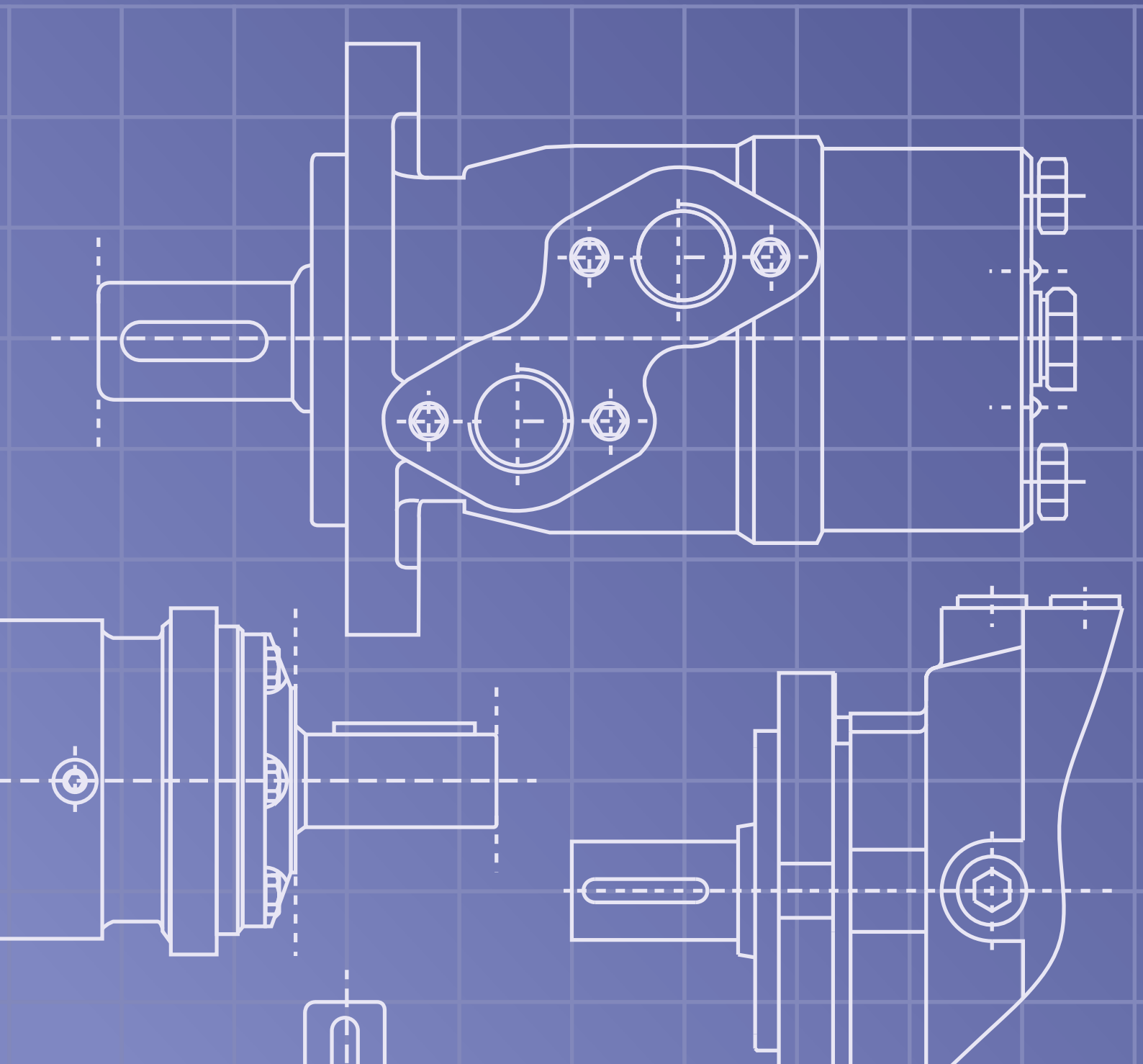
VINCKE

VINCKE

HYDRAULIC MOTORS



USAGE GUIDE Hydraulic Motors



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

1. Oil temperature: normal 20°C-60°C upper limit 90°C (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 10-30μm 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°C 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 2MPa, 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 VNKB, VNKS, VNKT, VNKV and VNKC 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 >300 hours salt spray. RAL9005.

SPECIFICATION Data of Hydraulic Motors

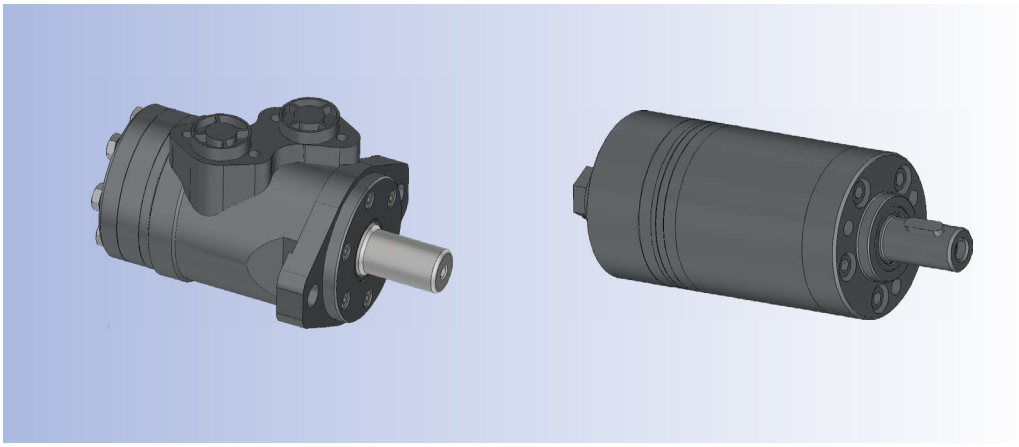
Distribution type	Model	Displacement (cm3/rev.)	Max. operating pressure (MPa)	Speed range (rpm)	Max. output power (kW)
Axial distribution	VNKM	8-50	14	30-1950	3.2
	VNKP	36-400	16.5	30-879	10
	VNKR	36-375	20	30-970	15
	VNKH	200-500	20	30-430	17

SPECIFICATION Data of Hydraulic Motors

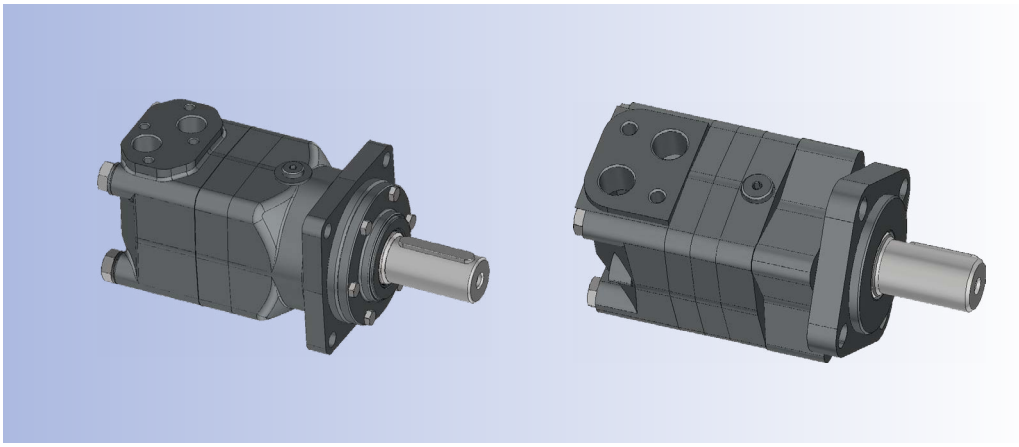
Distribution type	Model	Displacement (cm3/rev.)	Max. operating pressure (MPa)	Speed range (rpm)	Max. output power (kW)
Disc distribution	VNKSY	80-475	22.5	8-800	24
	VNKT	160-800	24	10-705	35
	VNKV	315-800	28	10-446	43

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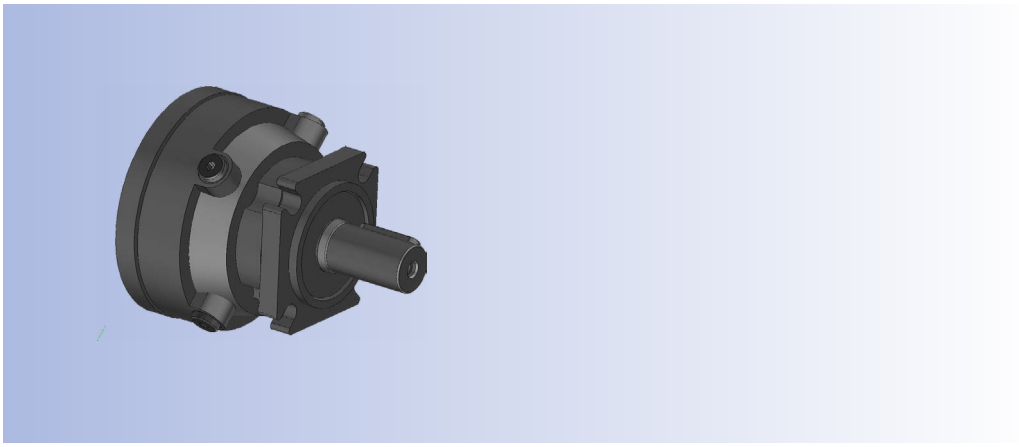
01
Axial Distribution Type Motors



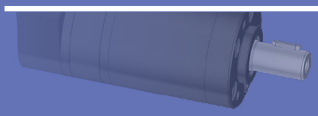
02
Disc Distribution Type Motors



03
Brake And Gearbox And Vavle

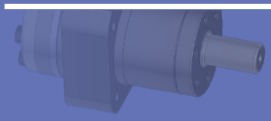


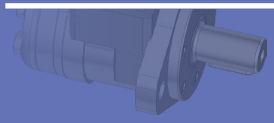
01 Axial Distribution Type Motors

VNKM SERIES Hydraulic Motor  5

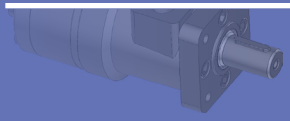
VNKP SERIES Hydraulic Motor  12

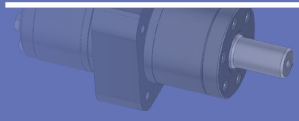
VNKPH SERIES Hydraulic Motor  18

VNKPW SERIES Hydraulic Motor  31

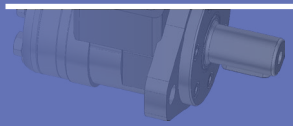
VNKPK SERIES Hydraulic Motor  33

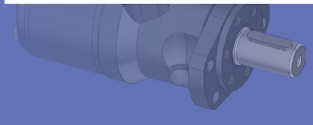
VNKR SERIES Hydraulic Motor  37

VNKRS SERIES Hydraulic Motor  45

VNKRWN SERIES Hydraulic Motor  55

VNKR-VNK3 SERIES Hydraulic Motor  57

VNKRK SERIES Hydraulic Motor  61

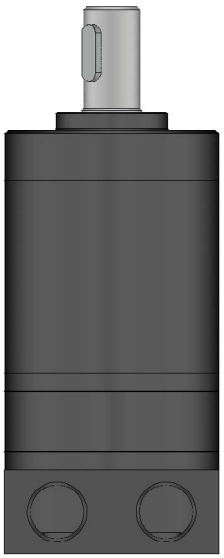
VNKH SERIES Hydraulic Motor  65

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VNKM Series Hydraulic Motor

INTRODUCTION

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 weigth.



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.

SPECIFICATION Main Specification

Type		VNKM 8	VNKM 12.5	VNKM 20	VNKM 32	VNKM 40	VNKM 50
Geometric displacement (cm3/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.

Performance Data



VNKM8 [8.2 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	5	7	10 (Max. cont)	12	14 (Max. int)
2	3 228	5 218	8 206	10 156	12 111	14 58
4	3 474	5 471	7 463	11 426	13 391	15 331
8	3 953	5 946	7 926	11 884	13 855	15 816
12	2 1444	5 1426	7 1402	10 1360	13 1324	15 1288
15 (Max. cont)		4 1912	7 1900	10 1861	12 1833	14 1780
20 (Max. int)			6 2395	10 2350	11 2328	14 2281

VNKM12.5 [12.9 cm3/rev.]

Pressure (MPa)

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

VNKM20 [19.9 cm3/rev.]

Pressure (MPa)

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

VNKM32 [31.6 cc/rev.]

Pressure (MPa)

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

VNKM40 [39.8 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	5	7	8,5 (Max. cont)	10	12 (Max. int)
2	16 45	27 40	36 34	44 28	51 17	
4	16 96	27 93	37 85	44 79	52 65	62 52
8	15 197	26 195	36 182	44 176	52 166	63 154
12	14 293	25 287	35 282	43 277	51 268	62 257
15	13 371	24 365	34 360	42 355	50 347	62 338
20 (Max. cont)	10 497	21 492	31 487	39 480	48 472	59 463
25 (Max. int)	7 622	19 617	29 612	37 607	44 600	56 591

Torque (N•m) 37
Speed (rpm) 607

VNKM50 [50.3 cm3/rev.]

Pressure (MPa)

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

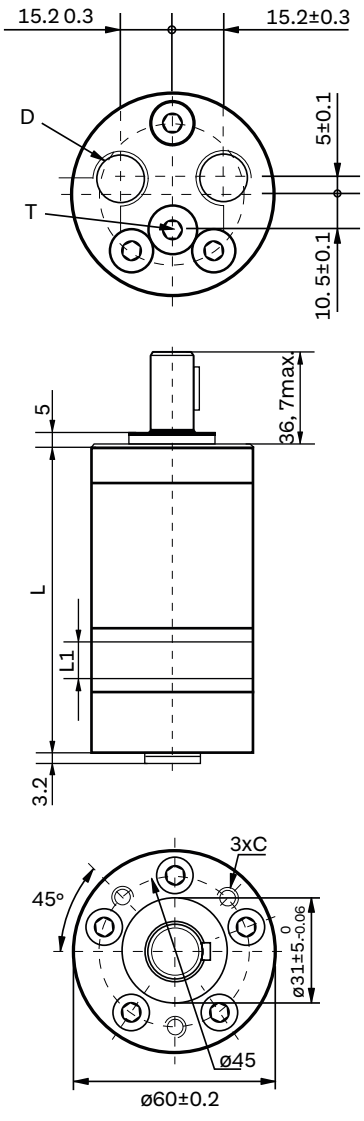
Cont. Int.



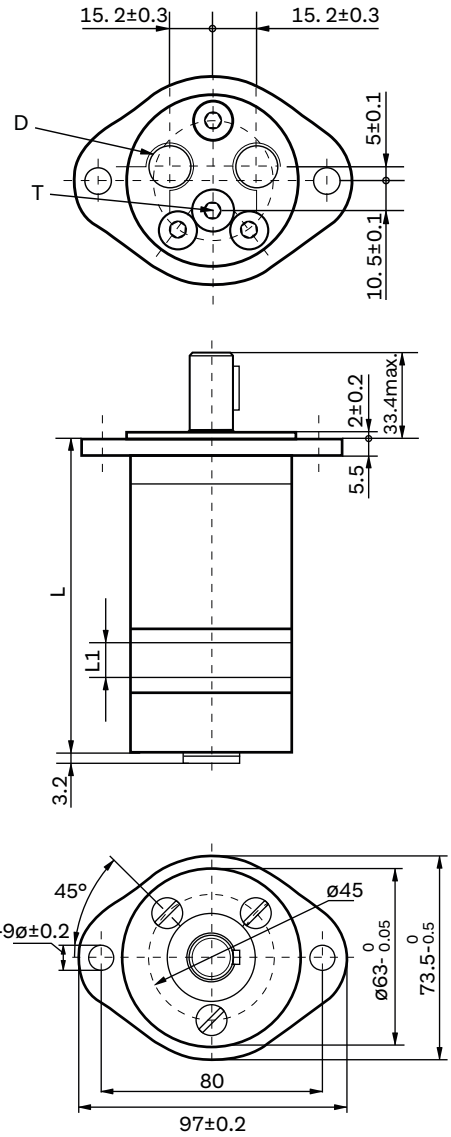
VNKM End Port Dimensions and Mounting Data

MOUNTING

Flange M, U



Flange F



	M, U Flange		F Flange	
Model	**L**	**L1**	**L**	**L1**
VNKM8	104	3.5	107.5	3.5
VNKM12.5	106	5.5	109.5	5.5
VNKM20	109	8.5	112.5	8.5
VNKM32	114	13.5	117.5	13.5
VNKM40	117.5	17	121	17
VNKM50	122	21.5	125.5	21.5

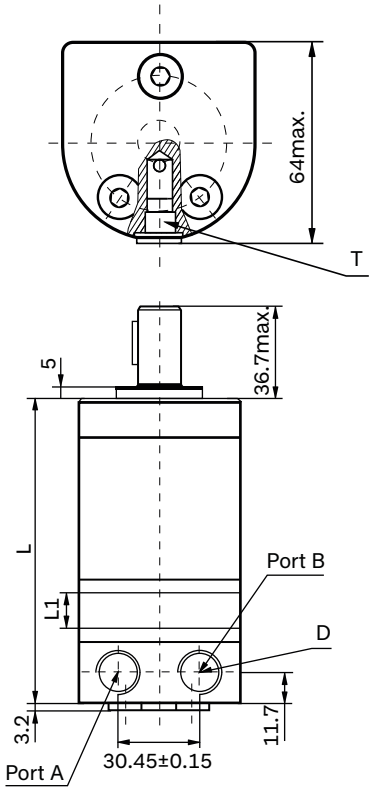
	M, U Flange		F Flange	
Code Mounting	**1E** (depth)	**1U** (depth)	**1E** (depth)	**1U** (depth)
C	[M]3-M6 (10)	[U]3-1/4-28UNF-2B(10)	[M]--	[U]--
D	G3/8 (12)	9/16-18UNF(12)	G3/8 (12)	9/16-18UNF(12)
T	G1/8 (8)	3/8-24UNF(8)	G1/8 (8)	3/8-24UNF(8)

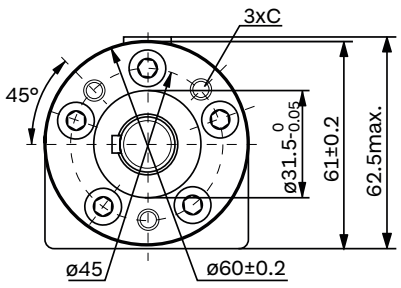


VNKM Side Port Dimensions and Mounting Data

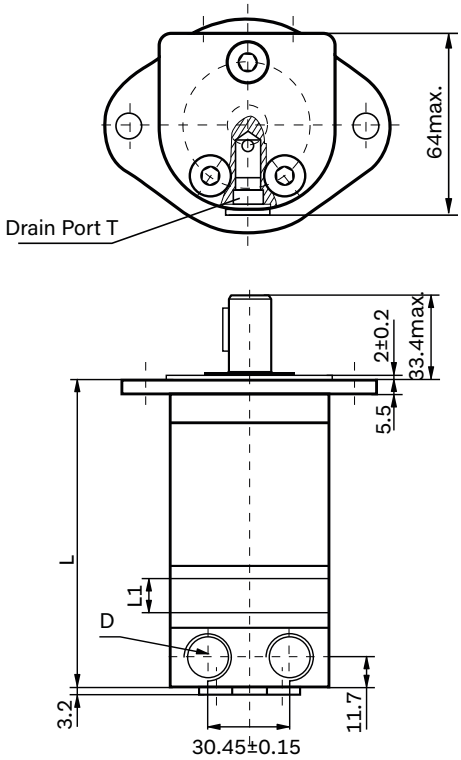
MOUNTING

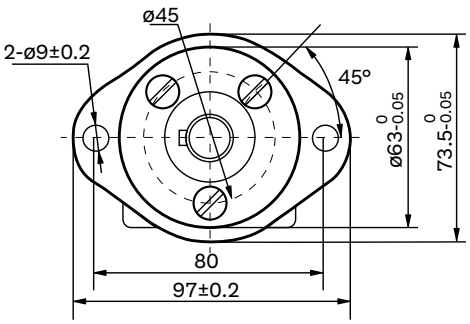
Flange M, U





Flange F



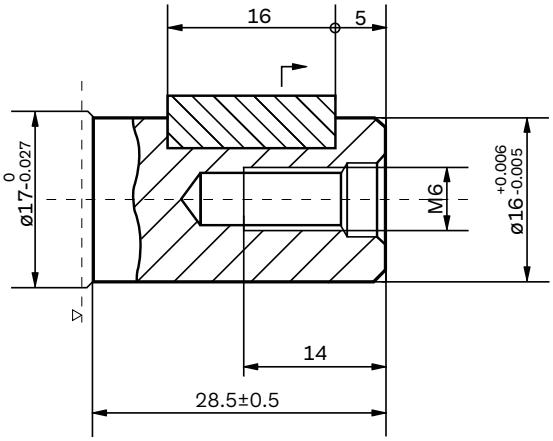


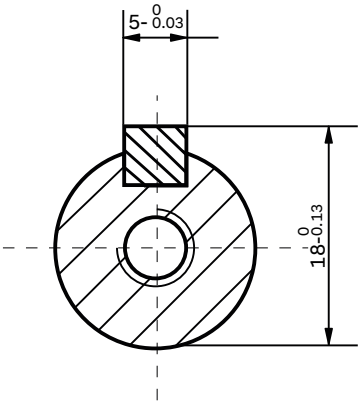
	M, U Flange		F Flange	
Model	**L**	**L1**	**L**	**L1**
VNKM8	105	3.5	108.5	3.5
VNKM12.5	107	5.5	110.5	5.5
VNKM20	110	8.5	113.5	8.5
VNKM32	115	13.5	118.5	13.5
VNKM40	118.5	17	122	17
VNKM50	123	21.5	126.5	21.5

	M, U Flange		F Flange	
Code Mounting	**E** (depth)	**U** (depth)	**E** (depth)	**U** (depth)
C	[M]3-M6 (10)	[U]3-1/4-28UNF-2B(10)	[M]--	[U]--
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)

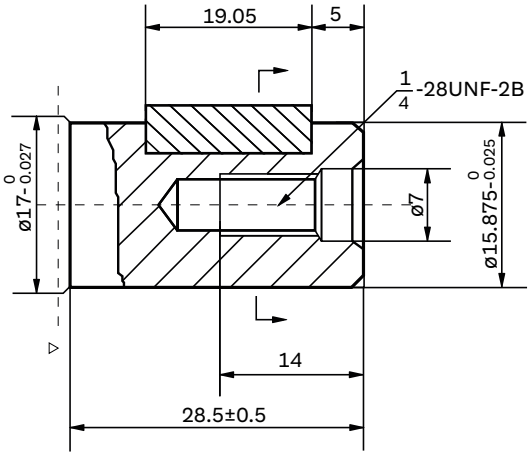
VNKM Shaft Extensions for BMM Motors

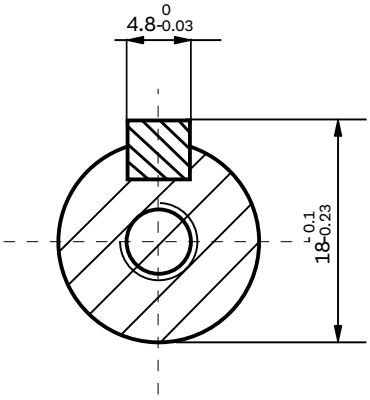




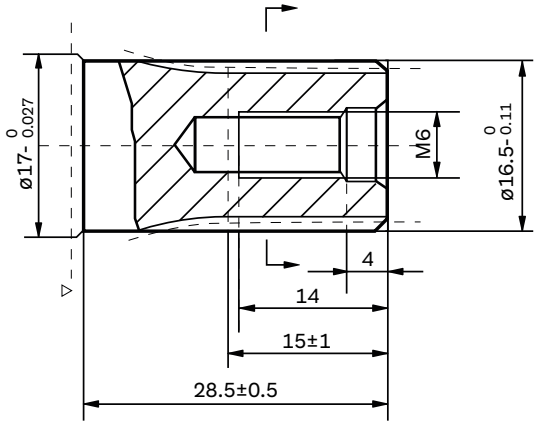


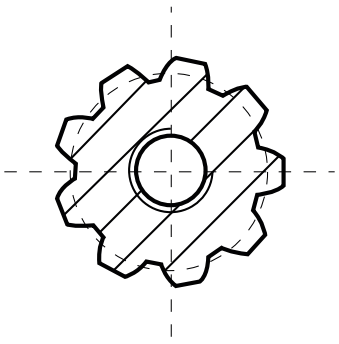
Shaft A:
Cylindrical shaft ø16
Parallel key 5x5x16





Shaft B:
Cylindrical shaft ø15.875
Parallel key 4.8x4.8x19.05





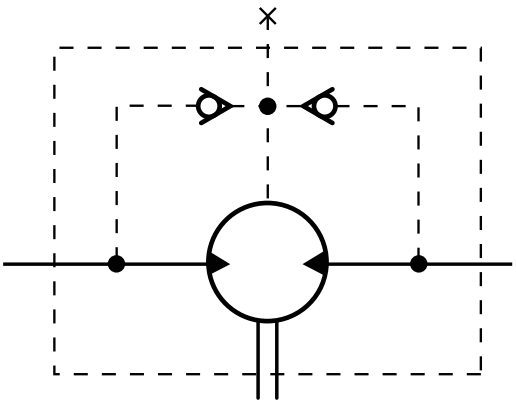
Shaft C:
Involute splind shaft B17x14
DIN5482

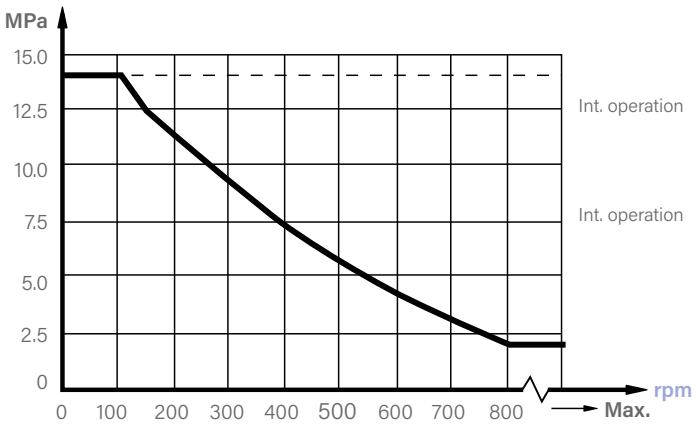
▷ Motor Mounting Surface

VNKM Series Hydraulic Motor



PERMISSIBLE SHAFT SEAL PRESSURE





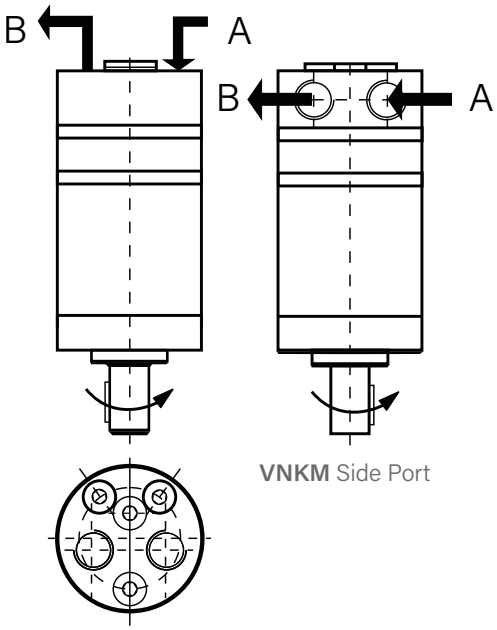
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

DIRECTION OF SHAFT ROTATION: Standard

When facing shaft end of motor,shaft to rotate:

Clockwise when port "A" is pressurized.

Counter-clockwise port "B" is pressurized.

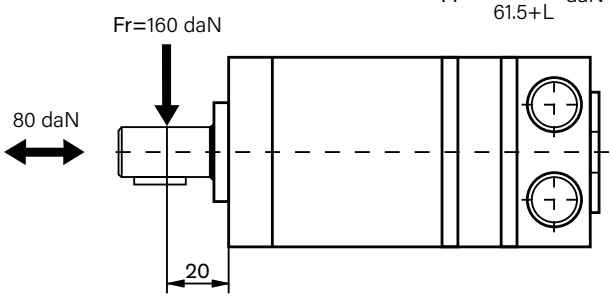


VNKM Side Port

VNKM End Port

STATUS OF THE SHAFT'S RADIAL FORCE

$$Fr = \frac{13040}{61.5+L}\ daN$$



Fr= Radial Force (daN)
L= Distance (mm)
n= Speed (rpm)
Max. force load
Rhomb-flange L= 15 mm
Square-flange L= 20mm

Order Information

	1	2	3	4	5	6	7	8
VNKM	–	–	–	–	–	–	–	–

Pos.1	2	3		4		5		6		7		8	
Code	**Displa-cement**	**Flange**		**Output shaft**		**Ports and drain port**		**Rotation direction**		**Paint**		**Unusually func-tion**	
Omit	**8**	**M**	3-M6 Circle-flange, pilot Ø31.5×5	**A**	Shaft Ø16, parallel key 5×5×16	**E**	G3/8, G1/8	**Omit**	Standard	**00**	No paint	**Omit**	Standard
	12.5					**U**	9/16-18UNF, 3/8-24UNF			**Omit**	Blue		
	20	**U**	3-1/4-28UNF Circle flange, pilot Ø31.5×5	**B**	Shaft Ø15.875, parallel key 4.8×4.8×19.05	**1E**	End port G3/8, G1/8	**R**	Opposite	**B**	Black	**0**	No case drain
	32					**1U**	End port 9/16-18UNF, 3/8-24UNF						
	40	**F**	2-Ø9 Rhomb-flange, pilot Ø63×2	**C**	Shaft Ø16.5, involute B17×14, DIN5482					**S**	Silver grey	**SD**	Speed Sensor
	50												

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.



VNKP Series Hydraulic Motor

INTRODUCTION

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 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.
* **HPS Shaft seal** can bear high pressure (200bar) of motor of which can be used in parallel or in series.
* **The output shaft** runs in needle bearing capable of absorbing static and dynamic axial and radial loads.

SPECIFICATION Main Specification

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

Type		VNKP VNKPH VNKPW 27	VNKP VNKPH VNKPW 36	VNKP VNKPH VNKPW 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 (cm3/rev.)		**26.6**	**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.	1465	1500	1150	770	615	490	383	310	250	192	155	120
	int.	1655	1650	1450	960	770	615	475	385	310	240	190	150
Max. torque (N•m)	cont.	35	55	100	146	182	236	302	360	380	375	360	385
	int.	50	76	128	186	227	290	370	440	460	555	525	560
	peak	70	96	148	218	264	360	434	540	550	650	680	680
Max. output (kW)	cont.	6	8.0	10.0	10.0	11.0	10.0	10.0	10.0	8.5	7.0	6.0	5.0
	int.	8	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.	10	12.5	14	14	14	14	14	14	11	9	7	6
	int.	14	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	22.5	18	16	14	12
Max. flow (L/min)	cont.	40	55	60	60	60	60	60	60	60	60	60	60
	int.	45	60	75	75	75	75	75	75	75	75	75	75
Weight (kg)		5.1	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



SPECIFICATION Main Specification

Technical data for VNKP with 31.75 and 32 shaft

Type		VNKP 36	VNKP 50	VNKP 80	VNKP 100	VNKP 125	VNKP 160	VNKP 200	VNKP 250	VNKP 315	VNKP 400	VNKP 500
Geometric displacement (cm3/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.	8.0	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 .
***vPeak pressure:** Max.value of operating motor in 0.6 second per minute.

Performance Data



VNKP 27 [26,6 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12	14
			Max. cont			Max. int
5	11 155	20 122	26 90			
10	12 340	22 315	29 285	35 240	42 180	48 140
15	12 530	23 500	30 465	35 420	43 375	50 320
20	11 720	22 670	30 640	35 595	44 545	51 490
25	11 900	21 875	29 840	35 800	43 755	51 700
35	10 1265	20 1235	27 1200	34 1170	42 1140	50 1100
40	8 1465	19 1430	26 1400	33 1370	41 1335	49 1280
45	8 1655	19 1610	26 1565	33 1510	41 1460	49 1405

Max. int Max. cont

Torque (N•m) 19
Speed (rpm) 1610

VNKP 36 [36 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	7	8	10	11	12,5	16,5
				Max. cont				Max. int
8	13 214	25 205	29 200	34 194	43 187	48 179		
15	13 406	25 398	29 391	34 383	43 374	48 366	56 353	75 324
20	13 541	24 534	29 528	34 521	43 513	48 500	56 486	76 458
30	12 814	24 804	29 792	34 778	43 763	48 749	56 726	76 701
35	12 952	23 944	28 930	34 913	43 897	48 879	56 858	76 833
40	12 1090	23 1078	28 1064	32 1048	41 1024	47 998	55 977	75 943
45	11 1232	22 1218	26 1196	32 1175	41 1149	46 1118	54 1080	74 1044
55	6 1505	15 1494	22 1480	28 1466	37 1438	44 1406	52 1367	71 1309
60	3 1650	11 1640	18 1626	20 1603	30 1571	38 1536	49 1502	67 1446

Max. int Max. cont

VNKP 50 [51.7 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12.5	14	16	17,5
					Max. cont			Max. int
8	20 151	41 134	56 115	69 90	89 56	95 42		
15	19 286	40 274	56 261	71 243	91 204	100 182	112 139	120 102
20	18 382	39 373	55 361	71 348	92 318	101 309	117 287	128 251
30	17 573	38 568	55 558	71 535	91 503	98 488	116 462	124 440
35	17 670	38 661	54 652	69 640	89 606	98 589	117 562	124 548
45	14 863	36 858	53 849	67 837	88 807	98 788	114 764	123 746
55	12 1055	33 1042	50 1028	65 1010	85 979	96 963	111 947	121 920
60	10 1150	32 1143	47 1126	64 1111	83 1079	94 1065	108 1043	119 1015
75	6 1440	25 1430	42 1416	56 1395	76 1367	87 1351	101 1335	112 1312

Max. int Max. cont

VNKP 80 [77.7 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12.5	14	16	17,5
					Max. cont			Max. int
8	32 97	62 87	85 74	104 55	129 33	144 22		
15	32 186	63 181	84 170	107 154	126 132	144 118	165 86	
20	31 251	63 243	84 236	107 225	132 207	146 196	168 178	185 155
30	31 381	62 379	83 368	106 355	131 332	146 316	168 285	186 263
35	30 443	59 435	81 426	102 415	130 397	144 383	167 361	185 342
45	25 570	58 564	79 554	100 543	126 526	142 509	165 483	182 458
55	23 696	57 685	78 672	97 656	124 643	140 630	161 602	179 579
60	20 761	53 753	75 744	94 736	120 720	137 706	160 681	177 660
75	14 948	44 940	67 931	87 920	112 906	151 890	169 871	169 854

Max. int Max. cont

Torque (N•m) 87
Speed (rpm) 920

Cont. Int.

Performance Data



VNKP 100 [96.2 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12.5	14	16	17,5
						Max. cont		Max. int
8	40 81	77 75	105 69	130 57	161 36	180 24		
15	39 152	77 149	106 145	130 140	160 122	180 103	208 81	
20	36 204	74 200	104 195	128 190	161 177	179 166	205 148	227 133
30	33 308	72 304	103 298	125 290	160 280	177 268	203 255	225 231
35	30 360	70 352	98 343	122 331	159 320	176 306	202 294	224 275
45	29 462	67 458	95 451	118 443	155 433	174 419	200 402	220 383
55	25 566	64 558	93 549	116 540	152 529	170 515	198 498	217 478
60	22 618	60 611	91 601	114 589	149 580	167 570	194 558	213 540
75	15 771	54 763	83 755	106 744	141 735	160 724	186 708	205 693

Max. int Max. cont

VNKP 125 [120.2 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12.5	14	16	17,5
						Max. cont		Max. int
8	51 63	98 60	137 55	168 47	208 28	236 15		
15	51 121	101 116	138 110	168 102	209 89	236 73	267 48	
20	48 162	98 158	135 153	167 148	211 137	237 128	269 109	290 94
30	46 243	96 239	132 234	164 227	209 216	232 202	264 189	287 176
35	42 284	92 279	130 274	160 269	206 259	229 247	260 231	284 222
45	37 370	89 362	125 355	157 348	201 340	224 327	261 310	281 296
55	33 452	84 446	122 438	152 431	196 420	218 412	252 402	275 384
60	29 490	78 482	117 475	146 468	191 459	215 448	248 439	272 427
75	18 615	66 606	107 598	133 586	179 575	202 563	236 549	260 528

Max. int Max. cont

VNKP 160 [157.2 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12.5	14	16	17,5
						Max. cont		Max. int
8	62 49	120 48	170 46	212 42	263 26	290 14		
15	60 93	122 91	172 88	215 85	264 76	294 68	340 48	
20	57 125	120 123	170 120	214 117	262 110	290 106	340 92	371 81
30	53 187	115 184	164 181	206 178	259 175	288 168	335 155	368 139
35	49 220	110 216	160 213	202 209	255 205	284 202	328 192	362 176
45	44 283	102 280	154 276	196 272	248 267	278 260	321 250	358 238
55	40 345	99 342	148 340	191 336	243 331	272 328	316 320	351 303
60	33 377	94 374	144 371	188 367	236 363	267 359	308 353	345 342
75	19 473	80 469	124 465	170 459	216 453	252 447	296 440	325 424

Max. int Max. cont

VNKP 200 [194.5 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	8	10	12.5	14	16	17,5
						Max. cont		Max. int
8	79 40	164 39	207 38	250 35	320 28	360 22		
15	78 76	162 75	205 74	250 71	322 66	361 61	410 51	
20	76 100	158 98	203 97	247 95	320 92	358 89	403 73	422 57
30	70 151	153 149	200 147	245 145	315 142	350 139	398 131	417 120
35	66 177	149 175	194 173	232 171	297 168	343 166	386 160	415 149
45	63 228	146 226	190 224	230 221	294 218	340 215	383 210	410 198
55	54 280	140 278	181 276	224 274	286 271	334 269	371 263	400 250
60	38 304	127 302	164 300	212 297	270 294	325 291	356 286	395 272
75	22 382	96 378	145 374	192 371	235 368	293 364	321 360	367 350

Max. int Max. cont

Cont. Int.

Performance Data



VNKP 250 [240.3 cm3/rev.]

Pressure (MPa)

Max. cont / Max. int

Flow (L/min)	3	6	8	10	12.5	14	16	17,5
8	96 30	190 28	268 24	326 21	403 11			
15	98 60	194 58	270 54	327 50	405 40	450 30	510 12	
20	92 82	188 80	267 77	325 76	405 69	456 64	514 52	565 38
30	85 123	180 120	259 118	320 114	400 106	448 98	513 87	561 76
35	77 143	176 141	252 139	311 135	389 128	436 122	504 112	557 101
45	70 185	168 182	243 178	300 174	377 168	428 161	495 152	543 139
55	63 226	159 223	237 218	290 213	369 209	417 202	483 193	531 185
60 (Max. cont)	60 248	150 246	228 243	280 239	358 233	407 226	473 215	520 207
75 (Max. int)	34 309	128 306	202 302	264 297	342 292	387 286	448 278	488 264

Torque (N▪m) 128
Speed (rpm) 306

VNKP 315 [314.5 cm3/rev.]

Pressure (MPa)

Max. cont / Max. int

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

VNKP 400 [389.5 cm3/rev.]

Pressure (MPa)

Max. cont / Max. int

Flow (L/min)	3	4.5	5.5	6.5	8	10	12.5
8	166 20	232 19	287 18	340 16	418 12		
15	165 38	228 36	277 35	337 33	417 31	496 27	612 21
20	162 50	223 49	273 49	331 48	413 45	495 41	608 35
30	154 76	216 75	266 74	318 73	405 71	486 67	600 60
35	146 88	210 87	256 87	312 86	395 83	480 80	588 75
45	132 114	197 113	243 112	300 110	383 108	464 106	576 99
55	117 139	184 137	227 136	283 135	363 135	450 132	552 123
60 (Max. cont)	102 153	163 152	215 150	272 148	347 146	436 143	532 138
75 (Max. int)	53 191	128 189	182 187	234 185	318 183	391 180	484 176

Torque (N▪m) 234
Speed (rpm) 185

VNKP 500 [486.5 cm3/rev.]

Pressure (MPa)

Max. cont / Max. int

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

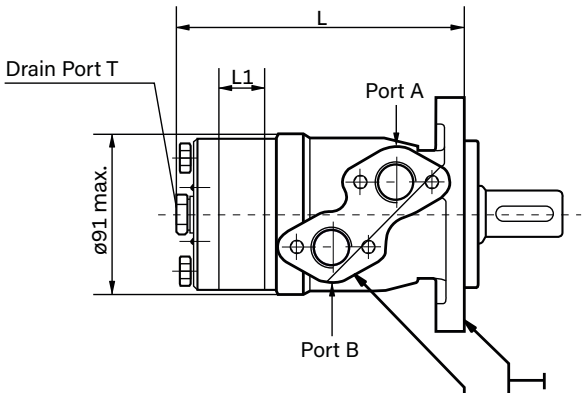
Torque (N▪m) 389
Speed (rpm) 147

Cont. Int.

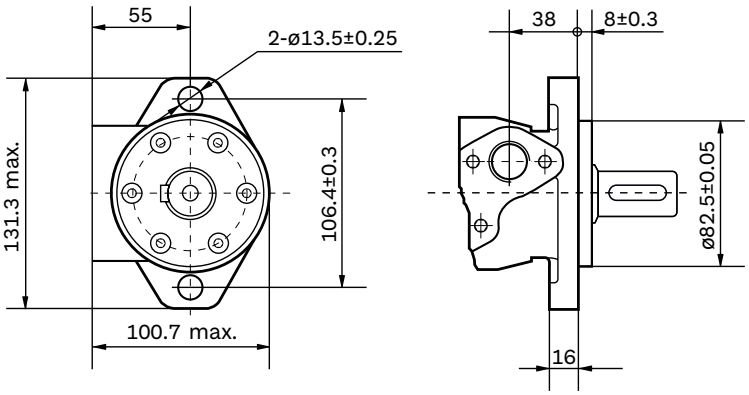


VNKP Dimensions and Mounting Data

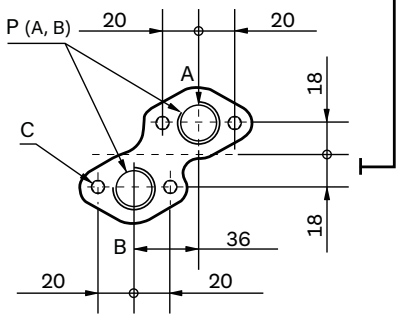
MOUNTING



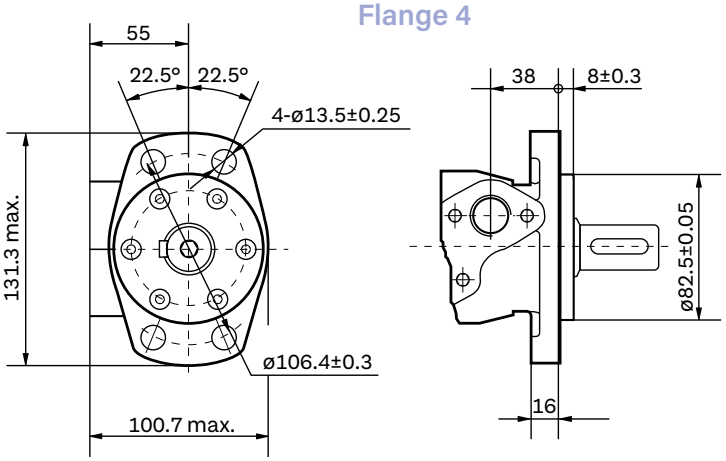
Flange 2



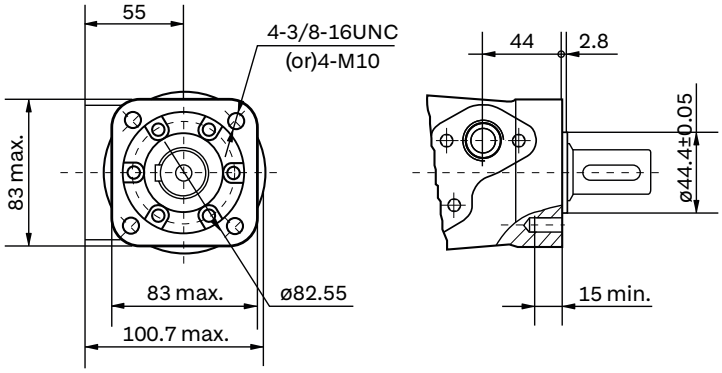
Port



Flange 4



Flange H4/H5



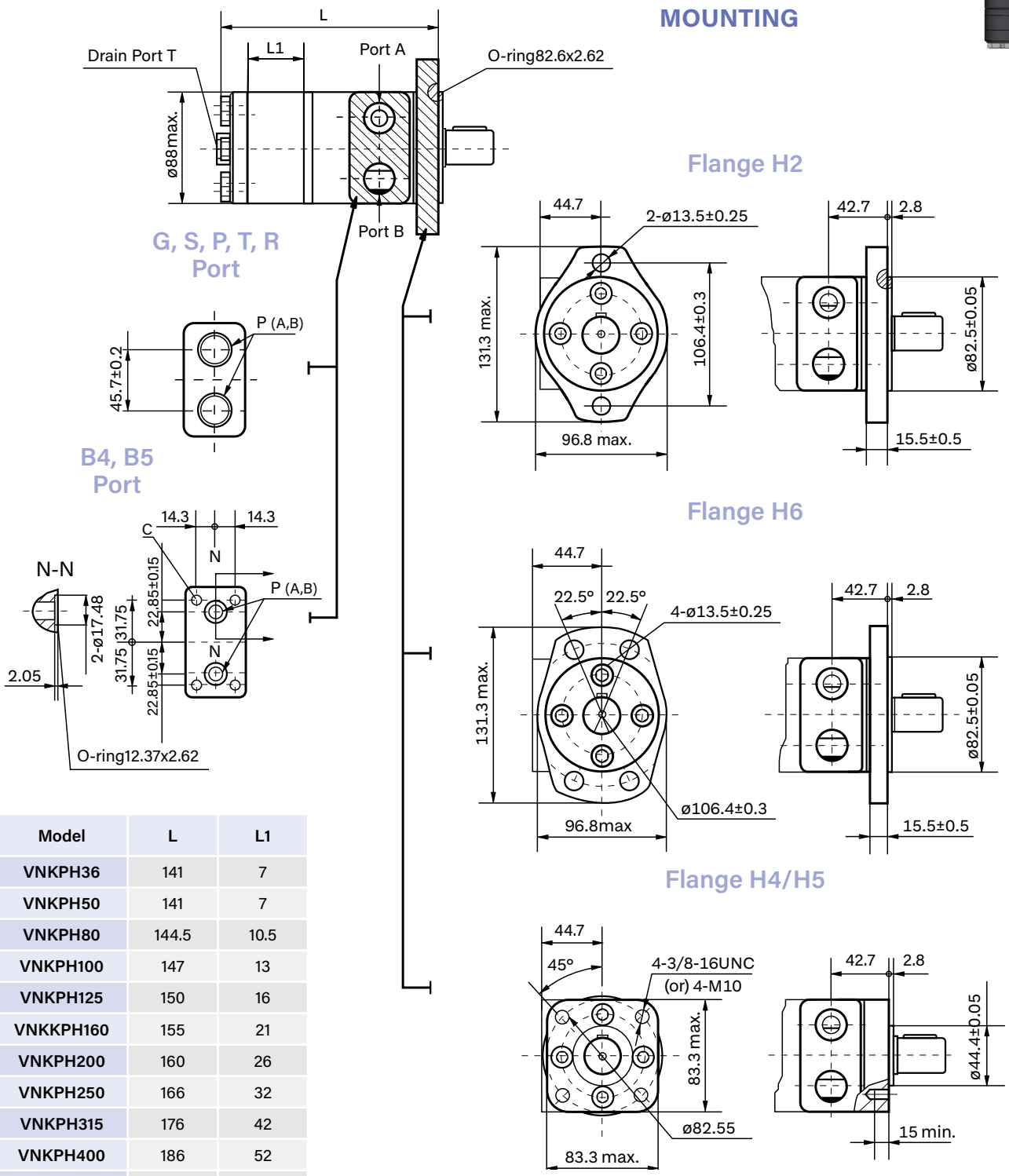
Model	L	L1
VNKP27	137	7
VNKP36	137	7
VNKP50	137	7
VNKP80	140.5	10.5
VNKP100	143	13
VNKP125	146	16
VNKP160	151	21
VNKP200	157	26
VNKP250	162	32
VNKP315	172	42
VNKP400	182	52
VNKP500	195	65

Mounting 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 Dimensions and Mounting Data

MOUNTING



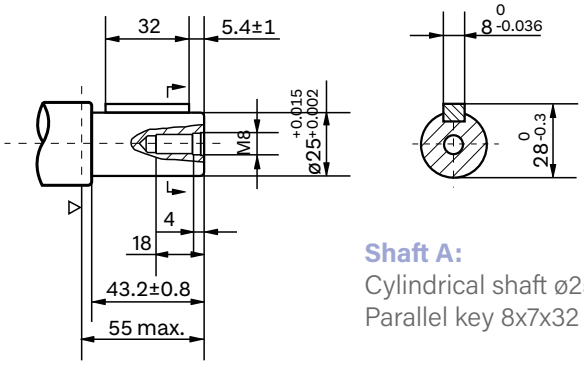
Model	L	L1
VNKPH36	141	7
VNKPH50	141	7
VNKPH80	144.5	10.5
VNKPH100	147	13
VNKPH125	150	16
VNKKPH160	155	21
VNKPH200	160	26
VNKPH250	166	32
VNKPH315	176	42
VNKPH400	186	52
VNKPH500	199	65

Note: The size L of the BMPH N1 should be increased by 2mm.

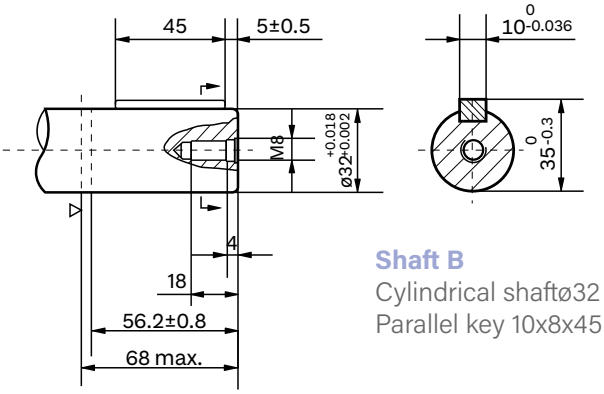
Mounting Code	**G** (depth)	**S** (depth)	**P** (depth)	**T** (depth)	**R** (depth)	**B4** (depth)	**B5** (depth)
P (A,B)	G1/2 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	3/4-16 O-ring (15)	PT(RC)1/2 (15)	ø10	ø10
T	G1/4 (12)	7/16-20UNF (12)	7/16-20UNF (12)	7/16-20UNF(12)	PT(RC)1/4 (9.7)	7/16-20UNF(12)	G1/4(12)
C	-	-	-	-	-	4-5/16-18UNC(13)	4-M8(13)



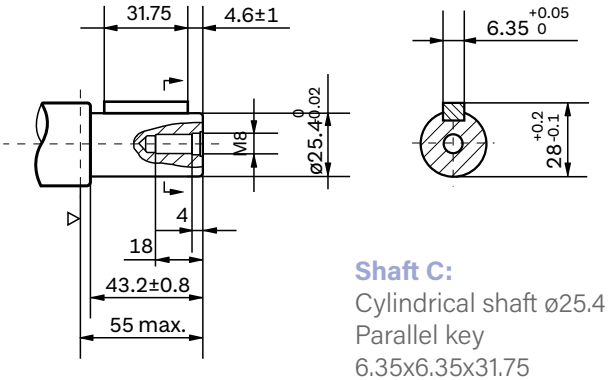
VNKP Shaft Extensions Dimensions Data



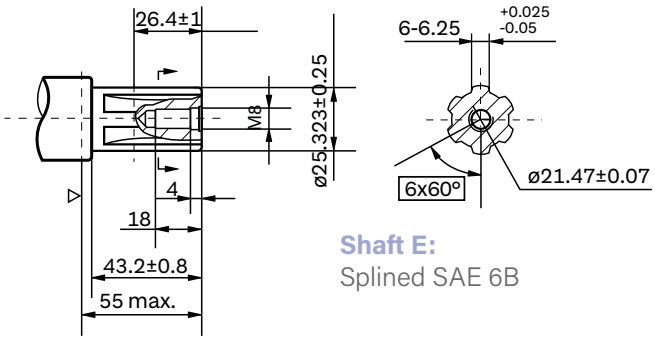
Shaft A:
Cylindrical shaft ø25
Parallel key 8x7x32



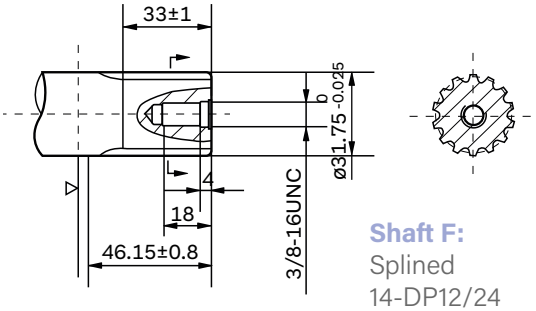
Shaft B
Cylindrical shaftø32
Parallel key 10x8x45



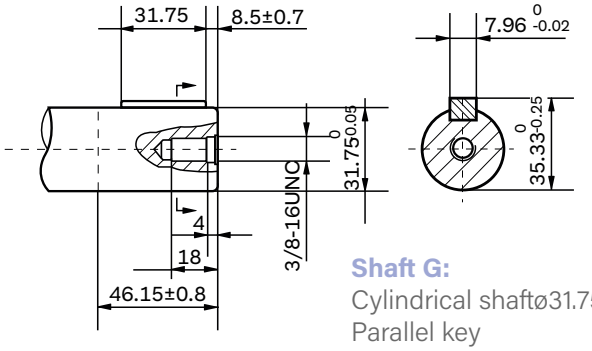
Shaft C:
Cylindrical shaft ø25.4
Parallel key
6.35x6.35x31.75



Shaft E:
Splined SAE 6B



Shaft F:
Splined
14-DP12/24

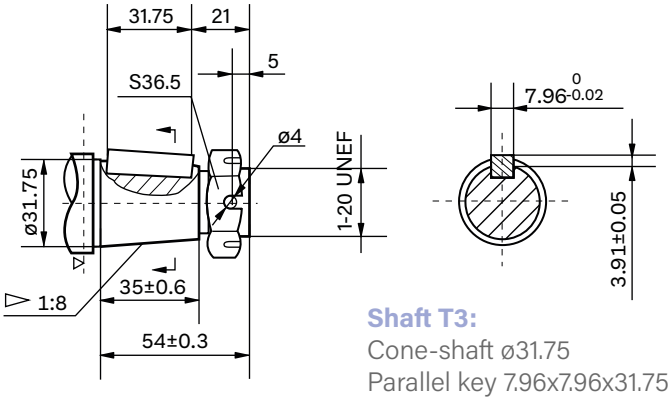


Shaft G:
Cylindrical shaftø31.75
Parallel key
7.96x7.96x31.75

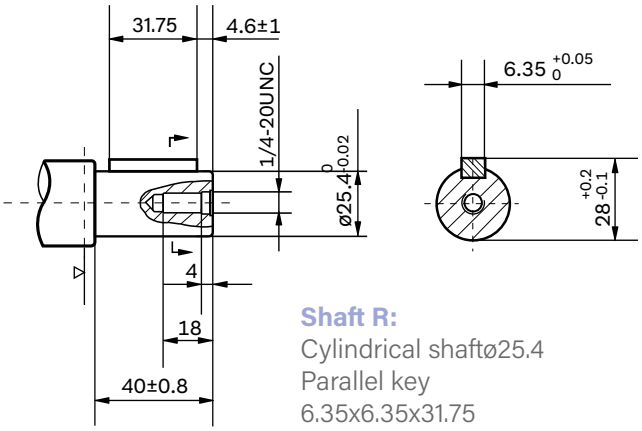
▷ Motor Mounting Surface

VNKP Shaft Extensions Dimensions Data

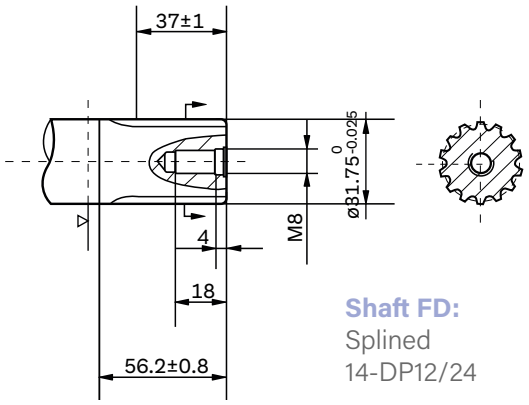




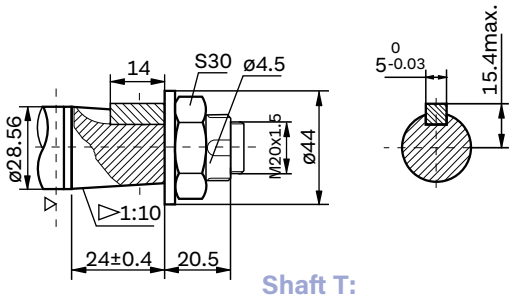
Shaft T3:
Cone-shaft ø31.75
Parallel key 7.96x7.96x31.75
Tightening torque:200±10Nm



Shaft R:
Cylindrical shaftø25.4
Parallel key
6.35x6.35x31.75



Shaft FD:
Splined
14-DP12/24

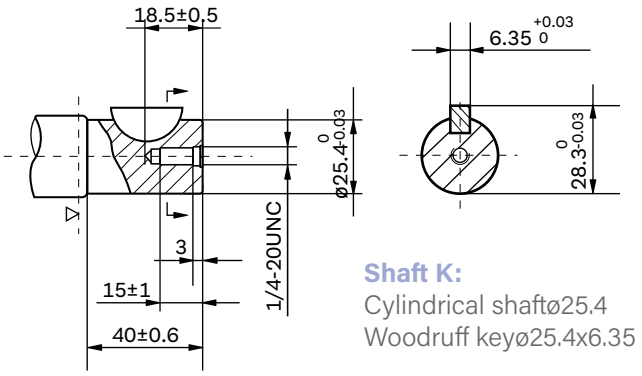


Shaft T:
Cone-shaft ø28.56
Parallel key B5x5x14
Tightening torque:100±10Nm

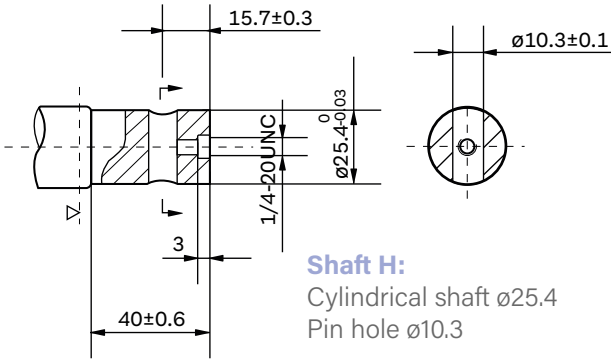
▷ Motor Mounting Surface

VNKP Shaft Extensions Dimensions Data

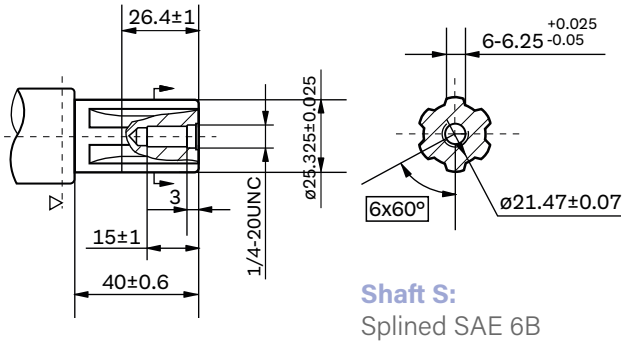




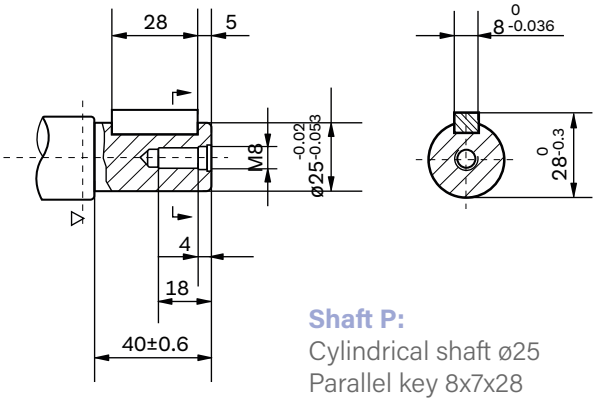
Shaft K:
Cylindrical shaftø25.4
Woodruff keyø25.4x6.35



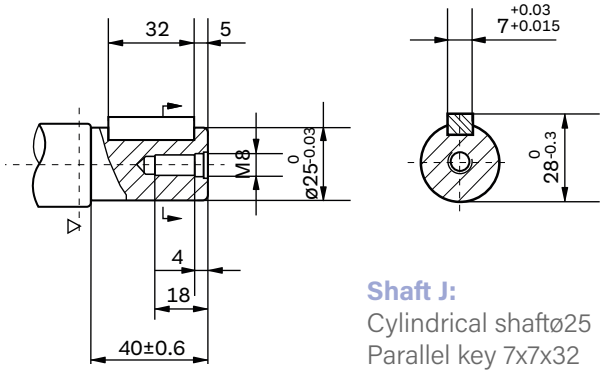
Shaft H:
Cylindrical shaft ø25.4
Pin hole ø10.3



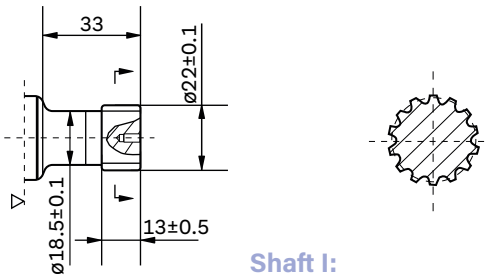
Shaft S:
Splined SAE 6B



Shaft P:
Cylindrical shaft ø25
Parallel key 8x7x28



Shaft J:
Cylindrical shaftø25
Parallel key 7x7x32

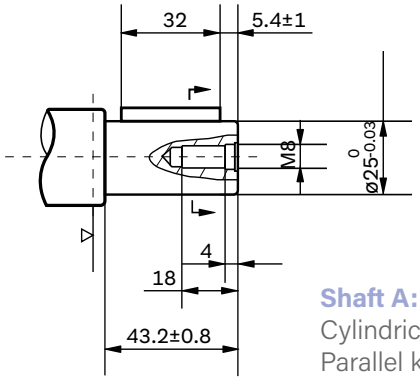


Shaft I:
Splined 13-DP16/32

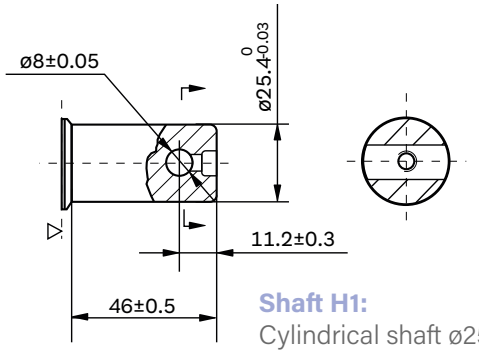
▷ Motor Mounting Surface

VNKPH Shaft Extensions Dimensions Data

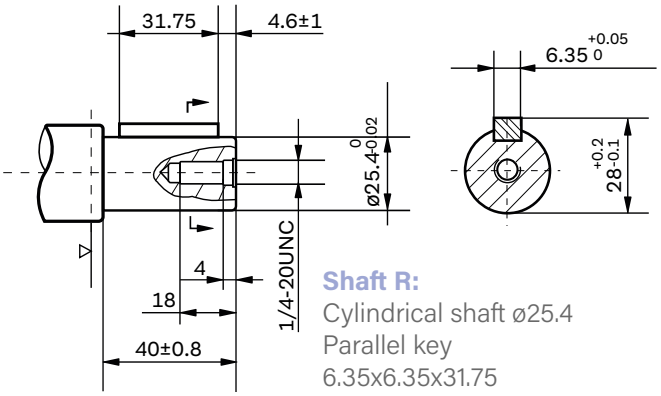




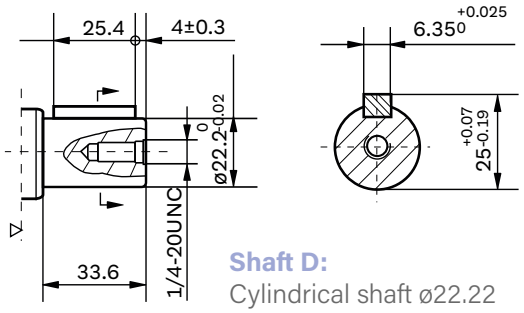
Shaft A:
Cylindrical shaft ø25
Parallel key 8x7x32



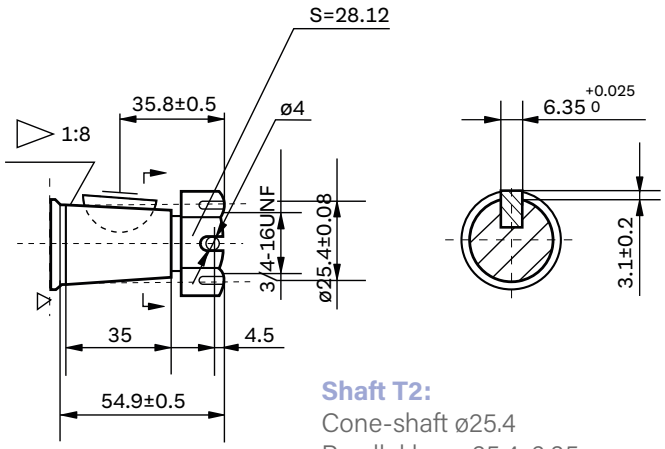
Shaft H1:
Cylindrical shaft ø25.4
Pin hole ø8



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



Shaft D:
Cylindrical shaft ø22.22
Parallel key 6.35x6.35x25.4



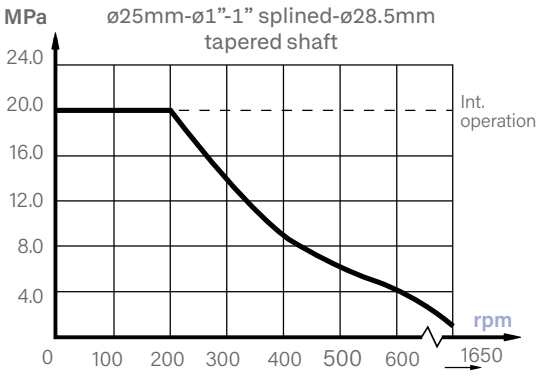
Shaft T2:
Cone-shaft ø25.4
Parallel key ø25.4x6.35
Tightening torque:200±10Nm

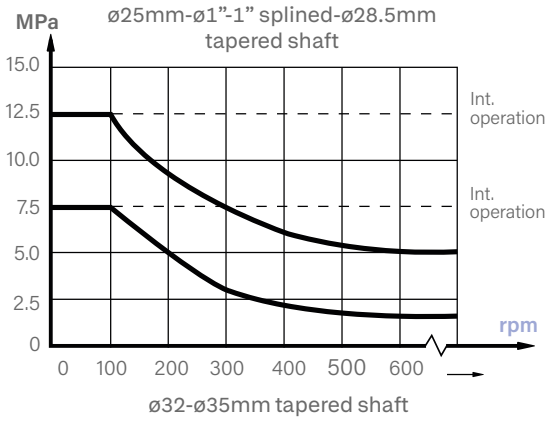
▷ Motor Mounting Surface

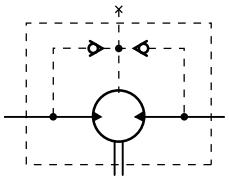
VNKP, VNKPH Series Hydraulic Motor



PERMISSIBLE SHAFT SEAL PRESSURE







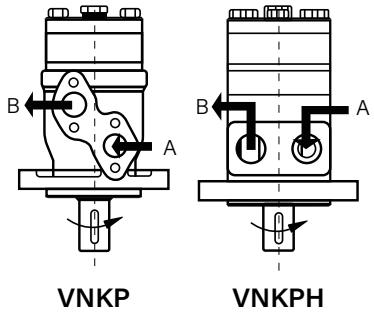
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

DIRECTION OF SHAFT ROTATION: Standard

When facing shaft end of motor,shaft to rotate:

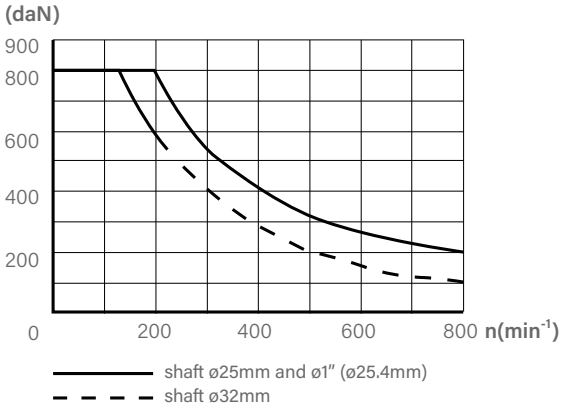
Clockwise when **port "A"** is pressurized.

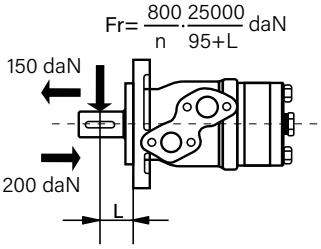
Counter-clockwise **port "B"** is pressurized.



VNKP **VNKPH**

STATUS OF THE SHAFT'S RADIAL FORCE





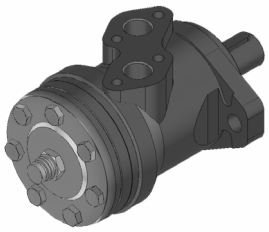
Fr= Radial Force (daN)
L= Distance (mm)
n= Speed (rpm)
Rhomb-flange L= 30mm
Square-flange L= 24mm

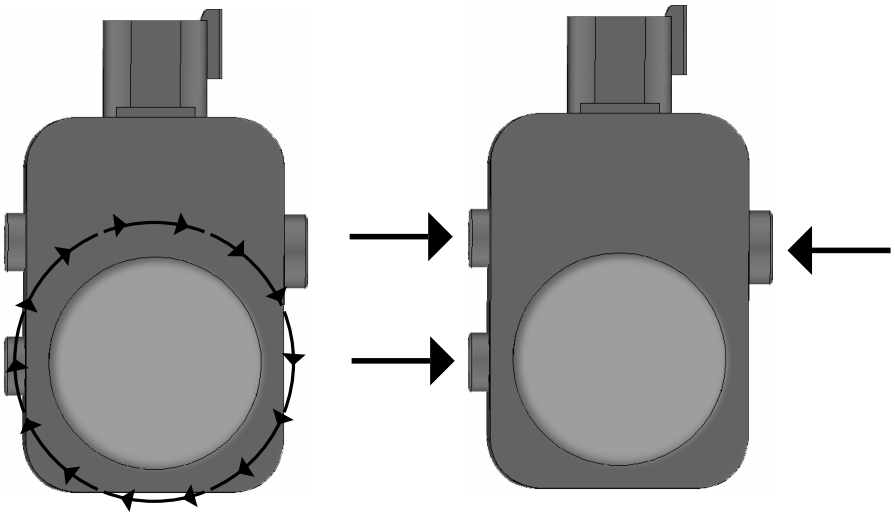
OIL FLOW in drain line

The table shows the Max. oil flow in the drain line at a return pressure less than 0.5-1MPa.

Pressure drop (PmPa)	Viscosity (mm^2/s)	Oil flow in the drain line (L/min)
10	20	2.5
	35	1.8
14	20	3.5
	35	2.8

VMD Speedsensor





INSTALLATION GUIDE

Turn the sensor to the desired position and mount the sensor on the plug.

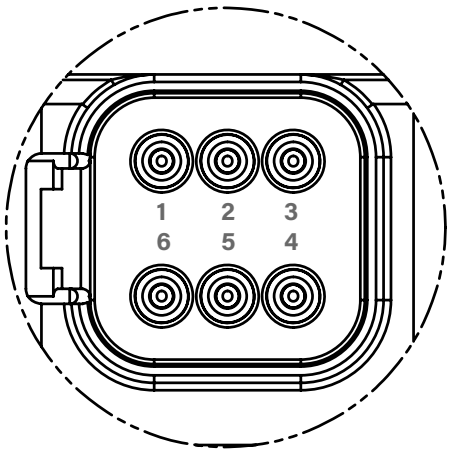
It is possible to mount the sensor in 36 positions.

To lock the sensor, push the clip into the sensor as shown.

Sensor Pinout

Pin	Controller function
1	Power supply 9-36 V dc
2	Power ground -
3	D 1 (confi gurable output)
4	CAN L
5	CAN H
6	D 2 (confi gurable output)

Deutsch DT connector – 6 pin

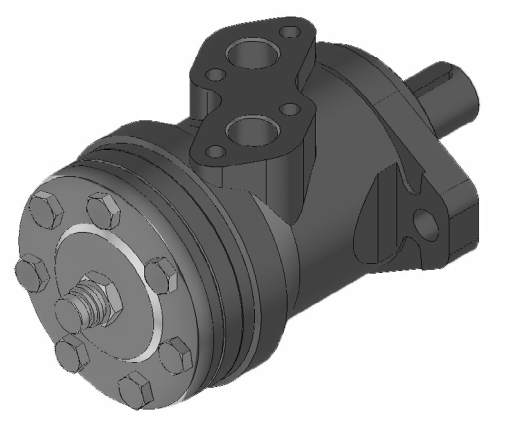


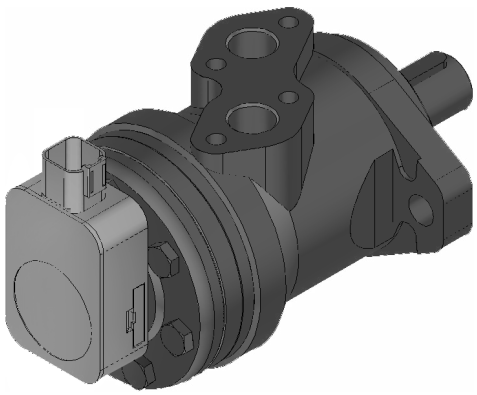
Deutsch DT connector 6 pin mating connector assembly:

(Not offered by Danfoss)

			Color
1	Plug	DT06-6S-PO12	(black)
1	Wedgelock	W6S-PO12	(green)
6	Solid Contacts	0462-209-16141	(nickel)
Options			
1	Boot	DT6S-BT-BK	(black)

VMD Speedsensor



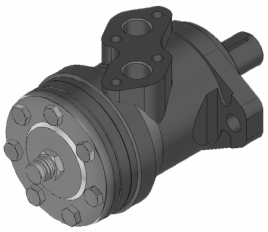


SPECIFICATION Main Specification

Output signal			D1	D2
	Pulse mode	mode Push-pull output. Direction = CCW: high, CW: low Confi gurable up to 180 pulse/revolutions	Square Wave	Direction
	Quadrature mode	2 channels with 90° phaseshift each with 90 pulses/revolution Push-pull output	Square Wave Phase A	Square Wave Phase B
	CAN mode	Supports CAN 2.0B with SAE J1939 Message Protocol with Proprietary Messages		
		Baudrate: 250 kbaud (fi xed)		
		Shaft velocity: ± 2500 rpm		
Speed range		0 - 2500 rpm		
Supply voltage		9 - 36 Vdc		
Maximum power		0.8 W		
Temperature range (amibient)		-30 °C to 60 °C		
EMC-Immunity (EMI):		100 V/m ISO 13766		
Grade of enclosure**		IP 69 K		
Vibration		30 G (294 m/s2)		
Shock		50 G (490 m/s2)		

* Confi gurable with PLUS+1® Service Tool - Please contact Danfoss for further information. T301 082
** According to IEC 529.

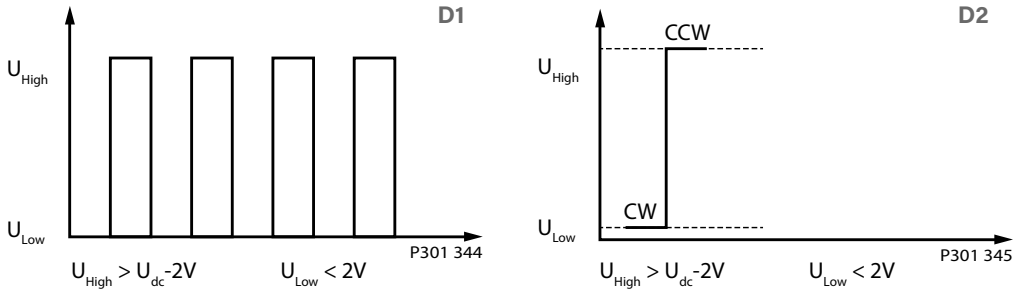
VMD Speedsensor



SPECIFICATION Main Specification

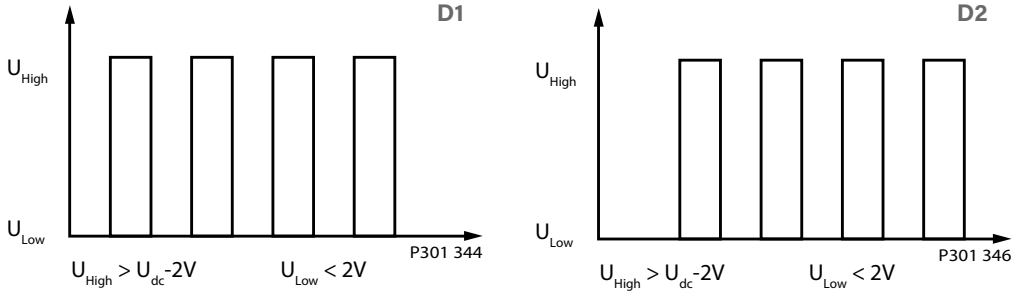
Pulse mode

The sensor generates a speed dependent pulse on D1 and a direction signal on D2.

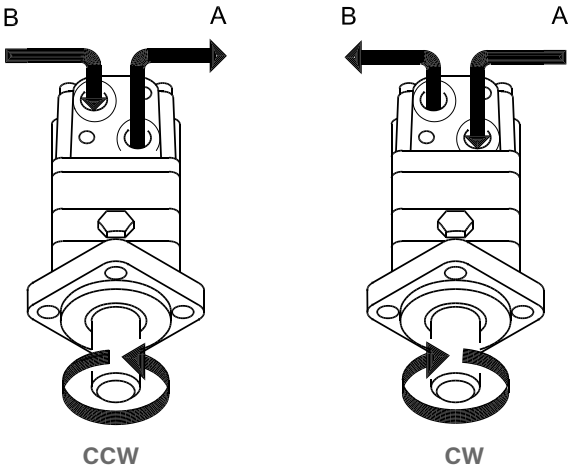


Quadrature mode

The sensor generates a speed dependent pulse on D1 and D2 with a 90 degree phaseshift.



Direction of shaft rotation

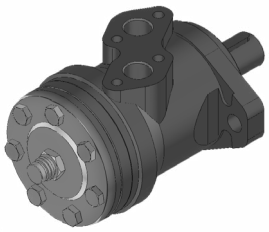


*Please note that the **VMD** speed sensor may fail. Output signals may not represent correct rotation speed or direction.

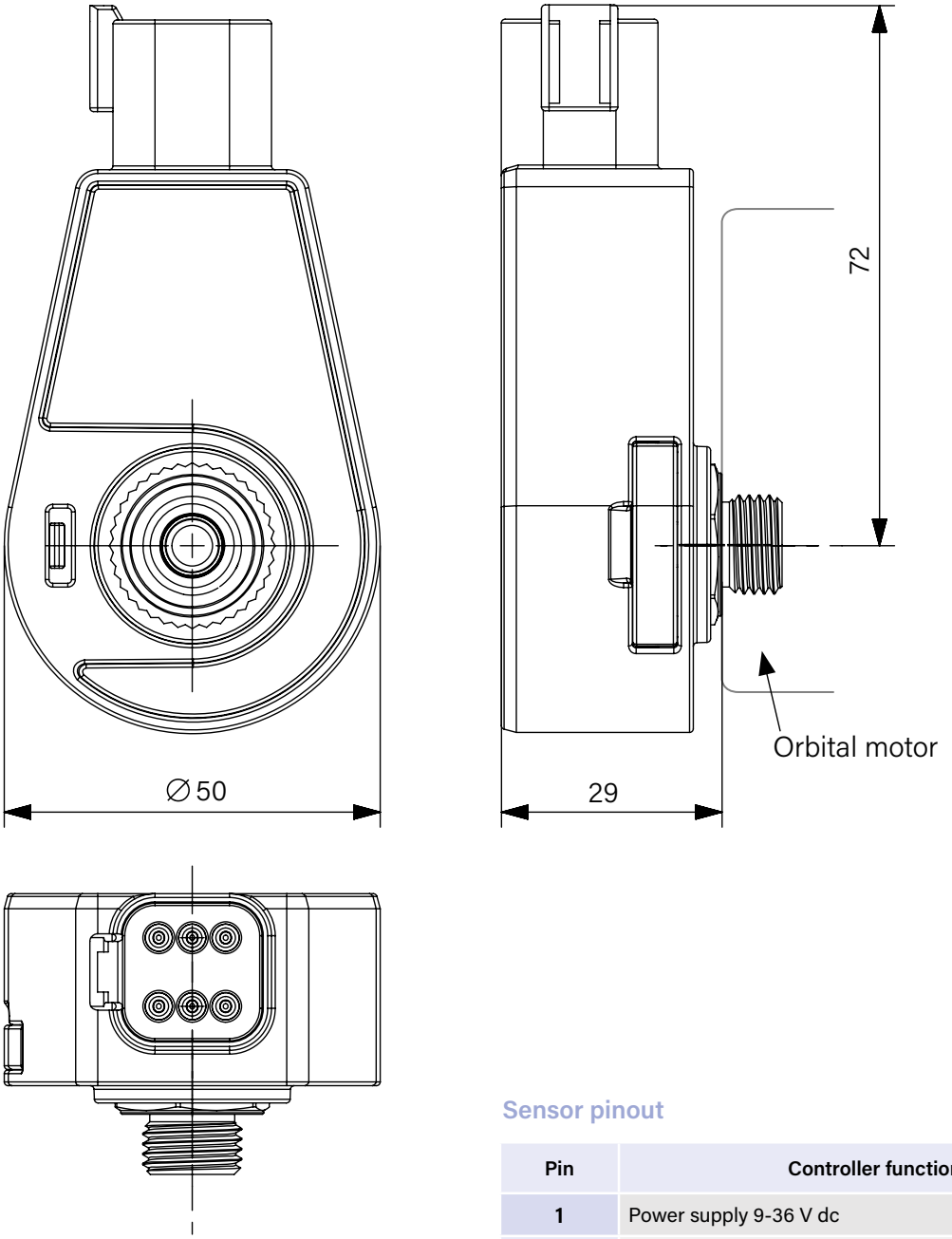
*Any application of the **VMD** speed sensor should be subjected to appropriate hazard and risk assessment, according to relevant safety standards for the application.

*Reliability data MTTF for the **VMD** speed sensor are available on request from your Danfoss representative.

VMD Speedsensor



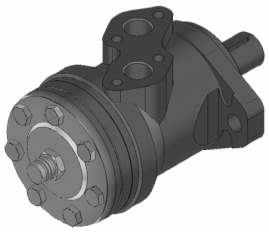
PRODUCT OVERVIEW



Sensor pinout

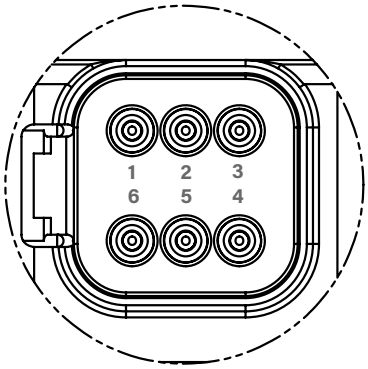
Pin	Controller function
1	Power supply 9-36 V dc
2	Power ground -
3	D 1 (configurable output)
4	CAN L
5	CAN H
6	D 2 (configurable output)

VMD Speedsensor



PRODUCT OVERVIEW

Sensor pinout



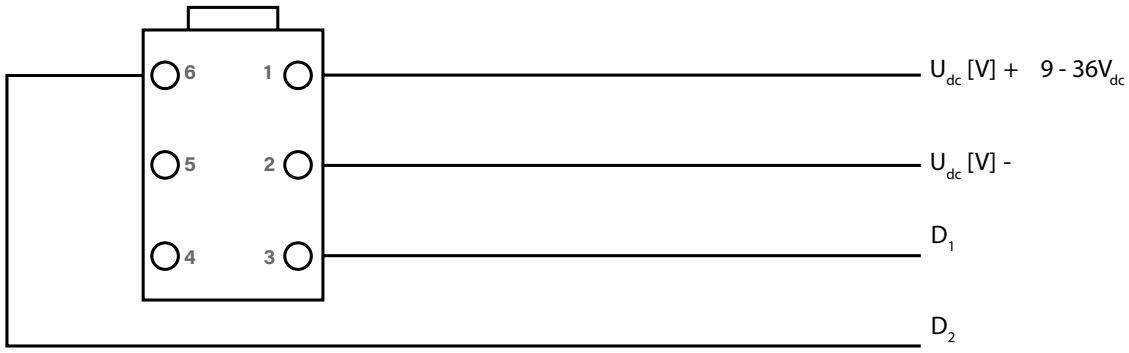
Mating connector

Deutsch DT connector 6 pin Mating connector assembly:
(Not offered by Danfoss)

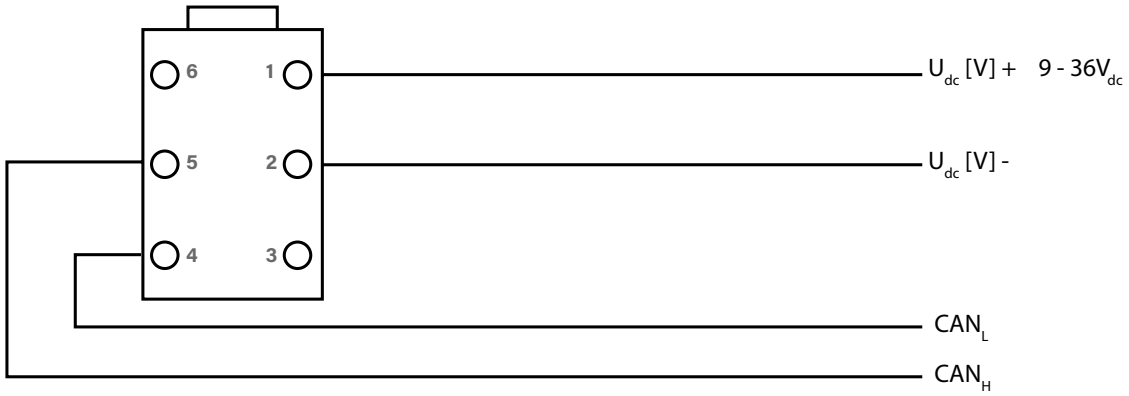
Pcs	Description	Deutch part no.	Color
1	Plug	DT06-6S-PO12	(black)
1	Wedgelock	W6S-PO12	(green)
6	Solid Contacts	0462-209-16141	(nickel)
	Options		
1	Boot compl.	DT6S-BT-BK	(black)

Wiring diagram

Wiring diagram: Pulse and quadrature mode



Wiring diagram: CAN mode



Order Information

1	2	3	4	5	6	7	8
VNKP	—	—	—	—	—	—	—

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output shaft		Ports and drain port		Rotation direction		Paint		Unusually Function	
VNKP	27 36 50 80 100 125 160 200 250 315 400 500	2	2-Ø13.5 Rhomb-flange, pilot Ø82.5×8	A	Shaft Ø25,parallel key 8x7x32	D	G1/2 Manifold Mount 4×M8, G1/4	Omit	Standard	00	No paint	Omit	Standard
		4	4-Ø13.5 Rhomb-flange, pilot Ø82.5×8	C	Shaft Ø25.4,parallel key 6.35x6.35x31.75	M	M22×1.5 Manifold Mount 4×M8, M14×1.5	R	Opposite	Omit	Blue	N1	Big radial force
		H4	4-3/8-16 Square-flange, pilot Ø44.4×2.8	E	Shaft Ø25.4,splined tooth SEA 6B	S	7/8-14 O-ring manifold 4x5/16-18UNC, 7/16-20UNF			B	Black	0	No case drain
		H5	4-M10 Square-flange, pilot Ø44.4×2.8	R	Short shaft Ø25.4,parallel key6.35x6.35x31.75	P	1/2-14 NPTF Manifold 4x5/16-18UNC, 7/16-20UNF			S	Silver grey	F	Free Running
				T	Cone shaft Ø28.56,parallel key B5x5x14	R	PT(Rc)1/2 Manifold 4xM8, PT(Rc)1/4					LS	Low Speed
				B	Shaft Ø32,parallel key 10x8x45							SD	Speed Sensor
				F	Shaft Ø31.75,splined tooth 14-DP12/24								
				FD	Long shaft Ø31.75,splined tooth14-DP12/24								
				G	Shaft Ø31.75, parallel key 7.96x7.96x31.75								
				T3	Cone shaft Ø31.75,parallel key 7.96x7.96x25.4								

Note: The shafts of B\F\FD\G\T1\T3 are only suitable for flanges of 2 and 4.



Order Information

1	2	3	4	5	6	7	8
VNKPH	–	–	–	–	–	–	–

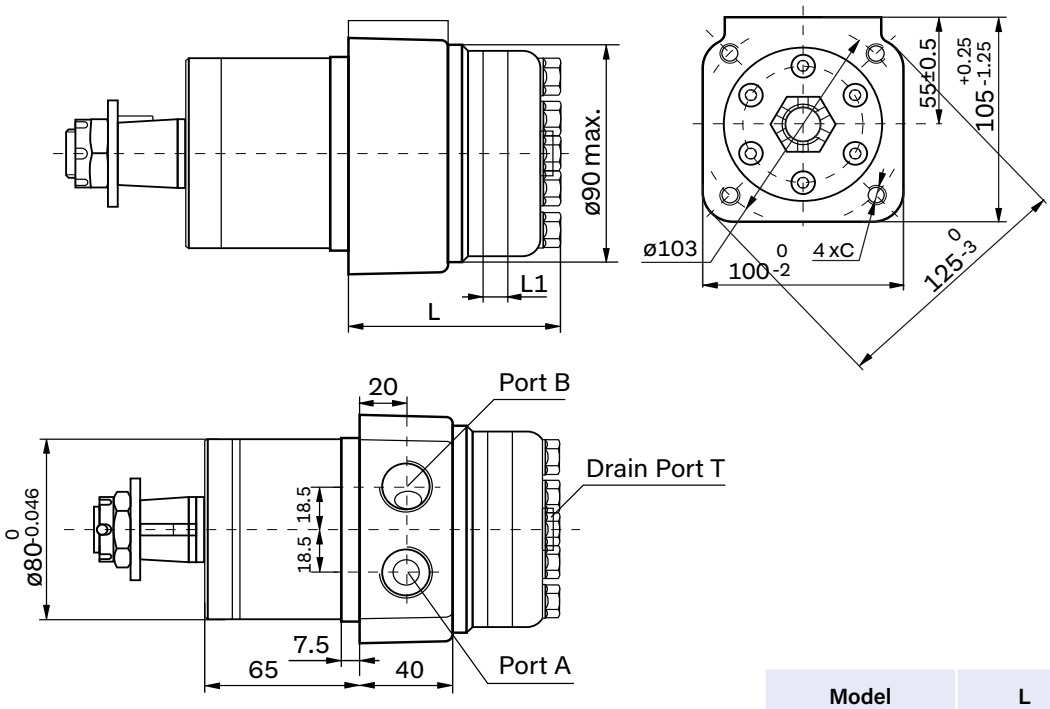
Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output shaft		Ports and drain port		Rotation direction		Paint		Unusually Function	
VNKPH	27 36 50 80 100 125 160 200 250 315 400 500	H2	2-Ø13.5 Rhomb-flange, pilot Ø82.5×2.8	K	Shaft Ø25.4, woodruff key Ø25.4×6.35	G	G1/2, G1/4	Omit	Standard	00	No paint	Omit	Standard
		H6	4-Ø13.5 Rhomb-flange, pilot Ø82.5×2.8	S	Shaft Ø25.4 , splined tooth SEA 6B	S	7/8-14 O-ring ,7/16-20UNF	R	Opposite	Omit	Blue	N1	Big radial force
		H4	4-3/8-16 Square-flange, pilot Ø44.4×2.8	A	Shaft Ø25 , parallel key 8×7×32	P	1/2-14 NPTF, 7/16-20UNF			B	Black	0	No case drain
		H5	4-M10 Square-flange, pilot Ø44.4×2.8	R	Shaft Ø25.4, parallel key 6.35×6.35×31.75	T	3/4-16 O-ring, 7/16-20UNF			S	Silver grey	F	Free Running
				H	Shaft Ø25.4 , pin hole Ø10.3	R	PT(Rc)1/2 ,PT(Rc)1/4 Ø10 O-ring manifold					LS	Low Speed
				H1	Shaft Ø25.4 , pin hole Ø8	B4	4x5/16-18UNC,7/16-20UNF					SD	Speed Sensor
				D	Shaft Ø22.22, parallel key 6.35×6.35×25.4	B5	Ø10 O-ring manifold 4xM8, 7/16-20UNF						
				I	Shaft Ø22.22, splined tooth 13-DP16/32								
				T2	Cone shaft Ø25.4 , woodruff key Ø25.4×6.35								
				P	Shaft Ø25 , parallel key 8×7×28								
				J	Shaft Ø25 , parallel key 7×7×32								

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.



VNKPW Dimensions and Mounting Data





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

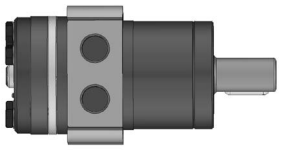
Mounting Code	G (depth)	S (depth)	M (depth)
P (A,B)	G1/2 (15)	7/8-14 O-ring (17)	M22×1.5 (15)
T	G1/4 (12)	7/16-20UNF (12)	M14×1.5 (12)
C	4×M10(20)	4×3/8-16UNC(20)	4×M10(20)

Order Information

1	2		3		4		5		6		7		8	
VNKPW	–		–		–		–		–		–		–	

Pos.1	2	3		4		5		6		7		8	
Code		**Flange**		**Output shaft**		**Ports and drain port**		**Rotation direction**		**Paint**		**Unusually Function**	
VNKPW	**50** **80** **100** **125** **160** **200** **250** **315** **400** **500**	**Omit**	Wheel-flange pilat Ø80×7.5	**A** **C** **E** **T**	Shaft Ø25k6 ,Parallel key 8×7×32 Shaft Ø25.4 ,Parallel key 6.35×6.35×31.75 Shaft Ø25.4 ,Splined key SAE 6B Cone shaft Ø28.56 ,Parallel key B5×5×14	**G** **S** **M**	G1/2, G1/4 7/8-14 O-ring, 7/16-20UNF M22×1.5,M14×1.5	**Omit** **R**	Standard Opposite	**00** **Omit** **B** **S**	No paint Blue Black Silver grey	**Omit** **N1** **0** **SD**	Standard Big radial force No case drain Speed sensor

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.



VNKPK Series Hydraulic Motor

INTRODUCTION

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.

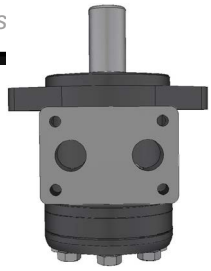
SPECIFICATION Main Specification

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

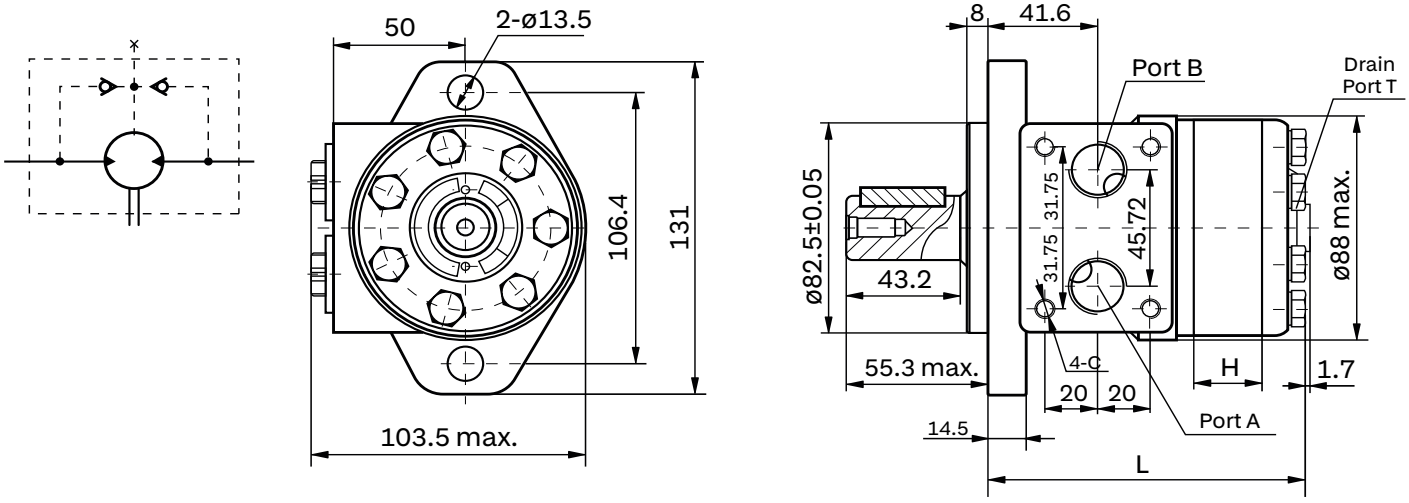
Code	Displacement [cm/rev]	Max.Speed [rpm]	Max.Torque [Nm]		Max.output [kW]		Max.pressure [MPa]		Max. Oil Flow [L/min]
		cont.	cont.	int.	cont.	int.	cont.	int.	cont.
VNKPK 36	36	1081	51	68	5.2	8.6	10.5	14	40
VNKPK 50	51.7	774	73	96	5.2	8.6	10.5	14	40
VNKPK 80	77.7	515	106	143	5.2	8.6	10.5	14	40
VNKPK 100	96.2	416	140	178	5.2	8.6	10.5	14	40
VNKPK 125	120.2	339	162	218	5.2	8.6	10.5	14	40
VNKPK 160	157.2	257	216	288	5.2	8.6	10.5	14	40
VNKPK 200	194.5	211	264	351	5.2	8.6	10.5	14	40
VNKPK 250	240.3	173	281	351	4.6	7	9	11.5	40
VNKPK 315	314.5	128	312	433	3.4	5.8	7	10.5	40
VNKPK 400	389.5	104	392	582	3.4	5.8	7	10.5	40

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

VNKPK Dimensions and Mounting Data



VNKPK DIMENSIONS AND MOUNTING DATA

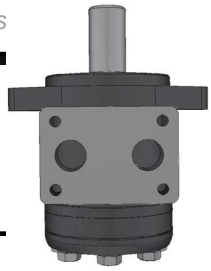


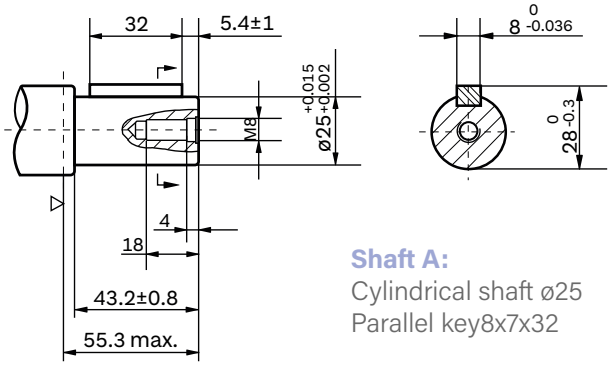
Type	H	L
VNKPK36	7	101
VNKPK50	7	101
VNKPK80	10.5	104.5
VNKPK100	13	107
VNKPK125	16	110
VNKPK160	21	115
VNKPK200	26	120
VNKPK250	32	126
VNKPK315	42	136
VNKPK400	52	146

Mounting 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)

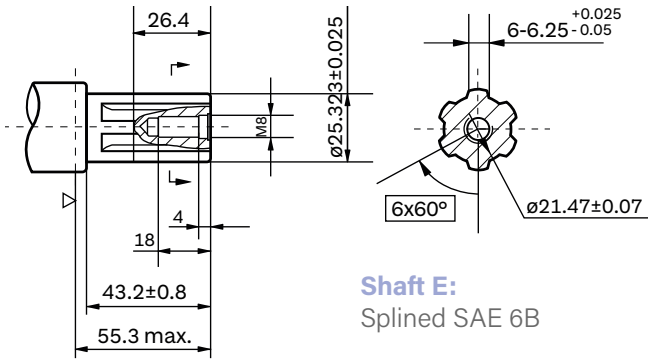
Direction of shaft rotation: Standard **When facing shaft end of motor, shaft to rotate:** Clockwise when port "A" is pressurized. Counter-clockwise when port "B" is pressurized.

VNKPK Shaft Extensions

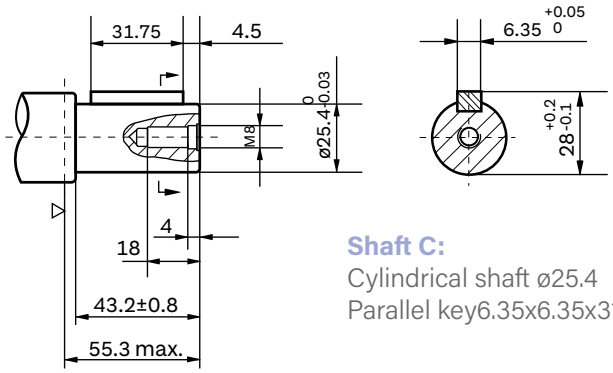




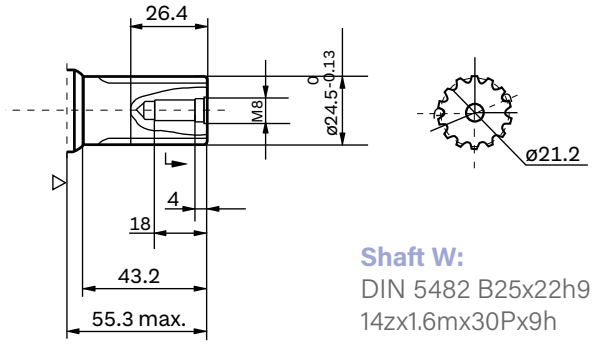
Shaft A:
Cylindrical shaft ø25
Parallel key8x7x32



Shaft E:
Splined SAE 6B



Shaft C:
Cylindrical shaft ø25.4
Parallel key6.35x6.35x31.75



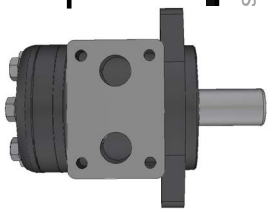
Shaft W:
DIN 5482 B25x22h9
14zx1.6mx30Px9h

▷ Motor Mounting Surface

Order Information

1	2	3	4	5	6	7	8
VNKPK	–	–	–	–	–	–	–

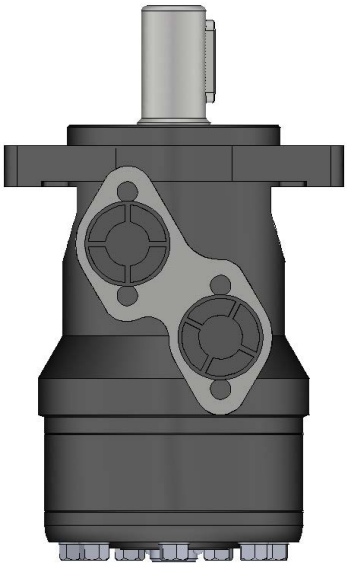
Pos.1	2	3		4		5		6		7		8	
Code	**Disp.**	**Flange**		**Output shaft**		**Ports and drain port**		**Rotation direction**		**Paint**		**Unusually Function**	
Omit	36 50 80 100 125 160 200 250 315 400	2	2Ø13.5 Rhomb-flange, pilot Ø82.5x8	A	Shaft Ø25 , parllel key 8×7×32	D	G1/2 Manifold 4×M8, G1/4	Omit	Standard	00	No paint	Omit	Standard
				C	Shaft Ø25.4 , parllel key 6.35×6.35×31.75	M	M22×1.5 Manifold 4×M8,M14×1.5			Omit	Blue	F	Free Running
				E	Shaft Ø25.4, splined key SEA 6B	S	7/8-14 O-ring manifold 4×5/16-18UNC,7/16-20UNF	R	Opposite	B	Black	0	No case drain
				w	Shaft Ø24.5, splined B25X22	P	1/2-14NPTF manifold 4×5/16-18UNC,7/16-20UNF			S	Silver grey	SD	Speed sensor
				T	Cone shaft Ø28.56, parllel key B5×5×14	R	PT(Rc)1/2 manifold 4×M8, PT(Rc)1/4						



VNKR Series Hydraulic Motor

INTRODUCTION

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 of unit.
* **Compact volume** and easy installation.
* **HPS Shaft seal** can bear high pressure (200bar) of motor of which can be used in parallel or in series.
* **The output shaft** runs in needle bearing capable of absorbing static and dynamic axial and radial loads.

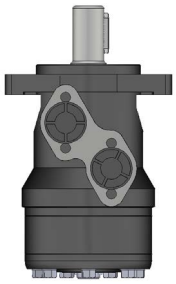
SPECIFICATION Main Specification

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

Type		VNKR VNKRS 36	VNKR VNKRS 50	VNKR VNKRS 80	VNKR VNKRS 100	VNKR VNKRS 125	VNKR VNKRS 160	VNKR VNKRS 200	VNKR VNKRS 250	VNKR VNKRS 315	VNKR VNKRS 400
Geometric displacement (cm3/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	8.0	8.5	9.0	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



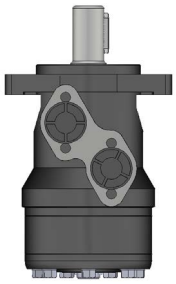
SPECIFICATION Main Specification

Technical data for VNKR with 31.75 and 32 shaft

Type		VNKR 36	VNKR 50	VNKR 80	VNKR 100	VNKR 125	VNKR 160	VNKR 200	VNKR 250	VNKR 315	VNKR 400
Geometric displacement (cm3/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	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.	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	8.0	8.5	9.0	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.

Performance Data



VNKR 36 [36 cm3/rev.]

Pressure (MPa)

Flow (L/min)	2	3	5	7	9	10	12.5	14.0	16.5
							Max. cont	Max. int	
4	10 105	16 100	25 92	37 80	46 71	50 58			
8	9 208	15 200	25 188	37 175	47 158	50 149	63 134	71 120	83 108
15	8 403	14 392	23 380	36 365	45 348	51 326	64 318	72 302	82 274
20	6 540	13 531	22 518	35 500	44 483	50 462	64 450	72 435	82 412
30	6 810	12 798	21 780	32 763	42 742	47 722	63 705	70 694	80 668
40	5 1092	11 1080	19 1069	30 1056	41 1042	45 1028	61 1011	68 984	79 957
45	4 1230	10 1215	17 1194	29 1170	40 1150	44 1128	59 1100	66 1070	77 1020

Max. int Max. cont

VNKR 50 [51.7 cm3/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14	16	17,5
						Max. cont		Max. int
5	35 93	45 84	61 76	67 73	77 69	88 46		
10	36 186	46 178	62 166	69 162	80 153	95 136	108 118	120 97
15	35 283	49 277	63 269	73 261	88 250	100 230	109 211	123 185
20	34.5 377	47 375	61 365	69 361	83 346	96 330	109 302	126 270
30	33 576	44 569	60 561	67 554	80 542	95 531	108 500	126 465
40	30 760	41 758	58 753	66 750	79 738	92 724	106 700	122 670
45	29.5 856	40 853	57 849	65 845	78 835	90 815	105 796	121 770
50	26 950	37 940	53 925	60 906	73 880	85 852	99 832	114 801
60	20 1138	33 1124	48 1100	56 1075	69 1056	81 1028	95 1006	109 970

Max. int Max. cont

VNKR 80 [81.5 cm3/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14	16	17.5	20
						Max. cont		Max. int	
5	50 59	64 56	88 50	108 44	133 38				
10	54 118	77 113	99 106	108 97	129 86	150 79	173 56		
20	57 238	78.0 234	102 227	111 216	134 203	155 190	177 178	196 154	225 135
30	54 360	75 352	100 340	108 332	131 316	152 302	176 290	195 274	223 250
40	48 480	73 470	96 458	105 445	127 430	148 418	172 403	190 388	220 359
50	42 604	70 595	93 582	102 570	124 556	147 540	170 521	188 504	218 487
60	37 726	66 715	89 704	98 692	121 678	144 663	166 647	184 622	213 594
70	32 845	60 834	83 820	95 802	116 789	140 767	160 754	177 730	208 705
75	21 910	50 895	78 881	90 867	111 852	135 830	154 806	171 787	200 756

Max. int Max. cont

Torque (N•m) 135
Speed (rpm) 830

VNKR 100 [102 cm3/rev.]

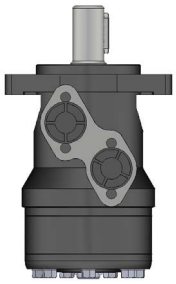
Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14	16	17,5	20
						Max. cont		Max. int	
5	66 45	92 42	120 38	135 34	156 27				
10	68 93	96 90	125 86	138 81	159 74	188 57	212 42		
20	65 189	94.0 185	123 180	137 173	155 165	186 158	210 150	238 139	274 118
30	63 286	92 281	120 275	133 266	153 257	185 246	209 237	235 225	270 207
40	57 385	88 378	117 365	130 355	152 345	185 332	208 320	233 314	267 297
50	48 482	79 477	110 470	123 460	150 448	183 435	204 420	228 405	260 389
60	38 580	70 572	105 560	120 548	144 535	178 523	200 510	220 500	252 478
70	32 678	65 670	100 660	118 648	141 638	176 626	197 615	215 606	246 580
75	23 728	59 720	93 710	111 695	136 681	170 667	192 650	210 634	240 618

Max. int Max. cont

Cont. Int.

Performance Data



VNKR 125 [127.2 cm3/rev.]

Pressure (MPa)

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

VNKR 160 [157.2 cm3/rev.]

Pressure (MPa)

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

VNKR 200 [194.5 cm3/rev.]

Pressure (MPa)

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

VNKR 250 [253.5 cm3/rev.]

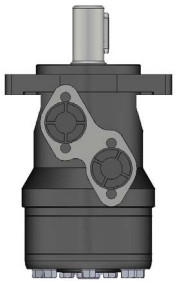
Pressure (MPa)

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

Torque (N•m) 256
Speed (rpm) 287

Cont. Int.

Performance Data



VNKR 315 [317.5 cm3/rev.]

Pressure (MPa)

Flow (L/min)	5	7	9	10	12	14 (Max. cont)	16	17,5 (Max. int)
5	215 13	302 11						
10	218 28	305 27	383 25	422 24	488 21	551 18	622 13	
20	215 60	303 59	380 57	418 55	485 52	549 49	620 45	660 42
30	204 91	296 89	375 86	413 84	480 81	542 78	613 72	654 67
40	196 122	287 120	368 117	410 112	477 106	539 100	609 94	650 85
50	176 154	270 151	356 147	393 140	461 131	526 120	597 109	645 100
60	162 185	246 182	339 177	374 172	446 163	511 152	586 140	628 134
70 (Max. int)	143 217	235 213	324 208	358 201	430 190	493 178	562 166	614 158
75	125 232	212 228	303 222	339 216	417 208	481 200	543 183	582 171

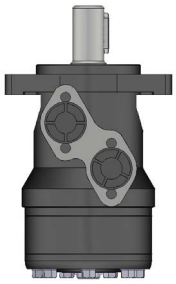
Torque (N•m) 481
Speed (rpm) 200

VNKR 400 [381.4 cm3/rev.]

Pressure (MPa)

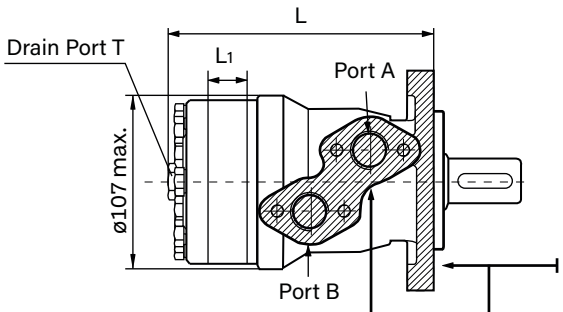
Flow (L/min)	3	4.5	5.5	6.5	8	10 (Max. cont)	12.5	14 (Max. int)
5	153 12	232 10						
10	157 24	236 23	284 22	337 21	406 19	497 17	612 15	668 12
20	150 49	232 48	280 47	332 46	401 44	490 41	606 38	660 32
30	142 76	215 75	274 74	327 73	398 71	483 67	603 63	652 50
40	126 103	212 101	268 99	320 97	393 95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

Cont. Int.

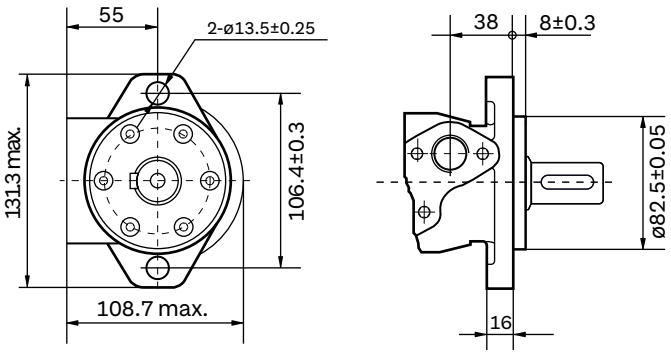


VNKR Dimensions and Mounting Data

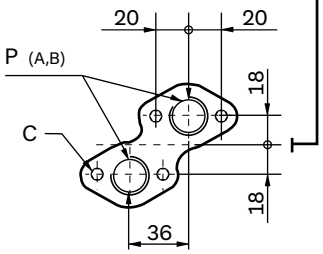
MOUNTING



Flange 2

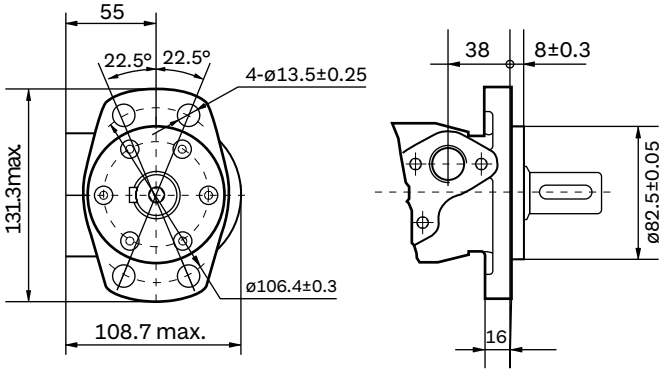


Port A



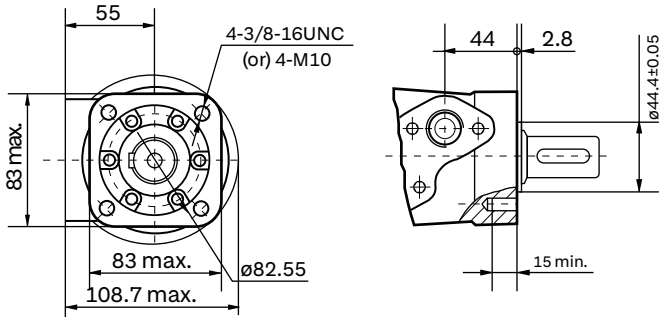
Port B

Flange 4



Model	L	L1
VNKR36	137	7
VNKR50	140	10
VNKR80	146	16
VNKR100	150	20
VNKR125	155	25
VNKR160	160.5	30.5
VNKR200	168	38.1
VNKR250	180	50
VNKR315	192	62
VNKR400	204	74

Flange H4/H5

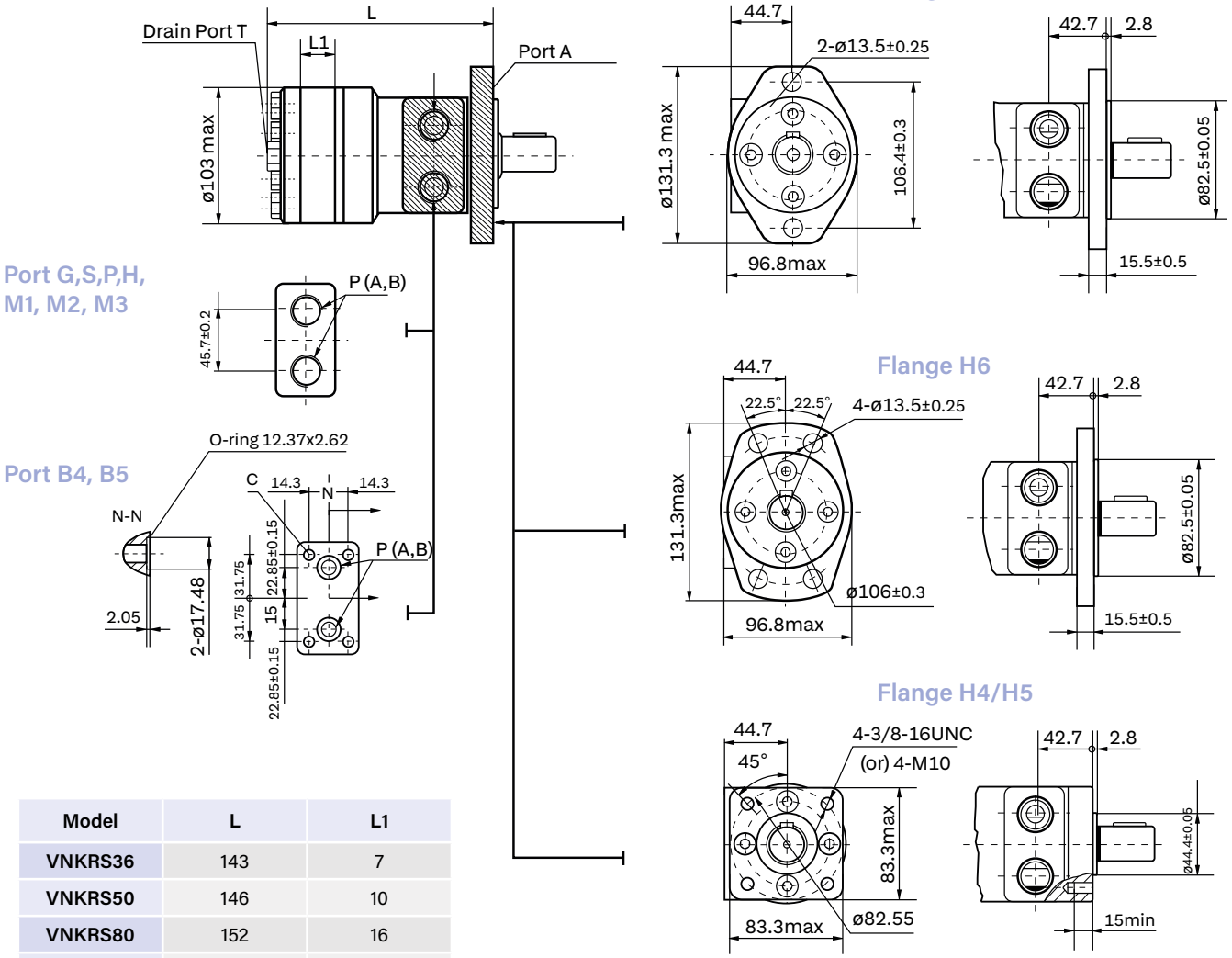


Mounting Code	**D** (depth)	**M** (depth)	**S** (depth)	**P** (depth)	**R** (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	PT(RC)1/2 (15)
C	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4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

VNKRS Dimensions and Mounting Data



MOUNTING

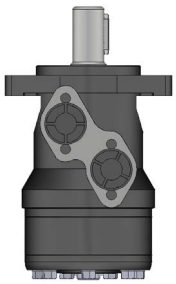


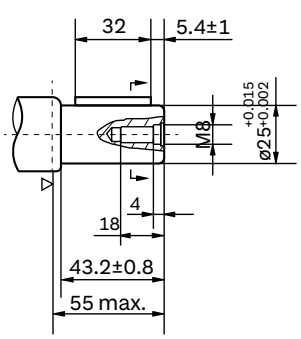
Model	L	L1
VNKRS36	143	7
VNKRS50	146	10
VNKRS80	152	16
VNKRS100	156	20
VNKRS125	161	25
VNKRS160	166.5	30.5
VNKRS200	174	38.1
VNKRS250	186	50
VNKRS315	198	62
VNKRS400	210	74

Note: The size L of the VNKRS N1 should be increased by 2mm.

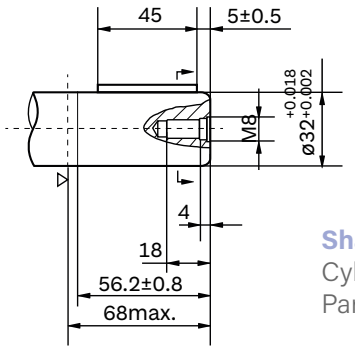
Mounting Code	**G** (depth)	**S** (depth)	**P** (depth)	**R** (depth)	**M1** (depth)	**M2** (depth)	**M3** (depth)	**B4** (depth)	**B5** (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)	1/2-14NPTF (15)	M18 x 1.5 (15)	M20 x 1.5 (15)	M22 x 1.5 (15)	ø10	ø10
T	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	M10 x 1 (12)	M10 x 1 (12)	M10 x 1 (12)	7/16-20UNF(12)	G1/4(12)
C	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	–	–	–	4-5/16-18UNC(13)	4-M8(13)

VNKR Shaft Extensions Dimensions Data

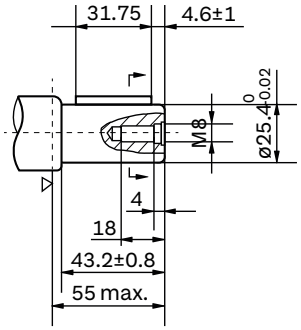




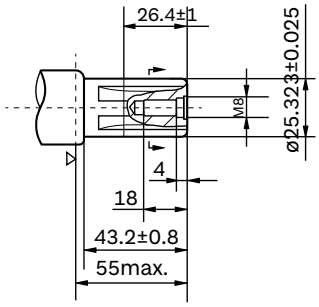
Shaft A:
Cylindrical shaft ø25
Parallel key 8x7x32

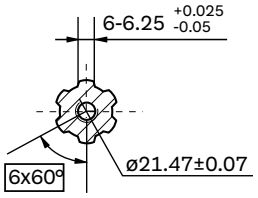


Shaft B:
Cylindrical shaft ø32
Parallel key 10x8x45

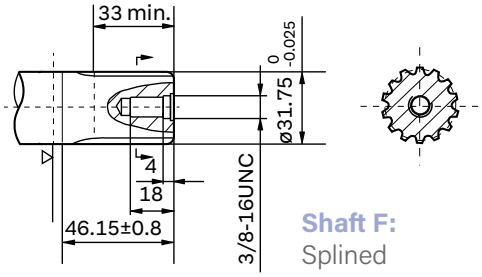


Shaft C:
Cylindrical shaft ø25.4
Parallel key
6.35x6.35x31.75

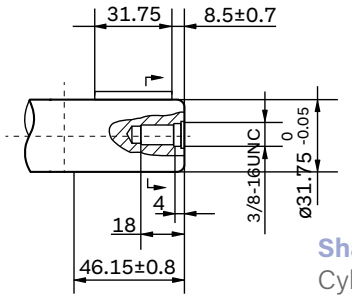


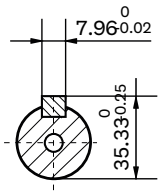


Shaft E:
Splined SAE 6B

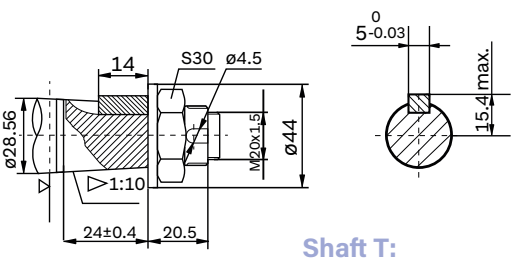


Shaft F:
Splined
14-DP12/24

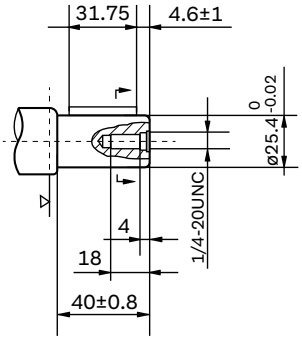


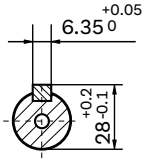


Shaft G:
Cylindrical shaft ø31.75
Parallel key
7.96x7.96x31.75



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



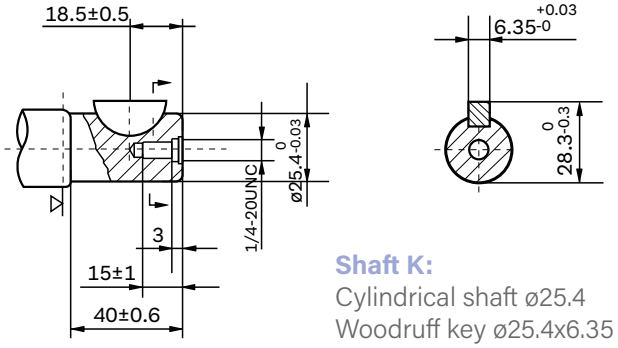


Shaft:
Cylindrical shaftø25.4
Parallel key
6.35x6.35x31.75

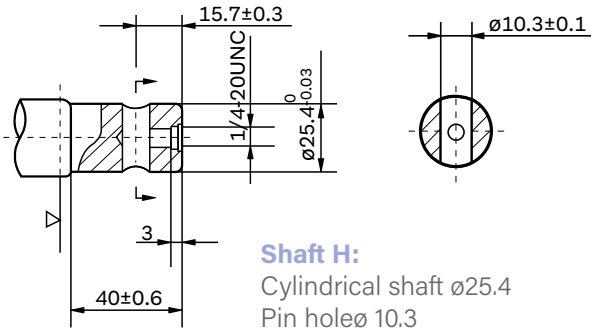
▷ Motor Mounting Surface

VNKRS Shaft Extensions Dimensions Data

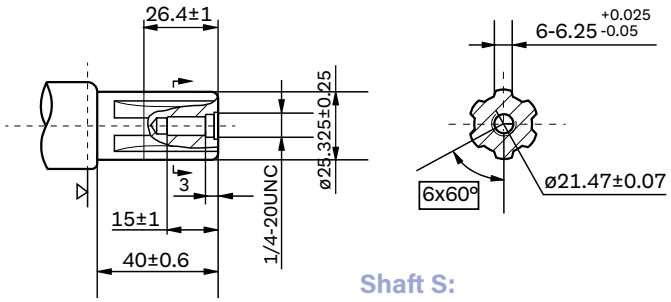




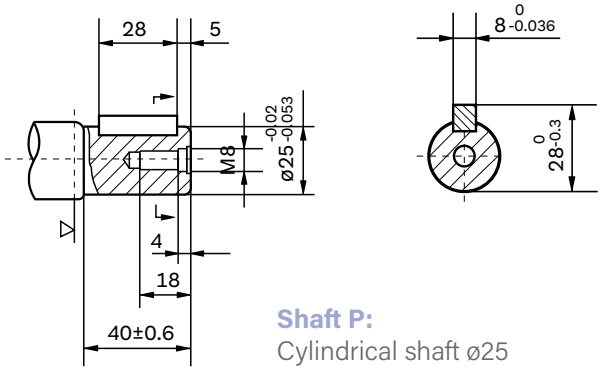
Shaft K:
Cylindrical shaft ø25.4
Woodruff key ø25.4x6.35



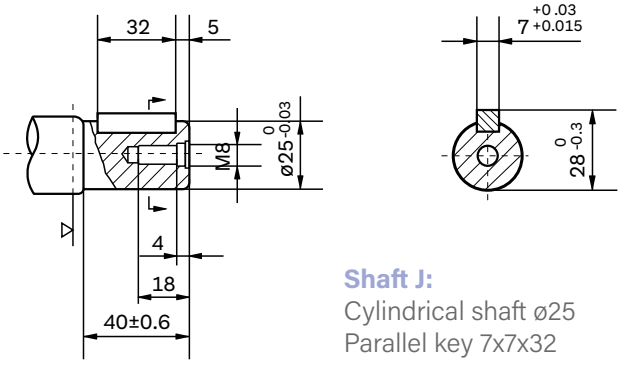
Shaft H:
Cylindrical shaft ø25.4
Pin holeø 10.3



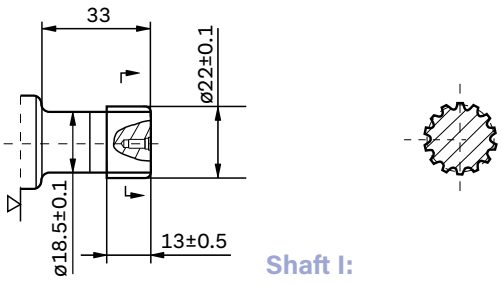
Shaft S:
Splined SAE 6B



Shaft P:
Cylindrical shaft ø25
Parallel key 8x7x28



Shaft J:
Cylindrical shaft ø25
Parallel key 7x7x32

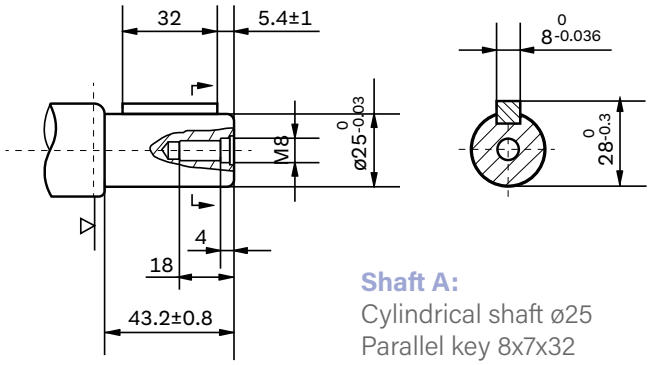


Shaft I:
Splined 13-DP16/32

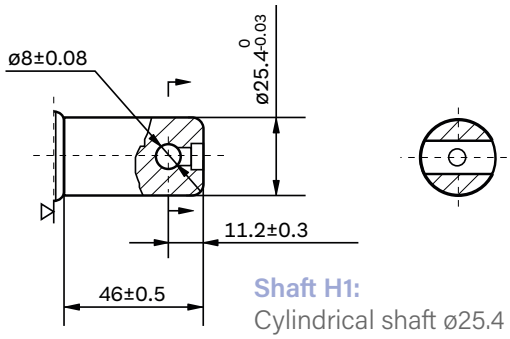
▷ Motor Mounting Surface



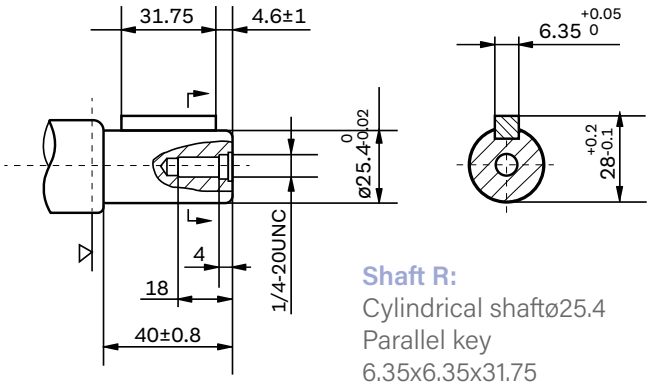
VNKRS Shaft Extensions Dimensions Data



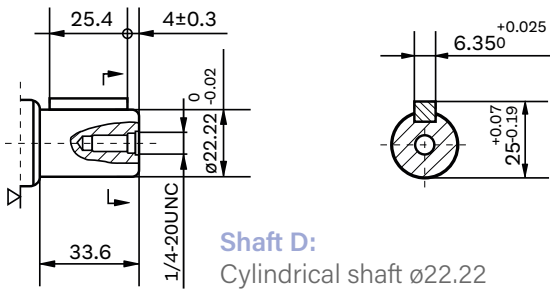
Shaft A:
Cylindrical shaft ø25
Parallel key 8x7x32



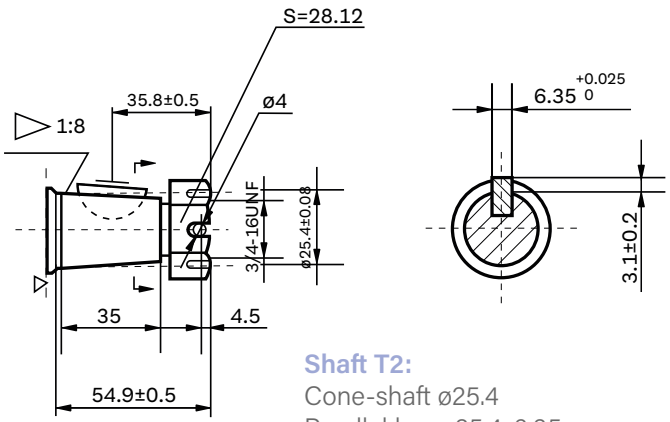
Shaft H1:
Cylindrical shaft ø25.4
Pin hole ø8



Shaft R:
Cylindrical shaftø25.4
Parallel key
6.35x6.35x31.75



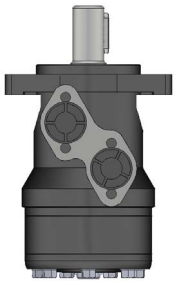
Shaft D:
Cylindrical shaft ø22.22
Parallel key
6.35x6.35x25.4



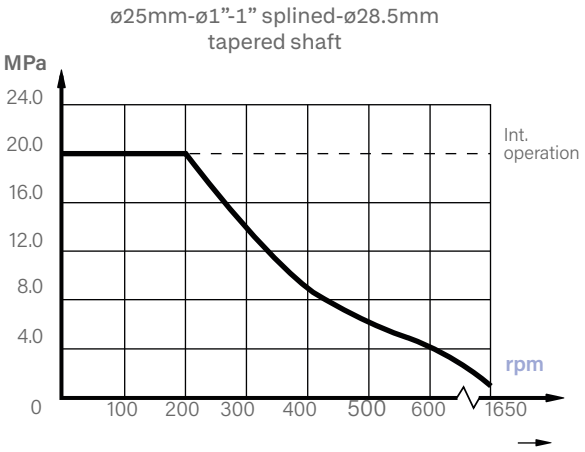
Shaft T2:
Cone-shaft ø25.4
Parallel key ø25.4x6.35
Tightening torque:
200±10Nm

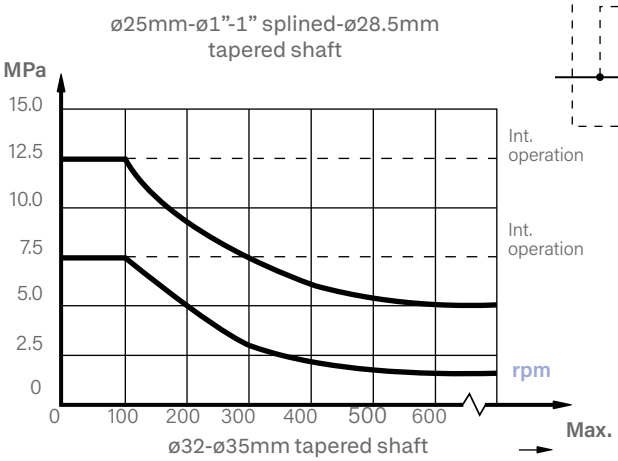
▷ Motor Mounting Surface

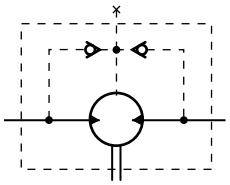
VNKR, VNKRS Series Hydraulic Motor



PERMISSIBLE SHAFT SEAL PRESSURE



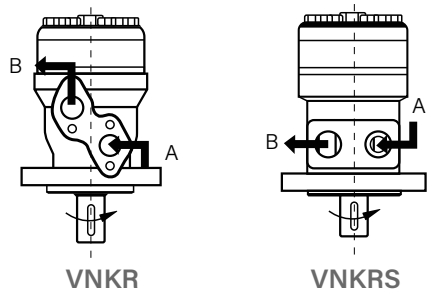




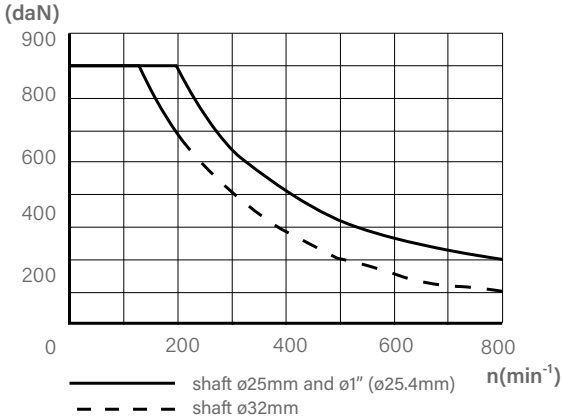
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

DIRECTION OF SHAFT ROTATION: Standard

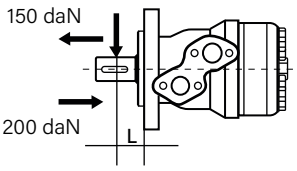
When facing shaft end of motor,shaft to rotate:
Clockwise when **port "A"** is pressurized.
Counter-clockwise **port "B"** is pressurized.



STATUS OF THE SHAFT'S RADIAL FORCE



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



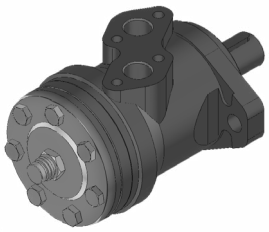
Fr= Radial Force (daN)
L= Distance (mm)
n= Speed (rpm)
Rhomb-flange L= 30mm
Square-flange L= 24mm

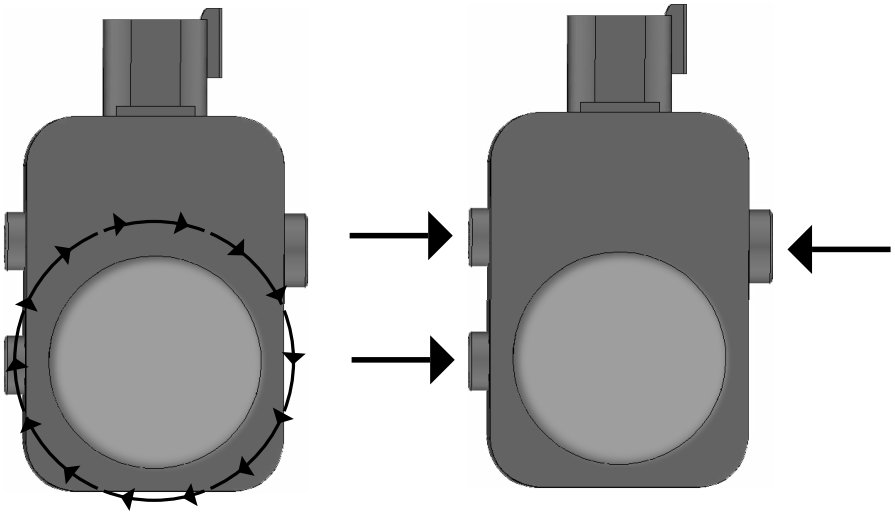
OIL FLOW in drain line

The table shows the Max. oil flow in the drain line at a return pressure less than 0.5-1MPa.

Pressure drop (PmPa)	**Viscosity** (mm^2/s)	**Oil flow in the drain line** (L/min)
10	20	2.5
	35	1.8
14	20	3.5
	35	2.8

VMD Speedsensor





INSTALLATION GUIDE

Turn the sensor to the desired position and mount the sensor on the plug.

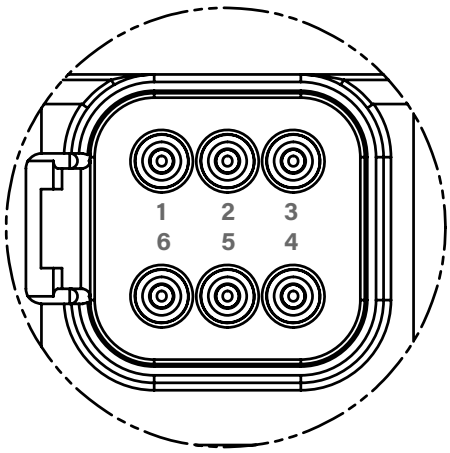
It is possible to mount the sensor in 36 positions.

To lock the sensor, push the clip into the sensor as shown.

Sensor Pinout

Pin	Controller function
1	Power supply 9-36 V dc
2	Power ground -
3	D 1 (confi gurable output)
4	CAN L
5	CAN H
6	D 2 (confi gurable output)

Deutsch DT connector – 6 pin

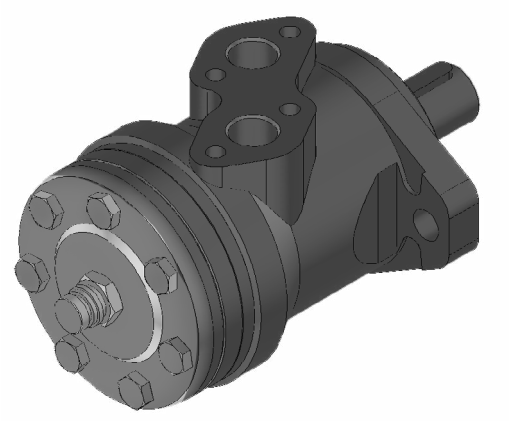


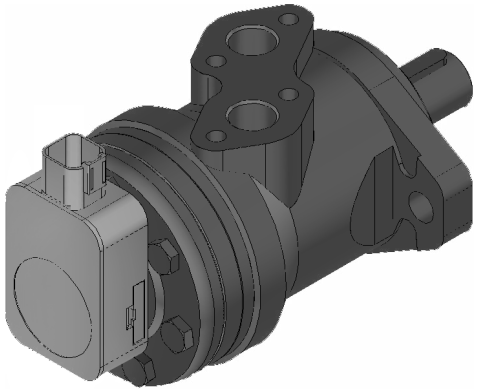
Deutsch DT connector 6 pin mating connector assembly:

(Not offered by Danfoss)

			Color
1	Plug	DT06-6S-PO12	(black)
1	Wedgelock	W6S-PO12	(green)
6	Solid Contacts	0462-209-16141	(nickel)
Options			
1	Boot	DT6S-BT-BK	(black)

VMD Speedsensor



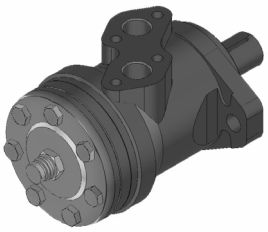


SPECIFICATION Main Specification

Output signal			D1	D2
	Pulse mode	mode Push-pull output. Direction = CCW: high, CW: low Confi gurable up to 180 pulse/revolutions	Square Wave	Direction
	Quadrature mode	2 channels with 90° phaseshift each with 90 pulses/revolution Push-pull output	Square Wave Phase A	Square Wave Phase B
	CAN mode	Supports CAN 2.0B with SAE J1939 Message Protocol with Proprietary Messages		
		Baudrate: 250 kbaud (fi xed)		
		Shaft velocity: ± 2500 rpm		
Speed range		0 - 2500 rpm		
Supply voltage		9 - 36 Vdc		
Maximum power		0.8 W		
Temperature range (amibient)		-30 °C to 60 °C		
EMC-Immunity (EMI):		100 V/m ISO 13766		
Grade of enclosure**		IP 69 K		
Vibration		30 G (294 m/s2)		
Shock		50 G (490 m/s2)		

* Confi gurable with PLUS+1® Service Tool - Please contact Danfoss for further information. T301 082
** According to IEC 529.

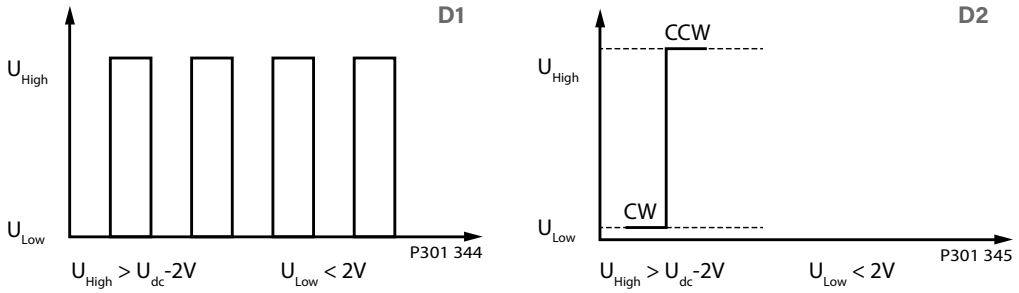
VMD Speedsensor



SPECIFICATION Main Specification

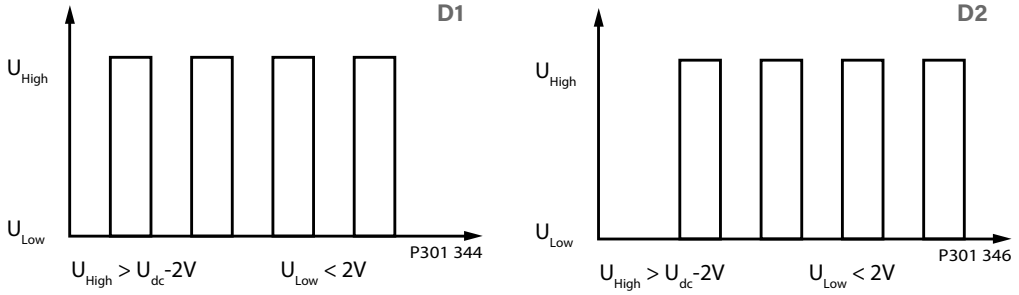
Pulse mode

The sensor generates a speed dependent pulse on D1 and a direction signal on D2.

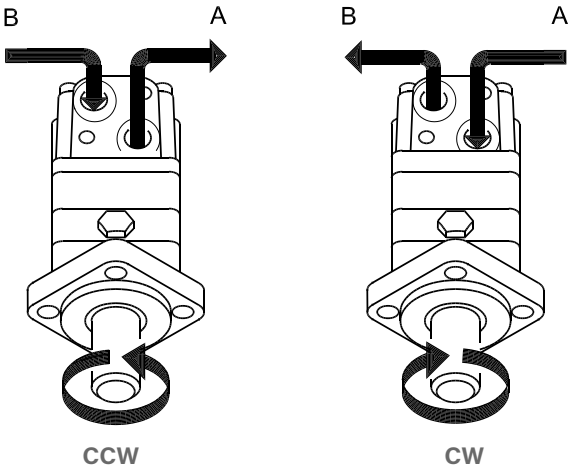


Quadrature mode

The sensor generates a speed dependent pulse on D1 and D2 with a 90 degree phaseshift.

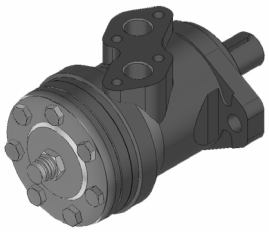


Direction of shaft rotation

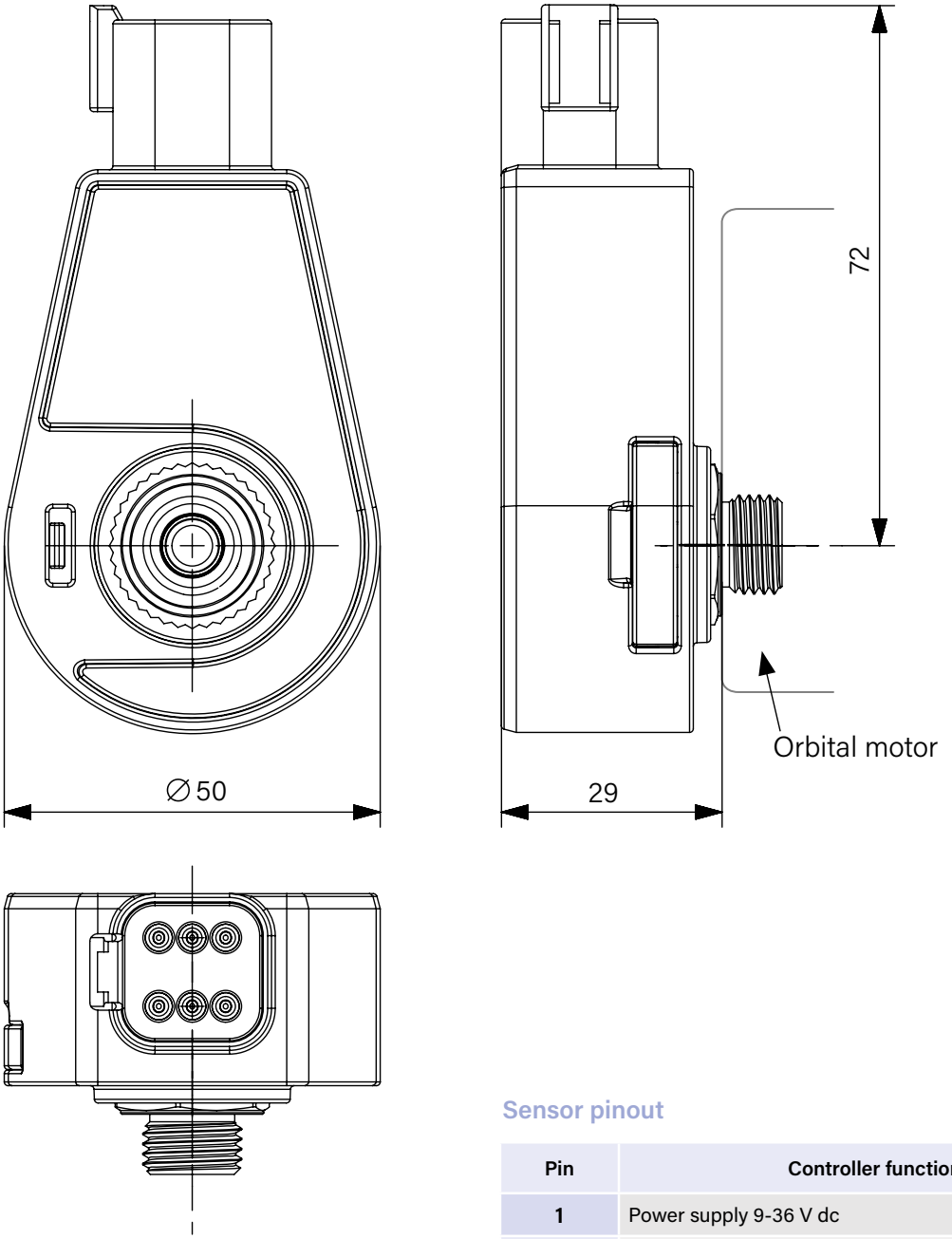


*Please note that the VMD speed sensor may fail. Output signals may not represent correct rotation speed or direction.
*Any application of the VMD speed sensor should be subjected to appropriate hazard and risk assessment, according to relevant safety standards for the application.
*Reliability data MTTF for the VMD speed sensor are available on request from your Danfoss representative.

VMD Speedsensor



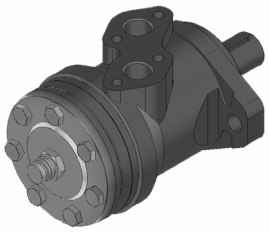
PRODUCT OVERVIEW



Sensor pinout

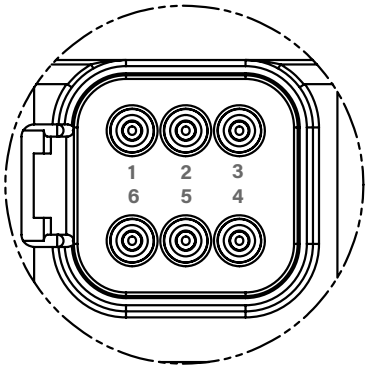
Pin	Controller function
1	Power supply 9-36 V dc
2	Power ground -
3	D 1 (configurable output)
4	CAN L
5	CAN H
6	D 2 (configurable output)

VMD Speedsensor



PRODUCT OVERVIEW

Sensor pinout



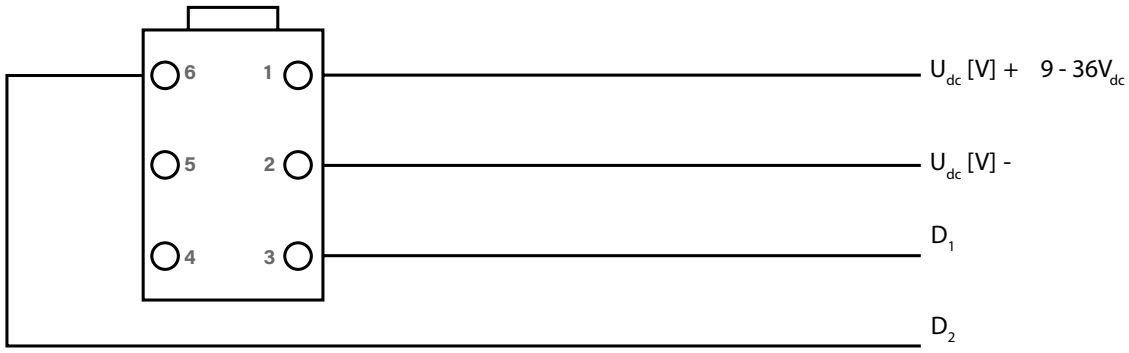
Mating connector

Deutsch DT connector 6 pin Mating connector assembly:
(Not offered by Danfoss)

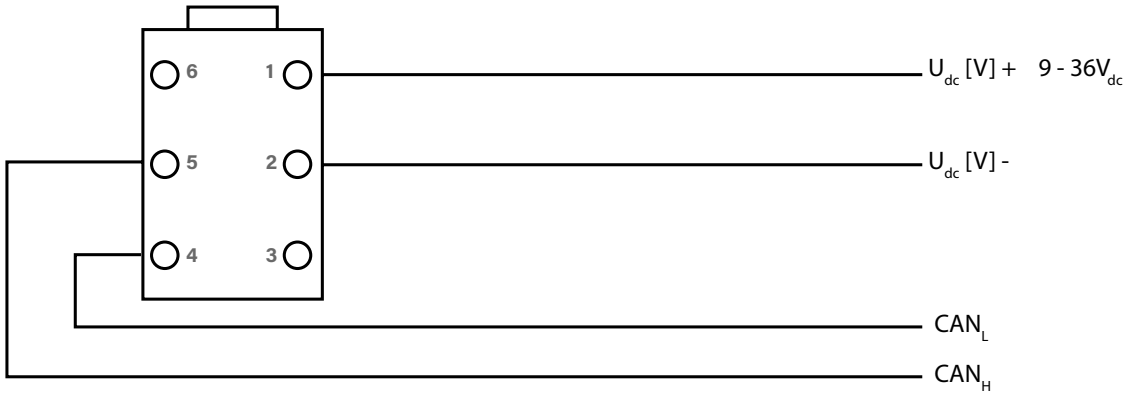
Pcs	Description	Deutch part no.	Color
1	Plug	DT06-6S-PO12	(black)
1	Wedgelock	W6S-PO12	(green)
6	Solid Contacts	0462-209-16141	(nickel)
	Options		
1	Boot compl.	DT6S-BT-BK	(black)

Wiring diagram

Wiring diagram: Pulse and quadrature mode



Wiring diagram: CAN mode

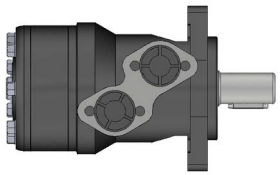


Order Information

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**	
VNKR	36 50 80 100 125 160 200 250 315 400	2 4 H4 H5	2-Ø13.5Rhomb-flange, pilot Ø82.5×8 4-Ø13.5Rhomb-flange, pilot Ø82.5×8 4-3/8-16 Square-flange, pilot Ø44.4×2.8 4-M10 Square-flange, pilot Ø44.4×2.8	A C E R T	Shaft Ø25,parallel Key 8x7x32 Shaft Ø25.4,parallel Key 6.35x6.35x31.75 Shaft Ø25.4,splined tooth SAE 6B Short shaft Ø25.4,parallel key 6.35x6.35x31.75 Cone-Shaft Ø28.56,parallel Key B5x5x14	D M S P R	G1/2 Manifold Mount 4-M8, G1/4 M22×1.5 Manifold Mount 4-M8, M14×1.5 7/8-14 O-ring manifold 4-5/16-18UNC, 7/16-20UNF 1/2-14 NPTF 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 N1 0 F LS SD	Standard Big radial force No case drain Free Running Low Speed Speed Sensor
				B F FD G	Shaft Ø32,parallel Key 10x8x45 Shaft Ø31.75,splined tooth 14-DP12/24 Long shaft Ø31.75,splined tooth 14-DP12/24 Shaft Ø31.75,parallel Key 7.96x7.96x31.75								

Note: The shafts of B\F\FD\G\T1\T3 are only suitable for flanges of 2 and 4.



Order Information

1	2	3	4	5	6	7	8
VNKRS	–	–	–	–	–	–	–

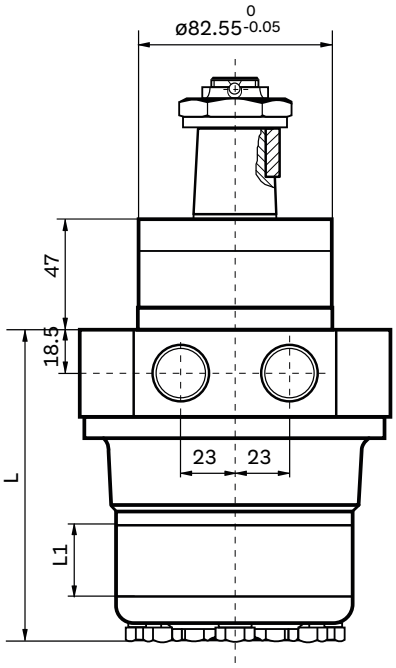
Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output shaft		Ports and drain port		Rotation direction		Paint		Unusually Function	
VNKRS	36 50 80 100 125 160 200 250 315 400	H2	2-Ø13.5Rhomb-flange, pilot Ø82.5×2.8	K	Shaft Ø25.4,Woodruff Key Ø25.4×6.35	G	G1/2, G1/4	Omit	Standard	00	No paint	Omit	Standard
		H6	4-Ø13.5Rhomb-flange, pilot Ø82.5×2.8	S	Sub-shaft Ø25.4,splined tooth SAE 6B	S	7/8-14 O-ring 7/16-20UNF (G1/4)	R	Opposite	Omit	Blue	N1	Big radial force
		H4	4-3/8-16 Square-flange, pilot Ø44.4×2.8	A	Shaft Ø25 , parallel key 8×7×32	P	1/2-14 NPTF, 7/16-20UNF (G1/4)			B	Black	0	No case drain
		H5	4-M10 Square-flange, pilot Ø44.4×2.8	R	Shaft Ø25.4, parallel key 6.35×6.35×31.75	T	3/4-16 O-ring, 7/16-20UNF			S	Silver grey	F	Free Running
				H	Sub-shaft Ø25.4,Pin hole Ø10.3	R	PT(Rc)1/2, PT(Rc)1/4					LS	Low Speed
				H1	Shaft Ø25.4, pin hole Ø8	B4	Ø10 O-ring manifold 4x5/16-18, 7/16-20UNF					SD	Speed sensor
				D	Shaft Ø22.22, parallel key 6.35×6.35×25.4	B5	Ø10 O-ring manifold 4xM8, G1/4						
				I	Shaft Ø22.22, splined tooth 13-DP16/32	M1	M18×1.5, M10×1						
				T2	Cone shaft Ø25.4 , woodruff key Ø25.4×6.35	M2	M20×1.5, M10×1						
				P	Shaft Ø25,parallel Key 8×7×28	M3	M22×1.5, M10×1						
				J	Shaft Ø25,parallel Key 7×7×32								

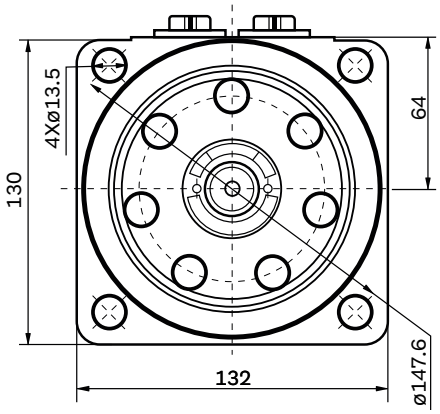
Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.



VNKRWN Dimensions Mounting Data and Order Information







Model	L	L1
VNKRWN-50	113	10
VNKRWN-80	119	16
VNKRWN-100	123	20
VNKRWN-125	128	25
VNKRWN-160	133.5	30.5
VNKRWN-200	141	38.1
VNKRWN-250	153	50
VNKRWN-315	165	62
VNKRWN-400	177	74

Mounting Code	G (depth)	M (depth)	S (depth)	P (depth)
P(A,B)	G1/2(15)	M22x1.5(15)	7/8-14O-ring(17)	1/2-14NPTF(15)
C	G1/4(12)	M14x1.5(12)	7/16-20UNF(12)	7/16-20UNF(12)

Order Information

1	2	3	4	5	6	7	8
VNKRWN	–	–	–	–	–	–	–

Pos.1	2	3		4		5		6		7		8	
Code		**Flange**		**Output shaft**		**Ports and drain port**		**Rotation direction**		**Paint**		**Unusually Function**	
VNKRWN	50 80 100 125 160 200 250 315 400	Omit	4-Ø13.5 Wheel Mount , Ø82.5x9.4	T1 B F FD G	1:10Cone shaft Ø35, parllel key B6×6×20 Shaft Ø32 , parllel key 10×8×4 Shaft Ø31.75, splined key 14-DP12/2 Long Shaft Ø31.75, splined key14-DP12/24 Shaft Ø31.75, parllel key 7.96×7.96×31.75	D M S P	G1/2, G1/4 M22×1.5,M14×1.5 7/8-14 O-ring, 7/16-20UNF 1/2-14NPTF ,7/16-20UNF	Omit R	Standard Opposite	00 Omit B S	No paint Blue Black Silver grey	Omit SD	Standard Speed sensor

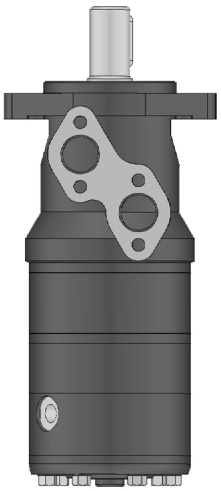
Note: The table is used , please fill the code of right rows in the table and give us , which the code information is consists of construction , displacement , mounting flange output shaft and ports . If the specification is not in the table or you have specific requirements , please conact us.



VNKR-VNK3 Series Hydraulic Motor

INTRODUCTION

VNKR-VNK3 is a type of shaft flow distribution brake motor with a friction pair direct brake linkage shaft, reliable braking, need external brake oil circuit, multiple sets of spring braking force, compact structure, flexible adjustment, assembly, parameter adjustment and disassembly maintenance and other convenience.



SPECIFICATION Main Specification

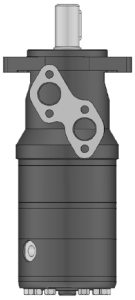
Technical data for **VNKR-VNK3** with ø25 and ø25.4 and ø25.4 splined SAE 6B and ø28.56 tapered shaft.

Type		VNKR -VNK3 65	VNKR -VNK3 80	VNKR -VNK3 100	VNKR -VNK3 125	VNKR -VNK3 160	VNKR -VNK3 200	VNKR -VNK3 250	VNKR -VNK3 315	VNKR -VNK3 400
Geometric displacement (cm3/rev.)		66.8	81.5	102	127.2	157.2	194.5	253.3	311	384
Max. speed (rpm)	cont.	800	750	600	475	378	310	240	190	155
	int.	950	940	750	600	475	385	300	240	190
Max. torque (N•m)	cont.	165	195	240	300	360	360	410	490	500
	int.	195	220	280	340	430	440	490	550	620
	peak	220	270	320	370	460	560	640	650	680
Max. output (kW)	cont.	11	12.5	13	12.5	12.5	10	7	9	7.5
	int.	13	15	15	14.5	14	13	9.5	10	9
Max. pressure drop (MPa)	cont.	17.5	17.5	17.5	17.5	16.5	13	12	12	10
	int.	20	20	20	20	20	17.5	15	14	12.5
	peak	22.5	22.5	22.5	22.5	22.5	22.5	20	17.5	15
Max. flow (L/min)	cont.	55	60	60	60	60	60	60	60	60
	int.	65	75	75	75	75	75	75	75	75
Item Code		VNKR-VNK3A				VNKR-VNK3B				
Static Torque (N•m)		360~440				460~540				
Brake release press (MPa)		1.4~1.9				1.7~2.3				
Max. release press (MPa)		20				20				
Weight (Kg)		11.4	11.7	11.9	12.1	12.4	12.9	13.5	13.8	13.8

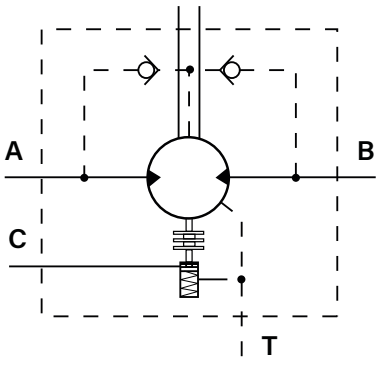
* **Continuous pressure:** Max. value of operating motor continuously.
* **Intermittent pressure:** Max. value of operating motor in 6 seconds per minute.
* **Peak pressure:** Max. value of operating motor in 0.6 second per minute.

1. The ture pressure difference between inlet port and outlet port.
2. Normal oil temperature 20°C~60°C upper limit 90°C (no more than 1 hour).
3. Filtering and oil cleanliness: A return filter should be installed in the system with fineness in the rang of 10~30μm 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.
4. Viscosity: 42~74mm2/s at 40°C of oil temperature,according to the condition to choose an applicable hydraulic oil.
5. The optimal operation situation should be at the 1/3~2/3 of the max. cont. operation situation.
6. To assure best motor life,run motor for approximately 1 hour at 30% of the max. cont. pressure before application to full load.
Besure motor is fulled with fluid prioe to any load applications.

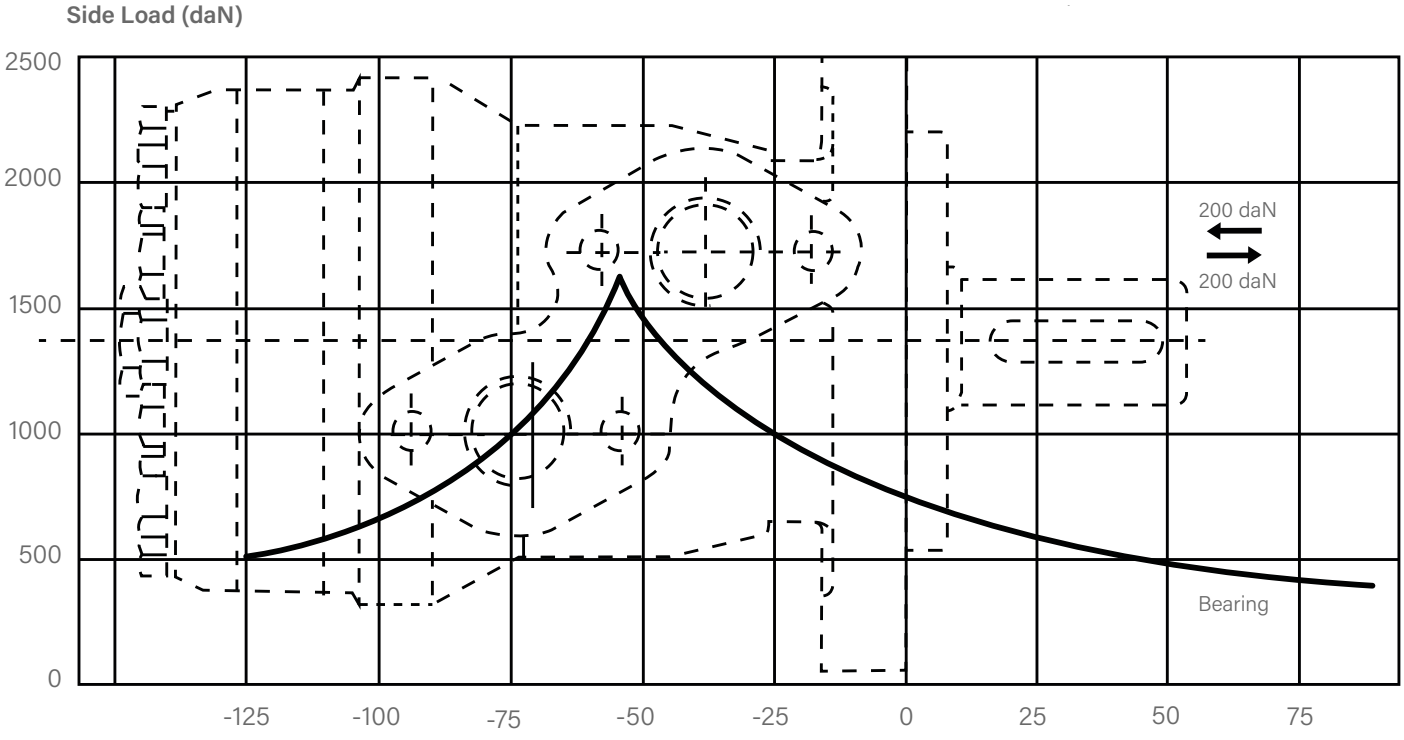
VNKR-VNK3 Hydraulic Systems



The brake motor must always have a drain line.
The brake release pressure is the difference between the pressure in the brake release line and the pressure in the drain line.



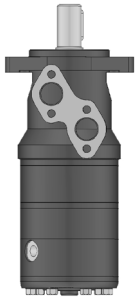
VNKR-VNK3 N1 Mounting Flange Radial Forceting

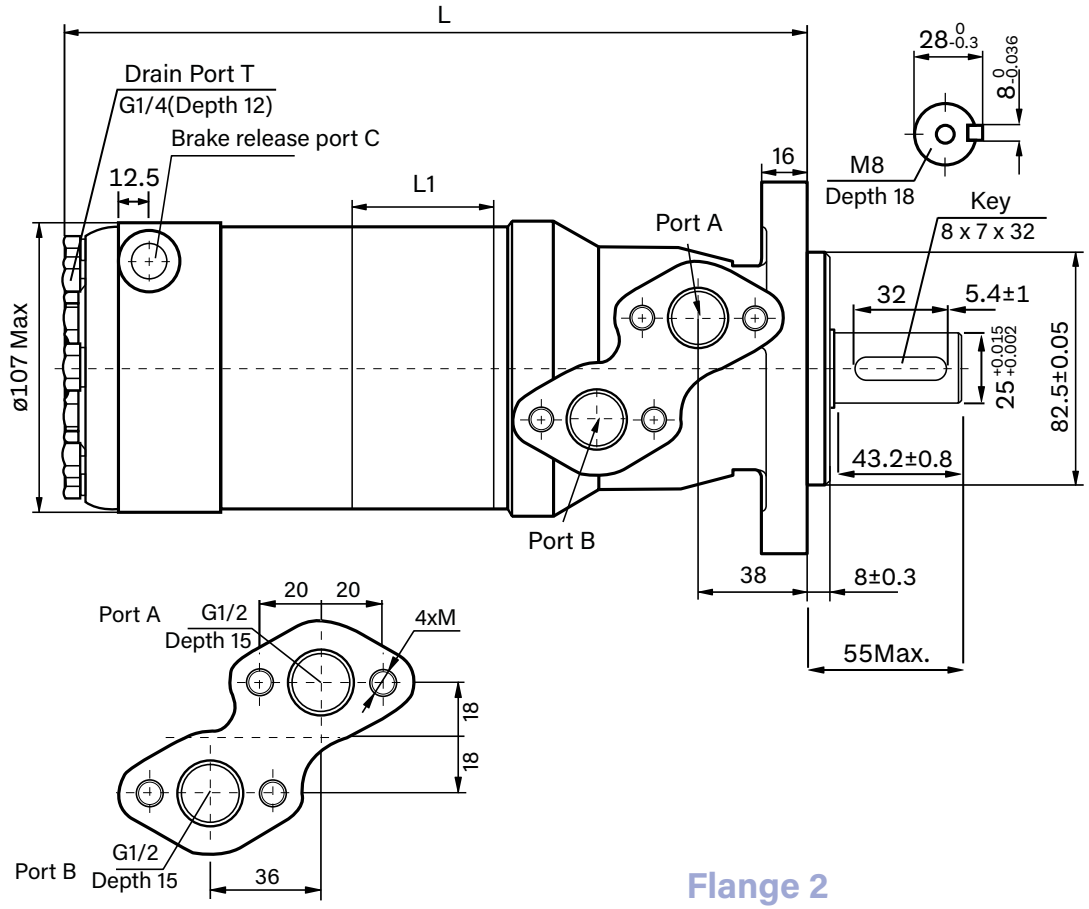


The bearing curve represents allowable bearinng loads for an L_{10} bearing life at 12×10^6revolutions. Or 2000 hours at 100 rpm.

Bearing load multiplication factor table									
RPM	50	100	200	300	400	500	600	700	800
FACTOR	1.23	1	0.81	0.72	0.66	0.62	0.58	0.56	0.54

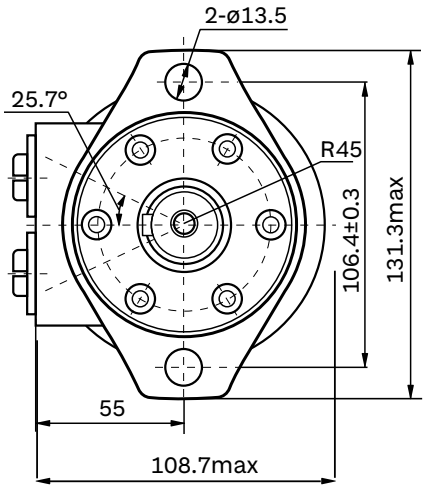
VNKR-VNK3 Dimensions and Mounting Data





Model	L	L1
VNKR-ZD10-36	214	7
VNKR-ZD10-50	217	10
VNKR-ZD10-80	223	16
VNKR-ZD10-100	227	20
VNKR-ZD10-125	232	25
VNKR-ZD10-160	237.5	30.5
VNKR-ZD10-200	245	38.1
VNKR-ZD10-250	257	50
VNKR-ZD10-310	269	62
VNKR-ZD10-400	281	74

Flange 2



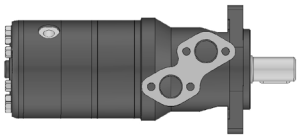
Content Mounting	Code				
	D (Depth)	**M** (Depth)	**S** (Depth)	**P** (Depth)	**R** (Depth)
P(A,B)	G1/2(15)	M22x1.5(15)	7/8-14UNF(17)	1/2-14NPTF(15)	PT(RC)1/2(15)
T	G1/4(12)	M14x1.5(12)	7/16-20UNF(12)	7/16-20UNF(12)	PT(RC)1/4(12)
M	4xM10(13)	4xM8(13)	4x5/16-18UNC(13)	4x5/16-18UNC(13)	4xM8(13)

Order Information

1	2	3	4	5	6	7	8	9
VNKR-VNK3	–	–	–	–	–	–	–	–

Pos.1	2	3		4		5		6		7		8		9	
Code	**Disp.**	**Flange and Pilot**		**Output shaft**		**Ports and drain port**		**Brake release Port**		**Rotation Direction**		**Paint**		**Usually Function**	
VNKR-ZD10A **VNKR-ZD10B**	**65** **80** **100** **125** **160** **200** **250** **315** **400**	**2**	2xØ13.5 Oval flange, pilot Ø82.5×8	**A**	Shaft Ø25,parallel Key 8×7×32	**D**	G1/2 Manifold Mount 4×M8, G1/4	**G**	G1/4	**Omit**	Standard	**00**	No paint	**N1**	Big radial force
		4	4xØ13.5 Oval flange, pilot Ø82.5×8	**C**	Shaft Ø25.4, parallel Key 6.35×6.35×31.75	**M**	M22×1.5 Manifold Mount 4×M8, M14×1.5	**S**	7/16-20UNF	**R**	Opposite	**Omit**	Paint (Grey)	**SD**	Speed sensor
		H4	4x3/8x16 Square-flange, pilot Ø44.4×2.8	**E**	Shaft Ø25.4,splined tooth SAE 6B	**S**	7/8-14UNF Manifold Mount 4×5/16-18UNC, 7/16-20UNF					**B**	Black		
		H5	4xM10 Square-flange, pilot Ø44.4×2.8	**JP**	Shaft Ø25,parallel Key 8×7×32	**P**	1/2-14 NPTF Manifold Mount 4×5/16-18UNC, 7/16-20UNF					**S**	Silver grey		
				K	Shaft Ø25.4,Woodruff Key Ø25.4×6.35	**R**	PT(Rc)1/2 Manifold 4×M8, PT(Rc)1/4								
				H	Shaft Ø25.4,Cross hole Ø10.3										
				W	Shaft Ø24.5,Splined B25x22 Din 5482										
				T	Cone-Shaft Ø28.56,parallel Key B5×5×14										

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.



VNKRK Series Hydraulic Motor

INTRODUCTION

VNKRK 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 of unit.
* **Compact volume and easy installation**

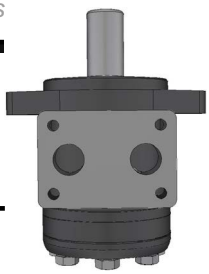
SPECIFICATION Main Specification

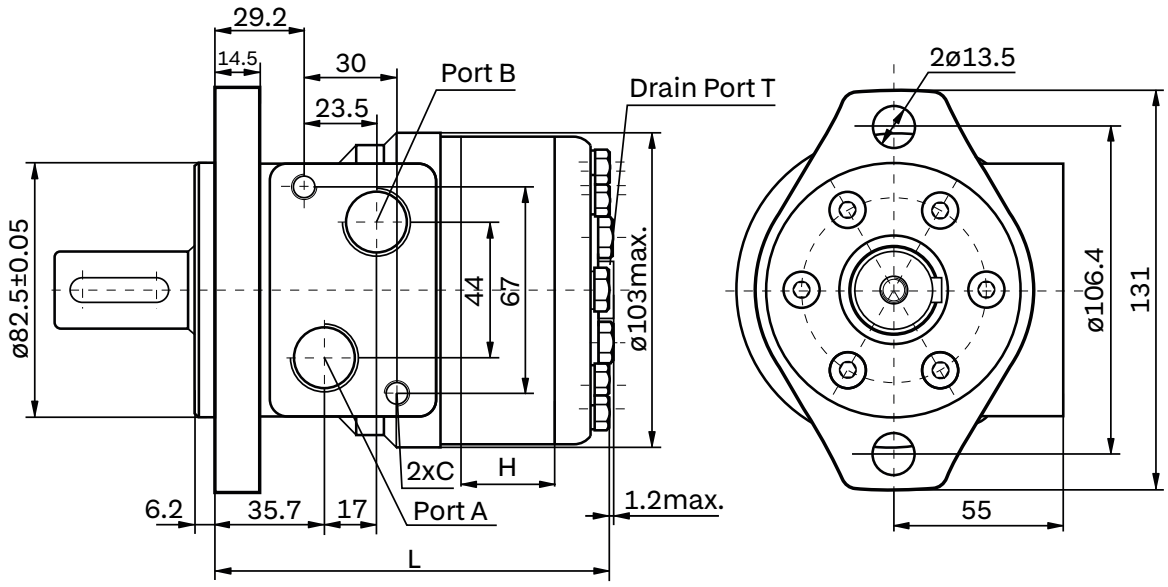
Technical data for VNKRK with 25 and 1 in and 1 in splined and 28.56 tapered shaft.

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.
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 400	381.4	162	373	466	6.2	7.1	7.5	9	60

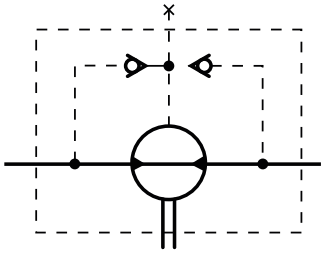
***Intermittent operation:** the permisssible values may occur for max.10% of every minute.

VNKRK Series Hydraulic Motor





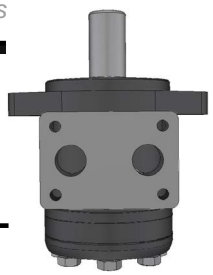
Direction of shaft rotation: Standard
When facing shaft end of motor,shaft to rotate: Clockwise when port **"A"** is pressurized.
Counter-clockwise when port **"B"** is pressurized.

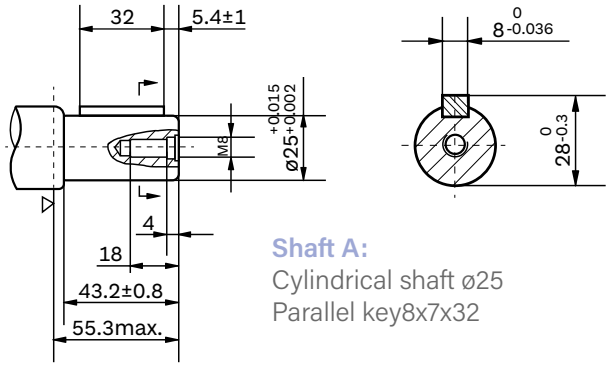


Type	H	L
VNKRK36	7	105
VNKRK50	10	108
VNKRK80	16	114
VNKRK100	20	118
VNKRK125	25	123
VNKRK160	30.5	128.5
VNKRK200	38.1	136
VNKRK250	50	148
VNKRK315	62	160
VNKRK400	74	172

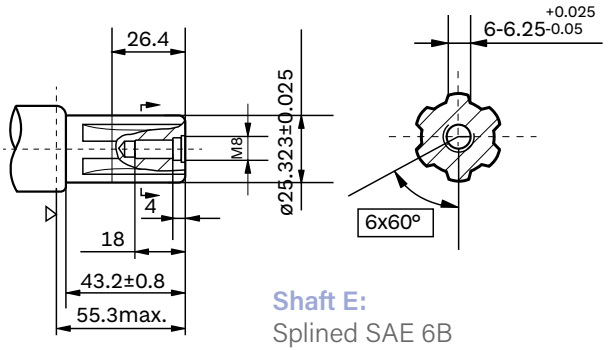
Code Mounting	D (Depth)	M (Depth)	S (Depth)	P (Depth)	R (Depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (16.7)	1/2-14NPTF (15)	PT(RC)1/2 (15)
T	4-M8 (13)	4-M8 (13)	4-5/16-18UNC(13)	4-5/16-18UNC(13)	4-M8 (13)
M	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF (12)	7/16-20UNF (12)	PT(RC)1/4 (9.7)

VNKRK Shaft Extensions

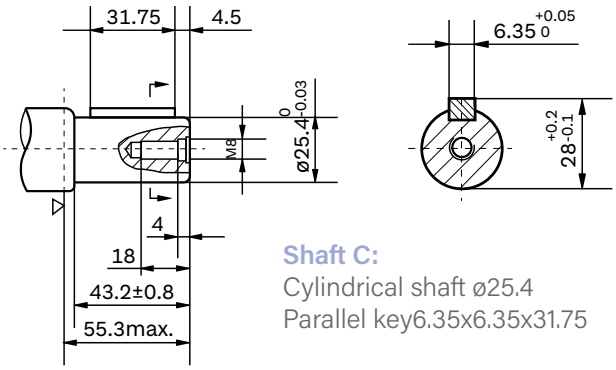




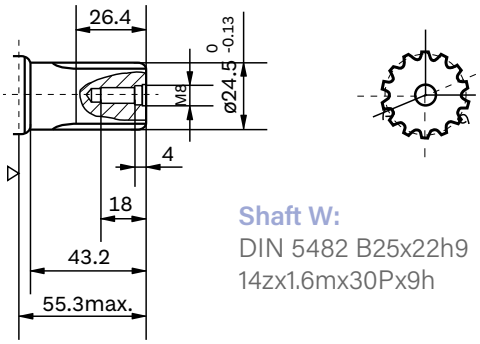
Shaft A:
Cylindrical shaft ø25
Parallel key8x7x32



Shaft E:
Splined SAE 6B



Shaft C:
Cylindrical shaft ø25.4
Parallel key6.35x6.35x31.75



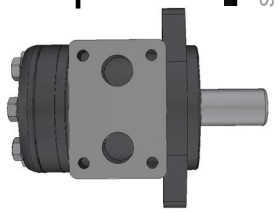
Shaft W:
DIN 5482 B25x22h9
14zx1.6mx30Px9h

▷ Motor Mounting Surface

Order Information

1		2		3		4		5		6		7		8	
VNKRK	–		–		–		–		–		–		–		

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output shaft		Ports and drain port		Rotation Direction		Paint		Unusually Function	
Omit	36 50 80 100 125 160 200 250 315 375	2	2-Ø13.5 Rhomb-flange, pilot Ø82.5×6.2	A C E W T	Shaft Ø25 , parllel key 8×7×32 Shaft Ø25.4 , parllel key 6.35×6.35×31.75 Shaft Ø25.4, splined key SEA 6B Shaft Ø24.5, splined B25X22 Cone shaft Ø28.56, parllel 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	0O Omit B S	No paint Blue Black Silver grey	Omit F 0 SD	Standard Free Runing No case drain Speed sensor



VNKH Series Hydraulic Motor

INTRODUCTION

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 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 of unit.
* **Compact volume and easy installation.**

SPECIFICATION Main Specification

Type		VNKH 200	VNKH 250	VNKH 315	VNKH 400	VNKH 500
Geometric displacement (cm3/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 (Kg)		10.5	11	11.5	12.3	13

Type		Max.inlet pressure	Max.return pressure with drain line
VNKH200-500 (MPa)	cont.	20	17.5
	int.	22.5	20
	peak	25	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 cylindnical,11/4 in splined and 35mm tapered shaft.

Performance Data



VNKH 200 [203.2 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14	17.5	20
5	98 25	194 25	284 22			
10	101 43	204 41	301 36	391 29	482 14	
20	99 100	201 97	304 93	402 85	509 69	567 56
30	97 145	197 143	300 139	402 130	510 114	579 101
40	90 200	190 200	292 200	399 188	507 168	578 153
50	82 248	183 246	284 244	392 235	500 213	571 199
60	73 292	174 290	274 287	384 279	493 260	563 244
70	63 352	163 350	264 349	374 338	481 318	554 301
75	59 366	157 365	259 363	366 355	475 335	547 319
80	53 381	150 381	253 380	358 371	466 352	538 338
90	39 439	140 437	241 434	348 426	456 407	526 392

Max. cont — Max. int

VNKH 250 [255.9 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	9	12	14.5	17.5	20
5	121 19	246 19	318 18	398 14			
10	130 34	258 33	331 31	425 29	515 23	595 12	
20	130 78	258 77	332 76	432 73	520 65	621 53	702 42
30	122 115	251 113	327 111	429 105	520 96	621 84	700 75
40	115 157	240 157	323 156	422 150	513 139	616 127	698 114
50	105 196	232 195	314 192	411 185	505 173	606 159	687 147
60	94 232	220 230	302 226	401 218	496 206	596 192	676 180
70	81.4 274	209 274	288 274	389 266	484 252	582 238	666 222
75	72 290	203 289	280 287	381 279	475 266	574 251	659 236
80	66 303	194 302	273 298	371 290	467 279	566 264	651 249
90	49 348	178 347	256 345	355 337	453 325	552 309	634 292

Max. cont — Max. int

VNKH 315 [316.1 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7.5	10	13.5	15.5	17.5	20
5	155 16	325 13					
10	163 27	342 24	454 18	556 14			
20	169 63	349 61	469 55	582 48	664 40	733 32	809 19
30	165 93	344 89	470 82	580 77	669 67	740 59	824 46
40	154 126	337 126	465 119	577 111	663 99	737 88	827 73
50	141 159	325 155	455 148	568 139	656 126	728 115	824 98
60	121 187	312 186	440 179	555 169	643 154	715 143	812 124
70	103 222	298 222	425 215	541 205	631 187	703 176	800 157
75	94 236	287 233	417 224	529 215	623 196	696 184	792 166
80	82 246	277 244	406 236	518 228	611 210	688 197	784 174
90	62 282	256 280	386 275	496 266	593 248	669 234	767 209

Max. cont — Max. int

Torque (N•m) 593
Speed (rpm) 248

VNKH 400 [406.4 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	6	10.5	12.5	15.5	19
5	196 13	348 13	516 10			
10	205 22	363 21	546 21	702 17	859 11	
20	209 50	366 49	543 46	708 41	874 36	988 31
30	201 73	357 72	542 70	706 63	864 56	984 51
40	195 99	346 98	532 96	701 86	858 77	973 71
50	173 123	332 122	518 118	687 107	848 97	958 90
60	154 146	319 144	501 141	668 128	833 115	944 106
70	138 174	305 173	480 169	649 156	814 141	925 130
75	128 183	294 181	466 177	637 163	802 149	911 138
80	113 192	277 191	451 188	621 174	786 158	899 144
90	90 220	256 220	433 215	595 202	767 183	881 165

Max. cont — Max. int

Cont. Int.

Performance Data



VNKH 500 [489.2 cm3/rev.]

Pressure (MPa)

Max. cont Max. int

Flow (L/min)	2.5	5	8.5	10	12.5	16
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
75	79 155	240 155	469 155	582 152	714 144	902 130
80	60 166	226 166	453 166	570 159	701 153	884 1399
90	34 184	201 183	421 182	550 177	673 166	869 155

Max. cont
Max. int

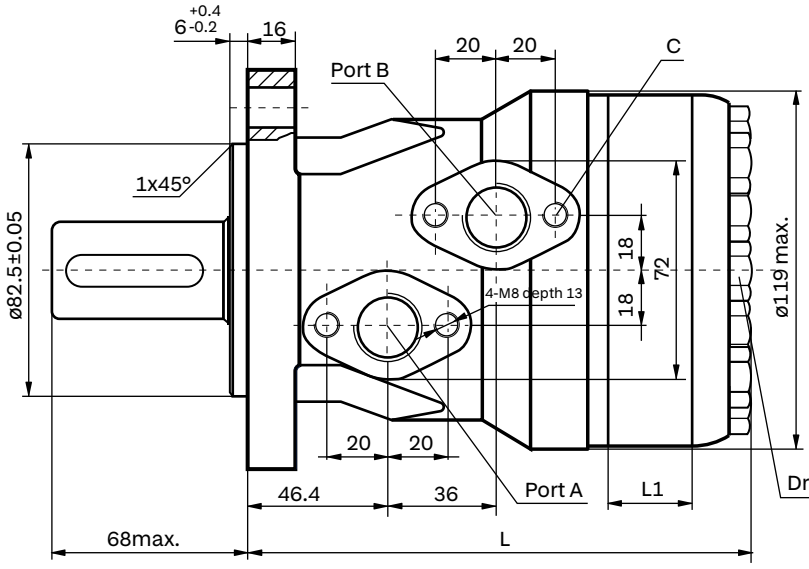
Torque (N•m) 673
Speed (rpm) 166

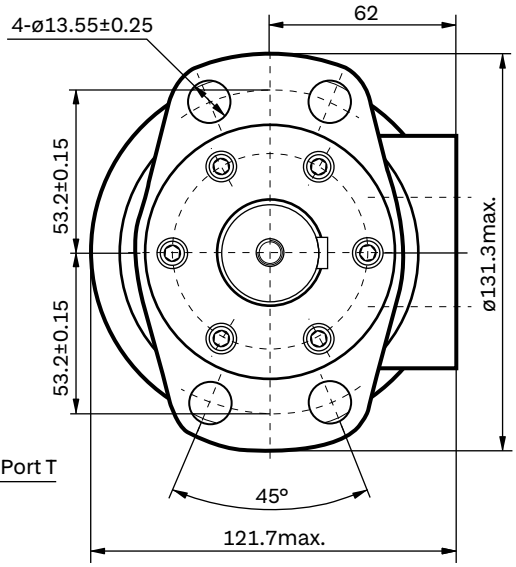
Cont. Int.

VNKH Dimensions and Mounting Data

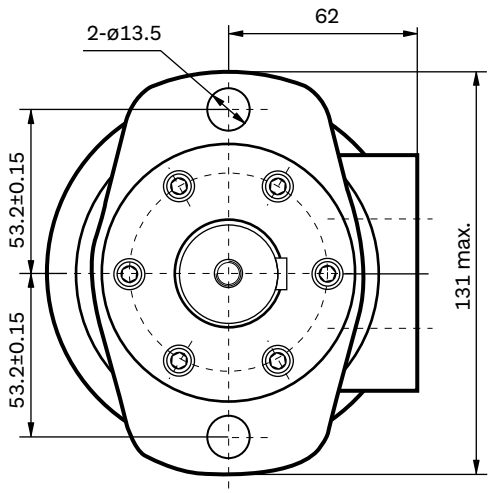


Flange 4





Flange 2

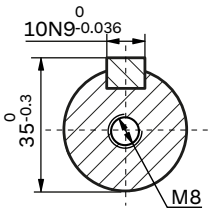


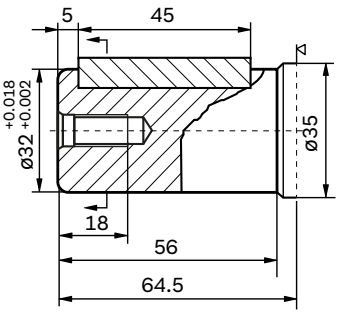
Model	L	L1
VNKH-160	162	21
VNKH-200	168	27
VNKH-250	175	34
VNKH-315	183	42
VNKH-400	195	54
VNKH-500	206	65

Mounting 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 (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

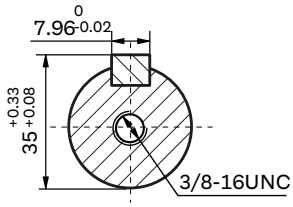
VNKH Shaft Extensions Dimensions Data

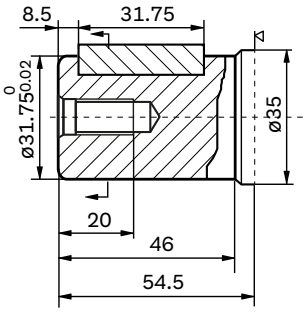




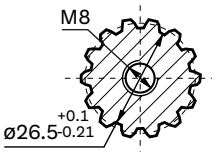


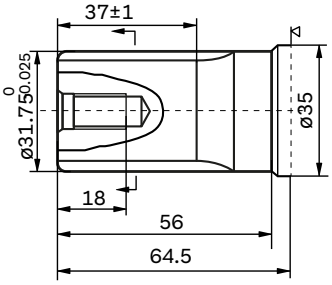
Shaft B:
Cylindrical shaft ø32
Parallel key 10x8x45



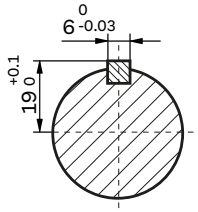


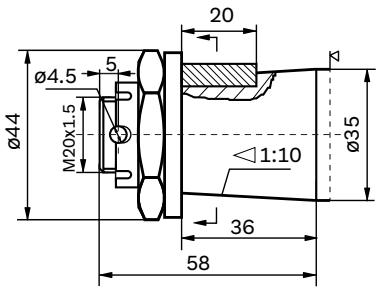
Shaft G:
Cylindrical shaft ø31.75
Parallel key
7.96x7.96x31.75





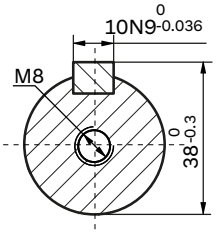
Shaft FD:
Splined 14-DP12/24

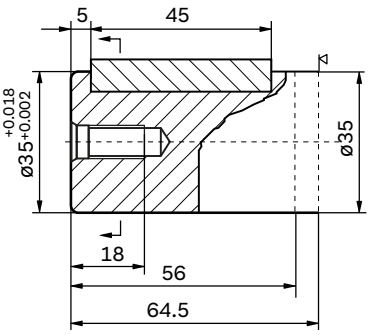




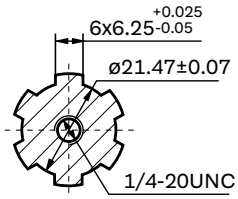
Shaft T1:
Cone-shaft ø35
Parallel key 6x6x20
Tightening torque:
200±10Nm

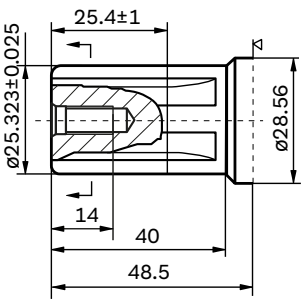
▷ Motor Mounting Surface



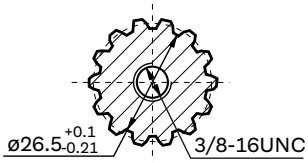


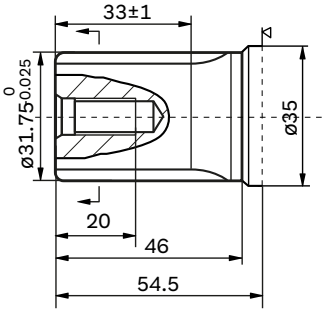
Shaft M:
Cylindrical shaft ø35
Parallel key 10x8x45



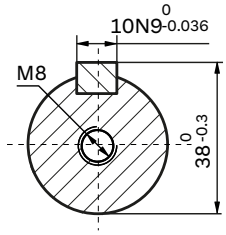


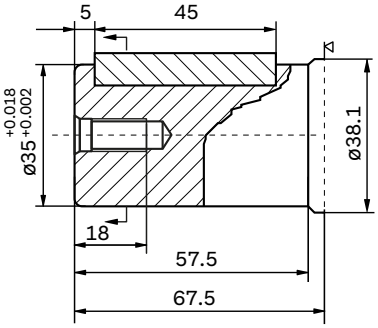
Shaft S:
Splined SAE 6B





Shaft F:
Splined 14-DP12/24



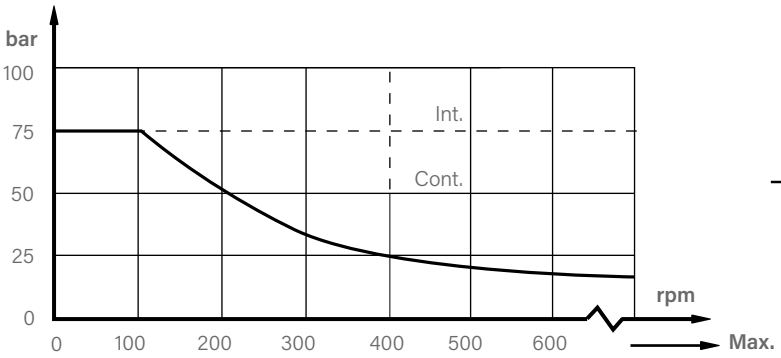


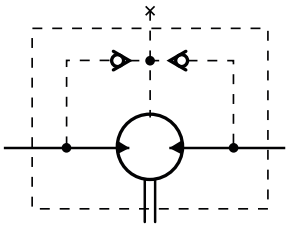
Shaft M1:
Cylindrical shaft ø35
Parallel key 10x8x45

VNKH Series Hydraulic Motor



PERMISSIBLE SHAFT SEAL PRESSURE



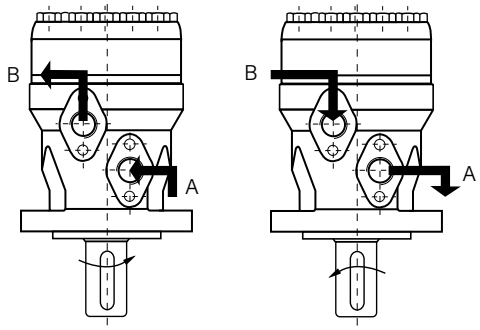


In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

DIRECTION OF SHAFT ROTATION: Standard

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

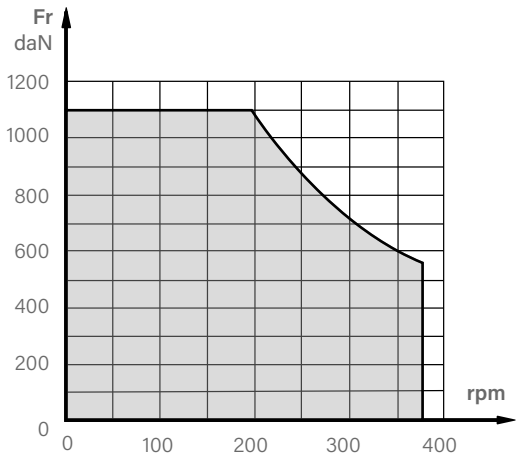
VNKH



OIL FLOW in drain line

The table shows the Max. oil flow in the drain line at a return pressure less than 0.5-1MPa.

Pressure drop (PmPa)	**Viscosity** (mm^2/s)	**Oil flow in the drain line** (L/min)
10	20	2.5
	35	1.8
14	20	3.5
	35	2.8

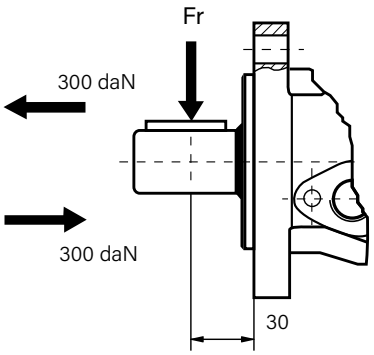


shaft ø1" (ø25.4mm) and shaft SAE 6B
The drawing is the Possible load when L=30 mm

Status of the shaft's radial force

$$Fr=\frac{1100}{n}\cdot\frac{25000}{103.5+L}\ daN$$

L<60mm, n>200rpm



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

Order Information

1	2	3	4	5	6	7	8
VNKH	–	–	–	–	–	–	–

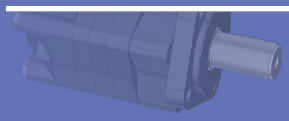
Pos.1	2	3		4		5		6		7		8	
Code		**Flange**		**Output shaft**		**Ports and drain port**		**Rotation Direction**		**Paint**		**Unusually Function**	
Omit	**160** **200** **250** **315** **400** **470** **500**	**4** **2**	4×Ø13.5 Rhomb× flange Pilot Ø82.5×6 2×Ø13.5 Rhomb× flangePilot Ø82.5×6	**B** **M1** **F** **FD** **G** **T1** **S** **M**	Shaft Ø32 , parallel key 10×8×45 Shaft Ø35, parallel key 10×8×45 Shaft Ø31.75, splined key 14-DP12/24 Long Shaft Ø31.75, splined key 14-DP12/24 Shaft Ø32 , parallel key 7.96×7.96×31.75 Cone shaft Ø35, parallel key B6×6×20 Shaft Ø25.4 , parallel key SAE 6B Shaft Ø35,Parallel key 10×8×45	**D** **M** **S** **P** **R**	G1/2 Manifold mount 4×M8, G1/4 M22×1.5 Manifold mount 4×M8, M14×1.5 7/8-14 O×ring Manifold mount 4×5/16-18UNC, 7/16-20UNF 1/2-14 NPTF Manifold mount 4×5/16-18UNC,7/16-20UNF PT(Rc) 1/2 Manifold mount 4×M8,PT(Rc)1/4	**Omit** **R**	Standard Opposite	**00** **Omit** **B** **S**	No paint Blue Black Silver grey	**Omit** **0** **F** **LS** **N1** **SD**	Standard No drain Free Running Low Speed Big radial force Speed sensor

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

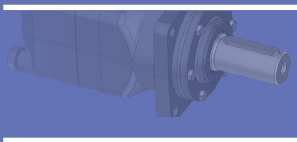


02 Disc Distribution Type Motors

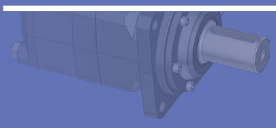
VNKS SERIES Hydraulic Motor — 73



VNKT SERIES Hydraulic Motor — 86



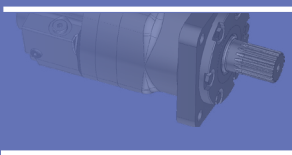
VNKV SERIES Hydraulic Motor — 102



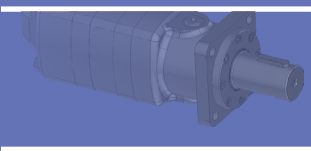
VNKB SERIES Hydraulic Motor — 109



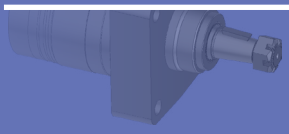
VNKC SERIES Hydraulic Motor — 119



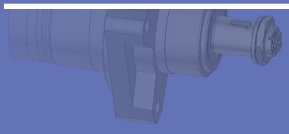
VNKD SERIES Hydraulic Motor — 129



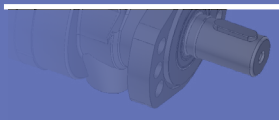
VNKE SERIES Hydraulic Motor — 135



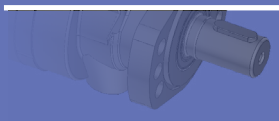
VNKJ SERIES Hydraulic Motor — 144



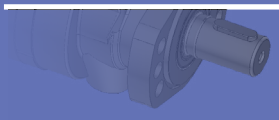
VNKG2 SERIES Hydraulic Motor — 148



VNKG3 SERIES Hydraulic Motor — 161



VNKG4 SERIES Hydraulic Motor — 164



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VNKS Series Hydraulic Motor

INTRODUCTION

VNKS 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 offers 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.
* **The new series motor** is suitable for vehicles with greater loads and pressure drop.

SPECIFICATION Main Specification

Type		VNKS VNKSS 80	VNKS VNKSS 100	VNKS VNKSS 125	VNKS VNKSS 160	VNKS VNKSS 200	VNKS VNKSS 250	VNKS VNKSS 315	VNKS VNKSS 400	VNKS VNKSS 475
Geometric displacement (cm3/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.	305	390	480	590	705	860	1000	980	990
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.	27.5	27.5	27.5	26	25	25	24	19	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 (Kg)		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.

Performance Data



VNKS 80 [80.6 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14	17.5	20.5	22.5
					Max. cont		Max. int
15	35 180	80 174	120 168	158 164	195 158	228 151	249 143
30	35 362	80 352	120 346	158 338	195 330	232 322	260 310
40	35 487	79 480	119 468	155 457	193 446	227 438	250 425
50	30 612	77 603	117 592	153 581	192 572	224 558	248 542
60	28 735	77 726	117 718	153 703	192 687	224 673	243 649
65	26 794	75 786	116 773	151 760	188 744	217 722	236 706
80	24 981	72 968	109 955	142 925	176 893	206 870	227 832

VNKS 100 [100.8 cm3/rev.]

Pressure (MPa)

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

VNKS 125 [125 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14	17.5	20.5	22.5
					Max. cont		Max. int
15	55 115	120 113	176 110	245 104	309 98	345 90	375 84
30	55 231	120 228	175 223	250 214	315 202	364 188	404 172
40	53 312	118 309	178 290	250 289	315 278	364 262	403 235
50	50 391	115 386	176 378	248 365	315 352	362 339	397 308
60	45 469	113 461	171 450	241 437	308 425	358 400	397 372
75	45 588	110 574	167 560	240 544	306 526	352 505	389 481
90	40 710	105 696	162 680	237 661	301 646	343 628	378 610

Torque (N•m) 301
Speed (rpm) 646

VNKS 160 [154 cm3/rev.]

Pressure (MPa)

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

Cont. Int.

Performance Data



VNKS 200 [194 cm3/rev.]

Pressure (MPa)

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

Max. cont / Max. int

VNKS 250 [243 cm3/rev.]

Pressure (MPa)

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

Max. cont / Max. int

VNKS 315 [311 cm3/rev.]

Pressure (MPa)

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

Max. cont / Max. int

VNKS 400 [394 cm3/rev.]

Pressure (MPa)

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

Max. cont / Max. int

Torque (N▪m) 766
Speed (rpm) 208

VNKS 475 [475 cm3/rev.]

Pressure (MPa)

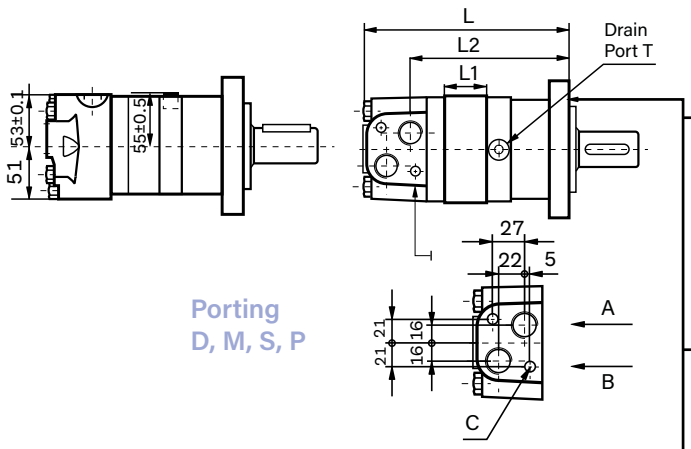
Flow (L/min)	3.5	7	10.5	14	15
	Max. cont				Max. int
15	218 30	439 29	661 28	892 27	995 25
30	223 61	450 60	676 58	910 56	1002 53
40	228 82	461 80	689 77	927 74	1017 68
50	224 103	456 101	682 97	920 92	1008 86
60	220 123	451 121	677 118	913 112	998 105
75	212 155	443 153	664 147	901 140	980 132
90	196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

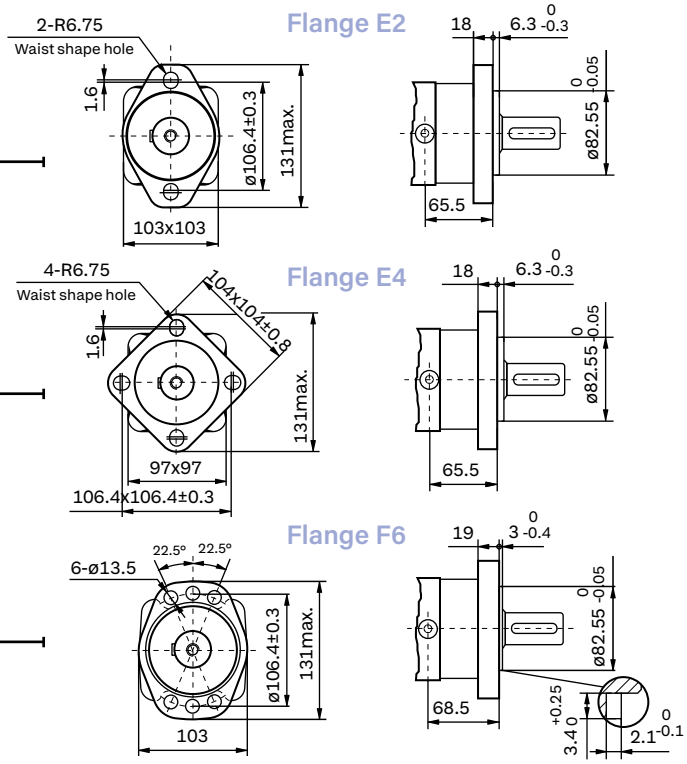
Max. cont / Max. int

Cont. Int.



VNKS Dimensions and Mounting Data





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

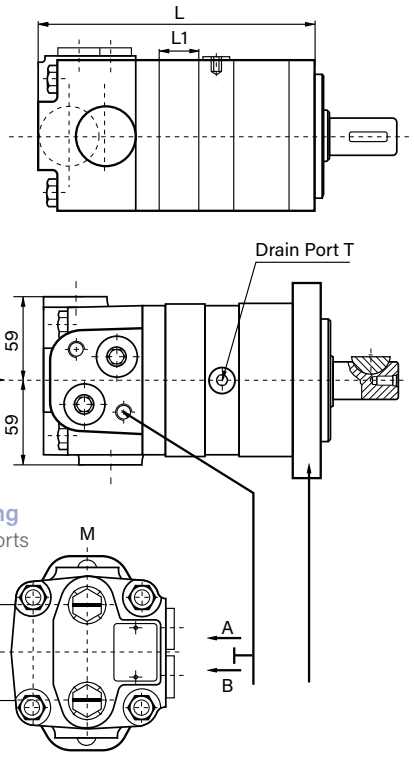
Model	L	L1	L2
VNKS-80-W	132.5	16	89
VNKS-100-W	136.5	20	93
VNKS-125-W	141.5	25	98
VNKS-160-W	143.5	27	100
VNKS-200-W	150.5	34	107
VNKS-250-W	158.5	42	115
VNKS-315-W	170.5	54	127
VNKS-400-W	185.5	69	142
VNKS-475-W	199.5	83	156

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

Mounting Code	**D** (depth)	**M** (depth)	**S** (depth)	**P** (depth)
P(A,B)	G1/2(15)	M22x1.5(15)	7/8-14 O-ring (17)	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)

VNKS Dimensions and Mounting Data

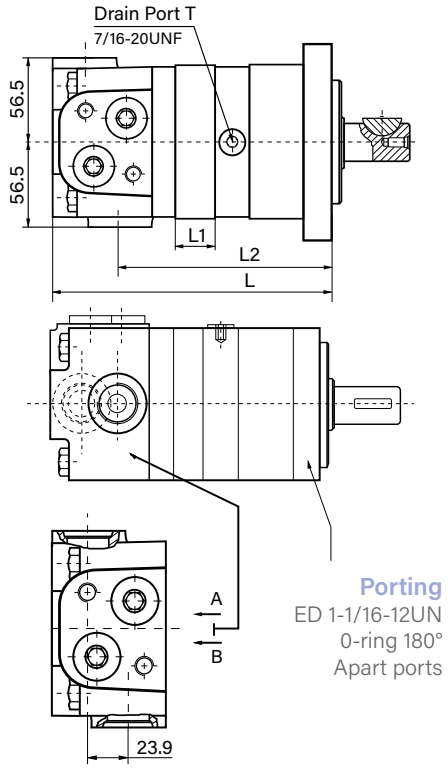




End Ports P(A/B)

Mounting Code	**EE-D** (depth)	**EE-M2** (depth)	**EE-S2** (depth)
P(A,B)	G1/2 (15)	M22 x 1.5 (15)	7/8-14 O-ring (17)
T	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)

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

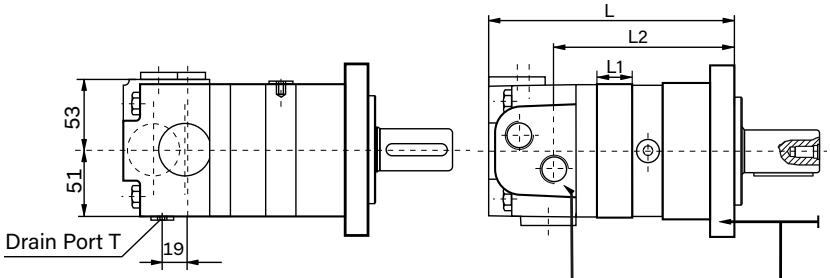


Mounting Code	**ED** (depth)
P(A,B)	1-1/16-12UN (18)
T	7/16-20UNF (12)

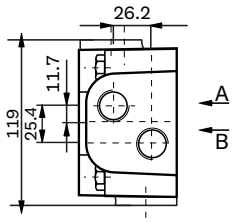
Model	L	L1	L3	Model	L	L1	L2
VNKS-80	176	16	130	**VNKS-80-WE**	148	16	102
VNKS-100	180	20	134	**VNKS-100-WE**	152	20	106
VNKS-125	185	25	139	**VNKS-125-WE**	157	25	111
VNKS-160	187	27	141	**VNKS-160-WE**	159	27	113
VNKS-200	194	34	148	**VNKS-200-WE**	166	34	119
VNKS-250	202	42	156	**VNKS-250-WE**	174	42	127
VNKS-315	214	54	168	**VNKS-315-WE**	186	54	139
VNKS-400	229	69	183	**VNKS-400-WE**	201	69	154
VNKS-475	243	83	197	**VNKS-475-WE**	215	83	168



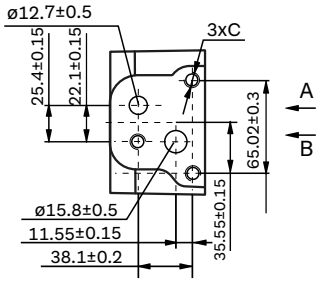
VNKS Dimensions and Mounting Data



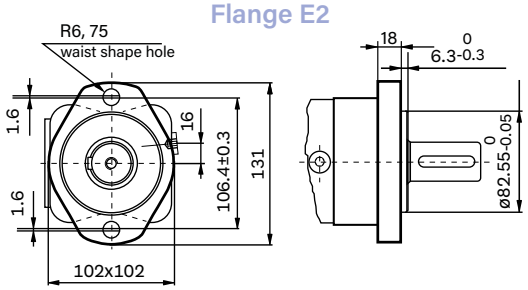
Porting DB, DU, SU, SB, M4



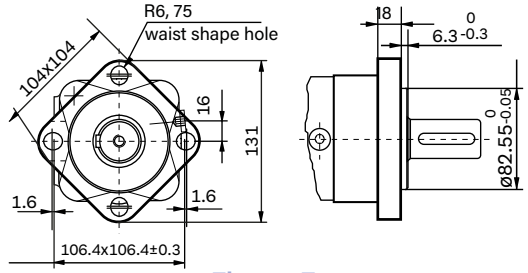
Porting MU, MM



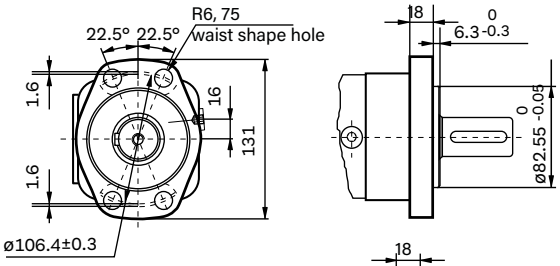
Flange E2



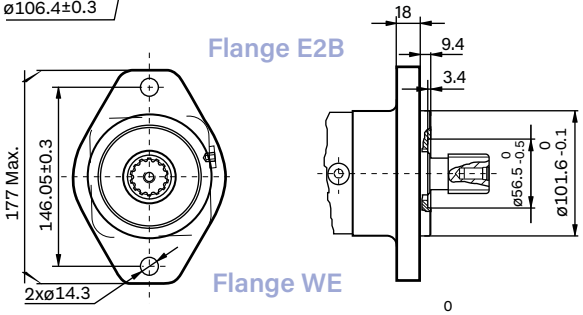
Flange E4



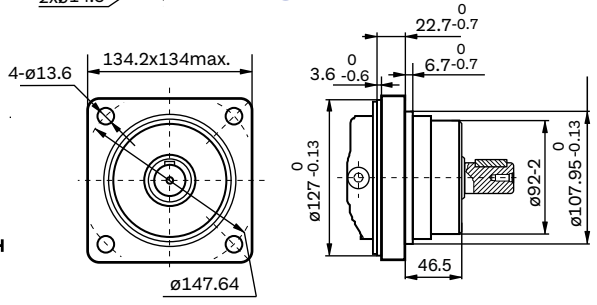
Flange E6



Flange E2B



Flange WE

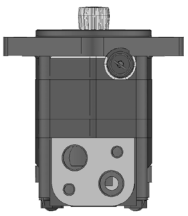


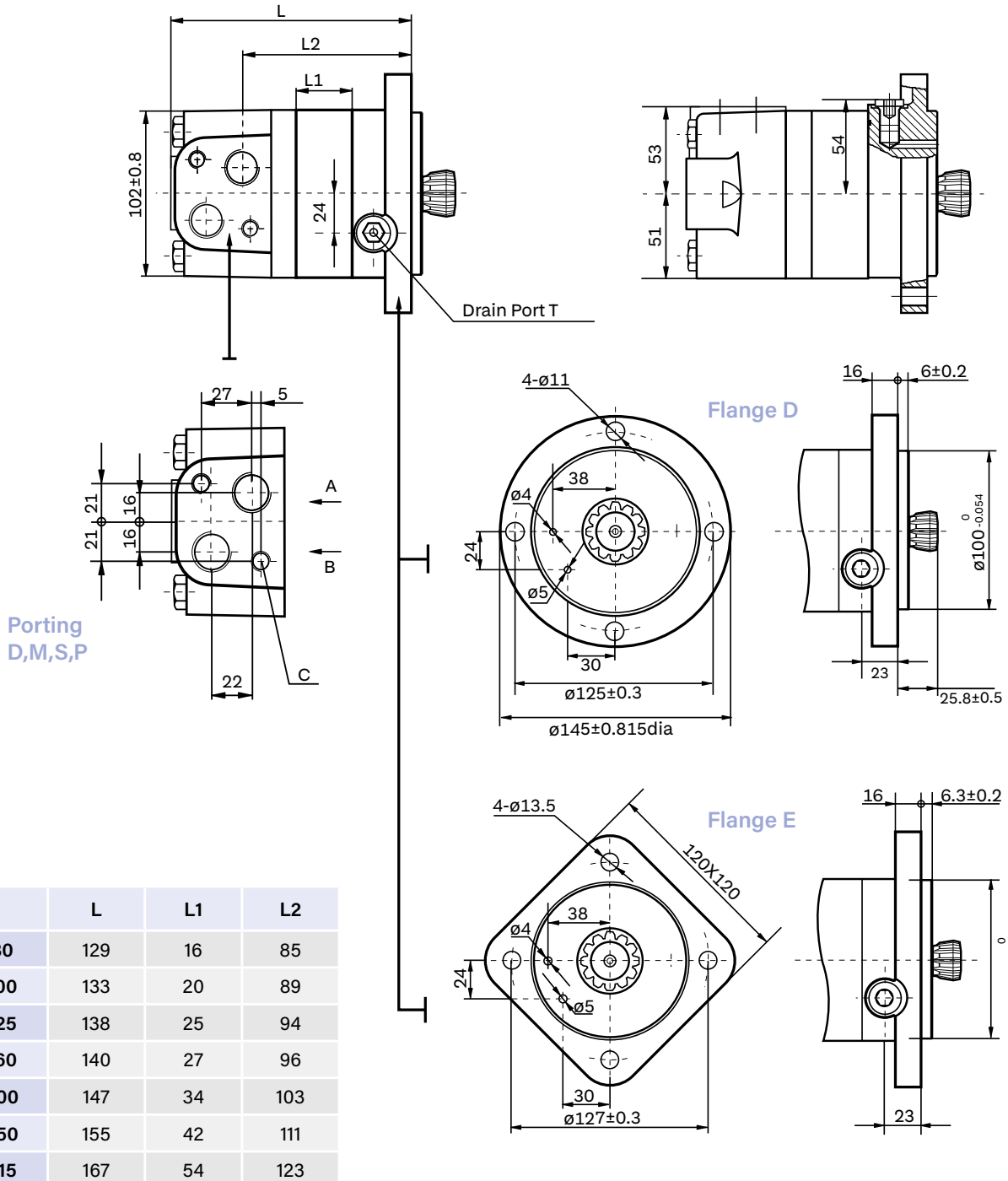
Model	L	L1	L2
VNKS-80-WE	126.5	16	98
VNKS-100-WE	130.5	20	102
VNKS-125-WE	135.5	25	107
VNKS-160-WE	137.5	27	109
VNKS-200-WE	144.5	34	116
VNKS-250-WE	152.5	42	124
VNKS-315-WE	164.5	54	136
VNKS-400-WE	179.5	69	151
VNKS-475-WE	193.5	83	165

Model	L	L1	L2
VNKS-80	177	16	126.5
VNKS-100	181	20	130.5
VNKS-125	186	25	135.5
VNKS-160	188	27	137.5
VNKS-200	195	34	144.5
VNKS-250	203	42	152.5
VNKS-315	215	54	164.5
VNKS-400	230	69	179.5
VNKS-475	244	83	193.5

Mounting Code	DB (depth)	DU (depth)	SU (depth)	SB (depth)	M4 (depth)	MU (depth)	MM (depth)
P(A,B)	G1/2 (15)	G1/2(15)	7/8-14O-ring(17)	7/8-14O-ring(17)	M22x1.5(15)	ø12.7,ø15.8	ø12.7,ø15.8
T	G1/4 (12)	7/16-20UNF(12)	7/16-20UNF(12)	G1/4(12)	M14x1.5(12)	7/16-20UNF(12)	G1/4(12)
C	-					3/8-16UNC	M10

VNKSS Dimensions and Mounting Data

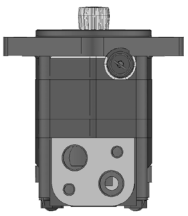


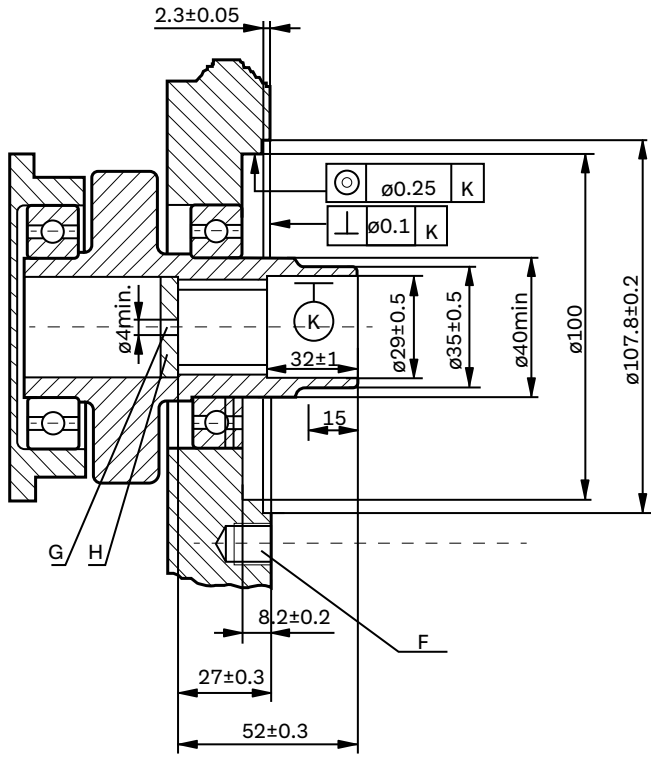


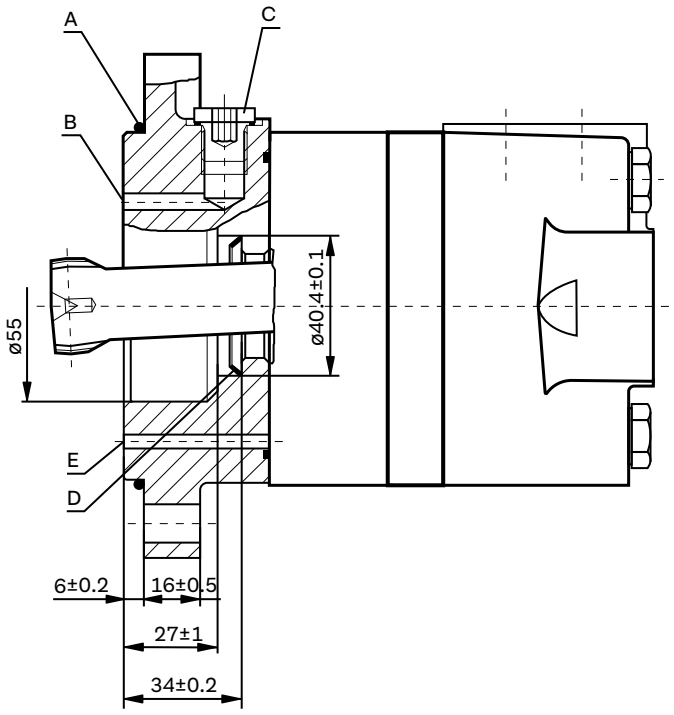
Model	L	L1	L2
VNKSS-80	129	16	85
VNKSS-100	133	20	89
VNKSS-125	138	25	94
VNKSS-160	140	27	96
VNKSS-200	147	34	103
VNKSS-250	155	42	111
VNKSS-315	167	54	123
VNKSS-400	182	69	138
VNKSS-475	196	83	152

Mounting Code	**D** (depth)	**M** (depth)	**S** (depth)	**P** (depth)
P(A,B)	G1/2(15)	M22x1.5(15)	7/8-14O-ring(17)	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)

VNKSS Dimensions and Mounting Data



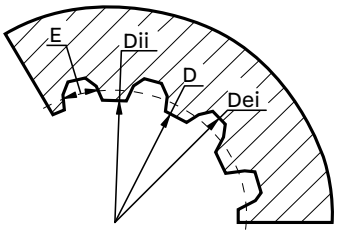




A: O-ring:100x3
B: External drain channel
C: Drain connection G 1/4;12 mm deep
D: Conical seal ring
E: Internal drain channal
F: M10;min. 15mm deep
G: Oil circulation hole
H: Hardened stop plate

INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

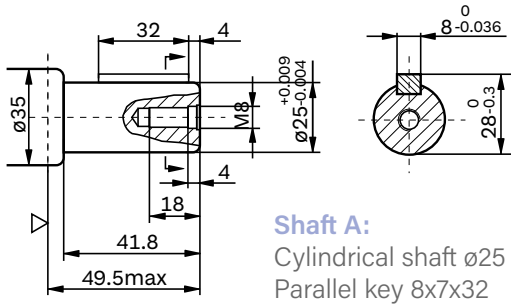
Fillet Root Side Fit		mm
Number of Teeth	Z	12
Diametral Pitch	DP	12/24
Pressure Angle	αD	30°
Pitch Dia.	D	ø25.4
Major Dia.	Dei	$ø28^{0}_{-0.1}$
Minor Dia.	Dii	$ø23^{+0.033}_{0}$
Space Width (Circular)	E	4.308±0.02



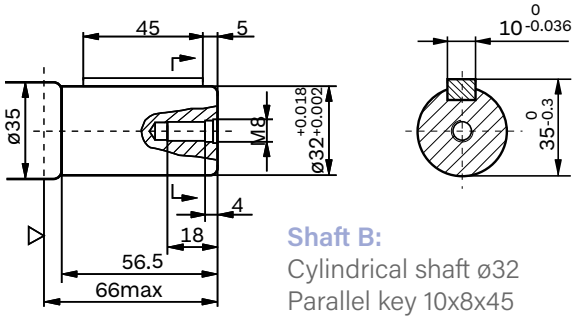
Hardering Specification: HRC 62±2
Effective case depth 0.7±0.2

VNKS Shaft Extensions

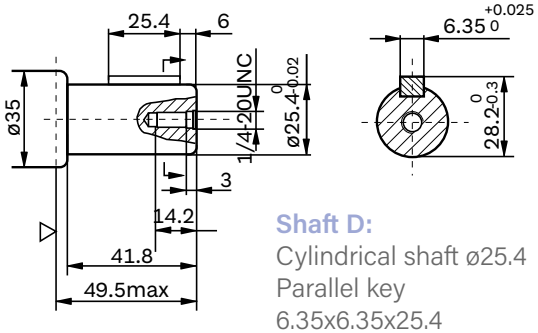




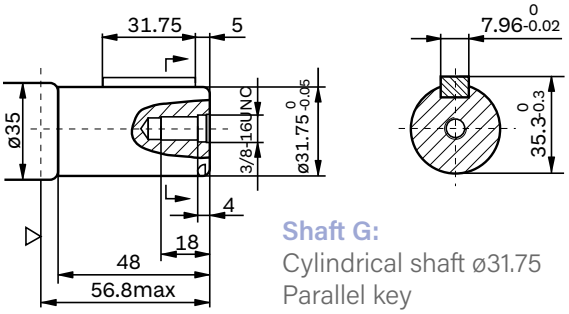
Shaft A:
Cylindrical shaft ø25
Parallel key 8x7x32



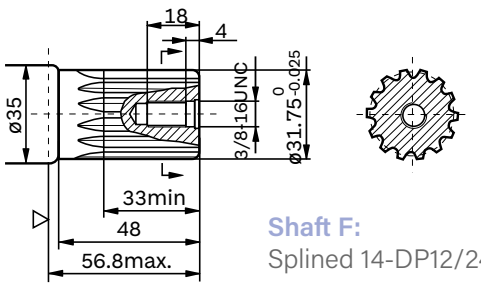
Shaft B:
Cylindrical shaft ø32
Parallel key 10x8x45



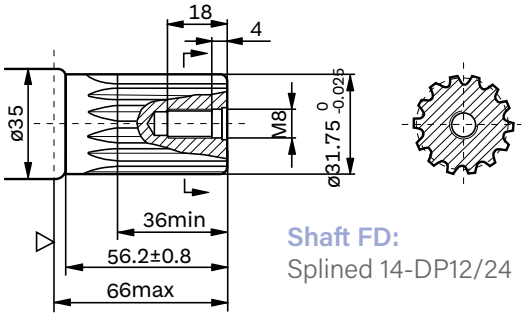
Shaft D:
Cylindrical shaft ø25.4
Parallel key
6.35x6.35x25.4



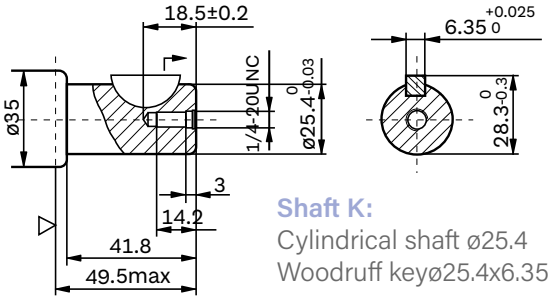
Shaft G:
Cylindrical shaft ø31.75
Parallel key
7.96x7.96x31.75



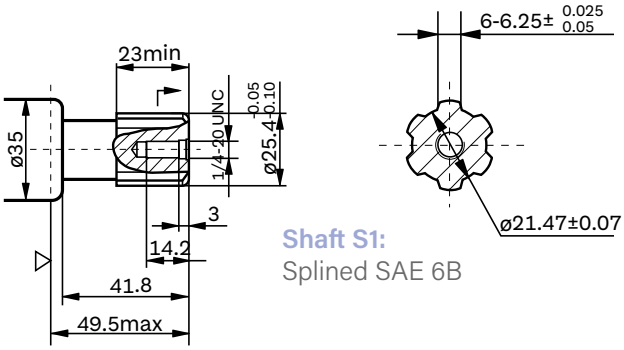
Shaft F:
Splined 14-DP12/24



Shaft FD:
Splined 14-DP12/24



Shaft K:
Cylindrical shaft ø25.4
Woodruff keyø25.4x6.35

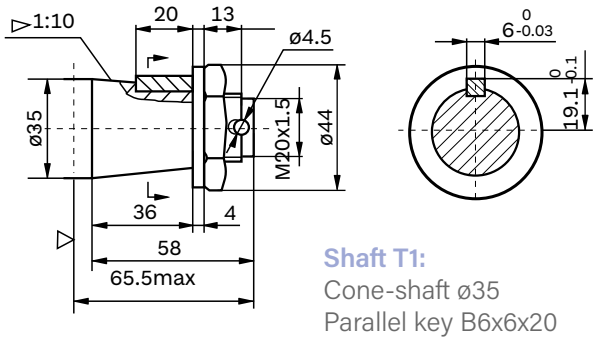


Shaft S1:
Splined SAE 6B

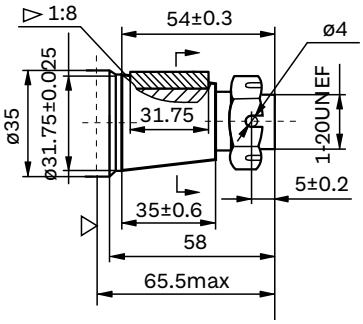
▷ Motor Mounting Surface (Dimension corresponding mounting E2, by analogy with others)

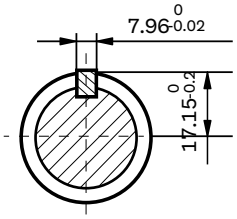
VNKS Shaft Extensions



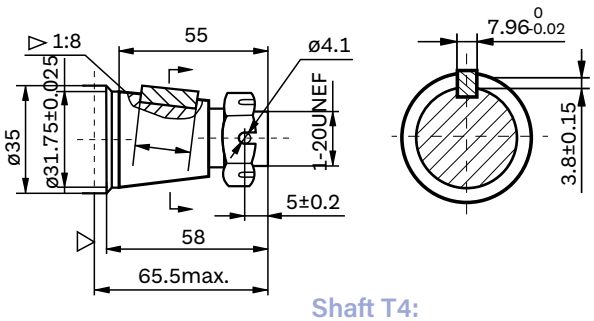


Shaft T1:
Cone-shaft ø35
Parallel key B6x6x20

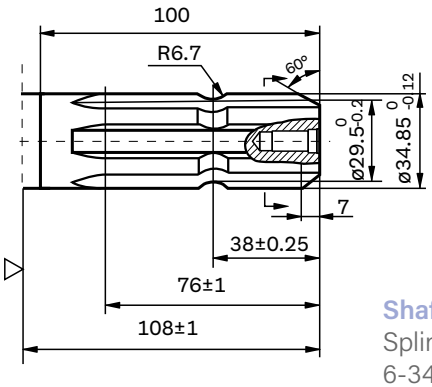


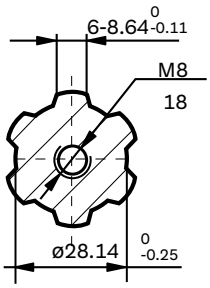


Shaft T3:
Cone-shaft ø31.75
Parallel key 7.96x7.96x31.75
Tightening torque:
200±10Nm

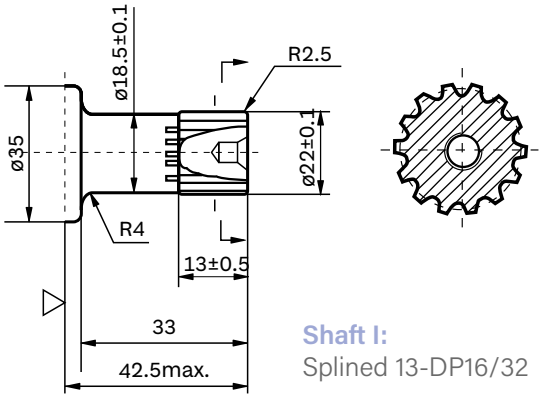


Shaft T4:
Cone-shaft ø31.75
Parallel key 7.96x7.96x25.4
Tightening torque:200±10Nm





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



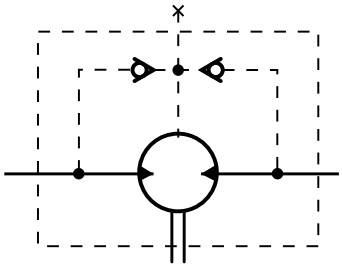
Shaft I:
Splined 13-DP16/32

▷ 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.



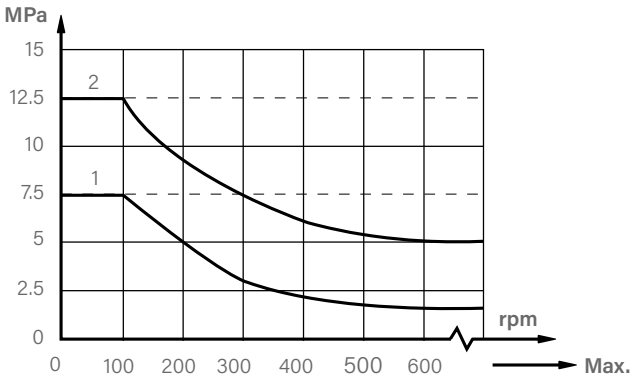
VNKS Series Hydraulic Motor

PERMISSIBLE SHAFT SEAL PRESSURE



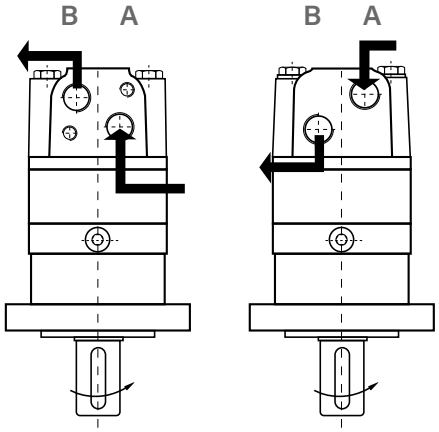
Note 1: Chart for standard shaft seal;

Note 2: Chart for high pressure shaft seal.



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.



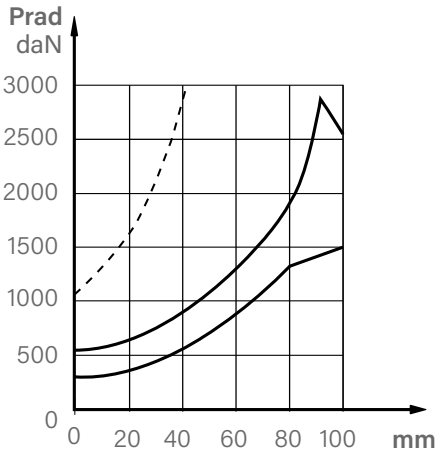
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line.
When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

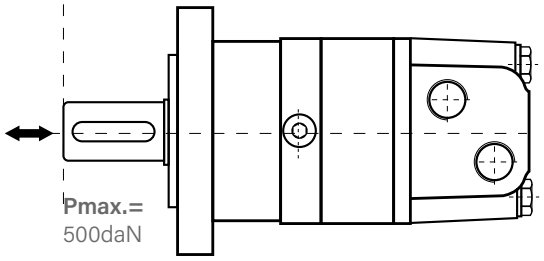
OIL FLOW in drain line

The table shows the Max. Oil flow in the drain line at a return pressure less than 0.5-1MPa.

Pressure drop (PmPa)	Viscosity (mm^2/s)	Oil flow in the drain line (L/min)
14	20	1.5
	35	1
21	20	3
	35	2

AXIAL AND RADIAL FORCES





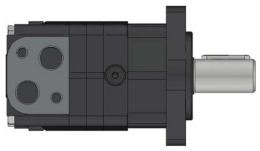
The output shaft runs in tapered bearings that permit high axial and radial forces, **Curve "A"** shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a **B10** bearing life of **3000 hours at 200 RPM.**

Order Information

1		2		3		4		5		6		7		8	
VNKS	–		–		–		–		–		–		–		

Pos.1	2	3		4		5		6		7		8	
Code	Disp	Flange		Output shaft		Ports and drain port		Rotation Direction		Paint		Unusually Function	
Omit	80 100 125 160 200 250 315 400 475	E2	2-ø13.5 Rhomb-flange ø106.4, pilot ø82.5x6.3	A	Shaft ø25, parllel key 8x7x32	EE-D	G1/2, G1/4	Omit	Standard	00	No paint	Omit	Standard
		E4	4-ø13.5 Rhomb-flange ø106.4, pilot ø82.5x6.3	B	Shaft ø32, parllel key 10x8x45	EE-M	2M22x1.5, M14x1.5			Omit	Blue	F	Free Running
		E6	6-ø13.5 Rhomb-flange 106.4, pilot ø82.5x6.3	K	Shaft ø25.4, Woodruff key ø25.4x6.35	EE-S2	7/8-14UNF O-ring, 7/16-20 UNF			B	Black	LS	Low Speed
		E2B	2-ø14.3 Rhomb-flan-	G	Shaft ø31.75, parllel 7.96x31.75	ED	1-1/16-12UN O-ring, 7/16-20 UNF			S	Silver gray	SD	Speed Sensor
		WE	ge ø146.05, pilot ø101.6x9.4	F	Shaft ø31.75, splined key 14-DP12/24	DB	G1/2, G1/4						
			4-ø13.6 Wheel-flan-	FE	Shaft ø31.75, splined key 14-DP12/24	DU	G1/2, 7/16-20 UNF						
			ge ø147.6, pilot ø107.95x6.4	T4	Cone-shaft ø31.75, parllel key 7.96x7.96x25.4	SB	7/8-14UNF O-ring, G1/4						
				S1	Shaft ø25.4, splined key SAE 6B	SU	7/8-14UNF O-ring, 7/16-20 UNF						
				I	Sub-shaft ø21.74, splined key 13-DP16/32	M4	M22x1.5, M14x1.5						
						MU	1/2",5/8" Crosshole Manifold 3x3/816UNC, 7/16-20UNF						
						MM	1/2", 5/8" Crosshole Manifold 3xM10, G1/4						
						G	G1/2, G1/4						
						M2	M22x1.5, M14x1.5						
						S2	7/8-14UNF O-ring, 7/16-20 UNF						

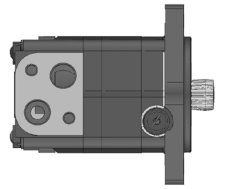
Note: When the table is used, please fill the code of left rows in the table and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports.The informa-tions of mounting flange,output shaft and frorts are the same as BMS serier.The SP flange 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.



1	2	3	4	5	6	7	8
VNKSS	–	–	–	–	–	–	–

Pos.1	2	3		4		5		6		7		8	
Code	Disp	Flange		Output shaft		Ports and drain port		Rotation Direction		Paint		Unusually Function	
Omit	80 100 125 160 200 250 315 400 475	E2	2-ø 13.5 Rhomb-flange ø106.4, pilot ø82.5x6.3	B	Shaft ø32, parllel key 10x8x45	D	G1/2 Manifold Mount 2-M10, G1/4	Omit	Standard	00	No paint	Omit	Standard
		E4	4-ø13.5 Rhomb-flange ø106.4, pilot ø82.5x6.3	D	Shaft ø25.4, parllel key 6.35x6.35x25.4	M	M22X1.5 Manifold Mount 2-M10, M14x1.5	R	Opposite	Omit	Blue	F	Free Running
		F6	6-ø13.5 Rhomb-flange ø106.4, pilot ø82.5x2.6	G	Shaft ø31.75, parllel key 7.96x31.75	S	7/8 -14UNF O-ring manifold 2-3/8-16UNC, 7/16-20UNF			B	Black	LS	Low Speed
		W	4-ø13.5 Wheel-flange ø160, pilot ø125x8	F	Shaft ø31.75, splined key 14-DP12/24	P	1/2-14ANPTF manifold 2-3/8-16UNC, 7/16-20UNF			S	Silver gray	SD	Speed sensor
		E2B	2-ø14.3 Rhomb-flan-	FD	Long Shaft ø31.75, splined key 14-DP12/24								
			ge ø146.05, pilot ø101.6x9.4	SL	Shaft ø34.85, splined key 6-34.85x28.14x8.64								
		SP	4-ø 11.5 Square-flange ø106.4 pilot ø82.5x6.3	T1	Cone-shaft ø35, parllel key B6x6x20								
				T3	Cone-shaft ø31.75, parllel key 7.96x31.75								
				S1	Shaft ø25.4, splined key SAE 6B								
				I	Sub-shaft ø22, splined key 13-DP16/32								
S		D	4-ø11 Circle-flange ø125, pilot ø100x6	Omit	Short shaft 12-DP12/24								
		E	4-ø 13.5 Circle-flange ø127, pilot ø101.6x6.3										

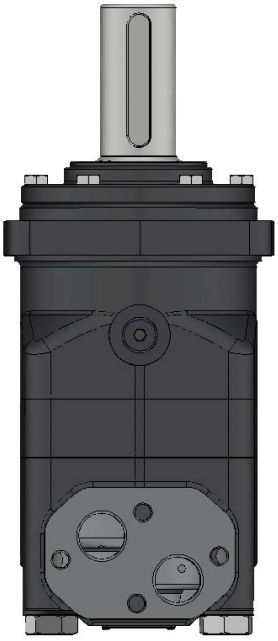
Note: When the table is used, please fill the code of left rows in the table and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports.The informa-tions of mounting flange,output shaft and frorts are the same as BMS serier.The SP flange 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 Hydraulic Motor

INTRODUCTION

VNKT 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 offers 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.

SPECIFICATION Main Specification

Type		VNKT 160	VNKT 200	VNKT 230	VNKT 250	VNKT 315	VNKT 400	VNKT 500	VNKT 630	VNK T 800
Geometric displacement (cm3/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.

Performance Data



VNKT 160 [161.1 cm3/rev.]

Pressure (MPa)

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

Max. cont — Max. int

VNKT 200 [201.4 cm3/rev.]

Pressure (MPa)

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

Max. cont — Max. int

VNKT 250 [251.8 cm3/rev.]

Pressure (MPa)

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

Max. cont — Max. int

Torque (N•m) 552
Speed (rpm) 572

VNKT 315 [326.3 cm3/rev.]

Pressure (MPa)

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

Max. cont — Max. int

Cont. Int.

Performance Data



VNKT 400 [410.9 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	9	12	15 (Max. cont)	18	21 (Max. int)
10	176 24	367 23	560 22	715 21	885 20	1050 19	1209 18
20	179 49	370 48	565 47	726 44	899 42	1071 40	1236 38
40	176 96	370 95	567 93	733 90	919 87	1091 83	1263 79
60	174 145	361 143	563 139	729 135	920 131	1095 127	1269 121
80	166 193	353 191	553 188	719 184	912 180	1084 176	1263 170
100	150 242	339 240	538 238	708 234	896 228	1067 224	1252 218
125 (Max. cont)	135 302	309 300	524 298	688 294	873 289	1045 285	1221 278
150 (Max. int)	126 364	292 362	508 358	666 354	852 350	1020 346	1197 339

VNKT 500 [523.6 cm3/rev.]

Pressure (MPa)

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

VNKT 630 [629.1 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3	6	9	10.5	12 (Max. cont)	14	16 (Max. int)
10	233 14	520 14	795 13	902 13	1074 13	1194 11	1363 11
20	237 28	554 27	837 27	953 26	1117 26	1239 24	1407 22
40	239 62	553 62	860 61	987 60	1171 59	1308 56	1483 54
60	223 94	544 94	863 92	978 91	1172 90	1318 86	1498 82
80	220 123	537 122	854 121	965 119	1172 118	1314 114	1497 110
100	208 156	522 155	832 153	945 152	1156 150	1303 147	1488 142
125 (Max. cont)	201 196	499 196	810 194	931 192	1137 191	1292 187	1472 183
150 (Max. int)	174 233	492 232	785 231	921 230	1121 227	1277 223	1454 217

Torque (N•m) 1121
Speed (rpm) 227

VNKT 800 [801.8 cm3/rev.]

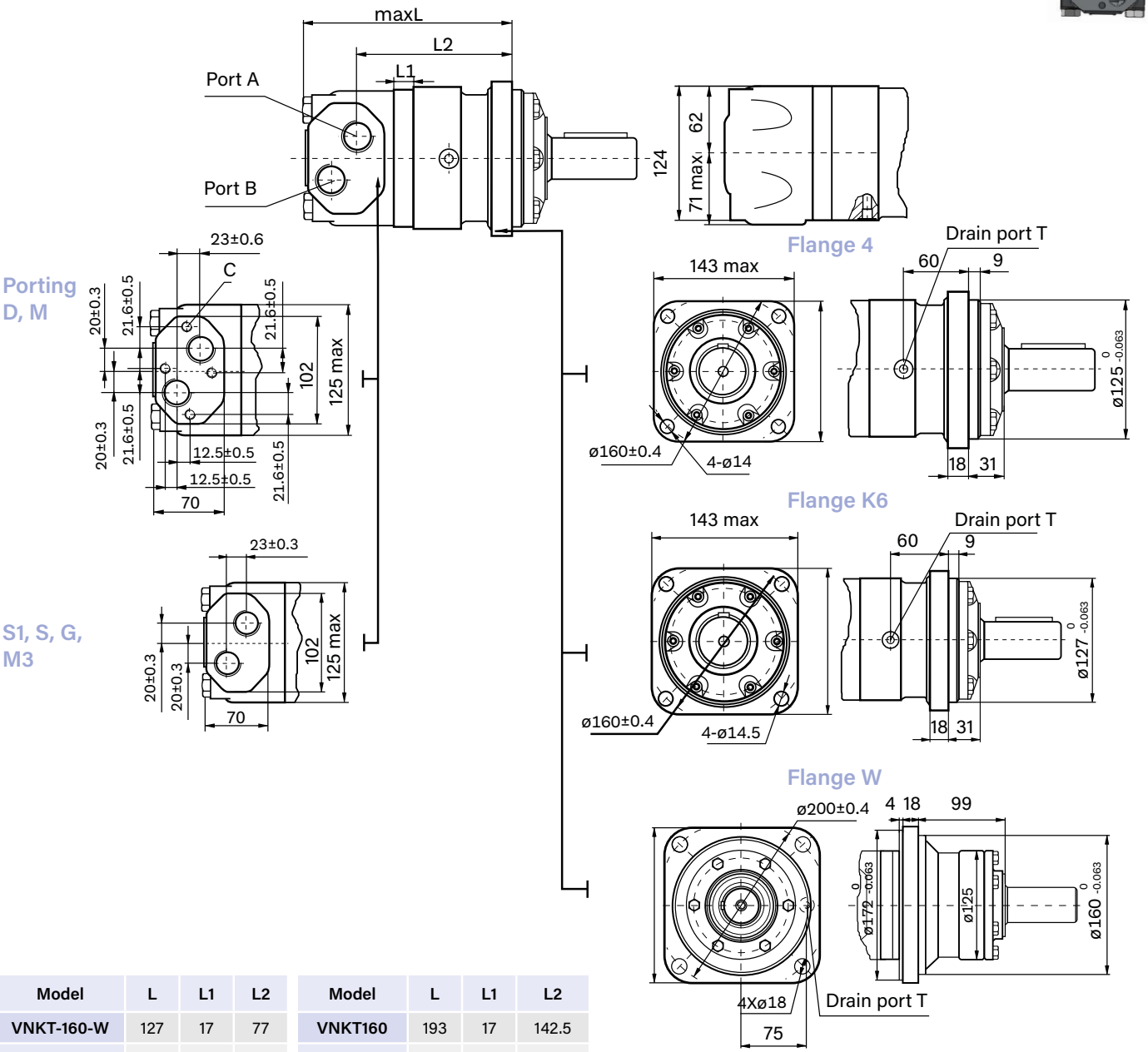
Pressure (MPa)

Flow (L/min)	3	6	9	10.5 (Max. cont)	12.5	13 (Max. int)
10	346 12	677 12	1003 11	1159 11	1365 11	1390 10
20	356 24	692 24	1034 24	1183 23	1404 22	1458 18
40	365 50	703 50	1066 49	1236 48	1459 46	1516 40
60	354 74	703 73	1060 71	1237 71	1464 68	1520 63
80	332 99	686 98	1050 98	1226 96	1464 93	1514 86
100	305 125	654 123	1025 123	1207 121	1445 118	1506 110
125 (Max. cont)	280 154	622 153	989 153	1181 150	1422 149	1487 140
150 (Max. int)	247 185	590 184	953 183	1156 181	1406 179	1476 172

Cont. Int.

VNKT Dimensions and Mounting Data





Model	L	L1	L2	Model	L	L1	L2
VNKT-160-W	127	17	77	VNKT160	193	17	142.5
VNKT-200-W	131	21	81	VNKT200	197	21	146.5
VNKT-250-W	136	14	86	VNKT250	204	14	152.5
VNKT-315-W	142	20	91	VNKT315	210	20	158.5
VNKT-400-W	148	27	98	VNKT400	217	27	165.5
VNKT-500-W	157	35	106	VNKT500	225	35	173.5
VNKT-630-W	169	47	118	VNKT630	237	47	185.5
VNKT-800-W	180	58	129	VNKT800	248	58	196.5

Note:

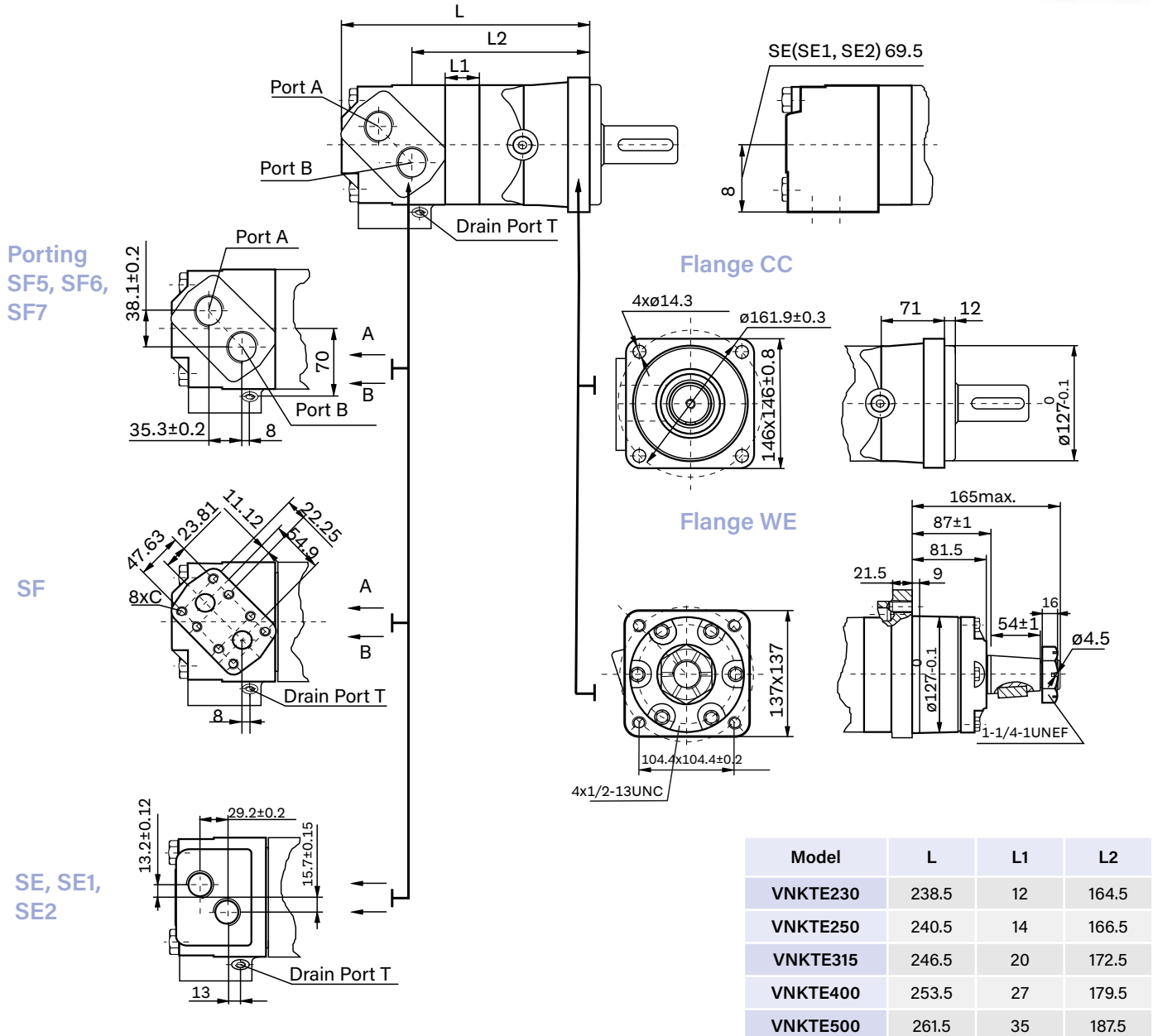
1) The thickness of the stator and rotor for disp. from 160 to 200 is the dimension of L1 adding on 3mm.

2) The thickness of the stator and rotor for disp. from 250 to 800 is the dimension of L1 adding on 7mm.

Mounting 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)	-	-	-	-



VNKTE Dimensions and Mounting Data

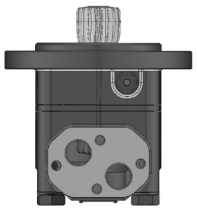


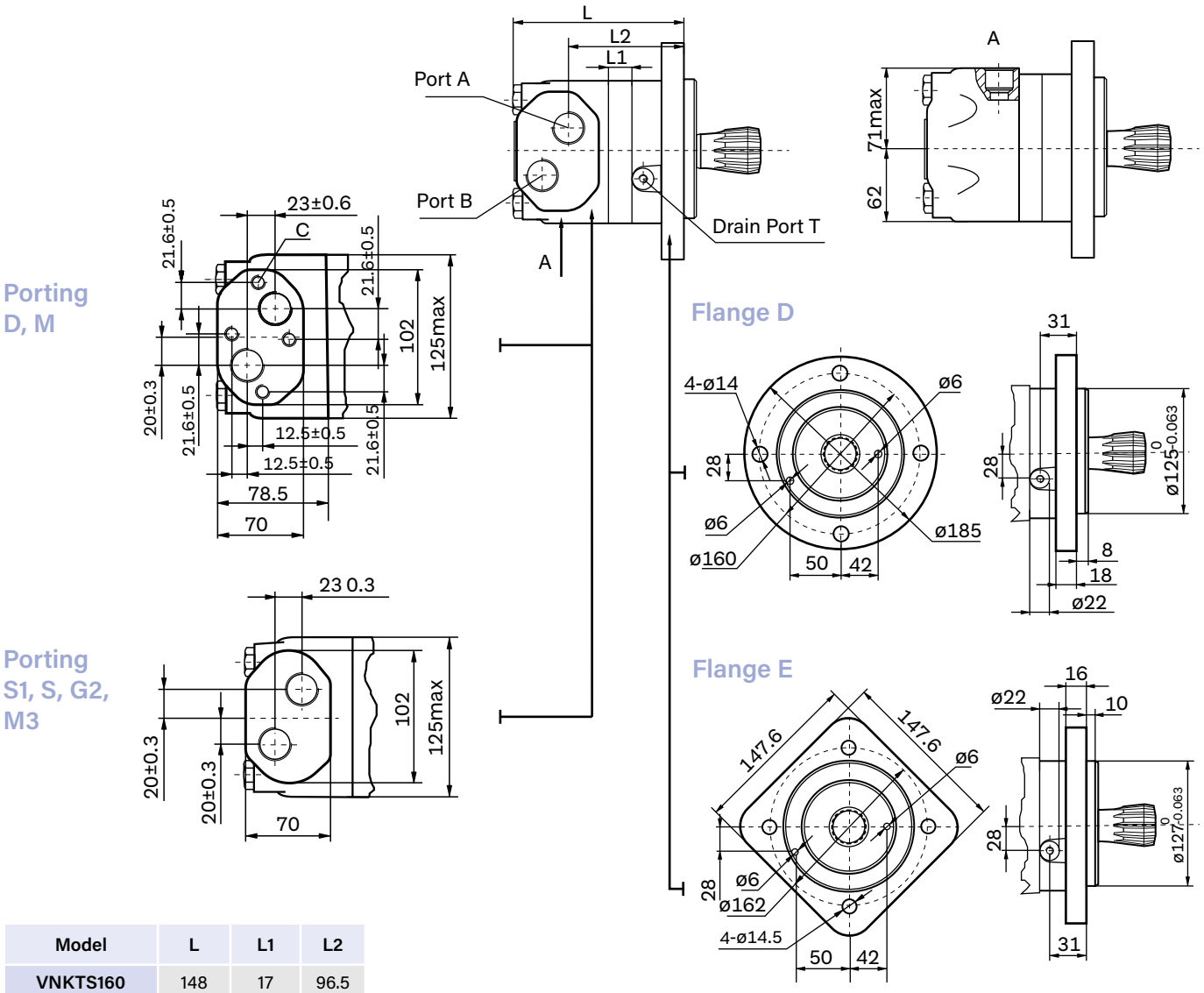
Model	L	L1	L2
VNKTE230	238.5	12	164.5
VNKTE250	240.5	14	166.5
VNKTE315	246.5	20	172.5
VNKTE400	253.5	27	179.5
VNKTE500	261.5	35	187.5
VNKTE630	273.5	47	199.5
VNKTE800	284.5	58	210.5

Content Mounting	Code						
	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	-		

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.

VNKTS Dimensions and Mounting Data



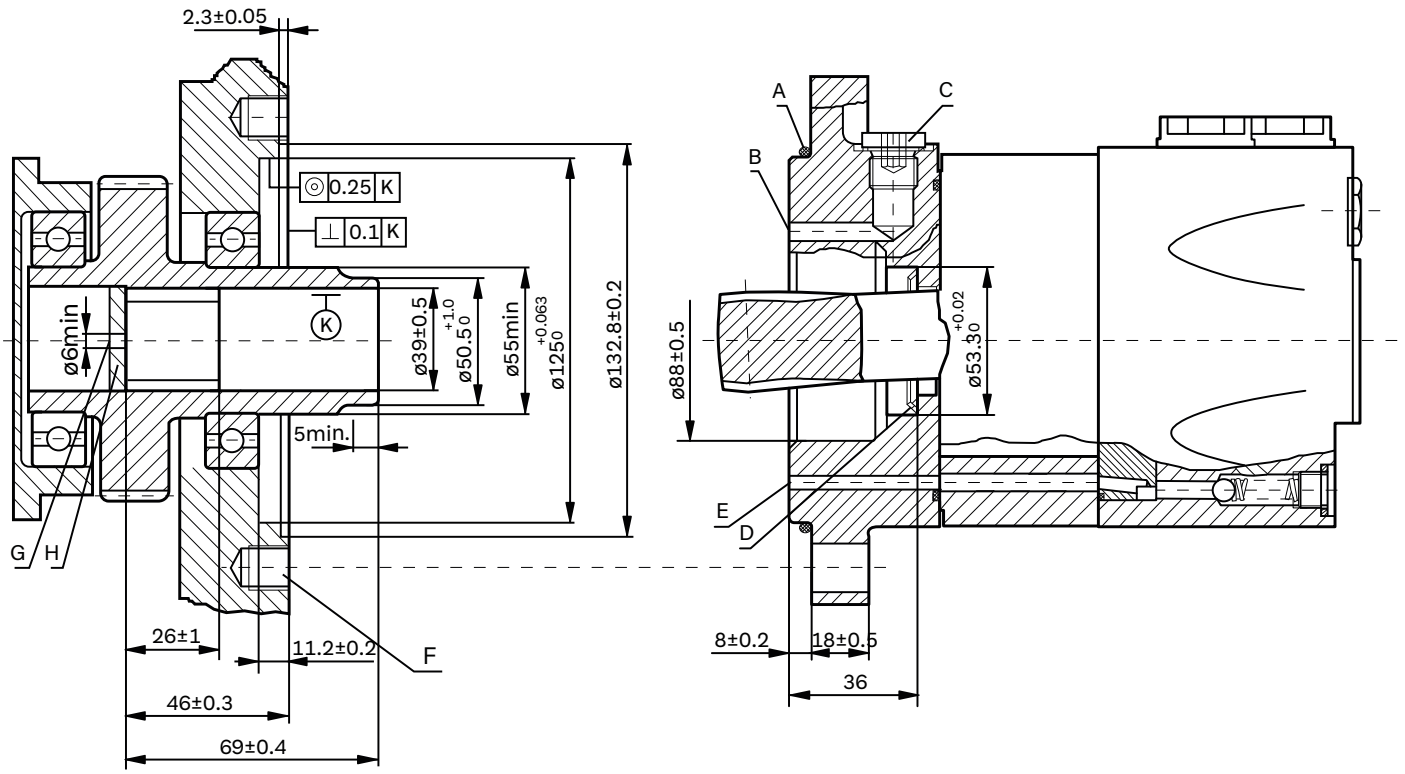


Model	L	L1	L2
VNKTS160	148	17	96.5
VNKTS200	152	21	100.5
VNKTS250	157	14	109
VNKTS315	163	20	115
VNKTS400	170	27	122
VNKTS500	178	35	130
VNKTS630	190	47	142
VNKTS800	201	58	153

Mounting 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.

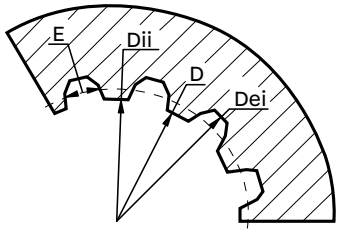
VNKTS Dimensions and Mounting Data



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

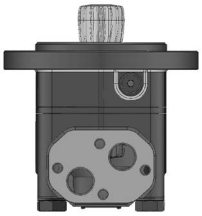
INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

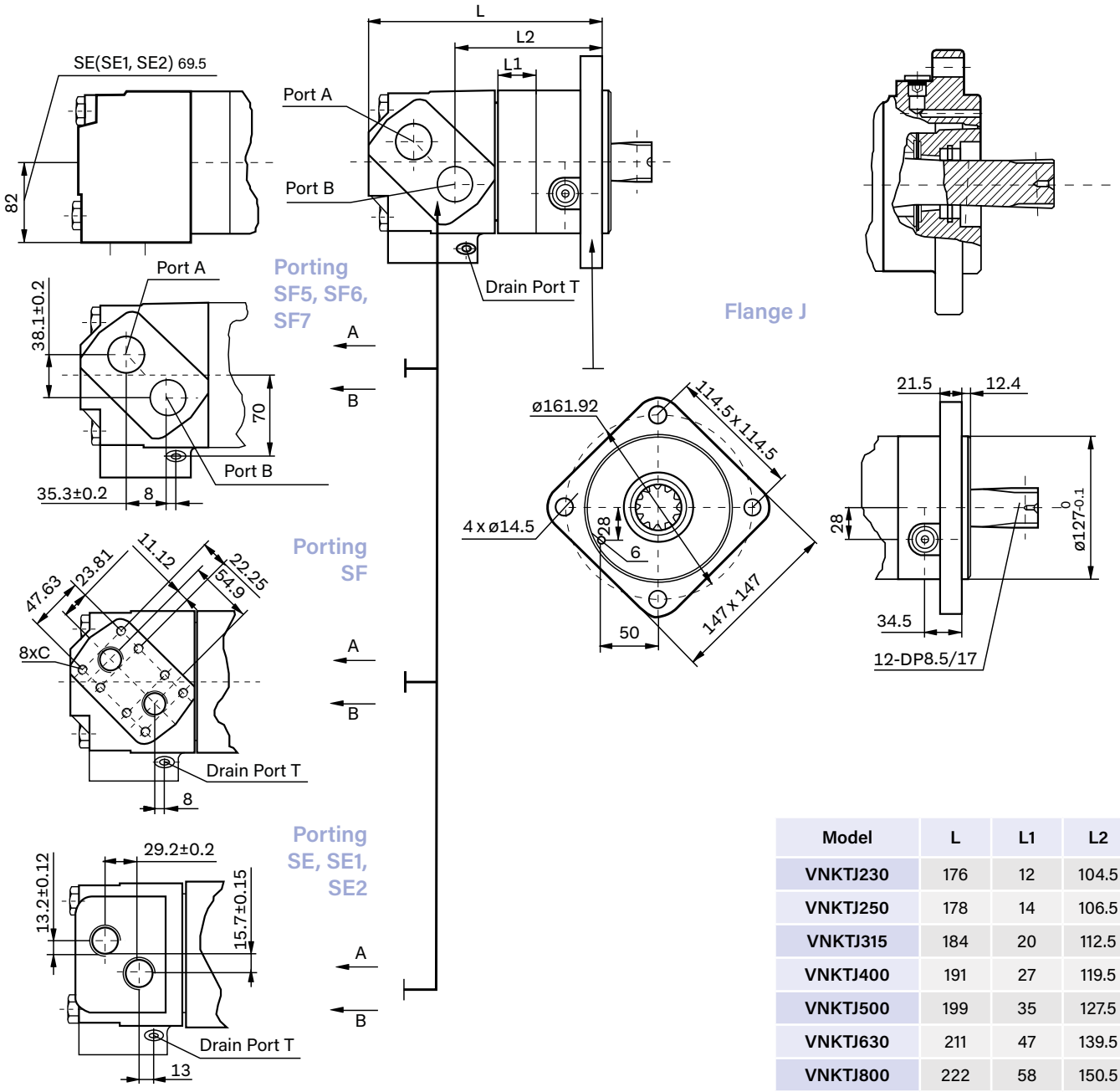
Fillet Root Side Fit		mm
Number of Teeth	Z	16
Diametral Pitch	DP	12/24
Pressure Angle	αD	30°
Pitch Dia.	D	ø33.8656
Major Dia.	Dei	ø38.4 $^{+0.25}_{0}$
Minor Dia.	Dii	ø32.15 $^{+0.04}_{0}$
Space Width (Circular)	E	4.516±0.037



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

VNKTJ Dimensions and Mounting Data



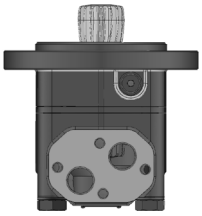


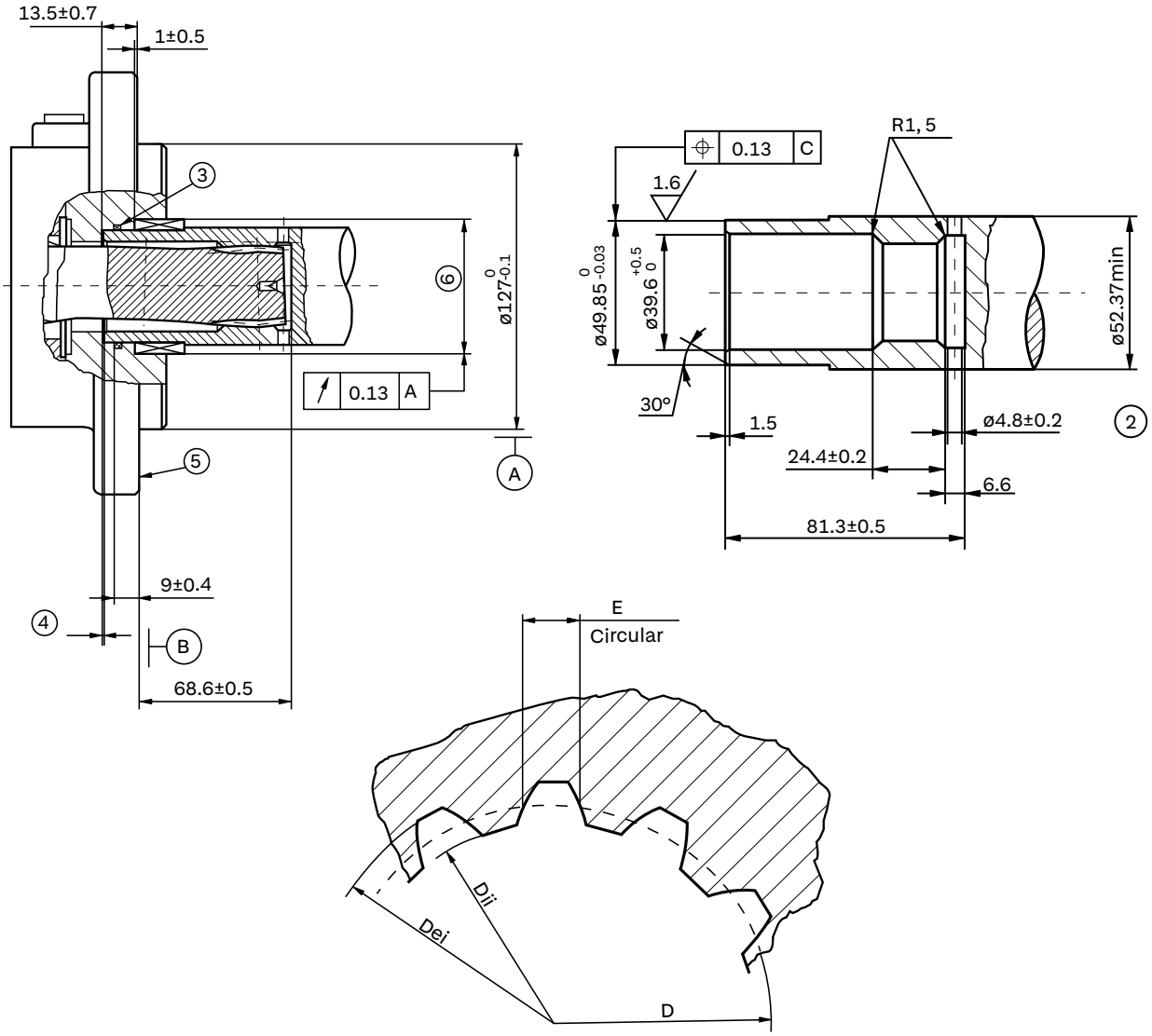
Model	L	L1	L2
VNKTJ230	176	12	104.5
VNKTJ250	178	14	106.5
VNKTJ315	184	20	112.5
VNKTJ400	191	27	119.5
VNKTJ500	199	35	127.5
VNKTJ630	211	47	139.5
VNKTJ800	222	58	150.5

Content Mounting	Code						
	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	-		

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.

VNKTJ Dimensions and Mounting Data





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.	αD	ø35.858823
Major Dia.	Dei	ø38.97 +0.20 0
Minor Dia.	Dii	ø33.3 +0.18 0
Space Width (Circular)	E	5.866±0.032
Dimension between two pins(ø4)	Me	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.

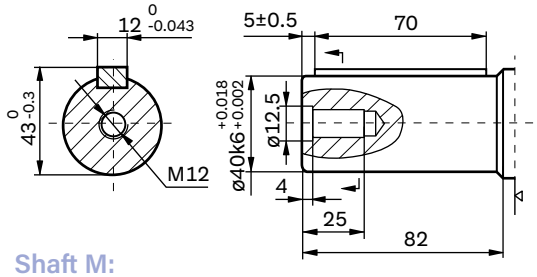
3 Some means of maintaining clearance between shaft and mounting flange must be provided.

4. Seal to be furnished with motor for proper oil circulation thru splines.

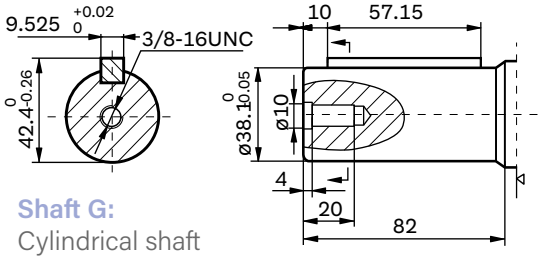
5. Similar to SAE "C" Four Bolt Flange.

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).

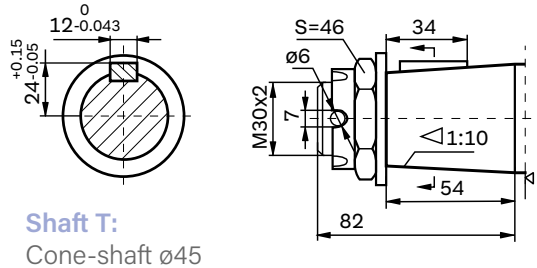
VNKT(E) Shaft Extensions



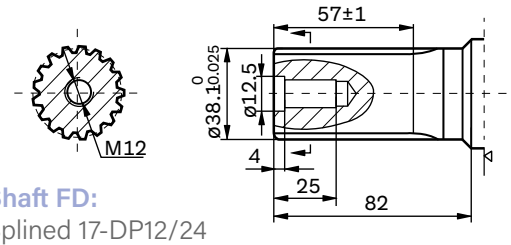
Shaft M:
Cylindrical shaft ø40
Parallel key 12x8x70



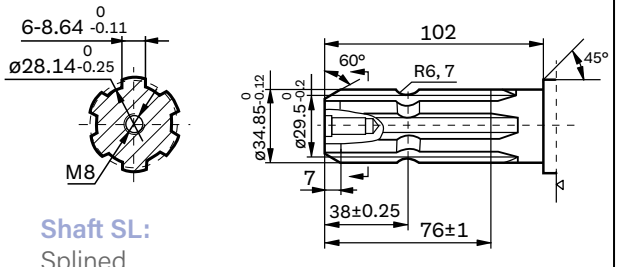
Shaft G:
Cylindrical shaft
ø38.1 Parallel key
9.525x9.525x57.15



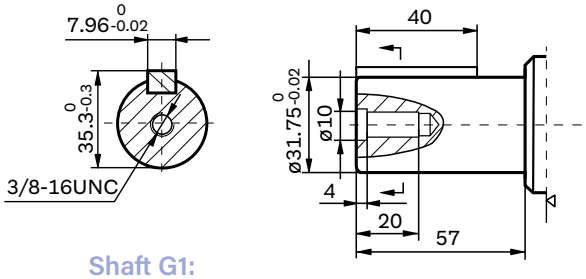
Shaft T:
Cone-shaft ø45
Parallel key B12x8x28
Tightening tor-
que:500±10Nm



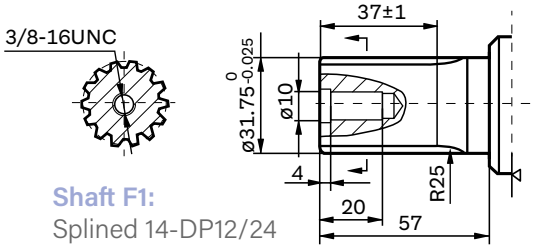
Shaft FD:
Splined 17-DP12/24



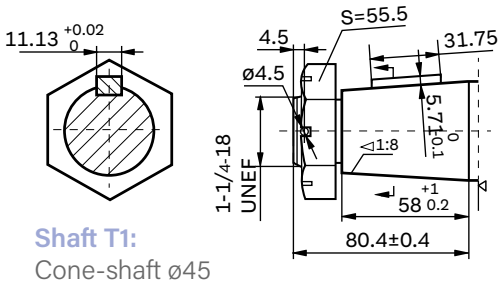
Shaft SL:
Splined
6-34.85x28.14x8.64



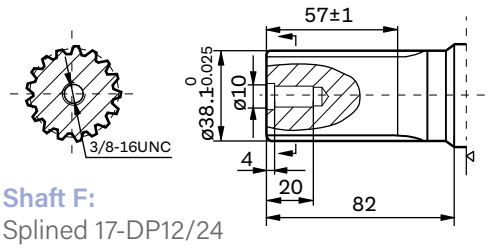
Shaft G1:
Cylindrical shaft ø31.75
Parallel key 7.96x7.96x40



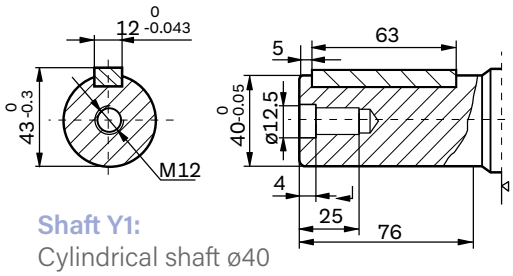
Shaft F1:
Splined 14-DP12/24



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

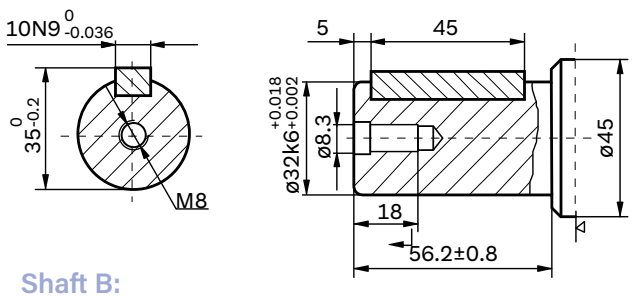


Shaft F:
Splined 17-DP12/24

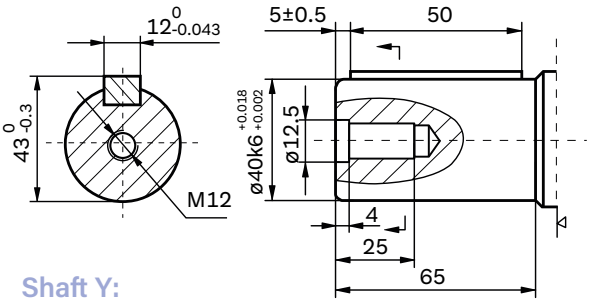


Shaft Y1:
Cylindrical shaft ø40
Parallel key 12x8x63

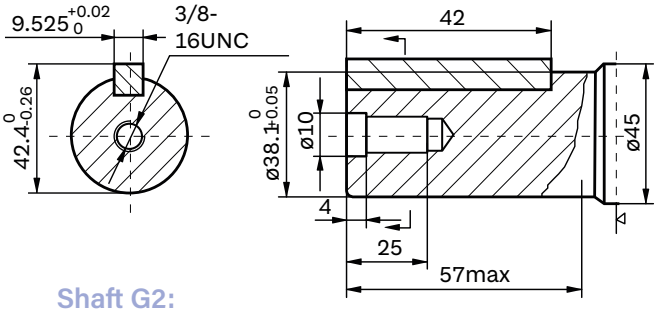
VNKT(E) Shaft Extensions



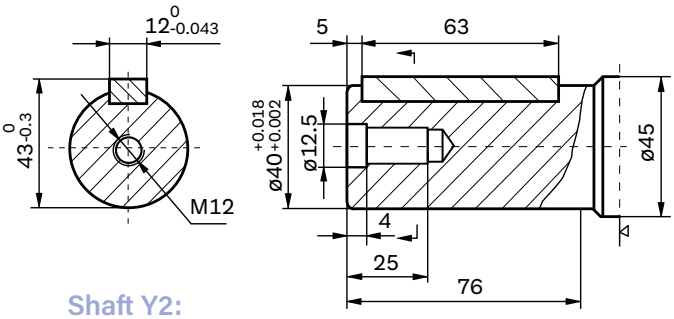
Shaft B:
Cylindrical shaft ø32
Parallel key 10x8x45



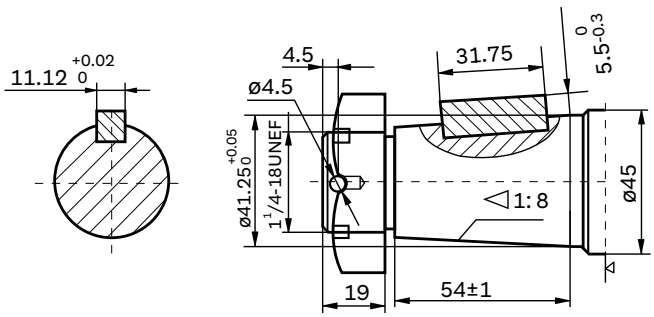
Shaft Y:
Cylindrical shaft ø40
Parallel key 12x8x50



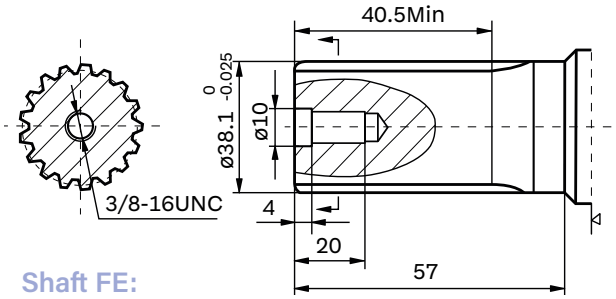
Shaft G2:
Cylindrical shaft ø38.1
Parallel key
9.525x9.525x42



Shaft Y2:
Cylindrical shaft ø40
Parallel key 12x8x63



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

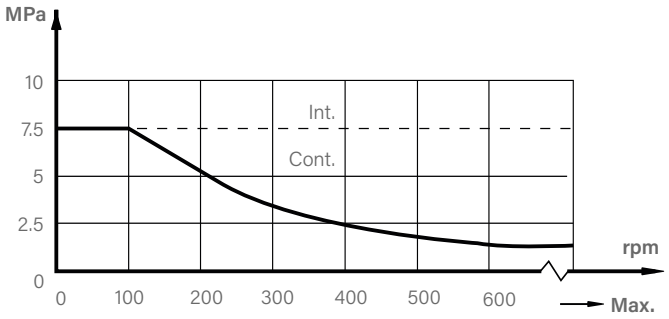


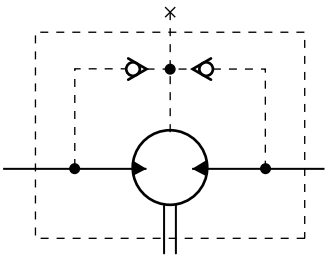
Shaft FE:
Splined 17-DP12/24

VNKT Series Hydraulic Motor



PERMISSIBLE SHAFT SEAL PRESSURE

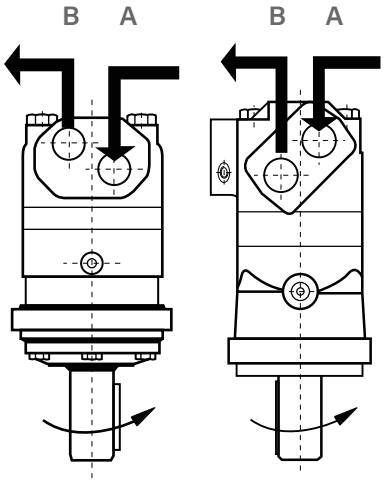




In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

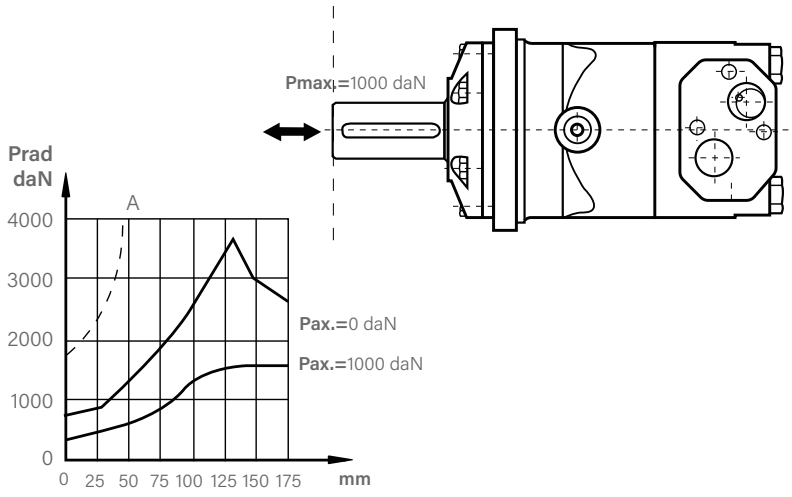
DIRECTION OF SHAFT ROTATION: Standard

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



OIL FLOW in drain line

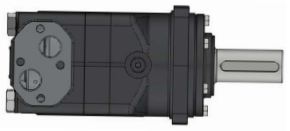
The table shows the Max. oil flow in the drain line at a return pressure less than 0.5-1MPa.

Pressure drop (MPa)	**Viscosity** (mm^2/s)	**Oil flow in the drain line** (L/min)
14	20	2.5
	35	1.5
21	20	5
	35	3

Order Information

1	2	3	4	5	6	7	8
VNKT	–	–	–	–	–	–	–

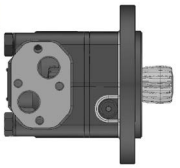
Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output shaft		Ports and drain port		Rotation Direction		Paint		Unusually Function	
VNKT	160 200 250 315 400 500 630 800	4	4-Ø14 Square-flange Ø160, pilot Ø125×9	M	Shaft Ø40 , parallel key 12×8×70	D	G3/4 Manifold Mount, 4-M10 , G1/4	Omit	Standard	00	No paint	Omit	Standard
		K6	4-Ø14.5Square-flange Ø162, pilot Ø127×9	G	Shaft Ø38.1 ,parallel key 9.52×9.52×57.15	M	M27×2 Manifold Mount, 4-M10, M14×1.5	R	Opposite	Omit	Blue	F	Free Running
		W	4-Ø18 Wheel-flange Ø200, pilot Ø160×7	F	Shaft Ø38.1 ,splined tooth 17-DP12/24	S	1-1/16-12UN O-ring, 9/16-18UNF			B	Black	LS	Low Speed
				FD	Shaft Ø38.1 ,splined tooth 17-DP12/24	S1	1-1/16-12UN O-ring, 7/16-20UNF			S	Silver grey	SD	Speed Sensor
				T	Cone-shaft 1:10 Ø45 ,parallel key B12×8×28	G	G3/4,G1/4						
				T1	Cone-shaft 1:8 Ø45 ,parallel key 11.13×11.13×31.75	M3	M27×2,M14×1.5						
				SL	shaft Ø34.85,Splined key Splined key 6-34.85×28.14×8.64								
				G1	shaftØ31.75 , parallel key 7.96×7.96×40								
				F1	Shaft Ø31.75,splined tooth 14 DP12/24								
VNKTS		D	4-Ø14 Circle-flange Ø160, pilot Ø125×8	Omit	Short shaft 16-DP12/24								
		E	4-Ø14.5 Square -flange Ø162, pilot Ø127×10										



Order Information

1	2	3	4	5	6	7	8
VNKTS	–	–	–	–	–	–	–

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		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 Ø125×9	M	Shaft Ø40 , parallel key 12×8×70	D	G3/4 Manifold Mount, 4-M10 , G1/4	Omit	Standard	00	No paint	Omit	Standard
		K6	4-Ø14.5Square-flange Ø162, pilot Ø127×9	G	Shaft Ø38.1 ,parallel key 9.52×9.52×57.15	M	M27×2 Manifold Mount, 4-M10, M14×1.5	R	Opposite	Omit	Blue	F	Free Running
		W	4-Ø18 Wheel-flange Ø200, pilot Ø160×7	F	Shaft Ø38.1 ,splined tooth 17-DP12/24	S	1-1/16-12UN O-ring, 9/16-18UNF			B	Black	LS	Low Speed
				FD	Shaft Ø38.1 ,splined tooth 17-DP12/24	S1	1-1/16-12UN O-ring, 7/16-20UNF			S	Silver grey	SD	Speed sensor
				T	Cone-shaft 1:10 Ø45 ,parallel key B12×8×28	G	G3/4,G1/4						
				T1	Cone-shaft 1:8 Ø45 ,parallel key 11.13×11.13×31.75	M3	M27×2,M14×1.5						
				SL	shaft Ø34.85,Splined key Splined key 6-34.85×28.14×8.64								
				G1	shaftØ31.75 , parallel key 7.96×7.96×40								
				F1	Shaft Ø31.75,splined tooth 14 DP12/24								
VNKTS		D	4-Ø14 Circle-flange Ø160, pilot Ø125×8	Omit	Short shaft 16-DP12/24								
		E	4-Ø14.5 Square -flange Ø162, pilot Ø127×10										

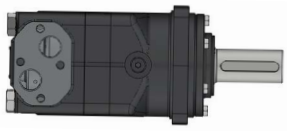


Order Information

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

Pos.1	2	3		4		5		6		7		8	
Code	**Disp.**	**Flange**		**Output shaft**		**Ports and drain port**		**Rotation Direction**		**Paint**		**Unusually Function**	
VNKTE	230 250 315 400 500 630 800	CC	4-Ø14.3 Square-flange Ø161.9, pilotØ127×12	G2	Shaft Ø38.1 ,parallel key 9.52×9.52×42	SF	3/4", Manifold Mount,8-3/8-16UNC, 7/16-20UNF	Omit	Standard	00	No paint	Omit	Standard
				FE	Shaft Ø38.1 ,splined tooth 17-DP12/24	SF5	1-5/16-12UN O-ring,7/16-20 UNF			Omit	Blue	F	Free Running
				Y1	ShaftØ40,parallel key 12×8×63	SF6	M33×2,M14×1.5			B	Black	LS	Low Speed
				Y2	ShaftØ40,parallel key 12×8×63	SF7	G1,G1/4	R	Opposite	S	Silver grey	SD	Speed sensor
				T2	Cone-shaft 1:8 Ø41.25 , parallel key 11.13×11.13×31.75	SE	1-1/16-12UN O-ring, 9/16-18UNF						
		WE	4-1/2-13UNC Wheel-flangeØ147.6, pilotØ127×9	T3	Cone-shaft 1:8 Ø41.25 , parallel key 11.13×11.13×31.75	SE1	1-1/16-12UN O-ring,7/16-20 UNF						
VNKTJ		J	4-Ø14.5 Square-flange Ø161.9 pilot Ø127×12.4	Omit	Short shaft 12-DP8.5/17	SE2	G3/4,G1/4						

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 .

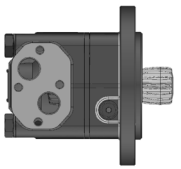


Order Information

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

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output shaft		Ports and drain port		Rotation Direction		Paint		Unusually Function	
VNKTE	230 250 315 400 500 630 800	CC	4-Ø14.3 Square-flange Ø161.9, pilotØ127×12	G2	Shaft Ø38.1 ,parallel key 9.52×9.52×42	SF	3/4", Manifold Mount,8-3/8-16UNC, 7/16-20UNF	Omit	Standard	00	No paint	Omit	Standard
				FE	Shaft Ø38.1 ,splined tooth 17-DP12/24	SF5	1-5/16-12UN O-ring,7/16-20 UNF			Omit	Blue	F	Free Running
				Y1	ShaftØ40,parallel key 12×8×63	SF6	M33×2,M14×1.5			B	Black	LS	Low Speed
				Y2	ShaftØ40,parallel key 12×8×63	SF7	G1,G1/4	R	Opposite	S	Silver grey	SD	Speed sensor
				T2	Cone-shaft 1:8 Ø41.25 , parallel key 11.13×11.13×31.75	SE	1-1/16-12UN O-ring, 9/16-18UNF						
		WE	4-1/2-13UNC Wheel-flangeØ147.6, pilotØ127×9	T3	Cone-shaft 1:8 Ø41.25 , parallel key 11.13×11.13×31.75	SE1	1-1/16-12UN O-ring,7/16-20 UNF						
VNKTJ		J	4-Ø14.5 Square-flange Ø161.9 pilot Ø127×12.4	Omit	Short shaft 12-DP8.5/17	SE2	G3/4,G1/4						

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 .



VNKV Series Hydraulic Motor

INTRODUCTION

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 offers 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.

SPECIFICATION Main Specification

Type		VNKV 315	VNKV 400	VNKV 500	VNKV 630	VNKV 800	VNKV 1000
Geometric displacement (cm3/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.

Performance Data



VNKV 315 [333 cm3/rev.]

Pressure (MPa)

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

VNKV 400 [419 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10	14	18	20	24
						Max. cont	Max. int
10	183 20	385 20	568 19	776 18	968 17	1101 16	1292 14
20	196 44	398 44	590 43	815 42	1010 40	1152 39	1346 37
50	200 114	402 113	603 113	842 112	1040 110	1186 108	1430 103
75	195 175	394 173	596 170	838 166	1043 163	1188 157	1432 152
100	172 236	385 235	593 233	827 231	1036 227	1184 223	1425 215
125	167 296	374 294	583 291	816 288	1021 282	1177 275	1413 268
150	158 355	361 354	559 352	801 349	1008 344	1165 335	1390 324
175	143 416	346 414	553 411	784 407	989 403	1145 396	1377 388
Max. cont 200	118 475	331 473	536 469	770 463	969 455	1128 448	1356 439
Max. int 240	82 571	301 569	506 565	740 548	943 539	1104 530	1332 520

VNKV 500 [518 cm3/rev.]

Pressure (MPa)

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

Torque (N•m) 1340
Speed (rpm) 444

VNKV 630 [666 cm3/rev.]

Pressure (MPa)

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

Cont. Int.

Performance Data



VNKV 800 [801 cm3/rev.]

Pressure (MPa)

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

Max. cont
Max. int

VNKV 1000 [990 cm3/rev.]

Pressure (MPa)

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

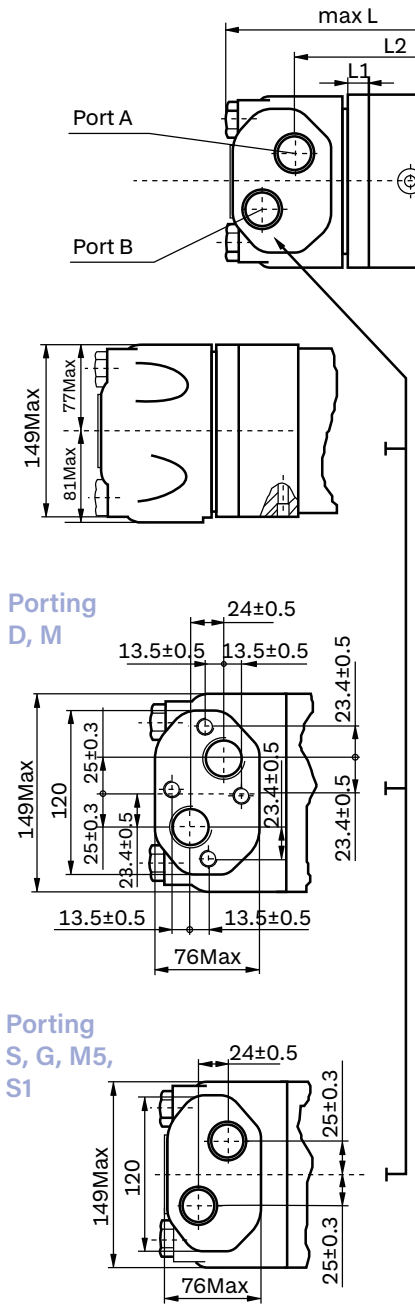
Max. cont
Max. int

Torque (N•m) 1825
Speed (rpm) 225

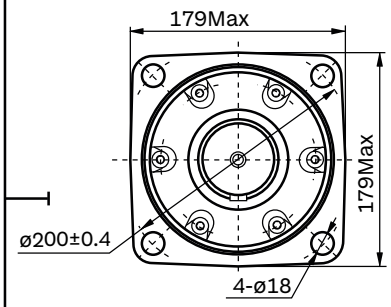
Cont. Int.

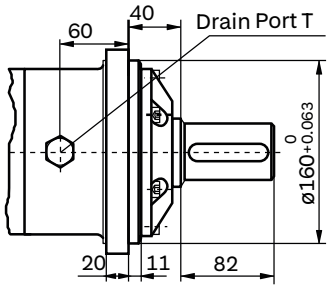
VNKV Dimensions and Mounting Data





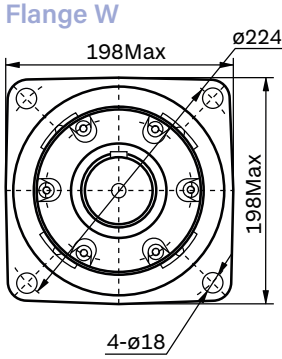
Flange 4

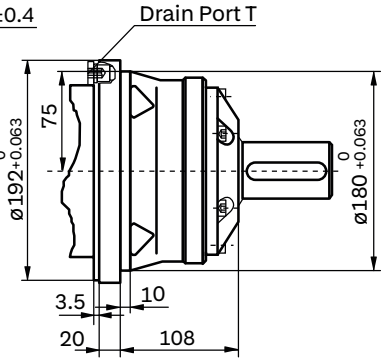




Porting D, M

Flange W





Porting S, G, M5, S1

Model	L	L1	L2
VNKV-315-W	148.5	20	93.5
VNKV-400-W	155.5	27	100.5
VNKV-500-W	163.5	35	108.5
VNKV-630-W	175.5	47	120.5
VNKV-800-W	186.5	58	131.5
VNKV-1000-W	202.5	74	147.5

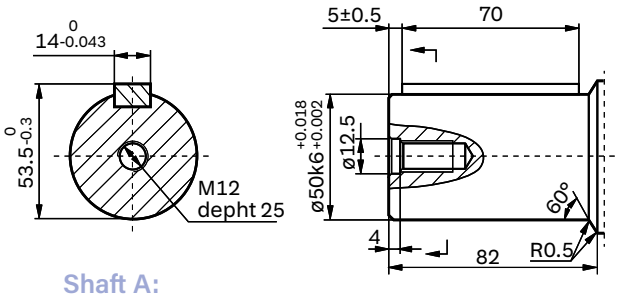
Model	L	L1	L2
VNKV315	217	20	161.5
VNKV400	224	27	168.5
VNKV500	232	35	176.5
VNKV630	244	47	188.5
VNKV800	255	58	199.5
VNKV1000	271	74	215.5

Note: The thickness of the stator and rotor is the dimension of L1adding on 7mm.

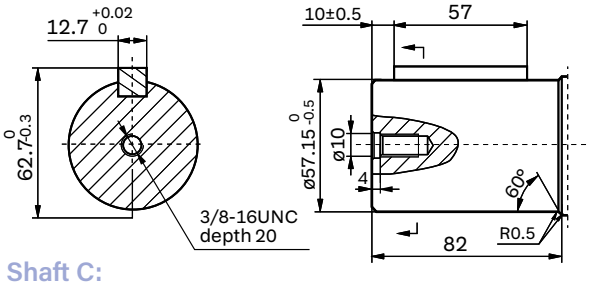
Mounting Content	D (depth)	M (depth)	S (depth)	G (depth)	M5 (depth)	S1 (depth)
P(A,B)	G1 (18)	M33 x 2 (18)	1-5/16-12UN(18)	G1 (18)	M33 x 2 (18)	1-5/16-12UN(18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF(12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)
C	4-M12 (10)	4-M12 (10)	-	-	-	-

VNKV Dimensions and Mounting Data

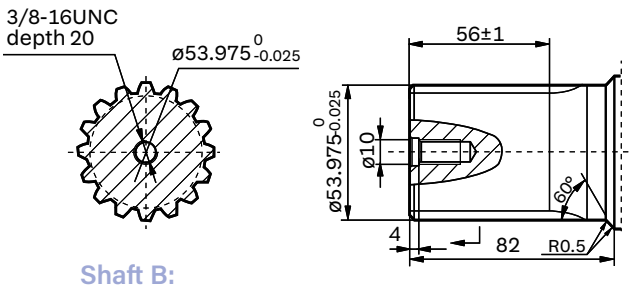




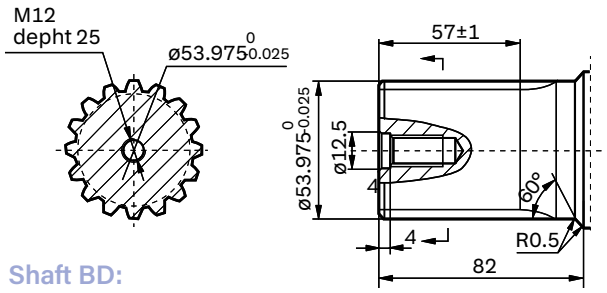
Shaft A:
Cylindrical shaft ø50
Parallel key 14x9x70



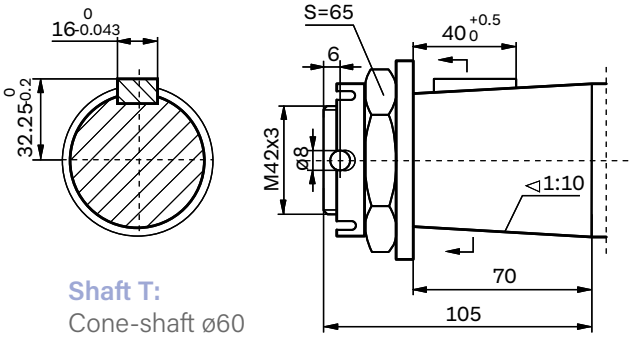
Shaft C:
Cylindrical shaft ø57.15
Parallel key 12.7x12.7x57



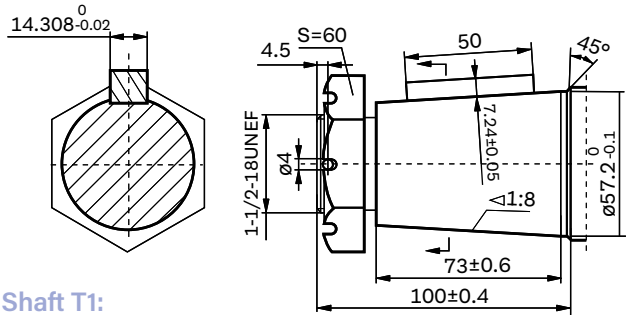
Shaft B:
Splined key 16-DP8/16



Shaft BD:
Splined key 16-DP8/16



Shaft T:
Cone-shaft ø60
Parallel key 16x10x32
Tightening torque: 750±50Nm

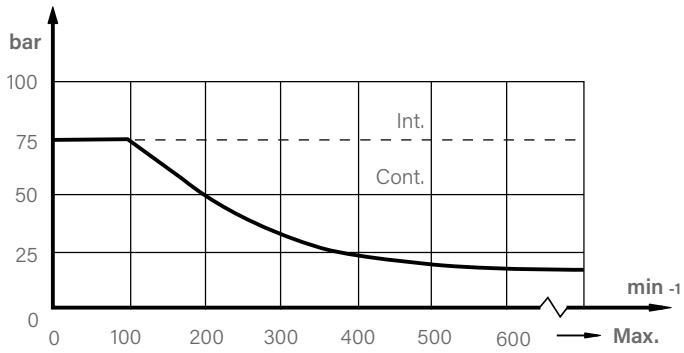


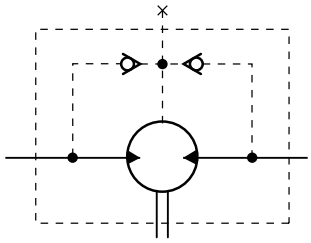
Shaft T1:
Cone-shaft ø57.2
Parallel key 14.308x14.308x50
Tightening torque: 750±50Nm

VNKV Series Hydraulic Motor



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.

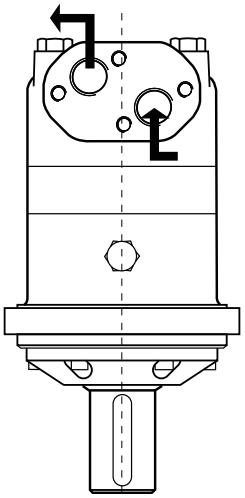
DIRECTION OF SHAFT ROTATION:

Standard

When facing shaft end of motor, shaft to rotate:

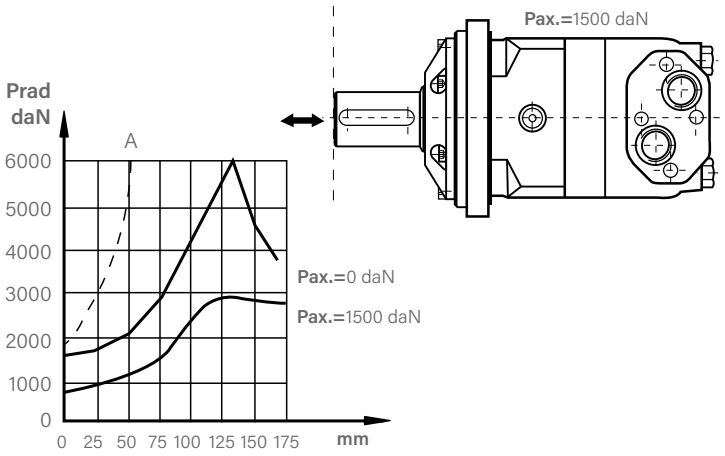
Clockwise when **port "A"** is pressurized.

Counter-clockwise **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.



OIL FLOW in drain line

The table shows the Max. oil flow in the drain line at a return pressure less than 0.5-1MPa.

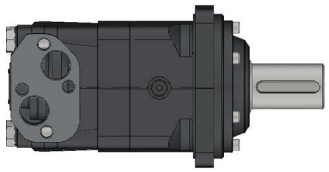
Pressure drop (MPa)	**Viscosity** (mm^2/s)	**Oil flow in the drain line** (L/min)
14	20	3
	35	2
21	20	6
	35	4

Order Information

1		2		3		4		5		6		7		8	
VNKV	–		–		–		–		–		–		–		

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output shaft		Ports and drain port		Rotation Direction		Paint		Unusually Function	
Omit	315 400 500 630 800 1000	4 W	4-Ø18 Square-flan-geØ200, pilot Ø160×11 4-Ø18 Wheel-flange Ø224, pilot Ø180×10	A BD B C T T1	Shaft Ø50 , parallel key 14×9×70 Shaft Ø53.975, splined key 16-DP8/16 Shaft Ø53.975, splined key 16-DP8/16 Shaft Ø57.15, parallel key 12.7×12.7×57.15 Cone shaft Ø60, parallel key 16×10×32 Cone shaft Ø57.2, parallel key 14.308×14.308×50.8	D M S G M5 S1	G1 Manifold 4×M12, G1/4 M33×2 Manifold 4×M12, M14×1.5 1-5/16-12UN, 9/16-18UNF G1,G1/4 M33×2, M14×1.5 1-5/16-12UN 7/16-20UNF	Omit R	Standard Opposite	00 Omit B S	No paint Blue Black Silver grey	Omit SD	Standard Speed Sensor

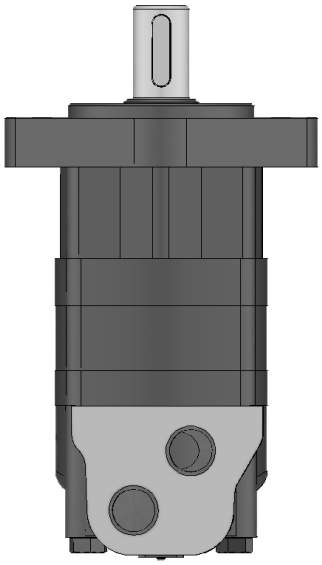
Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.



VNKB Series Hydraulic Motor

INTRODUCTION

VNKB 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.



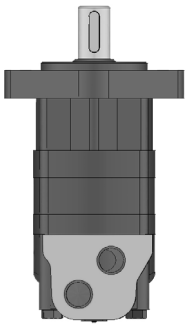
CHARACTERISTIC FEATURES

* **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 offers 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.
* **The new series motor** is suitable for vehicles with greater loads and pressure drop.

SPECIFICATION Main Specification

Type		VNKB 65	VNKB 80	VNKB 100	VNKB 125	VNKB 160	VNKB 200	VNKB 250	VNKB 315	VNKB 400	VNKB 475
Geometric displacement (cm3/rev.)		65	80	100.9	129.8	156.8	193.4	242.5	304.3	390.8	485
Max. speed (rpm)	cont.	835	800	742	576	477	385	308	246	191	153
	int.	990	980	924	720	713	577	462	365	287	230
Max. torque (N•m)	cont.	185	235	295	385	455	540	660	765	775	845
	int.	245	345	445	560	570	665	820	885	925	930
Max. pressure drop (MPa)	cont.	20.5	21	21	21	20.5	20.5	20.5	20.5	15.5	12
	int.	27.5	31	31	31	26	26	26	31	17	14
	peak.	31	31	31	31	31	31	31	75	20.5	17
Max. flow (L/min)	cont.	55	65	75	75	75	75	75	115	75	75
	int.	65	80	95	95	115	115	115	11.5	115	115
Weight (Kg)		9.2	9.4	9.7	10	10.2	10.5	11		12	12.4

Performance Data



VNKB 65 [65 cm3/rev.]

Pressure (MPa)

Flow (L/min)

Max. cont / Max. int

	3.5	7	10.5	14	17.5	20.5	24	27.5	31
2	28 22	54 12	80 6						
4	30 52	58 47	88 43	115 35	146 30	165 24	195		
8	31 107	60 98	92 92	120 85	150 70	170 55	16 200	225	
15	32 214	62 208	94 200	124 193	155 185	175 174	40 205	30 230	250
22	32 320	65 315	95 308	125 296	157 286	178 275	160 206	145 232	130 254
30	30 445	65 440	95 430	128 420	160 408	180 395	260 210	242 235	230 258
38	28 565	62 560	95 550	130 540	165 526	185 512	380 216	360 240	325 260
45	26 675	60 670	92 660	125 648	160 632	180 615	495 215	470 245	420 265
55	23 835	55 825	88 810	120 790	155 770	175 745	600 210	580 235	530 255
65	20 990	50 980	84 965	112 945	150 935	170 910	720 205 880	690 230 860	640 250 800

VNKB 80 [80 cm3/rev.]

Pressure (MPa)

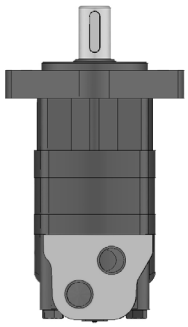
Flow (L/min)

Max. cont / Max. int

	3.5	7	10.5	14	17.5	20.5	24	27.5	31
2	29 18	54 9	86 3						
4	35 45	75 41	112 38	145 35	172 28	208 22	218 14	236 3	
8	35 90	75 85	114 80	148 76	175 72	212 64	230 55	260 46	280 40
15	38 180	78 175	116 170	152 166	184 160	215 153	245 140	275 126	300 115
22	36 265	75 260	114 255	150 250	185 242	220 234	250 220	285 205	315 185
30	35 363	75 355	115 350	150 342	185 334	225 322	260 302	295 280	325 260
38	34 460	72 452	112 442	155 430	190 418	230 405	265 385	300 360	335 335
45	32 545	70 535	110 528	150 515	190 505	230 495	265 465	305 440	340 410
55	30 670	68 660	110 650	150 635	190 620	230 605	270 575	305 540	335 510
65	25 800	65 790	105 778	145 755	180 740	225 728	260 690	295 650	325 610
75	22 910	63 900	102 880	145 860	180 850	225 830	260 790	290 750	
80	20 980	60 970	100 955	140 920	175 900	220 875	250 840		

Cont. Int.

Performance Data



VNKB 100 [100.9 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5	24	27.5	31
							Max. cont	Max. int		Peak
2	15 14	32 10	68 5							
4	18 36	42 34	92 32	130 28	170 22	205 14	230 5			
8	20 74	45 73	90 70	135 66	180 60	210 52	240 42	280 26	310 15	
15	20 142	45 140	90 137	135 134	185 129	220 120	260 105	305 92	345 78	390 65
22	18 210	45 207	90 201	140 195	190 188	230 179	275 160	315 150	360 138	405 125
30	16 290	42 288	88 282	142 276	195 268	240 258	285 242	330 230	375 212	425 195
38	15 370	40 365	88 360	140 352	190 340	240 326	285 310	335 295	380 275	430 255
45	15 440	40 435	86 430	140 422	190 410	240 395	285 380	340 465	385 345	440 320
55	12 540	36 534	85 528	135 520	190 510	240 500	285 485	340 465	385 440	440 405
65	10 640	35 635	80 630	130 622	185 605	235 590	280 575	335 550	380 525	440 500
75	5 738	30 735	75 728	125 715	180 700	230 680	275 655	320 635	375 610	
85	3 838	25 835	75 830	125 820	175 805	225 785	270 760	320 730	370 690	
95		23 925	70 918	120 905	170 890	220 870	260 840	310 810		

VNKB 125 [129.8 cm3/rev.]

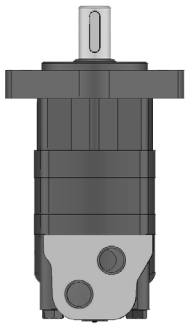
Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5	24	27.5	31
							Max. cont	Max. int		Peak
2	25 12	40 7								
4	28 27	55 26	110 22	175 18	220 14	280 11	325 8			
8	28 57	60 56	115 53	175 48	230 42	290 38	330 34	375 26	400 20	
15	28 113	60 112	120 110	180 105	240 98	295 92	340 86	390 80	440 72	485 65
22	28 165	55 163	120 160	180 155	245 150	305 144	360 138	415 130	470 115	530 100
30	25 228	52 224	120 222	185 210	245 212	310 206	365 198	425 188	480 178	545 165
38	25 288	50 285	120 282	180 275	245 268	315 260	370 252	430 242	495 230	550 215
45	22 345	50 343	120 338	180 332	245 325	315 315	370 305	430 292	490 280	550 265
55	20 420	46 418	115 414	175 408	245 400	330 390	375 378	430 365	490 346	
65	15 498	43 496	110 492	170 486	240 480	320 465	370 458	425 440	485 425	
75	12 575	42 574	108 568	170 560	235 550	310 548	365 525	425 502		
85	8 653	40 652	105 645	165 636	230 625	310 616	360 600	420 578		
95		40 722	100 715	160 702	225 690	290 680	355 670	415 655		

Torque (N•m) 225
Speed (rpm) 609

Cont. Int.

Performance Data



VNKB 160 [156.8 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5 (Max. cont)	24 (Max. int)	26 (Max. int)
2	28 9	55 7	110 5	175 3					
4	32 22	63 21	125 19	190 17	250 13	315 8	370 3		
8	37 47	68 45	130 42	200 39	260 36	325 34	390 32	450 27	480 22
15	35 93	68 92	135 89	210 85	275 80	370 76	420 70	500 60	530 45
22	35 138	75 136	140 133	215 128	285 122	370 116	440 110	515 102	550 95
30	35 190	75 187	145 184	220 178	290 172	370 167	440 164	520 154	560 5142
38	37 240	70 237	150 234	225 230	310 225	380 218	450 202	525 193	565 185
45	32 285	70 283	150 280	225 275	310 268	380 259	450 247	525 236	565 225
55	28 348	66 346	145 242	220 338	305 332	375 324	450 314	525 300	
65	25 412	63 410	140 406	220 400	300 393	375 383	445 370		
75	22 476	60 474	135 470	215 464	295 454	370 445	440 435		
85	18 540	55 536	130 532	210 524	290 514	365 502	435 485		
95	15 600	50 595	125 590	205 580	285 565	360 555	430 545		
115		40 715	115 705	200 695	280 685	350 670	425 655		

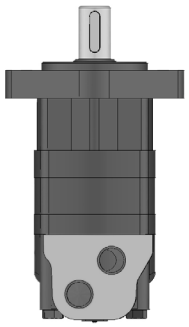
VNKB 200 [193.4 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5 (Max. cont)	24 (Max. int)	26 (Peak)
2	32 9	68 7	110 5	145 3					
4	40 18	75 16	150 14	195 11	300 7	360 4			
8	45 37	80 36	160 34	240 30	315 26	405 21	500 17	570 13	600 11
15	48 75	90 74	170 72	255 68	335 64	425 60	510 56	590 50	620 42
22	46 112	90 110	175 108	265 105	350 101	440 97	520 91	605 86	645 80
30	45 153	90 151	180 148	270 145	360 141	450 135	530 128	615 122	655 116
38	45 193	90 191	180 188	275 184	370 178	455 172	540 166	625 158	
45	40 230	85 228	180 226	275 222	370 218	460 210	545 202		
55	38 280	82 278	180 275	275 270	375 264	465 255	550 248		
65	35 332	80 330	175 328	270 322	370 315	465 306	545 295		
75	30 384	72 382	170 378	265 370	360 365	455 356	540 346		
85	25 436	70 434	165 430	260 420	355 410	450 400	540 390		
95	20 488	60 485	155 478	255 470	350 458	445 448	530 438		
115		50 580	140 572	240 562	330 550	440 538	520 520		

Cont. Int.

Performance Data



VNKB 250 [242.5 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5 (Max. cont)	24 (Max. int)	26
2	45 4	95 2							
4	50 14	100 13	210 11	310 9	410 6	510 4	610 3		
8	55 29	105 28	215 26	320 23	420 20	530 17	620 14	730 11	780 9
15	55 59	110 58	220 56	330 53	440 50	550 47	650 45	755 43	810 40
22	50 88	115 87	225 85	340 82	455 78	560 74	665 69	770 65	
30	50 122	115 121	230 118	350 113	465 109	570 104	680 100	785 92	
38	48 154	112 152	235 149	355 145	475 140	580 135	695 130	795 122	
45	45 183	110 182	230 180	350 176	475 170	590 165	700 158		
55	42 224	105 223	230 221	345 218	470 212	580 205			
65	35 266	100 265	220 263	340 258	460 252	565 242			
75	32 307	95 306	210 303	330 298	455 290	560 280			
85	30 248	85 346	200 342	320 336	450 330	555 320			
95	25 386	70 384	190 378	315 372	440 365	540 355			
115		65 465	180 458	300 450	430 442				

VNKB 315 [304.3 cm3/rev.]

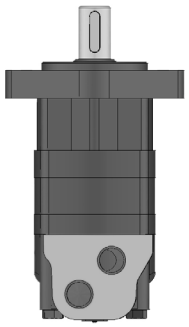
Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14 (Max. cont)	17.5 (Max. int)	20.5	24 (Peak)
2	45 4	95 2						
4	65 12	130 11	250 10	380 8	490 6			
8	70 24	135 23	260 22	390 20	510 18	630 15	760 10	875 6
15	75 48	140 48	275 47	410 45	535 42	670 38	800 34	920 30
22	70 71	140 70	285 69	425 66	555 62	685 56	810 50	940 42
30	70 97	145 97	290 96	430 93	565 88	695 80	820 70	
38	66 123	140 122	290 120	435 117	570 112	715 102	835 90	
45	62 147	135 146	290 144	435 142	575 135	720 125	840 118	
55	58 180	130 179	285 176	430 172	575 165	720 155		
65	52 213	120 212	275 210	425 205	570 200	715 190		
75	40 246	110 245	260 242	415 236	560 225	710 356		
85	30 278	100 277	250 274	405 270	540 260			
95	20 311	90 310	245 307	380 303	515 296			
115		80 365	225 361	350 355				

Torque (N•m) 225
Speed (rpm) 361

Cont. Int.

Performance Data



VNKB 400 [390.8 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	15.5 (Max. cont)	17.5	19 (Max. int)
2	70 4	145 2						
4	80 9	170 9	345 8	500 7	660 6	740 5		
8	85 19	175 18	355 17	520 16	680 14	765 13	830 12	910 10
15	90 37	185 37	370 36	550 35	720 32	810 30	880 28	
22	95 55	190 55	380 54	565 52	750 48	830 46	900 44	
30	92 76	188 75	385 73	570 71	760 68	835 65	905 62	
38	90 96	185 94	385 92	575 90	765 86	840 84	930 80	
45	85 114	180 113	380 111	570 108	760 102			
55	80 140	175 139	380 137	570 133	760 127			
65	75 165	170 164	370 163	560 160	750 155			
75 (Max. cont)	68 191	160 190	360 188	555 184	740 178			
85	65 214	150 212	355 210	550 206	730 200			
95 (Max. int)	50 242	135 240	340 237	530 233	710 228			
115		125 286	310 282	510 275				

VNKB 475 [485 cm3/rev.]

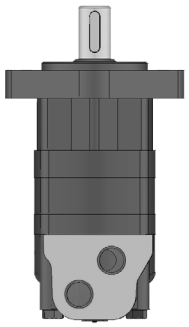
Pressure (MPa)

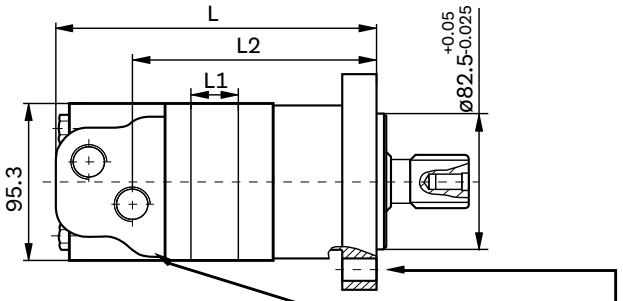
Flow (L/min)	1.75	3.5	7	10.5	12 (Max. cont)	14 (Max. int)
2	75 2	175 1				
4	110 7	220 6	430 4	540 1		
8	110 14	225 13	450 11	700 7		
15	105 29	235 28	470 26	710 24	825 22	895 19
22	105 44	240 43	480 42	720 40	835 37	915 34
30	110 61	240 60	485 58	725 55	840 52	935 48
38	110 77	235 75	480 73	720 70	840 68	930 65
45	100 91	220 91	470 89	715 85	825 83	
55	95 112	210 110	460 108	710 104	820 100	
65	85 132	200 131	445 128	700 125	810 120	
75 (Max. cont)	70 153	185 152	440 149	690 145	800 140	
85	60 173	175 172	430 169	680 165	785 160	
95 (Max. int)	40 195	150 193	405 190	655 185		
115		130 230	380 226	625 220		

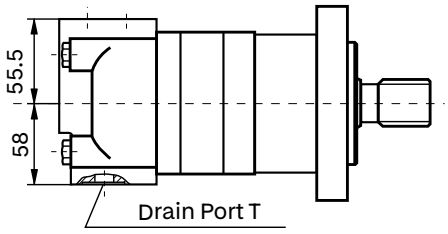
Torque (N•m) 130
Speed (rpm) 230

Cont. Int.

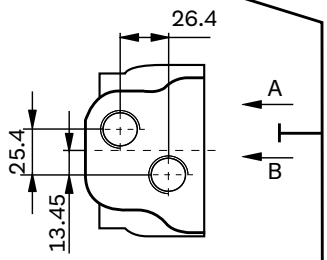
VNKB Dimensions and Mounting Data

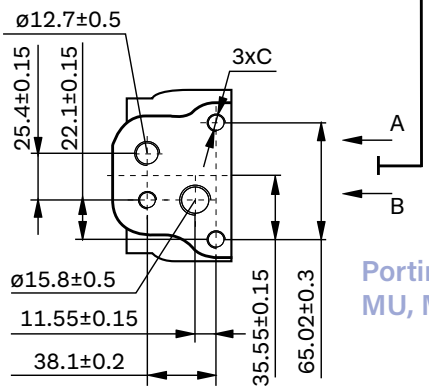






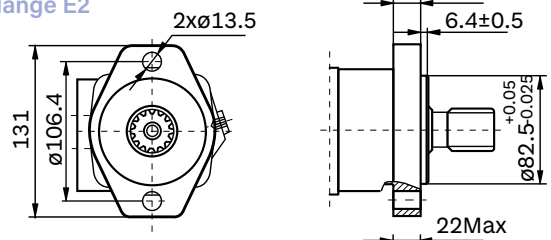
Porting
DB, DU,
SU, SB, M4



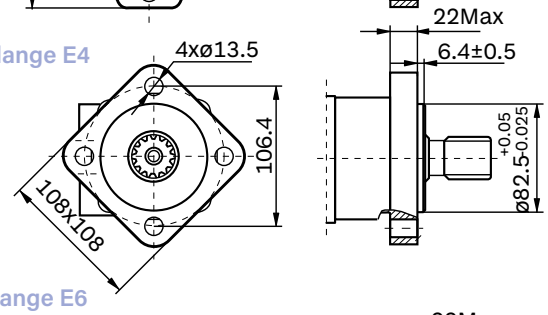


Porting
MU, MM

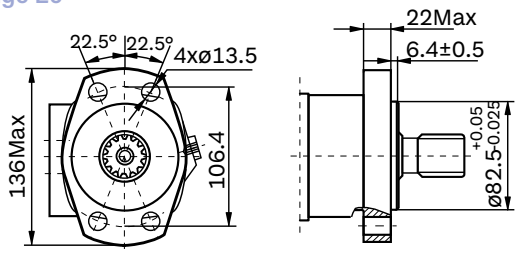
Flange E2



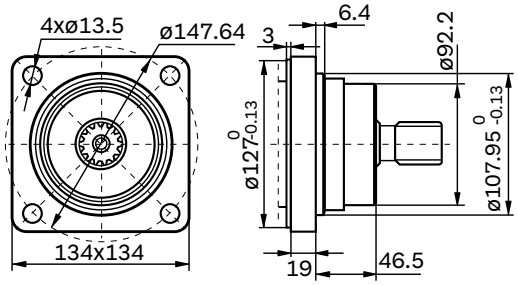
Flange E4



Flange E6



Flange WE

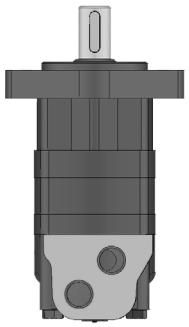


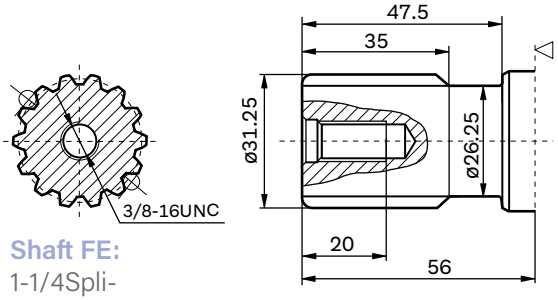
Model	L	L1	L2
VNKB-65-WE	142	14.5	93.5
VNKB-80-WE	145.5	17.8	97
VNKB-100-WE	150	22.5	101.5
VNKB-125-WE	156.5	28.9	108
VNKB-160-WE	156.5	28.9	108
VNKB-200-WE	163	35.6	114.5
VNKB-250-WE	172	44.6	123.5
VNKB-315-WE	183.5	56	135
VNKB-400-WE	199.5	72	151
VNKB-475-WE	217	89.3	168.5

Model	L	L1	L2
VNKB-65	182	14.5	133.5
VNKB-80	185	17.8	136.5
VNKB-100	189.5	22.5	141.5
VNKB-125	196	28.9	148
VNKB-160	196	28.9	148
VNKB-200	202.5	35.6	154.5
VNKB-250	211.5	44.6	163.5
VNKB-315	223	56	175
VNKB-400	239	72	191
VNKB-475	256.5	89.3	208.5

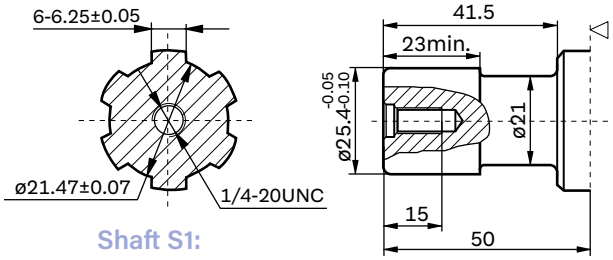
Mounting Code	**DB** (depth)	**DU** (depth)	**SU** (depth)	**SB** (depth)	**M4** (depth)	**MU**	**MM**
P(A,B)	G1/2 (15)	G1/2 (15)	7/8-14 O-ring (17)	7/8-14 O-ring (17)	M22 x 1.5 (15)	ø12.7, ø15.8	ø12.7, ø15.8
T	G1/4 (12)	7/16-20UNF(12)	7/16-20UNF(12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)	G1/4 (12)
C	-					3/8-16UNC(15)	M10(15)

VNKB Dimensions and Mounting Data

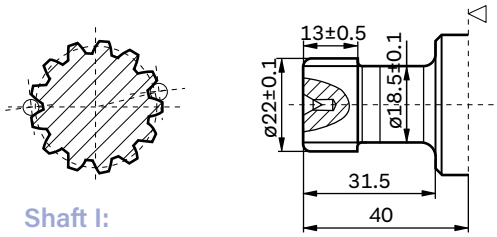




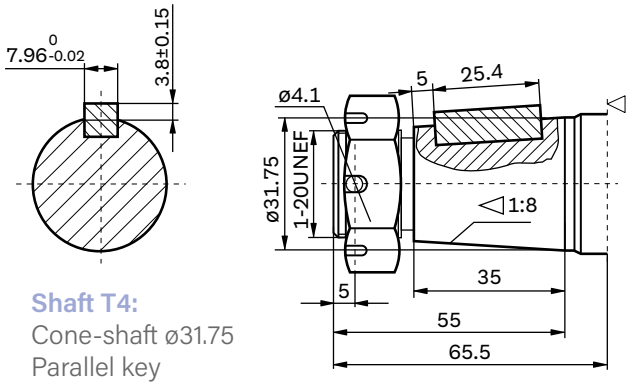
Shaft FE:
1-1/4Spli-
ned14-DP12/24



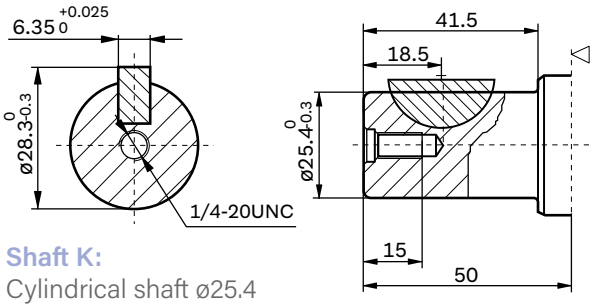
Shaft S1:
Splined SAE 6B



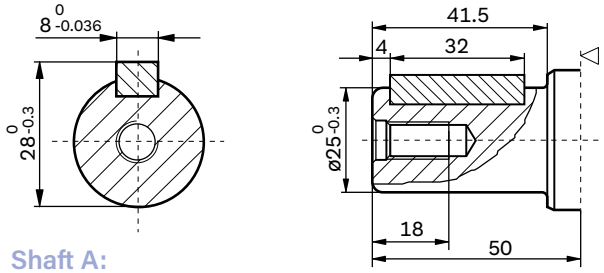
Shaft I:
Splined 13-DP16/32



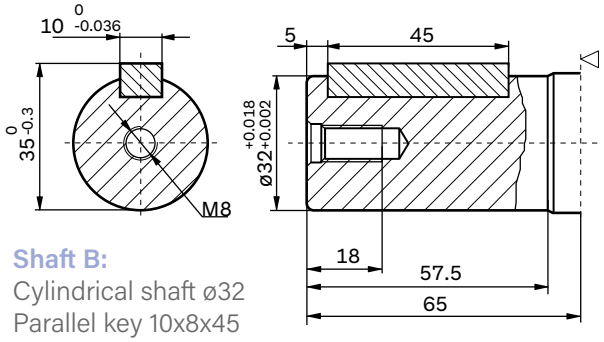
Shaft T4:
Cone-shaft ø31.75
Parallel key
7.96x7.96x25.4
Tightening
torque:200±10Nm



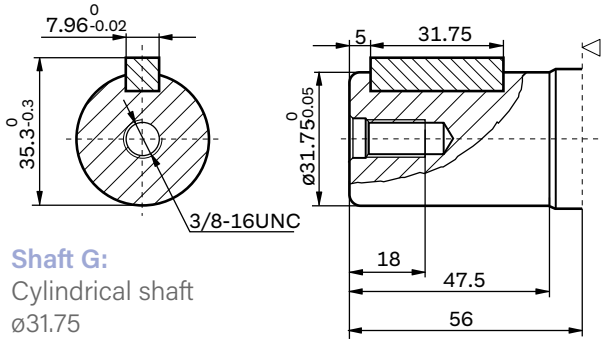
Shaft K:
Cylindrical shaft ø25.4
Woodruff key ø25.4x6.35



Shaft A:
Cylindrical shaft ø25
Parallel key 8x7x32

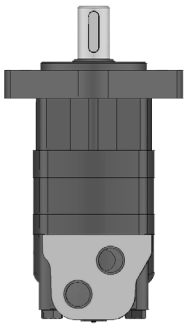


Shaft B:
Cylindrical shaft ø32
Parallel key 10x8x45

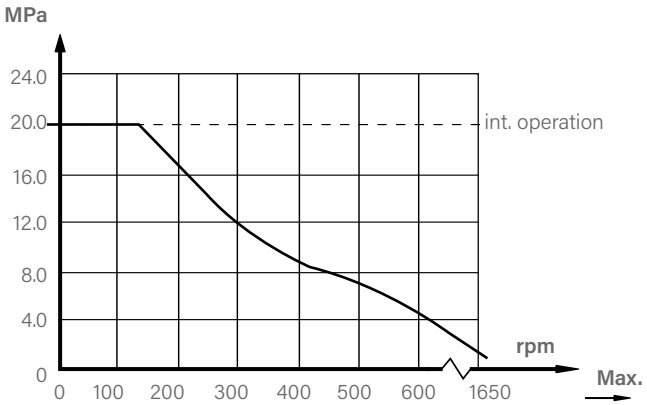


Shaft G:
Cylindrical shaft
ø31.75
Parallel key
7.96x7.96x31.75

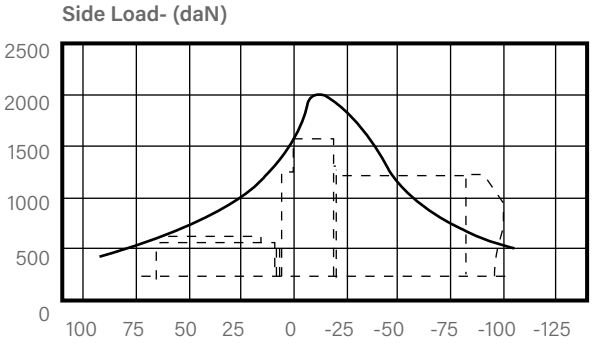
VNKB Series Hydraulic Motor



PERMISSIBLE SHAFT SEAL PRESSURE



VNKB Standard Mounting Flange [E2] Radial Forces

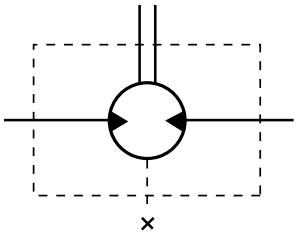


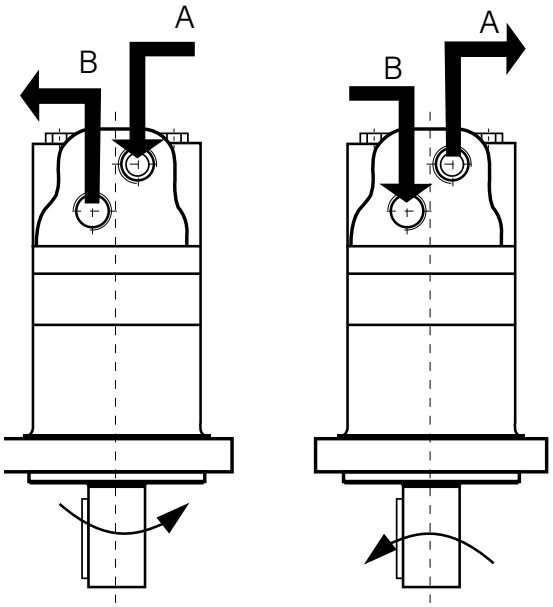
The bear ing curve represents allowable bearing loads for an B10bearing life (2000 hours or 12x106 revolutions at 100rpm) atrated output torque.

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.



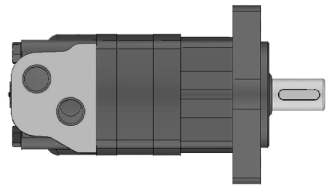


Order Information

1		2		3		4		5		6		7		8
VNKB	–		–		–		–		–		–		–	

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output shaft		Ports and drain port		Rotation Direction		Paint		Unusually Function	
Omit	65 80 100 125 160 200 250 315 400 475	E2	2×Ø13.5 Rhomb-flange Ø106.4, pilot Ø82.5×6.4	A	Shaft Ø25 , parllel key 8×7×32	DB	G1/2,G1/4	Omit	Standard	00	No paint	Omit	Standard
		E4	4×Ø13.5 Rhomb-flange Ø106.4, pilot Ø82.5×6.4	B	Shaft Ø32 , parllel key 10×8×45	DU	G1/2,7/16-20 UNF	R	Opposite	Omit	Blue	F	Free Running
		E6	4×Ø13.5 Rhomb-flange Ø106.4, pilot Ø82.5×6.4	K	Shaft Ø25.4 , Woodruff key Ø25.4×6.35	SB	7/8-14UNF O-ring,G1/4			B	Black		
		WE	4×Ø13.6Wheel-flange Ø147.6, pilot Ø107.95x6.4	G	Shaft Ø31.75 , parllel key 7.96×7.96×31.75	SU	7/8-14UNF O-ring,7/16-20 UNF			S	Silver grey		
				FE	Shaft Ø31.75 , splined 14-DP12/24	M4	M22×1.5,M14×1.5						
				S1	ShaftØ25.4 ,splined SAE 6B	MU	1/2",5/8"Crosshole Manifold 3×3/8-16UNC, 7/16-20UNF						
				I	Sub-shaft Ø22 , splined 13-DP16/32	MM	1/2",5/8"Crosshole Manifold 3×M10,G1/4						
				T4	Cone-shaftØ31.75 , parllel key 7.96×7.96×25.4								

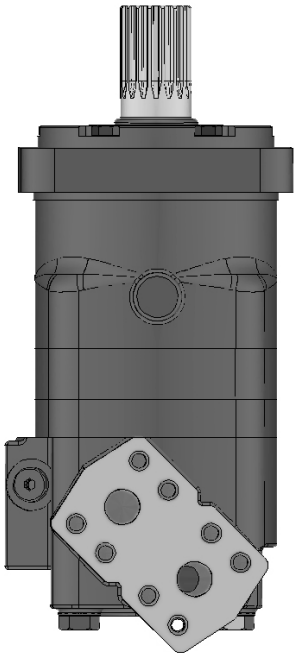
Note: When the table is used , please fill the code of right rows in the table and give us , which the code information is consists of construction , displacement , mounting flange , output shaft and ports . If the specification is not in the table or you have specific requirements , please contact us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



VNKC Series Hydraulic Motor

INTRODUCTION

VNKC 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 FEATURES

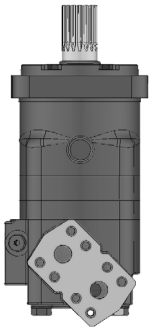
* **Advanced manufacturing** devices for the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
* **Advanced design in disc distribution flow**, which can automatically compensate in operating with high volume efficiency and long life , provide smooth and reliable operation.
* **Shaft seal** can bear high pressure of back .
* **The output shaft** adapts in tapered 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.

SPECIFICATION Main Specification

Type		VNKC 200	VNKC 250	VNKC 315	VNKC 400	VNKC 500	VNKC 630	VNKC 800	VNKC 1000
Geometric displacement (cm3/rev.)		195.6	246.1	311.6	391.3	490.8	623	802.4	981.6
Max. speed (rpm)	cont.	765	610	480	382	304	240	186	152
	int.	865	830	690	570	455	360	280	230
Max. torque (N•m)	cont.	565	710	920	1160	1445	1480	1580	1675
	int.	840	1080	1325	1625	1880	1890	1880	1860
Max. pressure drop (MPa)	cont.	20	20	20	20	20	17.5	14	14
	int.	30	30	30	30	27.5	22.5	15.5	14
	peak.	30	30	30	30	30	24	17.5	17
Max. flow (L/min)	cont.	150	150	150	150	150	150	150	150
	int.	170	205	225	225	225	225	225	225
Weight (Kg)		26.3	26.8	27.3	28	28.8	29.6	30.5	32

* **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.

Performance Data



VNKC 200 [195 cm3/rev.]

Pressure (MPa)

Flow (L./min)	1.75	3.5	7	10.5	14	17.5	20 (Max. cont)	24	27.5 (Max. int)	30 (Peak)
2	30 9	73 7	160 5							
8	36 39	76 38	168 35	262 34	345 31	438 27	465 16			
15	36 75	81 75	174 74	270 71	365 65	455 60	510 45	580 32	640 16	
30	37 152	85 151	175 147	275 142	370 132	465 121	540 109	615 96	700 80	765 60
45	37 228	85 227	180 223	280 218	375 210	470 200	535 185	650 165	740 146	805 110
60	38 305	80 304	178 302	282 297	380 288	475 280	565 255	660 235	750 210	825 170
75	32 382	78 380	175 376	275 370	378 362	480 350	565 328	670 300	760 270	840 230
90	26 459	75 456	172 452	270 445	375 436	475 420	565 405	660 383	765 355	
105	22 536	70 534	170 530	270 523	370 510	470 496	560 470	660 435	760 400	
120 (Max. cont)	20 612	67 610	166 605	265 598	365 585	465 570	560 536	660 502	755 450	
135 (Max. int)	14 690	65 687	160 680	260 672	360 650	465 638	560 595	655 550	750 485	
150	10 765	60 765	155 755	258 740	356 725	450 700	550 640	650 580		
170		60 865	155 850	255 840	350 820	450 800	545 745	640 700		

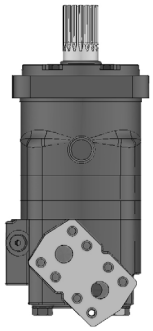
VNKC 250 [246.1 cm3/rev.]

Pressure (MPa)

Flow (L./min)	1.75	3.5	7	10.5	14	17.5	20 (Max. cont)	24	27.5 (Max. int)	30 (Peak)
2	46 7	92 4								
8	51 31	103 30	215 27	335 24	440 21	550 15	560 10			
15	52 58	105 57	220 55	340 52	455 46	570 40	640 37	745 28	850 10	960 5
30	55 118	110 116	232 113	352 110	470 105	600 96	685 80	790 64	900 48	1020 35
45	58 180	110 177	235 174	355 170	475 164	610 155	705 140	840 126	940 106	1050 88
60	53 242	110 240	230 237	350 233	480 224	615 212	705 198	845 180	955 162	1080 140
75	45 302	105 298	230 292	355 285	485 278	620 268	710 254	850 230	960 206	1080 182
90	45 364	105 360	225 352	350 342	480 338	615 322	710 305	845 288	955 265	
105	40 424	100 420	220 414	340 408	475 394	610 372	705 352	840 334	950 315	
120 (Max. cont)	38 485	95 479	210 471	340 463	470 454	590 442	700 420	830 385	940 365	
135 (Max. int)	35 546	85 540	205 532	325 525	460 516	580 504	690 478	820 445		
150	30 608	80 605	200 600	320 592	450 580	570 566	680 532	815 496		
170		65 686	190 678	315 665	440 652	560 635	675 600	750 565		
185			185 750	310 746	430 730	545 708	670 658			
205			175 830	300 820	418 800	536 776	562 735			

Cont. Int.

Performance Data



VNKC 315 [311.6 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20 (Max. cont)	24 (Max. int)	27.5 (Peak)	30
2	65 5	126 4								
8	68 24	135 23	280 22	410 20	540 16	650 13	750 9	880 3		
15	70 46	135 45	285 44	435 41	565 36	690 30	810 22	940 16	1010 9	1035 3
30	70 93	135 92	295 90	440 86	600 80	740 71	880 62	990 52	1100 43	1180 31
45	70 142	140 140	300 138	460 132	610 127	750 120	900 118	1035 96	1165 85	1300 72
60	70 190	140 189	300 186	460 182	615 176	775 167	920 154	1055 138	1200 124	1325 105
75	65 238	135 237	295 235	455 231	615 225	780 214	920 200	1065 180	1215 160	
90	60 285	130 284	290 280	450 276	615 270	780 260	920 245	1070 226	1220 210	
105	50 335	125 333	280 330	445 324	605 316	770 302	915 290	1070 271	1205 248	
120	45 384	120 382	280 380	440 372	600 364	765 350	910 338	1055 312		
135	40 432	115 428	275 420	435 412	585 408	760 391	900 380	1050 350		
150 (Max. int / Max. cont)	35 480	110 475	270 462	420 458	570 450	755 435	880 420	1030 395		
190		100 595	245 580	375 574	520 560	685 548	820 530			
225			220 690	350 683	500 674	640 652	770 634			

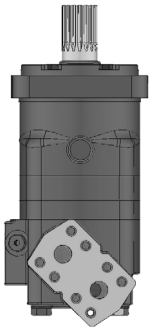
VNKC 400 [391.3 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20 (Max. cont)	24 (Max. int)	27.5 (Peak)	30
2	90 4	172 2	360 1							
8	95 19	180 18	370 17	555 16	730 14	885 12	1025 9	1195 4		
15	95 37	185 37	375 36	560 35	740 33	930 28	1070 22	1265 14	1380 5	1625 1
30	98 75	185 74	380 73	575 71	760 68	960 65	1135 55	1315 45	1455 31	1625 20
45	95 114	185 113	385 111	580 108	765 105	970 100	1145 90	1335 80	1530 72	
60	90 152	180 152	380 150	580 147	770 142	975 134	1155 126	1345 112		
75	85 191	180 191	380 188	580 186	775 181	980 172	1160 160	1355 148		
90	80 230	175 229	375 227	570 224	765 220	975 212	1155 200			
105	70 268	165 267	360 265	560 260	760 254	965 246	1150 232			
120	65 306	160 305	355 303	550 298	745 290	950 278	1140 262			
135	55 345	155 343	340 337	545 330	735 322	940 310	1120 295			
150 (Max. cont / Max. int)	45 382	145 380	320 376	530 370	730 362	925 352				
190		130 483	300 476	515 470	730 458	915 445				
225			285 570	500 560	710 550	895 535				

Cont. Int.

Performance Data



VNKC 500 [490.8 cm3/rev.]

Pressure (MPa)

Flow (L./min)	1.75	3.5	7	10.5	14	17.5	20 (Max. cont)	24 (Max. int)	27.5 (Peak)
4	120 7	230 6	470 5	685 3					
8	125 15	240 14	475 13	705 12	940 11	1165 8	1375 3		
15	125 30	235 29	480 29	720 28	960 27	1190 25	1400 21	1625 17	1880 12
30	125 60	235 59	485 58	735 57	975 54	1215 50	1445 45	1685 35	
45	125 91	235 90	485 89	735 87	975 84	1215 50	1450 70		
60	120 121	235 121	480 120	730 118	975 114	1215 78	1460 98		
75	110 152	225 151	470 149	725 146	970 142	1220 108			
90	100 182	220 182	465 180	720 178	965 175	1220 135			
105	95 213	205 212	460 210	710 206	960 201	1215 168			
120	90 244	195 243	450 240	700 235	950 228	1210 195			
135	85 274	175 273	435 270	680 265	935 258	1205 221			
150	70 304	155 303	420 301	665 292	920 287	1170 250			
190		130 385	360 382	580 373	865 365	1150 280			
225			320 455	555 440	800 432				

Max. cont / Max. int

VNKC 630 [623 cm3/rev.]

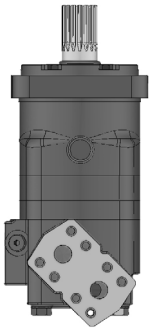
Pressure (MPa)

Flow (L./min)	1.75	3.5	7	10.5	14 (Max. cont)	17.5 (Max. int)	20	22.5 (Peak)
4	130 6	245 5	500 4	750 2				
8	135 12	265 12	540 11	805 10	1050 6			
15	140 24	280 23	585 22	865 21	1085 16	1425 13		
30	145 48	295 47	605 45	925 42	1270 38	1480 34	1780 30	1890 27
45	145 72	295 71	610 70	920 68	1330 65	1465 58	1770 50	
60	135 95	285 94	605 91	915 87	1330 83	1465 78		
75	130 120	275 119	595 116	915 112	1325 106			
90	115 145	260 144	585 141	905 137	1310 130			
105	100 168	255 167	575 164	895 160	1305 152			
120	85 192	235 191	560 186	880 182	1280 175			
135	75 216	220 215	540 212	855 207				
150	50 240	200 239	525 236	84 233				
190			465 300	795 293				
225			430 360	740 348				

Max. cont / Max. int

Cont. Int.

Performance Data



VNKC 800 [802.4 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20	Max. cont 24	Max. int 27.5
4	172 4	345 4	530 2	690 2	860 1				
8	180 9	355 9	540 8	725 8	955 7	1080 6	1275 5	1360 4	
15	185 18	370 18	565 17	758 17	980 16	1130 15	1265 14	1420 12	1655 10	1880 9
30	190 36	385 35	590 34	795 33	1005 32	1200 31	1330 29	1580 28	1740 26	
45	190 55	385 55	590 54	800 53	1015 52	1200 52	1380 50	1550 48		
60	185 74	380 73	580 72	790 70	1015 69	1200 67	1345 65			
75	176 92	370 92	575 91	782 88	1000 87	1185 85	1365 82			
90	165 112	360 111	560 110	765 108	990 106	1170 102				
105	150 130	340 129	555 128	750 127	972 125	1155 120				
120	132 149	325 148	545 146	735 143	945 140	1130 135				
135	105 168	302 167	525 165	710 162	911 158					
150	80 186	270 185	500 183	680 180	880 176					
190		300 235	475 233	660 230	855 226					
225			423 280	612 276	830 272					

Max. cont / Max. int

Torque (N•m) 423
Speed (rpm) 280

VNKC 1000 [981.6 cm3/rev.]

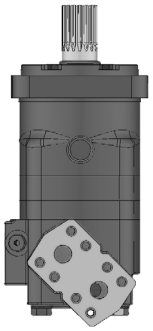
Pressure (MPa)

Flow (L/min)	1.75	3.5	5	7	8.5	10.5	Max. cont 12	Max. int 14
4	225 3	460 3	640 2	875 2	1085 1			
8	230 7	470 7	695 6	945 6	1170 5	1415 4	1560 3	1675 2
15	240 15	485 15	715 15	965 14	1200 14	1445 13	1580 13	1780 12
30	240 30	495 30	720 30	995 29	1235 28	1480 27	1640 25	1860 23
45	240 45	495 45	720 44	1000 44	1250 43	1490 42	1700 40	
60	235 60	490 60	715 60	990 59	1245 57	1500 55		
75	225 76	475 76	710 76	980 75	1230 73	1485 70		
90	215 91	460 91	705 91	960 90	1215 88	1465 85		
105	200 106	445 106	690 105	940 105	1195 103	1440 100		
120	185 122	420 122	665 121	920 119	1155 116			
135	150 137	390 137	635 136	890 136	1120 134			
150	110 152	360 151	605 150	860 148	1080 145			
190		320 192	575 190	820 188	1045 185			
225			515 230	800 228	1020 224			

Max. cont / Max. int

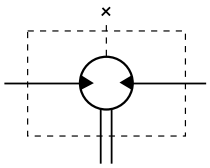
Cont. Int.

VNKC Dimensions and Mounting Data

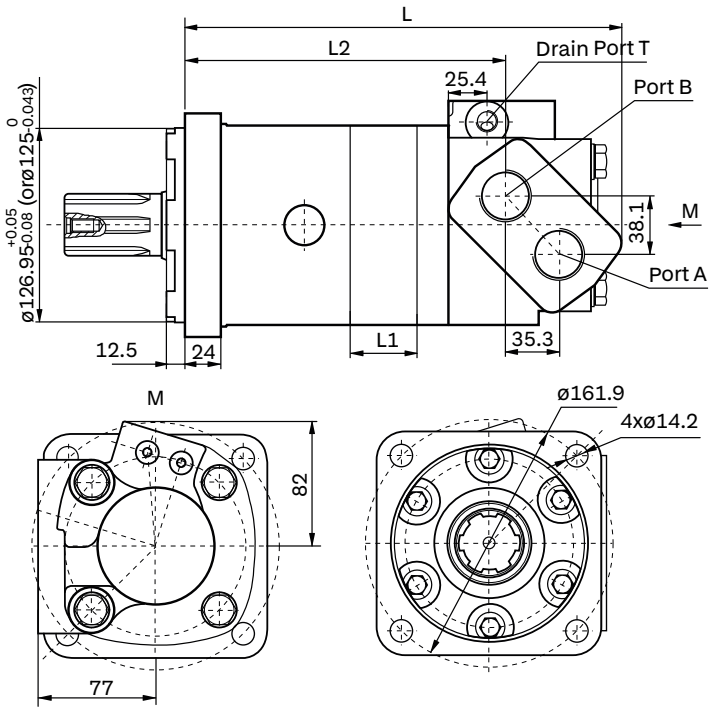


DIRECTION OF SHAFT ROTATION: Standard

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

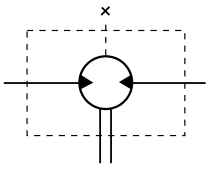


Model	L	L1	L2
VNKC-200	265	21.7	187.5
VNKC-250	271	27.3	193.1
VNKC-315	278	34.5	200.3
VNKC-400	287	43.4	209.2
VNKC-500	298	54.4	220.2
VNKC-630	313	69.1	234.9
VNKC-800	333	89	254.8
VNKC-1000	353	108.9	274.7

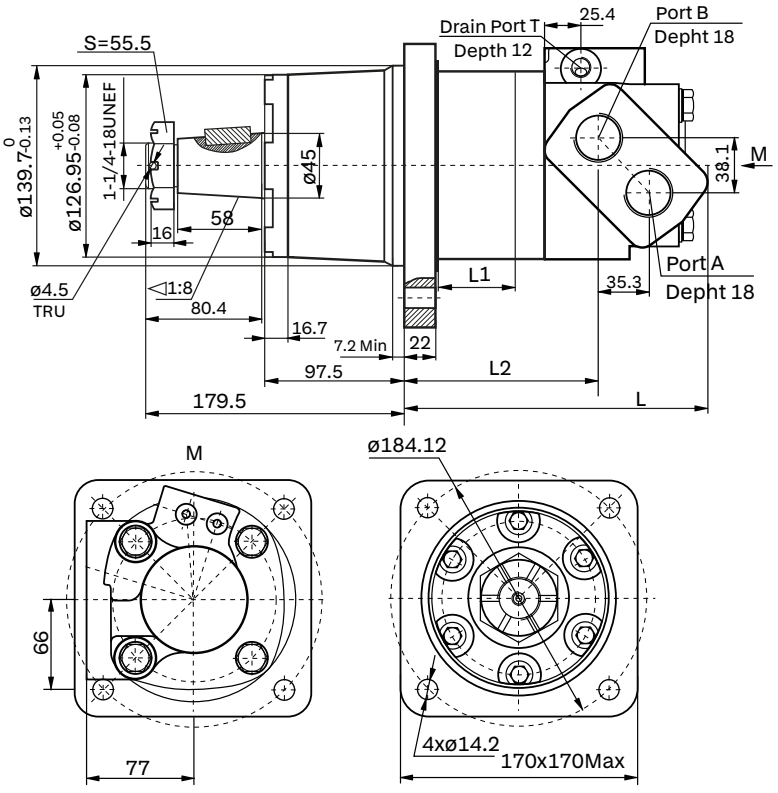


DIRECTION OF SHAFT ROTATION: Standard

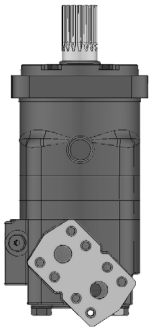
When facing shaft end of motor, shaft to rotate:
Clockwise when port "A" is pressurized.
Counter-clockwise port "B" is pressurized.



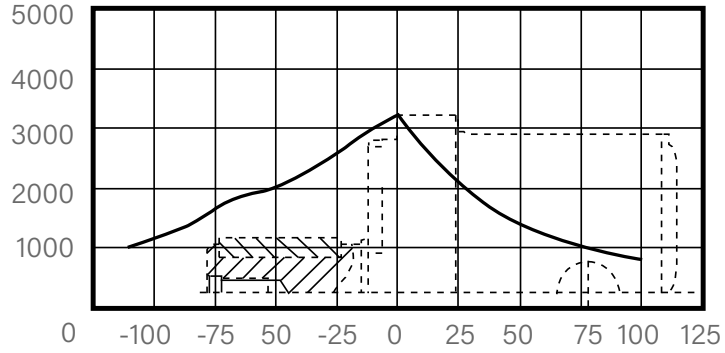
Model	L	L1	L2
VNKC-200	179	21.7	102.5
VNKC-250	185	27.3	108
VNKC-315	192	34.5	115.5
VNKC-400	201	43.4	124.5
VNKC-500	212	54.4	135.5
VNKC-630	226.7	69.1	150.2
VNKC-800	246.5	89	170
VNKC-1000	266.5	108.9	190



VNKC for CC and W Mounting Radial Forces

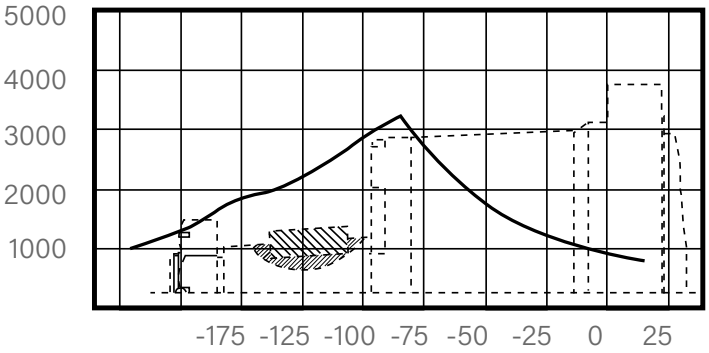


Side Load-(daN)



Distance from Mounting Face --(mm)

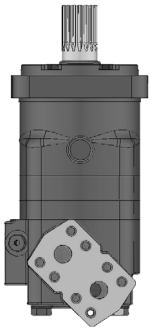
Side Load-(daN)

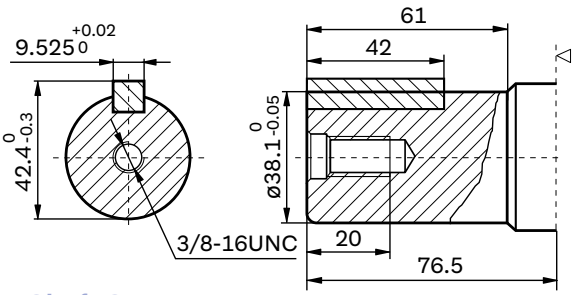


Distance from Mounting Face --(mm)

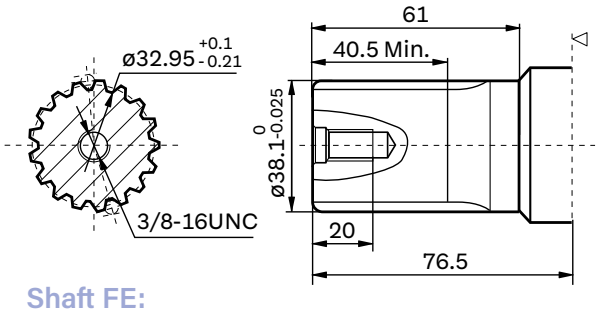
The bearing curve represents allowable bearing loads for an B10 bearing life (2000 hours or 12x106 revolutions at 100rpm) at rated output torque.
Other speed load multiply a load values.
The maximum load curve is defined by bearing static load capacity.
This curve should not be exceeded at any time including shock loads.

VNKC Shaft Extensions for Dimensions Data

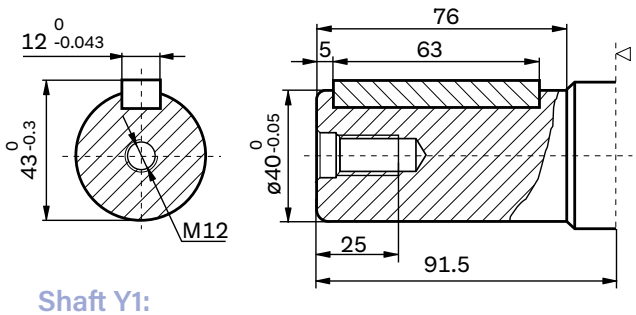




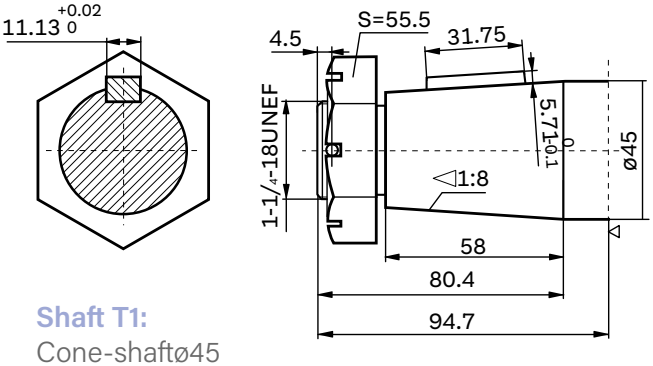
Shaft G2:
Cylindrical shaft ø38.1
Parallel key 9.525x9.525x42
Max.Torque: 1350Nm



Shaft FE:
Splined 17-DP12/24
Max.Torque: 1350Nm

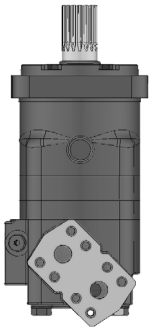


Shaft Y1:
Cylindrical shaft ø40
Parallel key 12x8x63
Max.Torque: 1400Nm

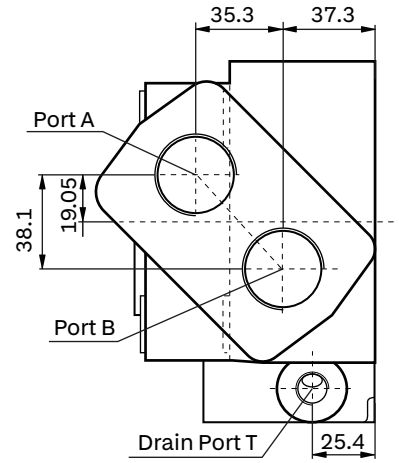


Shaft T1:
Cone-shaftø45
Parallelkey 11.13x11.13x31.75
Tighteningtorque: 500±10Nm
Max. torque: 2100Nm

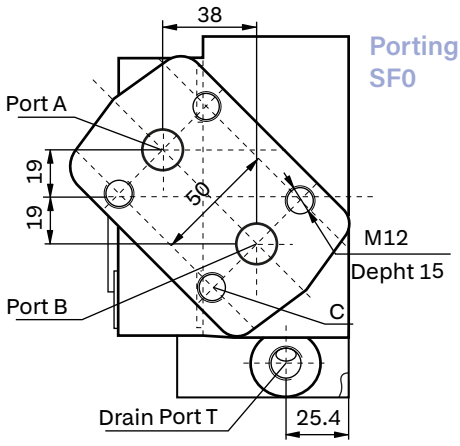
▷ Motor Mounting Surface



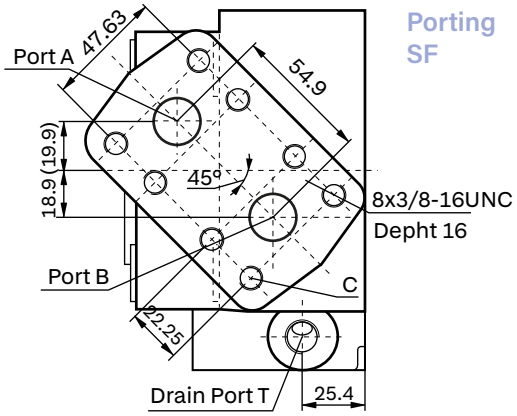
VNKC Dimensions of Ports



Porting
SF5, SF6,
SF7, SF8



Porting
SF0



Porting
SF

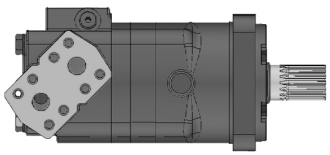
Mounting Content	**SF5** (depth)	**SF6** (depth)	**SF7** (depth)	**SF8** (depth)	**SF** (depth)	**SF0** (depth)
P(A,B)	1-5/16-12UN(18)	M33X2(18)	G1(18)	G3/4(18)	ø19.05	ø16
T	7/16-20UNF(12)	M14X1.5(12)	G1/4(12)	G1/4(12)	7/16-20UNF(12)	M14X1.5(12)
C	-	-	-	-	8X3/8-16UNC	4XM12

Order Information

1	2	3	4	5	6	7	8
VNKC	–	–	–	–	–	–	–

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Output Shaft		Port and Drain Port		Rotation Direction		Paint		Unusually Function	
Omit	200 250 315 400 500 630 800 1000	CC CC1 W	4-Ø14.2Square-flangeØ161.9, pilotØ127×12.5 4-Ø14.2Square-flangeØ161.9, pilotØ125×12.5 4-Ø14.2 Wheel-flange Ø184.12, Piliot 139.7	G2 FE Y1 T1	ShaftØ38.1, parallel key9.52×9.52×57.15 ShaftØ38.1, splined tooth17-DP12/24 ShaftØ40, parallel key12×8×63 Cone-shaft 1:8 Ø45, parallel key 11.13X11.13X31.75	SF SF0 SF5 SF6 SF7 SF8	3/4"Manifold Mount8×3/8-16UNC, 7/16-20UNF Ø16Manifold Mount4×M12,M14×1.5 1-5/16-12UN,7/16-20UNF M33×2,M14×1.5 G1,G1/4 G3/4,G1/4	Omit R	Standard Opposite	00 Omit B S	No paint Blue Black Silver grey	Omit	Standard

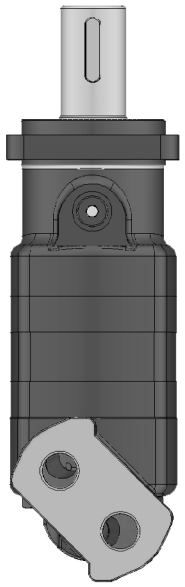
Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.



VNKD Series Hydraulic Motor

INTRODUCTION

VNKD Series motor adapt the advanced Geroler gear set designed with disc distribution flow and 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.
* **Advanced design** in disc distribution flow, wich can automatically compensate in operating with high efficiency and long life, provide smooth and reliable operation.
* **Shaft seal** can bear high pressure of back.
* **The output shaft adapts** in cylinder 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.

SPECIFICATION Main Specification

Type		VNKD-350	VNKD-480	VNKD-665	VNKD-940
Geometric displacement (cm3/rev.)		351	479	638	933
Max. speed (rpm)	cont.	485	355	265	180
	int.	755	555	410	280
Max. torque (N•m)	cont.	1025	1425	1930	2480
	int.	1425	1960	2520	3400
Max. pressure drop (MPa)	cont.	20	20	20	17.5
	int.	27.5	27.5	26.0	24.0
	peak.	27.5	27.5	27.5	26.0
Max. flow (L/min)	cont.	170	170	170	170
	int.	265	265	265	265
Weight (Kg)		43.4	45.8	45.8	47.1

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

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

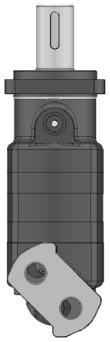
* **Peak pressure:** Max. value of operating motor in 0.6 second per minute.

* **Oil recommend:** Anti-wear hydraulic oil, viscosity 37-73cSt, cleanliness of oil as ISO 18/13, Max. operating temperature upper limit 80 C°.

***Special motive seal,** motor permits back pressure can reach 7-20MPa (optical), but to achieve good life cycle and overall performance, we recommend the back pressure cant over 5 MPa, if so, recommend to use drain line, to make sure inside of the motor fulfilled with oil when drain oil in use. The drain line pipe should have a certain throttle to keep the back pressure over 3.5 Bar. If the drain line in use, it is not only can keep low back pressure, but also can flash the wear pollution out, still have a function as cooling.

***There is a run-in period** before full load of the motor, recommend to do the run-in period for 1 hour under 30% of the Max. working pressure. The Max. output torque related to the type of shaft.

Performance Data



VNKD-350 [351 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20 (Max. cont)	24	27.5 (Max. int)
4	70 3	153 1							
8	87 22	177 20	357 16	538 11	718 8	898 4			
15	87 42	177 40	357 36	538 32	718 29	898 25	1027 21	1233 17	1413 14
30	84 85	174 84	354 80	535 76	716 72	897 68	1025 64	1231 60	1412 56
45	82 127	172 126	353 123	533 119	713 115	894 111	1023 107	1230 103	1410 99
60	80 170	170 169	351 167	531 162	711 158	892 153	1021 150	1228 145	1408 141
75	77 213	167 212	347 211	528 206	708 201	889 196	1019 192	1224 187	1404 184
90	74 255	164 254	345 253	525 249	705 245	886 239	1015 235	1221 230	1402 225
105	70 296	160 295	341 294	521 292	701 287	883 283	1012 278	1219 272	1399 267
120	67 340	157 339	338 338	518 336	698 330	879 325	1009 320	1215 315	1395 310
135	63 383	153 382	333 381	514 379	694 373	875 368	1005 362	1211 357	1392 352
150	58 425	148 424	330 423	510 422	691 417	871 411	1001 405	1207 400	
170 (Max. cont)	54 482	143 481	323 480	503 479	683 475	863 470	992 463	1197 457	
225		126 637	306 636	486 635	668 632	848 625	980 619		
265 (Max. int)		112 752	293 750	473 747	654 746	835 739	966 731		

Torque (N•m) 112
Speed (rpm) 752

VNKD-480 [479 cm3/rev.]

Pressure (MPa)

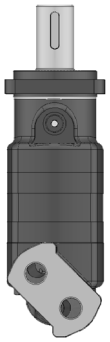
Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20 (Max. cont)	24	27.5 (Max. int)
4	87 6	176 5	357 4	531 2					
8	119 16	24 14	494 12	743 8	994 5	1243 2			
15	119 31	244 29	493 27	742 24	993 21	1242 18	1421 16	1706 13	1955 10
30	117 62	241 61	491 58	741 55	990 53	1240 50	1419 47	1704 44	1953 42
45	113 93	238 92	488 89	738 86	987 83	1237 80	1416 77	1700 74	1951 72
60	110 124	236 123	485 121	734 118	983 115	1234 112	1413 109	1697 106	1947 103
75	106 156	231 155	480 153	731 149	980 146	1229 143	1409 140	1694 137	1943 134
90	102 188	226 187	477 184	726 181	975 178	1226 174	1405 171	1689 168	
105	97 219	222 218	472 215	722 213	971 209	1221 206	1401 202	1685 199	
120	93 250	217 249	467 247	717 243	966 240	1216 236	1396 233	1680 229	
135	87 280	212 279	462 278	711 275	961 271	1211 268	1391 264		
150	81 313	206 312	456 310	706 306	955 303	1205 299	1385 295		
170 (Max. cont)	74 354	199 353	448 351	699 348	948 344	1197 340	1379 336		
225	49 469	174 468	424 467	674 464	923 459	1173 455	1355 451		
265 (Max. int)		156 552	405 551	655 547	905 552	1155 537	1337 533		

Notice:

Motor can operating in all the marked torque and speed in each zone, but choose the torque and speed in white back ground, motor can acquire best life cycle.

Cont. Int.

Performance Data



VNKD-665 [638 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20 (Max. cont)	24	26 (Max. int)
4	162 4	331 3	671 2						
8	163 11	332 10	672 8	1011 7	1350 4	1689 2			
15	162 23	331 22	671 20	1010 18	1349 15	1688 13	1931 11	2319 9	2513 8
30	158 45	328 44	667 42	1007 40	1347 38	1685 36	1928 34	2316 33	2509 32
45	154 45	324 68	664 66	1002 64	1342 62	1682 60	1924 58	2312 56	2506 55
60	149 92	320 91	658 89	998 87	1338 85	1677 83	1920 81	2304 79	
75	144 116	314 115	653 113	993 111	1332 107	1672 105	1916 103		
90	138 139	308 138	647 135	987 133	1327 131	1665 128	1909 126		
105	132 162	302 161	642 159	980 156	1320 154	1660 152			
120	125 186	296 185	634 182	974 180	1314 178	1653 175			
135	119 209	288 208	628 206	967 202	1306 200	1645 197			
150	111 232	280 231	620 228	960 226	1298 223	1638 221			
170 (Max. cont)	101 264	270 262	610 259	949 257	1288 254	1628 252			
225	67 349	236 347	576 345	916 342	1255 339				
265 (Max. int)		212 410	551 407	890 404	1230 400				

Torque (N•m) 212
Speed (rpm) 410

VNKD-940 [933 cm3/rev.]

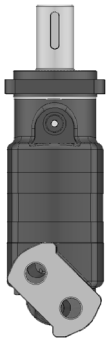
Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20 (Max. cont)	24 (Max. int)
4	236 3	484 2						
8	238 7	485 6	982 5	1478 3	1975 1			
15	236 15	484 14	980 13	1477 11	1974 9	2469 7	2824 6	3393 4
30	232 31	480 30	977 28	1472 27	1969 25	2466 23		
45	226 47	474 46	971 44	1467 43	1964 41	2460 39		
60	219 63	467 62	964 60	1460 58	1957 57			
75	211 79	459 78	956 76	1452 74	1949 72			
90	202 95	451 94	947 92	1444 90	1941 88			
105	193 111	442 110	938 108	1435 106	1932 104			
120	184 127	432 126	928 124	1425 122				
135	173 143	422 142	918 140	1414 138				
150	161 159	410 158	906 156	1403 154				
170 (Max. cont)	147 180	396 179	891 177	1388 175				
225	98 239	346 238	842 235	1339 233				
265 (Max. int)	61 281	309 280	806 277	1303 275				

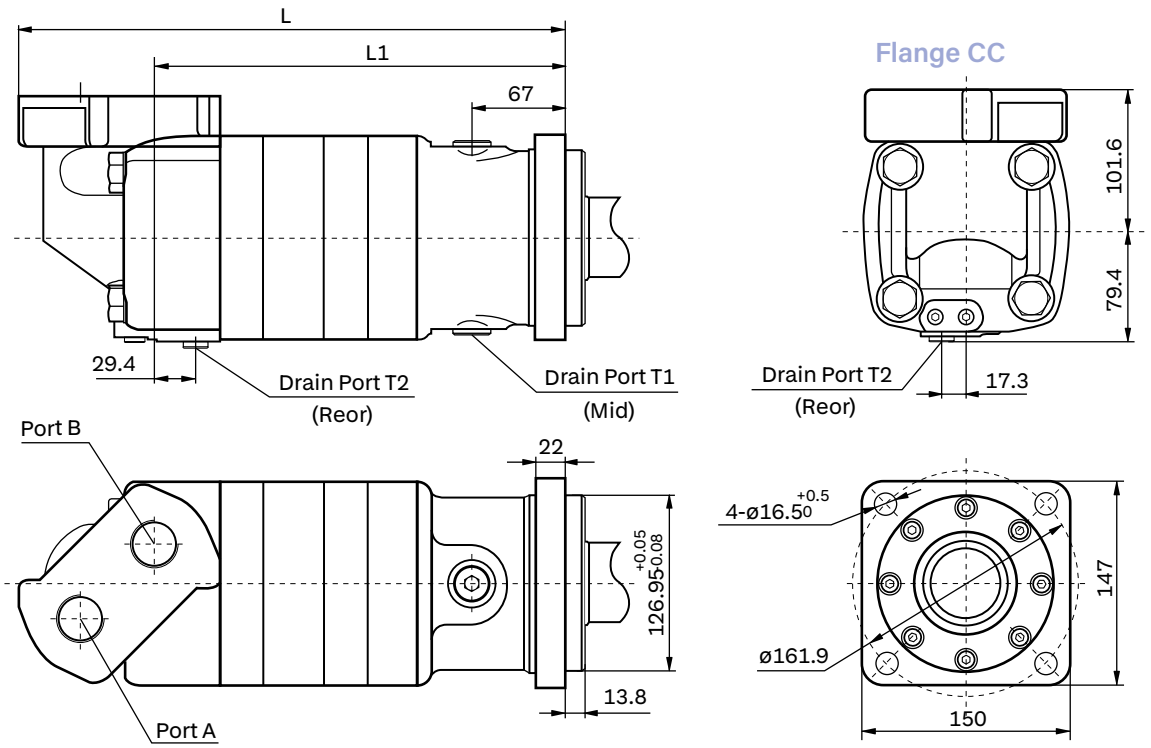
Notice:

Motor can operating in all the marked torque and speed in each zone, but choose the torque and speed in white back ground, motor can acquire best life cycle.

Cont. Int.



VNKD Dimensions of Mounting and Ports Date



Model	L1	L
VNKD-350	281	381
VNKD-480	293	393
VNKD-665	293	393
VNKD-940	313	413

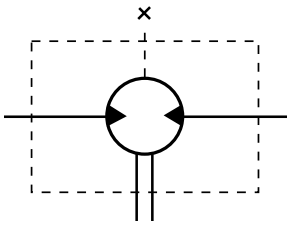
DIRECTION OF SHAFT ROTATION:

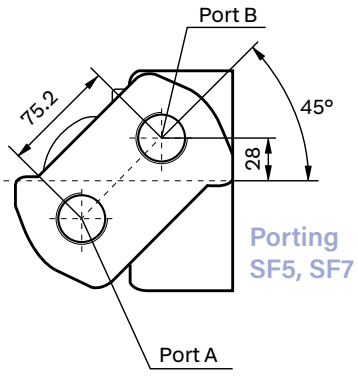
Standard

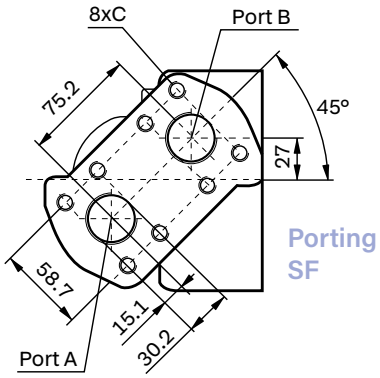
When facing shaft end of motor, shaft to rotate:

Clockwise when **port "A"** is pressurized.

Counter-clockwise **port "B"** is pressurized.



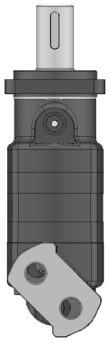


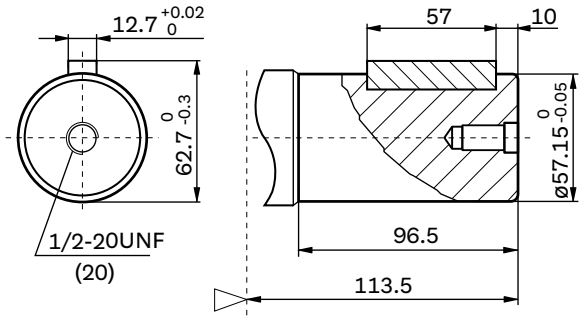


Port	Code	
	SF5	SF7
A,B	1-5/16-12UNC (18)	G1 (18)
T1	7/8-14UNF (16)	G1/2 (16)
T2	9/16-18UNF (12)	G1/4 (12)

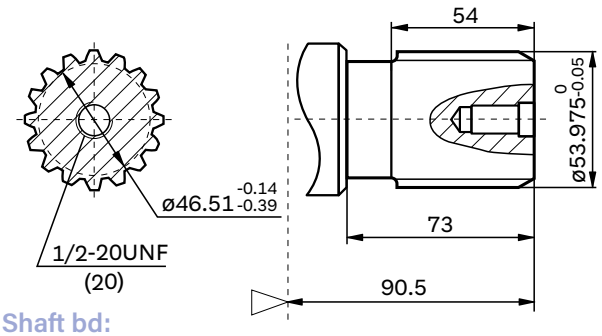
Port	Code
	SF
A,B	ø29.4
T1	7/8-14UNF (16)
T2	9/16-18UNF (12)
C	7/16-14UNC(25)

VNKD Dimensions of Mounting and Ports Date

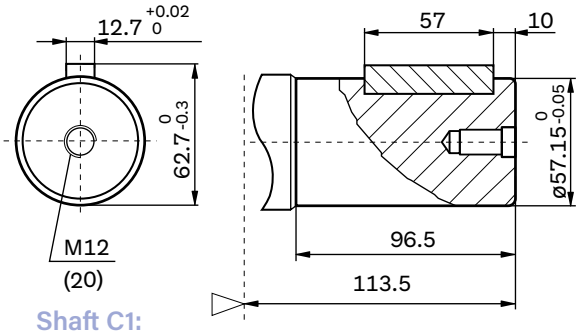




Shaft C:
Cylindrical shaft ø57.15
Key: 12.7x12.7x57



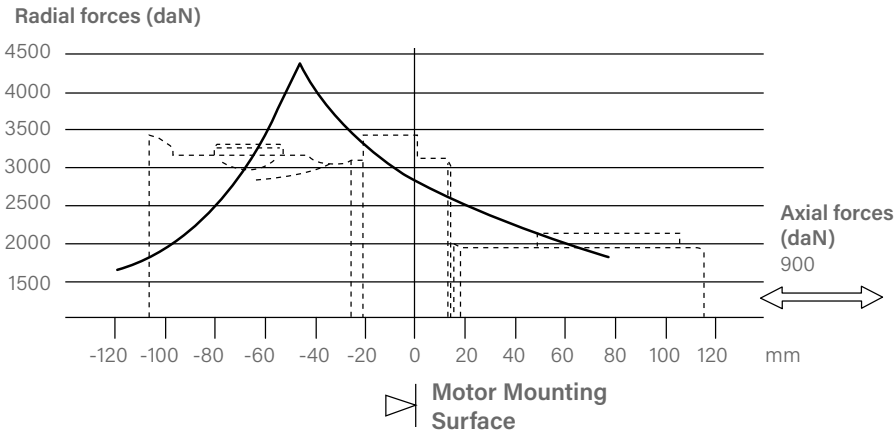
Shaft bd:
Splined 16-DP8/16



Shaft C1:
Cylindrical shaft ø57.15
Key: 12.7x12.7x57

▷ Motor Mounting Surface
CC Flange

VNKD Shaft Radial&Axial Forces of CC Mounting



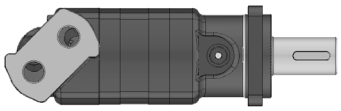
Notice:
The curve on the top means the output shaft permits radial load in different position. The table as follow means the speed of motor influence the radial force.

Order Information

1		2		3		4		5		6		7		8
VNKD	–		–		–		–		–		–		–	

Pos.1	2	3		4		5		6		7		8	
Code	Disp.	Flange		Shaft		Port		Rotation Direction		Paint		Unusually Function	
Omit	350 480 665 940	CC	4-Ø16.5 Squre flange Ø161.9 Pilot Ø127*13.8	C C1 BD	Ø57.15 Straight Shaft Parallel key 12.7*12.7*57 Ø57.15 Straight Shaft Parallel key 12.7*12.7*57 Ø53.975 Splined Shaft Splined 16-DP8/16	SF5 SF7 SF	A, B:1-5/16-12UNF T1: 7/14UNF T2: 9/16-18UNF A, B: G1 T1: G1/2 T2: G1/4 Manifold mount 8x7/16-14UNC T1: 7/8-14UNF T2: 9/16-18UNF	Omit R	Standard CW Opposite CCW	00 B	No paint Black	Omit	Standard

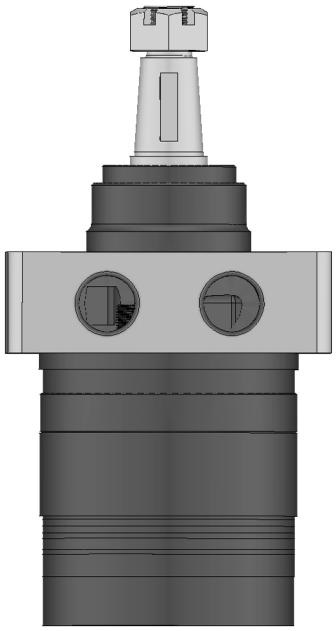
Note: When the table is used , please fill the code of left rows in dash area and give us, wich the code information is consists of construction, displacement, mounting flange, output shaft and ports, if the specification is not In the table or you have specific requirements, please contact us.



VNKE Series Hydraulic Motor

INTRODUCTION

VNKE 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 unuit can be supplied the individual variant in operating multifunction in accordance with requeriment of applications.



CHARACTERISTIC FEATURES

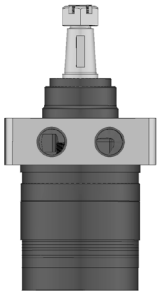
* **Advanced manufacturing** devices tor the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
* **The output shaf**t adapts in needie roller bearings that permit high axial and radial forces. The case can offers capacities of high pressure and high torque in the wide of applications.
* **Advanced design** in high speed distribution flow, wich 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 highprecision reduces life-cycle cost, maintain high volume efficiencies and can run very smoothly at low speed, gear box not required.

SPECIFICATION Main Specification

Type		VNKE 65	VNKE 80	VNKE 100	VNKE 125	VNKE 160	VNKE 200	VNKE 230	VNKE 250	VNKE 295	VNKE 315	VNKE 375
Geometric displacement (cm3/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.

Performance Data



VNKE 65 [66.8 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14 (Max. cont)	19 (Max. int)
2	26 22	54 16	83 4		
5	27 69	56 62	87 53	118 42	
10	29 145	60 141	91 132	123 122	171 95
15	30 221	62 216	94 207	126 196	176 149
20	28 295	58 290	91 279	122 261	174 232
25	24 368	55 365	90 352	121 341	172 312
34	22 501	54 493	89 478	119 457	171 423
45 (Max. cont)	20 667	52 660	85 642	115 621	168 587
57 (Max. int)	15 842	46 835	80 814	112 789	163 735

VNKE 80 [81.3 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14 (Max. cont)	19 (Max. int)
2	33 18	70 14	106 4		
5	35 55	72 51	111 44	150 25	
10	36 121	75 118	114 113	155 107	215 88
15	37 181	77 178	116 171	157 162	215 148
20	35 242	74 238	112 231	151 223	206 205
25	35 303	71 298	108 289	148 275	202 261
34	31 411	69 407	105 396	145 382	198 373
45 (Max. cont)	23 543	62 537	100 521	139 513	12 501
57 (Max. int)	18 689	55 681	98 665	134 649	186 618

VNKE 100 [101.6 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14 (Max. cont)	19 (Max. int)
2	40 15	82 11	126 4		
5	41 44	83 36	150 28	206 12	
10	42 97	91 95	138 94	177 81	230 54
15	42 147	91 144	138 137	185 124	257 93
20	38 195	88 192	136 182	180 169	244 138
25	39 244	89 241	142 230	191 221	268 194
34	31 331	79 328	131 323	179 308	250 273
45 (Max. cont)	21 439	70 436	119 433	168 419	241 383
57 (Max. int)	10 553	60 545	109 534	158 527	232 491

Torque (N•m) 158
Speed (rpm) 527

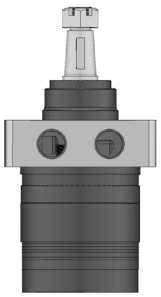
VNKE 125 [127 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14 (Max. cont)	19 (Max. int)
2	52 12	150 9	158 3		
5	55 35	112 31	170 22	221 15	290 10
10	57 78	117 75	180 69	242 63	335 46
15	56 116	118 113	180 109	245 99	331 76
20	55 155	117 153	178 147	242 136	331 110
25	52 593	111 188	177 182	238 172	325 151
34	43 264	105 262	169 254	231 244	326 220
45 (Max. cont)	38 350	95 348	159 346	219 331	314 301
57 (Max. int)	21 441	176 439	141 431	280 417	302 384

Cont. Int.

Performance Data



VNKE 160 [157.2 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14 (Max. cont)	19 (Max. int)
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	255 87	307 79	426 61
20	71 126	148 123	223 118	305 110	422 95
25	62 157	140 155	218 152	296 141	415 129
34	56 214	134 211	211 206	287 197	408 181
45 (Max. cont)	47 283	127 281	205 275	281 266	391 241
57 (Max. int)	36 355	97 352	182 346	260 336	370 311

VNKE 200 [193.6 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	14 (Max. cont)	19 (Max. int)
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
25	78 127	170 125	271 121	376 113	518 101
34	64 173	158 171	268 165	363 156	502 143
45 (Max. cont)	51 229	157 227	252 221	351 212	494 196
57 (Max. int)	36 289	138 286	231 279	330 271	469 256

VNKE 230 [226 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	12 (Max. cont)	16.5 (Max. int)
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	230 54
15	104 65	215 63	327 59	375 52	257 93
20	101 86	210 84	321 81	371 75	244 138
25	95 108	201 106	316 102	364 94	268 194
34	82 147	188 145	308 141	358 135	250 273
45	55 197	158 195	276 191	329 186	241 383
57 (Max. cont)	19 247	130 244	256 240	301 230	232 491
75 (Max. int)		65 328	183 323	250 311	

Torque (N•m) 250
Speed (rpm) 311

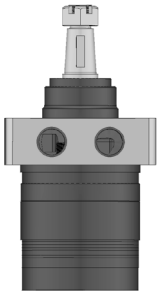
VNKE 250 [257 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	10.5	11 (Max. cont)	15.5 (Max. int)
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
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
57 (Max. cont)	73 216	208 213	339 205	342 197	487 184
(Max. int)		74 287	198 284	301 278	441 267

Cont. Int.

Performance Data



VNKE 295 [287.8 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	11	Max. int 14.5
5	121 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
45 Max. cont	115 154	234 153	368 148	522 136
57	108 196	227 194	359 187	514 176
75 Max. int		211 254	349 246	506 231

Torque (N•m) 506
Speed (rpm) 231

VNKE 315 [314.5 cm3/rev.]

Pressure (MPa)

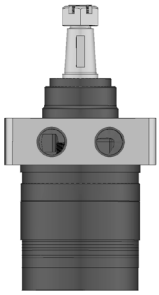
Flow (L/min)	3.5	7	11	Max. int 13.5
5	136 11	281 8	427 3	
10	139 30	287 29	438 26	574 20
15	141 47	295 46	448 43	587 40
20	138 62	287 61	442 58	587 53
25	131 78	280 75	431 71	567 66
34	117 106	269 104	423 98	557 91
45 Max. cont	114 141	253 138	397 132	535 125
57	86 178	219 173	383 168	5055 162
75 Max. int		108 235	287 231	416 219

VNKE 375 [370 cm3/rev.]

Pressure (MPa)

Flow (L/min)	3.5	7	9	Max. int 12.5
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
45 Max. cont	138 121	300 119	408 115	572 107
57	118 152	281 150	393 144	550 136
75 Max. int		258 199	369 191	518 183

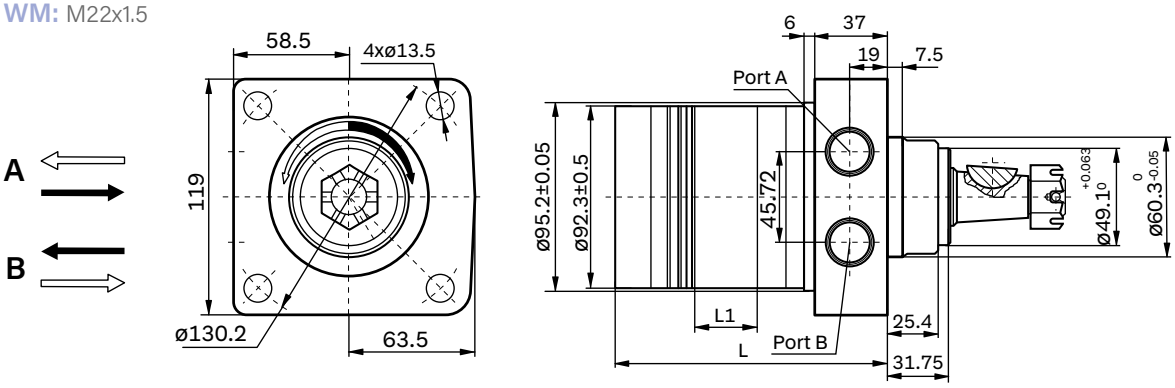
Cont. Int.



VNKE Dimensions and Mounting Data

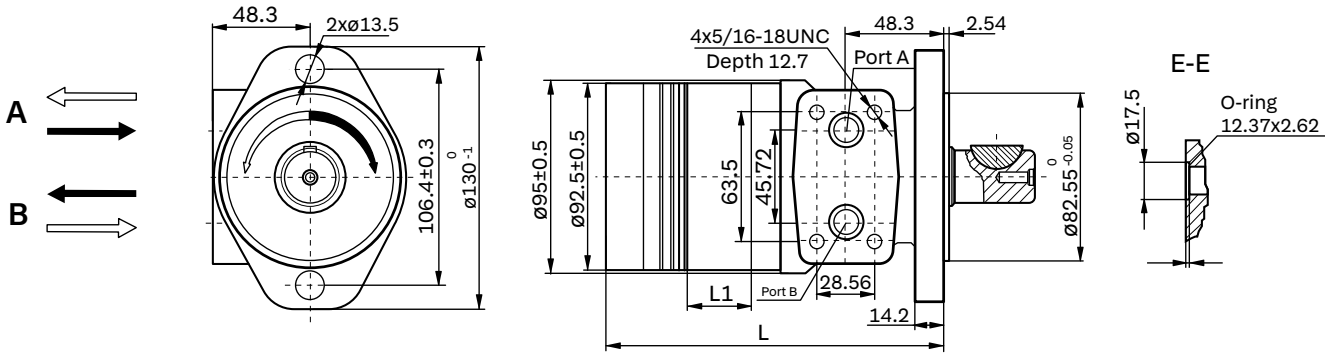
Wheel Mount

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

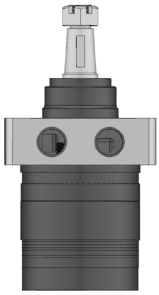


Displacement (cm3/rev.)	65	80	100	125	160	200	230	250	295	315	375
L1 (mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L (mm)	119	122	126	131	136.5	144	150	156	162	168	180
Weight (kg)	7.4	7.5	7.8	8	8.3	8.7	9.2	9.6	10	10.3	10.8

Code: HM Manifold
A, B Port ø12.7

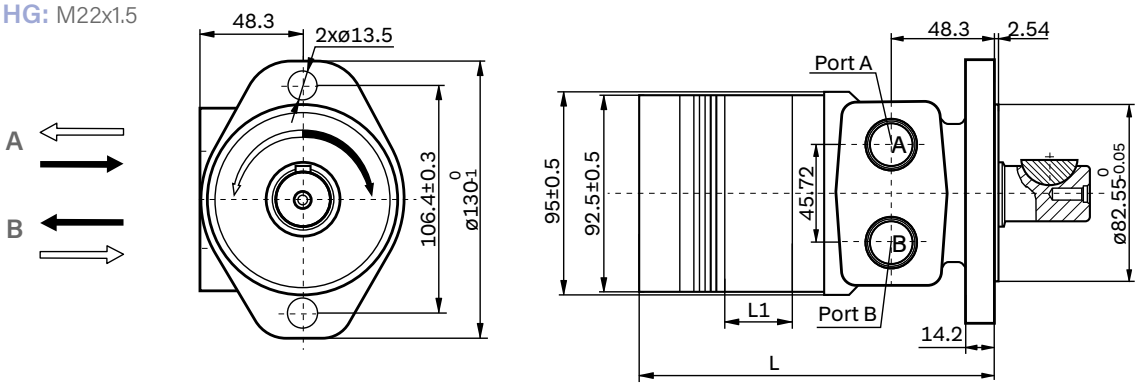


Displacement (cm3/rev.)	65	80	100	125	160	200	230	250	295	315	375
L1 (mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L (mm)	149	152	156	161	166.5	174	180	186	192	198	210
Weight (kg)	6.4	6.5	6.8	7	7.3	7.7	8.2	8.6	9	9.3	9.8



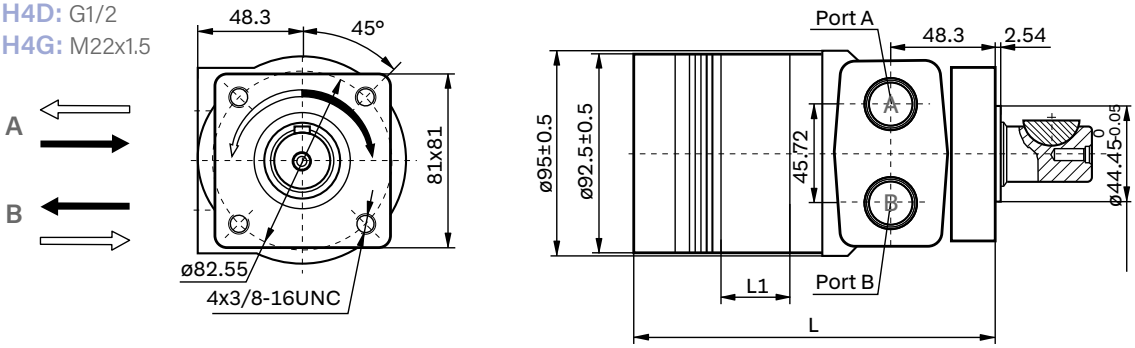
VNKE Dimensions and Mounting Data

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



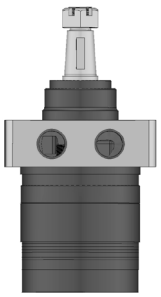
Displacement (cm3/rev.)	65	80	100	125	160	200	230	250	295	315	375
L1 (mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L (mm)	149	152	156	161	166.5	174	180	186	192	198	210
Weight (kg)	6.4	6.5	6.8	7	7.3	7.7	8.2	8.6	9	9.3	9.8

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

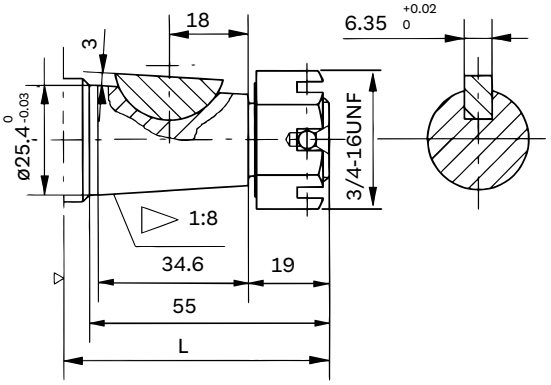


Displacement (cm3/rev.)	65	80	100	125	160	200	230	250	295	315	375
L1 (mm)	13	16	20	25	30.5	38.1	44	50	56	62	74
L (mm)	149	152	156	161	166.5	174	180	186	192	198	210
Weight (kg)	6.4	6.5	6.8	7	7.3	7.7	8.2	8.6	9	9.3	9.8

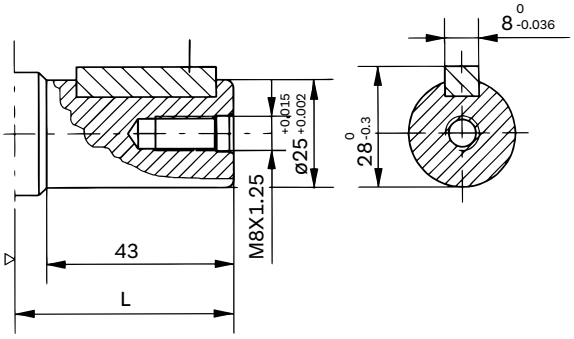
VNKE Shaft Extensions Dimensions Data



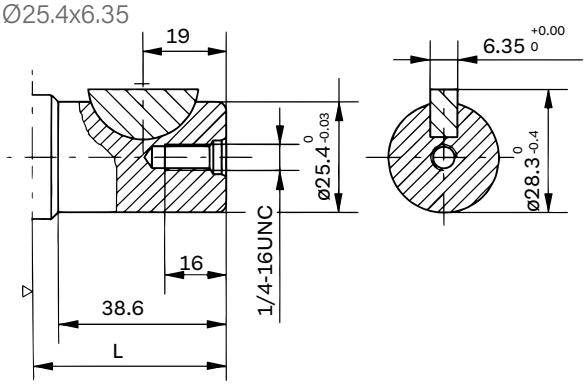
Shaft T:
Cone shaft Ø25.4
Woodruff key Ø25.4x6.35



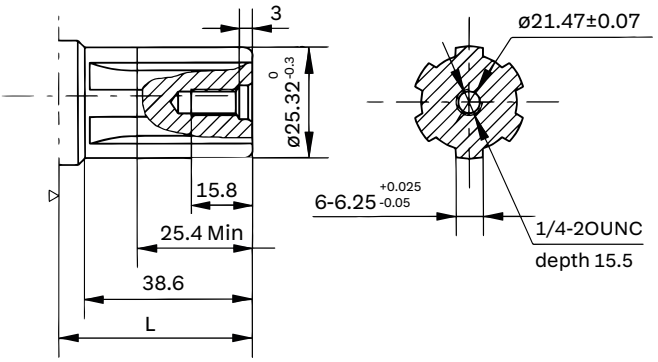
Shaft A:
Cylindrical shaft Ø25
Parallel key 8x7x32



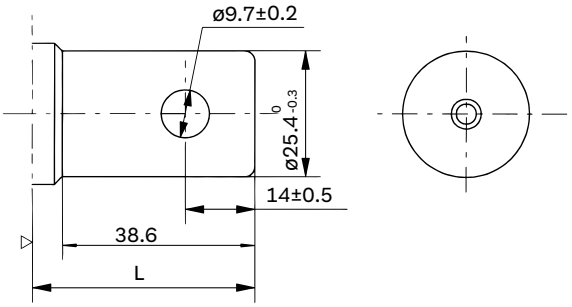
Shaft K:
Cylindrical shaft Ø25.4
Woodruff key Ø25.4x6.35



Shaft S:
Splined SEA 6B



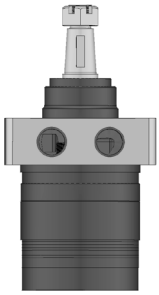
Shaft H:
Cylindrical shaft Ø25.4
With hole Ø9.7



Dimension L

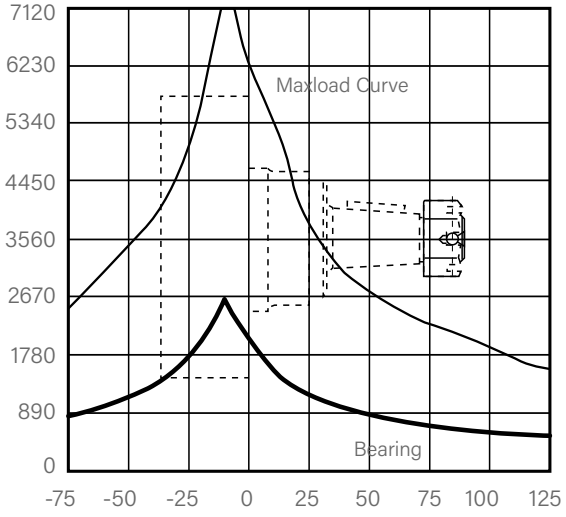
Shaft / Mounting	T	A	K	S	H
WS	90.2	78.2	73.9	73.9	73.9
HS/HP	61	49	44.7	44.7	44.7
H4S/H4P					
HM					

Permissible Shaft Loads



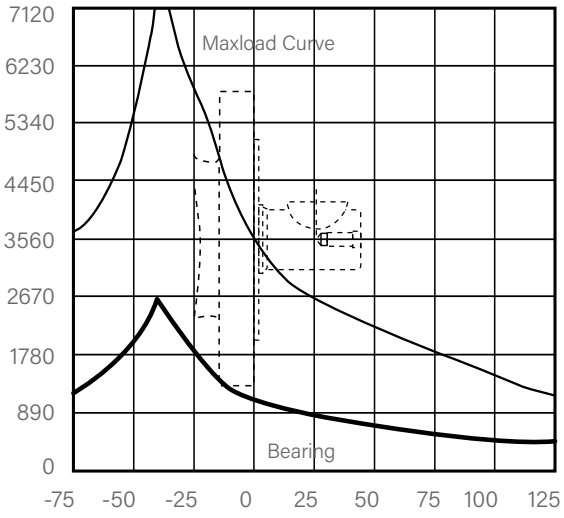
VNKE for Wheel Mounting

Side Load-(daN)



VNKE for Other Mounting

Side Load-(daN)



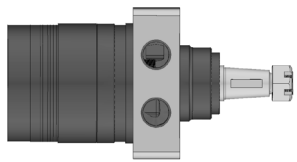
The bearing curve represents al lowable bearing loads for an L10 bearing life at 3x106 revolutions.
The maximum load curve is defined by bearing static load capacity.
This curve should not be exceeded at any time including shock loads.

Order Information

1		2		3		4		5		6		7	
VNKE	–		–		–		–		–		–		

Pos.1	2	3		4		5		6		7	
Code	Disp.	Flange, Pilot, Ports		Output Shaft		Rotation Direction		Paint		Unusually Function	
Omit	65 80 100 125 160 200 230 250 295 315 375	WS	4-Ø13.5 Wheel - flange,Pilot Ø60.3×7 Port 7/8-14 O-ring	T	Cone-Shaft Ø25.4, Woodruff key Ø25.4×6.35	Omit	Standard	00		Omit	Standard
		WD	4-Ø13.5 Wheel -flange,Pilot Ø60.3×7 Port G1/2	A	Cylindrical Shaft Ø25, Parallel key 8×7×32			Omit	Standard		
		WM	4-Ø13.5 Wheel -flange,Pilot Ø60.3×7 Port M22*1.5	K	Cylindrical Shaft Ø25.4, Woodruff key Ø25.4×6.35	R	Opposite	B	Opposite		
		HM	2-Ø13.5 Rhomb-flange,Pilot Ø82.5×2.54 Port 1/2" Manifold mount 4×5/8-18	S	Shaft Ø25.4, Splined key SAE 6B			S			
		HS	2-Ø13.5 Rhomb-flange,Pilot Ø82.5×2.54 Port 7/8-14 O-ring	H	Cylindrical Shaft Ø25.4, Pin Hole Ø9.7						
		HP	2-Ø13.5 Rhomb-flange,Pilot Ø82.5×2.54 Port 1/2-14 NPFT Pipe								
		HD	2-Ø13.5 Rhomb-flange,Pilot Ø82.5×2.54 Port G1/2								
		HG	2-Ø13.5 Rhomb-flange,Pilot Ø82.5×2.54 Port M22x1.5								
		H4S	4-3/8-16 Square- flange,Pilot Ø44.4×2.54Port 7/8-14 O-ring								
		H4P	4-3/8-16 Square- flange,Pilot Ø44.4×2.54 Port 1/2-14 NPFT Pipe								
		H4D	4-3/8-16 Square- flange,Pilot Ø44.4×2.54 Port G1/2								
		H4G	4-3/8-16 Square- flange,Pilot Ø44.4×2.54Port M22x1.5								

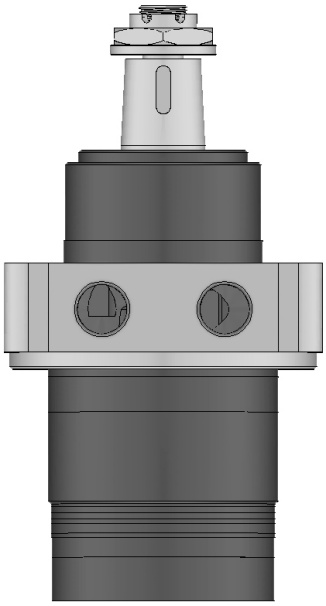
Note: When the table is used, please fill the code of left rows in the table and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contract us.



VNKJ Series Hydraulic Motor

INTRODUCTION

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

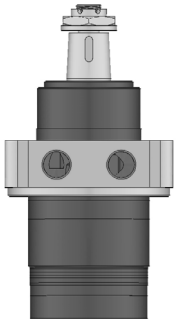
* **Advanced manufacturing** devices for the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
* **The output shaft** adapts in needle roller bearings that permit high axial and radial forces. The case can offers capacities of high pressure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

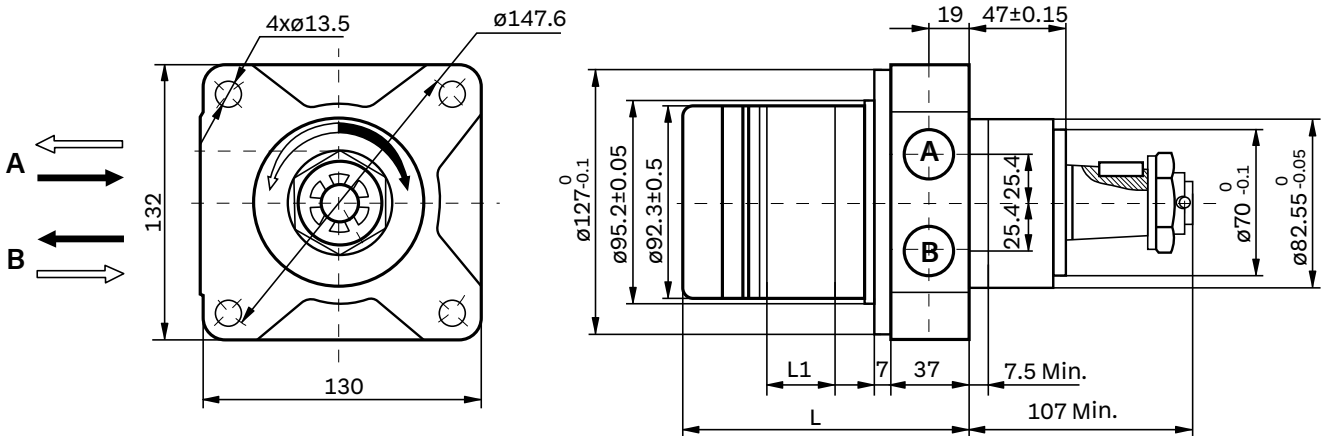
SPECIFICATION Main Specification

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 (cm3/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 (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.

VNKJ Dimensions and Mounting Data



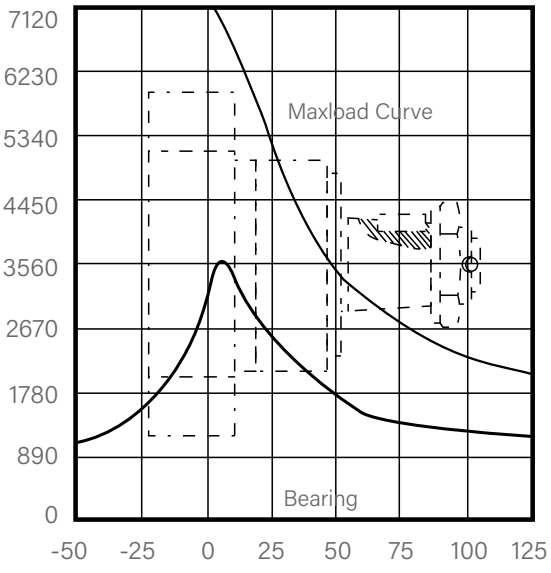


Wheel Mount
Code: WS Ports A, B 7/8-14 O-ring
Code: WD Ports A, B G1/2
Code: WM Ports A, B M22x1.5

Displacement (cm3/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

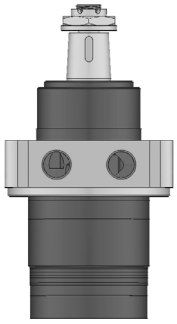
The bearing curve represents al lowable bearing loads for an L10 bearing life at 3x106 revolutions.
The maximum load curve is defined by bearing static load capacity.
This curve should not be exceeded at any time including shock loads.

Side Load-(daN)

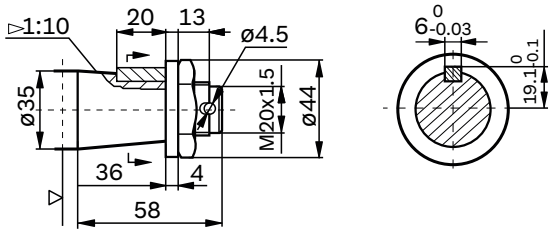


Distance from Mounting Face --(mm)

VNKJ Shaft Extensions for Dimensions Data

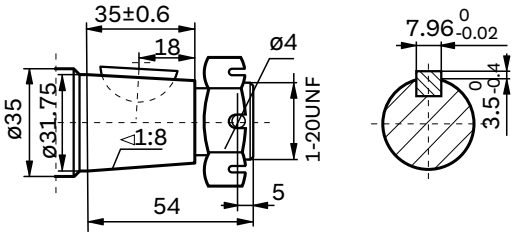


Shaft T1



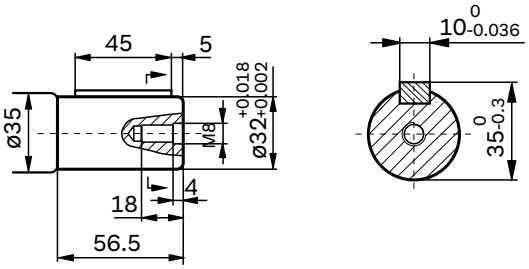
Shaft T1:
Cone-shaft Ø35
Parallel key B6x6x20
Tightening torque:200±10Nm

Shaft T2



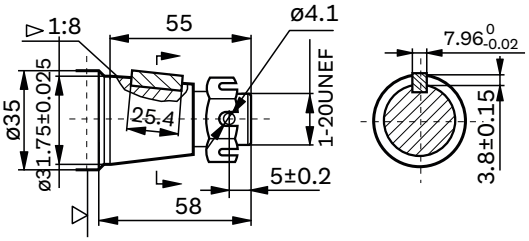
Shaft T2:
Cone-shaft Ø31.75
Woodruff key Ø25.4x7.96

Shaft B



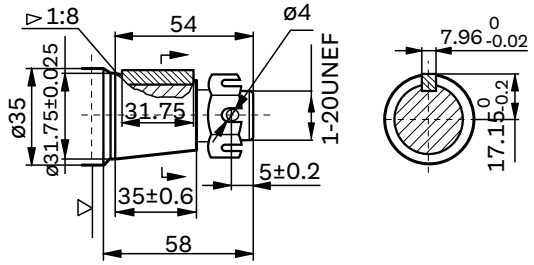
Shaft B:
Cylindrical shaft Ø32
Parallel key 10x8x45

Shaft T4



Shaft T4:
Cone-shaft Ø31.75
Parallel key 7.96x7.96x25.4
Tightening torque:200±10Nm

Shaft T3



Shaft T3:
Cone-shaft Ø31.75
Parallel key 7.96x7.96x31.75
Tightening torque:200±10Nm

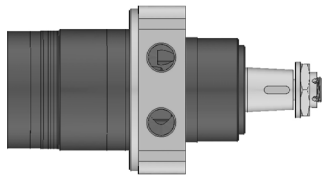
▷ Motor Mounting Surface

VNKJ Shaft Extensions for Dimensions Data

1	2	3	4	5	6	7
VNKJ	–	–	–	–	–	–

Pos.1	2	3		4		5		6		7	
Code	Disp.	Flange, Pilot, Ports		Output Shaft		Rotation direction		Paint		Unusually Function	
Omit	65 80 100 125 160 200 230 250 295 315 375	WS WD WM	4-Ø13.5 Wheel-flangeØPilot Ø82.55×7, Port 7/8-14 O-ring 4-Ø13.5 Wheel-flangeØPilot Ø82.55×7, Port G1/2 4-Ø13.5 Wheel-flangeØPilot Ø82.55×7, Port M22x1.5	T1 T2 T3 T4 B	Cone-Shaft Ø35,Parallel key B6×6×20 Cone-Shaft Ø31.75,Woodruff key ø25.4×7.96 Cone-Shaft Ø31.75,Parallel key 7.96×7.96×31.75 Cone-Shaft Ø31.75,Parallel key 7.96×7.96×25.4 Cylindrical Shaft Ø32,Parallel key 10×8×45	Omit R	Standard Opposite	00 Omit B S	No paint Blue Black Silver Grey	Omit	Standard

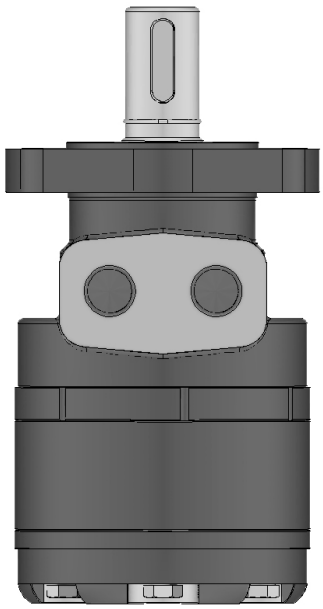
Note: When the table is used, please fill the code of left rows in the table and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.



VNKG2 Series Hydraulic Motor

INTRODUCTION

VNKG2 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

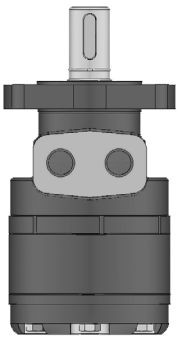
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* **The output shaft** adapts in needle roller bearings that permit high axial and radial forces. The case can offers capacities of high pressure and high torque in the wide of applications.
* **Advanced design** in high speed distribution flow, which 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.

SPECIFICATION Main Specification

Type		VNKG2 125	VNKG2 160	VNKG2 200	VNKG2 230	VNKG2 250	VNKG2 300	VNKG2 350	VNKG2 375	VNKG2 400	VNKG2 475	VNKG2 540	VNKG2 650	VNKG2 750
Geometric displacement (cm3/rev.)		118	156	196	228	257	296	345	371	405	462	540	647	745
Max. speed (rpm)	cont.	360	375	330	290	290	250	220	200	185	160	140	115	100
	int.	490	470	425	365	350	315	270	240	220	195	170	138	120
Max. torque (N•m)	cont.	325	450	530	625	700	810	905	990	1010	1085	980	1015	1050
	int.	380	525	600	710	790	930	1035	1140	1180	1180	1240	1250	1180
	peak.	450	590	750	870	980	1120	1285	1360	1360	1260	1380	1380	1370
Max. output (kW)	cont.	12.0	15.0	15.5	16.0	17.5	18.0	17.5	16.5	15.5	14.5	11.5	10.0	8.0
	int.	14.0	17.5	18.0	19.0	20.0	21.0	20.0	19.0	18.0	16.5	15.0	12.0	10.0
Max. pressure drop (MPa)	cont.	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	19	17.5	14	12	10.5
	int.	24	24	24	24	24	24	24	24	22.5	19	17.5	15.5	12
	peak.	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	25	20.5	20.5	17.5	14
Max. flow (L/min)	cont.	45	60	70	70	75	80	80	75	75	75	75	75	75
	int.	60	75	85	85	90	95	95	90	90	9	90	90	90

* **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.

Performance Data



VNKG2 125 [118 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5	24
2	20 14	50 13	96 11	137 7				
4	24 28	53 26	110 24	166 19	221 13			
8		55 60	113 54	174 50	225 45	266 39	294 35	336 26
15		53 115	114 110	180 100	234 96	275 90	326 84	348 76
25		48 194	110 185	164 173	226 168	272 160	323 155	352 149
34			108 276	166 260	220 244	278 232	315 225	373 217
45			98 362	160 350	215 342	271 325	308 322	369 322
53			90 423	152 418	208 404	265 399	304 371	
60			82 488	141 472	205 455	260 442	300 421	

Max. cont / Max. int

VNKG2 160 [156 cm3/rev.]

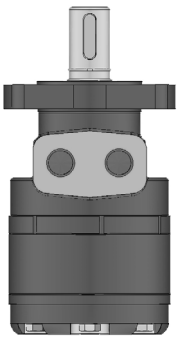
Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5	24
2	35 8	74 4	146 3	218 3	298 2			
4	29 22	78 19	157 18	235 16	316 14	370 13	424 8	
8	35 47	78 44	158 42	236 40	312 37	373 34	450 32	526 27
15	37 93	74 90	155 86	234 84	310 82	368 79	440 75	517 69
25		68 155	152 151	227 147	308 142	364 137	436 131	499 124
34		68 214	152 213	227 210	308 204	364 198	436 191	499 184
45		64 282	143 280	218 275	296 268	360 263	425 256	481 245
53			135 330	216 327	293 322	357 315	421 306	476 296
60			122 379	207 376	284 368	350 362	416 356	467 345
68			109 423	196 419	273 414	345 406	396 394	
75			104 472	188 466	270 460	337 450	390 436	

Max. cont / Max. int

Cont. Int.

Performance Data



VNKG2 200 [196 cm3/rev.]

Pressure (MPa)

Flow (L/min)

	1.75	3.5	7	10.5	14	17.5	20.5	24
							Max. cont	Max. int
2	39 8	88 4	132 4	286 3	370 2			
4	42 16	85 14	188 13	270 11	361 10	427 9	506 6	
8	43 35	90 32	192 29	291 28	367 27	450 25	529 23	600 19
15	38 74	92 71	196 68	298 64	381 60	462 58	530 55	602 50
25		82 124	188 121	283 117	377 113	456 108	528 103	605 92
34		79 170	183 169	270 167	362 160	447 154	515 146	591 135
45			163 223	259 218	352 212	441 208	510 199	593 189
53			149 260	256 258	350 254	440 248	501 241	582 230
60			132 299	248 292	336 284	432 276	497 272	575 263
68			120 336	230 332	330 327	412 319	486 310	570 301
75			108 375	208 372	311 365	403 358	480 350	
85				184 425	280 420	380 411	462 390	

Max. cont

Max. int

Torque (N•m) 380
Speed (rpm) 411

VNKG2 230 [228 cm3/rev.]

Pressure (MPa)

Flow (L/min)

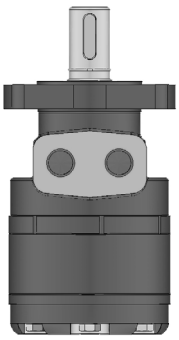
	1.75	3.5	7	10.5	14	17.5	20.5	24
							Max. cont	Max. int
2	44 6	90 4	182 3	291 2	374 1			
4	48 15	100 13	216 11	310 11	405 9	484 7	549 3	
8	50 31	104 29	212 27	320 25	421 23	518 20	603 16	700 10
15	44 63	106 61	207 58	318 55	426 52	529 47	623 41	712 34
25		101 103	209 100	324 96	428 92	532 87	620 81	705 71
34		88 145	205 143	316 139	421 133	522 126	623 120	702 109
45			186 192	294 187	422 182	507 176	595 170	688 160
53			175 226	290 221	393 215	496 208	584 203	678 194
60			152 256	270 253	390 248	485 242	569 235	661 222
68			140 292	265 288	351 283	482 278	563 273	642 256
75			124 324	235 321	344 316	448 308	552 300	
85				207 366	335 360	442 351	546 338	

Max. cont

Max. int

Cont. Int.

Performance Data



VNKG2 250 [257 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5	24
							Max. cont	Max. int
2	48 5	111 2						
4	54 12	113 11	237 10	362 9	471 8	570 6	642 3	
8	54 27	115 26	244 24	366 22	482 20	587 18	688 14	
15	50 57	113 56	256 54	367 51	485 48	591 45	692 43	794 37
25	44 95	114 93	241 90	360 86	488 82	593 77	699 72	782 63
34		95 129	226 125	348 121	481 116	590 111	686 106	774 96
45		77 174	215 173	246 170	468 166	572 161	674 155	779 143
53		66 203	200 202	325 200	448 196	564 190	657 184	756 175
60			180 232	296 229	438 225	550 220	642 215	741 202
68			162 262	294 261	415 257	548 250	637 241	730 228
75			137 290	274 289	388 285	520 280	618 273	726 260
85			130 328	261 326	370 322	509 316	604 307	
90			85 348	224 347	358 344	490 336		

Max. cont

Max. int

VNKG2 300 [296 cm3/rev.]

Pressure (MPa)

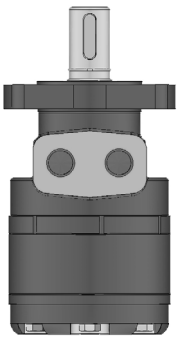
Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5	24
							Max. cont	Max. int
2	50 3	93 1						
4	62 11	141 10	294 9	429 8	502 7	618 4		
8	63 22	147 21	298 20	432 19	565 16	667 13	761 9	819 5
15	66 48	144 47	305 45	427 43	568 39	671 33	810 28	894 20
25	59 82	138 81	289 80	420 76	552 71	676 64	791 56	932 44
34	48 113	130 112	297 110	393 107	562 102	689 96	805 86	926 73
45		96 150	268 149	385 148	527 143	636 135	753 124	880 112
53		76 177	242 176	383 175	524 173	631 165	758 152	900 138
60		64 200	225 199	362 198	506 193	627 186	753 174	892 162
68			200 225	333 224	470 222	630 212	750 201	882 194
75			178 251	322 250	464 247	610 240	741 232	870 215
85			140 285	316 284	455 278	570 270	728 257	
95			106 316	260 314	431 311	552 307	700 292	

Max. cont

Max. int

Cont. Int.

Performance Data



VNKG2 350 [345 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5	24
							Max. cont	Max. int
2	63 4	133 4						
4	64 10	135 9	290 8	440 7				
8	68 21	146 20	310 20	458 19	589 18	735 16	847 12	
15	72 42	150 41	314 40	468 39	627 37	769 35	880 32	984 26
25	63 70	148 69	313 68	470 66	628 63	765 60	892 55	1018 46
34	52 97	133 96	304 95	455 93	619 89	760 85	905 78	1034 68
45		100 129	261 128	442 127	583 125	736 118	887 112	1028 101
53		85 152	247 150	418 148	566 145	715 139	880 132	1024 118
60		65 171	233 170	410 169	550 167	712 162	842 155	996 143
68			218 195	387 194	543 190	696 185	825 175	976 162
75			206 215	373 214	515 212	680 206	822 197	966 183
85			176 243	355 242	510 239	679 234	808 227	
90				353 272	509 269	645 265		

Max. cont

Max. int

Torque (N•m) 645
Speed (rpm) 265

VNKG2 375 [371 cm3/rev.]

Pressure (MPa)

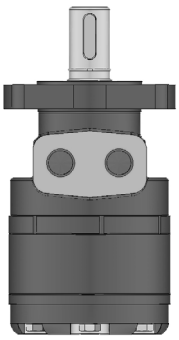
Flow (L/min)	1.75	3.5	7	10.5	14	17.5	20.5	24
							Max. cont	Max. int
2	75 3							
4	83 8	160 8	330 7	488 6	636 5	761 3		
8	81 18	170 17	356 17	527 16	679 14	822 12	948 9	1060 5
15	76 39	162 38	356 37	533 35	683 32	845 29	978 25	1102 18
25	68 65	156 64	350 62	524 59	680 55	857 48	994 44	1138 35
34	58 90	148 89	339 87	506 83	690 77	841 71	993 63	1145 53
45		121 120	302 119	478 117	650 113	813 108	972 100	1134 90
53		95 141	282 140	466 138	628 134	785 128	934 120	1103 105
60		75 161	264 161	428 160	592 158	766 155	925 151	1070 141
68			232 182	422 180	585 176	756 169	901 161	1066 148
75			207 201	380 200	556 197	738 190	865 181	1012 165
85			175 228	370 226	526 221	700 216	832 206	
90			148 242	316 240	500 237	654 226		

Max. cont

Max. int

Cont. Int.

Performance Data



VNKG2 400 [405 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5 (Max. cont)	19	22.5 (Peak)
2	85 3	170 2						
4	90 8	182 7	368 6	540 5	715 4	885 3		
8	93 17	190 16	385 15	575 14.4	750 13	895 10	950 9	1155 7
15	88 36	180 35	380 34	575 33	750 31	905 28	980 24	1165 20
25	88 60	180 59	380 58	575 56	750 53	915 49	1010 44	1165 40
34	75 83	165 83	365 82	560 81	750 77	915 72	1000 68	1180 60
45		150 110	350 110	545 109	735 106	900 102	980 94	1165 86
53		125 130	330 129	525 128	720 125	885 120	960 112	1150 100
60		100 147	305 147	505 146	680 145	860 142	940 138	1125 130
68			275 167	480 167	660 164	845 158	925 150	1100 140
75 (Max. cont)			250 184	455 183	635 180	820 176	900 170	1065 158
85			225 209	415 208	600 206	785 202	865 194	
90 (Max. int)			160 220	365 218	575 216	770 210		

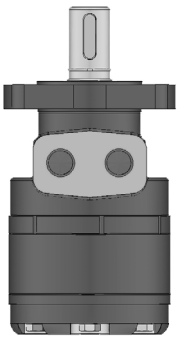
VNKG2 475 [462 cm3/rev.]

Pressure (MPa)

Flow (L/min)	1.75	3.5	7	10.5	14	17.5 (Max. cont)	20.5 (Peak)
2	93 2	186 1					
4	98 7	202 6	405 5	608 5	805 4		
8	98 15	206 14	430 13	352 13	844 12	1005 10	1180 8
15	94 31	202 30	441 28	654 28	875 26	1056 23	1238 20
25	94 52	202 51	441 48	354 45	875 43	1056 39	1238 35
34	75 72	180 71	420 68	660 65	850 61	1085 55	1266 44
45		144 96	380 95	627 93	835 90	1062 84	1261 73
53		116 113	346 112	573 111	795 107	1008 102	1212 90
60		82 128	318 128	539 127	790 124	975 119	1186 110
68		58 146	272 145	520 144	740 141	955 136	1156 125
75 (Max. cont)			230 161	480 160	702 158	920 153	1116 140
85			200 182	454 180	662 177	876 168	
90 (Max. int)			150 194	378 193	615 190	840 182	

Cont. Int.

Performance Data



VNKG2 540 [540 cm3/rev.]

Pressure (MPa)

Flow (L/min)		1.75	3.5	7	10.5	Max. cont 14	Max. int 17.5
	2	105 2	198 2				
	4	125 6	231 5	470 5	688 4	932 4	1136 3
	8	134 13	238 13	496 12	749 11	966 11	1175 8
	15	122 27	230 26	505 26	750 25	981 24	1218 21
	25	100 44	225 43	500 42	774 41	986 39	1220 35
	34	80 62	212 61	481 60	748 58	977 54	1243 49
	45		173 82	437 82	714 81	936 79	1190 75
	53		142 97	416 97	678 96	938 94	1170 89
	60		106 110	380 110	664 109	896 108	1158 106
	68		85 125	357 124	616 124	870 123	1108 120
Max. cont	75			318 138	600 137	826 135	1100 132
	85			292 154	538 153	780 152	
Max. int	90			214 169	486 168	755 168	

Torque (N•m) 486
Speed (rpm) 168

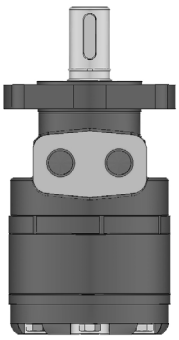
VNKG2 650 [647cm3/rev.]

Pressure (MPa)

Flow (L/min)		1.75	3.5	7	10.5	Max. cont 12	Max. int Peak 15.5
	2	119 2	230 1				
	4	135 5	268 5	552 4	805 4	940 3	
	8	145 11	285 11	574 10	825 10	955 9	1255 7
	15	140 22	280 22	595 21	875 21	982 20	1276 16
	25	130 37	275 36	590 36	886 35	1005 34	1302 30
	34	115 51	260 51	580 50	890 49	1015 47	1310 44
	45		235 69	555 68	870 67	995 66	1280 63
	53		200 80	520 80	850 79	975 78	1250 76
	60		170 91	490 91	825 90	935 89	1215 88
	68		145 104	430 103	775 102	880 101	1185 99
Max. cont	75			420 114	730 113	855 112	1130 110
	83			380 130	660 129	795 128	
Max. int	90			290 138	585 137	730 136	

Cont. Int.

Performance Data



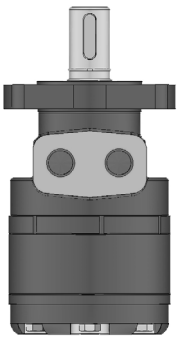
VNKG2 750 [745 cm3/rev.]

Pressure (MPa)

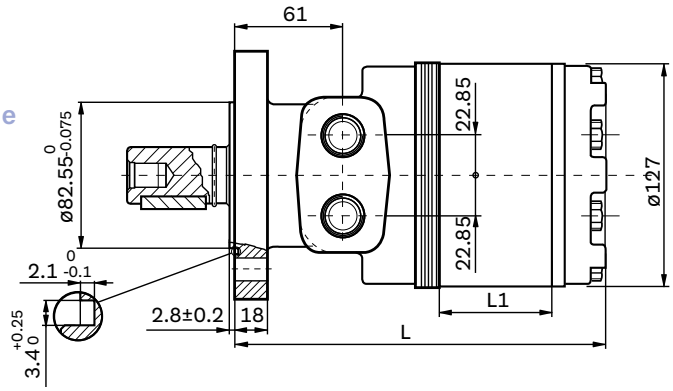
Flow (L/min)		1.75	3.5	7	10.5	12	14
					Max. cont	Max. int	Peak
	2	145 2	280 1				
	4	160 4	321 4	654 4	960 3	1115 3	1312 2
	8	162 9	335 9	688 9	1026 8	1159 8	1347 7
	15	156 19	330 19	694 18	1047 18	1184 17	1376 16
	25	142 32	320 31	688 30	1046 30	1179 29	1373 27
	34	110 44	288 44	658 42	1021 41	1169 40	1366 37
	45	71 60	242 59	620 59	982 58	1143 58	1345 55
	53		202 70	568 69	941 68	1105 67	1308 66
	60		140 79	527 78	898 77	1086 76	1286 74
Max. cont	68		100 90	486 90	852 89	1034 88	1251 87
	75		65 99	425 99	812 98	980 97	1178 96
	83			395 110	745 109	906 128	
Max. int	90			298 120	660 119	800 117	

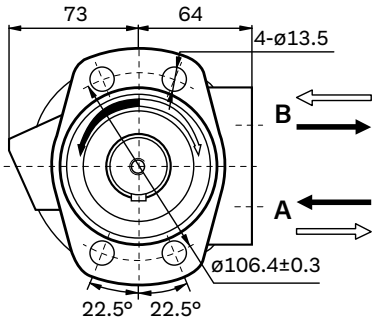
Cont. Int.

VNKG2 Dimensions and Mounting Data

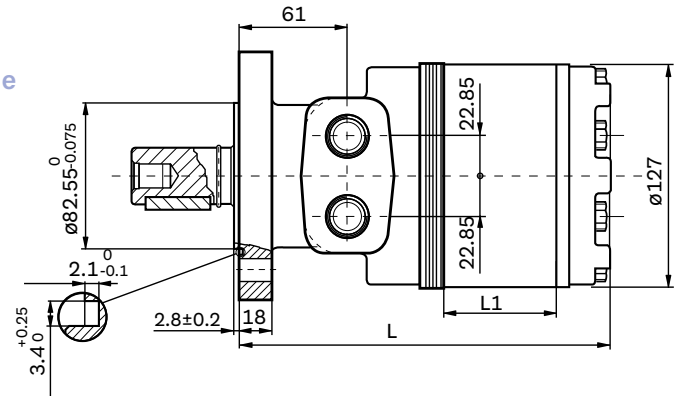


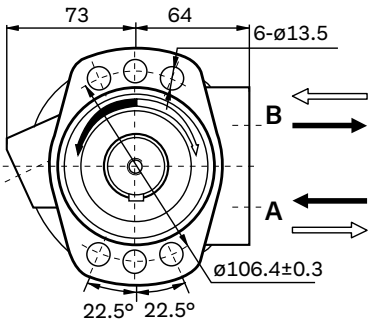
Magneto Mount 4-Hole
Code: Port A, B
MS: 7/8-14UNF
MP: 1/2-14NPTF
MD: G1/2



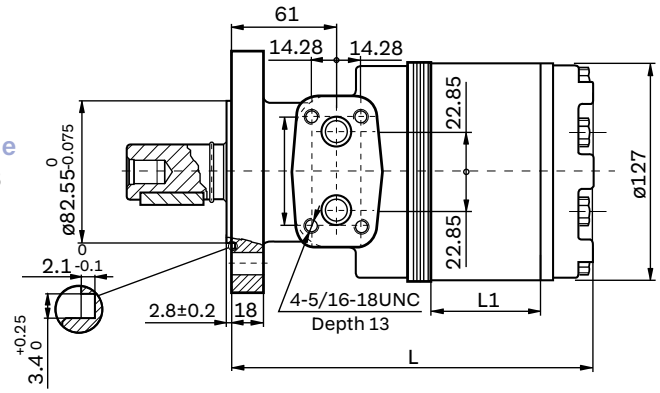


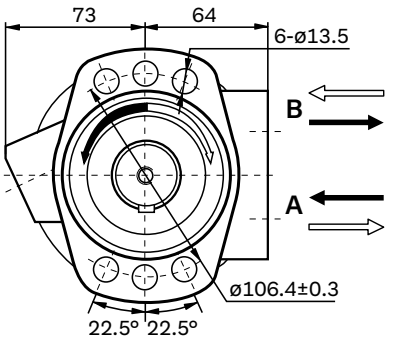
Magneto Mount 6-Hole
Code: Port A, B
FS: 7/8-14UNF
FP: 1/2-14NPTF
MD: G1/2





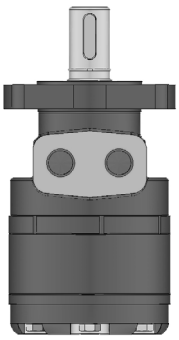
Magneto Mount 6-Hole
Code: Manifold Port A, B
FH: ø12.7



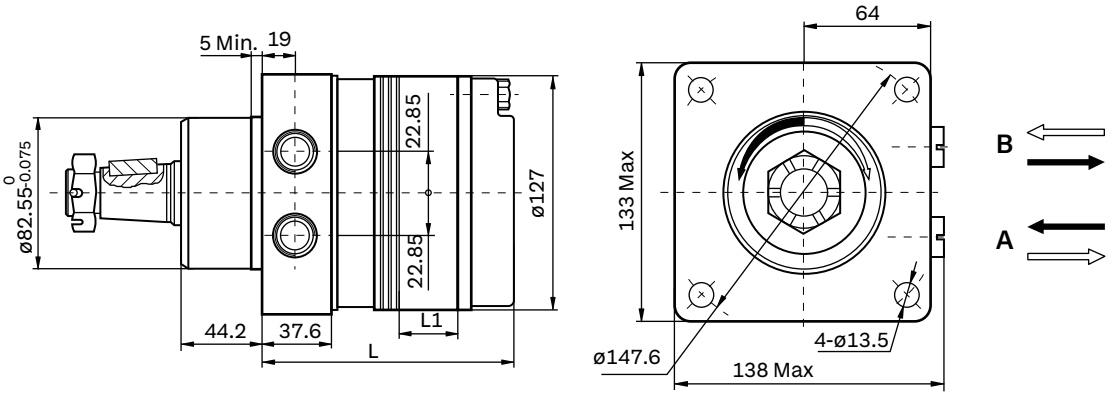


Displacement (cm3/rev.)	125	160	200	230	250	300	350	375	400	475	540	650	750
L1 (mm)	10.2	13.5	17	19.5	22	25.4	29.5	31.8	35.5	39.4	47.3	57	63.5
L (mm)	157	160	163.5	166	168.5	172	176	178.5	182	186	194	204	210
Weight (kg)	10.6	10.9	11.2	11.3	11.4	11.6	12	12.5	12.7	13	13.5	14.5	15

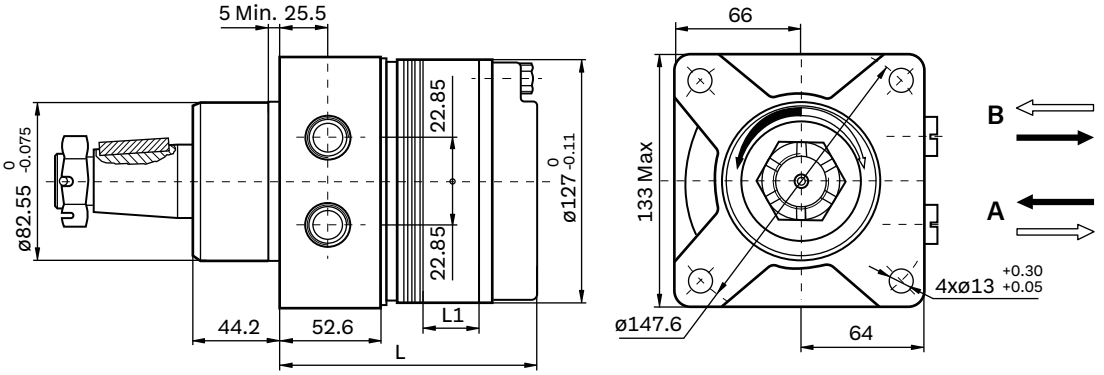
VNKG2 Dimensions and Mounting Data



Wheel Mount
Code: Port A, B
WS: 7/8-14UNF
WP: 1/2-14NPTF
WD: G1/2

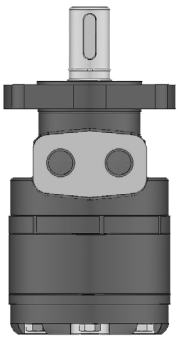


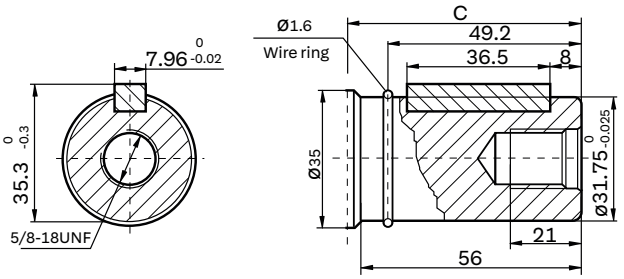
Wheel Mount
Code: Port A, B
TS: 7/8-14UNF
TP: 1/2-14NPTF
TD: G1/2



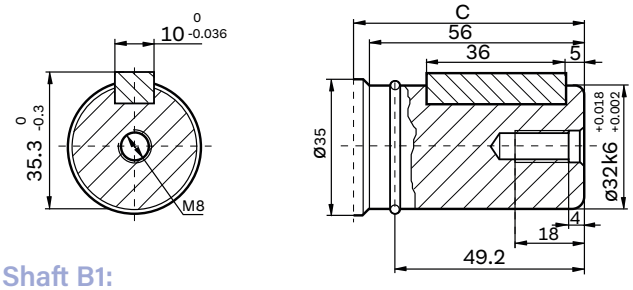
Displacement (cm3/rev.)	125	160	200	230	250	300	350	375	400	475	540	650	750
L1 (mm)	10.2	13.5	17	19.5	22	25.4	29.5	31.8	35.5	39.4	47.3	57	63.5
L (mm)	119	122	125.5	128	130.5	134.5	138	140.5	144	148	156	166	173
Weight (kg)	12	12.1	12.3	12.4	12.6	13	13.2	13.5	13.7	14	14.6	15.5	16

VNKG2 Shaft Extensions Dimensions Data

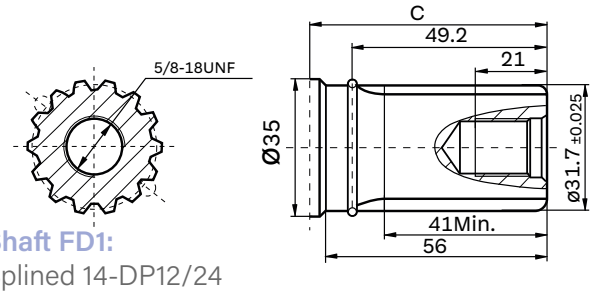




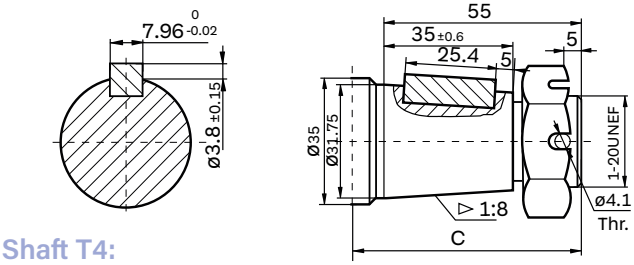
Shaft G2:
Cylindrical shaft Ø3 1.75
Parallel key 7.96x7x36.5



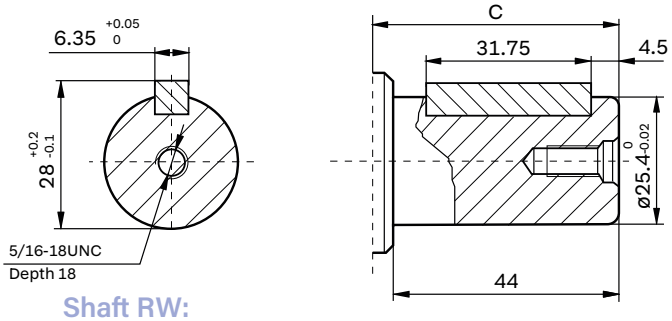
Shaft B1:
Cylindrical shaft Ø32
Parallel key 10x8x36



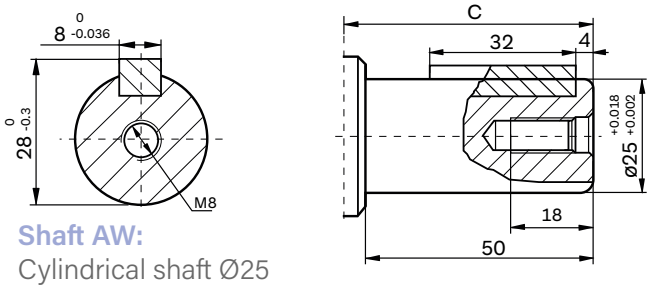
Shaft FD1:
Splined 14-DP12/24
Flat root side fit
to fit ANSI B92.1 1996



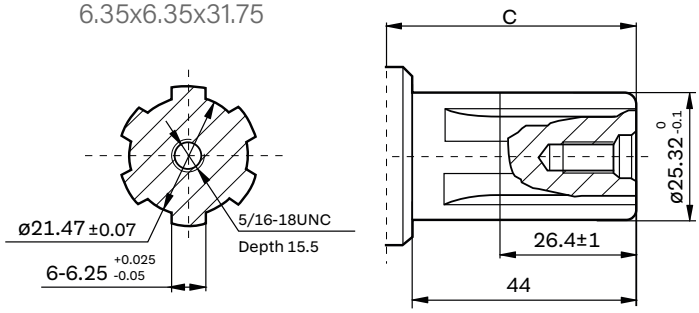
Shaft T4:
Cone-shaft Ø31.75
Parallel key 7.96x7.96x25.4
Tightening torque:200±10Nm



Shaft RW:
Cylindrical shaft Ø25.4
Parallel key
6.35x6.35x31.75



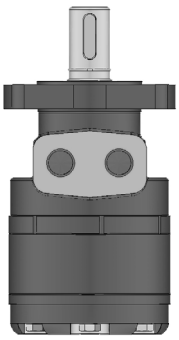
Shaft AW:
Cylindrical shaft Ø25
Parallel key 8x7x32

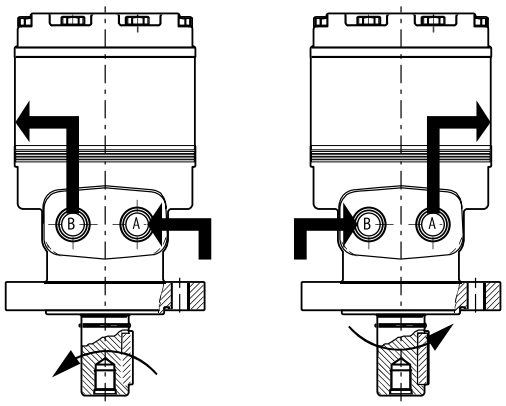


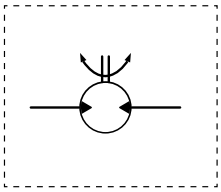
Shaft SW:
Splined SAE 6B

From Mounting Flange to Shaft End		
Dimension C		
Shaft Code	**Magneto Mount** (mm)	**Wheel Mount** (mm)
G2	61	103
B1	61	103
FD1	61	103
T4	65	107
RW	50	91
AW	56	97
SW	50	91

VNKG2 Series Hydraulic Motor





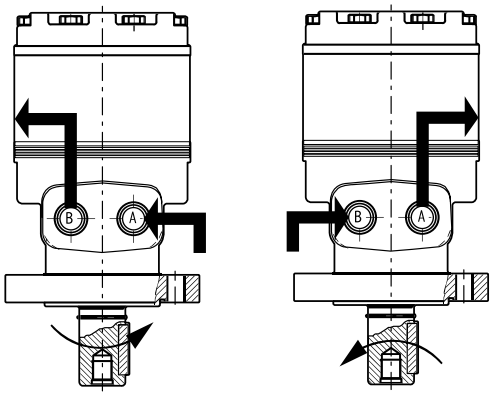


Direction of shaft rotation:
Reverse timed

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

Direction of shaft rotation:
Standard

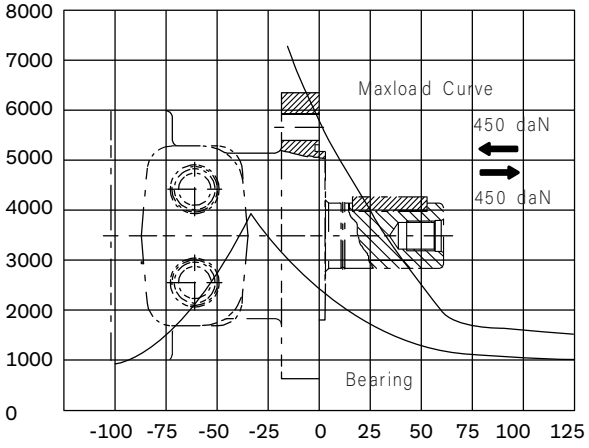
When facing shaft end of motor,shaft to rotate:
Clockwise when port "A" is pressurized.
Counter-clockwise when port "B" is pressurized.



Axial and Radial Forces

VNKG2 or M#/F# Mounting

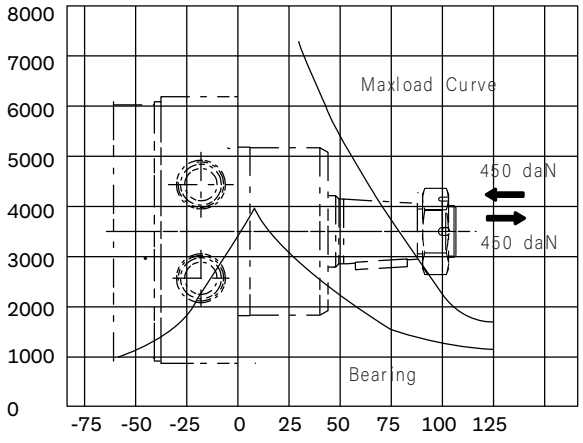
Side Load-(daN)



Distance from Mounting Face--(mm)

VNKG2 for W# Mounting

Side Load-(daN)



Distance from Mounting Face--(mm)

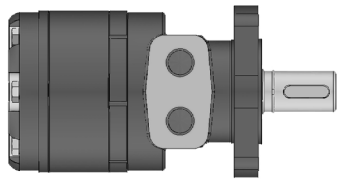
The bearing curve represents allowable bearing loads for an L10 bearing life at 12x106 revolutions.
The maximum load curve is defined by bearing static load capacity.
This curve should not be exceeded at any time including shock loads.

Order Information

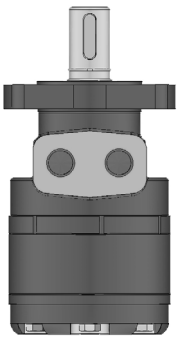
1	2	3		4		5		6		7	
VNKG2	–		–		–		–		–		

Pos.1	2	3		4		5		6		7	
Code	**Disp.**	**Flange, Pilot, Ports**		**Output Shaft**		**Rotation Direction**		**Paint**		**Unusually Function**	
2	125	MS	4-Ø13.5 Magneto Mount,Pilot Ø82.55×2.8, Ports 7/8-14 O-ring	G2	Shaft Ø31.75 , parllel key 7.96x7x36.5	None	Standard	00	No paint	None	Standard
	160	MP	4-Ø13.5 Magneto Mount,Pilot Ø82.55×2.8, Ports 1/2-14NPTF	B1	ShaftØ32, Parallel key 10×8×45	R	Reverse	None	Blue		
	200	MD	4-Ø13.5 Magneto Mount,Pilot Ø82.55×2.8, Ports G1/2	FD1	Shaft Ø31.75, splined key 14-DP12/24		Timed	B	Black		
	230	FS	6-Ø13.5 Magneto Mount,Pilot Ø82.55×2.8, Ports 7/8-14 O-ring	T4	Cone-Shaft Ø31.75, Parallel key 7.96×7.96×25.4			S	Sliver Grey		
	250	FP	6-Ø13.5 Magneto Mount,Pilot Ø82.55×2.8, Ports 1/2-14NPTF	RW	Shaft Ø25.4 , parllel key 6.35×6.35×31.75						
	300	FD	6-Ø13.5 Magneto Mount,Pilot Ø82.55×2.8, Ports G1/2	AW	Shaft Ø25 , parllel key 8×7×32						
	350	FH	6-Ø13.5 Magneto Mount,Pilot Ø82.55×2.8, Manifold Ports 1/2	SW	Shaft Ø25.4 ,splined key SAE 6B						
	375	WS	4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports 7/8-14 O-ring	M1	4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports 7/8-14 O-ring						
	400	WP	4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports 1/2-14NPTF	T31	4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports 1/2-14NPTF						
	475	WD	4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports G1/2	G32	4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports G1/2						
	540	TS	4-Ø13.5 Wheel Mount,Pilot Ø82.55×5, Ports 7/8-14 O-ring		4-Ø13.5 Wheel Mount,Pilot Ø82.55×5, Ports 7/8-14 O-ring						
	650	TP	4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports 1/2-14NPTF		ShaftØ35, Parallel key 10×8×45						
	750	TD	4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports G1/2		Cone-Shaft Ø38.1, Parallel key 7.96×7×36.5						
					Shaft Ø38.1 , parllel key 9.525×9.525×42						

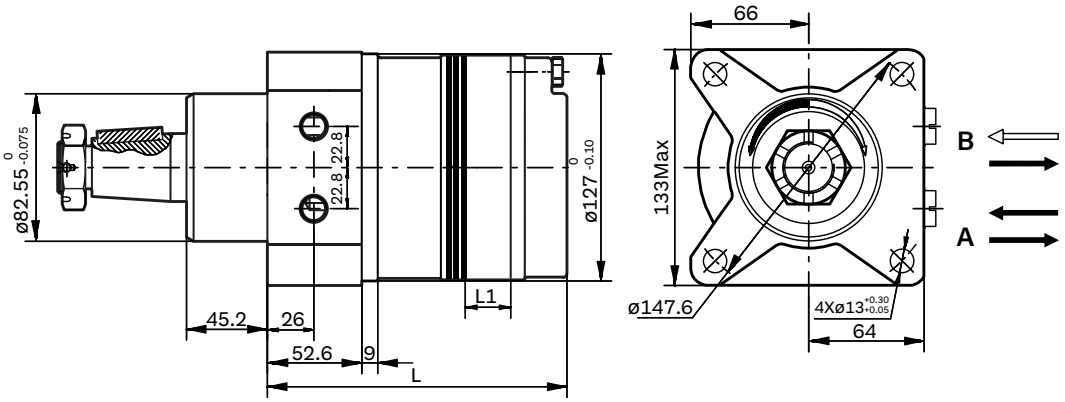
Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us. VNKER-2 Motor The dimensions 44.2 is replaced by 45.7 with shaft M1 T31 G32 of Ø38.1 shaft seal in flange w# and T#.



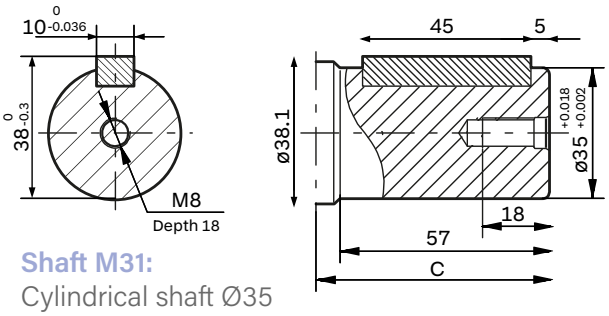
VNKG3 Shaft Extensions Dimensions Data



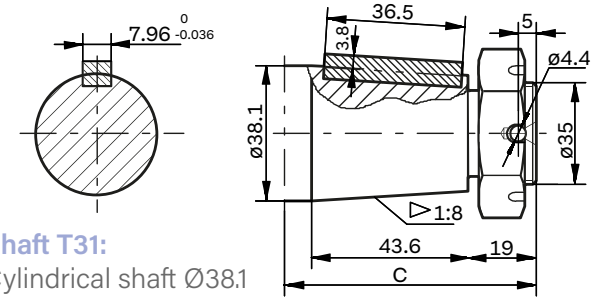
Wheel Mount
Code: Port A,B
WS 7/8-14UNF
WP 1/2-14NPTF
WD G1/2



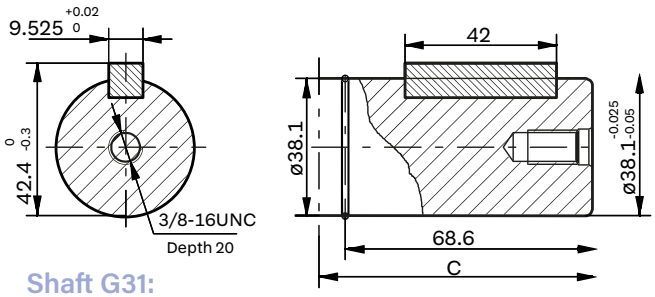
Displacement (cm³/rev.)	125	160	200	230	250	300	350	375	400	475	540	650	750
L1 (mm)	10.2	13.5	17	19.5	22	25.4	29.5	31.8	35.5	39.4	47.3	57	63.5
L (mm)	153	156	159.5	162	164.5	168	172	174.5	178	182	190	199.5	206
Weight (kg)	13.2	13.5	13.8	14	14.2	14.5	14.9	15.2	15.5	15.7	16.5	17.3	17.8



Shaft M31:
Cylindrical shaft Ø35
Parallel key 10x8x45



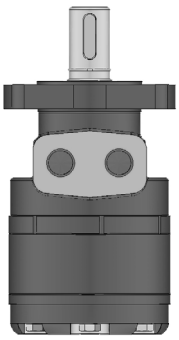
Shaft T31:
Cylindrical shaft Ø38.1
Parallel key 7.96x7x36.5
Tightening torque: 410~510Nm



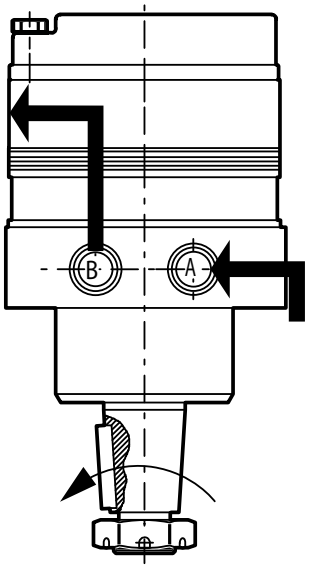
Shaft G31:
Cylindrical shaft Ø38.1
Parallel key 9.525x9.525x42

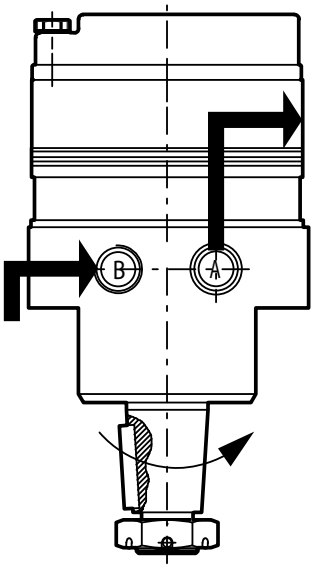
From Mounting Flange to Shaft End		
Dimension C		
Shaft Code	**Magneto Mount** (mm)	**Wheel Mount** (mm)
M31	—	105
T31	—	117
G31	—	119

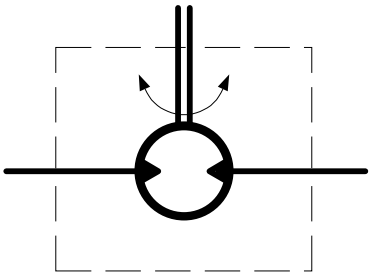
VNKG3 Series Hydraulic Motor



VNKG3 Series Hydraulic Motors







Direction of shaft rotation:
Reverse timed.

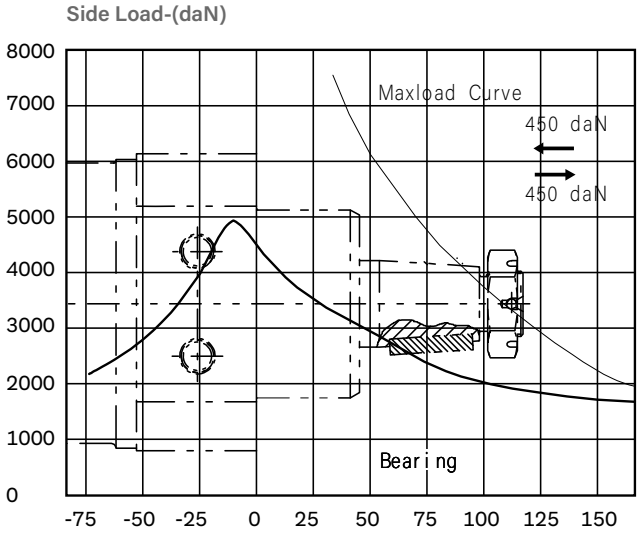
When facing shaft end of motor, shaft to rotate:
Clockwise when port " B " is pressurized.
Counter-clockwise when port " A " is pressurized.

VNKG3 for W# Mounting

The bearing curve represents allowable bearing loads for an L10 bearing life at 12X106 revolutions.

The maximum load curve is defined by bearing static load capacity.

This curve should not be exceeded at any time including shock loads.

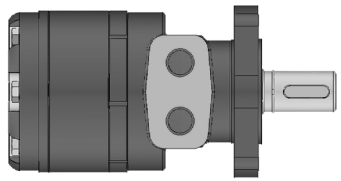


Order Information

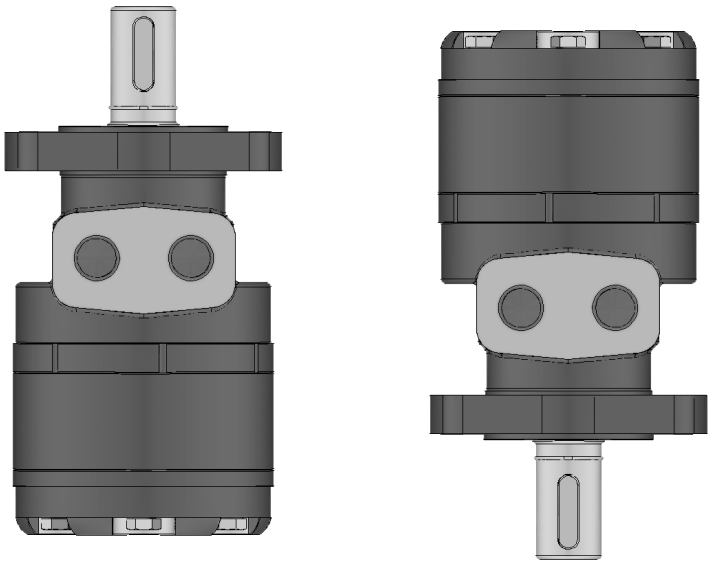
1		2		3		4		5		6		7
VNKG3	–		–		–		–		–		–	

Pos.1	2	3		4		5		6		7	
Code	**Disp.**	**MountFlange, Pilot, Ports**		**Output Shaft**		**Rotation direction**		**Paint**		**Unusually Function**	
3	125 160 200 230 250 300 350 375 400 475 540 650 750	WS WP WD	4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports 7/8-14 O-ring 4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports 1/2-14NPTF 4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports G1/2	M31 T31 G31	ShaftØ35,Parallel key 10x8x45 Cone-shaft Ø38.1, Parallel key 7.96x7x36.5 Shaft Ø38.1, parallel key 9.525x9.525x42	None R	Standard Reverse timed	00 None B S	No paint Bluev Black Silver Grey	None	Standard

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.

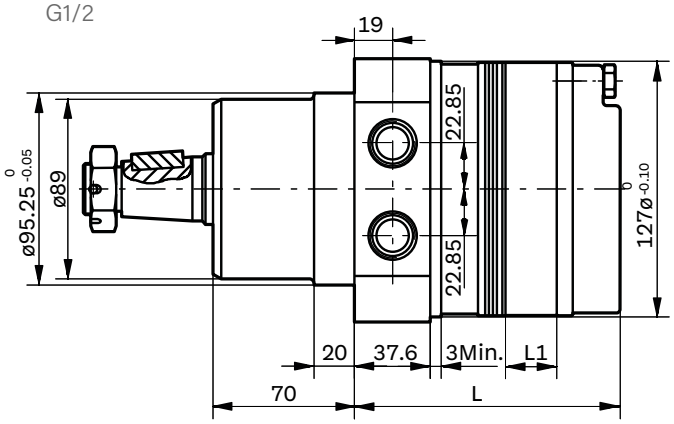


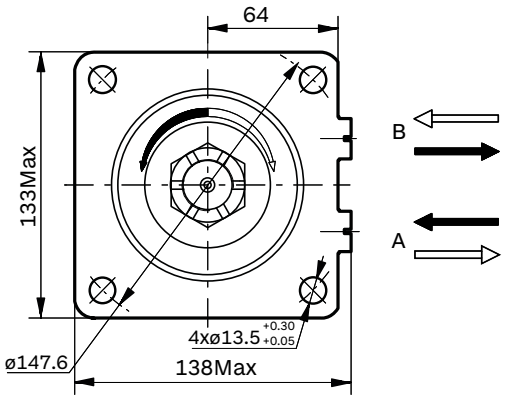
VNKG4 Dimensions and Mounting Data



Wheel Mount:

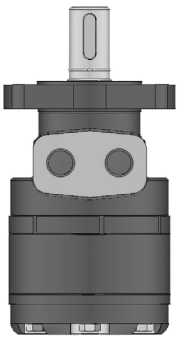
Code: Port A, B
WS 7/8-14UNF
WP 1/2-14NPTF
WD G1/2

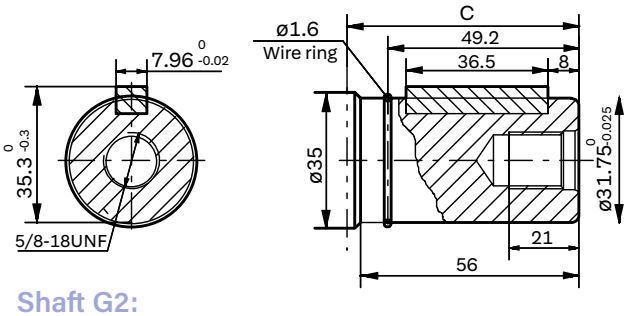




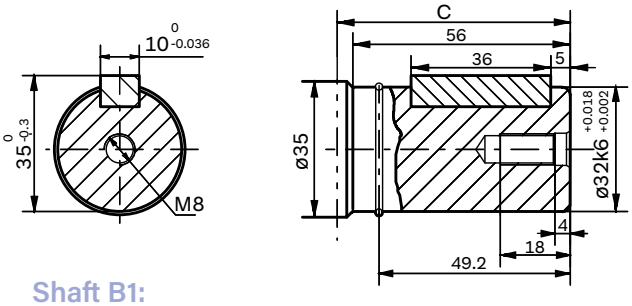
Displacement (cm³/rev.)	125	160	200	230	250	300	350	375	400	475	540	650	750
L1 (mm)	10.2	13.5	17	19.5	22	25.4	29.5	31.8	35.5	39.4	47.3	57	63.5
L (mm)	119	122	125.5	128	130.5	134.5	138	140.5	144.5	148	156	165.5	172
Weight (kg)	12.8	13.1	13.4	13.6	13.8	14.1	14.5	14.8	15.2	15.6	16.1	16.9	17.4

VNKG4 Shaft Extensions

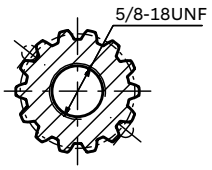


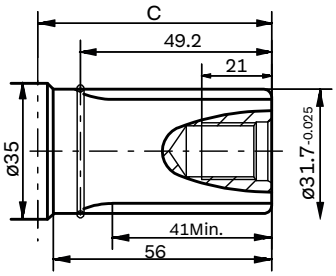


Shaft G2:
Cylindrical shaft Ø31.75
Parallel key 7x96x7x36x5

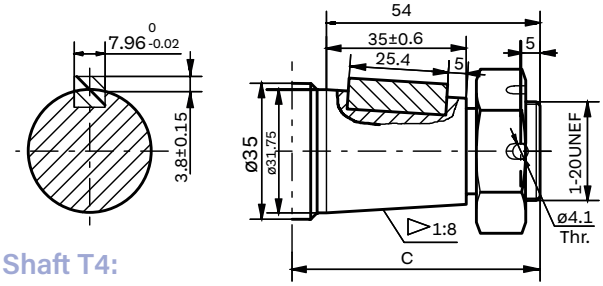


Shaft B1:
Cylindrical shaft Ø32
Parallel key 10x8x36

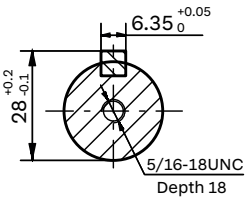


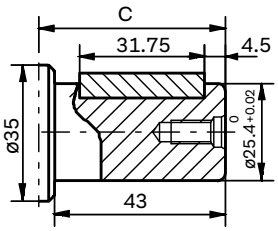


Shaft FD1:
Splined 14-DP12/24
Flat root side fit to fit
ANSI B92.1 1996

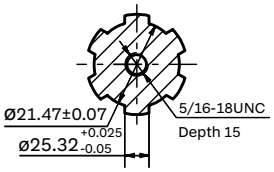


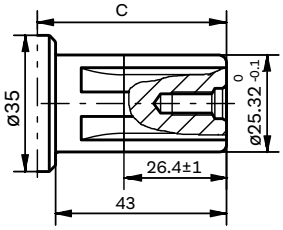
Shaft T4:
Cone-shaft Ø31.75
Parallel key 7.96x7.96x25.4
Tightening torque:200±10Nm



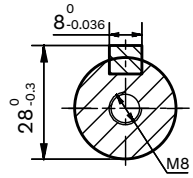


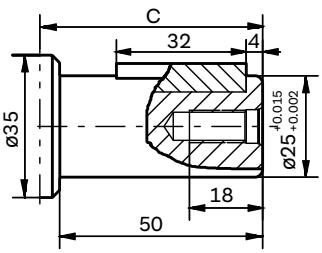
Shaft RW:
Cylindrical shaft Ø25 4
Parallel key 6.35x6.35x31.75





Shaft SW:
Splined SAE 6B



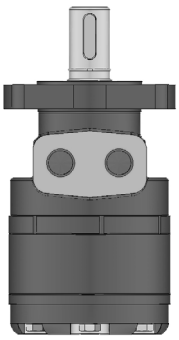


Shaft AW:
Cylindrical shaft Ø25
Parallel key 8x7x32

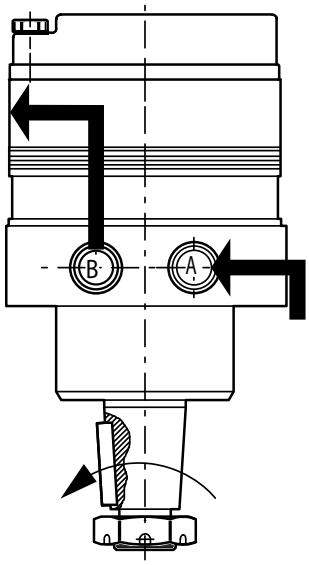
From Mounting Flange to Shaft End	
Dimension C	
Shaft Code	**Wheel Mount** (mm)
G2	131
B1	130
FD1	131
T4	135
RW	119
SW	119
AW	125

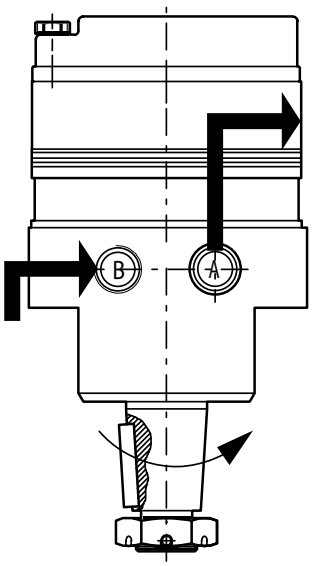
VNKRG4 can be configured Shaft type of ø38.1 shaft seal. Please consuit the sales manager.

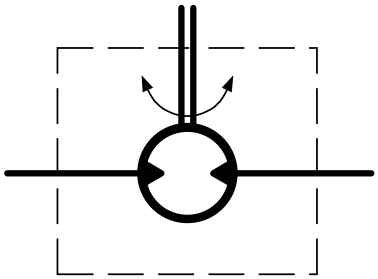
VNKG4 Series Hydraulic Motor



VNKG4 Series Hydraulic Motors





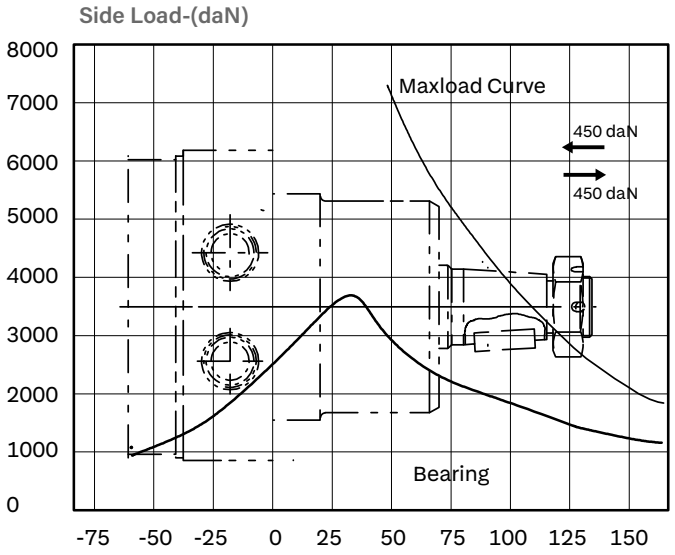


Direction of shaft rotation:
Reverse timed.

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

VNKG4 for W# Mounting

The bearing curve represents allowable bearing loads for an L10 bearing life at 12x106 revolutions.
The maximum load curve is defined by bearing static load capacity.
This curve should not be exceeded at any time including shock loads.

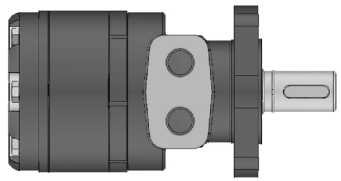


Order Information

1	2	3		4		5		6		7	
VNKG4	–		–		–		–		–		

Pos.1	2	3		4		5		6		7	
Code	**Disp.**	**MountFlange, Pilot, Ports**		**Output Shaft**		**Rotation direction**		**Paint**		**Unusually Function**	
4	125 160 200 230 250 300 350 375 400 475 540 650 750	WS WP WD	44-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports 7/8-14 O-ring 4-Ø13.5 Wheel Mount, Pilot Ø82.55×5,Ports 1/2-14NPTF 4-Ø13.5 Wheel Mount, Pilot Ø82.55×5, Ports G1/2	G2 B1 FD1 T4 RW SW AW	Shaft Ø31.75 , parllel key 7.96×7×36.5 ShaftØ32, Parallel key 10×8×45 Shaft Ø31.75, splined key 14-DP12/24 Cone-Shaft Ø31.75, Parallel key 7.96×7.96×25.4 Shaft Ø25.4 , parllel key 6.35×6.35×31.75 Shaft Ø25.4 ,splined key SAE 6B Shaft Ø25 , parllel key 8×7×32	None R	Standard Reverse timed	00 None B S	No paint Bluev Black Silver Grey	None	Standard

Note: 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.



03 Brake Distribution
Type Motors

VNKBK2 SERIES 169
Hydraulic Brake



VNKBK2 Series Hydraulic Motor

INTRODUCTION

VNKBK2 series brake is one kind of hydraulic wet disc brake. The braking force is caused by the spring, and hydraulic pressure releases the braking force.



CHARACTERISTIC FEATURES

* **The VNKBK2 series** adopts a special friction disc and high-strength spring design: long life endurance, low noise, and high braking reliability.
* **With a 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, and VNKS series hydraulic motors.

Application

The **VNKBK2** series hydraulic brake stays in a braking condition since delivery from the factory. During normal operation, there exists a braking force in the brake disc. Only if the pressure of the hydraulic system, to which the brake links, is lower than the pressure required for the release of the brake, shall the spring force keep the brake in a braking condition.

The VNKBK2 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, and 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.

Instruction Manual

In order to make the **VNKBK2** 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 VNKBK2 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).

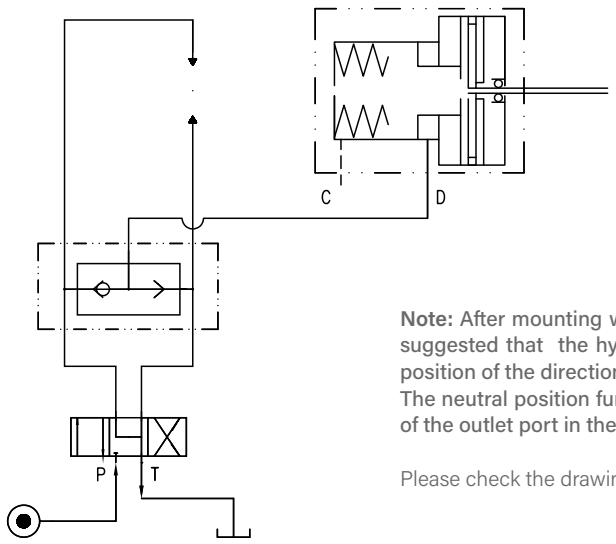
3.Temperature range: Normal -20℃-90℃ the best optimal situation 20℃-60℃.

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 assigned to use a shuttle valve, and the neutral position of the directional valve must have an 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 the breaker opening pressure.

Please check the drawing for reference.

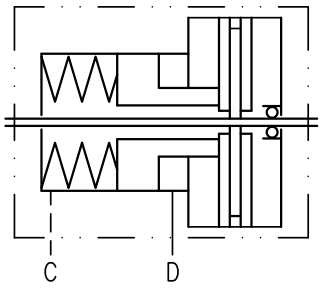
Specification Data



Specification Data

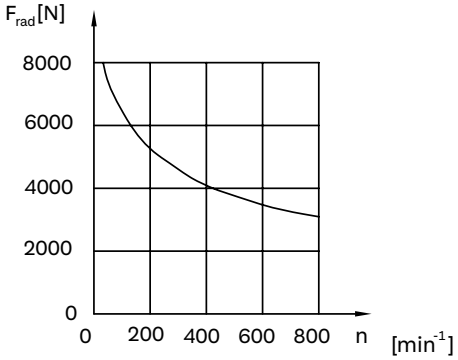
Item	VNKBK2-1	
Min. static Torque [Nm]	200～230	410～450
Min. Opening Pressure [MPa]	1.7～2.3	
Max. Opening Pressure [MPa]	30	
Min.oil quantity for brake releasing [cm ^{3}]	7～8	
Oil volume [cm ^{3}]	50～120	
Max. pressure in drain space [MPa]	0.05	
Weight [kg]	9	

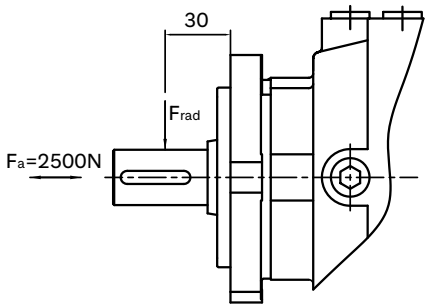
*Static torque is obtained at working pressure 0 MPa



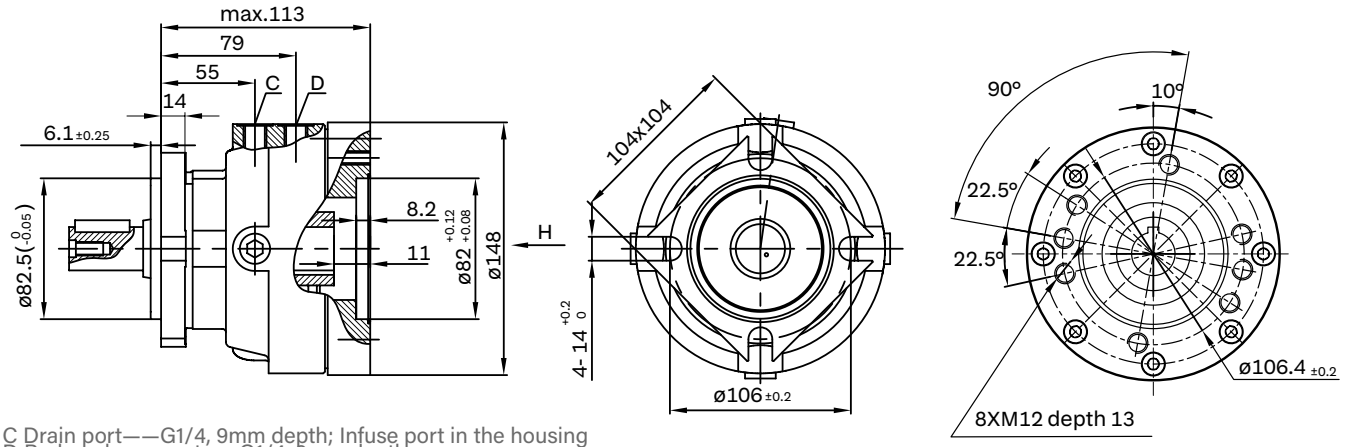
Simple drawing

Load Curve





Mounting Data
Model VNKBK2-1



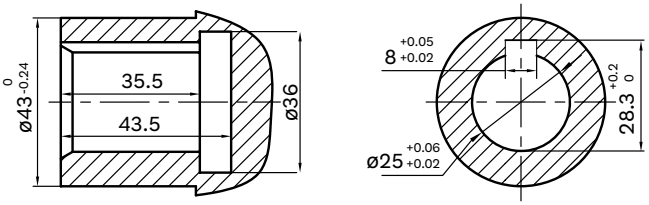
C Drain port——G1/4, 9mm depth; Infuse port in the housing
D Brake release port——G1/4, 9mm depth

VNKBK2 Shaft Extensions Dimensions Data

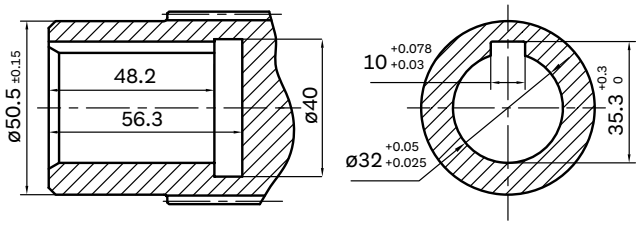


INPUT SHAFT HOLESINPUT & OUTPUT

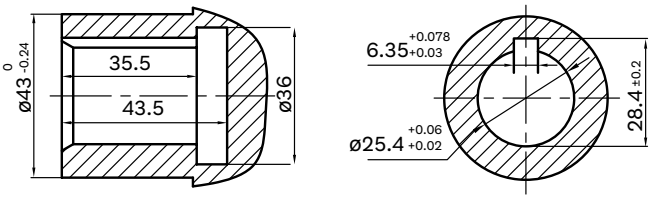
SHAFT A



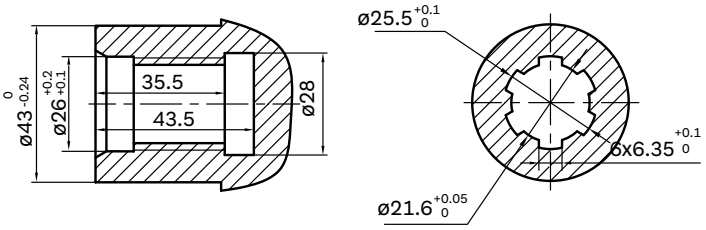
SHAFT B



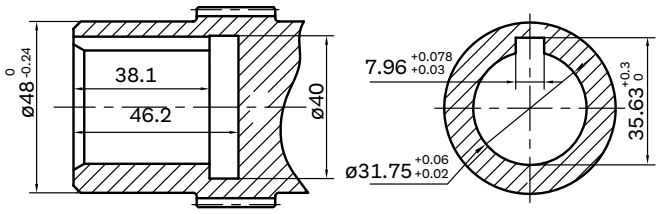
SHAFT C



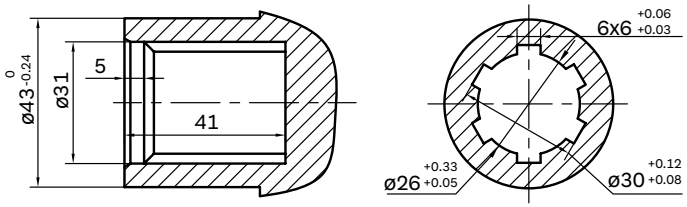
SHAFT E



SHAFT G



SHAFT N

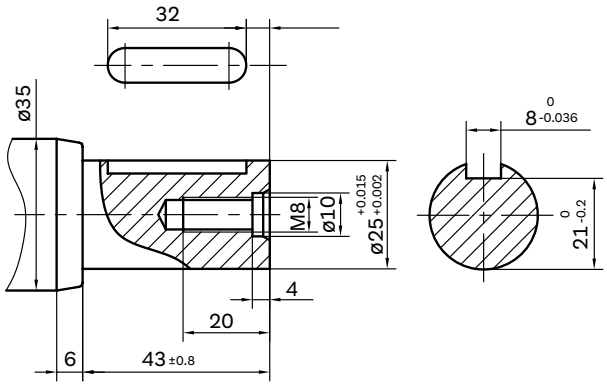


VNKBK2 Shaft Extensions Dimensions Data

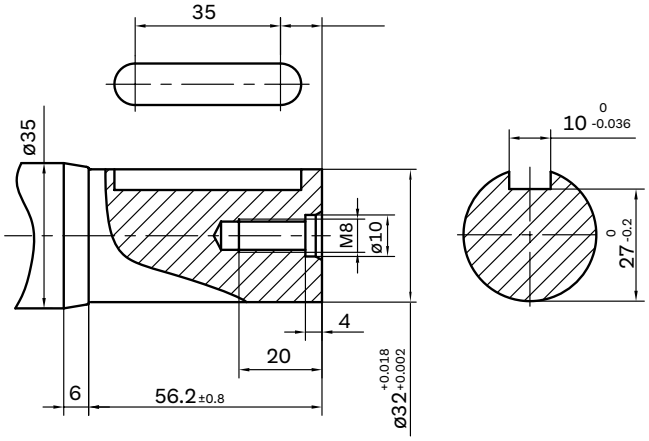


OUTPUT SHAFT HOLESINPUT & OUTPUT

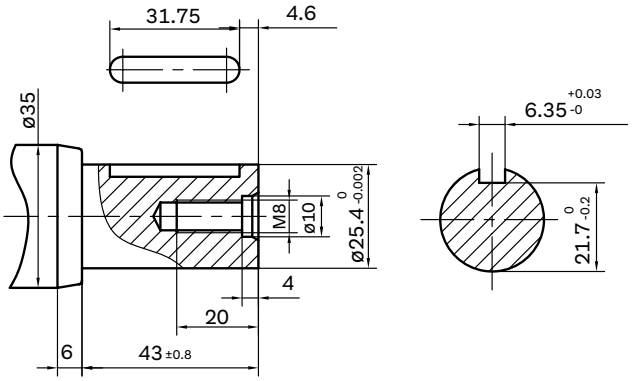
SHAFT A



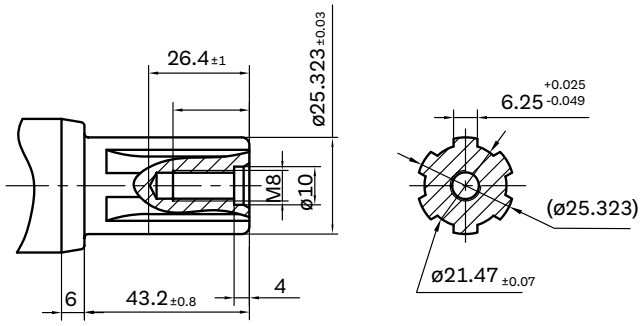
SHAFT B



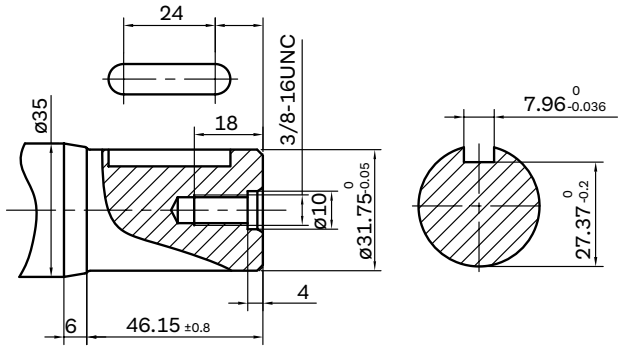
SHAFT C



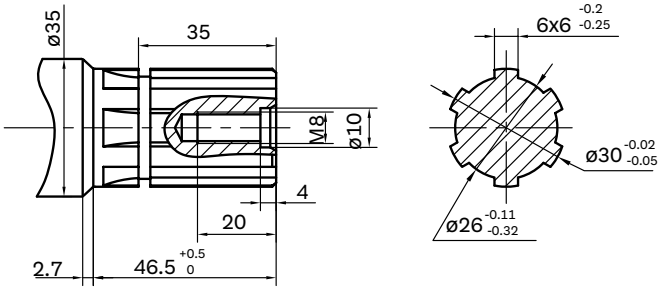
SHAFT E



SHAFT G



SHAFT N



1	2	3	4	5	6	7
VNKBK2	–	–	–	–	–	–

Pos.1	2	3		4		5		6		7	
Code	Disp.	Torque		Input Shaft holes		Output Shaft extensions		Paint		Unusually Function	
2	1	Torque200--230Nm Torque410--450Nm	210 430	Shaft holes Φ25, Parallel key 8×7×32 Shaft holesΦ32, Parallel key 10×8×45 Shaft holes Φ25.4, Parallel key 6.35×6.35×31.75 Shaft holes Φ25.4, splined key SAE 6B Shaft holes Φ31.75, Parallel key 7.96×7.96×31.75	A B C E G	ShaftΦ25, Parallel key 8×7×32 ShaftΦ32, Parallel key 10×8×45 ShaftΦ25.4, Paralle Key6.35×6.35×31.75 ShaftΦ25.4, splined key SAE 6B ShaftΦ31.75, Parallel Key7.96×7.96×31.75	A B C E G	No Paint Blue Black Sliver Grey	00 OMIT B S	Standart	Omit

Note: 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.



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