

VINCKE

HYDRAULICS



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HYDRAULIC
MOTORS

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Usage Guide

In order to make the motors working in optimal situation, we recommend the following:

1. Oil temperature :normal 20 ~60 upper limit 90 (no more than one hour).
2. Filtering and oil cleanliness :a return filter should be installed in the system with a fineness in the range of 10~30 μ m and a piece of magnet should be installed at the bottom of the tank to prevent grits into the system. The max solid contamination grade of the oil is no more than 19/16.
3. Viscosity: 42~74 mm²/s at 40 of oil temperature ,according to the condition to choose an applicable hydraulic oil.
4. The motors can be operated in parallel or in series. When the pressure of the back exceeds 12MPa,it is necessary to install an external drain line to the tank.
- 5.1 For VNKM and VNKP and VNKR series motors,the type of output shaft may be chosen in demand.
 - 5.1.1 The output shaft permits a radial force with the radial bearing.
 - 5.1.2 The output shaft doesn' t permit the radial force without the radial bearing.When the radial force acts on the shaft,the force must be discharged.
- 5.2 For VNKSPLUS VNKT and VNKV series motors, the output shaft permit high axial and radial forces.
6. The optimal operation situation should be at the 1/3~2/3 of the rated operation situation.
7. In order to obtain a longer life of operating motor should operate motors at first for one hour under 30% of rated pressure. In any case, be sure to fill up with hydraulic oil inside motor before increasing load.
8. All our production of motors have a surface treatment support 400 hours salt spray.

Specification Data of Hydraulic Motors

Distribution type	Model	Displacement (cm ³ /rev.)	Max. operating pressure (MPa)	Speed range (rpm)	Max. output power (kW)
Axial distribution	VNKM	8~50	14	30-1950	32
	VNKP	36~400	16.5	30~879	10
	VNKR	36~375	20	30~970	15
	VNKH	200~500	20	30~430	17

Specification Data of Hydraulic Motor

Distribution type	Model	Displacement (cm ³ /rev.)	Max. operating pressure (MPa)	Speed range (rpm)	Max. output power (kW)
Disc distribution	VNKSPLUS	80~475	22.5	8~800	24
	VNKT	160~800	24	30~705	35
	VNKV	315~800	28	10~446	43



VNKM 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 provide small volume, high efficiency and long life.
- * Shaft seal can bear high pressure of motor of which can be used in parallel or in series.
- * Advanced construction design, high power and low weight.

Main Specification

Type		VNKM 8	VNKM 12.5	VNKM 20	VNKM 32	VNKM 40	VNKM 50
Geometric displacement (cm ³ /rev.)		8.2	12.9	19.9	31.6	39.8	50.3
Max. speed (rpm)	cont.	1950	1550	1000	630	500	400
	int.	2450	1940	1250	800	630	500
Max. torque (N·m)	cont.	11	16	25	40	45	46
	int.	15	23	35	57	70	88
	peak	21	33	51	64	82	100
Max. output (kW)	cont.	1.8	2.4	2.4	2.4	2.2	1.8
	int.	2.6	3.2	3.2	3.2	3.2	3.2
Max. pressure drop (MPa)	cont.	10	10	10	10	9	7
	int.	14	14	14	14	14	14
	peak	20	20	20	16	16	16
Max. flow (L/min)	cont.	16	20	20	20	20	20
	int.	20	25	25	25	25	25
Weight (kg)		1.9	2	2.1	2.2	2.3	2.4

Type		Max.inlet pressure
VNKM8-50 (MPa)	cont.	17.5
	int.	22.5

- * 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.



VNKM8 [8.2 cm³/rev.]

	Pressure (MPa)						
	3.5	5	7	10	12	14	
Flow (L/min)	2	3	5	8	10	12	14
	4	228	218	206	156	111	58
	8	3	5	7	11	13	15
	12	474	471	463	426	391	331
	15	3	5	7	11	13	15
	20	953	946	926	884	855	816
Max.cont.	2	5	7	10	13	15	
Max.int.	15	4	7	10	12	14	
	20			6	10	11	14
			2395	2350	2328	2281	

VNKM12.5 [12.9 cm³/rev.]

	Pressure (MPa)						
	3.5	5	7	10	12	14	
Flow (L/min)	2	6	8	11	16	19	
	4	140	136	119	68	35	
	8	6	8	12	17	19	23
	12	296	289	274	229	200	145
	15	5	8	12	17	20	24
	20	605	596	583	543	514	469
Max.cont.	5	8	11	16	20	24	
Max.int.	12	912	905	895	859	834	784
	15	5	7	11	16	19	23
	20	1152	1144	1136	1102	1078	1036
	25	3	7	10	15	19	22
		1542	1532	1521	1500	1482	1437
		2	6	9	14	18	22
		1910	1891	1878	1848	1828	1788

VNKM20 [19.9 cm³/rev.]

	Pressure (MPa)							
	1.7	3.5	5	7	10	12	14	
Flow (L/min)	2	3	9	14	19	26	30	
	4	99	96	89	74	42	21	
	8	4	9	14	19	26	31	36
	12	197	191	182	178	134	112	74
	15	4	9	13	19	27	31	36
	20	398	395	391	377	340	319	288
Max.cont.	3	8	13	18	26	31	37	
Max.int.	12	596	594	588	579	545	523	493
	15	3	8	12	17	25	30	36
	20	745	741	738	728	695	684	660
	25	1	6	11	19	24	29	35
		998	995	991	985	962	916	885
			4	9	14	23	28	33
			1247	1245	1242	1189	1180	1176

VNKM32 [31.6 cc/rev.]

	Pressure (MPa)								
	2	3.5	5	7	10	12	14		
Flow (L/min)	2	7	15	21	28	40			
	4	61	57	52	47	16			
	8	7	15	21	29	41	48	57	
	12	126	121	114	106	82	67	49	
	15	7	15	21	29	41	49	58	
	20	250	244	239	231	207	194	167	
Max.cont.	6	13	20	28	40	48	58		
Max.int.	12	378	374	369	362	338	322	297	
	15	4	12	18	27	39	47	57	
	20	476	472	468	462	441	429	406	
	25	3	10	17	25	37	46	55	
		633	630	627	619	601	585	566	
		1	8	15	23	35	43	52	
			791	789	787	783	766	753	732

VNKM40 [39.8 cm³/rev.]

	Pressure (MPa)							
	3	5	7	8.5	10	12		
Flow (L/min)	2	16	27	36	44	51		
	4	45	40	34	28	17		
	8	16	27	37	44	52	62	
	12	96	93	85	79	65	52	
	15	15	26	36	44	52	63	
	20	197	195	182	176	166	154	
Max.cont.	14	25	35	43	51	62		
Max.int.	12	293	287	282	277	268	257	
	15	13	24	34	42	50	62	
	20	371	365	360	355	347	338	
	25	7	19	29	37	44	56	
		497	492	487	480	472	463	
			622	617	612	607	600	591

VNKM50 [50.3 cm³/rev.]

	Pressure (MPa)						
	1.5	3	5	7	10		
Flow (L/min)	2	11	23	36	50		
	4	37	33	27	22		
	8	11	22	36	50	70	
	12	76	73	68	63	55	
	15	11	21	35	50	71	
	20	157	154	149	145	137	
Max.cont.	11	20	33	49	71		
Max.int.	12	237	234	231	226	218	
	15	10	18	32	47	69	
	20	296	295	294	288	282	
	25	8	14	29	44	64	
		395	395	393	390	381	
		4	10	25	40	59	
			498	496	494	490	484

Torque (N·m) 37
Speed (rpm) 607

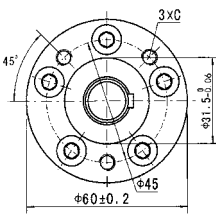
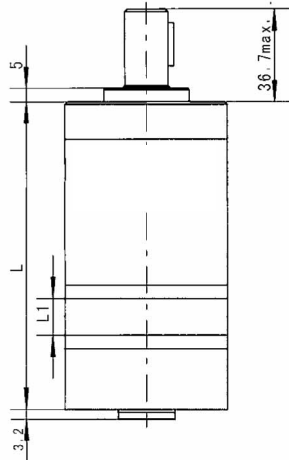
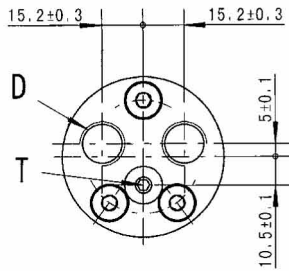
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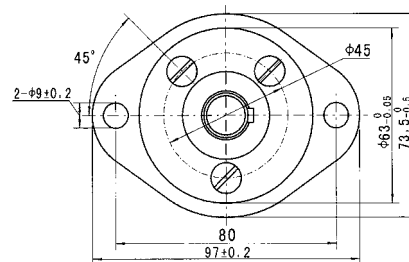
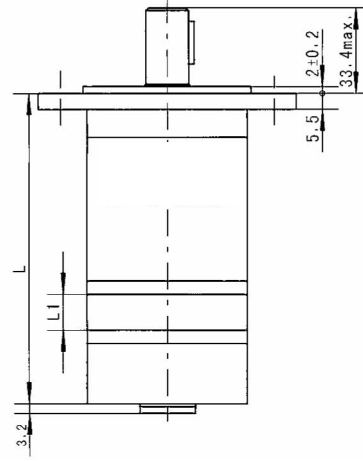
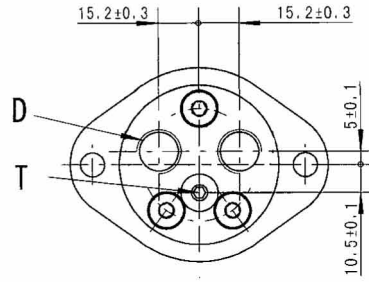


MOUNTING

Flange M, U



Flange F



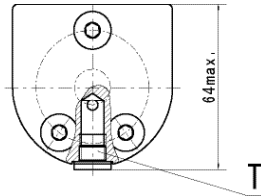
Model	M, U Flange		F Flange	
	L	L1	L	L1
VNKM8	104	35	1.075	35
VNKM12.5	106	55	1.095	55
VNKM20	109	85	1.125	85
VNKM32	114	135	1.175	135
VNKM40	1.175	17	121	17
VNKM50	122	215	1.255	215

Mounting	Code	M, U Flange		F Flange	
		1E (depth)	1U (depth)	1E (depth)	1U (depth)
C	3-M6 (10)	3-1/4-28UNF-2B(10)	--	--	
D	G3/8 (12)	9/16-18UNF(12)	G3/8 (12)	9/16-18UNF(12)	
T	G1/8 (8)	3/8-24UNF(8)	G1/8 (8)	3/8-24UNF(8)	

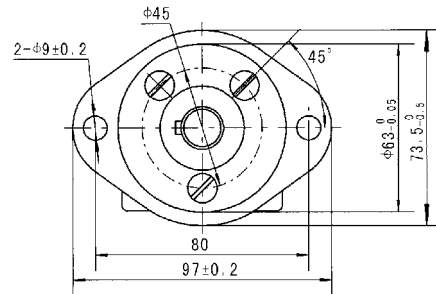
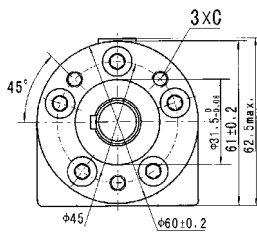
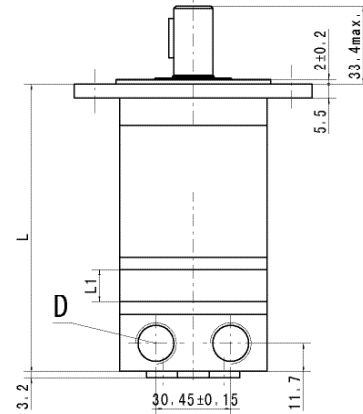
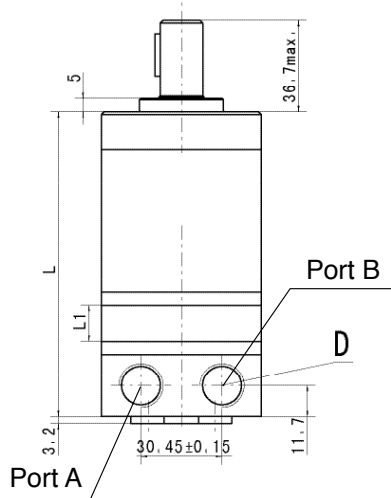
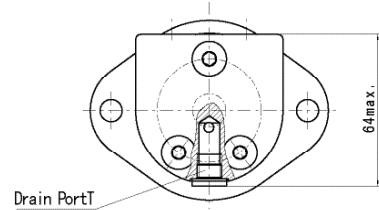


MOUNTING

Flange M,U



Flange F



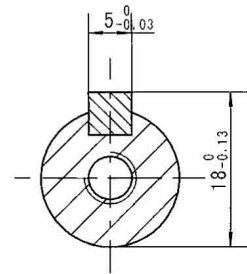
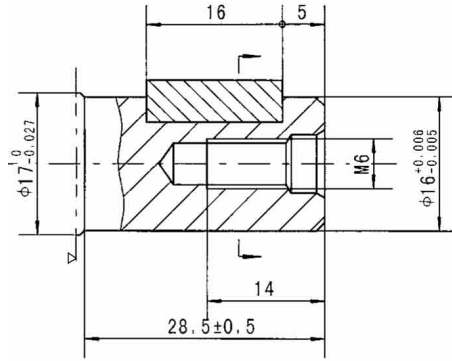
Model	M, U Flange		F Flange	
	L	L1	L	L1
VNKM8	105	35	1.085	35
VNKM12.5	107	55	1.105	55
VNKM20	110	85	1.135	85
VNKM32	115	135	1.185	135
VNKM40	1.185	17	122	17
VNKM50	123	215	1.265	215

Code	M, U Flange		F Flange	
	E (depth)	U (depth)	E (depth)	U (depth)
C	3-M6 (10)	3-1/4-28UNF-2B(10)	--	--
D	G3/8 (12)	9/16-18UNF(12)	G3/8 (12)	9/16-18UNF(12)
T	G1/8 (8)	3/8-24UNF(8)	G1/8 (8)	3/8-24UNF(8)

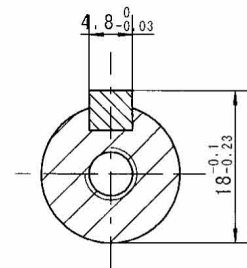
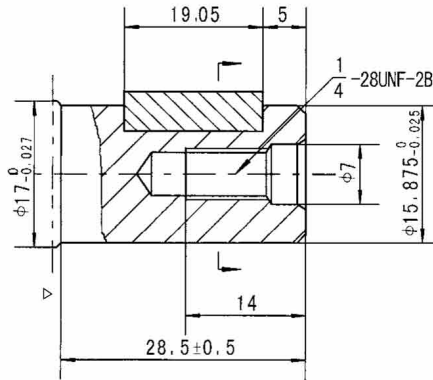


VNKM SHAFT EXTENSIONS FOR VNKM MOTORS

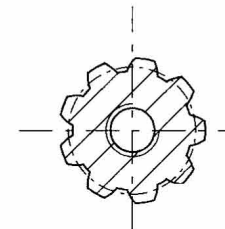
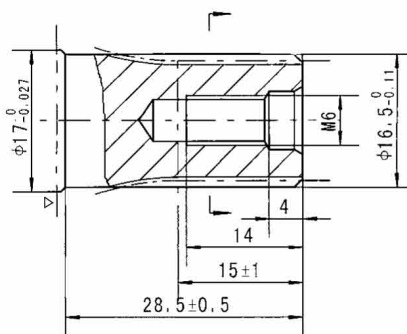
Shaft A: Cylindrical shaft $\phi 16$
Parallel key 5x5x16



Shaft B: Cylindrical shaft
 $\phi 15.875$
Parallel key 4.8x4.8x19.05



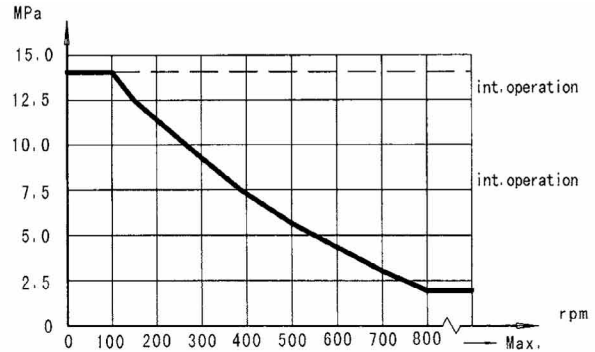
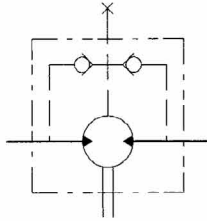
Shaft C: Involute splind shaft
B17x14 DIN5482



Motor Mounting Surface →



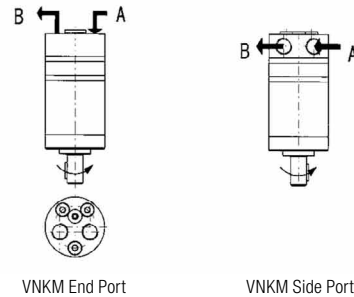
Permissible shaft seal pressure



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.

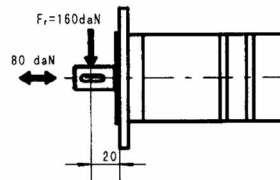
Direction of shaft rotation: Standard

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



Status of the shaft's radial force

$$F_r = \frac{13040}{61.5 + L} \text{ daN}$$



F_r = Radial Force (daN)
 L = Distance (mm)
 n = Speed (rpm)
 Max. force load
 Rhomb-flange $L=15\text{mm}$
 Square-flange $L=20\text{mm}$



VNKM ORDER INFORMATION

VNKM	1	2	3	4	5	6	7	8
Pos.1	2	3	4	5	6	7	8	
Code	Displacement	Flange	Output shaft	Ports and drain port	Rotation direction	Paint	Unusually function	
Omit	8 12.5 20 32 40 50	M 3-M6 Circle-flange, pilot Ø31.5x5 U 3-1/4-28UNF Circle flange, pilot Ø31.5x5 F 2-Ø9 Rhomb-flange, pilot Ø63x2	A Shaft Ø16, parallel key 5x5x16 B Shaft Ø15.875, parallel key 4.8x4.8x19.05 C Shaft Ø16.5, involute B17x14, DIN5482	E G3/8, G1/8 U 9/16-18UNF, 3/8-24UNF 1E End port G3/8, G1/8 1U End port 9/16-18UNF, 3/8-24UNF	Omit R	00 Omit B S	No paint Blue Black Silver grey	Omit O Standard No case drain
<p>Note: When the table is used, please fill the code of left rows in the table 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.</p>								



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 36 [36cm³/rev.]

Pressure (MPa)

	Pressure (MPa)							Max.cont.	Max.int.
	3	6	7	8	10	11	12.5	16.5	
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	
Max.cont.	6	15	22	28	37	44	52	71	
Max.int.	3	11	18	20	30	38	49	67	

VNKP 50 [51.7cm³/rev.]

Pressure (MPa)

	Pressure (MPa)								Max.cont.	Max.int.
	3	6	8	10	12.5	14	16	17.5		
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		
Max.cont.	10	32	47	64	83	94	108	119		
Max.int.	6	25	42	56	76	87	101	112		

VNKP 80 [77.7cm³/rev.]

Pressure (MPa)

	Pressure (MPa)							Max.cont.	Max.int.
	3	6	8	10	12.5	14	16	17.5	
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	
Max.cont.	20	53	75	94	120	137	160	177	
Max.int.	14	44	67	87	112	151	169	169	

VNKP 100 [96.2cm³/rev.]

Pressure (MPa)

	Pressure (MPa)								Max.cont.	Max.int.
	3	6	8	10	12.5	14	16	17.5		
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		
Max.cont.	22	60	91	114	149	167	194	213		
Max.int.	15	54	83	106	141	160	186	205		

Torque (N·m) 87
Speed (rpm) 920

cont.
int.





VNKP 125 [120.2cm³/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 [157.2cm³/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	53	115	164	206	259	288	335	368
	35	49	110	160	202	255	284	328	362
	45	44	102	154	196	248	278	321	358
	55	40	99	148	191	243	272	316	351
	Max.cont.	33	94	144	188	236	267	308	345
	Max.int.	19	80	124	170	216	252	296	325

VNKP 200 [194.5cm³/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	70	153	200	245	315	350	398	417
	55	66	149	194	232	297	343	386	415
	Max.cont.	177	175	173	171	168	166	160	149
	Max.int.	63	146	190	230	294	340	383	410

VNKP 250 [240.3cm³/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.	123	120	118	114	106	98	87	76
	Max.int.	77	176	252	311	389	436	504	557

Torque (N·m) 128
Speed (rpm) 306

cont.
int.





HYDRAULIC MOTORS

PERFORMANCE DATA

VNKP 315 [314.5cm³/rev.]

		Pressure (MPa)						
		3	5	7	9	10	Max.cont 12.5	Max.int 14
Flow (L/min)	8	123	215	292	368	405		
		25	23	21	17	11		
	15	118	211	287	367	404	495	568
		47	46	44	40	28	21	10
	20	110	205	278	360	395	494	566
		62	61	60	57	46	40	36
	30	101	196	271	349	388	490	565
		94	93	91	88	76	68	65
	35	96	188	264	341	382	478	557
		109	107	106	104	96	89	84
	45	89	180	254	337	372	468	553
	141	140	138	135	127	120	115	
55	76	166	239	325	362	457	548	
	173	172	170	167	160	152	143	
Max.cont.	60	65	154	227	308	348	443	529
	188	186	184	182	178	172	163	
Max.int.	75	40	120	201	279	323	418	497
	236	234	232	228	226	223	214	

VNKP 400 [389.5cm³/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		
		20	19	18	16	12		
	15	165	228	277	337	417	496	612
		38	36	35	33	31	27	21
	20	162	223	273	331	413	495	608
		50	49	49	48	45	41	35
	30	154	216	266	318	405	486	600
		76	75	74	73	71	67	60
	35	146	210	256	312	395	480	588
		88	87	87	86	83	80	75
	45	132	197	243	300	383	464	576
	114	113	112	110	108	106	99	
55	117	184	227	283	363	450	552	
	139	137	136	135	135	132	123	
Max.cont.	60	102	163	215	272	347	436	532
	153	152	150	148	146	143	138	
Max.int.	75	53	128	182	234	318	391	484
	191	189	187	185	183	180	176	

Torque (N·m) 234
Speed (rpm) 185

VNKP500 [486.5cm³/rev.]

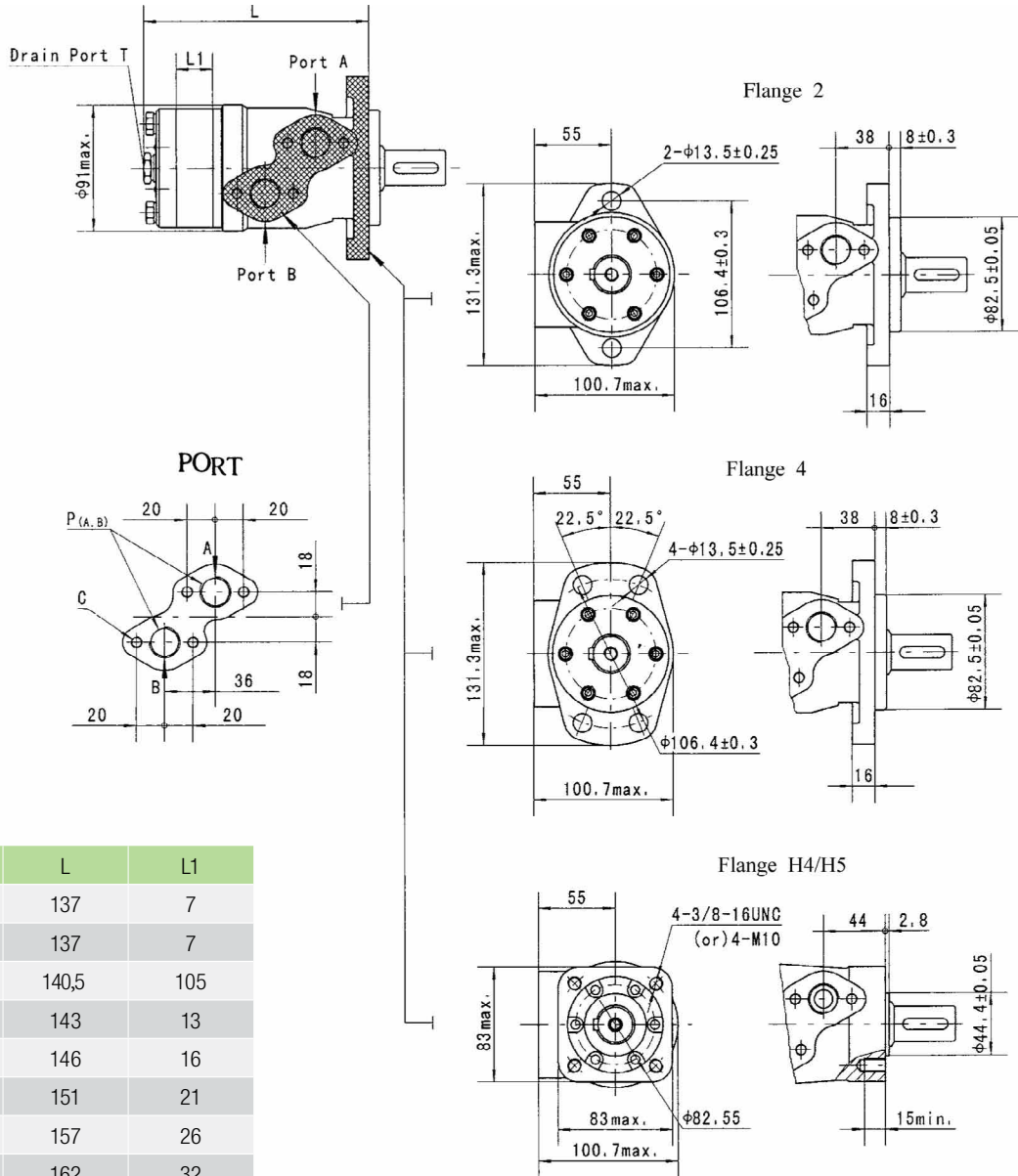
		Pressure (MPa)						
		1.5	3	4.5	6	7	Max.cont 8	Max.int 9
Flow (L/min)	4	96	194	285				
		7	6	4				
	8	98	201	304	391	443	512	574
		15	15	14	14	12	9	7
	15	96	192	284	380	421	496	550
		30	30	29	28	26	23	22
	20	96	191	280	372	418	493	546
		40	40	40	39	37	33	31
	30	91	185	272	360	412	486	541
		61	60	60	58	56	53	50
	40	86	172	261	343	408	480	538
	81	80	80	79	76	73	70	
Max.cont.	50	78	160	241	332	391	466	528
	102	101	100	98	96	93	90	
60	66	134	213	305	371	438	496	
	122	121	120	119	117	114	110	
Max.int.	70	52	111	189	292	344	418	475
	143	142	141	139	137	135	131	
75	35	83	154	241	312	389	448	
	153	152	151	150	149	147	144	

cont.
int.

Torque (N·m) 389
Speed (rpm) 147



MOUNTING

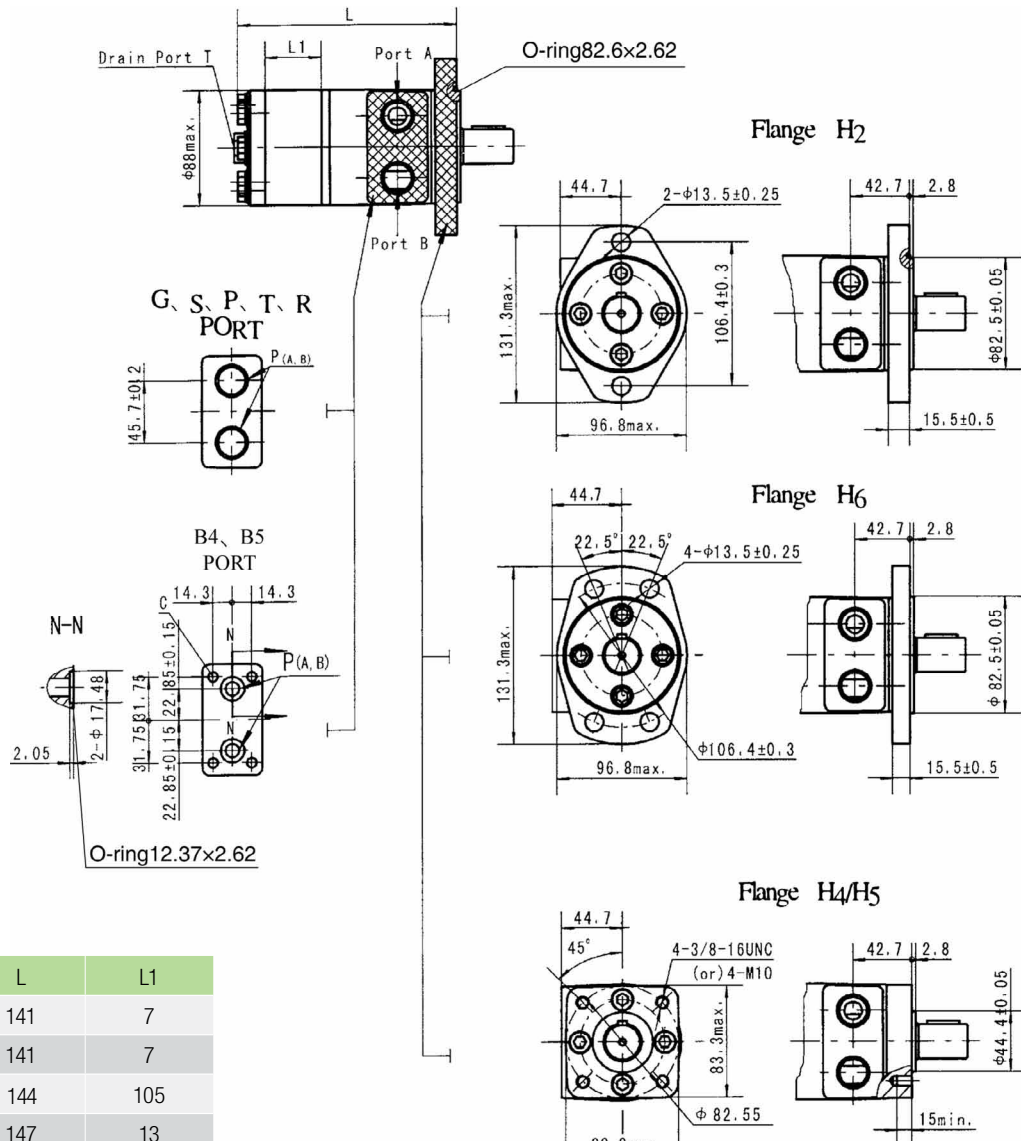


Model	L	L1
VNKP36	137	7
VNKP50	137	7
VNKP80	140,5	105
VNKP100	143	13
VNKP125	146	16
VNKP160	151	21
VNKP200	157	26
VNKP250	162	32
VNKP315	172	42
VNKP400	182	52
VNKP500	195	65

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)



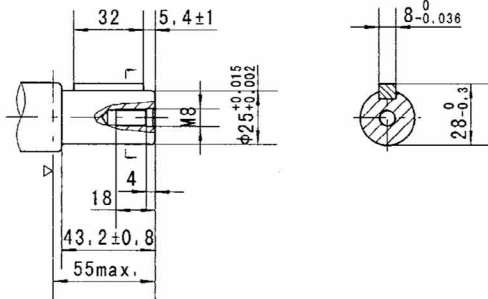
VNKPH SHAFT EXTENSIONS DIMENSIONS DATA



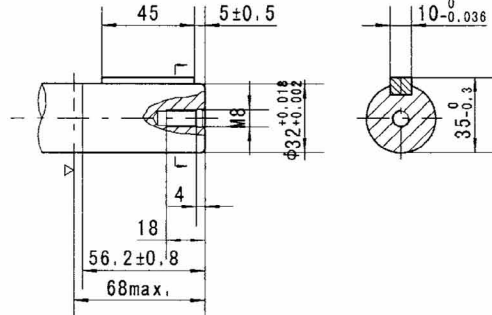
Model	L	L1
VNKPH36	141	7
VNKPH50	141	7
VNKPH80	144	105
VNKPH100	147	13
VNKPH125	150	16
VNKPH160	155	21
VNKPH200	160	26
VNKPH250	166	32
VNKPH315	176	42
VNKPH400	186	52
VNKPH500	199	65

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)	ø10	ø10
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)

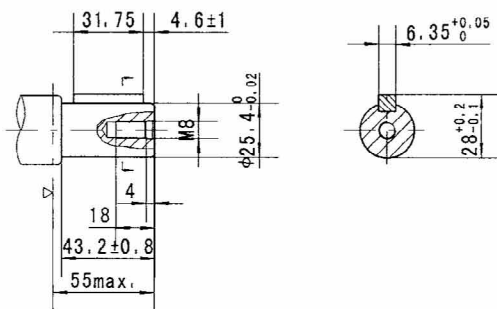




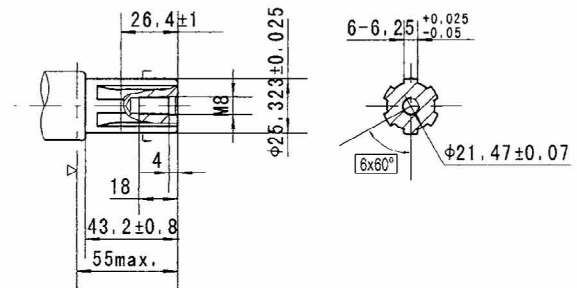
Shaft A: Cylindrical shaft ø25
Parallel key 8x7x32



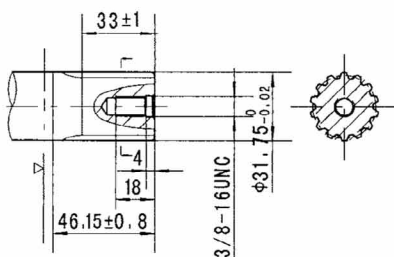
Shaft B: Cylindrical shaft ø32
Parallel key 10x8x45



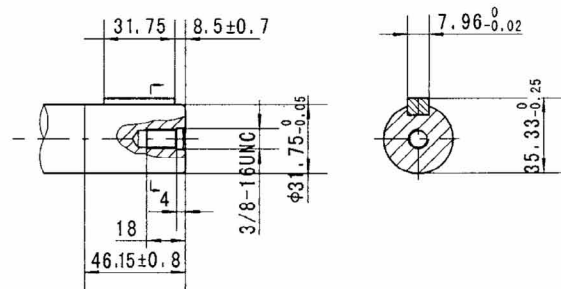
Shaft C: Cylindrical shaft ø25.4
Parallel key 6.35x6.35x31.75



Shaft E: Splined SAE 6B

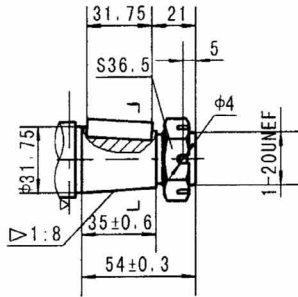


Shaft F: Splined
14-DP12/24

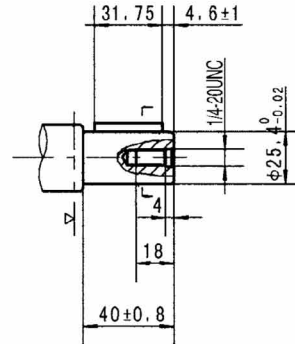
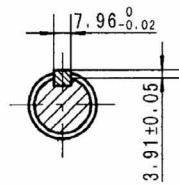


Shaft G: Cylindrical shaft ø31.75
Parallel key 7.96x7.96x31.75

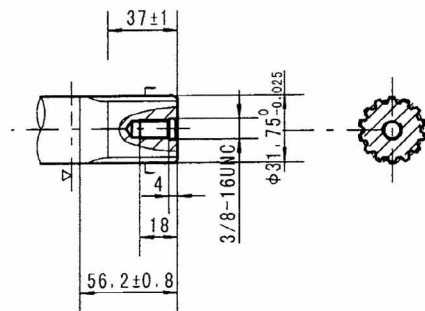
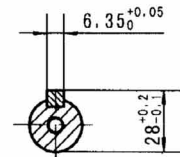
Motor Mounting Surface →



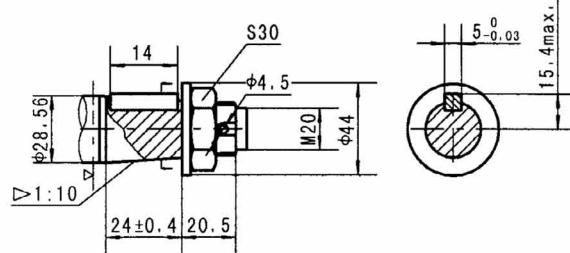
Shaft T3: Cone-shaft $\varnothing 31.75$
Parallel key 7.96x7.96x31.75
Tightening torque: 200±10Nm



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



Shaft FD: Splined
14-DP12/24

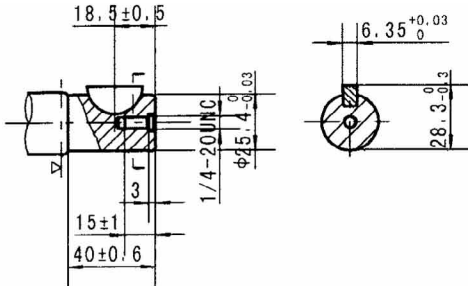


Shaft T: Cone-shaft $\varnothing 28.56$
Parallel key B5x5x14
Tightening torque: 100±10Nm

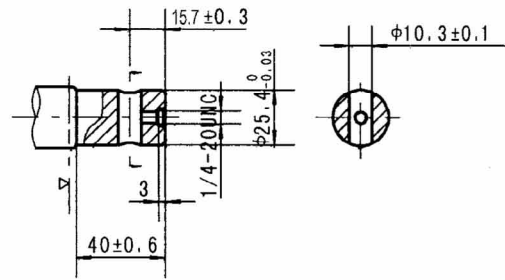
Motor Mounting Surface →



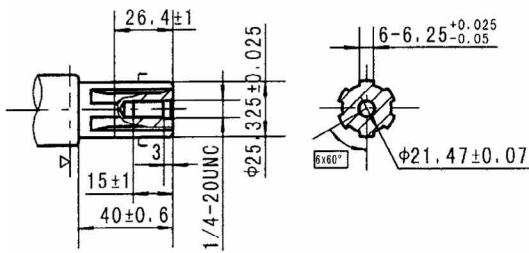
VNKPH SHAFT EXTENSIONS DIMENSION DATA



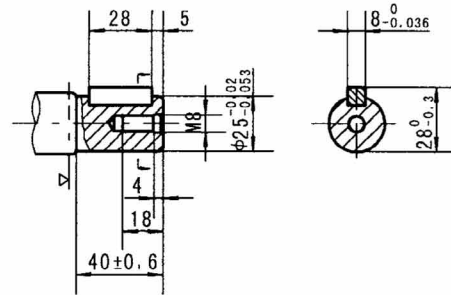
Shaft K: Cylindrical shaft $\phi 25.4$
Woodruff key $\phi 25.4 \times 6.35$



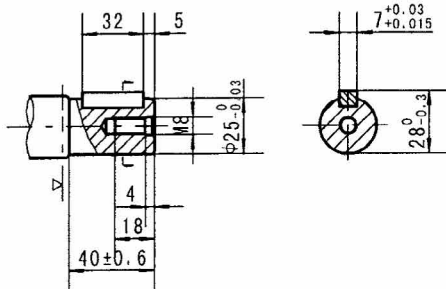
Shaft H: Cylindrical shaft $\phi 25.4$
Pin hole $\phi 10.3$



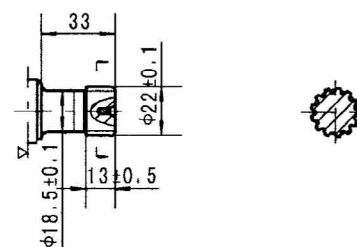
Shaft S: Splined SAE 6B



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



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

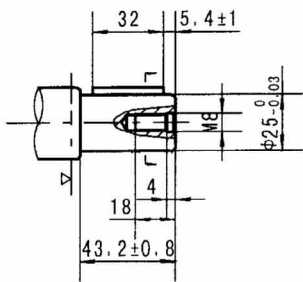


Shaft I: Splined 13-DP16/32

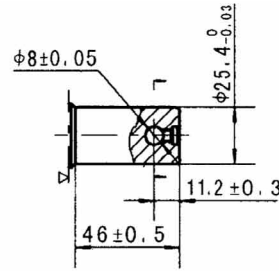
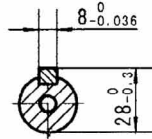
Motor Mounting Surface →



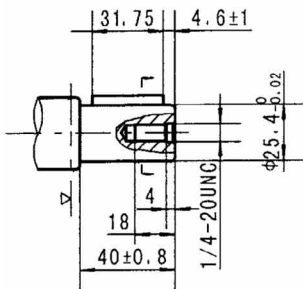
VNKPH SHAFT EXTENSIONS DIMENSION DATA



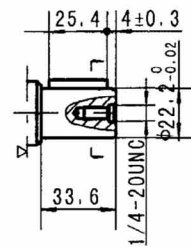
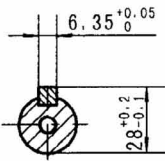
Shaft A: Cylindrical shaft $\phi 25$
Parallel key 8x7x32



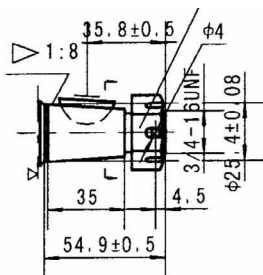
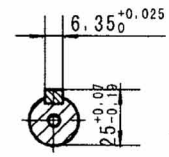
Shaft H1: Cylindrical shaft $\phi 25.4$
Pin hole $\phi 8$



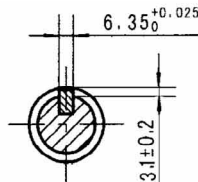
Shaft R: Cylindrical shaft $\phi 25.4$
Parallel key 6.35x6.35x31.75



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



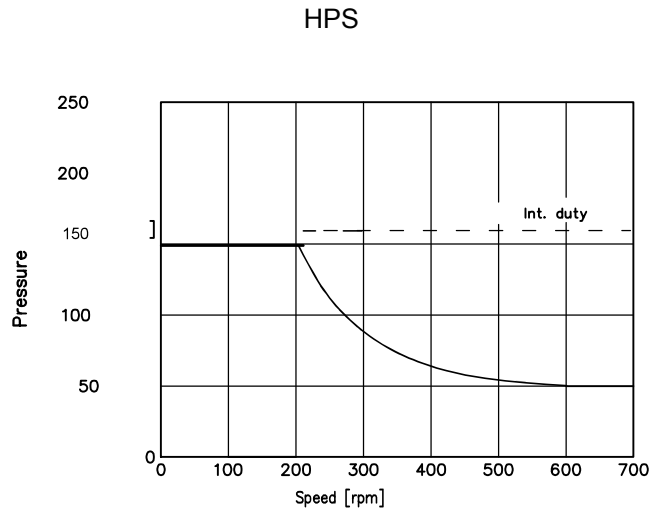
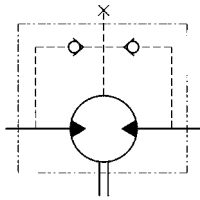
Shaft T2: Cone-shaft $\phi 25.4$
Parallel key $\phi 25.4 \times 6.35$
Tightening torque: $200 \pm 10 \text{ Nm}$



Motor Mounting Surface →



Permissible shaft seal pressure



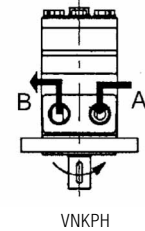
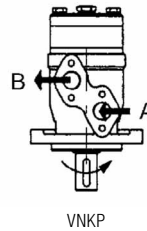
Vincke are made as standard with HPS seal version.

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.

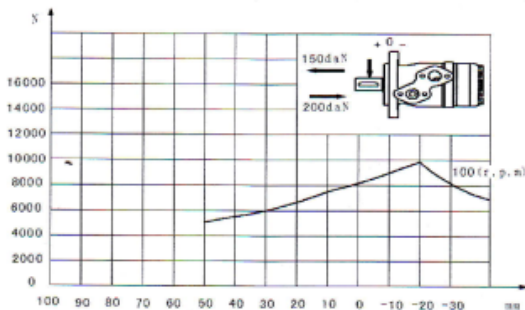
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

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=30mm
 Square-flange L=24mm

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



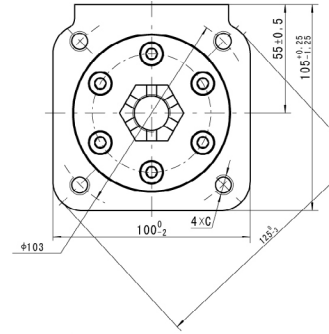
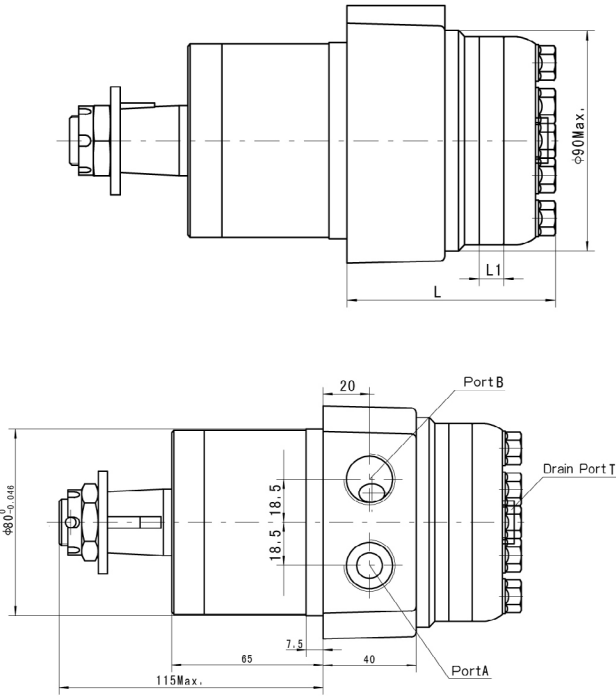
VNKP ORDER INFORMATION

VNKP		1	2	3	4	5	6	7	8
Pos.1	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 Shaft 025, parallel key 8x7x32 C Shaft 025.4, parallel key 6.35x6.35x31.75 E Shaft 025.4, splined tooth SEA 6B R Short shaft 025.4, parallel key 6.35x6.35x31.75 B Shaft 032, parallel key 10x8x45 F Shaft 031.75, splined tooth 14-DP12/24 Long FD shaft 031.75, splined tooth 14-DP12/24 Short G 031.75, parallel key 7.96x7.96x31.75 Cone T shaft 028.56, parallel key B5x31.4 T3 Cone shaft 031.75, parallel key 7.96x7.96x25.4	D G1/2 Manifold Mount 4xM8, G1/4 M M22x1.5 Manifold Mount 4xM8, M14x1.5 S 7/8-14 O-ring manifold 4x5/16-18UNC, 7/16-20UNF P 1/2-14 NPTF Manifold 4x5/16-18UNC, 7/16-20UNF R PT(Rc)1/2 Manifold 4xM8, PT(Rc)1/4	Omit Standard Opposite R	00 Omit B S	Omit Standard HPS Big radial force No case drain Free Running Low Speed Speed sensor	
	VNKP	36 50 80 100 125 160 200 250 315 400 500	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						
	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						

VNKP		1	2	3	4	5	6	7	8
Pos.1	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	K S A R H H1 D I T2 P J	Shaft 025.4, woodruff key 025.4x6.35 Shaft 025.4, splined tooth SEA 6B Shaft 025, parallel key 8x7x32 Shaft 025.4, parallel key 6.35x6.35x31.75 Shaft 025.4, pin hole Ø10.3 Shaft 025.4, pin hole Ø8 Shaft 022.22, parallel key 6.35x6.35x25.4 Shaft 022.22, splined tooth 13-DP16/32 Cone shaft 025.4, woodruff key 025.4x6.35 Shaft 025, parallel key 8x7x28 Shaft 025, parallel key 7x7x32	G G1/2, G1/4 S 7/8-14 O-ring, 7/16-20UNF P 1/2-14 NPTF, 7/16-20UNF T 3/4-16 O-ring, 7/16-20UNF R PT(Rc)1/2, PT(Rc)1/4 B4 Ø10 O-ring manifold B5 4x5/16-18UNC, 7/16-20UNF Ø10 O-ring manifold 4xM8, 7/16-20UNF	Omit Standard Opposite R	00 Omit B S	Omit Standard HPS Big radial force No case drain Free Running Low Speed Speed sensor	
	VNKP	36 50 80 100 125 160 200 250 315 400 500							

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.





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 Ø80x7,5	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 HPS Big radial force 0 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.



VNKPK SERIES HYDRAULIC MOTOR

VNKPK 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 provide small volume, high efficiency and long life.
- * Shaft seal can bear high pressure of motor of which can be used in parallel or in series.
- * Advanced construction design, high power and low weight.

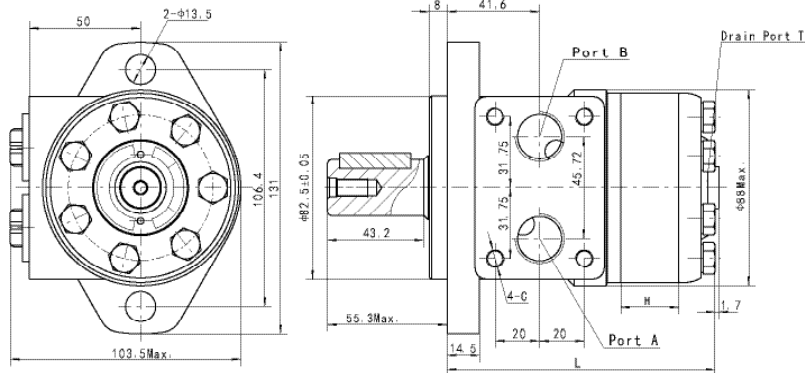
Main Specification

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

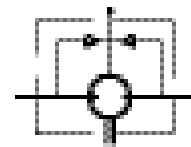
Code	Displacement [cm/rev]	Max.Speed [rpm]			Max.Torque [Nm]		Max.output [kW]		Max.pressure [MPa]		Max.Oil Flow[L/min]
		cont.	cont.	int.	cont.	int.	cont.	int.	cont.	int.	
VNKPK 36	37	1081	51	68	5,2	8,6	10,5	14	40		
VNKPK 50	51,7	774	73	96	5,2	8,6	10,5	14	40		
VNKPK 80	77,7	515	106	143	5,2	8,6	10,5	14	40		
VNKPK 100	96,2	416	140	178	5,2	8,6	10,5	14	40		
VNKPK 125	117,9	339	162	218	5,2	8,6	10,5	14	40		
VNKPK 160	155,5	257	216	288	5,2	8,6	10,5	14	40		
VNKPK 200	189,9	211	264	351	5,2	8,6	10,5	14	40		
VNKPK 250	231	173	281	351	4,6	7	9	11,5	40		
VNKPK 315	311,7	128	312	433	3,4	5,8	7	10,5	40		
VNKPK 400	386,2	104	392	582	3,4	5,8	7	10,5	40		

VNKPK DIMENSIONS AND MOUNTING DATA

Type	H	L
VNKPK36	7	101
VNKPK50	7	101
VNKPK80	105	104,5
VNKPK100	13	107
VNKPK125	16	110
VNKPK160	21	115
VNKPK200	26	120
VNKPK250	32	126
VNKPK315	42	136
VNKPK400	52	146



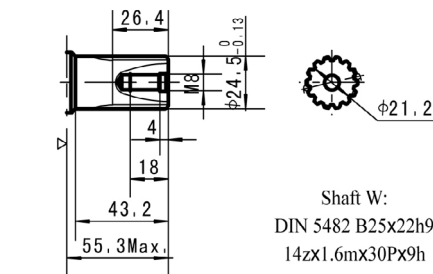
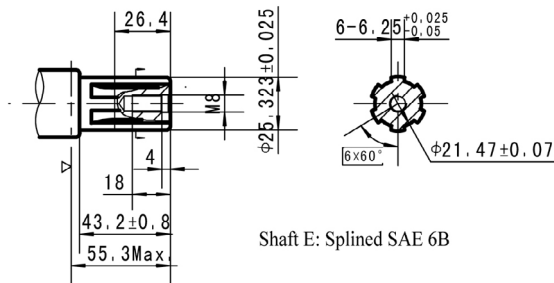
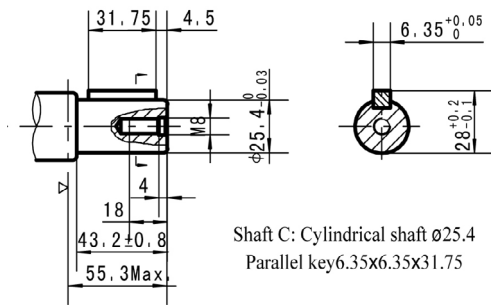
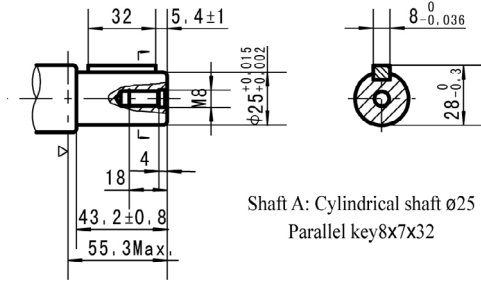
Code	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (16.7)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)



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



VNPK END PORT DIMENSIONS AND MOUNTING DATA



ORDER INFORMATION

VNPK	1	2	3	4	5	6	7	8
Pos.1	Code	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function	
2	Disp.	2- $\phi 13.5$ Rhomb-flange , pilot $\phi 82.5 \times 8$	A Shaft $\phi 25$, parallel key 8x7x32 C Shaft $\phi 25.4$, parallel key 6.35x6.35x31.75 E Shaft $\phi 25.4$, splined key SEA 6B W Shaft $\phi 24.5$, splined B25X22 T Cone shaft $\phi 28.56$, parallel key B5x5x14	G1/2 Manifold 4xM8, G1/4 M22x1.5 Manifold 4xM8, M14x1.5 7/8-14 O-ring manifold 4x5/16-18UNC, 7/16-20UNF 1/2-14NPTF manifold 4x5/16-18UNC, 7/16-20UNF PT(Rc)1/2 manifold 4xM8, PT(Rc)1/4	Omit Standard Opposite	00 Omit Blue Black Silver Grey	Standard Free Running No case drain	
	Omit							

Motor Mounting Surface →





VNKR series motor adapt the advanced Geroler gear set design with shaft distribution flow, which can automatically compensate in operating with high pressure, provide reliable and smooth operation, high efficiency and long life.

Characteristic features:

- Advanced manufacturing devices for the Gerolor gear set, which use low pressure of start-up, provide smooth, reliable operation and high efficiency.
- Shaft seal can bear high pressure of back and the motor can be used in parallel or in series. Special design in the driver-linker and prolong operating life
- Special design for distribution system can meet the requirement of low noise 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 VNKR with 25 and 1 in and 1 in splined and 28.56 tapered shaft

Type	VNKR VNKRH 36	VNKR VNKRH 50	VNKR VNKRH 80	VNKR VNKRH 100	VNKR VNKRH 125	VNKR VNKRH 160	VNKR VNKRH 200	VNKR VNKRH 250	VNKR VNKRH 250	VNKR VNKRH 375	
Geometric displacement (cm ³ /rev.)	36	51,7	81,5	102	127,2	157,2	194,5	253,3	317,5	381,4	
Max. speed (rpm)	cont.	1085	960	750	600	475	378	310	240	190	155
	int.	1220	1150	940	750	600	475	385	300	240	190
Max. torque (N•m)	cont.	72	100	195	240	300	360	360	390	390	365
	int.	83	126	220	280	340	430	440	490	535	495
	peak	105	165	270	320	370	460	560	640	650	680
Max. output (kW)	cont.	8,5	9,5	12,5	13,0	12,5	12,5	10,0	7,0	6,0	5,0
	int.	9,8	11,2	15,0	15,0	14,5	14,0	13,0	9,5	9,0	8,0
Max. pressure drop (MPa)	cont.	14,0	14	17,5	17,5	17,5	16,5	13	11	9	7
	int.	16,5	17,5	20	20	20	20	17,5	15	13	10
	peak	22,5	22,5	22,5	22,5	22,5	22,5	22,5	20	17,5	15
Max. flow (L/min)	cont.	40	50	60	60	60	60	60	60	60	60
	int.	45	60	75	75	75	75	75	75	75	75
Weight (kg)	6,5	6,7	6,9	7	7,3	7,6	8	8,5	9	9,5	

- 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 VNKR with 31.75 and 32 shaft

Type		VNKR VNKRH 36	VNKR VNKRH 50	VNKR VNKRH 80	VNKR VNKRH 100	VNKR VNKRH 125	VNKR VNKRH 160	VNKR VNKRH 200	VNKR VNKRH 250	VNKR VNKRH 315	VNKR VNKRH 375
Geometric displacement (cm ³ /rev.)		36	51,7	81,5	10,2	127,2	157,2	194,5	253,3	317,5	381,4
Max. speed (rpm)	cont.	1250	960	750	600	475	378	310	240	190	155
	int.	1520	1150	940	750	600	475	385	300	240	190
Max. torque (N•m)	cont.	72	100	195	240	300	380	450	540	550	580
	int.	83	126	220	280	340	430	500	610	690	690
	peak	105	165	270	320	370	460	560	710	840	830
Max. output (kW)	cont.	8,5	9,5	12,5	13,0	12,5	12,5	11,0	10,0	9,0	7,5
	int.	9,8	11,2	15,0	15,0	14,5	14,0	13,0	12,0	10,0	9,0
Max. pressure drop (MPa)	cont.	14,0	14	17,5	17,5	17,5	17,5	17,5	17,5	13,5	11,5
	int.	16,5	17,5	20	20	20	20	20	20	17,5	15
	peak	22,5	22,5	22,5	22,5	22,5	22,5	22,5	22,5	21	17,5
Max. flow (L/min)	cont.	45	50	60	60	60	60	60	60	60	60
	int.	55	60	75	75	75	75	75	75	75	75
Weight (kg)		6,5	6,7	6,9	7	7,3	7,6	8	8,5	9	9,5

- 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.



VNKR 36 [36cm³/rev.]

		Pressure (MPa)												
		2	3	5	7	9	10	12.5	14.0	16.5	Max.cont.	Max.int.		
Flow (L/min)	4	10	16	25	37	46	50							
	8	208	200	188	175	158	149	134	120	108				
	15	403	392	380	365	348	326	318	302	274				
	20	540	531	518	500	483	462	450	435	412				
	30	810	798	780	763	742	722	705	694	668				
	Max.cont.	40	1092	1080	1069	1056	1042	1028	1011	984	957			
	Max.int.	45	1230	1215	1194	1170	1150	1128	1100	1070	1020			

VNKR 50 [51.7cm³/rev.]

		Pressure (MPa)												
		5	7	9	10	12	14	16	17.5	Max.cont.	Max.int.			
Flow (L/min)	5	35	45	61	67	77	88							
	10	186	178	166	162	153	136	118	97					
	15	283	277	269	261	250	230	211	185					
	20	377	375	365	361	346	330	302	270					
	30	576	569	561	554	542	531	500	465					
	40	760	758	753	750	738	724	700	670					
	45	856	853	849	845	835	815	796	770					
	Max.cont.	50	950	940	925	906	880	852	832	801				
	Max.int.	60	1138	1124	1100	1075	1056	1028	1006	970				

VNKR 80 [81.5cm³/rev.]

		Pressure (MPa)												
		5	7	9	10	12	14	16	17.5	20	Max.cont.	Max.int.		
Flow (L/min)	5	50	64	88	108	133								
	10	118	113	106	97	86	79	56						
	20	238	234	227	216	203	190	178	154	135				
	30	360	352	340	332	316	302	290	274	250				
	40	480	470	458	445	430	418	403	388	359				
	50	604	595	582	570	556	540	521	504	487				
	Max.cont.	60	726	715	704	692	678	663	647	622	594			
	70	845	834	820	802	789	767	754	730	705				
	Max.int.	75	910	895	881	867	852	830	806	787	756			

VNKR 100 [102cm³/rev.]

		Pressure (MPa)												
		5	7	9	10	12	14	16	17.5	20	Max.cont.	Max.int.		
Flow (L/min)	5	66	92	120	135	156								
	10	193	190	186	181	174	157	142						
	20	289	285	280	273	265	258	250	239	218				
	30	386	381	375	368	359	352	344	332	314	297			
	40	482	477	470	460	448	435	420	405	389				
	50	580	572	560	548	535	523	510	500	478				
	Max.cont.	60	678	670	660	648	638	626	615	606	580			
	70	728	720	710	695	681	667	650	634	618				
	Max.int.	75	728	720	710	695	681	667	650	634	618			

Torque (N·m) 135
Speed (rpm) 830

cont.
int.



VNKR 125 [127.2cm³/rev.]

		Pressure (MPa)										Max.cont		Max.int		
		5	7	9	10	12	14	16	17.5	20						
Flow (L/min)	5	76	110	145	167	189										
		36	31	25	19	13										
10		84	118	155	176	202	228	253								
		73	70	60	48	36	25	19								
20		82	117	153	174	200	230	259	294	332						
		153	151	148	144	138	128	117	104	73						
30		79	116	151	171	198	228	257	292	329						
		231	228	224	218	210	201	183	168	137						
40		72	114	148	168	196	226	256	290	327						
		309	307	303	298	292	280	270	252	218						
50		62	105	143	165	195	223	254	287	323						
		389	386	382	378	370	360	344	328	292						
Max.cont. 60		52	98	136	160	191	220	250	282	319						
		467	463	459	456	448	427	410	399	352						
70		41	90	130	156	187	215	242	278	313						
		545	542	538	534	529	520	508	486	430						
Max.int. 75		32	79	126	148	180	208	234	262	300						
		586	583	578	570	560	546	532	520	480						

VNKR 160 [157.2cm³/rev.]

		Pressure (MPa)										Max.cont		Max.int		
		5	7	9	10	12	14	16	17.5	20						
Flow (L/min)	5	104	146	190	210	245										
		26	23	20	16	10										
10		107	150	195	216	250	290	335								
		59	56	50	45	37	30	22								
20		102	151	198	220	257	298	342	370	420						
		121	118	115	113	108	102	97	90	78						
30		97	146	190	217	256	295	340	368	416						
		184	178	173	170	164	155	143	128	103						
40		89	140	185	210	252	290	335	363	412						
		246	241	235	228	220	210	194	177	150						
50		72	128	179	202	244	284	327	358	409						
		310	307	300	295	287	278	262	247	210						
Max.cont. 60		60	116	170	198	240	279	321	352	400						
		374	367	359	354	346	338	323	306	265						
70		49	107	164	193	233	271	309	344	390						
		437	430	421	415	403	393	381	365	318						
Max.int. 75		36	98	152	185	226	265	300	334	379						
		472	463	450	441	431	420	405	389	365						

VNKR 200 [194.5cm³/rev.]

		Pressure (MPa)										Max.cont		Max.int		
		5	7	9	10	12	14	16	17.5	20						
Flow (L/min)	5	132	181	238	262	310										
		24	22	18	13	10										
10		135	186	240	264	315	356	403								
		49	47	45	43	38	33	24								
20		131	183	238	260	314	358	404	438	498						
		99	97	94	92	88	83	74	64	56						
30		126	178	233	254	311	355	402	431	486						
		149	147	144	141	135	126	113	105	91						
40		112	169	228	250	307	352	400	426	477						
		200	197	194	191	185	174	160	151	127						
50		95	156	221	246	300	350	398	421	470						
		252	249	246	243	238	228	212	194	161						
Max.cont. 60		78	145	213	238	289	342	386	412	459						
		304	301	298	294	286	276	262	243	218						
70		67	135	206	228	277	336	375	408	453						
		355	353	349	340	329	316	300	288	257						
Max.int. 75		58	125	197	220	270	321	360	398	442						
		382	379	373	362	350	337	322	312	278						

VNKR 250 [253.5cm³/rev.]

		Pressure (MPa)										Max.cont		Max.int		
		5	7	9	10	12	14	16	17.5	20						
Flow (L/min)	5	175	243	304	342	407										
		17	16	14	12	10										
10		178	246	310	344	409	465	525								
		37	35	31	28	23	18	11								
20		175	244	308	340	408	463	520	558	636						
		75	73	72	70	66	58	53	50	42						
30		162	235	304	332	400	455	516	550	621						
		114	111	108	106	100	92	83	77	65						
40		143	223	300	329	396	447	512	546	617						
		154	152	150	147	143	132	120	110	90						
50		124	208	289	323	384	440	503	535	600						
		193	190	187	174	168	160	149	140	116						
Max.cont. 60		103	192	280	314	371	426	489	514	578						
		233	230	227	224	218	205	190	181	155						
70		88	178	264	301	356	418	479	498	560						
		273	270	267	263	252	242	226	209	173						
Max.int. 75		62	165	256	288	347	412	474	486	542						
		294	291	287	283	274	263	249	236	211						

Torque (N·m) 256
Speed (rpm) 287

cont.
int.



VNKR 315 [317.5cm³/rev.]

VNKR 375 [381.4cm³/rev.]

Pressure (MPa)

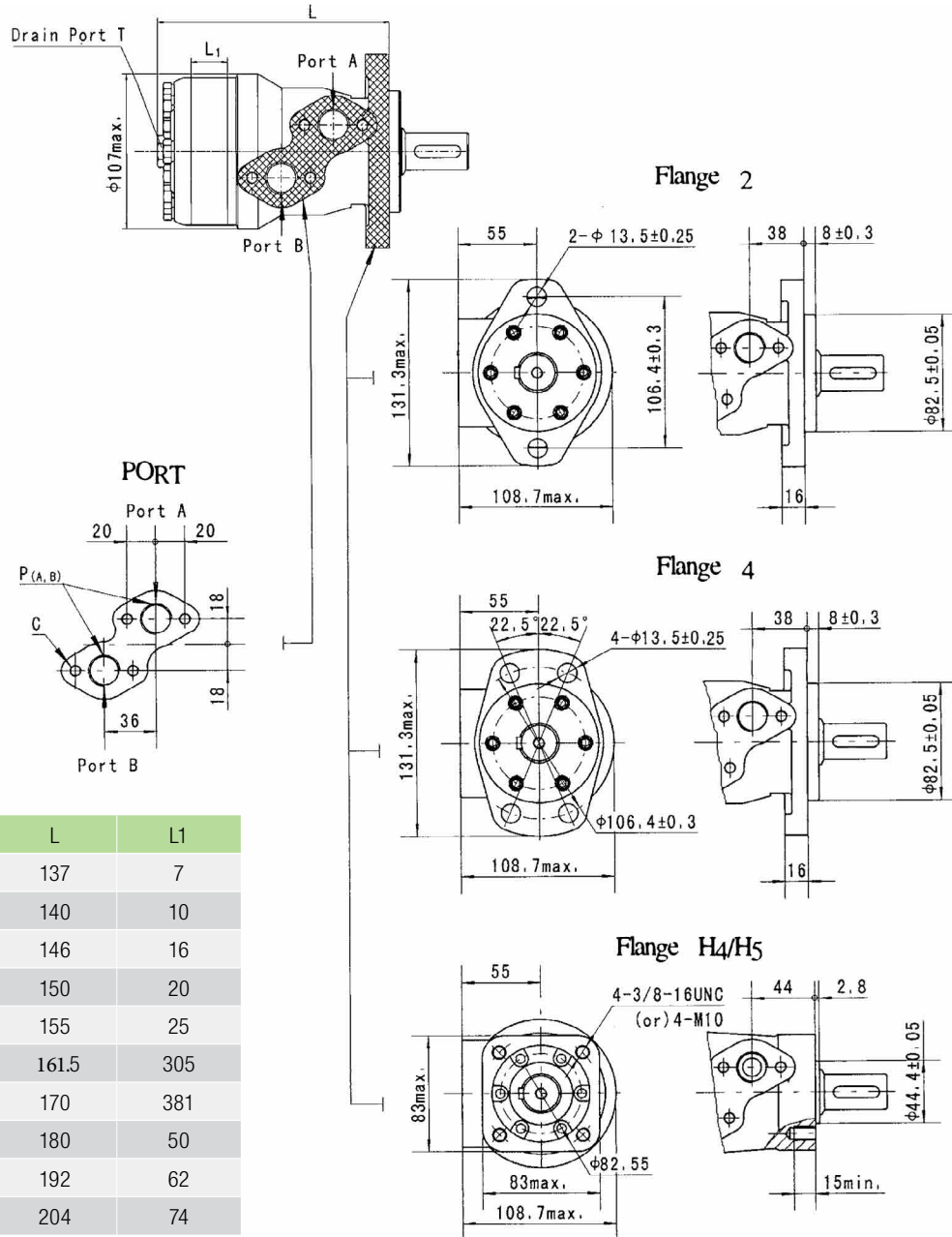
Pressure (MPa)

		Max.cont								Max.int	
		5	7	9	10	12	14	16	17.5		
Flow (L/min)	5	215	302								
		13	11								
	10	218	305	383	422	488	551	622			
		28	27	25	24	21	18	13			
	20	215	303	380	418	485	549	620	660		
		60	59	57	55	52	49	45	42		
	30	204	296	375	413	480	542	613	654		
		91	89	86	84	81	78	72	67		
	40	196	287	368	410	477	539	609	650		
		122	120	117	112	106	100	94	85		
Max.cont.	50	176	270	356	393	461	526	597	645		
		154	151	147	140	131	120	109	100		
	60	162	246	339	374	446	511	586	628		
		185	182	177	172	163	152	140	134		
	70	143	235	324	358	430	493	562	614		
Max.int.		217	213	208	201	190	178	166	158		
	75	125	212	303	339	417	481	543	582		
		232	228	222	216	208	200	183	171		

		Max.cont								Max.int	
		3	4.5	5.5	6.5	8	10	12.5	14		
Flow (L/min)	5	153	232								
		12	10								
	10	157	236	284	337	406	497	612	668		
		24	23	22	21	19	17	15	12		
	20	150	232	280	332	401	490	606	660		
		49	48	47	46	44	41	38	32		
	30	142	215	274	327	398	483	603	652		
		76	75	74	73	71	67	63	50		
	40	126	212	268	320	393	477	593	635		
		103	101	99	97	95	92	88	70		
Max.cont.	50	105	187	242	302	376	455	583	608		
		128	126	124	121	118	115	111	96		
	60	90	167	229	281	362	444	566	600		
		154	152	150	148	145	138	130	121		
	70	90	149	200	258	341	425	546	580		
Max.int.		180	179	178	176	173	168	160	148		
	75	56	125	182	241	320	408	524	565		
		195	194	193	191	189	185	178	170		

Torque (N·m) 481
Speed (rpm) 200

cont.
int.

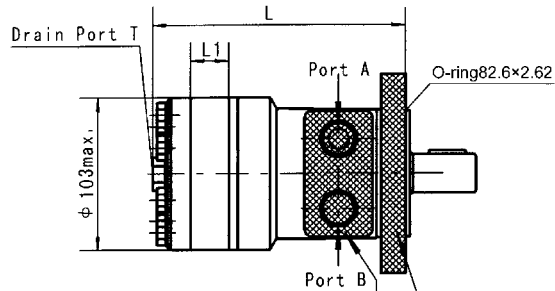


Model	L	L1
VNKR36	137	7
VNKR50	140	10
VNKR80	146	16
VNKR100	150	20
VNKR125	155	25
VNKR160	161.5	30.5
VNKR200	170	38.1
VNKR250	180	50
VNKR315	192	62
VNKR375	204	74

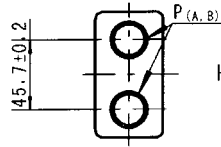
Code	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)



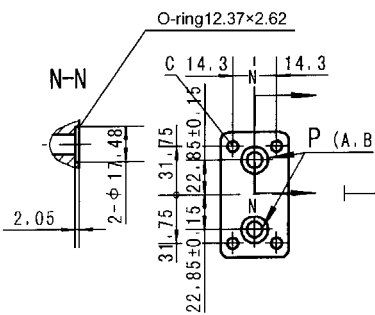
MOUNTING



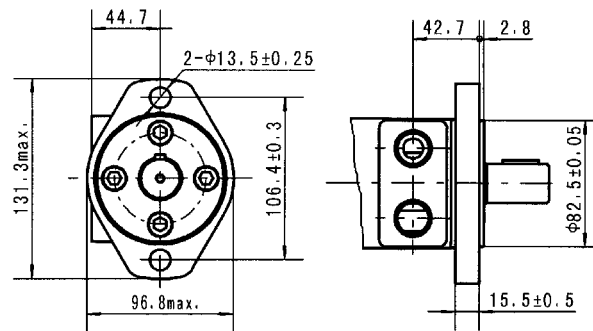
PORT: G S P R M1 M2 M3



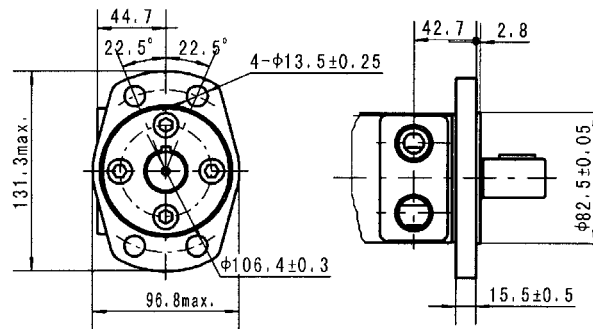
PORT: B4 B5



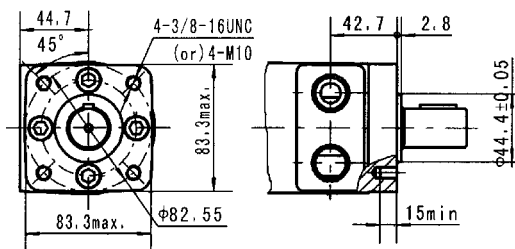
Flange H2



Flange H6

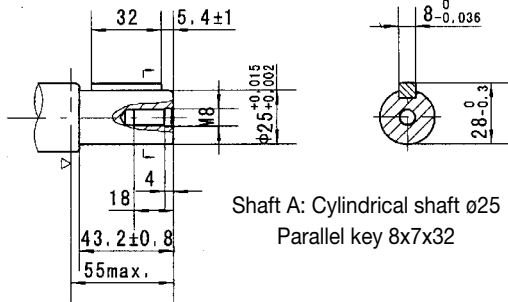


Flange H4/H5

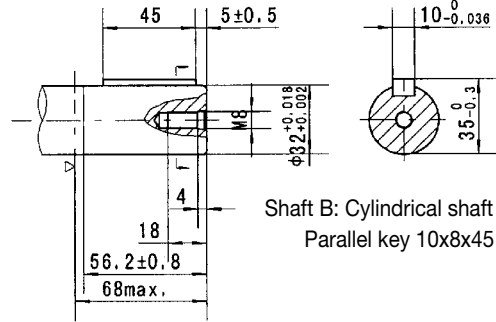


Model	L	L1
VNKRH36	141	7
VNKRH50	144	10
VNKRH80	150	16
VNKRH100	154	20
VNKRH125	159	25
VNKRH160	165.5	30.5
VNKRH200	174	38.1
VNKRH250	184	50
VNKRH315	196	62
VNKRH375	208	74

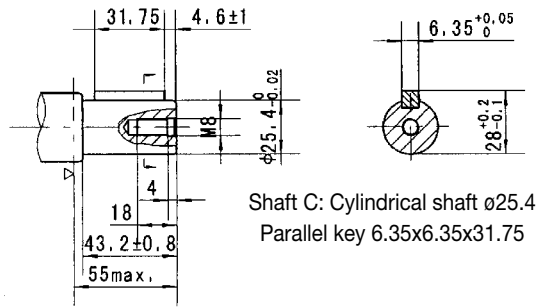
Code	G (depth)	S (depth)	P (depth)	R (depth)	M1 (depth)	M2 (depth)	M3 (depth)	B4 (depth)	B5 (depth)
Mounting P(A,B)	G1/2 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)	M18 x 1.5 (15)	M20 x 1.5 (15)	M22 x 1.5 (15)	ø10	ø10
C	G1/4 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)	M10 x 1 (12)	M10 x 1 (12)	M10 x 1 (12)	7/16-20UNF(12)	G1/4(12)
T	-	-	-	-	-	-	-	4-5/16-18UNC(13)	4-M8(13)



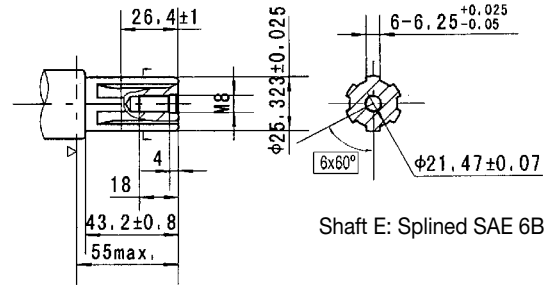
Shaft A: Cylindrical shaft ø25
Parallel key 8x7x32



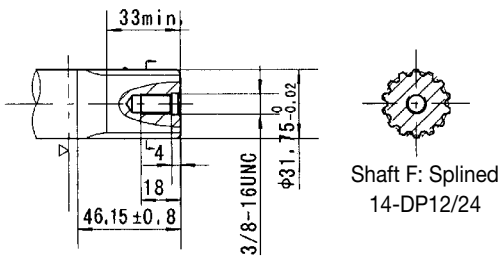
Shaft B: Cylindrical shaft ø32
Parallel key 10x8x45



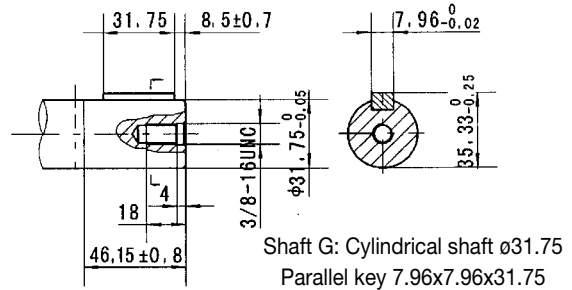
Shaft C: Cylindrical shaft ø25.4
Parallel key 6.35x6.35x31.75



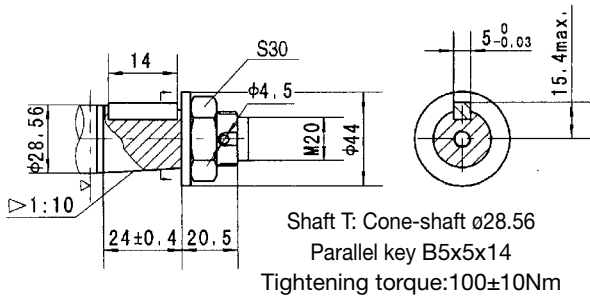
Shaft E: Splined SAE 6B



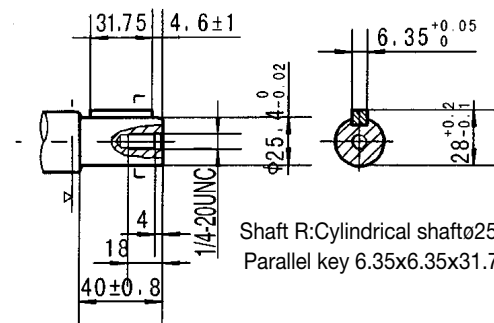
Shaft F: Splined
14-DP12/24



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

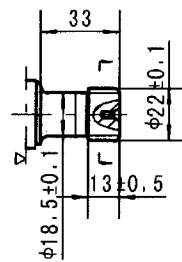
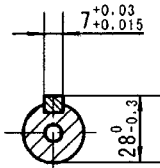
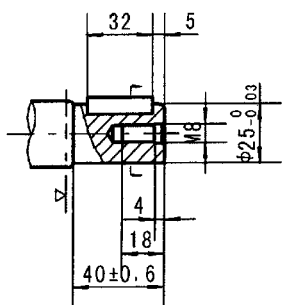
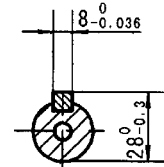
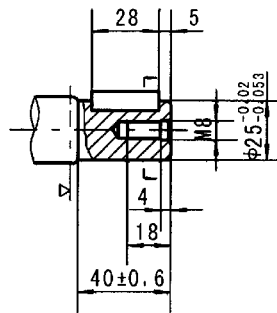
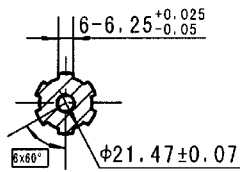
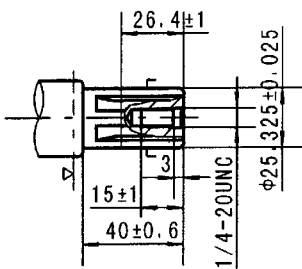
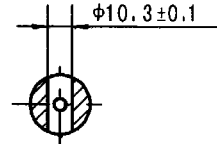
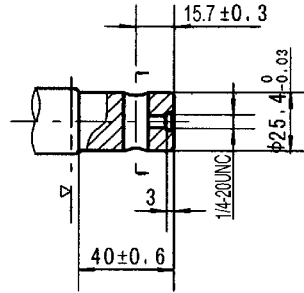
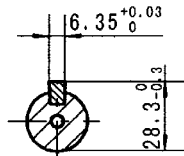
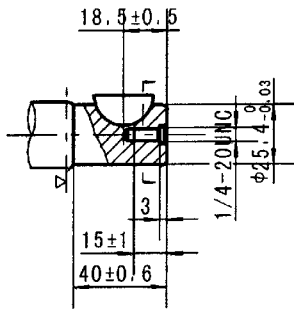


Shaft T: Cone-shaft ø28.56
Parallel key B5x5x14
Tightening torque: 100±10Nm

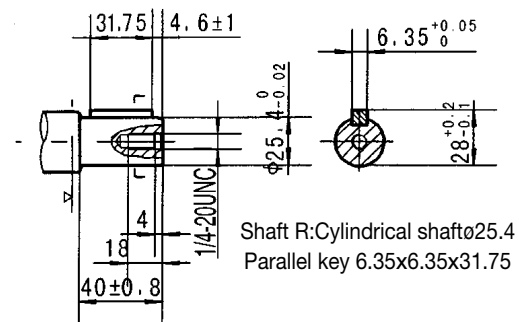
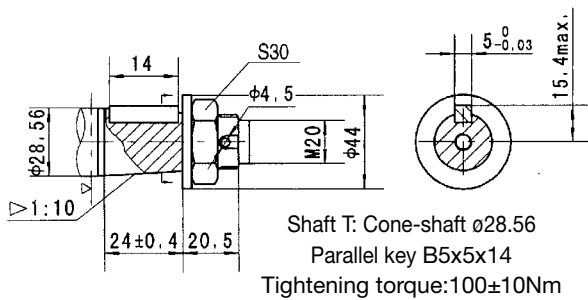
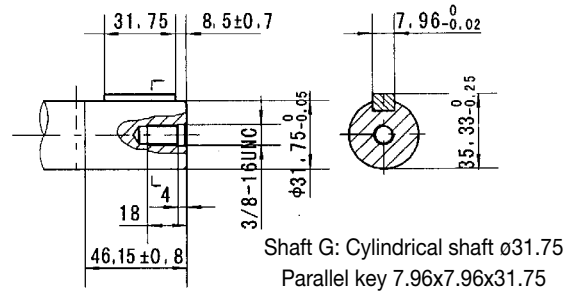
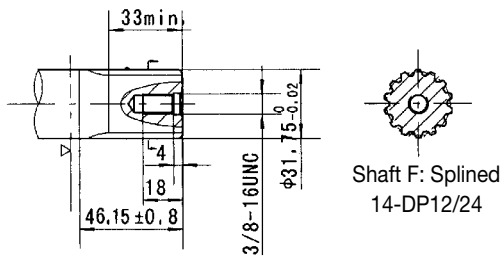
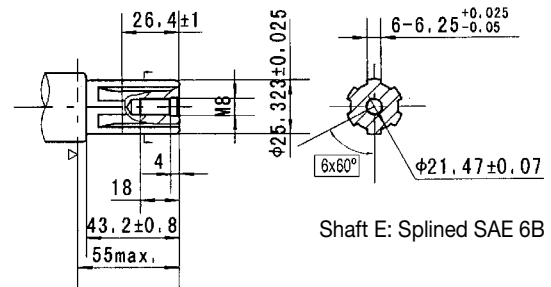
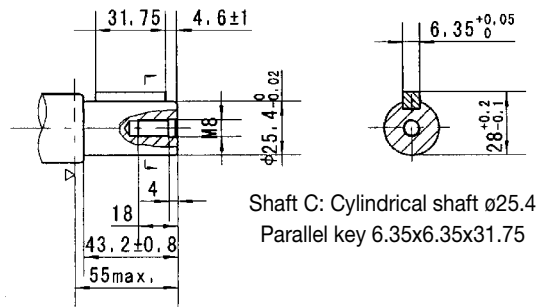
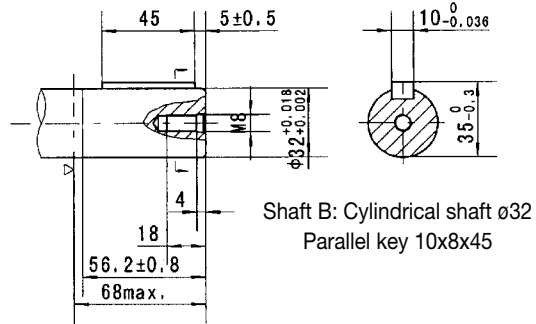
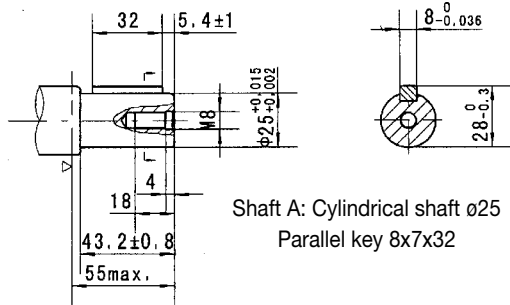


Shaft R: Cylindrical shaft ø25.4
Parallel key 6.35x6.35x31.75

Motor Mounting Surface →



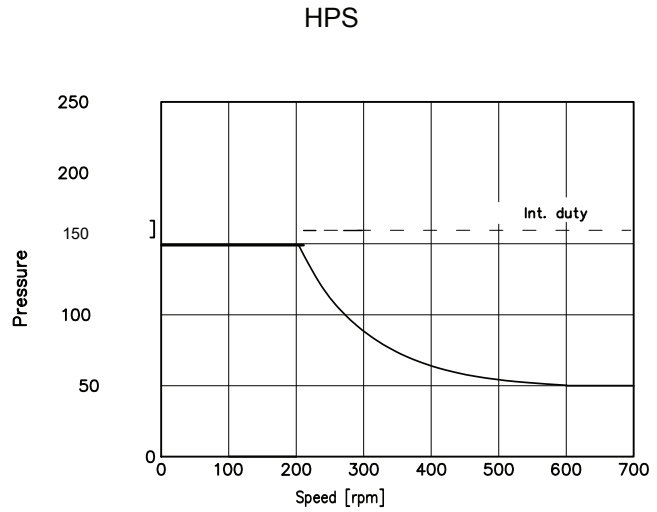
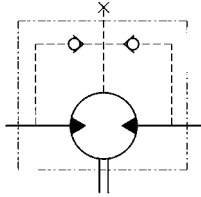
Motor Mounting Surface →



Motor Mounting Surface →



Permissible shaft seal pressure

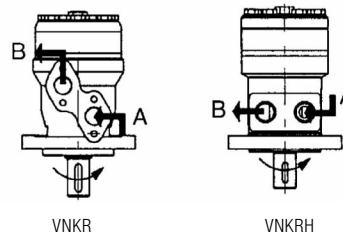


Vincke are made as standard with HPS seal version.

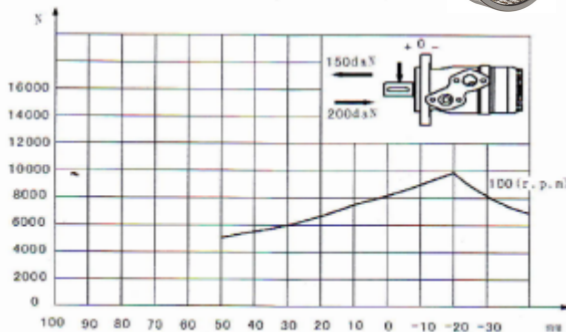
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line.
 When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Direction of shaft rotation : Standard

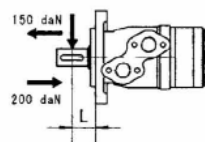
When facing shaft end of motor, shaft to rotate:
 Clockwise when port "A" is pressurized.
 Counter-clockwise when port "B" is pressurized.



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



VNKR VNKRH ORDER INFORMATION

	1	2	3	4	5	6	7	8
VNKR								
Pos.1	2	3	4	5	6	7	8	
Code	Disp.	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function	
	36	A	Shaft 025.4, parallel Key 8x7x32	D	G1/2 Manifold Mount 4-M8, G1/4	00	Standard	Omit
	50	C	Shaft 025.4, parallel Key 6.35x6.35x31.75	M	M22x1.5 Manifold Mount 4-M8, M14x1.5	Omit	Standard	N
	80	E	Shaft 025.4, splined tooth SAE 6B	S	7/8-14 O-ring manifold 4-5/16-18UNC, 7/16-20UNF	00	Standard	O
	100	R	Short shaft 025.4, parallel key 6.35x6.35x31.75	P	1/2-14 NPTF Manifold 4-5/16-18UNC, 7/16-20UNF	00	Standard	F
	125	B	Shaft 032, parallel Key 10x8x45	R	PT(Rc)1/2 Manifold 4-M8, PT(Rc)1/4	00	Standard	LS
	160	H4	4-3/8-16 Square-flange, pilot 044.4x2.8			00	Standard	N1
	200	H5	4-M10 Square-flange, pilot 044.4x2.8			00	Standard	SK
	250							
	315							
	375							

	1	2	3	4	5	6	7	8
VNKRH								
Pos.1	2	3	4	5	6	7	8	
Code	Disp.	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function	
	36	K	Shaft 025.4, Woodruff Key 025.4x6.35	G	G1/2, G1/4	00	Standard	Omit
	50	S	Sub-shaft 025.4, splined tooth SAE 6B	S	7/8-14 O-ring 7/16-20UNF (G1/4)	00	Standard	N
	80	A	Shaft 025, parallel key 8x7x32	P	1/2-14 NPTF, 7/16-20UNF (G1/4)	00	Standard	O
	100	R	Shaft 025.4, parallel key 6.35x6.35x31.75	T	3/4-16 O-ring, 7/16-20UNF	00	Standard	F
	125	H1	Sub-shaft 025.4, Pin hole 010.3 Shaft 025.4, pin hole 08	R	PT(Rc)1/2, PT(Rc)1/4	00	Standard	LS
	160	H4	4-3/8-16 Square-flange, pilot 044.4x2.8	B4	010 O-ring manifold	00	Standard	N1
	200	H5	4-M10 Square-flange, pilot 044.4x2.8	B5	4x5/16-18, 7/16-20UNF	00	Standard	SK
	250							
	315	T2	Shaft 022.22, splined tooth 13-DP16/32	M1	010 O-ring manifold 4xM8, G1/4	00	Standard	
	375	P	Cone shaft 025.4, woodruff key 025.4x6.35	M2	M18x1.5, M10x1	00	Standard	
		J	Shaft 025, parallel Key 8x7x28 Shaft 025, parallel Key 7x7x32	M3	M20x1.5, M10x1 M22x1.5, M10x1	00	Standard	





VNKRK 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 provide small volume, high efficiency and long life.
- * Shaft seal can bear high pressure of motor of which can be used in parallel or in series.
- * Advanced construction design, high power and low weight.

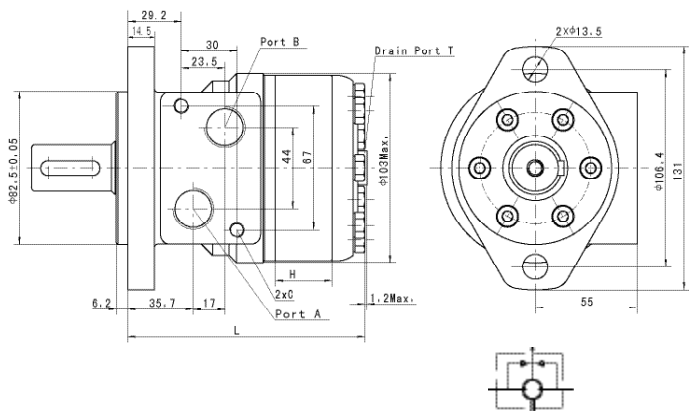
Main Specification

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

Code	Displacement [cm ³ /rev]	Max.Speed [rpm]			Max.Torque [Nm]		Max.output [kW]		Max.pressure [MPa]		Max.Oil Flow[L/min]
		cont.	int.	cont.	int.	cont.	int.	cont.	int.		
VNKRK 36	36	1111	66	83	9	10,4	14	17,5	40		
VNKRK 50	51,7	780	100	129	9	10,4	14	17,5	40		
VNKRK 80	81,5	744	158	196	10,4	12,6	14	17,5	60		
VNKRK 100	102	595	200	242	10,8	12,8	14	17,5	60		
VNKRK 125	127,2	480	248	298	10,8	12,5	14	17,5	60		
VNKRK 160	157,2	382	315	384	10,4	11,5	14	17,5	60		
VNKRK 200	194,5	301	339	419	8,8	10,2	12,5	15,5	60		
VNKRK 250	253,3	238	403	474	8,1	9,4	11	14	60		
VNKRK 315	317,5	191	398	498	7,4	7,8	9	12,5	60		
VNKRK 375	381,4	162	373	466	6,2	7,1	7,5	9	60		

* Intermittent operation: the permissible values may occur for max.10% of every minute

Type	H	L
VNKRK36	7	105
VNKRK50	10	108
VNKRK80	16	114
VNKRK100	20	118
VNKRK125	25	123
VNKRK160	305	128.5
VNKRK200	381	136
VNKRK250	50	148
VNKRK315	62	160
VNKRK375	74	172



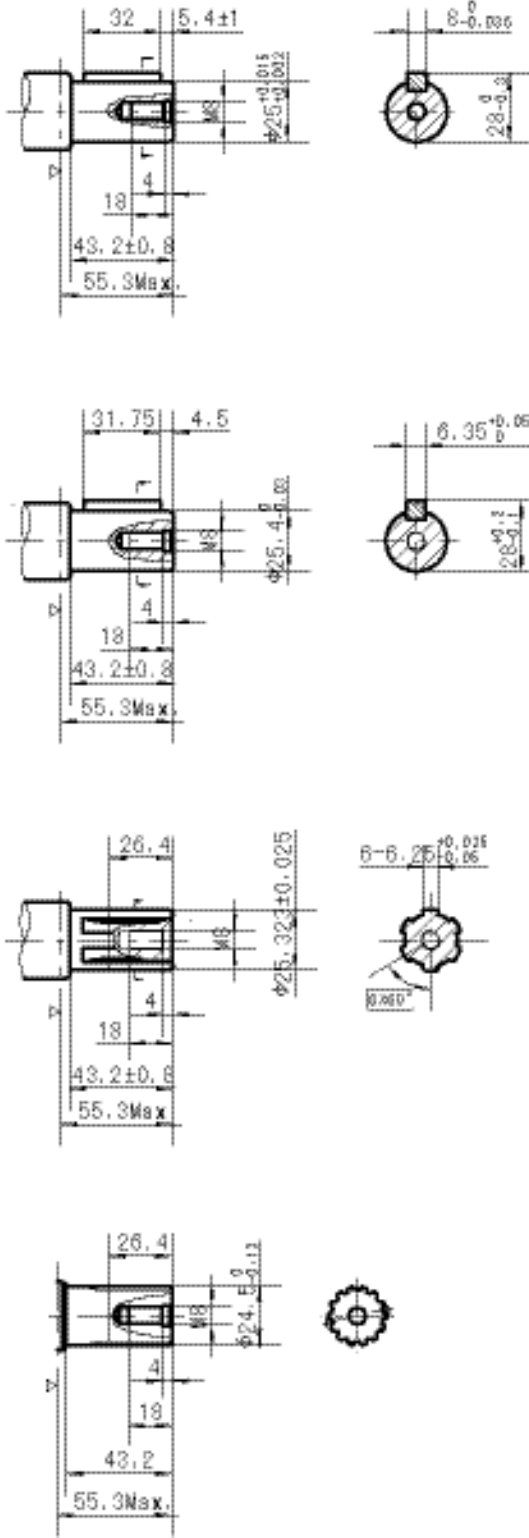
Code Mounting	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (16.7)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC (13)	4-5/16-18UNC (13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)

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





SHAFT EXTENSIONS FOR VNKRK MOTORS



Motor Mounting Surface →

VNKRK	1	2	3	4	5	6	7	8
Pos.1	Code	2	3	4	5	6	7	8
	Disp.	36 50 80 100 125 160 200 250 315 375	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function
	Omit	2 2-Ø13.5 Rhomb-flange , pilot Ø82.5×6.2	A C E W T	Shaft Ø25.4 , parallel key 8×7×32 Shaft Ø25.4 , parallel key 6.35×6.35×31.75 Shaft Ø25.4 , splined key SEA 6B Shaft Ø24.5, splined B25X22 Cone shaft Ø28.56, parallel key B5×5×14	D M S P R G1/2 Manifold 4×M8, G1/4 M22×1.5 Manifold 4×M8, M14×1.5 7/8-14 O-ring manifold 4×5/16-18UNC, 7/16-20UNF 1/2-14NPTF manifold 4×5/16-18UNC, 7/16-20UNF PT(Rc)1/2 manifold 4×M8, PT(Rc)1/4	Omit R Standard Opposite	00 Omit B S No paint Blue Black Silver grey	Omit F 0 Standard Free Running No case drain



VNKH series motor adapt the advanced Geroler gear set design with shaft distribution flow, which can automatically compensate in operating with high pressure, provide reliable and smooth operation, high efficiency and long life.

Characteristic features:

- *Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth, reliable operation and high efficiency.
- *Shaft seal can bear high pressure of back and the motor can be used in parallel or series.
- *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.

Main Specification

Type		VNKH 200	VNKH 250	VNKH 315	VNKH 400	VNKH 500
Geometric displacement (cm ³ /rev.)		203,2	255,9	316,1	406,4	489,2
Max. speed (rpm)	cont.	366	290	236	183	155
	int.	439	348	282	220	184
Max. torque (N•m)	cont.	510	621	740	850	830
	int.	579	702	827	990	1040
	peak	651	790	980	1092	1170
Max. output (kW)	cont.	16	16	14	12,5	11
	int.	18,5	18,5	15,5	15	14
Max. pressure drop (MPa)	cont.	17,5	17,5	17,5	15,5	12,5
	int.	20	20	20	19	16
	peak	22,5	22,5	22,5	21	18
Max. flow (L/min)	cont.	75	75	75	75	75
	int.	90	90	90	90	90
Weight		10,5	11	11,5	12,3	13

Type	Max.inlet pressure	Max.return pressure with drain line
VNKH20,0-50,0 (MPa)	cont.	17,5
	int.	20,0
	peak	22,5

- * 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.
- * Technical data VNKH with 35mm cylindrical, 1¹/₄ in splined and 35mm tapered shaft.



VNKH 200 [203.2cm³/rev.]

		Pressure (MPa)						Max.cont.	Max.int.
		3.5	7	10.5	14	17.5	20		
Flow (L/min)	5	98	194	284					
	10	101	204	301	391	482			
	20	99	201	304	402	509	576		
	30	145	143	139	130	114	101		
	40	90	190	292	399	507	578		
	50	82	183	284	392	500	571		
	60	73	174	274	384	493	563		
	70	63	163	264	374	481	554		
	75	59	157	259	366	475	547		
	80	53	150	253	358	466	538		
	90	39	140	241	348	456	526		
	Max.cont.	366	365	363	355	335	319		
	Max.int.	443	437	434	426	407	392		

VNKH 250 [255.9cm³/rev.]

		Pressure (MPa)						Max.cont.	Max.int.
		3.5	7	9	12	14.5	17.5		
Flow (L/min)	5	121	246	318	398				
	10	130	258	331	425	515	595		
	20	130	258	332	432	520	621	702	
	30	115	113	111	105	96	84	75	
	40	115	240	323	422	513	616	698	
	50	105	232	314	411	505	606	687	
	60	94	220	302	401	496	596	676	
	70	81.4	209	288	389	484	582	666	
	75	72	203	280	381	475	574	659	
	80	66	194	273	371	467	566	651	
	90	49	178	256	355	453	552	634	
	Max.cont.	290	289	287	279	266	251	236	
	Max.int.	348	347	345	337	325	309	292	

VNKH 315 [316.1cm³/rev.]

		Pressure (MPa)						Max.cont.	Max.int.
		3.5	7.5	10	13.5	15.5	17.5		
Flow (L/min)	5	155	325						
	10	163	342	454	556				
	20	169	349	469	582	664	733	809	
	30	165	344	470	580	669	740	824	
	40	154	337	465	577	663	737	827	
	50	141	325	455	568	656	728	824	
	60	121	312	440	555	643	715	812	
	70	103	298	425	541	631	703	800	
	75	94	287	417	529	623	696	792	
	80	82	277	406	518	611	688	784	
	90	62	256	386	496	593	669	767	
	Max.cont.	236	233	224	215	196	184	166	
	Max.int.	282	280	275	266	248	234	209	

VNKH 400 [406.4cm³/rev.]

		Pressure (MPa)						Max.cont.	Max.int.
		3.5	6	10.5	12.5	15.5	19		
Flow (L/min)	5	196	348	516					
	10	205	363	546	702	859			
	20	209	366	543	708	874	988		
	30	201	357	542	706	864	984		
	40	195	346	532	701	858	973		
	50	173	332	518	687	848	958		
	60	154	319	501	668	833	944		
	70	138	305	480	649	814	925		
	75	128	294	466	637	802	911		
	80	113	277	451	621	786	899		
	90	90	256	433	595	767	881		
	Max.cont.	183	181	177	163	149	138		
	Max.int.	220	220	215	202	183	165		

Torque (N·m) 593
Speed (rpm) 248

cont.
int.





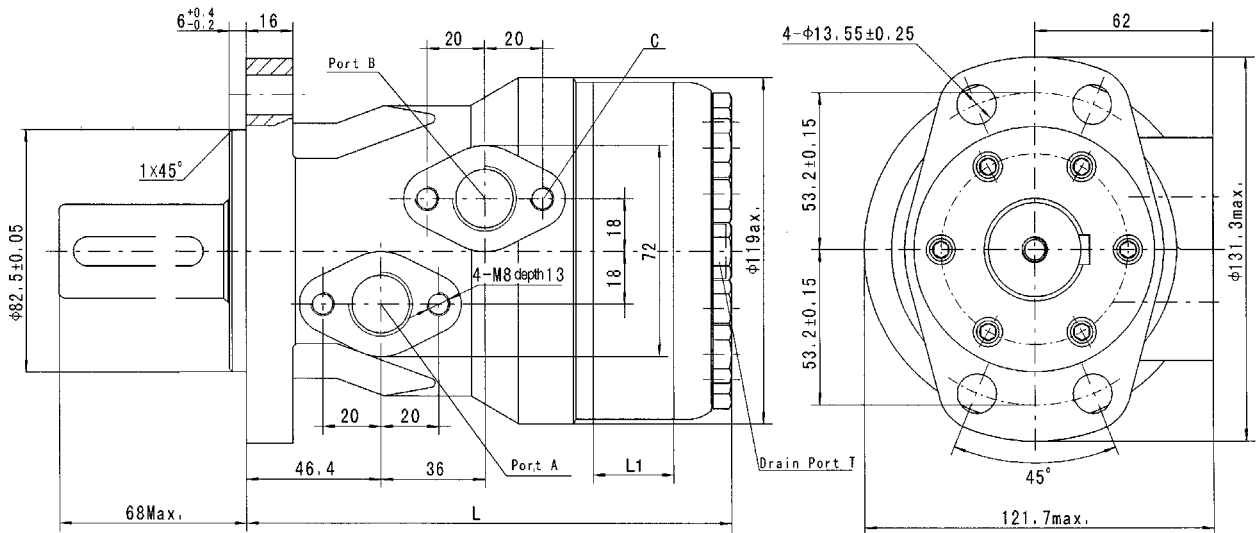
VNKH 500 [489.2cm³/rev.]

Pressure (MPa)

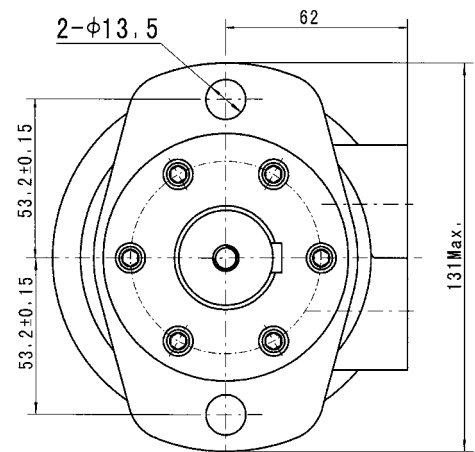
	Pressure (MPa)						
	2.5	5	8.5	10	Max.cont	Max.int	
Flow (L/min)	5	165 11	317 11	516 8			
	10	178 20	335 19	555 17	669 15	791 13	969 9
	20	177 42	331 42	559 41	673 38	799 36	988 29
	30	172 64	320 63	553 61	663 57	792 53	983 47
	40	163 85	309 85	541 83	654 79	783 75	971 67
	50	146 103	296 103	523 103	635 97	768 93	954 85
	60	121 124	275 124	502 123	614 117	747 113	934 103
	70	97 148	256 148	482 148	597 140	729 134	917 122
	Max.cont.	79	240	469	582	714	902
	75	155	155	155	152	144	130
	Max.int.	60	226	453	570	701	884
		80	166	166	166	159	139
		90	34	201	421	550	673
		184	183	182	177	166	155

cont.
int.

Torque (N·m) 673
Speed (rpm) 166

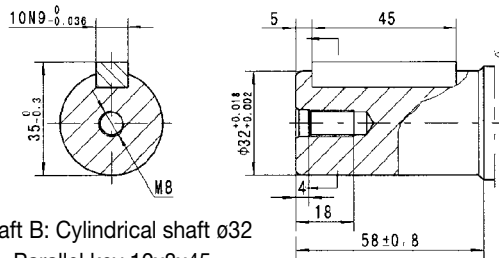


Flange 2

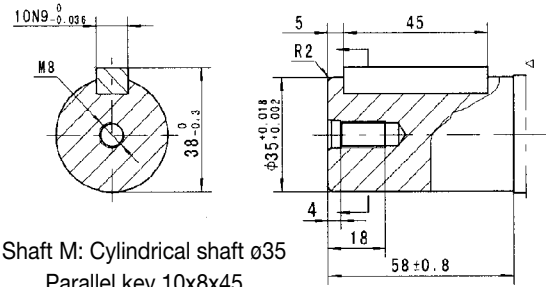


Model	L	L1
VNKH-160	162	21
VNKH-200	168	27
VNKH-250	175	34
VNKH-315	184	42
VNKH-400	195	54
VNKH-500	206	65

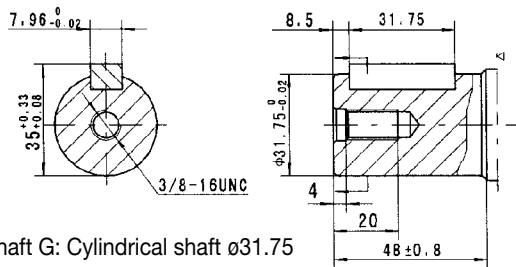
Code Mounting	D (depth)	M (depth)	S (depth)	P (depth)	R (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (15)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)	7/16-20UNF (12)	PT(RC)1/4 1/4



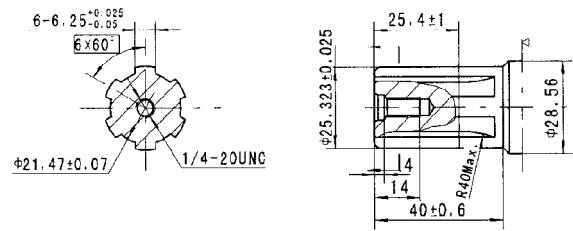
Shaft B: Cylindrical shaft ø32
Parallel key 10x8x45



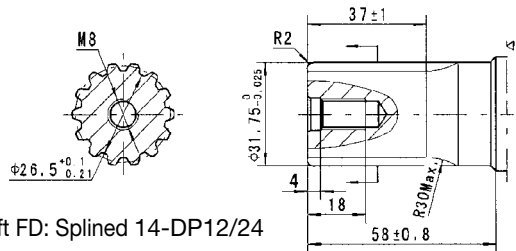
Shaft M: Cylindrical shaft ø35
Parallel key 10x8x45



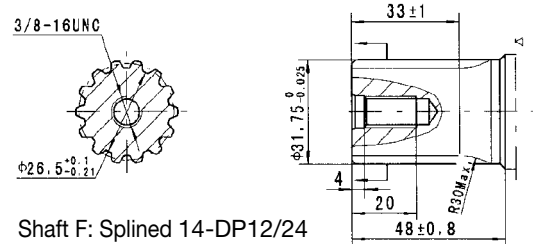
Shaft G: Cylindrical shaft ø31.75
Parallel key 7.96x7.96x31.75



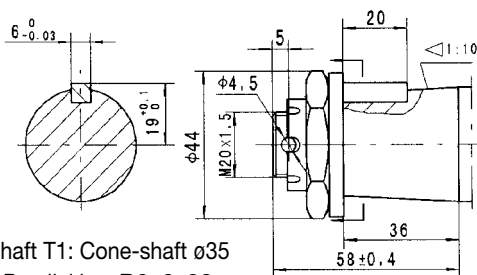
Shaft S: Splined SAE 6B



Shaft FD: Splined 14-DP12/24



Shaft F: Splined 14-DP12/24

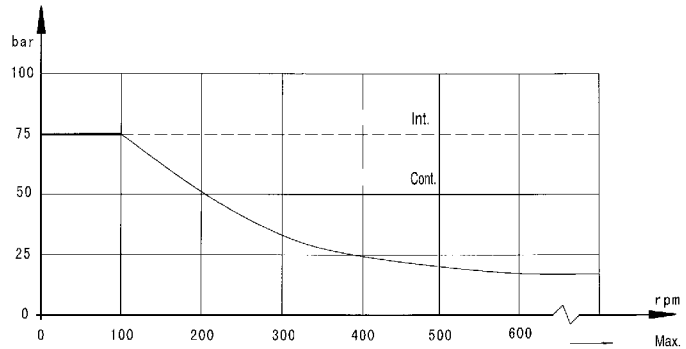
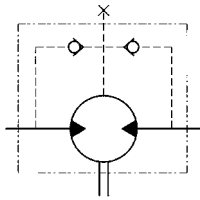


Shaft T1: Cone-shaft ø35
Parallel key B6x6x20
Tightening torque: 200 ± 10 Nxm



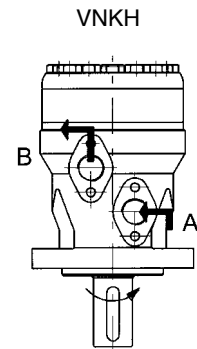
Permissible shaft seal pressure

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

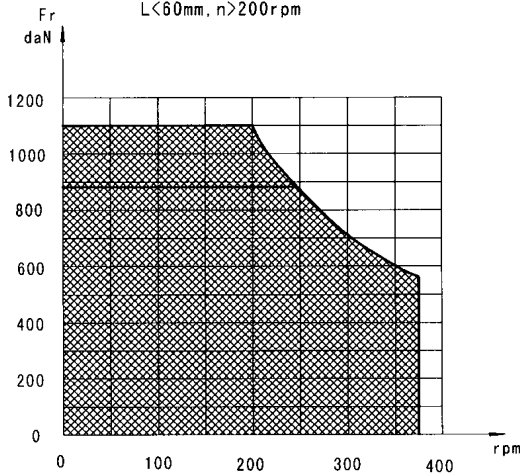
When facing shaft end of motor, shaft to rotate:
 Clockwise when port "A" is pressurized.
 Counter-clockwise when port "B" is pressurized.



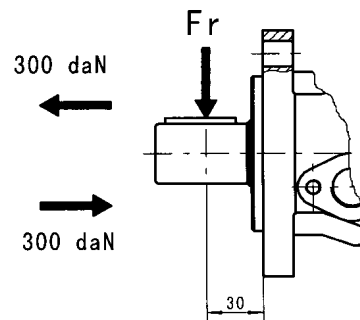
Status of the shaft's radial force

$$F_r = \frac{1100}{n} \times \frac{25000}{103.5+L} \text{ daN}$$

$L < 60\text{mm}, n > 200\text{rpm}$



— shaft $\phi 17$ ($\pm 25.4\text{mm}$) and shaft SAE 6B
 The drawing is the Possible load when $L=30\text{mm}$.



F_r =Radial Force (daN)
 L =Distance (mm)
 n =Speed (rpm)

VNKH ORDER INFORMATION

VNKH	1	2	3	4	5	6	7	8
------	---	---	---	---	---	---	---	---

Pos.1	2	3	4	5	6	7	8
Code	Flange	Output shaft	Ports and drain port	Rotation direction	Paint	Unusually function	
160	4 4×Ø13.5 Rhomb×flange Pilot Ø82.5×6	B	Shaft Ø32 , parallel key 10×8×45	D	G1/2 Manifold mount 4×M8, G1/4	Standard	
200		M	Shaft Ø35, parallel key 10×8×45	M	M22×1.5 Manifold mount 4×M8, M14×1.5		No drain
250	2 2×Ø13.5 Rhomb×flange Pilot Ø82.5×6	F	Shaft Ø31.75, splined key 14-DP12/24	S	7/8-14 O×ring Manifold mount 4×5/16-18UNC,7/16-20UNF	Free Running	
315		FD	Long Shaft Ø31.75, splined key 14-DP12/24	P	1/2-14 NPTF Manifold mount 4×5/16-18UNC,7/16-20UNF	Low Speed	
400		G	Shaft Ø32 , parallel key 7.96×7.96×31.75	R	PT(Rc) 1/2 Manifold mount 4×M8,PT(Rc)1/4		
500		T1	Cone shaft Ø35, parallel key B6×6×20				
		S	Shaft Ø25.4 , parallel key SAE 6B				

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.



VNKPLUS new series motor adapt the advanced Geroler gear set designed with disc distribution flow and high pressure. The unit can be supplied the individual variant in operating multifunction in accordance with requirement of applications.

Characteristic featurres:

- * The motor has the same dimensions and mounting data as the hydraulic motors type VNK.
- * The motor is described with 15-20% higher technical data(Max. torque and Max. pressure drop), thereby higher power. The new motor is suitable for vehicles with greater loads and pressure drop.

Main Specification

Type		VNKPLUS 80	VNKPLUS 100	VNKPLUS 125	VNKPLUS 160	VNKPLUS 200	VNKPLUS 250	VNKPLUS 315	VNKPLUS 400	VNKPLUS 475
Geometric displacement (cm ³ /rev.)		80.6	100.8	125	154	194	243	311	394	475
Max. speed (rpm)	cont.	800	748	600	470	375	300	240	185	155
	int.	988	900	720	560	450	360	280	225	185
Max. torque (N•m)	cont.	225	290	365	485	586	708	880	880	910
	int.	250	320	400	540	645	806	960	960	960
Max. output (kW)	cont.	16	18	18	18.1	18.1	18	17	11	9
	int.	20	22	23	25	24	23.8	20.2	12	11
Max. pressure drop (MPa)	cont.	20.5	20.5	20.5	21	21	20	20	16	14
	int.	22.5	22.5	22.5	22.5	22.5	22.5	22.5	17.5	15
	peak	29.5	29.5	29.5	28	27	27	26	21	17.5
Max. flow (L/min)	cont.	65	75	75	75	75	75	75	75	75
	int.	80	90	90	90	90	90	90	90	90
Max. inlet pressure (MPa)	cont.	25	25	25	25	25	25	25	25	25
	int.	30	30	30	30	30	30	30	30	30
Weight		9.8	10	10.3	10.7	11.1	11.6	12.3	13.2	14.3

- * 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.



VNKSPLUS80 [80.6cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	20.5	22.5
Flow (L/min)	15	35	80	120	158	195	228	249
	30	180	174	168	164	158	151	143
	40	35	80	120	158	195	232	260
	50	362	352	346	338	330	322	310
	60	35	79	119	155	193	227	250
	Max.cont.	487	480	468	457	446	438	425
	Max.int.	30	77	117	153	192	224	248
	80	612	603	592	581	572	558	542
Flow (L/min)	15	28	77	117	153	192	224	243
	30	735	726	718	703	687	673	646
	40	26	75	116	151	188	217	236
	50	794	786	773	760	744	722	706
	60	24	72	109	142	176	206	227
	Max.cont.	981	968	955	925	893	870	832
	Max.int.	80	981	968	955	925	893	870
	80	981	968	955	925	893	870	832

VNKSPLUS100 [100.8cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	20.5	22.5
Flow (L/min)	15	48	95	150	200	250	282	310
	30	146	144	139	135	130	120	105
	40	45	94	146	198	250	290	317
	50	291	289	278	274	269	258	242
	60	43	89	142	196	248	288	316
	Max.cont.	387	384	374	359	350	335	320
	Max.int.	40	88	135	194	247	286	315
	90	486	483	473	462	450	430	420
Flow (L/min)	15	37	88	132	185	244	283	312
	30	588	584	574	562	550	538	520
	40	35	80	130	180	240	279	310
	50	740	735	720	705	696	676	653
	60	30	75	124	170	236	271	303
	Max.cont.	850	840	810	787	770	750	747
	Max.int.	90	850	840	810	787	770	747
	90	850	840	810	787	770	750	747

VNKSPLUS125 [125cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	20.5	22.5
Flow (L/min)	15	55	120	176	245	309	345	375
	30	115	113	110	104	98	90	84
	40	55	120	175	250	315	364	404
	50	231	228	223	214	202	188	172
	60	53	118	178	250	315	364	403
	Max.cont.	312	309	290	289	278	262	235
	Max.int.	50	115	176	248	315	362	397
	90	391	386	378	365	352	339	308
Flow (L/min)	15	45	113	171	241	308	358	397
	30	469	461	450	437	425	400	372
	40	45	110	167	240	306	352	389
	50	588	574	560	544	526	505	481
	60	40	105	162	237	301	343	378
	Max.cont.	710	696	680	661	646	628	610
	Max.int.	90	710	696	680	661	646	610
	90	710	696	680	661	646	628	610

VNKSPLUS160 [154cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	21	22.5
Flow (L/min)	15	70	142	215	298	372	435	476
	30	93	91	89	85	80	76	58
	40	73	151	225	312	382	456	492
	50	189	187	181	176	170	162	153
	60	75	152	228	314	383	454	488
	Max.cont.	252	250	246	239	234	228	212
	Max.int.	70	148	225	305	372	445	480
	90	313	310	306	298	293	285	272
Flow (L/min)	15	68	143	218	296	370	442	480
	30	378	376	370	362	353	346	332
	40	62	140	211	291	365	439	475
	50	475	469	461	450	441	432	414
	60	59	131	202	286	357	425	460
	Max.cont.	567	561	554	543	532	520	509
	Max.int.	90	567	561	554	543	532	509
	90	567	561	554	543	532	520	509

TORQUE(N·m) 301
SPEED (r/min) 646

cont.
int.



VNKSPPLUS200 [194cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	21	22.5
Flow (L/min)	15	87	179	273	371	471	562	610
	30	74	73	71	68	64	60	48
	40	91	190	288	386	489	572	618
	50	150	148	143	140	134	128	119
	60	94	193	296	394	498	584	645
	75	198	195	192	188	183	178	167
Max.cont.	90	90	191	292	389	493	580	634
Max.int.	90	248	246	241	236	230	223	212
	85	185	279	382	483	575	622	
	300	295	288	281	273	263	251	
	78	176	271	370	472	561	610	
	374	370	364	360	352	340	331	
	68	163	265	361	456	545	599	
	443	440	435	428	424	413	400	

VNKSPPLUS250 [243cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	20	22.5
Flow (L/min)	15	110	231	351	462	585	681	778
	30	59	58	56	53	50	46	35
	40	116	236	359	475	597	700	790
	50	119	117	114	108	102	92	80
	60	118	241	363	480	599	706	796
	75	162	159	156	150	143	134	121
Max.cont.	90	111	234	352	472	591	693	788
Max.int.	90	203	201	197	191	182	173	158
	106	224	345	462	582	685	772	
	244	242	237	230	220	208	194	
	101	214	340	454	570	670	760	
	303	299	294	285	272	260	244	
	93	209	335	447	559	657	749	
	363	359	354	348	340	328	303	

VNKSPPLUS315 [311cm³/rev.]

		Pressure (MPa)						
		3.5	7	10.5	14	17.5	20	22.5
Flow (L/min)	15	148	304	456	613	762	879	978
	30	48	47	45	43	41	39	27
	40	155	314	465	635	778	884	988
	50	95	93	91	89	86	82	67
	60	160	321	479	650	796	906	997
	75	127	125	121	117	115	109	91
Max.cont.	90	155	314	465	638	780	886	988
Max.int.	90	159	157	153	149	145	142	128
	151	306	453	620	765	886	976	
	187	185	181	176	169	157	143	
	146	300	445	613	755	875	966	
	238	236	232	227	224	220	196	
	135	284	436	601	740	863	952	
	286	283	278	272	265	257	232	

VNKSPPLUS400 [394cm³/rev.]

		Pressure (MPa)					
		3.5	7	10.5	14	16	17.5
Flow (L/min)	15	186	379	578	779	896	986
	30	37	36	35	33	31	29
	40	190	388	590	791	905	991
	50	75	73	71	68	65	61
	60	195	394	596	797	912	998
	75	99	97	95	93	90	85
Max.cont.	90	191	388	587	785	904	983
Max.int.	90	125	123	118	114	109	102
	186	388	587	785	904	983	
	149	146	142	137	131	122	
	181	372	576	770	891	973	
	187	183	177	171	164	153	
	176	367	571	766	883	965	
	226	221	214	208	199	183	

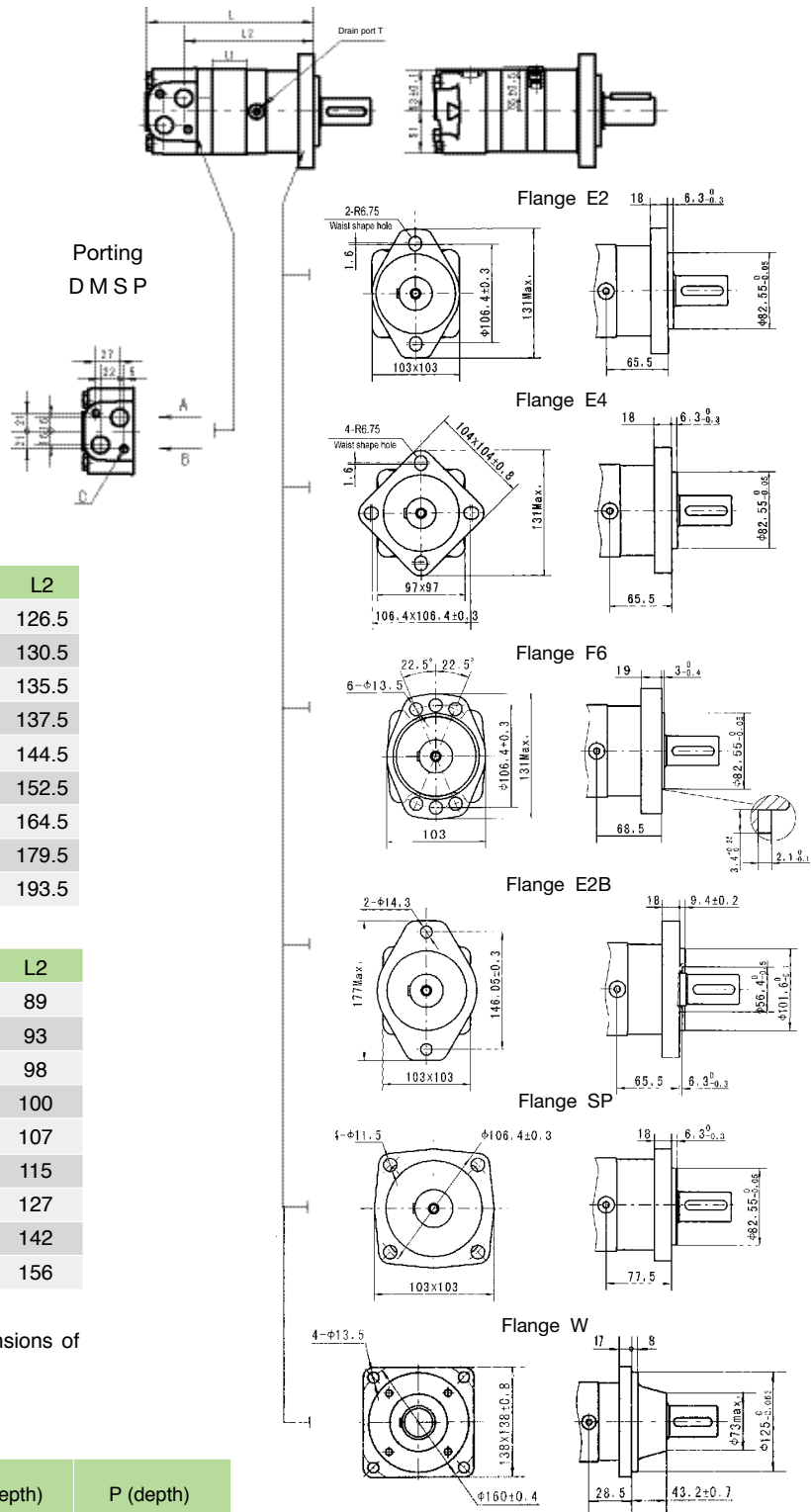
VNKSPPLUS475 [475cm³/rev.]

		Pressure (MPa)				
		3.5	7	10.5	14	15
Flow (L/min)	15	218	439	661	892	995
	30	30	29	28	27	25
	40	223	450	676	910	1002
	50	61	60	58	56	53
	60	228	461	689	927	1017
	75	82	80	77	74	68
Max.cont.	90	224	456	682	920	1008
Max.int.	90	103	101	97	92	86
	220	451	677	913	998	
	123	121	118	112	105	
	212	443	664	901	980	
	155	153	147	140	132	
	196	421	643	877	959	
	186	184	178	170	157	

TORQUE (N·m) 766
SPEED (rpm) 208

cont.
int.



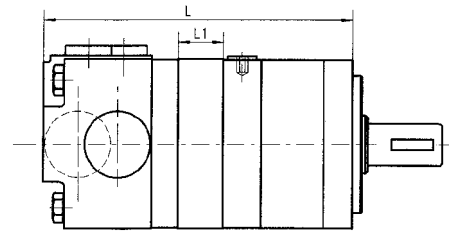
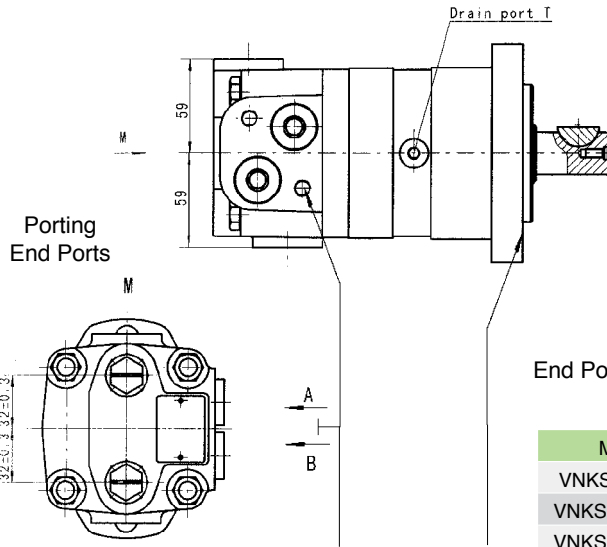


Model	L	L1	L2
VNKPLUS-80	170	16	126.5
VNKPLUS-100	174	20	130.5
VNKPLUS-125	179	25	135.5
VNKPLUS-160	181	27	137.5
VNKPLUS-200	188	34	144.5
VNKPLUS-250	196	42	152.5
VNKPLUS-315	208	54	164.5
VNKPLUS-400	223	69	179.5
VNKPLUS-475	237	83	193.5

Model	L	L1	L2
VNKPLUS-80-W	132.5	16	89
VNKPLUS-100-W	136.5	20	93
VNKPLUS-125-W	141.5	25	98
VNKPLUS-160-W	143.5	27	100
VNKPLUS-200-W	150.5	34	107
VNKPLUS-250-W	158.5	42	115
VNKPLUS-315-W	170.5	54	127
VNKPLUS-400-W	185.5	69	142
VNKPLUS-475-W	199.5	83	156

Note: If the mounting SP is used, the dimensions of L and L2 should plus 12 mm.

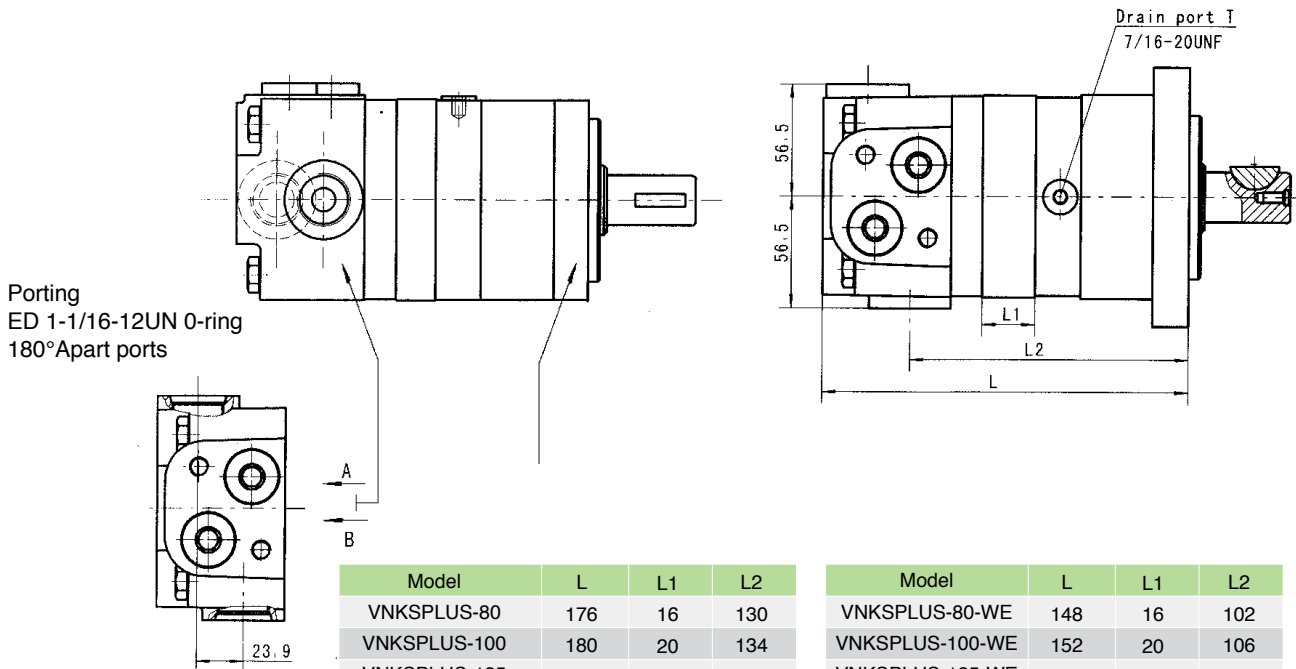
Code Mounting	D (depth)	M (depth)	S (depth)	P (depth)
P(A,B)	G1/2(18)	M22x1.5(18)	7/8-14 O-ring (18)	1/2-14NPTF (15)
T	G1/4(12)	M14x1.5(12)	7/16-20UNF(12)	7/16-20UNF(12)
C	2-M10(13)	2-M10 (13)	2-3/8-16UNC (13)	2-3/8-16UNC (13)



End Ports P(A\B)

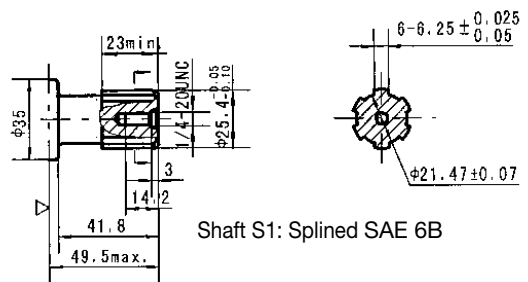
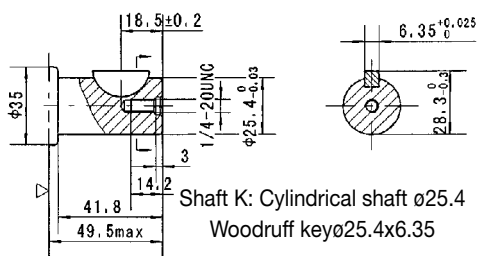
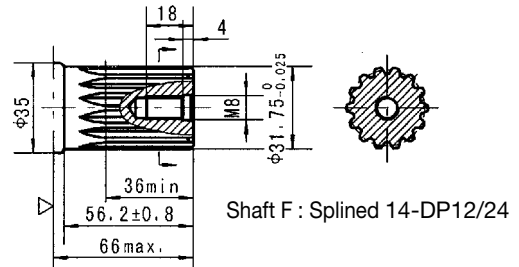
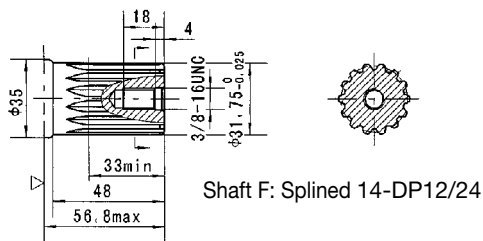
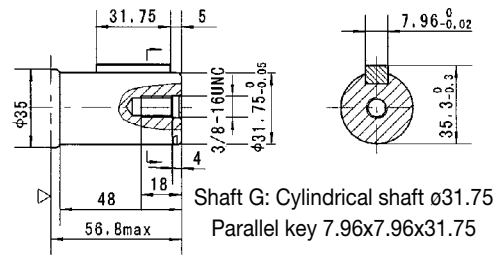
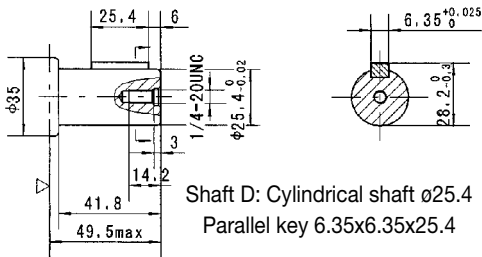
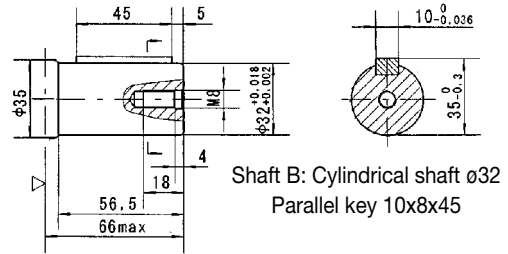
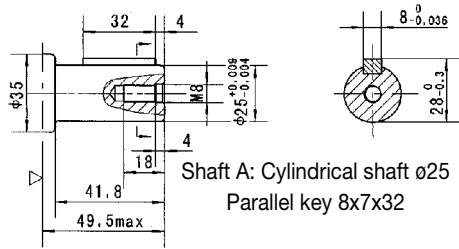
Model	L	L1	Model	L	L1
VNKSPLUS-80	176	16	VNKSPLUS-80-WE	148	16
VNKSPLUS-100	180	20	VNKSPLUS-100-WE	152	20
VNKSPLUS-125	185	25	VNKSPLUS-125-WE	157	25
VNKSPLUS-160	187	27	VNKSPLUS-160-WE	159	27
VNKSPLUS-200	194	34	VNKSPLUS-200-WE	166	34
VNKSPLUS-250	202	42	VNKSPLUS-250-WE	174	42
VNKSPLUS-315	214	54	VNKSPLUS-315-WE	186	54
VNKSPLUS-400	229	69	VNKSPLUS-400-WE	201	69
VNKSPLUS-475	243	83	VNKSPLUS-475-WE	215	83

Code Mounting	EE-D (depth)	EE-M2 (depth)	EE-S2 (depth)
P(A,B)	G1/2 (18)	M22 x 1.5 (18)	7/8-14 O-ring (18)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)

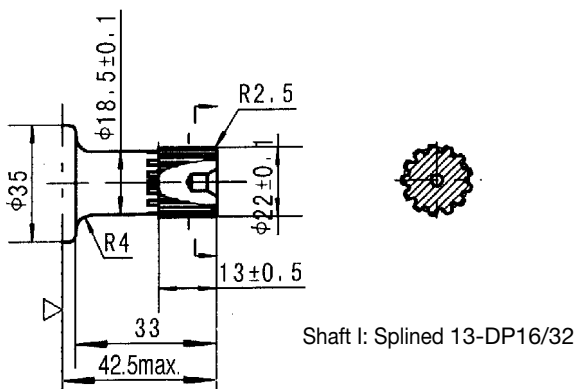
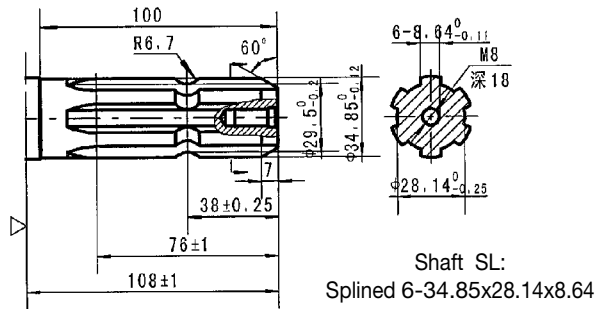
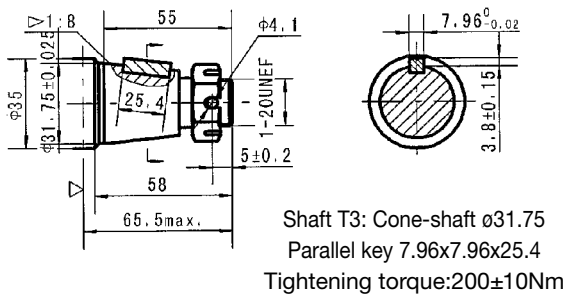
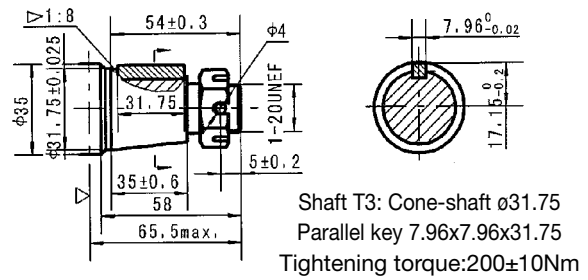
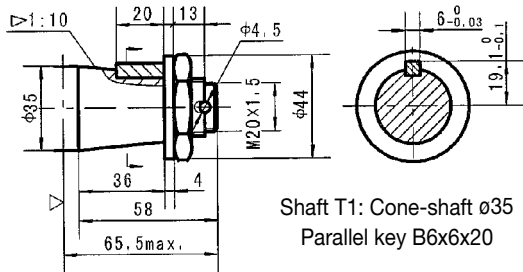


Porting ED 1-1/16-12UN 0-ring 180° Apart ports

Code Mounting	ED (depth)	Model	L	L1	L2	Model	L	L1	L2
P(A,B)	1-1/16-12UN (18)	VNKSPLUS-80	176	16	130	VNKSPLUS-80-WE	148	16	102
T	7/16-20UNF (12)	VNKSPLUS-100	180	20	134	VNKSPLUS-100-WE	152	20	106
		VNKSPLUS-125	185	25	139	VNKSPLUS-125-WE	157	25	111
		VNKSPLUS-160	187	27	141	VNKSPLUS-160-WE	159	27	113
		VNKSPLUS-200	194	34	148	VNKSPLUS-200-WE	166	34	119
		VNKSPLUS-250	202	42	156	VNKSPLUS-250-WE	178	42	127
		VNKSPLUS-315	214	54	168	VNKSPLUS-315-WE	190	54	139
		VNKSPLUS-400	229	69	183	VNKSPLUS-400-WE	205	69	154
		VNKSPLUS-475	243	83	197	VNKSPLUS-475-WE	219	83	168



Motor Mounting Surface →
(Dimension corresponding mounting E2, by analogy with others)

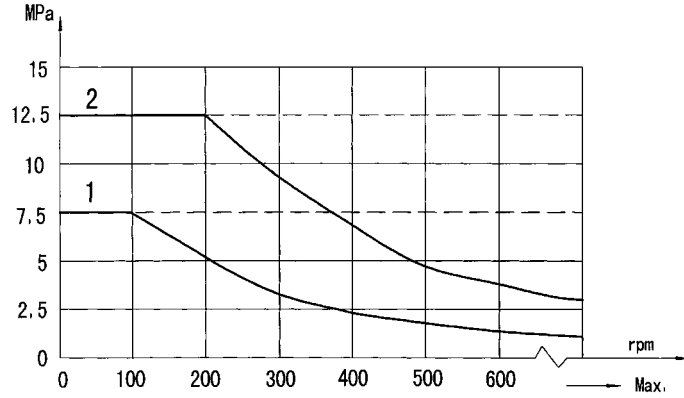
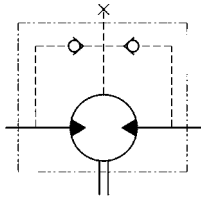


Motor Mounting Surface →

(Dimension corresponding mounting E2, by analogy with others)
Note: Mounting SP is the same with shaft modle T1, D,B, F and G.



Permissible shaft seal pressure

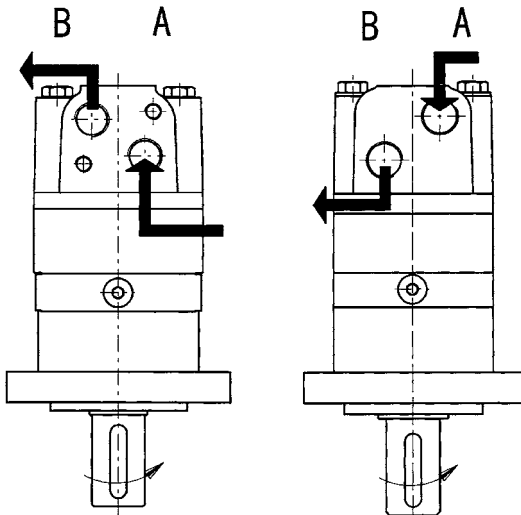


Note:1.Chart for standard shaft seal;
2.Chart for high pressure shaft seal.

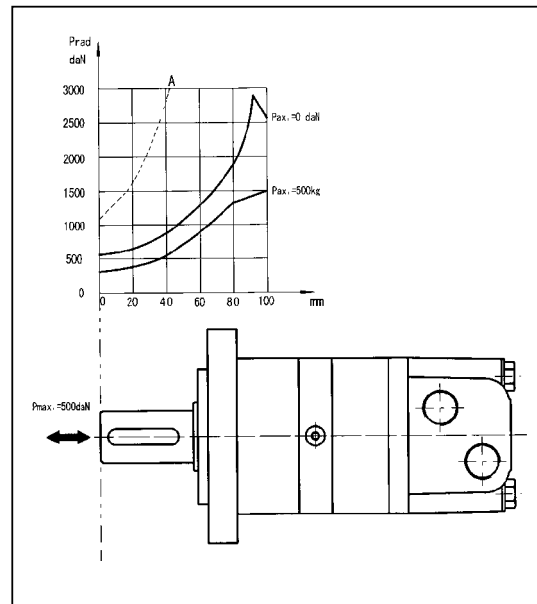
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Standard 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.



Axial and Radial forces



The output shaft runs in tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.



VNKSPLUS ORDER INFORMATION

VNKSPLUS	1	2	3	4	5	6	7	8
Pos.1	2	3	4	5	6	7	8	
Code	Disp.	Flange, Pilot, Port	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function	
	E2	2-Ø13.5 Rhomb-flange Ø106.4, Pilot Ø82.5x6.3	A Shaft Ø25 Parallel key 8x7x32 B Shaft Ø32 Parallel key 10x8x45 D Shaft Ø25.4, Parallel key 6.35x6.35x25.4 G Shaft Ø31.75, Parallel key 7.96x7.96x31.75 F Shaft Ø31.75, Splined key 1/4-DP12/24 FD Long Shaft Ø31.75, Splined key 1/4-DP12/24 SL Shaft Ø34.85, Splined key 6-34.85x28.14x8.64 T1 Cone-shaft Ø35 parallel key 86x6x20 T3 Cone-shaft Ø31.75, Parallel key 7.96x7.96x31.75 S1 Shaft Ø25.4 Splined key SAE 6B I Sub-shaft Ø22, Splined key 13-DP16/32	D G1/2 Manifold Mount 2-M10,G1/4 M M22x1.5 Manifold Mount 2-M10, M14x1.5 S 7/8-14UNF O-ring manifold P 2-3/8-16,7/16-20UNF 1/2-14NPTF manifold EE-D 2-3/8-16UNC,7/16-20UNF EE-M2 G1/2,G1/4(end port) EE-S2 M22x1.5,M14x1.5(end port) ED 7/8-14UNF O-ring,7/16-20 UNF(end port) 1-1/16-12UN O-ring,7/16-20 UNF(180°Apart:ports)	Omit R Standard Opposite	00 Omit B S No paint Blue Black Silver Grey	Omit F LS Standard Free Running Low Speed	

Note: When the table is used, please fill the code of left rows in the table and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. The informations of mounting flange, output shaft and ports are the same as VNK series. The SP flange afflies to shafts of T1, D, B, F, G. If the specification is not in the table or you have specific requirements, please contact us.





VNKT series motor adapt the advanced Geroler gear set design with disc distribution flow and high pressure. The unit can be supplied the individual variant in operating multifunction in accordance with requirement of applications.

Characteristic features:

- * Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
- * The output shaft adapts in tapered roller bearings that permit high axial and radial forces. Can offer capacities of high pressure and high torque in the wide of applications.
- * Advanced design in disc distribution flow, which can automatically compensate in operating with high volume efficiency and long life, provide smooth and reliable operation.

Type		VNKT 160	VNKT 200	VNKT 230	VNKT 250	VNKT 315	VNKT 400	VNKT 500	VNKT 630	VNKT 800
Geometric displacement (cm ³ /rev.)		161.1	201.4	232.5	251.8	326.3	410.9	523.6	629.1	801.8
Max. speed (rpm)	cont.	625	625	536	500	380	305	240	196	154
	int.	780	750	643	600	460	365	285	233	185
Max. torque (N•m)	cont.	470	590	670	730	950	1080	1220	1318	1464
	int.	560	710	821	880	1140	1260	1370	1498	1520
	peak	669	838	958	1036	1346.3	1450.3	1643.8	1618.8	1665
Max. output (kW)	cont.	27.7	34.9	34.7	34.5	34.9	31.2	28.8	25.3	22.2
	int.	32	40	40	40	40	35	35	27.5	26.8
Max. pressure drop (MPa)	cont.	20	20	20	20	20	18	16	14	12.5
	int.	24	24	24	24	24	21	18	16	13
	peak	28	28	28	28	28	24	21	19	16
Max. flow (L/min)	cont.	100	125	125	125	125	125	125	125	125
	int.	125	150	150	150	150	150	150	150	150
Max. inlet pressure (MPa)	cont.	21	21	21	21	21	21	21	21	21
	int.	25	25	25	25	25	25	25	25	25
	peak	30	30	30	30	30	30	30	30	30
Weight (kg)		19.5	20	20.4	20.5	21	22	23	24	25

- * 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.



VNKT 160 [161.1cm³/rev.]

		Pressure (MPa)						
		4	8	10	12	16	20	24
Flow (L/min)	10	88	176	228	275	361	447	535
		60	59	58	56	54	50	44
	20	89	181	234	277	372	459	557
		121	120	117	114	109	103	95
	40	91	180	235	277	381	471	573
		249	246	243	236	230	223	212
	60	82	178	235	277	381	470	572
		371	367	362	356	349	340	330
	80	78	173	229	276	379	466	567
		492	489	485	478	470	462	447
Max.cont.	100	70	160	218	269	370	455	558
		614	611	606	598	590	582	570
Max.int.		58	148	211	261	359	448	552
		770	764	758	750	741	731	715

VNKT 200 [201.4cm³/rev.]

		Pressure (MPa)						
		4	8	10	12	16	20	24
Flow (L/min)	10	124	233	289	340	454	560	669
		47	46	45	42	39	37	33
	20	125	239	298	347	468	576	696
		95	94	92	90	87	84	75
	40	120	241	296	352	475	589	716
		195	193	191	187	183	178	167
	60	116	237	295	352	478	589	718
		297	295	292	287	282	276	263
	80	108	231	289	350	474	586	716
		395	393	389	384	377	370	359
Max.cont.	100	99	227	286	344	471	580	712
		493	490	486	482	475	467	460
Max.int.	125	84	208	276	333	459	566	697
		615	611	607	602	595	588	572
Max.int.	150	70	194	260	324	447	554	682
		743	740	735	727	717	706	682

VNKT 250 [251.8cm³/rev.]

		Pressure (MPa)						
		4	8	10	12	16	20	24
Flow (L/min)	10	138	286	355	419	559	689	824
		38	38	37	36	34	32	31
	20	143	296	364	432	580	708	853
		76	75	74	72	70	67	62
	40	139	301	372	440	593	723	884
		156	154	152	149	146	142	134
	60	132	294	372	441	592	727	888
		237	236	233	229	224	219	207
	80	128	283	364	433	587	721	887
		317	316	314	308	303	299	284
Max.cont.	100	126	282	355	427	582	716	879
		396	394	391	387	381	373	359
Max.int.	125	116	260	340	414	568	703	864
		495	492	488	483	476	469	454
Max.int.	150	88	242	320	397	552	686	847
		592	589	585	580	572	565	545

VNKT 315 [326.3cm³/rev.]

		Pressure (MPa)						
		4	8	10	12	16	20	24
Flow (L/min)	10	184	363	453	545	734	891	1062
		30	29	28	27	26	25	23
	20	189	380	472	562	757	917	1109
		60	59	58	56	54	52	50
	40	191	381	484	570	774	954	1149
		121	120	118	115	112	109	104
	60	189	376	493	573	772	962	1154
		183	181	179	175	172	168	158
	80	179	369	479	565	768	954	1153
		244	242	239	236	231	227	217
Max.cont.	100	169	357	467	562	758	942	1143
		305	304	301	298	294	289	276
Max.int.	125	147	336	447	544	745	920	1127
		380	378	375	371	367	362	349
Max.int.	150	119	318	432	526	713	894	1097
		458	456	453	449	444	431	425

Torque (N·m) 552
Speed (rpm) 572

cont.
int.





VNKT 400 [410.9cm³/rev.]

Pressure (MPa)		Max.cont						Max.int
		3	6	9	12	15	18	21
Flow (L/min)	10	176	367	560	715	885	1050	1209
		24	23	22	21	20	19	18
	20	179	370	565	726	899	1071	1236
		49	48	47	44	42	40	38
	40	176	370	567	733	919	1091	1263
		96	95	93	90	87	83	79
	60	174	361	563	729	920	1095	1269
		145	143	139	135	131	127	121
	80	166	353	553	719	912	1084	1263
		193	191	188	184	180	176	170
100	150	339	538	708	896	1067	1252	
	242	240	238	234	228	224	218	
Max.cont.	125	302	300	298	294	289	285	278
Max.int.	150	126	292	508	666	852	1020	1197
		364	362	358	354	350	346	339

VNKT 500 [523.6cm³/rev.]

Pressure (MPa)		Max.cont					Max.int	
		3	6	9	12	14	16	18
Flow (L/min)	10	222	451	692	892	1050	1193	1340
		18	18	18	17	16	15	13
	20	231	464	714	918	1070	1220	1377
		37	36	35	34	33	32	30
	40	230	466	727	941	1094	1244	1422
		75	74	73	72	70	68	64
	60	225	457	714	941	1088	1245	1409
		113	112	111	109	107	105	101
	80	213	431	696	927	1076	1244	1401
		151	150	149	147	145	143	138
100	194	420	680	901	1063	1224	1383	
	189	188	187	185	183	181	177	
Max.cont.	125	182	398	641	877	1024	1199	1352
Max.int.	150	237	236	235	233	231	229	225
		147	369	618	853	1004	1167	1325
		284	283	282	280	278	276	272

VNKT 630 [629.1cm³/rev.]

Pressure (MPa)		Max.cont					Max.int	
		3	6	9	10.5	12	14	16
Flow (L/min)	10	233	520	795	902	1074	1194	1363
		14	14	13	13	13	11	11
	20	237	554	837	953	1117	1239	1407
		28	27	27	26	26	24	22
	40	239	553	860	987	1171	1308	1483
		62	62	61	60	59	56	54
	60	223	544	863	978	1172	1318	1498
		94	94	92	91	90	86	82
	80	220	537	854	965	1172	1314	1497
		123	122	121	119	118	114	110
100	208	522	832	945	1156	1303	1488	
	156	155	153	152	150	147	142	
Max.cont.	125	201	499	810	931	1137	1292	1472
Max.int.	150	174	492	785	921	1121	1277	1454
		233	232	231	230	227	223	217

VNKT 800 [801.8cm³/rev.]

Pressure (MPa)		Max.cont					Max.int
		3	6	9	10.5	12.5	13
Flow (L/min)	10	346	677	1003	1159	1365	1390
		12	12	11	11	11	10
	20	356	692	1034	1183	1404	1458
		24	24	24	23	22	18
	40	365	703	1066	1236	1459	1516
		50	50	49	48	46	40
	60	354	703	1060	1237	1464	1520
		74	73	71	71	68	63
	80	332	686	1050	1226	1464	1514
		99	98	98	96	93	86
100	305	654	1025	1207	1445	1506	
	125	123	123	121	118	110	
Max.cont.	125	280	622	989	1181	1422	1487
Max.int.	150	247	590	953	1156	1406	1476
		185	184	183	181	179	172

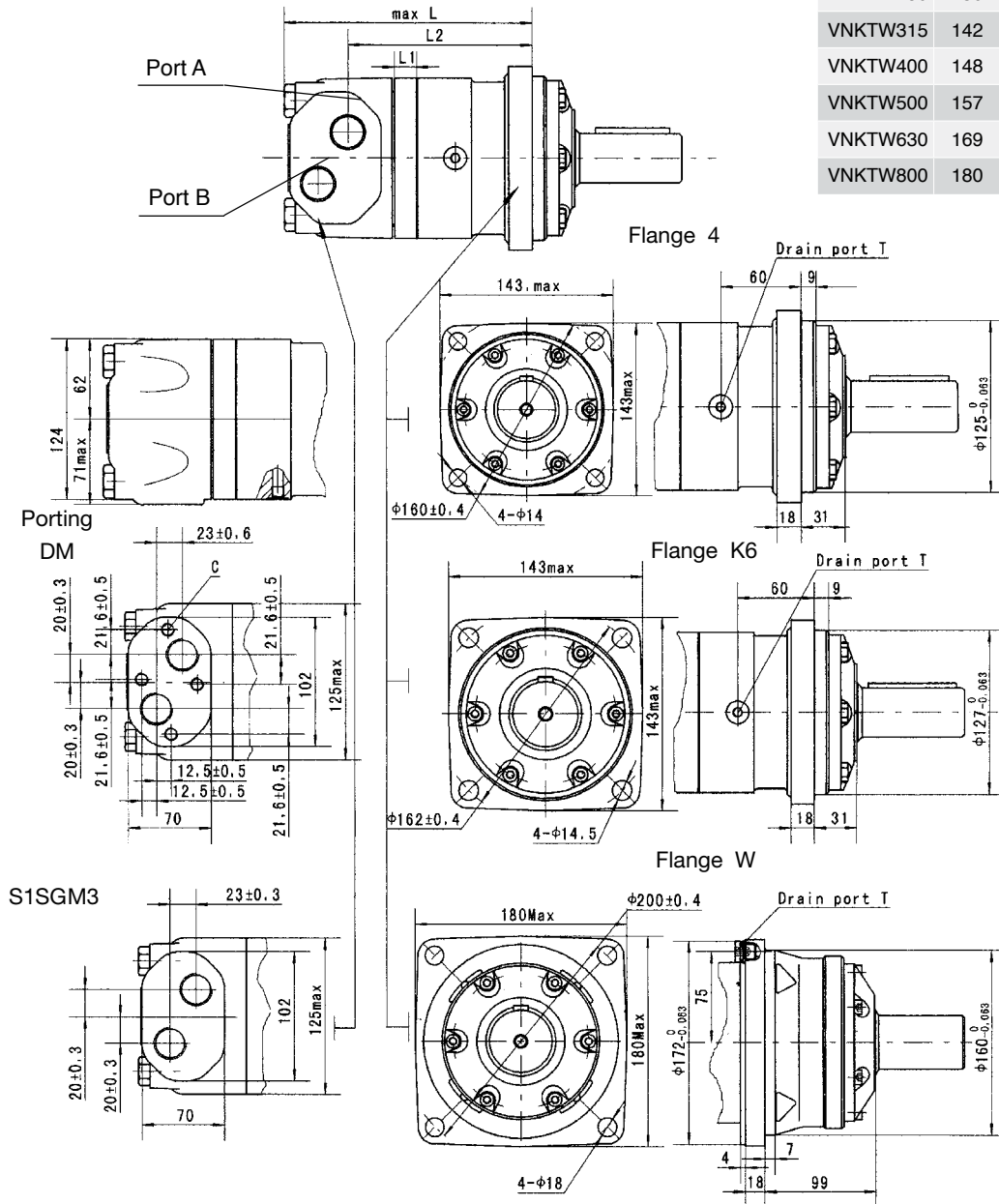
Torque (N·m) 1121
Speed (rpm) 227

cont.
int.



VNKT DIMENSIONS AND MOUNTING DATA

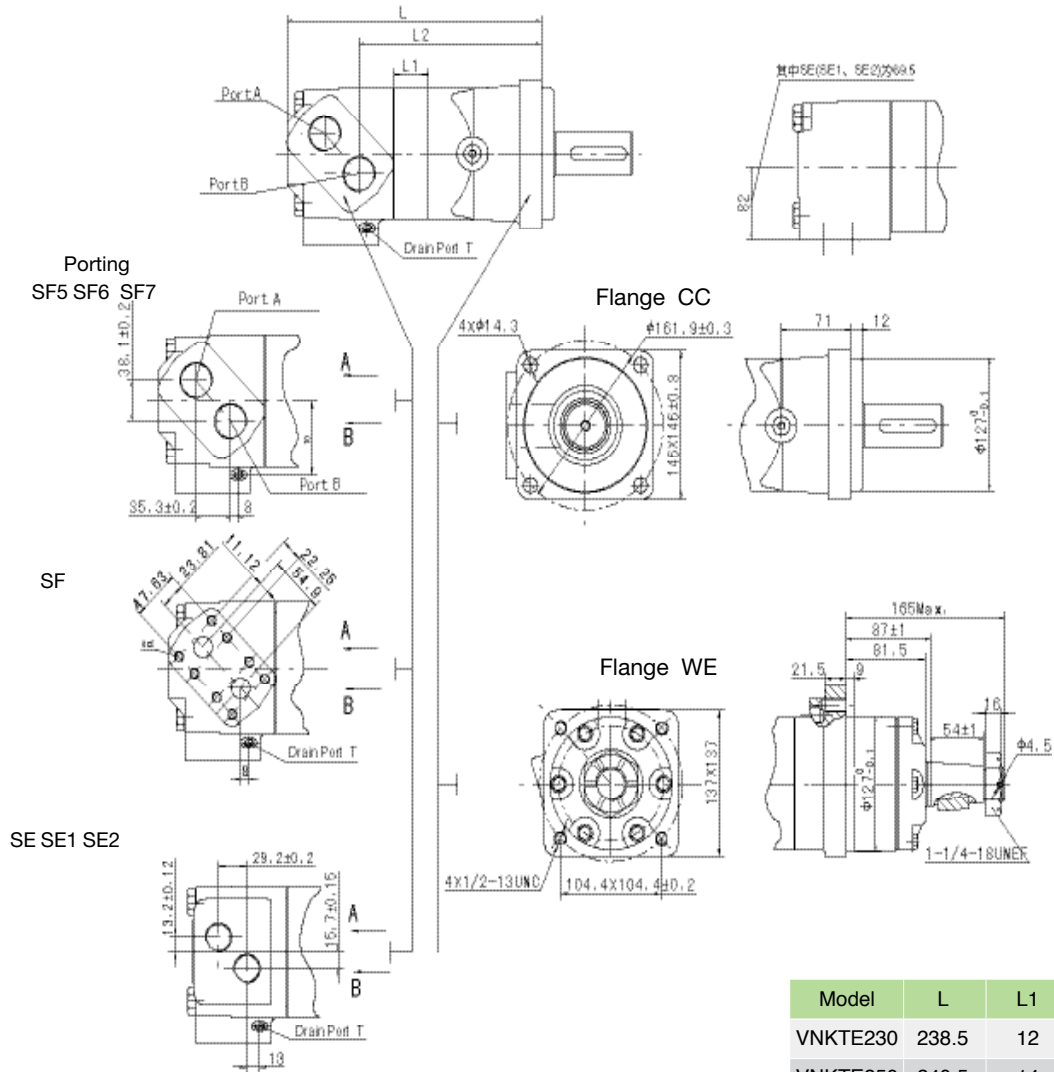
Model	L	L1	L2
VNKTW160	127	17	77
VNKTW200	131	21	81
VNKTW250	136	14	86
VNKTW315	142	20	91
VNKTW400	148	27	98
VNKTW500	157	35	106
VNKTW630	169	47	118
VNKTW800	180	58	129



Model	L	L1	L2
VNKT160	193	17	142.5
VNKT200	197	21	146.5
VNKT250	204	14	152.5
VNKT315	210	20	158.5
VNKT400	217	27	165.5
VNKT500	225	35	173.5
VNKT630	237	47	185.5
VNKT800	248	58	196.5

Content	Code					
Mounting	D (depth)	M (depth)	S (depth)	G (depth)	M3 (depth)	S1 (depth)
P(A,B)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF (12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)
C	4-M10(10)	4-M10(10)	--	--	--	--

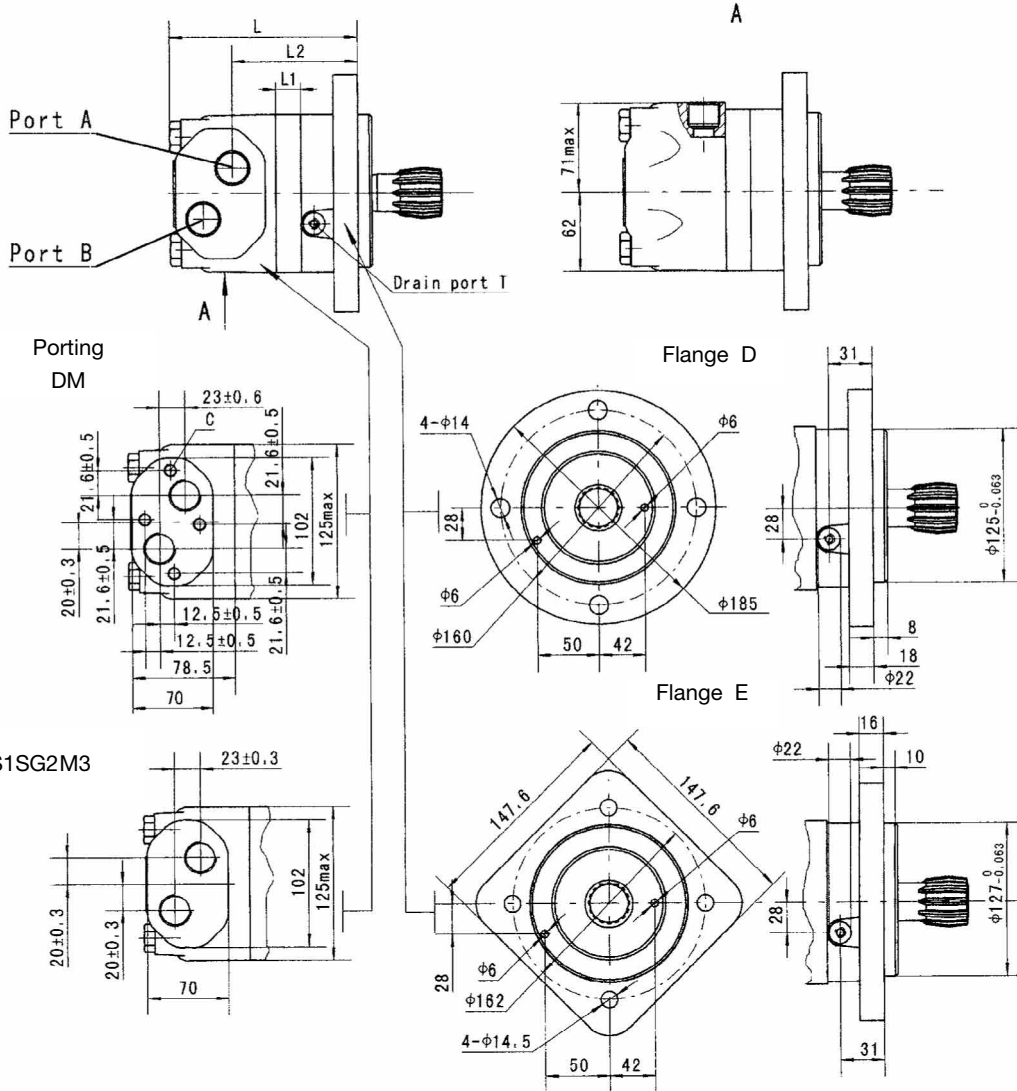
Note:1)The thickness of the stator and rotor for disp. from 160 to 200 is the dimension of L1 adding on 3mm.
 2)The thickness of the stator and rotor for disp. from 250 to 800 is the dimension of L1 adding on 7mm.



Note:

- 1)The data for the port of SF (SF5 and SF6and sf7)
- 2)The data for the port of SE (SE1 and SE2) and flange WE:L-70 and L2-59.
- 3)The thickness of the stator and rotor for disp, from 315 to 800 is the dimension of L1 adding on 7mm.

Model	L	L1	L2
VNKTE230	238.5	12	164.5
VNKTE250	240.5	14	166.5
VNKTE315	246.5	20	172.5
VNKTE400	253.5	27	179.5
VNKTE500	261.5	35	187.5
VNKTE630	273.5	47	199.5
VNKTE800	284.5	58	210.5

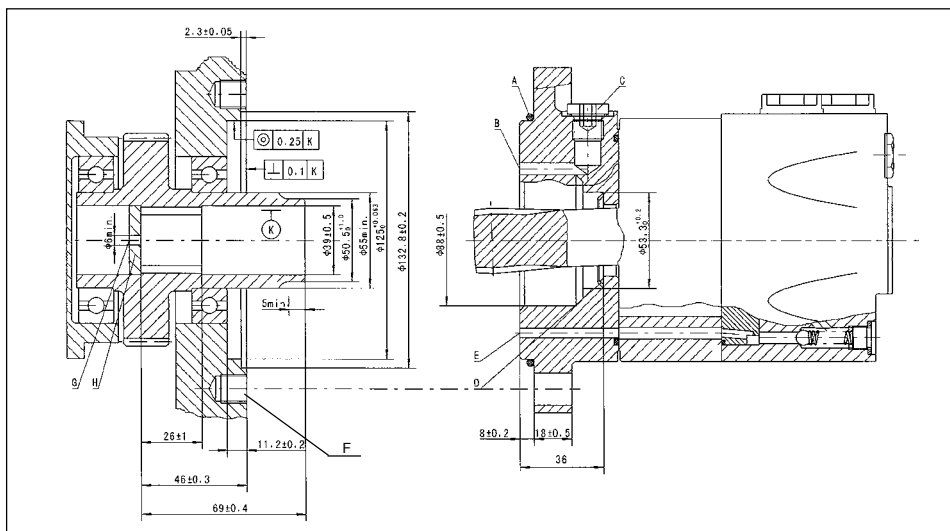


Model	L	L1	L2
VNKT160	148	17	96.5
VNKT200	152	21	100.5
VNKT250	157	14	109
VNKT315	163	20	115
VNKT400	170	27	122
VNKT500	178	35	130
VNKT630	190	47	142
VNKT800	201	58	153

Content	Code					
	D (depth)	M (depth)	S (depth)	G (depth)	M3 (depth)	S1 (depth)
P(A,B)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)	G3/4 (18)	M27 x 2 (18)	1-1/16-12UN (18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF (12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)
C	4-M10(10)	4-M10(10)	--	--	--	--

Note:1)The thickness of the stator and rotor for disp.from 160 to 200 is the dimension of L1 adding on 3mm.
 2)The thickness of the stator and rotor for disp.from 250 to 800 is the dimension of L1 adding on 7mm.

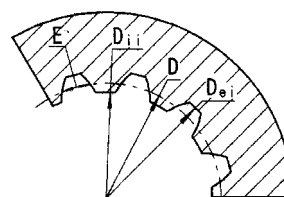




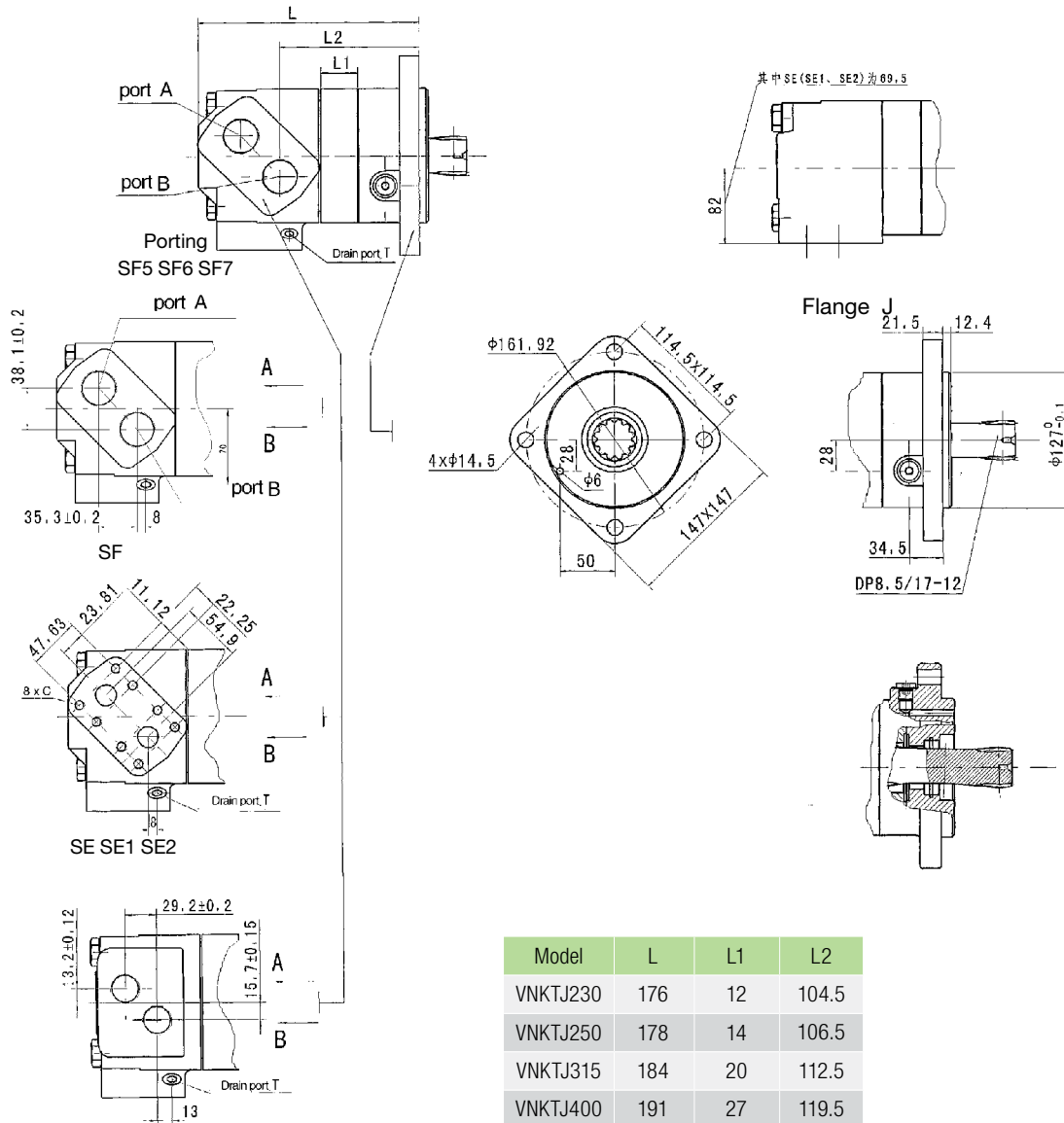
- A: O-ring: 125x3
- B: External drain channel
- C: Drain connection G 1/4; 12 mm deep
- D: Conical seal ring
- E: Internal drain channel
- F: M12; min. 18mm deep
- G: Oil circulation hole
- H: Hardened stop plate

INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

Fillet Root Side Fit		mm
© Number of Teeth	Z	16
Diametral Pitch	DP	12/24
Pressure Angle	α_D	30°
Pitch Dia.	D	$\varnothing 33.8686$
Major Dia.	D_{ei}	$\varnothing 38.4 \begin{smallmatrix} +0.25 \\ 0 \end{smallmatrix}$
Minor Dia.	D_{ii}	$\varnothing 32.15 \begin{smallmatrix} +0.04 \\ 0 \end{smallmatrix}$
Space Width [Circular]	123	4.516 ± 0.037



Hardening Specification: HRC 62±2
Effective case depth 0.7±0.2

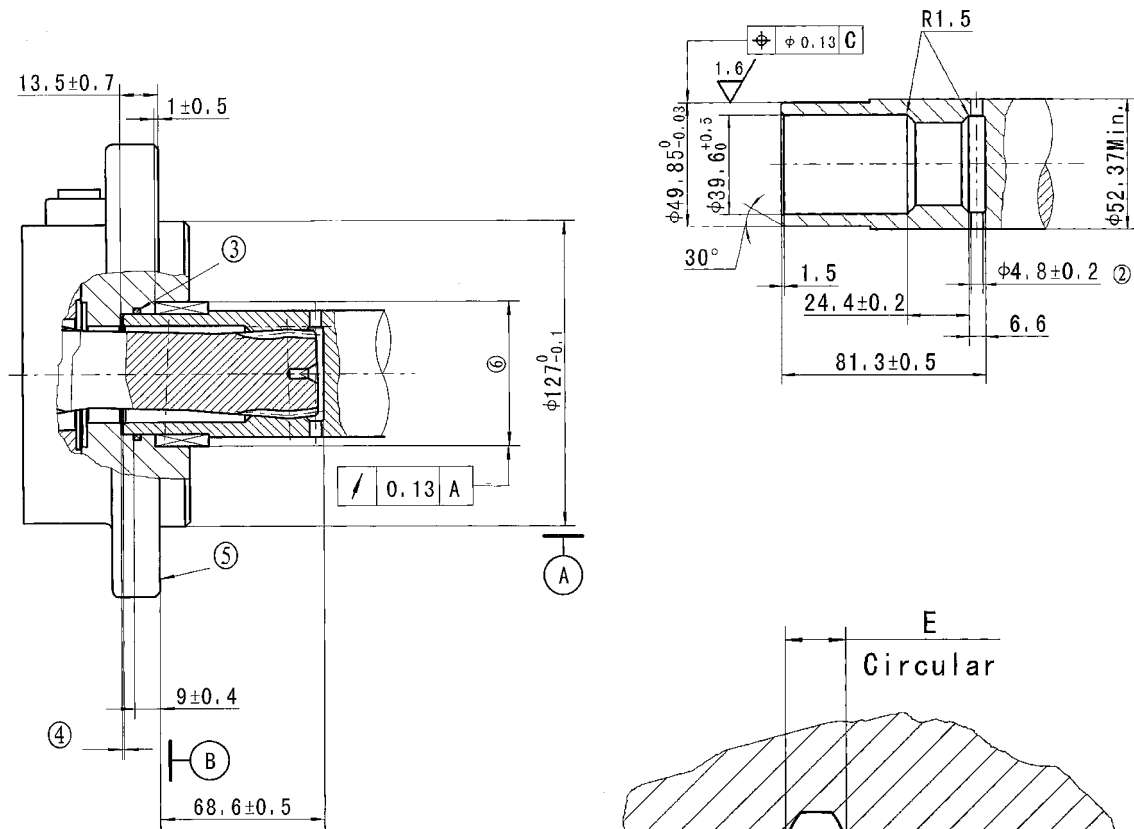


Model	L	L1	L2
VNKTJ230	176	12	104.5
VNKTJ250	178	14	106.5
VNKTJ315	184	20	112.5
VNKTJ400	191	27	119.5
VNKTJ500	199	35	127.5
VNKTJ630	211	47	139.5
VNKTJ800	222	58	150.5

Note:

- 1)The data for the port of SF (SF5 and SF6 andSF7).
- 2)The data for the port of SE (SE1 and SE2) and flange WE:L-70 and L2-59.
- 3)The thickness of the stator and rotor is the dimension of L1 adding on 7mm.

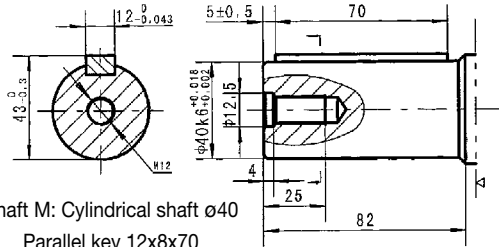
Content	Code						
Mounting	SF5 (depth)	SF6 (depth)	SF7 (depth)	SF (depth)	SE (depth)	SE1 (depth)	SE2 (depth)
P(A,B)	1-5/16-12UN (18)	M33 x 2 (18)	G1 (18)	3/4" (18)	1-1/16-12UN (18)	1-1/16-12UN (18)	G3/4 (18)
T	7/16-20UNF (12)	M14 x 1.5 (12)	G1/4 (12)	7/16-20UNF (12)	9/16-18UNF (12)	7/16-20UNF (12)	G1/4 (12)
C	--	--	--	8 x 3/8-16UNC		--	--



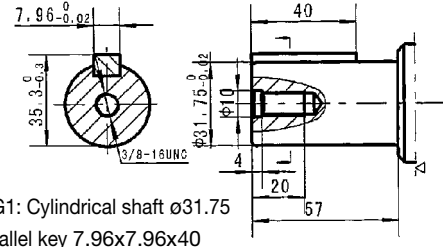
INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

Fillet Root Side Fit		mm
© Number of Teeth	Z	12
Diametral Pitch	DP	8.5/17
Pressure Angle	D	30°
Pitch Dia.	α_D	35.858823
Major Dia.	D_{ei}	38.97 ^{+0.25} ₀
Minor Dia.	D_{ii}	33.33 ^{+0.04} ₀
Space Width [Circular]	E	5.866±0.032
Dimension between two pins (ø4)	M_o	26.929-27.084

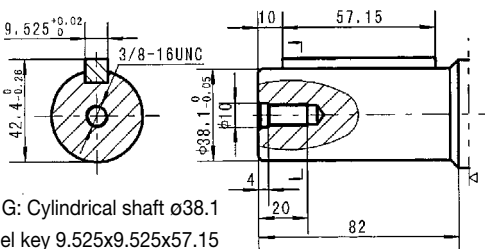
- 1 Internal spline in mating part to be as follows: Material to be ASTM A304, 8620H. Carborize to a hardness of 60-64HRC with case depth (to 50HRC) of 0.75-1.030-.040 (dimensions apply after heat treat).
 - 2 Mating part to have critical dimensions as shown, Oil holes must be provided and open for proper oil circulation.
 - 3 Some means of maintaining clearance between shaft and mounting flange must be provided.
 - 4 Seal to be furnished with motor for proper oil circulation thru splines.
 - 5 Similar to SAE "C" Four Bolt Flange
 - 6 Counterbore designed to adapt to a standard sleeve bearing 50.010-50.038 1.9689-1.9700 ID by 60.51-60.079[2.3642-2.3653] O.D. (Oilite bronze sleeve bearing).
- C This surface to be diameter of output shaft.



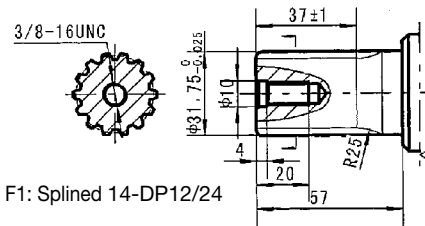
Shaft M: Cylindrical shaft ø40
Parallel key 12x8x70



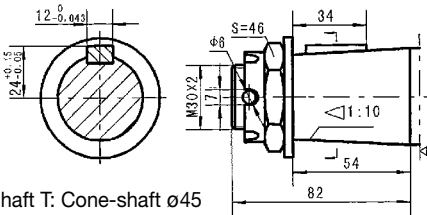
Shaft G1: Cylindrical shaft ø31.75
Parallel key 7.96x7.96x40



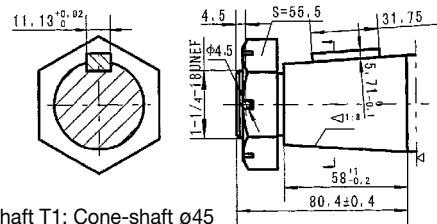
Shaft G: Cylindrical shaft ø38.1
Parallel key 9.525x9.525x57.15



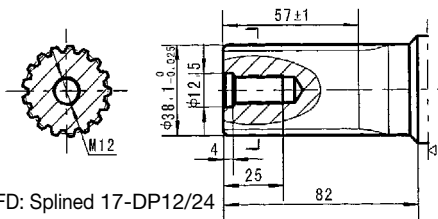
Shaft F1: Splined 14-DP12/24



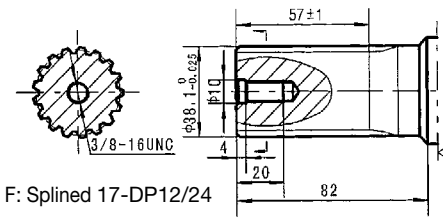
Shaft T: Cone-shaft ø45
Parallel key B12x8x28
Tightening torque: 500±10Nm



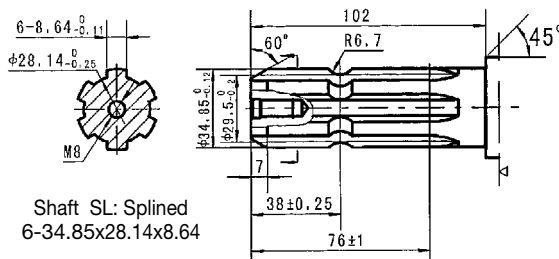
Shaft T1: Cone-shaft ø45
Parallel key 11.13x11.13x31.75
Tightening torque: 500±10Nm



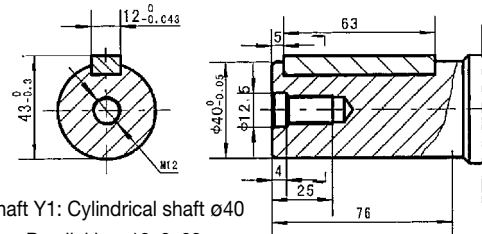
Shaft FD: Splined 17-DP12/24



Shaft F: Splined 17-DP12/24

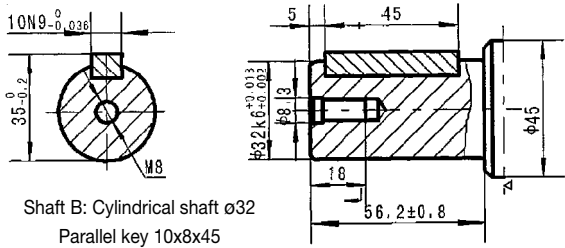


Shaft SL: Splined
6-34.85x28.14x8.64

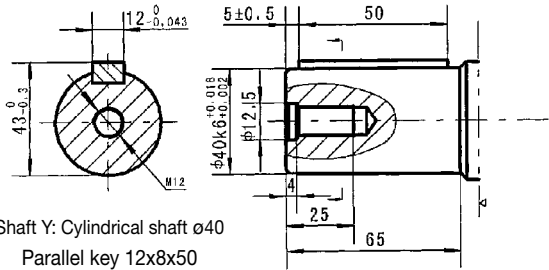


Shaft Y1: Cylindrical shaft ø40
Parallel key 12x8x63

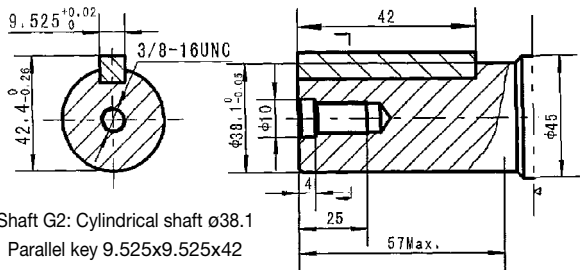
Motor Mounting Surface →



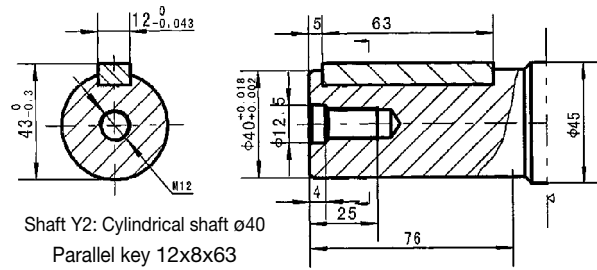
Shaft B: Cylindrical shaft ø32
Parallel key 10x8x45



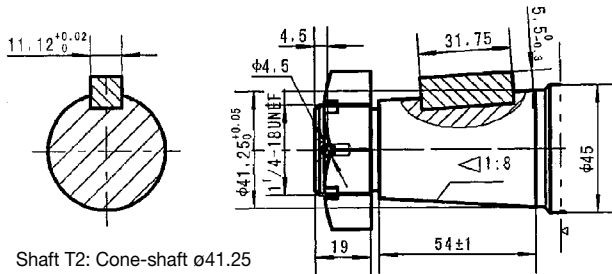
Shaft Y: Cylindrical shaft ø40
Parallel key 12x8x50



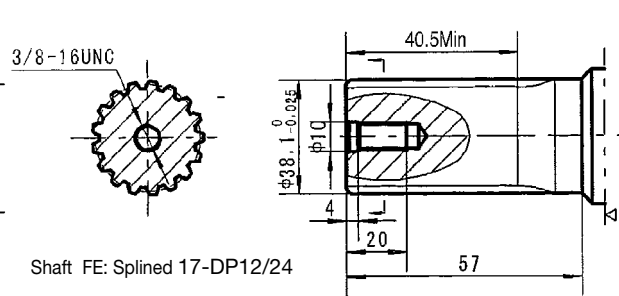
Shaft G2: Cylindrical shaft ø38.1
Parallel key 9.525x9.525x42



Shaft Y2: Cylindrical shaft ø40
Parallel key 12x8x63



Shaft T2: Cone-shaft ø41.25
Parallel key 11.13x11.13x31.75
Tightening torque: 500 ± 10 Nm

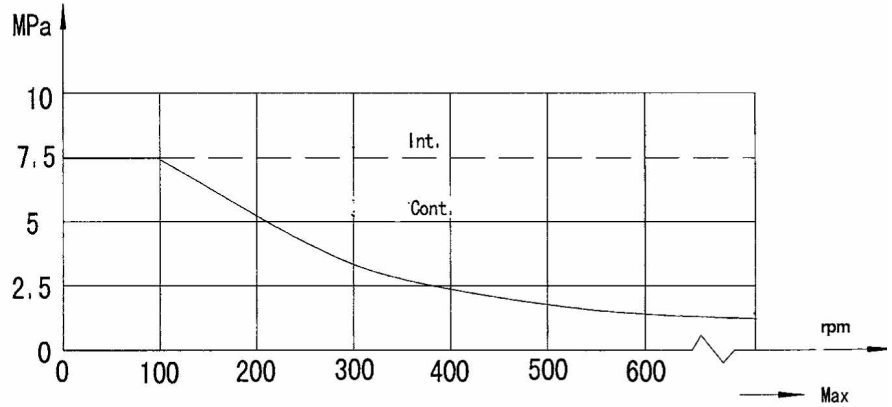
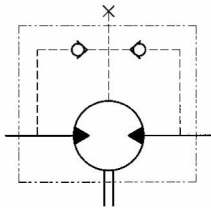


Shaft FE: Splined 17-DP12/24

Motor Mounting Surface →



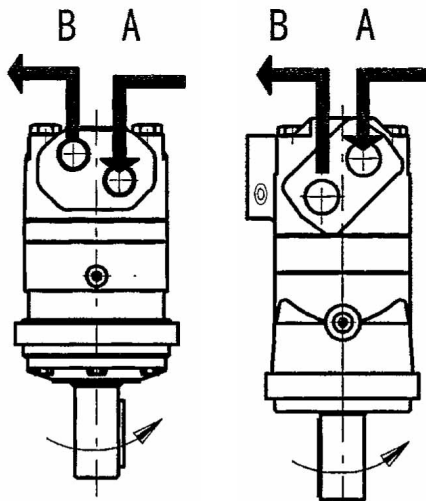
Permissible shaft seal pressure



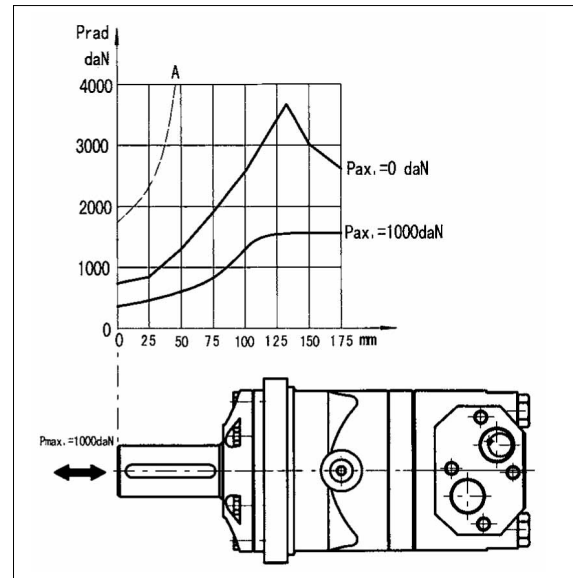
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Standard 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.



Axial and Radial forces



The output shaft runs in tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.



VNKT VNKTS ORDER INFORMATION

VNKT	1	2	3	4	5	6	7	8
VNKTS	1	2	3	4	5	6	7	8

Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange, Pilot, Port	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function
VNKT	160 200 250 315 400 500 630 800	4 4-Ø14 Square-flange Ø160, pilot Ø125x9 K6 4-Ø14.5 Square-flange Ø162, pilot Ø127x9 W 4-Ø18 Wheel-flange Ø200, pilot Ø160x7	M Shaft Ø40, parallel key 12x8x70 G Shaft Ø38.1, parallel key 9.52x9.52x57.15 F Shaft Ø38.1, splined tooth 17-DP12/24 FD Shaft Ø38.1, splined tooth 17-DP12/24 T Cone-shaft 1:10 Ø45, parallel key B12x8x28 T1 Cone-shaft 1:8 Ø45, parallel key 11.13x11.13x31.75 SL shaft Ø34.85, Splined key G1 Splined key 6-34.85x28.14x8.64 F1 shaft Ø31.75, parallel key 7.96x7.96x40 Shaft Ø31.75 splined tooth 14-DP12/24	D G3/4 Manifold Mount, 4-M10, G1/4 M M27x2 Manifold Mount, 4-M10, M14x1.5 S 1-1/16-12UN O-ring, 9/16-18UNF S1 1-1/16-12UN O-ring, 7/16-20UNF G G3/4, G1/4 M3 M27x2, M14x1.5	Omit R Standard Opposite	00 No paint Omit Blue B Black S Silver grey	Omit F Free Running LS Low Speed
VNKTS		D 4-Ø14 Circle-flange Ø160, pilot Ø125x8 E 4-Ø14.5 Square-flange Ø162, pilot Ø127x10	Omit Short shaft 16-DP12/24				



VNKTE VNKTJ ORDER INFORMATION

VNKTE	1	2	3	4	5	6	7	8
VNKTJ	1	2	3	4	5	6	7	8

Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange, Pilot, Port	Output Shaft	Ports and Drain Port	Rotation Direc- tion	Paint	Unusually Function
VNKTE	230	CC 4-Ø14,3 Square-flange Ø161.9, pilot Ø127×12	G2 Shaft Ø38.1 ,parallel key 9.52×9.52×42	SF 3/4", Manifold Mount, 8-3/8-16UNC, 7/16-20UNF SF5 1-5/16-12UN O-ring, 7/16-20 UNF SF6 M33×2, M14×1.5 SF7 G1, G1/4 SE 1-1/16-12UN O-ring, 9/16-18UNF SE1 1-1/16-12UN O-ring, 7/16-20 UNF SE2 G3/4, G1/4	Standard Opposite R	00 Omit B S	Standard Free Running Low Speed
	250		FE Shaft Ø38.1 ,splined tooth 17-DP12/24				
	315		Y1 Shaft Ø40, parallel key 12×8×63				
	400	Y2 Shaft Ø40, parallel key 12×8×63					
	500	T2 Cone-shaft 1.8 Ø41.25 , parallel key 11.13×11.13×31.75					
	630	T3 Cone-shaft 1.8 Ø41.25 , parallel key 11.13×11.13×31.75					
VNKTJ	800	J 4-Ø14.5 Square-flange Ø161.9 pilot Ø127×12.4	Omit Short shaft 12-DP8.5/17				

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.



VNKV series motor adapt the advanced Geroler gear set designed with disc distribution flow and high pressure. The unit can be supplied the individual variant in operating multifunction in accordance with requirement of applications.

Characteristic features:

- * Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
- * The output shaft adapts in tapered roller bearings that permit high axial and radial forces. The case can offer capacities of high pressure and high torque in the wide of applications.
- * Advanced design in disc distribution flow, which can automatically compensate in operating with high volume efficiency and long life, provide smooth and reliable operation.

Main Specification							
Type		VNKV 315	VNKV 400	VNKV 500	VNKV 630	VNKV 800	VNKV 1000
Geometric displacement (cm ³ /rev.)		333	419	518	666	801	990
Max. speed (rpm)	cont.	510	500	400	320	250	200
	int.	630	600	480	380	300	240
Max. torque (N•m)	cont.	920	1180	1460	1660	1880	2015
	int.	1110	1410	1760	1940	2110	2280
	peak	1290	1640	2050	2210	2470	2400
Max. output (kW)	cont.	38.0	47.0	47.0	40.0	33.0	28.6
	int.	46.0	56.0	56.0	56.0	44.0	40.0
Max. pressure drop (MPa)	cont.	20	20	20	18	16	14
	int.	24	24	24	21	18	16
	peak	28	28	28	24	21	18
Max. flow (L/min)	cont.	160	200	200	200	200	200
	int.	200	240	240	240	240	240
Weight (kg)		31.8	32.6	33.5	34.9	36.5	38.6

- * 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.



VNKV 315 [333cm³/rev.]

		Pressure (MPa)									
		3.5	7	10	14	18	20	24	Max.cont.	Max.int.	
Flow (L/min)	10	140	294	440	610	742	845	1000			
		26	24	23	22	20	17	14			
	20	153	314	466	636	787	895	1070			
		55	54	53	52	51	48	44			
	50	149	312	465	654	815	935	1112			
		145	144	142	140	137	133	127			
	75	143	304	458	642	816	940	1119			
		220	218	215	211	207	202	195			
	100	136	297	452	636	810	936	1108			
		294	292	290	287	283	278	270			
Max.cont.	125	123	286	442	626	799	921	1093			
		368	366	364	361	357	352	345			
	150	114	275	435	615	788	906	1078			
		445	443	441	437	430	422	410			
	160	107	268	430	608	780	895	1070			
		475	473	470	466	460	452	439			
	Max.int.	200	82	249	412	593	758	871	1047		
		596	594	590	584	576	565	544			

VNKV 400 [419cm³/rev.]

		Pressure (MPa)									
		3.5	7	10	14	18	20	24	Max.cont.	Max.int.	
Flow (L/min)	10	183	385	568	776	968	1101	1292			
		20	20	19	18	17	16	14			
	20	196	398	590	815	1010	1152	1346			
		44	44	43	42	40	39	37			
	50	200	402	603	842	1040	1186	1430			
		114	113	113	112	110	108	103			
	75	195	394	596	838	1043	1188	1432			
		175	173	170	166	163	1579	152			
	100	172	385	593	827	1036	1184	1425			
		236	235	233	231	227	223	215			
Max.cont.	125	167	374	583	816	1021	1177	1413			
		296	294	291	288	282	275	268			
	150	158	361	559	801	1008	1165	1390			
		355	354	352	349	344	335	324			
	175	143	346	553	784	989	1145	1377			
		416	414	411	407	403	396	388			
	Max.int.	200	118	331	536	770	969	1128	1356		
		475	473	469	463	455	448	439			
	240	82	301	506	740	943	1104	1332			
		571	569	565	548	539	530	520			

VNKV 500 [518cm³/rev.]

		Pressure (MPa)									
		3.5	7	10	14	18	20	24	Max.cont.	Max.int.	
Flow (L/min)	10	242	468	696	959	1190	1353	1607			
		17	17	16	16	15	13	11			
	20	245	501	738	1003	1232	1394	1658			
		36	35	35	34	33	32	29			
	50	240	500	758	1025	1270	1449	1743			
		93	92	91	90	88	85	80			
	75	233	498	752	1030	1288	1475	1766			
		140	139	137	135	132	127	120			
	100	228	491	748	1026	1289	1472	1760			
		189	187	185	182	178	173	166			
Max.cont.	125	220	483	742	1014	1280	1460	1745			
		237	236	234	231	227	223	216			
	150	201	465	723	1008	1250	1429	1736			
		287	286	284	281	276	270	260			
	175	182	446	711	997	1238	1406	1715			
		335	334	332	329	325	320	310			
	Max.int.	200	161	423	676	974	1218	1385	1697		
		384	383	381	378	374	366	354			
	240	120	378	622	921	1172	1340	1650			
		461	459	457	454	450	444	432			

VNKV 630 [666cm³/rev.]

		Pressure (MPa)									
		3.5	6	9	12	15	18	21	Max.cont.	Max.int.	
Flow (L/min)	10	280	522	812	1100	1268	1549	1784			
		14	13	13	12	12	11	10			
	20	288	552	839	1101	1315	1607	1864			
		28	28	27	27	26	24	22			
	50	289	555	868	1137	1364	1682	1956			
		72	72	71	69	68	66	62			
	75	270	548	863	1120	1352	1680	1964			
		109	108	106	104	102	99	94			
	100	264	538	856	1093	1350	1674	1965			
		146	145	143	141	138	135	130			
Max.cont.	125	251	516	837	1071	1336	1659	1950			
		184	183	181	179	177	173	168			
	150	240	495	817	1063	1330	1650	1928			
		221	220	219	217	215	212	205			
	175	210	485	796	1052	1300	1636	1908			
		259	258	257	254	250	246	241			
	Max.int.	200	182	469	751	1018	1280	1611	1883		
		297	297	295	293	290	284	273			
	240	130	416	712	978	1237	1563	1835			
		358	357	355	351	346	340	332			

Torque (N·m) 1340
Speed (rpm) 444

cont.
int.





VNKV 800 [801cm³/rev.]

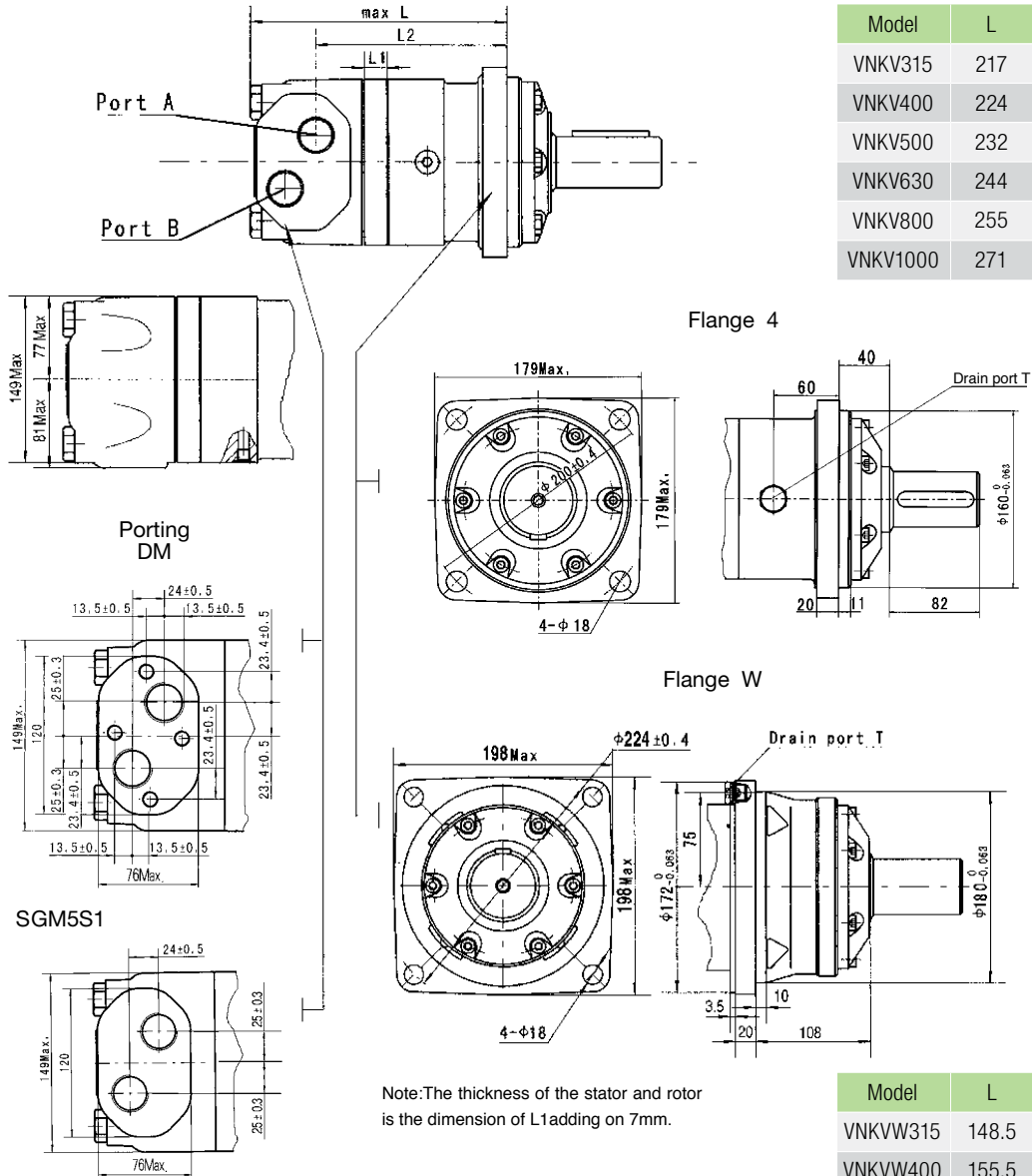
VNKV 1000 [990cm³/rev.]

		Pressure (MPa)						
		2.5	5	8	10	13	16	18
Flow (L/min)	10	278	565	830	1095	1405	1712	1915
		11	10	10	9	8	8	7
	20	282	571	845	1150	1456	1783	1994
		23	22	22	21	20	18	16
	50	288	582	856	1162	1463	1790	2001
		60	59	57	56	54	52	48
	75	269	580	855	1165	1465	1786	1993
		91	90	89	87	84	81	77
	100	251	566	840	1140	1448	1767	1985
		122	121	120	118	115	111	105
	125	242	535	824	1118	1427	1739	1976
		153	152	150	147	143	139	133
	150	236	526	808	1102	1401	1714	1959
		185	183	181	178	174	169	163
175	215	504	793	1079	1377	1698	1936	
	216	214	212	209	206	203	196	
Max.cont.	200	197	468	765	1063	1362	1681	1913
	247	245	243	240	237	232	225	
Max.int.	240	118	388	713	1020	1318	1637	1838
	297	296	295	293	288	283	277	

		Pressure (MPa)					
		2.5	5	7	10	14	16
Flow (L/min)	10	312	640	971	1400	1978	2259
		9	9	9	8	7	6
	20	320	648	978	1410	1980	2270
		28	27	26	25	23	21
	50	326	655	992	1422	2015	2280
		47	46	45	43	41	38
	75	318	642	987	1425	2003	2276
		72	71	70	68	66	63
	100	309	634	983	1418	1994	2243
		98	97	95	93	90	86
	125	303	624	975	1409	1988	2224
		123	122	120	117	114	110
	150	278	602	961	1368	1963	2208
		149	148	146	144	140	133
175	264	580	946	1338	1925	2159	
	174	172	170	166	162	155	
Max.cont.	200	230	556	912	1300	1891	2105
	199	196	193	190	185	178	
Max.int.	240	166	513	867	1267	1825	2034
	240	237	233	229	225	218	

Torque (N·m) 1825
Speed (rpm) 225

cont.
int.

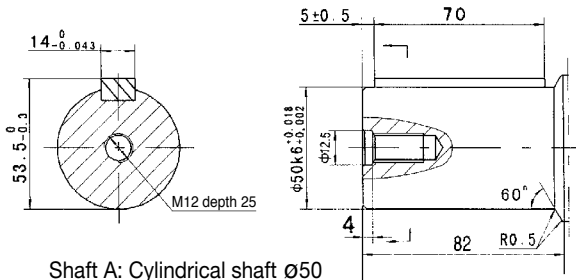


Model	L	L1	L2
VNKV315	217	20	161.5
VNKV400	224	27	168.5
VNKV500	232	35	176.5
VNKV630	244	47	188.5
VNKV800	255	58	199.5
VNKV1000	271	74	215.5

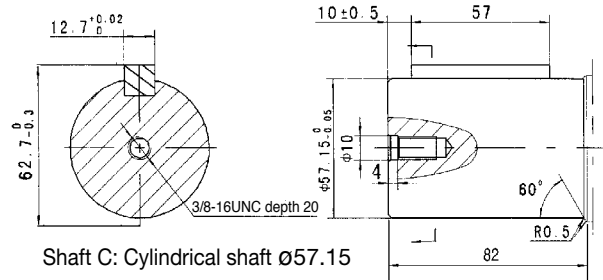
Note: The thickness of the stator and rotor is the dimension of L1 adding on 7mm.

Model	L	L1	L2
VNKVW315	148.5	20	93.5
VNKVW400	155.5	27	100.5
VNKVW500	163.5	35	108.5
VNKVW630	175.5	47	120.5
VNKVW800	186.5	58	131.5
VNKVW1000	202.5	74	147.5

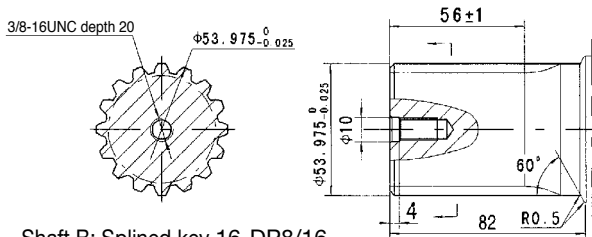
Content	Code					
	D (depth)	M (depth)	S (depth)	G (depth)	M5 (depth)	S1 (depth)
P(A,B)	G1 (18)	M33 x 2 (18)	1-5/16-12UN(18)	G1 (18)	M33 x 2 (18)	1-5/16-12UN(18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF(12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)
C	4-M12 (10)	4-M12 (10)	--	--	--	--



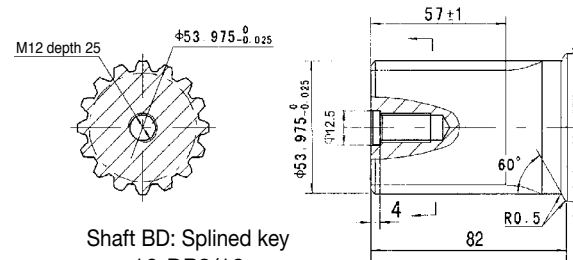
Shaft A: Cylindrical shaft $\varnothing 50$
Parallel key 14x9x70



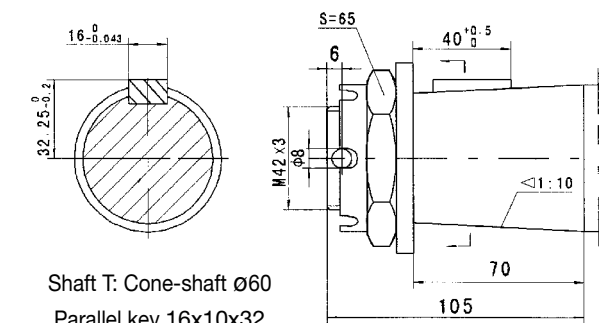
Shaft C: Cylindrical shaft $\varnothing 57.15$
Parallel key 12.7x12.7x57



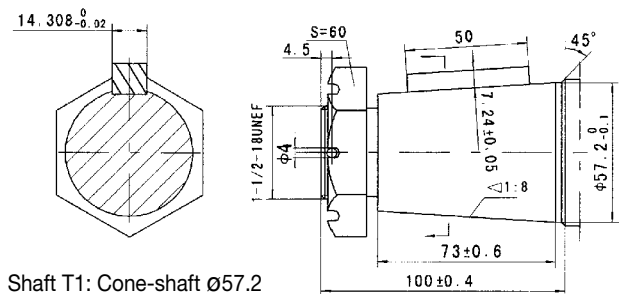
Shaft B: Splined key 16-DP8/16



Shaft BD: Splined key
16-DP8/16



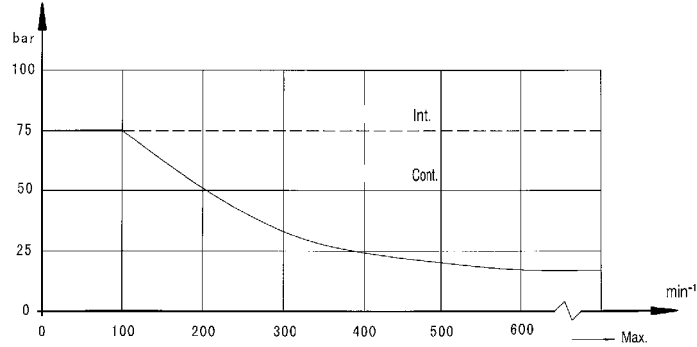
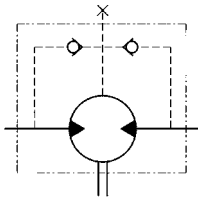
Shaft T: Cone-shaft $\varnothing 60$
Parallel key 16x10x32
Tightening torque: $750 \pm 50 \text{ Nm}$



Shaft T1: Cone-shaft $\varnothing 57.2$
Parallel key 14.308x14.308x50
Tightening torque: $750 \pm 50 \text{ Nm}$



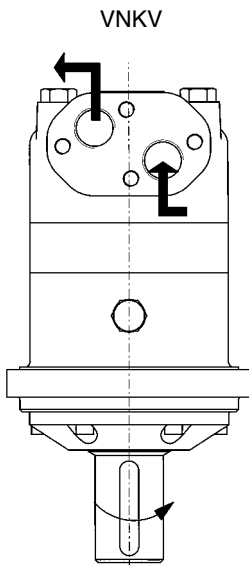
Permissible shaft seal pressure



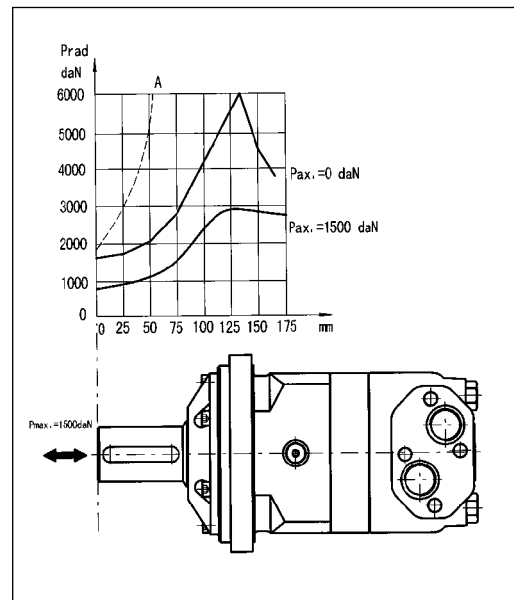
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Standard 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.



Axial and Radial forces



The output shaft runs in tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.

VNKV ORDER INFORMATION

VNKV		1	2	3	4	5	6	7	8
Pos.1	Code	Disp.	Flange, Pilot, Port	4	5	6	7	8	
			Flange, Pilot, Port	Output Shaft	Ports and Drain Port	Rotation Direc- tion	Paint	Unusually Function	
		315		A Shaft Ø50 , parallel key 14×9×70 BD Shaft Ø53.975, splined key 16-DP8/16	D M	G1 Manifold 4×M12, G1/4 M33×2 Manifold 4×M12, M14×1.5			
		400	4 4-Ø18 Square-flangeØ200, pilot Ø160×11	B Shaft Ø53.975, splined key 16-DP8/16 C Shaft Ø57.15, parallel key 12.7×12.7×57.15	S	1-5/16-12UN, 9/16-18UNF G1, G1/4	00 Omit	Standard Free Running Low Speed	
	Omit	500		T Cone shaft Ø60, parallel key 16×10×32 T1 Cone shaft Ø57.2, parallel key 14.308×14.308×50.8	G M5 S1	M33×2, M14×1.5 1-5/16-12UN(18), 7/16-20UNF(12)	No paint Blue Black Silver grey	Omit F LS	
		630	4-Ø18 Wheel-flange Ø224, pilot Ø180×10						
		800							
		1000							

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.



VNKE2 series motor adapt the advanced Geroler gear set designed with high speed distribution flow and high pressure, and have good stability in low speed , and can keep high volume efficiency. The unit can be supplied the individual variant in operating multifunction in accordance with requirement of applications.

Characteristic features:

- * Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
- * The output shaft adapts in needle roller bearings that permit high axial and radial forces. The case can offers capacities of high pressure and high torque in the wide of applications.
- * Advanced design in high speed distribution flow, which can automatically compensate in operating with high volume efficiency and long life , provide smooth and reliable operation.
- * Lowest leakage rate, most accurate timing methods. Commutator rotates 6x faster than shaft speed. It make the distribution in a high precision reduces life-cycle cost, maintain high volume efficiencies and can run very smoothly at low speed, gear box not required.

Main Specification

Type	VNKE2 65	VNKE2 80	VNKE2 100	VNKE2 125	VNKE2 160	VNKE2 200	VNKE2 230	VNKE2 250	VNKE2 295	VNKE2 315	VNKE2 375
Geometric displacement (cm ³ /rev.)	66.8	81.3	101.6	127	157.2	193.6	226	257	287.8	314.5	370
Max. speed (rpm)	cont.	667	543	439	350	283	229	247	216	196	152
	int.	842	689	553	441	355	289	328	287	254	199
Max. torque (N•m)	cont.	126	157	191	245	307	382	378	381	393	439
	int.	176	215	268	335	422	520	528	543	547	613
Max. output (kW)	cont.	8.3	8.8	7.9	8.9	8.9	9	9.9	9.3	8.7	7.6
	int.	13.9	14.4	13.5	14.1	15.6	15.7	17.9	16.5	15.6	14
Max. pressure drop (MPa)	cont.	14	14	14	14	14	14	12	11	10	9
	int.	19	19	19	19	19	19	16.5	15.5	14.5	13.5
	peak	20	20	20	20	20	20	18	18	17	16
Max. flow (L/min)	cont.	45	45	45	45	45	45	57	57	57	57
	int.	57	57	57	57	57	57	75	75	75	75

- * 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.



HYDRAULIC MOTORS

PERFORMANCE DATA

VNKE2 65 [66,8 cm³/rev.]

		Pressure (MPa)				
		3,5	7	10,5	14	19
Flow (L/min)	2	26	54	83		
	5	27	56	87	118	
	10	29	60	91	123	171
	15	30	62	94	126	176
	20	221	216	207	196	149
	25	28	58	91	122	174
Max.cont.	34	24	55	90	121	172
	45	368	365	352	341	312
Max.int.	57	22	54	89	119	171
		501	493	478	457	423
		20	52	85	115	168
		667	660	642	621	587
		15	46	80	112	163
		842	835	814	789	735

VNKE2 80 [81,3 cm³/rev.]

		Pressure (MPa)				
		3,5	7	10,5	14	19
Flow (L/min)	2	33	70	106		
	5	35	72	111	150	
	10	36	75	114	155	215
	15	37	77	116	157	215
	20	181	178	171	162	148
	25	35	74	112	151	206
Max.cont.	34	35	71	108	148	202
	45	31	69	105	145	198
Max.int.	57	411	407	396	382	373
		23	62	100	139	12
		543	537	521	513	501
		18	55	98	134	186
		689	681	665	649	618

VNKE2 100 [101,6 cm³/rev.]

		Pressure (MPa)				
		3,5	7	10,5	14	19
Flow (L/min)	2	40	82	126		
	5	41	83	150	206	
	10	42	91	138	177	230
	15	42	91	138	185	257
	20	147	144	137	124	93
	25	38	88	136	180	244
Max.cont.	34	39	89	142	191	268
	45	244	241	230	221	194
Max.int.	57	31	79	131	179	250
		331	328	323	308	273
		21	70	119	168	241
		439	436	433	419	383
		10	60	109	158	232
		553	545	534	527	491

VNKE2 125 [127 cm³/rev.]

		Pressure (MPa)				
		3,5	7	10,5	14	19
Flow (L/min)	2	52	150	158		
	5	55	112	170	221	290
	10	57	117	180	242	335
	15	78	75	69	63	46
	20	56	118	180	245	331
	25	116	113	109	99	76
Max.cont.	34	55	117	178	242	331
	45	52	111	177	238	325
Max.int.	57	593	188	182	172	151
		43	105	169	231	326
		264	262	254	244	220
		38	95	159	219	314
		350	348	346	331	301
		21	176	141	280	302
		441	439	431	417	384

Torque (N·m) 109
Speed (rpm) 534

cont.
int.



HYDRAULIC MOTORS

PERFORMANCE DATA

VNKE2 160 [157.2 cm³/rev.]

	Pressure (MPa)					
	3.5	7	10,5	14	19	
Flow (L/min)	2	64 10	132 8	199 2		
	5	68 28	138 26	208 19	281 10	
	10	71 62	147 60	221 56	303 53	419 38
	15	72 93	148 91	225 87	307 79	426 61
	20	71 62	148 140	223 218	305 296	422 415
Max.cont.	25	157 56	155 134	152 211	141 287	129 408
	34	214 47	211 127	206 205	197 281	181 391
	45	283 36	281 97	275 182	266 260	241 370
Max.int.	57	355	352	346	336	311

VNKE2 200 [193.6 cm³/rev.]

	Pressure (MPa)					
	3.5	7	10,5	14	19	
Flow (L/min)	2	80 9	163 7	245 3		
	5	88 23	178 21	266 18	352 12	
	10	89 49	181 48	275 43	378 39	517 27
	15	91 76	188 73	280 68	382 63	520 44
	20	89 101	182 98	275 95	374 86	517 69
Max.cont.	25	78 64	170 158	271 268	376 363	518 502
	34	173 51	171 157	165 252	156 351	143 494
	45	229 36	227 138	221 231	212 330	196 469
Max.int.	57	289	286	279	271	256

VNKE2 230 [226 cm³/rev.]

	Pressure (MPa)					
	3.5	7	10,5	12	16,5	
Flow (L/min)	2	97 7	191 4	280 2		
	5	101 18	199 14	301 8	348 4	
	10	103 43	214 42	325 40	378 36	527 29
	15	104 65	215 63	327 59	375 52	528 47
	20	101 86	210 84	321 81	371 75	524 66
Max.cont.	25	95 108	201 106	316 102	364 94	511 87
	34	82 147	188 145	308 141	358 135	501 128
	45	55 197	158 195	276 191	329 186	485 176
Max.int.	57	19 247	130 244	256 240	301 230	451 221
	75		65 328	183 323	250 311	401 303

Torque (N·m) 65
Speed (rpm) 328

VNKE2 250 [257 cm³/rev.]

	Pressure (MPa)					
	3.5	7	10,5	11	15,5	
Flow (L/min)	2	112 6	207 3	309 1		
	5	115 18	218 14	320 8	348 4	
	10	113 39	235 38	358 35	379 31	543 23
	15	113 58	234 56	357 53	381 45	542 3
	20	111 77	233 75	356 72	376 65	541 48
Max.cont.	25	109 97	228 95	354 89	371 81	532 69
	34	91 131	213 128	346 123	364 116	521 103
	45	89 174	211 172	345 165	361 157	518 135
Max.int.	57	73 216	208 213	339 205	342 197	487 184
	75		74 287	198 284	301 278	441 267

cont.
int.



VNKE2 295[287.8 cm³/rev.]

	Pressure (MPa)					
	3.5	7	11	14,5		
Flow (L/min)	5	21 15	243 14	368 10	509 5	
	10	125 33	253 31	381 27	529 20	
	15	129 51	261 50	393 47	547 41	
	20	127 68	259 67	390 63	545 55	
	25	126 86	255 84	386 80	539 69	
	34	123 116	248 114	380 110	531 98	
	Max.cont.	45	115 154	234 153	368 148	522 136
		57	108 196	227 194	359 187	514 176
	Max.int.	75	211 254	349 246	506 231	

VNKE2 315[314.5 cm³/rev.]

	Pressure (MPa)					
	3.5	7	11	13,5		
Flow (L/min)	5	136 11	281 8	427 3		
	10	139 30	287 29	438 26	574 20	
	15	141 47	295 46	448 43	587 40	
	20	138 62	287 61	442 58	587 53	
	25	131 78	280 75	431 71	567 66	
	34	117 106	269 104	423 98	557 91	
	Max.cont.	45	114 141	253 138	397 132	535 125
		57	86 178	219 173	383 168	505 162
	Max.int.	75	108 235	287 231	416 219	

VNKE2 375[370 cm³/rev.]

	Pressure (MPa)					
	3.5	7	9	12,5		
Flow (L/min)	5	151 10	315 7	412 3		
	10	155 25	324 24	427 21	606 18	
	15	162 40	331 39	439 37	613 32	
	20	158 53	326 52	434 49	602 45	
	25	151 67	316 65	424 62	589 58	
	34	141 91	309 89	417 85	580 80	
	Max.cont.	45	138 121	300 119	408 115	572 107
		57	118 152	281 150	393 144	550 136
	Max.int.	75	258 199	369 191	518 183	

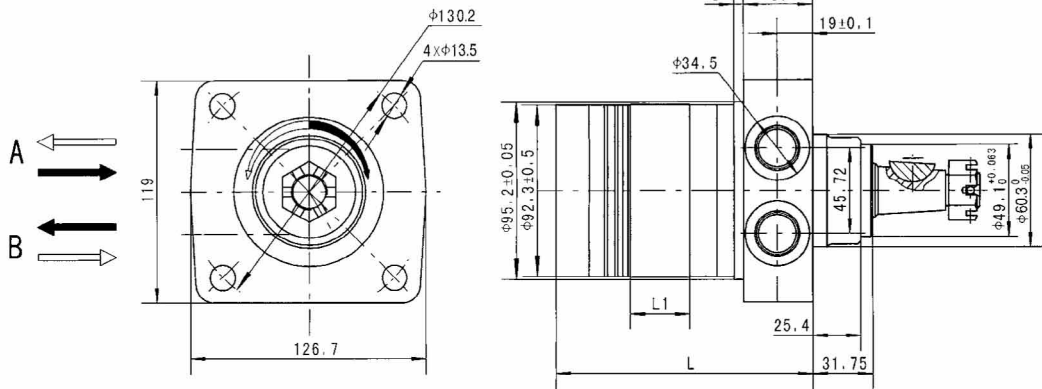
Torque (N·m) 349
Speed (rpm) 246

cont.
int.



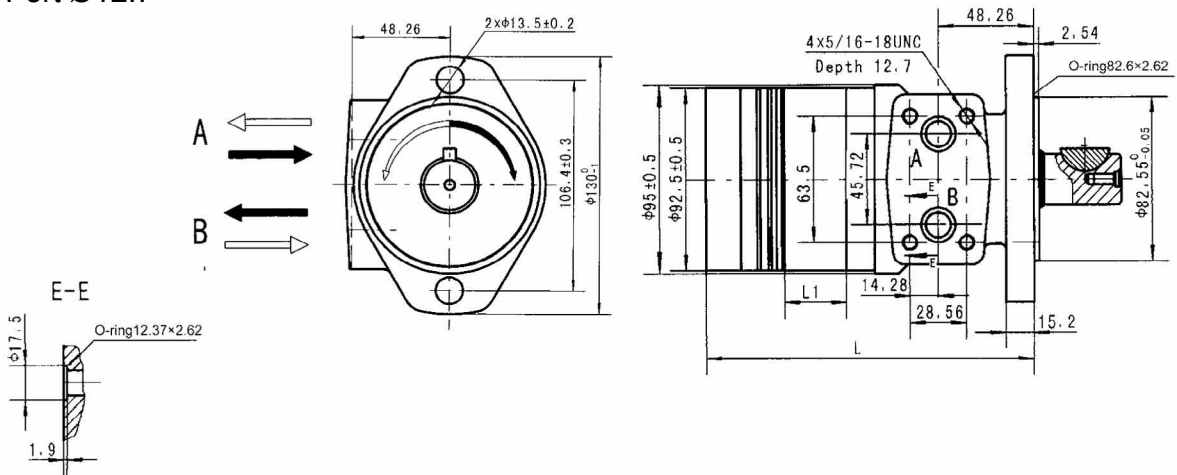
VNKE2 DIMENSIONS AND MOUNTING DATA

Wheel Mount
 Code: Port A B
 WS 7/8-14 O-ring
 WD G1/2
 WM M22x1.5



Displacement (cm ³ /rev.)	65	80	100	125	160	200	230	250	295	315	375
L1(mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L(mm)	119	122	126	131	136.5	144	150	156	162	168	180
Weight(kg)	7,4	7,5	7,8	8	8,3	8,7	9,2	9,6	10	10,3	10,8

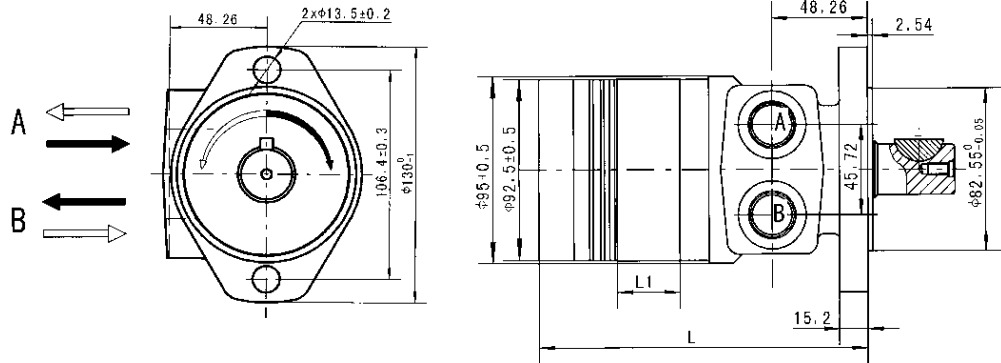
Code:HM Manifold
 A B Port Ø12.7



Displacement (cm ³ /rev.)	65	80	100	125	160	200	230	250	295	315	375
L1(mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L(mm)	149	152	156	161	166.5	174	180	186	192	198	210
Weight(kg)	6,4	6,5	6,8	7	7,3	7,7	8,2	8,6	9	9,3	9,8

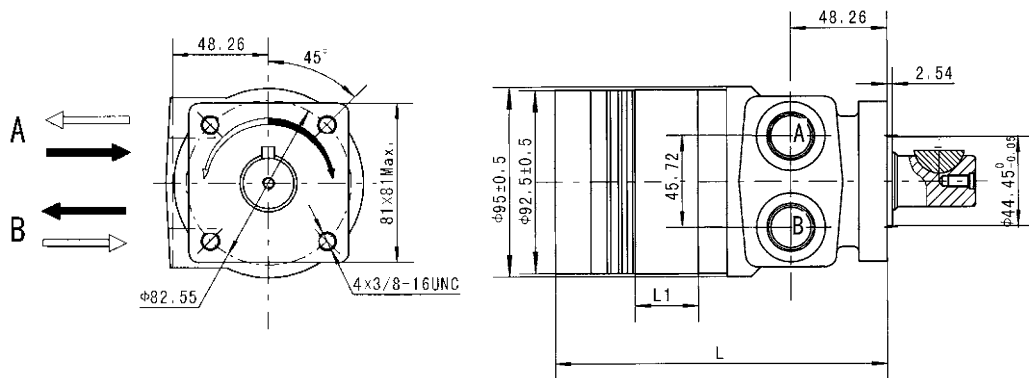


Code: Port A B
 HS 7/8-14UNF
 HP 1/2-14NPTF
 HD G1/2
 HG M22x1.5

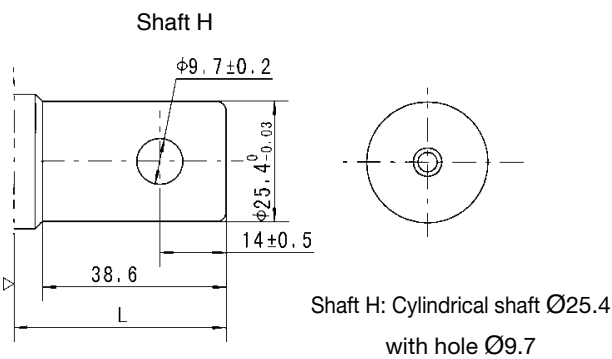
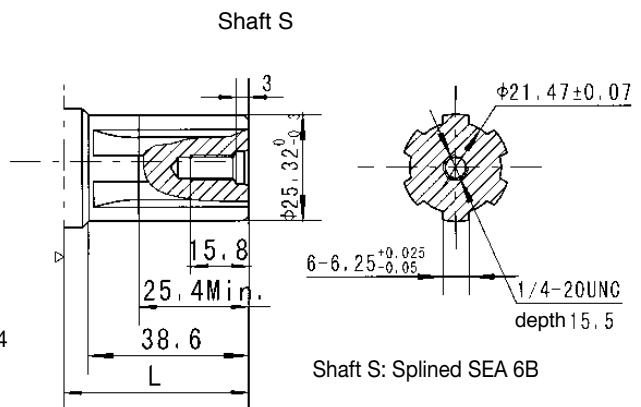
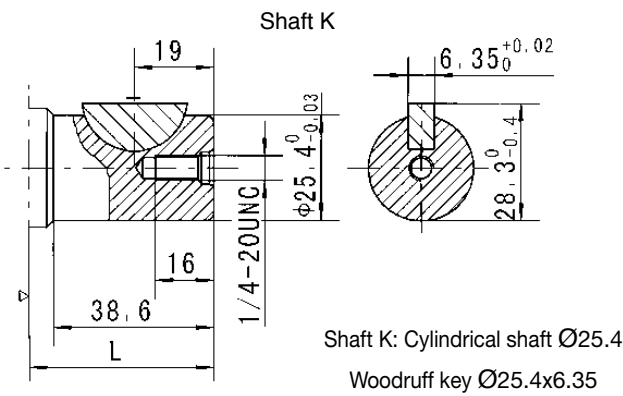
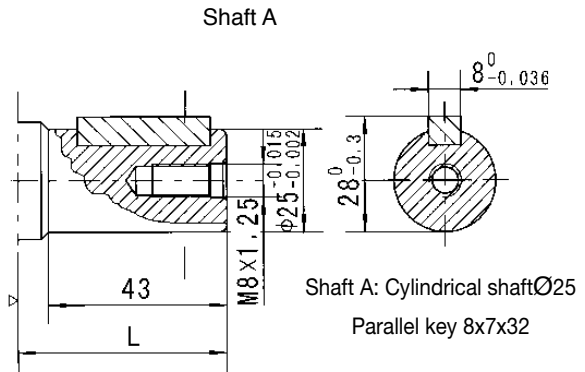
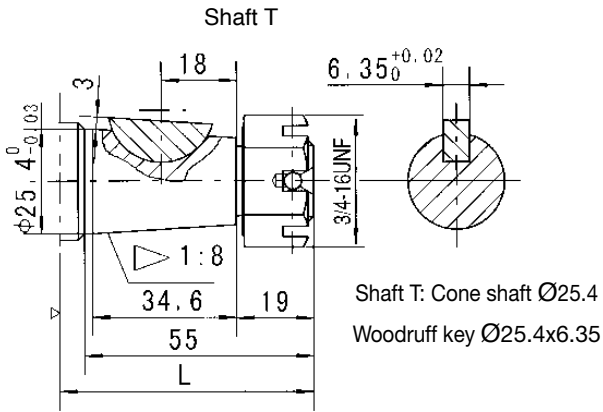


Displacement (cm ³ /rev.)	65	80	100	125	160	200	230	250	295	315	375
L1(mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L(mm)	149	152	156	161	166.5	174	180	186	192	198	210
Weight(kg)	6,4	6,5	6,8	7	7,3	7,7	8,2	8,6	9	9,3	9,8

Code: Port A B
 H4S 7/8-14UNF
 H4P 1/2-14NPTF
 H4D G1/2
 H4G M22x1.5



Displacement (cm ³ /rev.)	65	80	100	125	160	200	230	250	295	315	375
L1(mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L(mm)	149	152	156	161	166.5	174	180	186	192	198	210
Weight(kg)	6,4	6,5	6,8	7	7,3	7,7	8,2	8,6	9	9,3	9,8



Dimension L

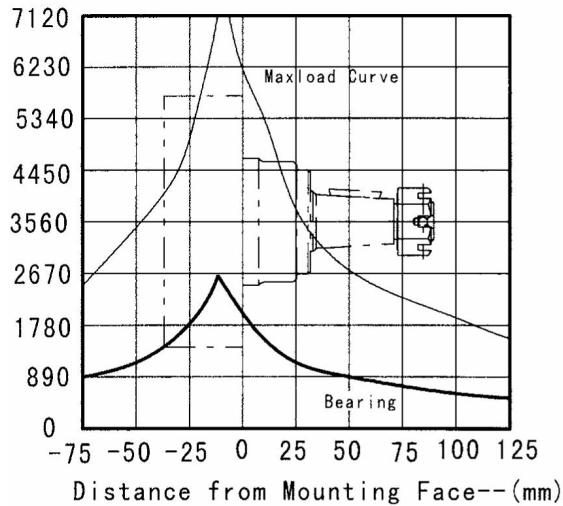
Shaft Mounting	T	A	K	S	h
WS	90,2	78,2	73,9	73,9	73,9
HS/HP					
H4S/H4P	61	49	44,7	44,7	44,7
HM					

Motor Mounting Surface →



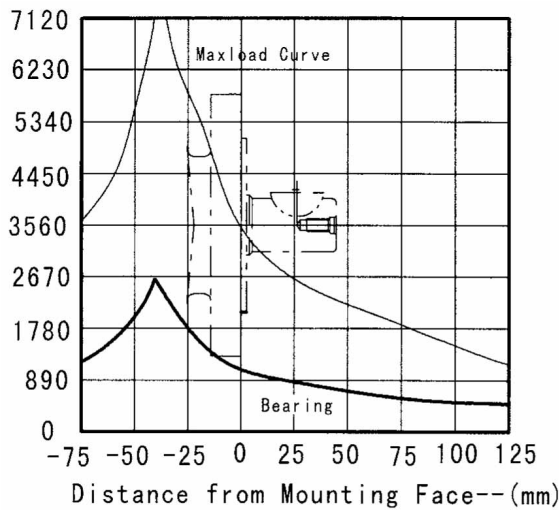
VNKE2 for Wheel Mounting

Side Load-(daN)



VNKE2 for Other Mounting

Side Load-(daN)



The bearing curve represents allowable bearing loads for an L_{10} bearing life at 3×10^6 revolutions, The maximum load curve is defined by bearing static load capacity, This curve should not be exceeded at any time including shock loads.

ORDER INFORMATION

VINKE2		1	2	3	4	5	6	7	
Pos.1	2								
Code	Disp.	3		4		5		6	7
		Flange, Pilot, Port		Output Shaft		Rotation Direction		Paint	Unusually Function
WS		4-Ø13.5 Wheel - flange, Pilot Ø60.3x7 Port 7/8-14 O-ring							
WD		4-Ø13.5 Wheel - flange, Pilot Ø60.3x7 Port G1/2							
WM	65	4-Ø13.5 Wheel - flange, Pilot Ø60.3x7 Port M22x1.5							
HM	80	2-Ø13.5 Rhomb-flange, Pilot Ø82.5x2.54 Port 1/2" Manifold mount 4x5/8-18							
HS	100	2-Ø13.5 Rhomb-flange, Pilot Ø82.5x2.54 Port 7/8-14 O-ring							
HP	125	2-Ø13.5 Rhomb-flange, Pilot Ø82.5x2.54 Port 1/2-14 NPFT Pipe							
HD	160	2-Ø13.5 Rhomb-flange, Pilot Ø82.5x2.54 Port G1/2							
HG	200	2-Ø13.5 Rhomb-flange, Pilot Ø82.5x2.54 Port M22x1.5							
H4S	230	4-3/8-16 Square- flange, Pilot Ø44.4x2.54 Port 7/8-14 O-ring							
H4P	250	4-3/8-16 Square- flange, Pilot Ø44.4x2.54 Port 1/2-14 NPFT Pipe							
H4D	295	4-3/8-16 Square- flange, Pilot Ø44.4x2.54 Port G1/2							
H4G	315	4-3/8-16 Square- flange, Pilot Ø44.4x2.54 Port M22x1.5							
	375								
Omit									
				T A K S H		Omit Standard Opposite R		00 Omit B S	No paint Blue Black Silver grey

Note: When the table is used, please fill the code of left rows in the table 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.



VNKJ series motor adapt the advanced Geroler gear set designed with high speed distribution flow and high pressure, and have good stability in low speed , and can keep high volume efficiency. The unit can be supplied the individual variant in operating multifunction in accordance with requirement of applications.

Characteristic features:

- * Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
- * The output shaft adapts in needle roller bearings that permit high axial and radial forces. The case can offers capacities of high pressure and high torque in the wide of applications.
- * Advanced design in high speed distribution flow, which can automatically compensate in operating with high volume efficiency and long life , provide smooth and reliable operation.
- * Lowest leakage rate, most accurate timing methods. Commutator rotates 6x faster than shaft speed. It make the distribution in a high precision reduces life-cycle cost, maintain high volume efficiencies and can run very smoothly at low speed, gear box not required.

Main Specificaion												
Type		VNKJ 65	VNKJ 80	VNKJ 100	VNKJ 125	VNKJ 160	VNKJ 200	VNKJ 230	VNKJ 250	VNKJ 295	VNKJ 315	VNKJ 375
Geometric displacement (cm ³ /rev.)		66.8	81.3	101.6	127	157.2	193.6	226	257	287.8	314.5	370
Max. speed (rpm)	cont.	667	543	439	350	283	229	247	216	196	178	152
	int.	842	689	553	441	355	289	328	287	254	235	199
Max. torque (N•m)	cont.	126	157	191	245	307	382	378	381	393	448	439
	int.	176	215	268	335	422	520	528	543	547	587	613
Max. output (kW)	cont.	8.3	8.8	7.9	8.9	8.9	9	9.9	9.3	8.7	8	7.6
	int.	13.9	14.4	13.5	14.1	15.6	15.7	17.9	16.5	15.6	14.3	14
Max. pressure drop (MPa)	cont.	14	14	14	14	14	14	12	11	10	10	9
	int.	19	19	19	19	19	19	165	15.5	14.5	13.5	12.5
	peak	20	20	20	20	20	20	18	18	17	16	16
Max. flow (L/min)	cont.	45	45	45	45	45	45	57	57	57	57	57
	int.	57	57	57	57	57	57	75	75	75	75	75

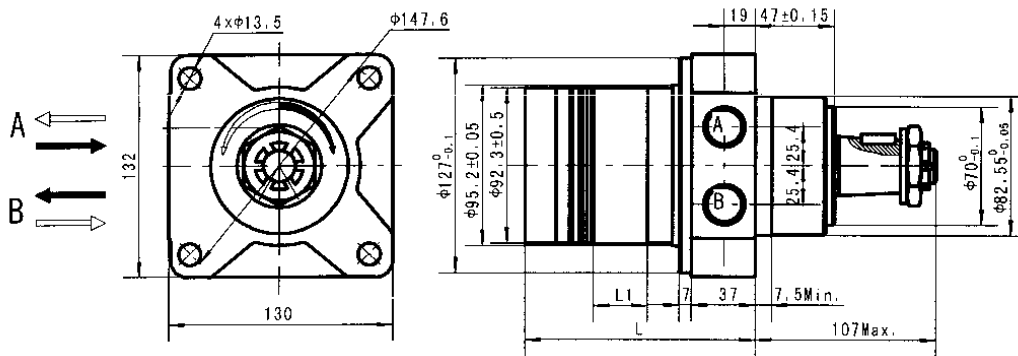
* Continuous pressure:Max. value of operating motor continuously.
 * Intermittent pressure:Max. value of operating motor in 6 seconds per minute.
 * Peak pressure:Max. value of operating motor in 0.6 second per minute.

Wheel Mount

Code : WS Ports A B 7/8-14 O-Ring

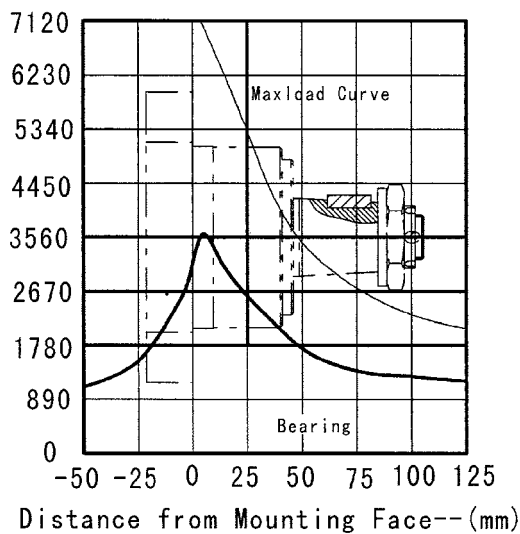
Code : WD Ports A B G1/2

Code : WM Ports A B M22x1.5



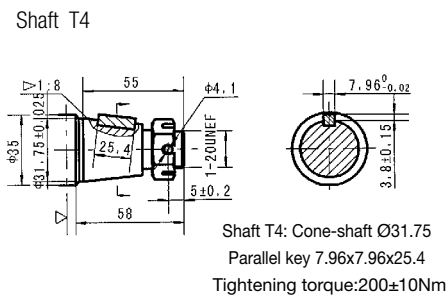
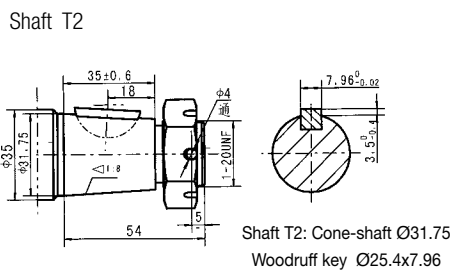
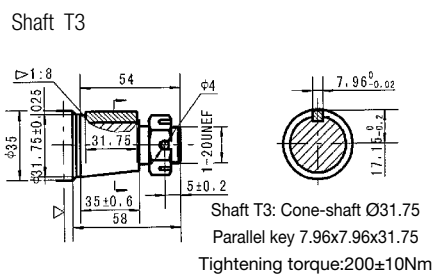
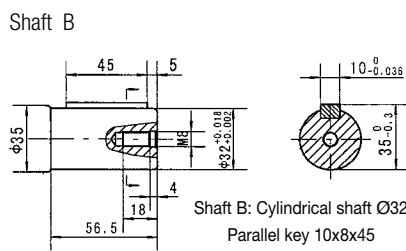
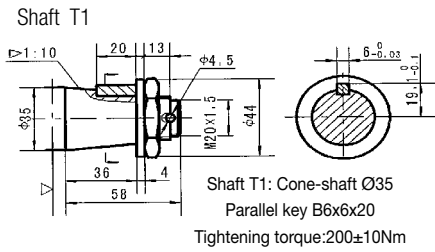
Displacement (cm ³ /rev.)	65	80	100	125	160	200	230	250	295	315	375
L1(mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L(mm)	115	118	122	127	132.5	140	146	152	158	164	176
Weight(kg)	9	9.1	10.4	10.6	10.9	11.3	11.8	12.2	12.6	12.9	13.4

Side Load-(daN)



The bearing curve represents allowable bearing loads for an L₁₀ bearing life at 3×10⁶ revolutions.

The maximum load curve is defined by bearing static load capacity, This curve should not be exceeded at any time including shock loads.



Motor Mounting Surface →

VNKJ	1	2	3	4	5	6	7
Pos.1	2	3	4	5	6	7	
Code	Disp.	Flange, Pilot, Port	Output Shaft	Rotation Direction	Paint	Unusually Function	
	65 80 100 125 160 200 230 250 295 315 375	WS WD WM	T1 T2 T3 T4 B	Omit R	No paint Blue Black Silver grey		
		4- $\phi 13.5$ Wheel-flange Pilot $\phi 82.55 \times 7$ Port 7/8-14 O-ring	Cone-Shaft $\phi 35$, Parallel key B6x6x20 Cone-Shaft $\phi 31.75$, Woodruff key $\phi 25.4 \times 7.96$ Cone-Shaft $\phi 31.75$, Parallel key 7.96x7.96x31.75 Cone-Shaft $\phi 31.75$, Parallel key 7.96x7.96x25.4 Cylindrical Shaft $\phi 32$, Parallel key 10x8x45	Standard Opposite	00 Omit B S	Standard Omit	

Note: When the table is used, please fill the code of left rows in the table 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.

VNKR-ZD01 Series hydraulic motor with brake extending VNK series motor range. This motor has an integrated holding brake.

Characteristic features:

- *Advanced manufacturing devices for the Geroler gear set , which use low pressure of start-up , provide smooth , reliable operation and high efficiency .
- *Shaft seal can bear high pressure of back and the motor can be use in parallel or in series .
- *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 .
- *Small volume and radial dimension,high holding torque,power brake,low weight and easy to install.

Main Specificaion										
Type		VNKR ZD01 50	VNKR ZD01 80	VNKR ZD01 100	VNKR ZD01 125	VNKR ZD01 160	VNKR ZD01 200	VNKR ZD01 250	VNKR ZD01 315	VNKR ZD01 375
Geometric displacement (cm ³ /rev.)		51.7	81.5	102	128	157	195	253	318	381
Max. speed (rpm)	rated	490	479	478	421	341	276	212	169	141
	cont.	509	502	497	459	372	301	231	184	166
	int.	603	598	574	574	465	376	289	230	192
Max. torque (N•m)	rated	104	164	205	256	316	335	437	456	465
	cont.	103	203	254	317	391	359	437	456	465
	int.	88.6	160	200	250	308	333	473	502	520
Max. output (KW)	rated	5.3	8.2	10.3	11.3	11.3	9.7	9.7	8.1	6.9
	cont.	5.5	10.7	13.2	15.2	15.2	11.3	10.6	8.8	8.1
	int.	5.6	10	12	15	15	13.1	14.3	12.1	10.5
Max. Pressure drop (MPa)	rated	14	14	14	14	14	12	12	10	8.5
	cont.	14	17.5	17.5	17.5	17.5	13	12	10	8.5
	int.	17.5	20	20	20	20	17.5	13	11	9.5
Max. Flow (L/min)	rated	26	40	50	55	55	55	55	55	55
	cont.	27	42	52	60	60	60	60	60	65
	int.	32	50	60	75	75	75	75	75	75
Min. opening pressure (MPa)		1.7—2.2								
Max. inlet pressure (MPa)		25								
Max. brake release port pressure (MPa)		25								
Max. static torque (Nm)		500—550								
Weight (kg)		11,7	11,9	11,9	12,2	12,5	13	13,5	14	14,5

*Rated speed and rated torque:output value of speed and torque under rated flow and rated pressure.

*Continuous pressure:Max. value of operating motor continuously.

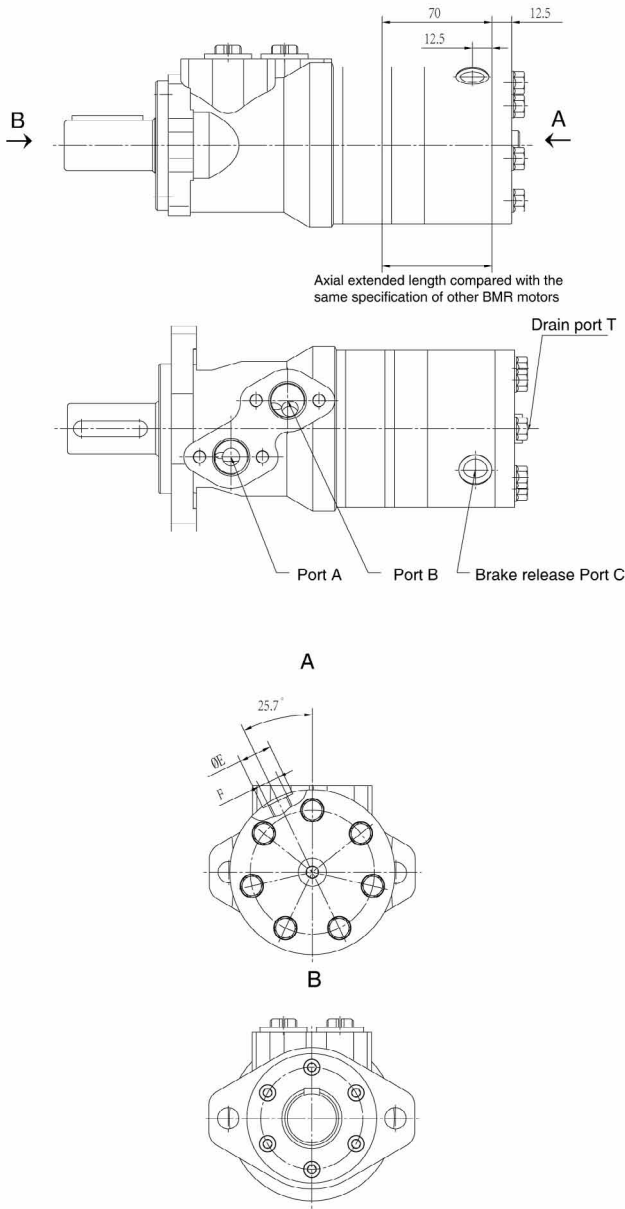
*Intermittent pressure:Max. value of operating motor in 6 seconds per minute .

*Peak pressure:Max. value of operating motor in 0.6 second per minute.

*Such kind of brake is only used in static paring brake.Dynamic braking in not recommended.

When the motor integrated with brake is working, the pressure at releasing port must be more than 2.2MPa. In the status of braking, the pressure at releasing port must be less than 1.7 MPa, optimally 0 MPa. It is attention in use that the back pressure of the oil circuit is the best 0 MPa.

VNKR-ZD01 DIMENSIONS AND MOUNTING DATA



Model	Port C	E	F
G		22	G1/4 Depth 9

Note: The mount data is completely referred to VNK series motor. The axial extended length reduces 70mm as picture. Port C is brake releasing port, the position is as picture.

Order information

1	2	3	4	5	6	7	8	9	
VNKR-ZD01									
Pos.1	Code	Disp.	Flange	Output Shaft	Ports and Drain Port	Brake release Port	Rotation Direction	Paint	Unusually Function
	50	2	2-Ø13.5Rhomb-flange, pilot Ø82.5x8	A Shaft Ø25 parallel Key 8x7x32	D G1/2 Manifold Mount 4xM8, G1/4 M22x1.5 Manifold Mount 4xM8, M14x1.5	G1/4 Depth 9 facing Ø22	Omit R	No paint Blue Black Silver grey	Standard Big radial force No case drain
	80	4	4-Ø13.5Rhomb-flange, pilot Ø82.5x8	C Shaft Ø25.4, parallel Key 6.35x6.35x31.75	S 7/8-14 O-ring manifold 4x5/16-18UNC, 7/16-20UNF				
	100	H4	4-3/8-16Square-flange, pilot Ø44.4x2.8	E Shaft Ø25.4, splined tooth SAE 6B	P 1/2-14 NPTF Manifold 4x5/16-18UNC, 7/16-20UNF				
	125	H5	4-M10Square-flange, pilot Ø44.4x2.8	R Short shaft Ø25.4, parallel Key 6.35x6.35x31.75					
	160			B Shaft Ø32 parallel Key 10x8x45					
	200			F Shaft Ø31.75 splined tooth 14-DP12/24					
	250			FD Long shaft Ø31.75 splined tooth 14-DP12/24					
	315			G Shaft Ø31.75 parallel Key 7.96x7.96x31.75					
	375			T Cone-Shaft Ø28.56 parallel Key B5x5x14					

Note: When the table is used, please fill the code of right rows in the table 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.





Introduction

ZDQ2 series brake is one kind of hydraulic wet disc brake. The brake force is caused by the spring, and hydraulic pressure releases the brake force.

Features as follows:

- * ZDQ2 series adopts the special friction disc and high strength spring design: long life endurance, low noise, high braking reliability.
- * with 4 Drain port design , the brake can be used in different applications.
- * compact structure, easy mounting.
- * it can be used preferentially together with VNKP, VNKR series hydraulic motor.

Application

ZDQ2 series hydraulic brake stays in braking condition since delivery out of the factory. During normal operation, there exists the braking force in the brake disc, only if the pressure of hydraulic system, that the brake links , is lower than the pressure required by the release of brake, the spring force shall keep the brake in braking condition.

ZDQ2 series hydraulic brake is widely used in heavy duty machinery, such as engineering machinery, cranes, off-highway machinery vehicles, construction machinery, material handling machinery, agricultural machinery, mining, sanitation machinery, timber industries. They are also used in winches and in hydrostatic drive systems for automatization engines.

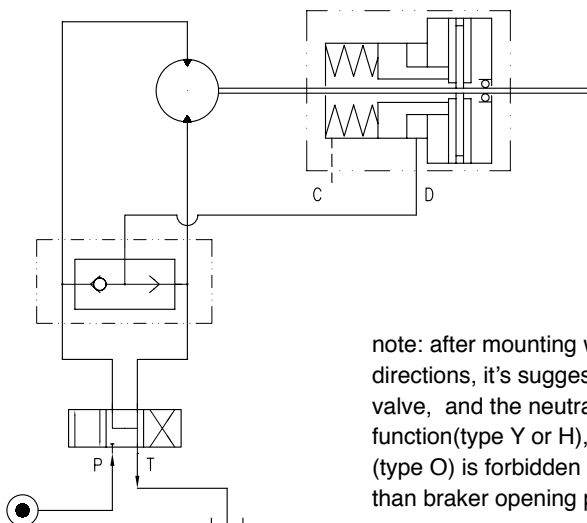
Special Note: such kind of brake is only used in static parking brake. Dynamic braking is not recommended.

Intruction Manual

In order to make the ZDQ2 series brake work under the best situation, we recommend the normal requirements as follows:

- 1.Assembly: 1st of all , we have to mount the brake ZDQ2 with hydraulic motor, and then fill the brake with lubrication oil through the drain port, and then mount with other parts.
- 2.Fluid type:Mineral based-HM(GB/T763.2-87) (ISO6743/4) or HLP(DIN51524).
- 3.Temperature range:normal -20 -90 the best optimal situation 20 -60
- 4.Viscosity range: 20 75mm²/s; the best optimal situation 42 74mm²/s at 40 .
- 5.Filtration:nominal filtration of 25 micron, ISO code 20/16.
- 6.Maintenance: changed after the first 50 100h then after every 500 1000h.

Typical Applications Drawing

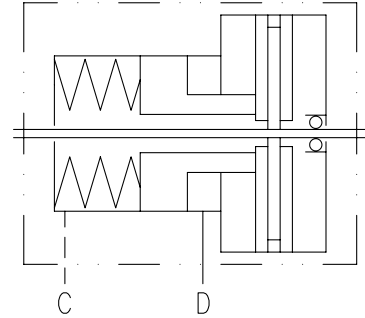


note: after mounting with hydraulic motor, if the motor needs both rotation directions, it's suggested that the hydraulic system is designed to use shuttle valve, and the neutral position of the directional valve must have off-load function(type Y or H), the neutral position function without off-load function (type O) is forbidden or the pressure of the outlet port in the system is larger than braker opening pressure. Please check the drawing for reference.



Specification Data

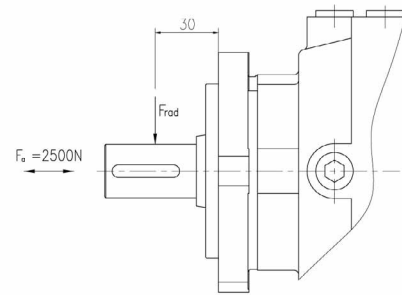
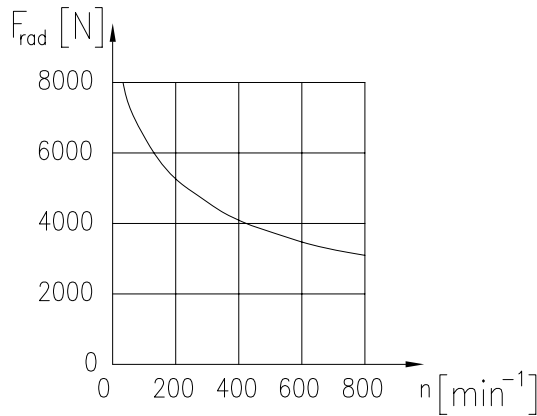
Item	ZDQ2-1		ZDQ2-2
Min. static Torque [Nm]	200~230	410~450	410~450
Min. Opening Pressure [MPa]	1.7~2.3		
Max. Opening Pressure [MPa]	30		
Min.oil quantity for brake releasing[cm ³]	7~8		
Oil volume [cm ³]	50~120		
Max. pressure in drain space [MPa]	0.05		
Weight [kg]	9	9,5	



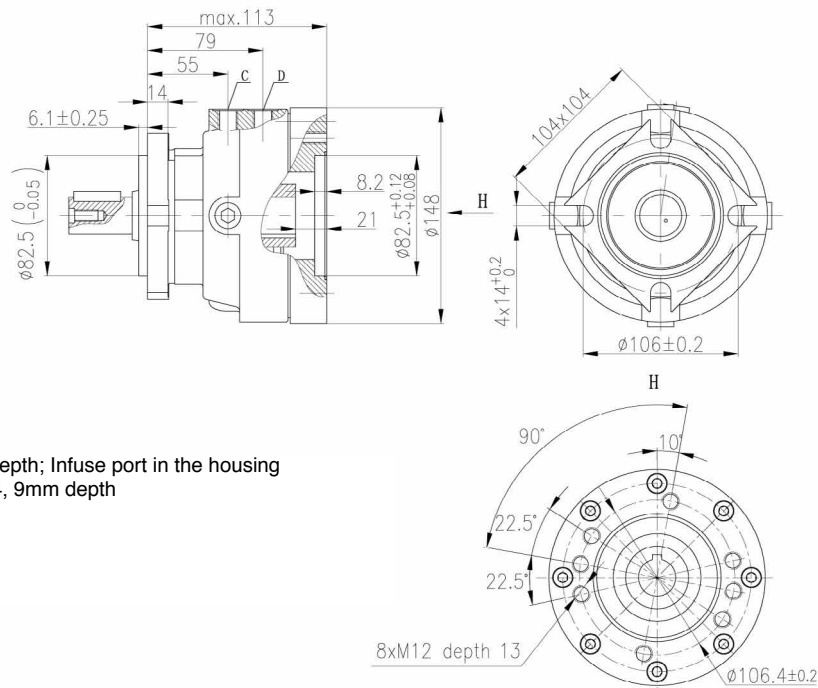
symble drawing

*Static torque is obtained at working pressure 0 MPa

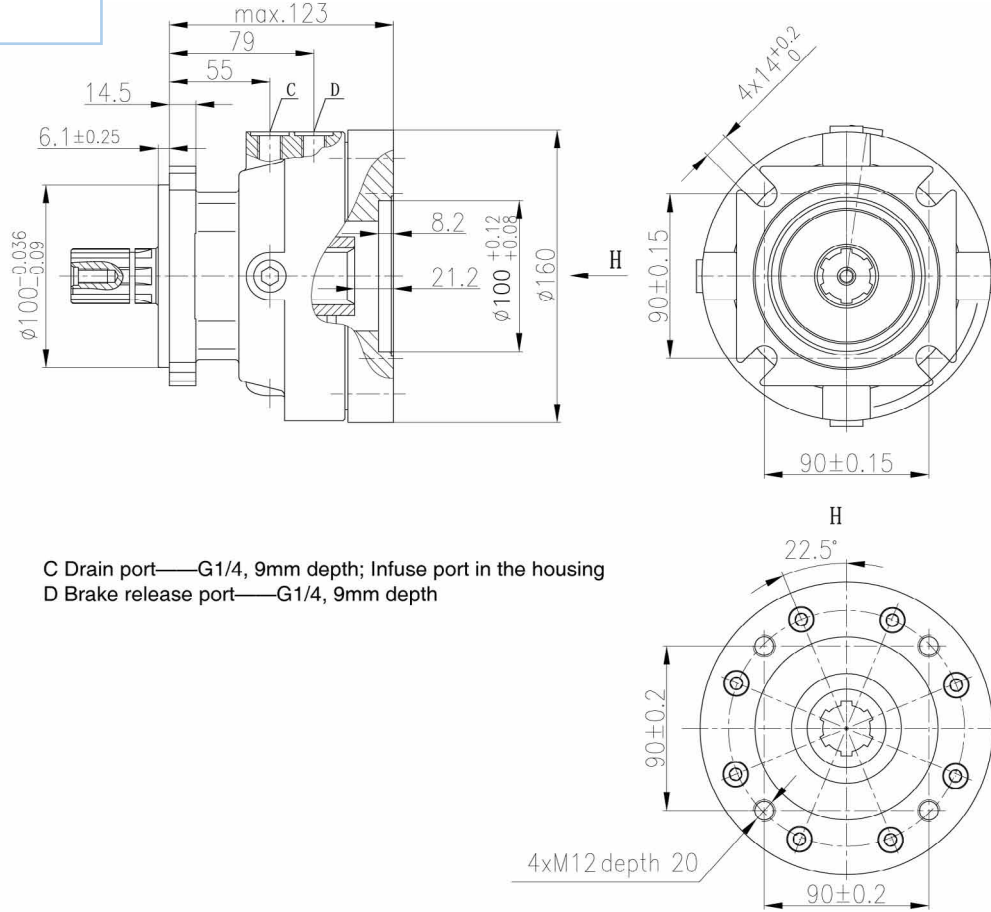
Load Curve



Mounting Data
Model ZDQ2-1

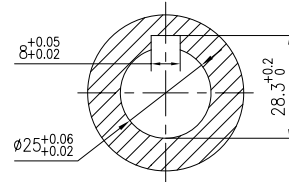
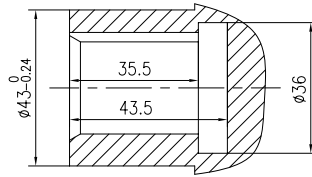


C Drain port—G1/4, 9mm depth; Infuse port in the housing
D Brake release port—G1/4, 9mm depth

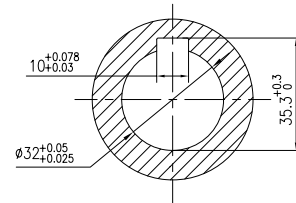
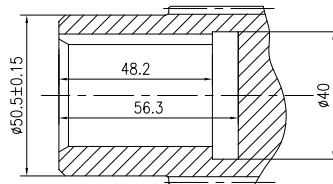


C Drain port—G1/4, 9mm depth; Infuse port in the housing
D Brake release port—G1/4, 9mm depth

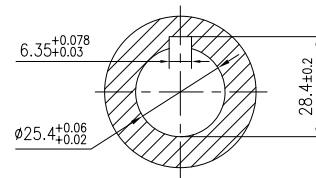
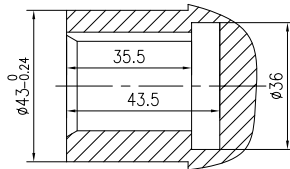
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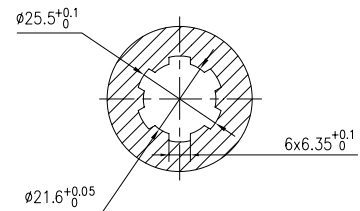
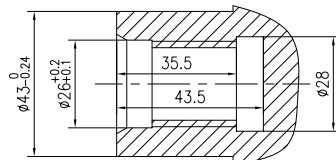
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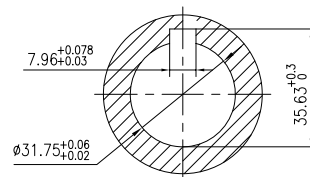
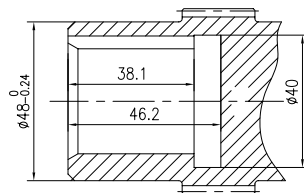
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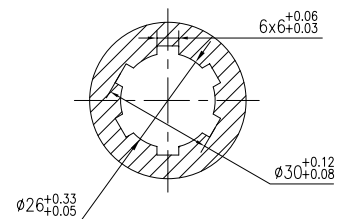
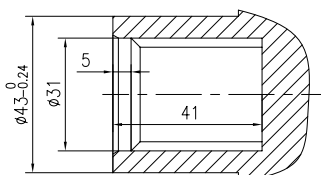
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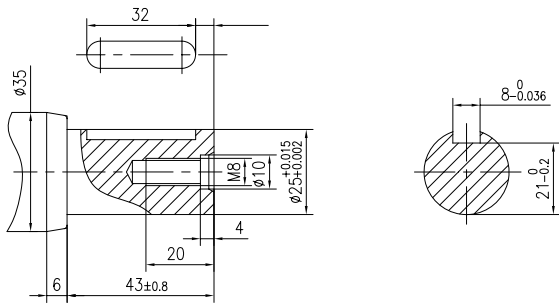
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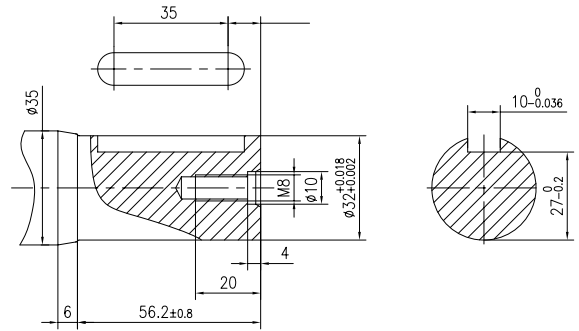
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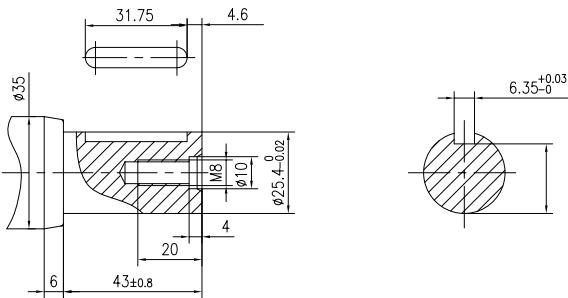
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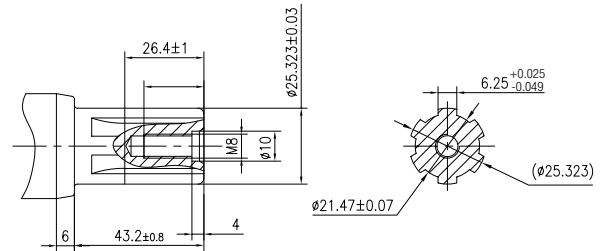
B



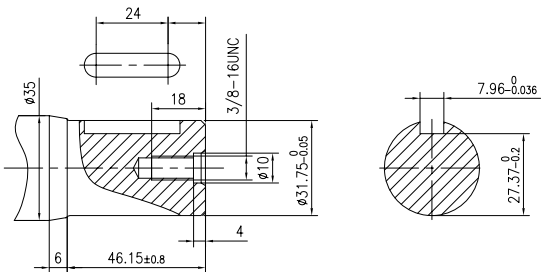
C



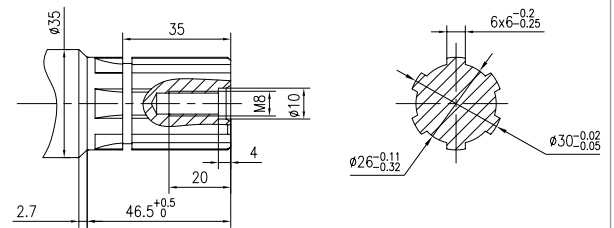
E



G



N



ZDQ ORDER INFORMATION



Pos.1	2	3	4	5	6	7		
Series code	Structure code.	Torque	Input Shaft holes	Output shaft extensions	Paint	Unusually function		
1	1	Torque200--230Nm	Shaft holes Φ 25, Parallel key 8x7x32	A Shaft Φ 25, Parallel key 8x7x32	A	No Paint Blue Black Silver Grey	omit B S Standard	
			Shaft holes Φ 32, Parallel key 10x8x45	B Shaft Φ 32, Parallel key 10x8x45	B			00
			Shaft holes Φ 25.4, Parallel key 6.35x6.35x31.75	C Shaft Φ 25.4, Parallel Key6.35x6.35x31.75	C			omit
		Torque410--450Nm	Shaft holes Φ 25.4, splined key SAE 6B	E Shaft Φ 25.4, splined key SAE 6B	E			
			Shaft holes Φ 31.75, Parallel key 7.96x7.96x31.75	G Shaft Φ 31.75, Parallel Key7.96x7.96x31.75	G			
			Shaft holes Splined 6-30x26x6	N Shaft Splined 6-30x26x6	N			
2	2	Torque410--450Nm	Shaft holes Splined 6-30x26x8	J Shaft Splined 6-30x26x8	J			

Note: When the table is used, pls fill the code with right rows in the table and give us, which the code information is consist of construction, torque, input Shaft holes, output Shaft extensions, Paint .If the specification is not in the table or you have specific requirements, please contact us.

