th Generation KQDP/KQDQ Series Multi-stage Pump



High efficiency, Energy saving

The pump has excellent performance and high efficiency, the efficiency index reaches the international advanced level, and the energy efficiency index reaches MEI 0.7, which is far higher than the national energy saving standard and has passed the national pump energy saving certification.



Corrosion resistance, Long life

A new industrial and hydraulic design method is adopted and the finite element strength analysis is carried out. The stainless steel castings are formed by silicon melt precision casting with high dimensional precision. Cast iron parts are made of iron ore and coated with electrophoretic paint.



High efficiency, Energy saving

The shell is made of stainless steel plate, the outer surface is polished, clean and beautiful, with modern flavor.



High efficiency, Energy saving

Parts made of stainless steel plate, green environmental protection, will not cause secondary pollution of water, in line with the requirements of health standards.

Product profile

The third-generation KQDP/KQDQ light vertical multi-stage centrifugal pump is based on the concept of energy saving, environmental protection, safety and reliability, adopting a new industrial and hydraulic design method, and the latest independent research and development of a new generation of products. The product is suitable for different temperature, flow and pressure ranges. It can transport various media from tap water to industrial liquid. It is widely used in water supply, industrial pressurization, industrial liquid transportation, heating supply, irrigation and water treatment. The KQDQ can also be used in the fields of beverages, medicine and etc.. KQDP is suitable for non-corrosive liquids and KQDQ is suitable for mildly corrosive liquids.

This product complies with GB/T 5657-2013 "Technical Conditions for Centrifugal Pumps (III)".

Product feature



High efficiency, energy saving, green and environmental protection: the efficiency index has reached the international leading level, and the energy efficiency index has reached $MEI \geq 0.7$.



Compact, safe and reliable: under the same flow head parameters, the pump has lower height, less vibration, lower noise, smaller footprint and lighter weight.



Durable and easy to repair: It adopts special configuration of cartridge mechanical seal to ensure smooth operation and no leakage in slight vibration and impact environment. At the same time, the machine seal position is designed with sufficient disassembly and assembly space, and the maintenance is convenient. When the machine seal is replaced, there is no need to disassemble the pump.

Typical application



Water supply: secondary water supply for high-rise buildings, filtration, transportation, supercharged water

Industrial pressure: cleaning system, process water system, high pressure flushing system, fire fighting system

Industrial liquid transport: boiler feed water, condensing system, machine tool components

Heating supply: air conditioning system

Irrigation: farmland irrigation, sprinkler irrigation, drip irrigation

Water treatment: swimming pool, distillation system, etc.

Working conditions



Liquid: Clean, thin, non-flammable, explosive and free of particles and fibers or liquids with physicochemical properties similar to water

Liquid temperature: $-20\text{ }^{\circ}\text{C}$ to $+105\text{ }^{\circ}\text{C}$

Ambient temperature: max. $+40\text{ }^{\circ}\text{C}$

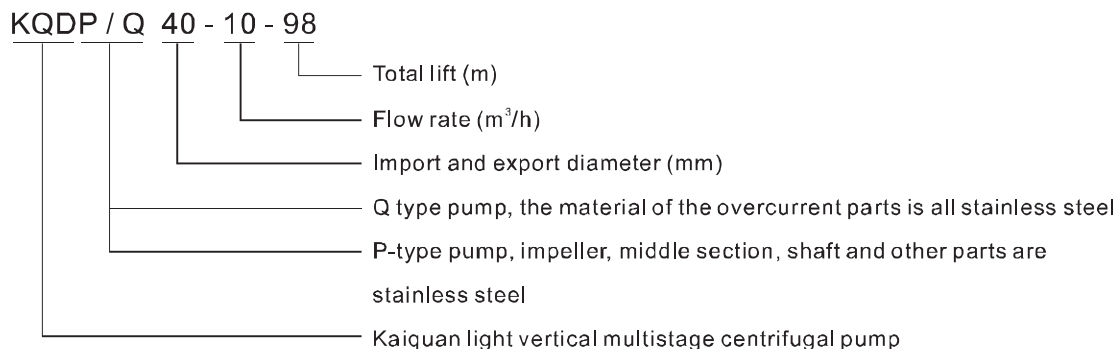
Altitude: height less than 1000m

Maximum operating pressure: KQDP, KQDQ type suction pressure + pump maximum pressure $\leq 2.5\text{Mpa}$ and inlet pressure $\leq 1.0\text{Mpa}$

Note: Please consult the technical department of the company if the temperature is higher than $70\text{ }^{\circ}\text{C}$ or other special conditions.



Specification



Motor

Fully enclosed self-cooling squirrel-cage high-efficiency three-phase asynchronous motor, which is 2%~10% more efficient than ordinary motors. Motor bearings are equipped with SKF or NSK bearings.

Standard voltage: 3×380-415V Frequency: 50Hz

Protection level: Ip55

Insulation class: F

Installation form: B14 or V1

Note: Outdoor type, plateau type, explosion-proof motor, thermal protection and other special motor, the order will be explained separately

The matching motor is the national standard energy efficiency level 2 or 3, and is configured according to customer requirements.

Suction and discharge flange

The KQDP32 and 40 are equipped with an oval flange as standard. The factory is equipped with a pair of cast iron elliptical flanges (thread joints) and optional round flange connection.

KQDQ32 comes standard with external pipe thread connection, optional bayonet type and flange connection.

The KQDQ40 comes standard with a round flange and an optional bayonet coupling.

KQDP/Q50 and 65 are equipped with round flanges, of which KQDQ50 can be connected by bayonet.

Special note: 1. Elliptical flange connection withstand voltage rating of 1.6Mpa and below, greater than 1.6Mpa, please use round flange connection;

2. All standard flanges are designed according to GB/T17241.6-2008, and the pressure rating is PN 2.5 Mpa;

3. Paired flanges and pipe clamps for pipe connection, which must be ordered separately.

Maximum suction height

When using the user, the influence of various factors on the use should be considered. The maximum suction height H should be lower than the calculated value (negative value is reversed). Otherwise, the pump will not work properly.

$$H = P_b \times 10.2 - NPSH - H_f - H_v - H_s$$

P_b = local atmospheric pressure bar (sea level 1 bar) In a closed system, P_b is the system pressure bar

$NPSH$ = NPSH m H_f = inlet line loss m

H_v = liquid saturated vapor pressure m H_s = safety margin ≥ 0.5 m

Example: Assume atmospheric pressure $P_b=1$ bar, pump $NPSH=2$ m, suction line loss $H_f=2.2$ m

(1) When the liquid temperature is 20 °C, the saturated vapor pressure $H_v = 0.23$ m

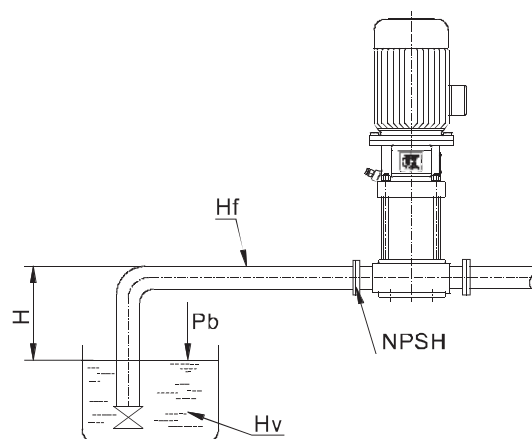
$$H = 1 \times 10.2 - 2 - 2.2 - 0.23 - 0.5 = 5.27 \text{m (the larger the positive value, the less likely it is to cavitation)}$$

(2) When the liquid temperature is 85 °C, the saturated vapor pressure $H_v = 5.89$ m

$$H = 1 \times 10.2 - 2 - 2.2 - 5.89 - 0.5 = -0.39 \text{m (negative value means the pump needs to be poured, the inlet is pressurized)}$$

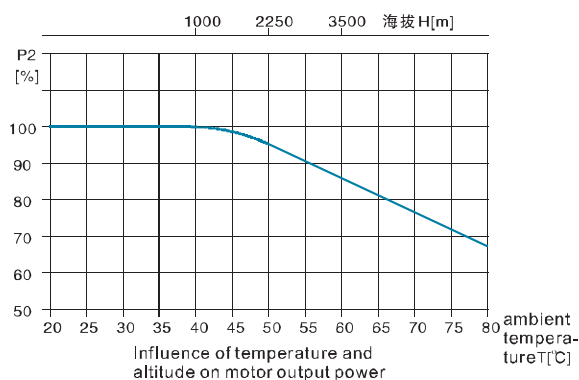
The temperature of the liquid delivered by the pump is inconsistent. When the other conditions of use of the pump are the same, the suction height is also different.

Water physical properties			
water temperature T/°C	Saturated vapor pressure Hv/m	Water temperature T/°C	saturated vapor pressure Hv/m
5	0.09	90	7.15
10	0.13	95	8.62
20	0.23	100	10.33
30	0.43	105	12.32
40	0.75	110	14.61
50	1.26	115	17.24
60	2.03	120	20.25
70	3.18	125	23.67
80	4.83	130	27.55
85	5.89	135	31.92



Maximum ambient temperature and altitude

When the pump is operated under ambient temperature higher than 40 °C or altitude more than 1000 m, the motor output power P2 will be reduced due to low air density and poor cooling effect. Therefore, the power of the pump with the motor needs to be increased (see the following figure for details).



Shaft seal

Mechanical seal: Cartridge-style maintenance-free mechanical seal for easy maintenance

Basic configuration: The rubber material is fluoro rubber, and the dynamic and static rings are made of hard alloy. The graphite is resistant to slight vibration and impact, which is more reliable.

Material

KQDQ type overcurrent parts are all 304, motor bracket is QT

KQDP type impeller, middle section over-current part is 304, inlet and outlet section, bracket is HT

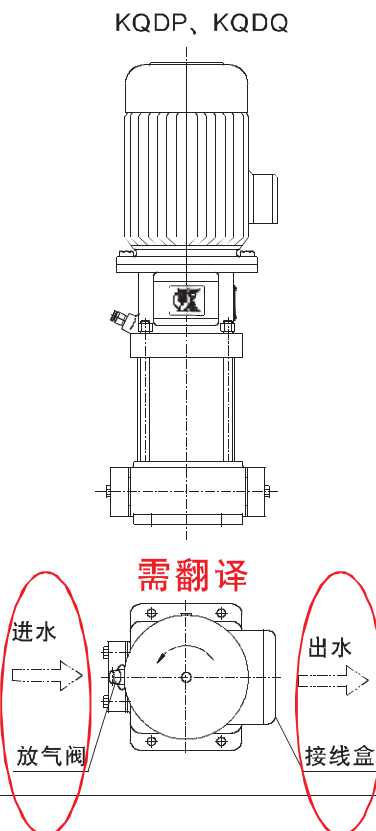
Water pump steering

KQDP and KQDQ are rotated counterclockwise from the driver side (see the figure on the right)

Motor junction box

KQDP, KQDQ See from the motor end, the junction box is on the water outlet side

Remark: The installation position of the junction box can be replaced. If there is any demand, please indicate in the order information.



KODP/KQDQ32-4 Performance table								
No.	Type	Motor power (kW)	Q (m³/h)	2	3	4	5	6
1	32-4-17	0.55	H (m)	19	18	17	16.5	16
2	32-4-26	0.75		29	28	26	25	23
3	32-4-37	1.1		39	36	37	35	34
4	32-4-46			49	47	46	44	42
5	32-4-55	1.5		58	57	55	53	50
6	32-4-64			68	66	64	62	59
7	32-4-74	2.2		77	76	74	71	68
8	32-4-83			87	86	83	80	75
9	32-4-92			97	95	92	90	86
10	32-4-101	3		107	105	101	99	95
11	32-4-111			117	115	111	108	105
12	32-4-121			127	125	121	117	114
13	32-4-131	4		137	134	131	126	123
14	32-4-141			147	144	141	137	131
15	32-4-150			157	154	150	146	140
16	32-4-160	5.5		166	163	160	155	149
17	32-4-169			176	173	169	164	158
18	32-4-178			186	183	178	173	167
19	32-4-188			196	192	188	182	176
20	32-4-198			206	202	198	191	185
21	32-4-207			216	212	207	200	194
22	32-4-217			226	222	217	210	202

KODP/KQDQ32-5 Performance table								
No.	Type	Motor power (kW)	Q (m³/h)	3	4	5	6	7
1	32-5-12	0.37	H (m)	14.5	13	12	11.5	10.5
2	32-5-20	0.55		22	21	20	18	15
3	32-5-27	0.75		30	29	27	25	21
4	32-5-36	1.1		39	37	36	32	29
5	32-5-43			46	45	43	40	36
6	32-5-50	1.5		54	53	50	47	43
7	32-5-56			63	61	56	55	51
8	32-5-66			72	69	66	62	57
9	32-5-73	2.2		80	77	73	69	63
10	32-5-81			88	85	81	76	70
11	32-5-96			95	92	86	83	77
12	32-5-96			104	100	96	90	83
13	32-5-103	3		112	106	103	97	90
14	32-5-111			120	116	111	104	98
15	32-5-119			128	124	119	112	103
16	32-5-127			136	132	127	120	110
17	32-5-134			144	139	134	126	117
18	32-5-142			152	147	142	134	121
19	32-5-150	4		160	156	150	143	132
20	32-5-158			168	164	158	151	139
21	32-5-166			176	172	166	158	146
22	32-5-174			185	180	174	166	153
23	32-5-182			192	188	182	173	162
24	32-5-190	5.5		200	195	190	181	169
25	32-5-198			208	203	198	190	178
26	32-5-205			216	211	205	197	183
27	32-5-212			224	219	212	204	190

KQDP/KQDQ40-8 Performance table								
No.	Type	Motor power (kW)	Q (m³/h)	5	7	8	9	10
1	40-8-23	1.1	H (m)	24	23.5	23	22	20
2	40-8-34	1.5		35	34.5	34	32	31
3	40-8-46	2.2		46	47	46	44	42
4	40-8-57	2.2		59	58	57	55	53
5	40-8-69	3		71	70	69	67	64
6	40-8-81	3		83	82	81	78	74
7	40-8-93	4		97	95	93	89	85
8	40-8-105	4		109	107	106	101	96
9	40-8-118	5.5		121	120	118	113	108
10	40-8-130	5.5		133	131	130	125	120
11	40-8-142	5.5		145	143	142	137	131
12	40-8-153	7.5		157	155	153	148	143
13	40-8-165	7.5		171	168	166	160	155
14	40-8-176	7.5		183	180	176	171	165
15	40-8-186	7.5		195	192	186	183	177
16	40-8-200	7.5		208	204	200	195	189
17	40-8-213	7.5		218	216	213	207	200
18	40-8-225	11		232	229	225	218	210
19	40-8-236	11		244	240	236	228	220

KODPIKQDQ40-10								
No.	Type	Motor power (kW)	Q (m³/h)	6	8	10	11	12
1	40-10-21	1.1	H (m)	23	22.5	21	20	19
2	40-10-32	1.5		33	32.5	32	31	29
3	40-10-43	2.2		45	44	43	42	40
4	40-10-54	2.2		57	56	54	52	50
5	40-10-65	3		71	68	65	62	58
6	40-10-76	4		82	79	76	72	67
7	40-10-87	4		96	92	87	83	78
8	40-10-98	4		108	104	98	93	88
9	40-10-110	5.5		120	116	110	105	98
10	40-10-122	5.5		132	129	122	116	106
11	40-10-133	5.5		144	140	133	127	116
12	40-10-144	7.5		156	152	144	137	128
13	40-10-155	7.5		168	164	155	148	138
14	40-10-165	7.5		181	176	166	157	147
15	40-10-178	7.5		193	186	178	169	158
16	40-10-190	11		207	201	190	180	168
17	40-10-202	11		217	213	202	191	178
18	40-10-214	11		231	225	214	202	189
19	40-10-225	11		243	237	226	213	199

KQDP/KQDQ50-12 Performance table									
No.	Type	Motor power (kW)	Q (m³/h)	7	9	12	14	15	
1	50-12-25	1.5	H (m)	28	27	25	23	21	
2	50-12-39	2.2		43	42	39	35	32	
3	50-12-53	3		59	57	53	48	44	
4	50-12-67	4		74	72	67	61	57	
5	50-12-80	5.5		89	87	80	74	68	
6	50-12-94	5.5		104	102	94	86	80	
7	50-12-107	7.5		119	117	107	98	92	
8	50-12-121	7.5		133	130	121	110	104	
9	50-12-136	7.5		149	146	136	123	115	
10	50-12-150	11		165	162	150	137	128	
11	50-12-168	11		181	179	168	153	143	
12	50-12-182	11		196	193	182	167	157	
13	50-12-196	11		211	208	196	180	171	

KQDP/KQDQ50-15 Performance table									
No.	Type	Motor power (kW)	Q (m³/h)	9	11	15	17	19	
1	50-15-28	2.2	H (m)	30.5	29.5	29	27	26	
2	50-15-43	3		46	45	43	41	39	
3	50-15-58	4		61	60	58	55	52	
4	50-15-72	5.5		76	75	72	68	65	
5	50-15-87	7.5		92	90	87	83	79	
6	50-15-102	7.5		103	106	102	96	93	
7	50-15-117	11		125	122	117	113	109	
8	50-15-133	11		141	138	133	126	122	
9	50-15-149	11		157	155	149	143	135	
10	50-15-165	11		173	170	165	158	150	
11	50-15-181	15		183	186	181	173	164	
12	50-15-196	15		204	202	196	187	177	
13	50-15-212	15		219	217	212	202	190	

KQDP/KQDQ50-16 Performance table									
No.	Type	Motor power (kW)	Q (m³/h)	10	13	16	18	20	
1	50-16-28	2.2	H (m)	30	29	28	26	25	
2	50-16-42	3		45	44	42	40	38	
3	50-16-57	4		60	59	57	54	51	
4	50-16-71	5.5		75	74	71	67	64	
5	50-16-86	7.5		91	89	86	82	78	
6	50-16-100	7.5		107	104	100	96	92	
7	50-16-115	11		123	120	115	111	106	
8	50-16-130	11		140	136	130	125	120	
9	50-16-145	11		155	151	145	139	133	
10	50-16-160	11		171	166	160	153	147	
11	50-16-175	15		187	182	175	167	160	
12	50-16-190	15		202	197	190	182	173	
13	50-16-206	15		217	214	206	196	185	

KQDP/KQDQ50-20 Performance table									
No.	Type	Motor power (kW)	Q (m³/h)	12	15	20	22	24	
1	50-20-28	3	H (m)	32	31	28	27	25	
2	50-20-43	4		49	47	43	41	38	
3	50-20-58	5.5		65	63	58	55	51	
4	50-20-74	7.5		82	80	74	70	65	
5	50-20-80	11		98	96	90	85	80	
6	50-20-105	11		116	113	105	100	95	
7	50-20-120	11		133	129	120	115	108	
8	50-20-135	15		153	145	135	129	122	
9	50-20-150	15		168	162	150	143	136	
10	50-20-165	15		185	178	165	158	150	
11	50-20-180	18.5		202	194	180	172	164	
12	50-20-195	18.5		213	210	195	186	177	
13	50-20-210	18.5		235	227	210	201	191	

KQDP/KQDQ65-32 Performance table									
No.	Type	Motor power (kW)	Q (m³/h)	19	26	32	36	38	40
1	65-32-14	2.2	H (m)	17	16	14	13	12.5	12
2	65-32-29	4		35	33	29	27	26	25
3	65-32-44	7.5		53	49	44	41	39	37
4	65-32-59	11		70	65	59	53	50	47
5	65-32-74	11		89	82	74	69	65.5	62
6	65-32-90	15		107	99	90	84	80	76
7	65-32-106	15		124	115	106	98	93	88
8	65-32-123	18.5		142	132	123	112	108	100
9	65-32-140	18.5		161	150	140	128	122	116
10	65-32-156	22		176	166	156	143	136	128
11	65-32-172	22		195	185	172	157	149	140
12	65-32-186	30		215	202	188	172	161	150
13	65-32-205	30		233	219	205	187	177	167
14	65-32-220	30		250	235	220	203	192	180