



VNKP series motor are small volume, economical type , which is designed with shaft distribution flow, which adapt the Gerotor gear set design and provide compact volume, high power and low weight.

Characteristic features:

- Advanced manufacturing devices for the Gerotor gear set, which use low pressure of start-up, provide smooth, reliable operation and high efficiency.
- Special design in the driver-linker and prolong operating life
- Special design for distribution system can meet the requirement of low noise of unit.
- Compact volume and easy installation.
- HPS Shaft seal can bear high pressure (150bar) of motor of which can be used in parallel or in series.
- Advanced construction design, high power and low weight.
- The output shaft runs in **needle bearing** capable of absorbing static and dynamic axial and radial loads.
- Supporting +300 hours of salt spray.

Main Specification

Technical data for VNKP with 25 and 1 in and 1 in splined and 28.56 tapered shaft

Type		VNKP VNKPH VNKPW 36	VNKP VNKPH VNK- PW 50	VNKP VNKPH VNKPW 80	VNKP VNKPH VNKPW 100	VNKP VNKPH VNKPW 125	VNKP VNKPH VNKPW 160	VNKP VNKPH VNKPW 200	VNKP VNKPH VNKPW 250	VNKP VNKPH VNKPW 315	VNKP VNKPH VNKPW 400	VNKP VNKPH VNKPW 500
Geometric displacement (cm ³ /rev.)		36	51,7	77,7	96,2	120,2	157,2	194,5	240,3	314,5	389,5	486,5
Max. speed (rpm)	cont.	1500	1150	770	615	490	383	310	250	192	155	120
	int.	1650	1450	960	770	615	475	385	310	240	190	150
Max. torque (N•m)	cont.	55	100	146	182	236	302	360	380	375	360	385
	int.	76	128	186	227	290	370	440	460	555	525	560
	peak	96	148	218	264	360	434	540	550	650	680	680
Max. output (kW)	cont.	8,0	10,0	10,0	11,0	10,0	10,0	10,0	8,5	7,0	6,0	5,0
	int.	11,5	12,0	12,0	13,0	12,0	12,0	12,0	10,5	8,5	7,0	6,0
Max. pressure drop (MPa)	cont.	12,5	14	14	14	14	14	14	11	9	7	6
	int.	16,5	17,5	17,5	17,5	17,5	17,5	17,5	14	14	10,5	9
	peak	22,5	22,5	22,5	22,5	22,5	22,5	22,5	18	16	14	12
Max. flow (L/min)	cont.	55	60	60	60	60	60	60	60	60	60	60
	int.	60	75	75	75	75	75	75	75	75	75	75
Weight (kg)		5,6	5,6	5,7	5,9	6,0	6,2	6,4	6,7	6,9	7,4	8

- Continuous pressure:Max. value of operating motor continuously.
- Intermittent pressure:Max. value of operating motor in 6 seconds per minute.
- Peak pressure:Max. value of operating motor in 0.6 second per minute.



Main Specification

Technical data for VNKP with 31.75 and 32 shaft

Type		VNKP VNKPH 36	VNKP VNKPH 50	VNKP VNKPH 80	VNKP VNKPH 100	VNKP VNKPH 125	VNKP VNKPH 160	VNKP VNKPH 200	VNKP VNKPH 250	VNKP VNKPH 315	VNKP VNKPH 400	VNKP VNKPH 500
Geometric displacement (cm ³ /rev.)		36	51,7	77,7	96,2	120,2	157,2	194,5	240,3	314,5	389,5	486,5
Max. speed (rpm)	cont.	1500	1150	770	615	490	383	310	250	192	155	120
	int.	1650	1450	960	770	615	475	385	310	240	190	150
Max. torque (N•m)	cont.	55	100	146	182	236	302	360	460	475	490	430
	int.	76	128	186	227	290	370	440	570	555	580	560
	peak	96	148	218	264	360	434	540	670	840	840	780
Max. output (kW)	cont.	80	10,0	10,0	11,0	10,0	10,0	10,0	8,5	7,0	6,0	6,0
	int.	11,5	12,0	12,0	13,0	12,0	12,0	12,0	10,5	8,5	7,0	7,0
Max. pressure drop (MPa)	cont.	12,5	14	14	14	14	14	14	14	12	9,5	7
	int.	16,5	17,5	17,5	17,5	17,5	17,5	17,5	17,5	14	11,5	9
	peak	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	18	13
Max. flow (L/min)	cont.	55	60	60	60	60	60	60	60	60	60	60
	int.	60	75	75	75	75	75	75	75	75	75	75
Weight (kg)		5,6	5,6	5,7	5,9	6,0	6,2	6,4	6,7	6,9	7,4	8,0

- Continuous pressure:Max. value of operating motor continuously.
- Intermittent pressure:Max. value of operating motor in 6 seconds per minute.
- Peak pressure:Max. value of operating motor in 0.6 second per minute.



VNKP 125 [120.2cm³/rev.]

		Pressure (MPa)						Max. cont.		Max. int.	
		3	6	8	10	12.5	14	16	17.5		
Flow (L/min)	8	51	98	137	168	208	236				
	15	63	60	55	47	28	15				
	20	51	101	138	168	209	236	267			
	30	121	116	110	102	89	73	48			
	45	48	98	135	167	211	237	269	290		
	60	162	158	153	148	137	128	109	94		
	75	46	96	132	164	209	232	264	287		
	90	243	239	234	227	216	202	189	176		
	105	42	92	130	160	206	229	260	284		
	120	284	279	274	269	259	247	231	222		
Max. cont.	135	37	89	125	157	201	224	261	281		
	150	370	362	355	348	340	327	310	296		
	165	33	84	122	152	196	218	252	275		
	180	452	446	438	431	420	412	402	384		
	195	29	78	117	146	191	215	248	272		
	210	490	482	475	468	459	448	439	427		
	225	18	66	107	133	179	202	236	260		
	240	615	606	598	586	575	563	549	528		
	255										
	270										
Max. int.	285										
	300										

VNKP 160 [157.2cm³/rev.]

		Pressure (MPa)						Max. cont.		Max. int.	
		3	6	8	10	12.5	14	16	17.5		
Flow (L/min)	8	62	120	170	212	263	290				
	15	49	48	46	42	26	14				
	20	60	122	172	215	264	294	340			
	30	93	91	88	85	76	68	48			
	45	57	120	170	214	262	290	340	371		
	60	125	123	120	117	110	106	92	81		
	75	53	115	164	206	259	288	335	368		
	90	187	184	181	178	175	168	155	139		
	105	49	110	160	202	255	284	328	362		
	120	220	216	213	209	205	202	192	176		
Max. cont.	135	44	102	154	196	248	278	321	358		
	150	283	280	276	272	267	260	250	238		
	165	40	99	148	191	243	272	316	351		
	180	345	342	340	336	331	328	320	303		
	195	33	94	144	188	236	267	308	345		
	210	377	374	371	367	363	359	353	342		
	225	19	80	124	170	216	252	296	325		
	240	473	469	465	459	453	447	440	424		
	255										
	270										
Max. int.	285										
	300										

VNKP 200 [194.5cm³/rev.]

		Pressure (MPa)						Max. cont.		Max. int.	
		3	6	8	10	12.5	14	16	17.5		
Flow (L/min)	8	79	164	207	250	320	360				
	15	40	39	38	35	28	22				
	20	78	162	205	250	322	361	410			
	30	76	75	74	71	66	61	51			
	45	76	158	203	247	320	358	403	422		
	60	100	98	97	95	92	89	73	57		
	75	70	153	200	245	315	350	398	417		
	90	151	149	147	145	142	139	131	120		
	105	66	149	194	232	297	343	386	415		
	120	177	175	173	171	168	166	160	149		
Max. cont.	135	63	146	190	230	294	340	383	410		
	150	228	226	224	221	218	215	210	198		
	165	54	140	181	224	286	334	371	400		
	180	280	278	276	274	271	269	263	250		
	195	38	127	164	212	270	325	356	395		
	210	304	302	300	297	294	291	286	272		
	225	22	96	145	192	235	293	321	367		
	240	382	378	374	371	368	364	360	350		
	255										
	270										
Max. int.	285										
	300										

VNKP 250 [240.3cm³/rev.]

		Pressure (MPa)						Max. cont.		Max. int.	
		3	6	8	10	12.5	14	16	17.5		
Flow (L/min)	8	96	190	268	326	403					
	15	30	28	24	21	11					
	20	98	194	270	327	405	450	510			
	30	60	58	54	50	40	30	12			
	45	92	188	267	325	405	456	514	565		
	60	82	80	77	76	69	64	52	38		
	75	85	180	259	320	400	448	513	561		
	90	123	120	118	114	106	98	87	76		
	105	77	176	252	311	389	436	504	557		
	120	143	141	139	135	128	122	112	101		
Max. cont.	135	70	168	243	300	377	428	495	543		
	150	185	182	178	174	168	161	152	139		
	165	63	159	237	290	369	417	483	531		
	180	226	223	218	213	209	202	193	185		
	195	60	150	228	280	358	407	473	520		
	210	248	246	243	239	233	226	215	207		
	225	34	128	202	264	342	387	448	488		
	240	309	306	302	297	292	286	278	264		
	255										
	270										
Max. int.	285										
	300										

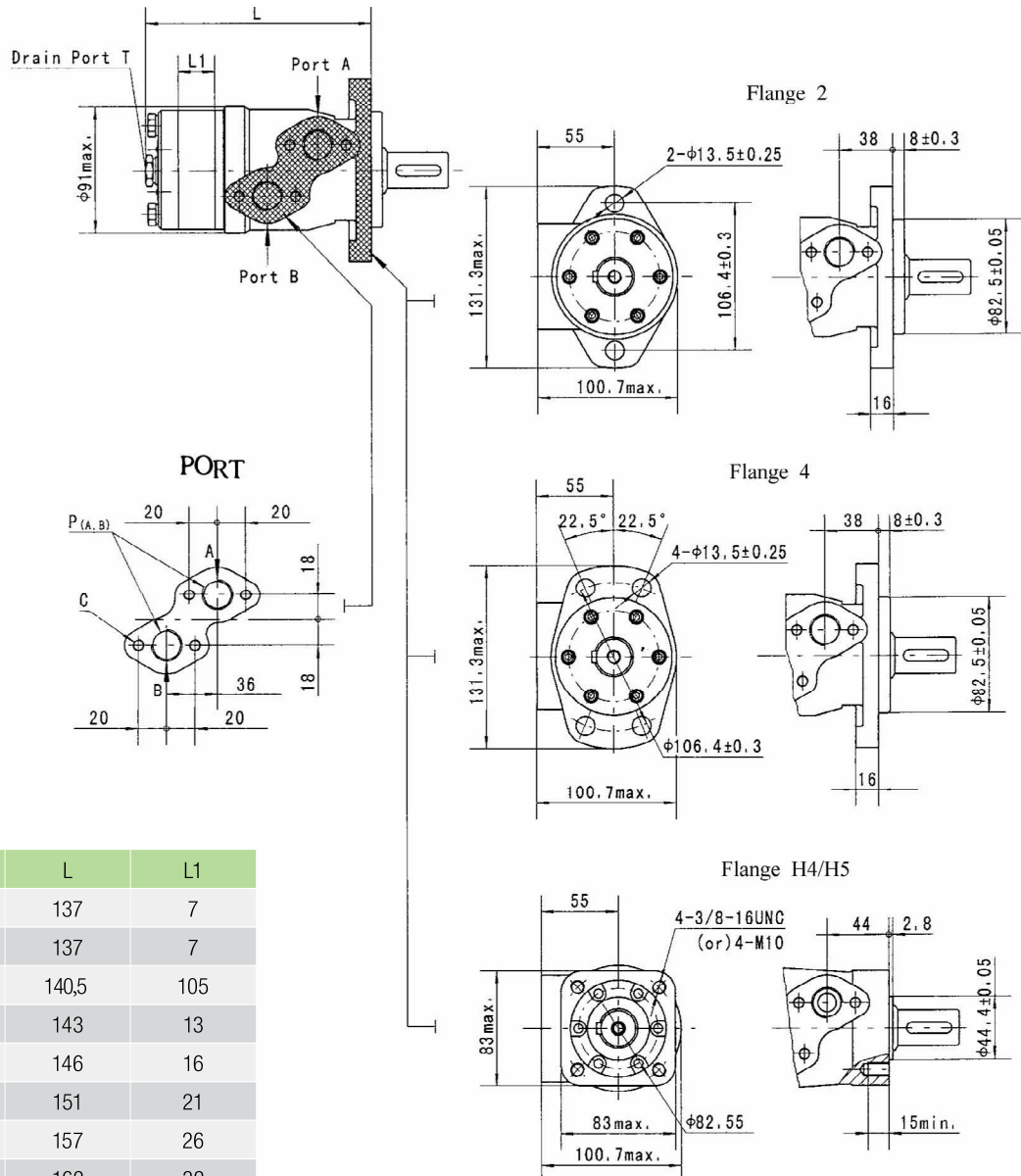
Torque (N·m) 128
Speed (rpm) 306

cont.

int.

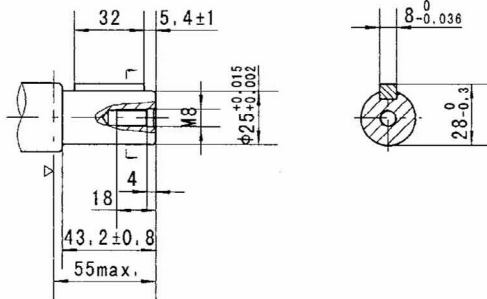


MOUNTING

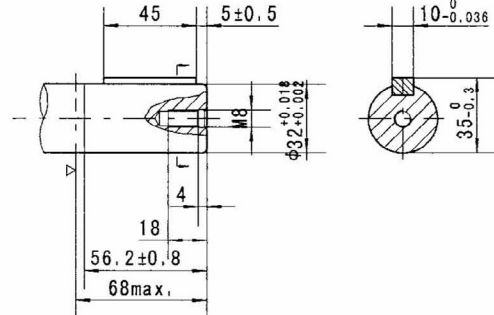


Model	L	L1
VNKP36	137	7
VNKP50	137	7
VNKP80	140,5	105
VNKP100	143	13
VNKP125	146	16
VNKP160	151	21
VNKP200	157	26
VNKP250	162	32
VNKP315	172	42
VNKP400	182	52
VNKP500	195	65

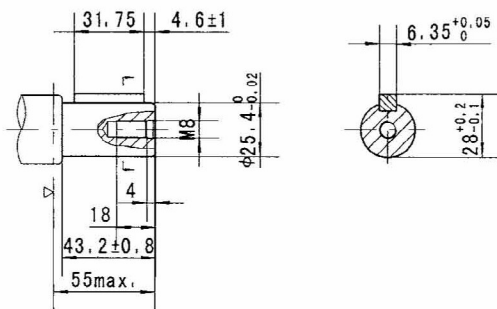
Code	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)



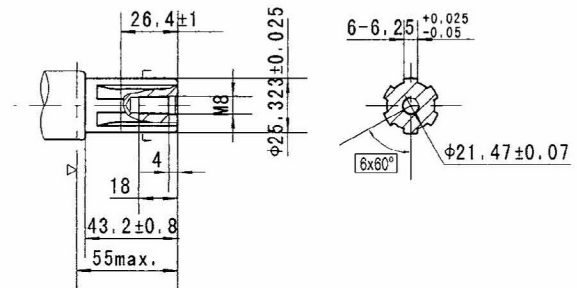
Shaft A: Cylindrical shaft ø25
Parallel key 8x7x32



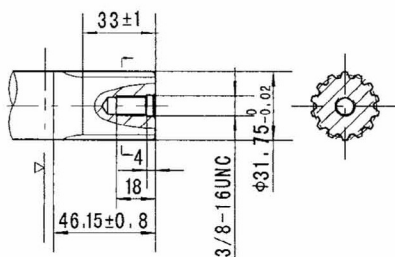
Shaft B: Cylindrical shaft ø32
Parallel key 10x8x45



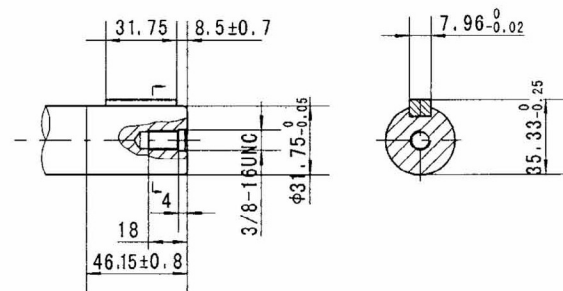
Shaft C: Cylindrical shaft ø25.4
Parallel key 6.35x6.35x31.75



Shaft E: Splined SAE 6B

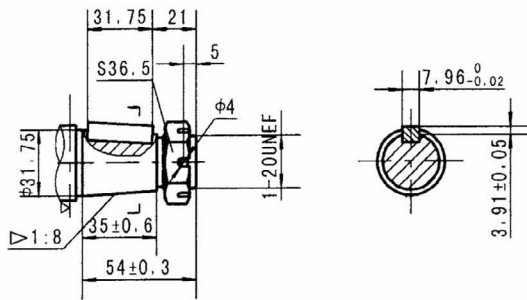


Shaft F: Splined
14-DP12/24

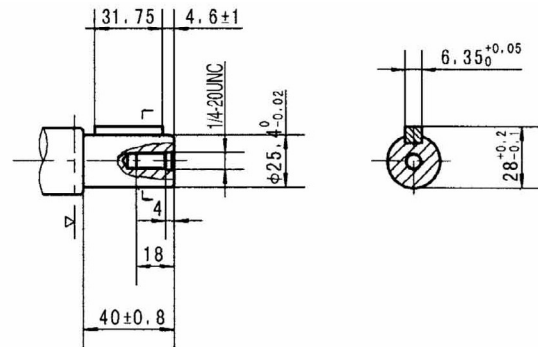


Shaft G: Cylindrical shaft ø31.75
Parallel key 7.96x7.96x31.75

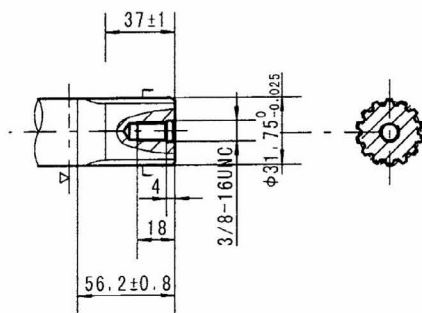
Motor Mounting Surface →



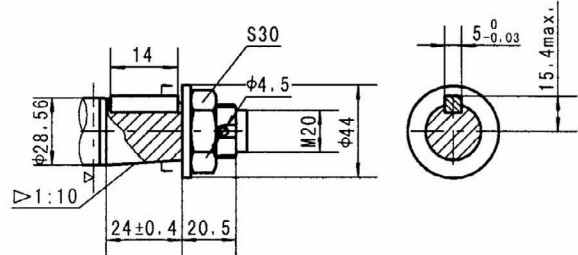
Shaft T3: Cone-shaft $\phi 31.75$
Parallel key 7.96x7.96x31.75
Tightening torque: 200±10Nm



Shaft R: Cylindrical shaft $\phi 25.4$
Parallel key 6.35x6.35x31.75



Shaft FD: Splined
14-DP12/24



Shaft T: Cone-shaft $\phi 28.56$
Parallel key B5x5x14
Tightening torque: 100±10Nm

Motor Mounting Surface →

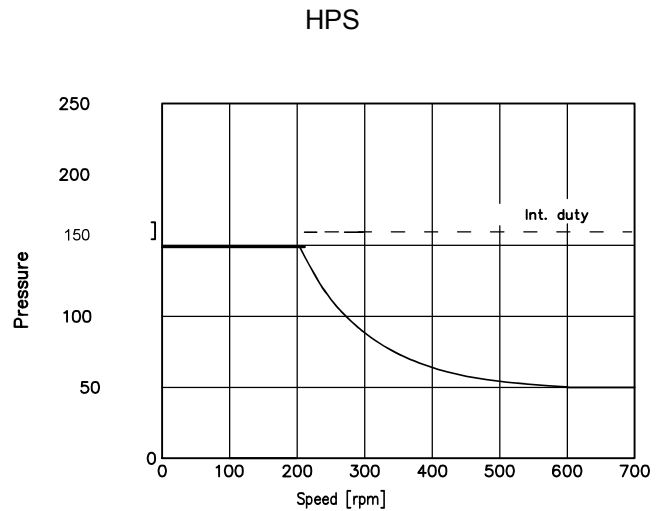
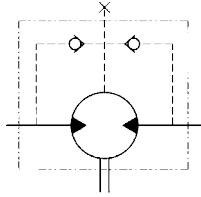


HYDRAULIC MOTORS

VNKP VNKPH SERIES HYDRAULIC MOTOR DATA

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Permissible shaft seal pressure



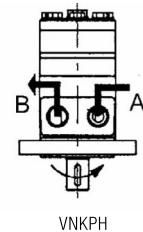
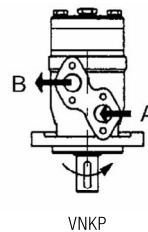
Vincke are made as standard with HPS seal version.

In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

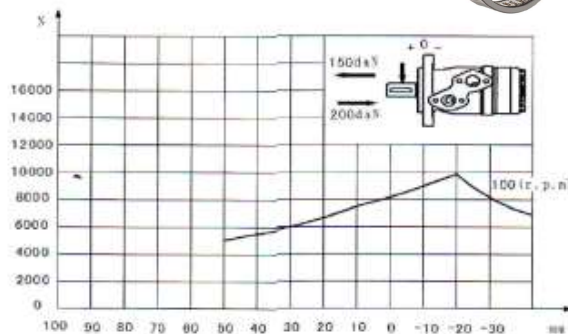
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Direction of shaft rotation: Standard

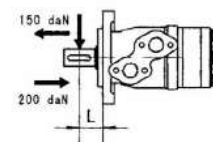
When facing shaft end of motor, shaft to rotate:
Clockwise when port "A" is pressurized.
Counter-clockwise port "B" is pressurized.



Status of the shaft's radial force with needle bearing



$$F_r = \frac{800 \cdot 25000}{n \cdot 95 + L} \text{ daN}$$



F_r = Radial Force (daN)
 L = Distance (mm)
 n = Speed (rpm)
Rhomb-flange $L=30\text{mm}$
Square-flange $L=24\text{mm}$

The output Shaft on VNKP-N series is supplied with needle bearing and the recessed mounting allow a higher permissible radial load in comparison with VNK series motors. The curves apply to a B10 needle roller bearing life of 2000 hours.

Relationship between output shaft bearing load and multiplication coefficient

Rotating speed	50	100	200	300	400	500	600	700	800
coefficient	1.23	1	0.81	0.72	0.66	0.62	0.58	0.56	0.54



VNKP	1	2	3	4	5	6	7	8
Pos.1	2	3	4	5	6	7	8	
Code	Disp.	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function	
VNKP	36	2-013.5 Rhomb-flange , pilot Ø82.5x8 4-013.5 Rhomb-flange , pilot Ø82.5x8	A Shaft 025,parallel key 8x7x32	D	G1/2 Manifold Mount 4xM8, G1/4 M22x1.5 Manifold Mount 4xM8, M14x1.5 7/8-14 O-ring manifold 4x5/16- 18UNC, 7/16-20UNF 1/2-14 NPTF Manifold 4x5/16-18UNC, 7/16- 20UNF PT(Rc)1/2 Manifold 4xM8, PT(Rc)1/4	00 Omit B S	Omit N 0 F LS SK	Standard HPS Big radial force No case drain Free Running Low Speed Speed sensor
	50		C Shaft 025.4,parallel key 6.35x6.35x31.75	M				
	80		E Shaft 025.4, splined tooth SEA 6B	S				
	100		R Short shaft 025.4, parallel key 6.35x6.35x31.75	P				
	125	4-3/8-16 Square-flange , pilot Ø44.4x2.8 4-M10 Square-flange , pilot Ø44.4x2.8	B Shaft 032,parallel key 10x8x45	R	Standard Opposite	No paint Blue Black Silver grey	Standard HPS Big radial force No case drain Free Running Low Speed Speed sensor	
	160		F Shaft 031.75, splined tooth 14-DP12/24 Long					
	200		FD shaft 031.75, splined tooth14-DP12/24 Shaft					
	250		G 031.75, parallel key 7.96x7.96x31.75 Cone					
	315		T shaft 028.56,parallel key B5x5x14					
	400		T3 Cone shaft 031.75,parallel key 7.96x7.96x25.4					
500								

VNKP	1	2	3	4	5	6	7	8		
Pos.1	2	3	4	5	6	7	8			
Code	Disp.	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function			
VNKP	36	H2	K	Shaft Ø25.4, woodruff key Ø25.4×6.35	G	G1/2, G1/4	Omit			
	50		S	Shaft Ø25.4 , splined tooth SEA 6B						
	80		A	Shaft Ø25 , parallel key 8×7×32						
	100		R	Shaft Ø25.4, parallel key 6.35×6.35×31.75						
	125		H	Shaft Ø25.4 , pin hole Ø10.3						
	160	H6	H1	Shaft Ø25.4 , pin hole Ø8	P	7/8-14 O-ring, 7/16-20UNF	Omit			
	200		D	Shaft Ø22.22, parallel key 6.35×6.35×25.4				Standard Opposite		
	250		I	Shaft Ø22.22, splined tooth 13-DP16/32					Omit R	
	315		T2	Cone shaft Ø25.4 , woodruff key Ø25.4×6.35						Standard Opposite
	400		P	Shaft Ø25 , parallel key 8×7×28						
500	J	Shaft Ø25 , parallel key 7×7×32	Omit N 0 F LS SK Standard HPS Big radial force No case drain Free Running Low Speed Speed sensor							

Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.