



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 <sup>3</sup> /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 <sup>3</sup> /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 36 [36cm<sup>3</sup>/rev.]

		Pressure (MPa)							Max.cont.	Max.int.
		3	6	7	8	10	11	12.5		
Flow (L/min)	8	13	25	29	34	43	48			
	15	13	25	29	34	43	48	56	75	
	20	13	24	29	34	43	48	56	76	
	30	12	24	29	34	43	48	56	76	
	35	12	23	28	34	43	48	56	76	
	40	12	23	28	32	41	47	55	75	
	45	11	22	26	32	41	46	54	74	
	55	6	15	22	28	37	44	52	71	
	Max.cont.	55	1505	1494	1480	1466	1438	1406	1367	1309
	Max.int.	60	1650	1640	1626	1603	1571	1536	1502	1446

VNKP 50 [51.7cm<sup>3</sup>/rev.]

		Pressure (MPa)							Max.cont.	Max.int.
		3	6	8	10	12.5	14	16		
Flow (L/min)	8	20	41	56	69	89	95			
	15	19	40	56	71	91	100	112	120	
	20	18	39	55	71	92	101	117	128	
	30	17	38	55	71	91	98	116	124	
	35	17	38	54	69	89	98	117	124	
	45	14	36	53	67	88	98	114	123	
	55	12	33	50	65	85	96	111	121	
	60	10	32	47	64	83	94	108	119	
	Max.cont.	60	1150	1143	1126	1111	1079	1065	1043	1015
	Max.int.	75	1440	1430	1416	1395	1367	1351	1335	1312

VNKP 80 [77.7cm<sup>3</sup>/rev.]

		Pressure (MPa)							Max.cont.	Max.int.
		3	6	8	10	12.5	14	16		
Flow (L/min)	8	32	62	85	104	129	144			
	15	32	63	84	107	126	144	165		
	20	31	63	84	107	132	146	168	185	
	30	31	62	83	106	131	146	168	186	
	35	30	59	81	102	130	144	167	185	
	45	25	58	79	100	126	142	165	182	
	55	23	57	78	97	124	140	161	179	
	60	20	53	75	94	120	137	160	177	
	Max.cont.	60	761	753	744	736	720	706	681	660
	Max.int.	75	948	940	931	920	906	890	871	854

VNKP 100 [96.2cm<sup>3</sup>/rev.]

		Pressure (MPa)							Max.cont.	Max.int.
		3	6	8	10	12.5	14	16		
Flow (L/min)	8	40	77	105	130	161	180			
	15	39	77	106	130	160	180	208		
	20	36	74	104	128	161	179	205	227	
	30	33	72	103	125	160	177	203	225	
	35	30	70	98	122	159	176	202	224	
	45	29	67	95	118	155	174	200	220	
	55	25	64	93	116	152	170	198	217	
	60	22	60	91	114	149	167	194	213	
	Max.cont.	60	618	611	601	589	580	570	558	540
	Max.int.	75	771	763	755	744	735	724	708	693

Torque (N·m) 87  
Speed (rpm) 920

cont.  
int.



VNKP 125 [120.2cm<sup>3</sup>/rev.]

		Pressure (MPa)							
		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	46	96	132	164	209	232	264	287
	35	42	92	130	160	206	229	260	284
	45	37	89	125	157	201	224	261	281
	55	33	84	122	152	196	218	252	275
	Max.cont.	29	78	117	146	191	215	248	272
	Max.int.	18	66	107	133	179	202	236	260

VNKP 160 [157.2cm<sup>3</sup>/rev.]

		Pressure (MPa)							
		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	57	120	170	214	262	290	340	371
	35	53	115	164	206	259	288	335	368
	45	49	110	160	202	255	284	328	362
	55	44	102	154	196	248	278	321	358
	Max.cont.	40	99	148	191	243	272	316	351
	Max.int.	33	94	144	188	236	267	308	345

VNKP 200 [194.5cm<sup>3</sup>/rev.]

		Pressure (MPa)							
		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	
	35	76	158	203	247	320	358	403	422
	45	100	98	97	95	92	89	73	57
	55	70	153	200	245	315	350	398	417
	Max.cont.	66	149	194	232	297	343	386	415
	Max.int.	177	175	173	171	168	166	160	149

VNKP 250 [240.3cm<sup>3</sup>/rev.]

		Pressure (MPa)							
		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	
	35	92	188	267	325	405	456	514	565
	45	82	80	77	76	69	64	52	38
	55	85	180	259	320	400	448	513	561
	Max.cont.	77	176	252	311	389	436	504	557
	Max.int.	143	141	139	135	128	122	112	101

Torque (N·m) 128  
Speed (rpm) 306

cont.  
int.





## HYDRAULIC MOTORS

### PERFORMANCE DATA

VNKP 315 [314.5cm<sup>3</sup>/rev.]

		Pressure (MPa)						
		3	5	7	9	10	Max.cont 12.5	Max.int 14
Flow (L/min)	8	123	215	292	368	405		
	15	118	211	287	367	404	495	568
	20	110	205	278	360	395	494	566
	30	101	196	271	349	388	490	565
	35	96	188	264	341	382	478	557
	45	89	180	254	337	372	468	553
	55	76	166	239	325	362	457	548
	Max.cont 60	65	154	227	308	348	443	529
	Max.int 75	40	120	201	279	323	418	497

VNKP 400 [389.5cm<sup>3</sup>/rev.]

		Pressure (MPa)						
		3	4.5	5.5	6.5	8	Max.cont 10	Max.int 12.5
Flow (L/min)	8	166	232	287	340	418		
	15	165	228	277	337	417	496	612
	20	162	223	273	331	413	495	608
	30	154	216	266	318	405	486	600
	35	146	210	256	312	395	480	588
	45	132	197	243	300	383	464	576
	55	117	184	227	283	363	450	552
	Max.cont 60	102	163	215	272	347	436	532
	Max.int 75	53	128	182	234	318	391	484

Torque (N·m) 234  
Speed (rpm) 185

VNKP500 [486.5cm<sup>3</sup>/rev.]

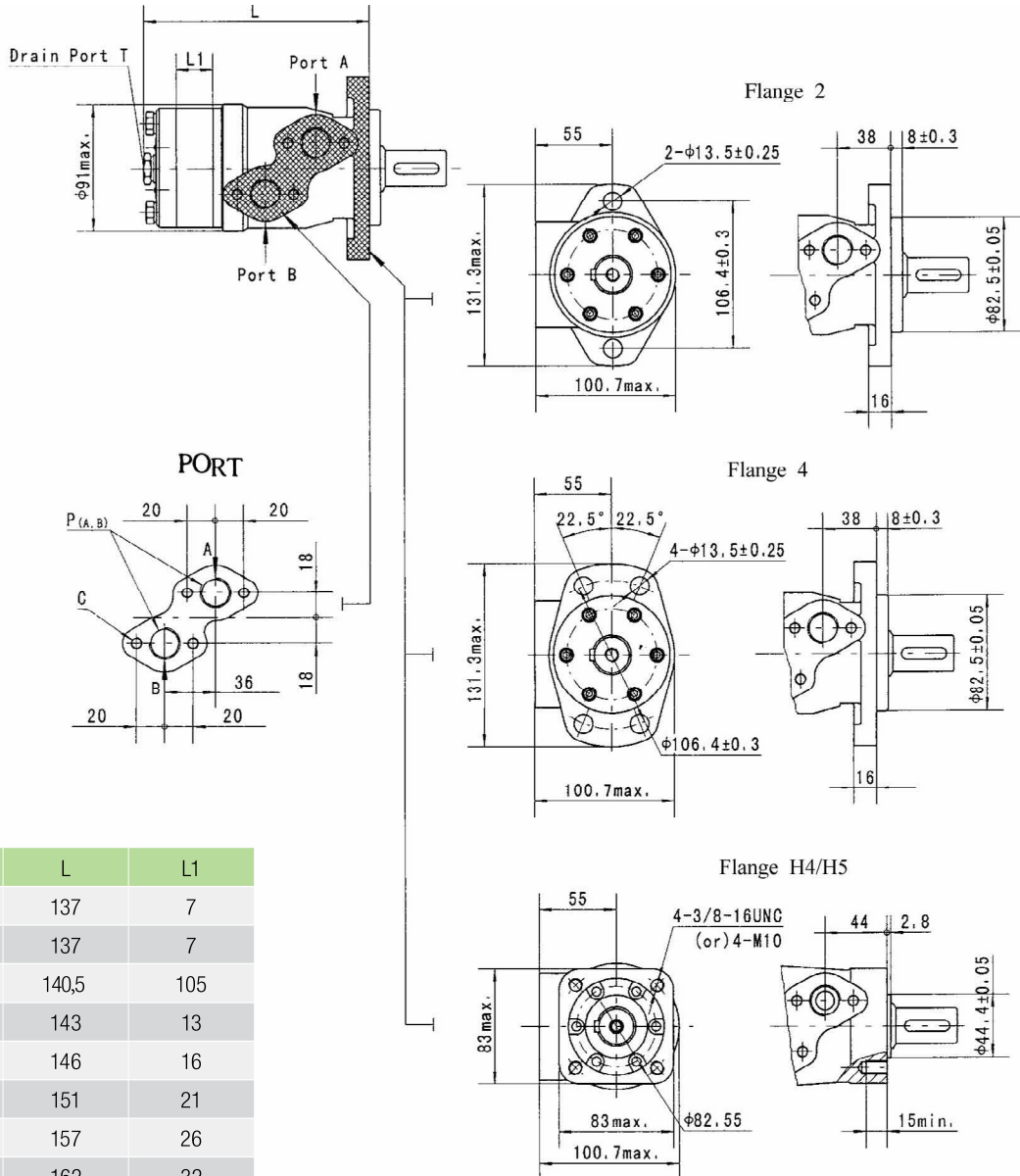
		Pressure (MPa)						
		1.5	3	4.5	6	7	8	9
Flow (L/min)	4	96	194	285				
	8	98	201	304	391	443	512	574
	15	96	192	284	380	421	496	550
	20	96	191	280	372	418	493	546
	30	91	185	272	360	412	486	541
	40	86	172	261	343	408	480	538
	Max.cont 50	78	160	241	332	391	466	528
	60	66	134	213	305	371	438	496
	Max.int 70	52	111	189	292	344	418	475
	75	35	83	154	241	312	389	448

Torque (N·m) 389  
Speed (rpm) 147

cont.  
int.



MOUNTING

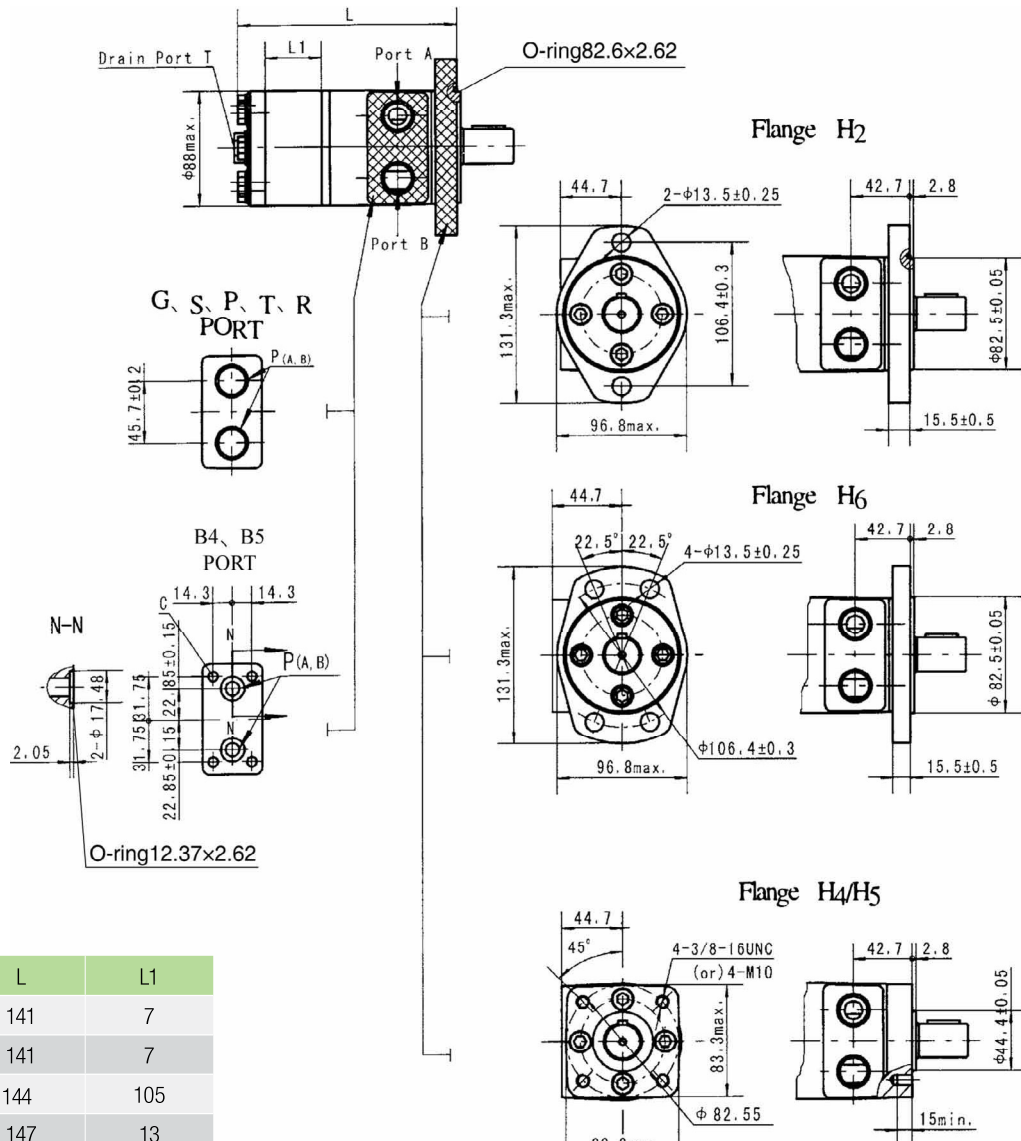


Model	L	L1
VNKP36	137	7
VNKP50	137	7
VNKP80	140,5	105
VNKP100	143	13
VNKP125	146	16
VNKP160	151	21
VNKP200	157	26
VNKP250	162	32
VNKP315	172	42
VNKP400	182	52
VNKP500	195	65

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)



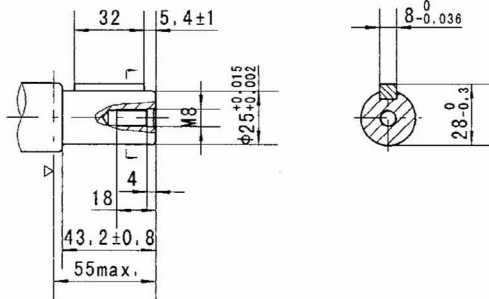
VNKPH SHAFT EXTENSIONS DIMENSIONS DATA



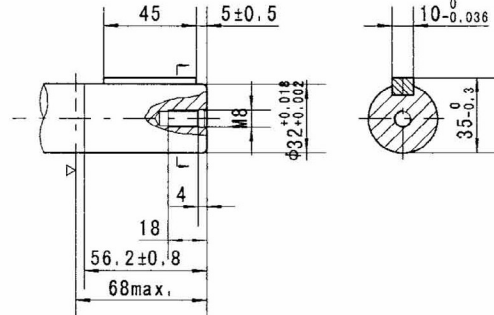
Model	L	L1
VNKPH36	141	7
VNKPH50	141	7
VNKPH80	144	105
VNKPH100	147	13
VNKPH125	150	16
VNKPH160	155	21
VNKPH200	160	26
VNKPH250	166	32
VNKPH315	176	42
VNKPH400	186	52
VNKPH500	199	65

Code	G (depth)	S (depth)	P (depth)	T (depth)	R (depth)	B4 (depth)	B5 (depth)
Mounting							
P(A,B)	G1/2 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	3/4-16 O-ring (15)	PT(RC)1/2 (15)	$\phi 10$	$\phi 10$
T	G1/4 (12)	7/16-20UNF (12)	7/16-20UNF (12)	7/16-20UNF(12)	PT(RC)1/4 (9.7)	7/16-20UNF(12)	G1/4(12)
C	-	-	-	-	-	4-5/16-18UNC(13)	4-M8(13)

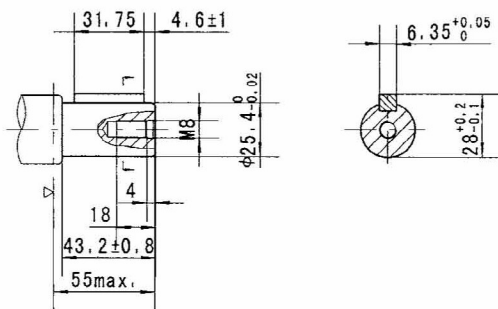




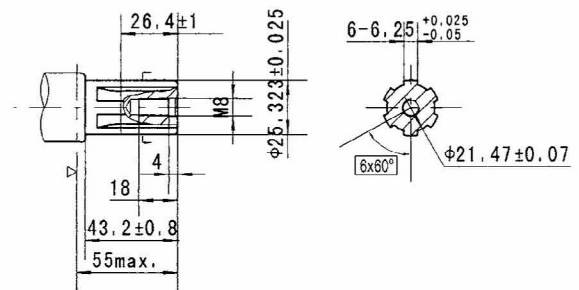
Shaft A: Cylindrical shaft ø25  
Parallel key 8x7x32



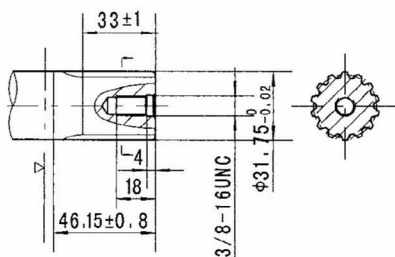
Shaft B: Cylindrical shaft ø32  
Parallel key 10x8x45



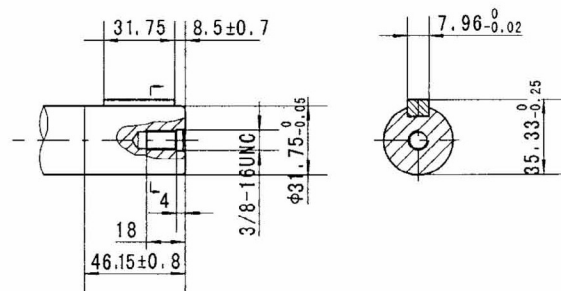
Shaft C: Cylindrical shaft ø25.4  
Parallel key 6.35x6.35x31.75



Shaft E: Splined SAE 6B



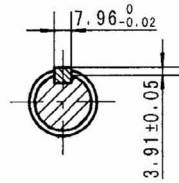
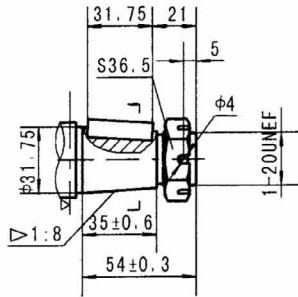
Shaft F: Splined  
14-DP12/24



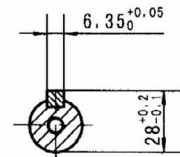
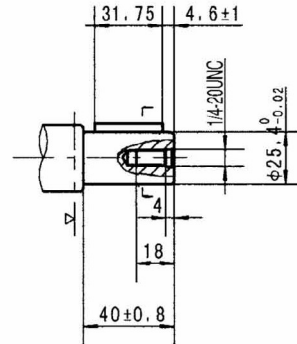
Shaft G: Cylindrical shaft ø31.75  
Parallel key 7.96x7.96x31.75

Motor Mounting Surface →

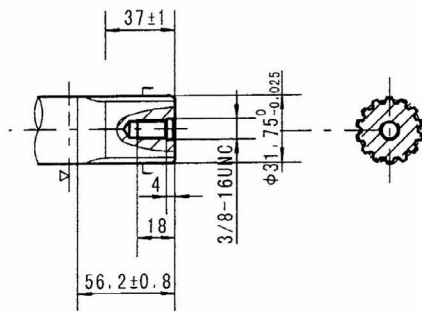




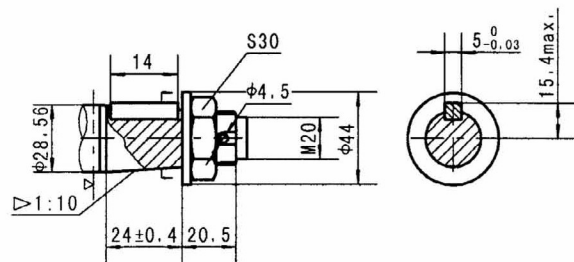
Shaft T3: Cone-shaft  $\phi 31.75$   
Parallel key 7.96x7.96x31.75  
Tightening torque: 200±10Nm



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



Shaft FD: Splined  
14-DP12/24

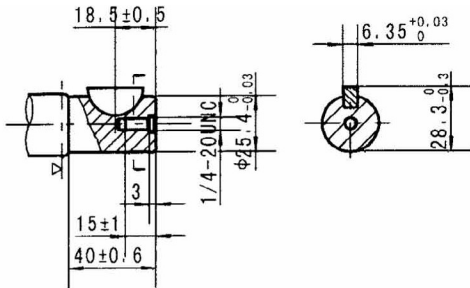


Shaft T: Cone-shaft  $\phi 28.56$   
Parallel key B5x5x14  
Tightening torque: 100±10Nm

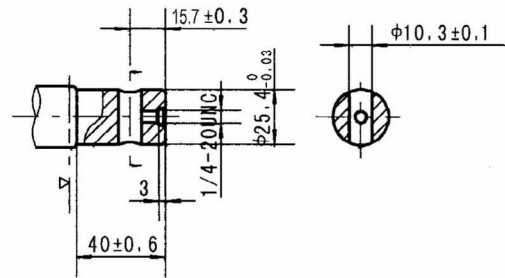
Motor Mounting Surface →



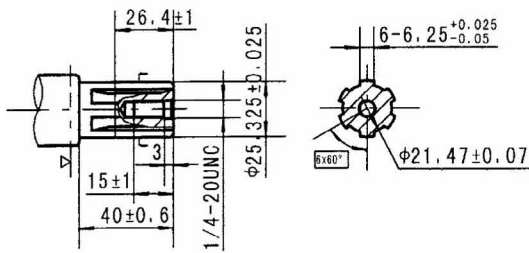
VNKPH SHAFT EXTENSIONS DIMENSION DATA



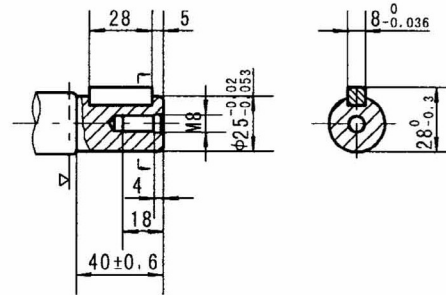
Shaft K: Cylindrical shaft  $\phi 25.4$   
Woodruff key  $\phi 25.4 \times 6.35$



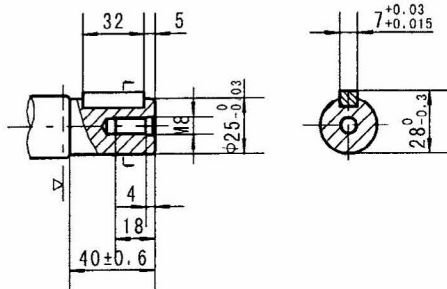
Shaft H: Cylindrical shaft  $\phi 25.4$   
Pin hole  $\phi 10.3$



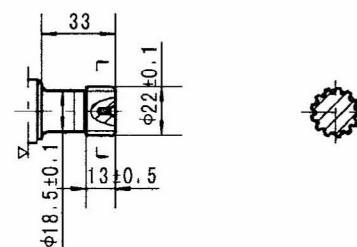
Shaft S: Splined SAE 6B



Shaft P: Cylindrical shaft  $\phi 25$   
Parallel key 8x7x28

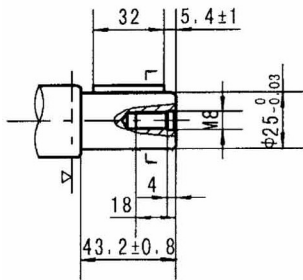


Shaft J: Cylindrical shaft  $\phi 25$   
Parallel key 7x7x32

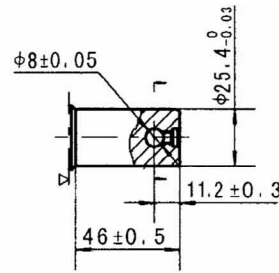
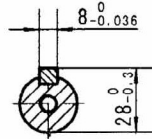


Shaft I: Splined 13-DP16/32

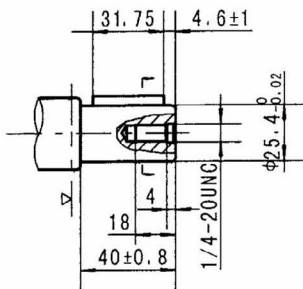
Motor Mounting Surface →



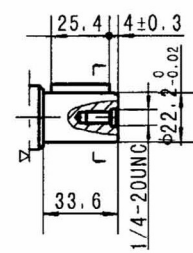
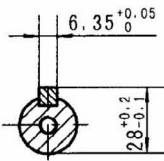
Shaft A: Cylindrical shaft  $\phi 25$   
Parallel key 8x7x32



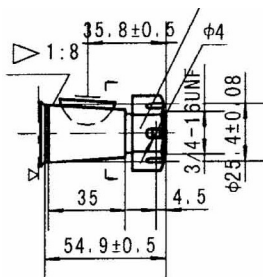
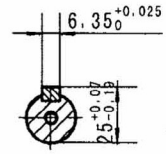
Shaft H1: Cylindrical shaft  $\phi 25.4$   
Pin hole  $\phi 8$



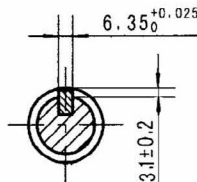
Shaft R: Cylindrical shaft  $\phi 25.4$   
Parallel key 6.35x6.35x31.75



Shaft D: Cylindrical shaft  $\phi 22.22$   
Parallel key 6.35x6.35x25.4



Shaft T2: Cone-shaft  $\phi 25.4$   
Parallel key  $\phi 25.4 \times 6.35$   
Tightening torque:  $200 \pm 10 \text{ Nm}$

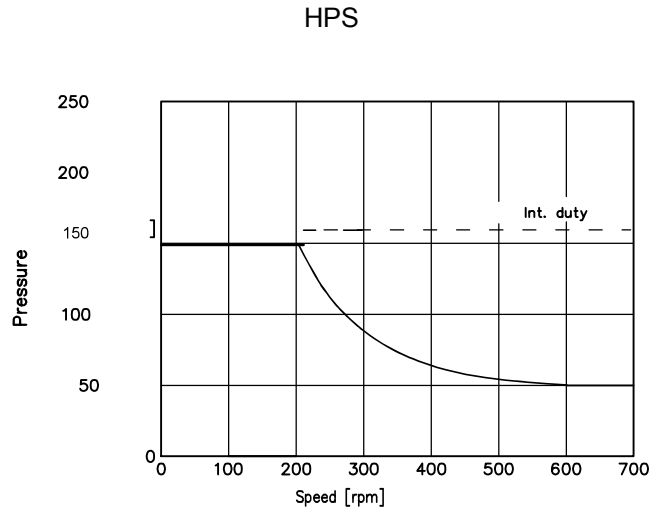
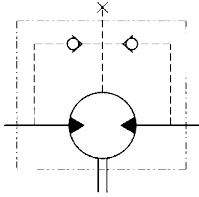


Motor Mounting Surface →



VNKP VNKPH SERIES HYDRAULIC MOTOR DATA

Permissible shaft seal pressure



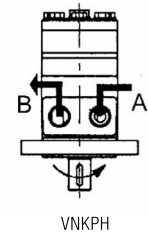
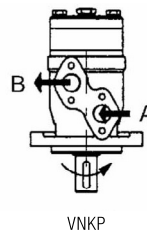
Vincke are made as standard with HPS seal version.

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.

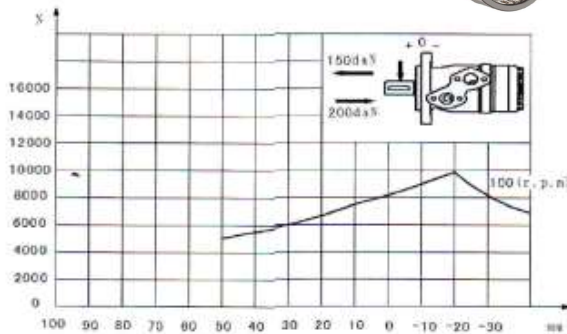
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

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



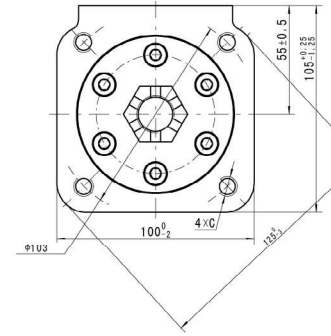
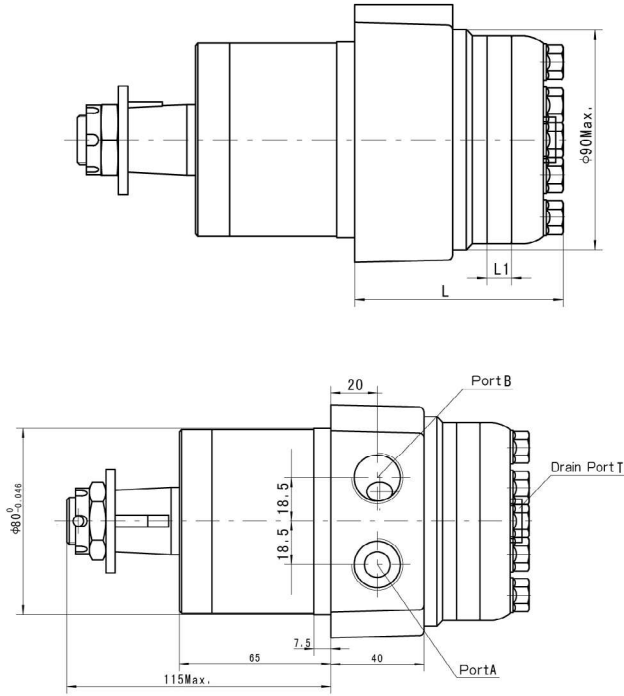
VNKP ORDER INFORMATION

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 50 80 100 125 160 200 250 315 400 500	2 4 H4 H5	A C E R  B F FD G T T3	D M S P R	00 Omit B S	No paint Blue Black Silver grey	Omit N O F LS SK	Standard HPS Big radial force No case drain Free Running Low Speed Speed sensor
		2-Ø13.5 Rhomb-flange , pilot Ø82.5x8 4-Ø13.5 Rhomb-flange , pilot Ø82.5x8 4-3/8-16 Square-flange , pilot Ø44.4x2.8 4-M10 Square-flange , pilot Ø44.4x2.8	Shaft Ø25, parallel key 8x7x32 Shaft Ø25.4, parallel key 6.35x6.35x31.75 Shaft Ø25.4, splined tooth SEA 6B Short shaft Ø25.4, parallel key 6.35x6.35x31.75  Shaft Ø32, parallel key 10x8x45 Shaft Ø31.75, splined tooth 14-DP12/24 Long shaft Ø31.75, splined tooth 14-DP12/24 Shaft Ø31.75, parallel key 7.96x7.96x31.75 Cone shaft Ø28.56, parallel key B5x5x14 Cone shaft Ø31.75, parallel key 7.96x7.96x25.4	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	Omit R			
VNKP	36 50 80 100 125 160 200 250 315 400 500	2-Ø13.5 Rhomb-flange , pilot Ø82.5x2.8 4-Ø13.5 Rhomb-flange , pilot Ø82.5x2.8 4-3/8-16 Square-flange , pilot Ø44.4x2.8 4-M10 Square-flange , pilot Ø44.4x2.8	K S A R H H1 D I T2 P J	G S P T R B4 B5	Omit R	No paint Blue Black Silver grey	Omit N O F LS SK	Standard HPS Big radial force No case drain Free Running Low Speed Speed sensor
		2-Ø13.5 Rhomb-flange , pilot Ø82.5x2.8 4-Ø13.5 Rhomb-flange , pilot Ø82.5x2.8 4-3/8-16 Square-flange , pilot Ø44.4x2.8 4-M10 Square-flange , pilot Ø44.4x2.8	Shaft Ø25.4, woodruff key Ø25.4x6.35 Shaft Ø25.4 , splined tooth SEA 6B Shaft Ø25 , parallel key 8x7x32 Shaft Ø25.4, parallel key 6.35x6.35x31.75 Shaft Ø25.4 , pin hole Ø10.3 Shaft Ø25.4 , pin hole Ø8 Shaft Ø22.22, parallel key 6.35x6.35x25.4 Shaft Ø22.22, splined tooth 13-DP16/32 Cone shaft Ø25.4 , woodruff key Ø25.4x6.35 Shaft Ø25 , parallel key 8x7x28 Shaft Ø25 , parallel key 7x7x32	G1/2, G1/4 7/8-14 O-ring, 7/16-20UNF 1/2-14 NPTF, 7/16-20UNF 3/4-16 O-ring, 7/16-20UNF PT(Rc)1/2 ,PT(Rc)1/4 Ø10 O-ring manifold 4x5/16-18UNC,7/16-20UNF Ø10 O-ring manifold 4xM8, 7/16-20UNF	Omit R			

Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information 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.



VNKPW DIMENSIONS AND MOUNTING DATA



Code	G (depth)	S (depth)	M (depth)
P(A,B)	G1/2 (15)	7/8-14 O-ring (17)	M22X1,5 (15)
T	G1/4 (12)	7/16-20UNF (12)	M14x1.5 (12)
C	4xM10(20)	4x3/8-16UNC(20)	4xM10(20)

Model	L	L1
VNKPW50	81	7
VNKPW80	84,5	10,5
VNKPW100	87	13
VNKPW125	90	16
VNKPW160	95	21
VNKPW200	100	26
VNKPW250	106	32
VNKPW315	116	42
VNKPW400	126	52
VNKPW500	139	65

ORDER INFORMATION

VNKPW	1	2	3	4	5	6	7	8
Pos.1	2	3	4	5	6	7	8	
Code	50 80 100 125 160 200 250 315 400 500	Flange	Output shaft	Ports and drain port	Rotation direction	Paint	Unusually function	
VNKPW	Omit Wheel-flange pilot 080x7,5	A Shaft Ø25x6, Parallel key 8x7x32 C Shaft Ø25,4, Parallel key 6,35x6,35x31,75 E Shaft Ø25,4, Splined key SAE 6B T Cone shaft Ø28,56, Parallel key B5x5x14	G G1/2 G1/4 S 7/8-14 O-ring, M 7/16-20UNF M22x1,5,M14x1,5	Omit R Standard Opposite	00 Omit B Black S Silver grey	No paint Blue Black Silver grey	Omit N Standard 0 HPS Big radial force No case drain	

Note: When the table is used, please fill the code of left rows in the table and give us, which the code information 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.