



MOTORS



HIRSCH HYDRAULIC SERVICES



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Part Number	MOTOR GEAR ALUMINIUM					RETAIL:
						01-10-2022
	GROUP 2 BI ROTATION MOTORS FROM TAK - BOK					
	BHM 2 B0 SERIES: 200 Bar Continuous					
	SHAFT 1 ; 8 TAPER SPIGOT 36.4mm MOUNT 4 BOLT 1/4" BSPP CASE DRAIN ON P.E.C.					
	DESCRIPTION:	cc / rev:	B.S.P. PORTS:	ROTATION:	W/P:	
70H-M2B0R06T0L0	BHM 2 B0 R 6 T0 L0-Q1	06cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B0R08T0L0	BHM 2 B0 R 8 T0 L0-Q1	08cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B0R10T0L0	BHM 2 B0 R 10 T0 L0-Q1	10cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B0R12T0L0	BHM 2 B0 R 12 T0 L0-Q1	12cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B0R14T0L0	BHM 2 B0 R 14 T0 L0-Q1	14cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B0R16T0L0	BHM 2 B0 R 16 T0 L0-Q1	16cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B0R18T0L0	BHM 2 B0 R 18 T0 L0-Q1	18cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B0R20T0L0	BHM 2 B0 R 20 T0 L0-Q1	20cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B0R22T0L0	BHM 2 B0 R 22 T0 L0-Q1	23cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
	BHM 2 B2 SERIES:					
	SHAFT 1 ; 5 TAPER SPIGOT 80mm MOUNT 4 BOLT 1/4" BSPP CASE DRAIN ON P.E.C.					
	DESCRIPTION:	cc / rev:	B.S.P. PORTS:	ROTATION:	W/P:	
70H-M2B2R06T1L0	BHM 2 B2 R 6 T1 L0-Q1	06cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B2R08T1L0	BHM 2 B2 R 8 T1 L0-Q1	08cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B2R10T1L0	BHM 2 B2 R 10 T1 L0-Q1	10cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B2R12T1L0	BHM 2 B2 R 12 T1 L0-Q1	12cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2B2R14T1L0	BHM 2 B2 R 14 T1 L0-Q1	14cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
	BHM 2 A0 SERIES:					
	SHAFT 16mm SPIGOT 3-1/4" MOUNT 2 BOLT 1/4" BSPP CASE DRAIN ON P.E.C.					
	DESCRIPTION:	cc / rev:	B.S.P. PORTS:	ROTATION:	W/P:	
70H-M2A0R06C0L0	BHM 2 A0 R 6 C0 L0	06cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2A0R08C0L0	BHM 2 A0 R 8 C0 L0	08cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2A0R10C0L0	BHM 2 A0 R 10 C0 L0	10cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2A0R12C0L0	BHM 2 A0 R 12 C0 L0	12cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2A0R14C0L0	BHM 2 A0 R 14 C0 L0	14cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2A0R18C0L0	BHM 2 A0 R 18 C0 L0	18cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
70H-M2A0R22C0L0	BHM 2 A0 R 22 C0 L0	23cc per rev	1/2" BSPP x 1/2" BSPP	B / I	200 Bar	
	EXTRA CHOICES					
70H-BHM2-S	MOTOR SEAL KIT					
70H-2MFPECB	BI ROTATION PORT END COVER NO CASE DRAIN INTERNAL CHECK VALVES					
70H-2MFPECRP	REAR PORTS; 3/4" BSPP MAX					
70H-2MFPECRF	RELIEF VALVE PORT END COVER 50 - 250 Bar					
	PUMP DISPLACEMENTS	CONT PRESSURE	INT PRESSURE	SPEED RANGE		
	06 cc per rev	270 bar	285 bar	600 to 4000		
	08 cc per rev	270 bar	285 bar	500 to 3500		
	10 cc per rev	270 bar	285 bar	500 to 3000		
	12 cc per rev	270 bar	250 bar	500 to 3500		
	14 cc per rev	250 bar	265 bar	400 to 4000		
	18 cc per rev	250 bar	265 bar	400 to 3600		
	22 cc per rev	220 bar	265 bar	400 to 3000		
						
	3-1/4" SPIGOT	80mm SPIGOT	36,5mm SPIGOT			
	PLEASE NOTE: ALL O.E.M. NAMES OR NUMBERS ARE FOR REFERENCE USE ONLY					
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Part Number	VANE MOTORS				RETAIL:	
					01-10-2022	
	MOTOR SERIES ; 25HM ; 35HM ; 45HM					
	25HM COMPLETE MOTORS					
77H-25HM30A1C	25 HM 30 A - 1 C	RING SIZE 29.0cc	PARRALLEL SHAFT 7/8" OR 13 TOOTH	SPIGOT 4"		
77H-25HM42A1C	25 HM 42 A - 1 C	RING SIZE 43.9cc	PARRALLEL SHAFT 7/8" OR 13 TOOTH	SPIGOT 4"		
77H-25HM55A1C	25 HM 55 A - 1 C	RING SIZE 57.7cc	PARRALLEL SHAFT 7/8" OR 13 TOOTH	SPIGOT 4"		
77H-25HM65A1C	25 HM 65 A - 1 C	RING SIZE 68.7cc	PARRALLEL SHAFT 7/8" OR 13 TOOTH	SPIGOT 4"		
	35HM COMPLETE MOTORS					
77H-35HM80A1C	35 HM 80 A - 1 C	RING SIZE 83.6cc	PARRALLEL SHAFT 1-1/4" OR 14 TOOTH	SPIGOT 5"		
77H-35HM95A1C	35 HM 95 A - 1 C	RING SIZE 100.3cc	PARRALLEL SHAFT 1-1/4" OR 14 TOOTH	SPIGOT 5"		
77H-35HM115A1C	35 HM 115 A - 1 C	RING SIZE 121.9cc	PARRALLEL SHAFT 1-1/4" OR 14 TOOTH	SPIGOT 5"		
	45HM COMPLETE MOTORS					
77H-45HM130A1C	45 HM 130 A - 1 C	RING SIZE 138.0cc	PARRALLEL SHAFT 1-1/4" OR 14 TOOTH	SPIGOT 5"		
77H-45HM155A1C	45 HM 155 A - 1 C	RING SIZE 163.2cc	PARRALLEL SHAFT 1-1/4" OR 14 TOOTH	SPIGOT 5"		
77H-45HM185A1C	45 HM 185 A - 1 C	RING SIZE 193.2cc	PARRALLEL SHAFT 1-1/4" OR 14 TOOTH	SPIGOT 5"		
	CARTRIDGE KITS					
77H-25HM-30	25HM RING SIZE, 30					
77H-25HM-42	25HM RING SIZE, 42					
77H-25HM-55	25HM RING SIZE, 55,					
77H-25HM-65	25HM RING SIZE, 65					
77H-35HM-80	35HM RING SIZE, 80					
77H-35HM-95	35HM RING SIZE, 95,					
77H-35HM-115	35HM RING SIZE, 115					
77H-45HM-130	45HM RING SIZE, 130					
77H-45HM-155	45HM RING SIZE, 155					
77H-45HM-185	45HM RING SIZE, 185					
	SHAFTS					
77H-25HMS-11	MOTOR SHAFT SPLINED 25 HM - 11 (13 TOOTH SAE B)					
77H-35HMS-11	MOTOR SHAFT SPLINED 35 HM - 11 (14 TOOTH SAE C)					
77H-45HMS-11	MOTOR SHAFT SPLINED 45 HM - 11 (14 TOOTH SAE C)					
	SHAFT SEAL					
77H-25HM-SS	25HM SHAFT SEAL					
77H-35HM-SS	35HM SHAFT SEAL					
77H-45HM-SS	45HM SHAFT SEAL					
	NOTES:					
MOTORS ARE BI ROTATION , CAN BE RUN IN SERIES, HIGHER SPEEDS CAN REACHED IF						
WORKING PRESSURE IS LOWERED, CASE DRAIN MUST BE NO MORE THAN MAX 0.7 bar						
	PORTS					
	SERIES	BODY PORT	COVER PORT	CASE DRAIN		
	25HM	1-1/4" S/F unc	1-1/4" S/F unc	1/4" NPT		
	35HM	1-1/2" S/F unc	1-1/2" S/F unc	3/8" NPT		
	45HM	2" S/F unc	2" S/F unc	1/2" NPT		
	SPECIFICATIONS					
	MODEL SERIES	TORQUE Nm/6.9bar (lb in/100psi)	DISPLACEMENT cc/r (cc/r)	FLOW INPUT @ 1200rpm L/min (Us/gal)	MAX SPEED & PRESSURE CONTINUOUS	Kg
	25HM	3.3 (30)	29.0 (1.77)	34.8 (9.19)	2600 r/min @ 155 bar	18
		4.7 (42)	43.9 (2.68)	52.6 (13.9)	2600 r/min @ 155 bar	18
		6.2 (55)	57.7 (3.52)	69.3 (18.3)	2600 r/min @ 155 bar	18
		7.3 (65)	68.7 (4.19)	82.5 (21.8)	2600 r/min @ 155 bar	18
	35HM	9.0 (80)	83.6 (5.10)	100.3 (26.5)	2600 r/min @ 155 bar	29
		10.7 (95)	100.3 (6.12)	120.4 (31.8)	2600 r/min @ 155 bar	29
		13.0 (115)	121.9 (7.44)	146.1 (38.6)	2600 r/min @ 155 bar	29
	45HM	14.7 (130)	138.0 (8.42)	165.4 (43.7)	2600 r/min @ 155 bar	39
		17.5 (155)	163.2 (9.96)	195.7 (51.7)	2600 r/min @ 155 bar	39
		20.9 (185)	193.2 (11.79)	232.0 (61.3)	2600 r/min @ 155 bar	39
PLEASE NOTE: ALL O.E.M. NAMES OR NUMBERS ARE FOR REFERENCE USE ONLY						
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<u>BMR - SERIES</u>							
COMPETITOR MODELS ; (OMR - DANFOSS) (BMR - ZHENJIANG) (S - CHAR - LYNN)							
Specs ; 25mm P/KEY SHAFT 3-1/4" SPIGOT 2 BOLT MOUNT & 1" SHAFT ON REQUEST							
	Type cc/rev	Cont. Speed	Cont. flow	Cont. Press Drop	Cont. Torque	Cont. Kw	Rotor Height
79H-BMR-36P1	BMR 36	800 rpm	40 L	140 bar	70 Nm	7	8.0 mm
79H-BMR-50P1	BMR 50	775 rpm	60 L	140 bar	93 Nm	7	9.0 mm
79H-BMR-80P1	BMR 80	750 rpm	60 L	140 bar	152 Nm	10	14 mm
79H-BMR-100P1	BMR 100	475 rpm	60 L	140 bar	194 Nm	10	17.5 mm
79H-BMR-125P1	BMR 125	600 rpm	60 L	140 bar	237 Nm	10	22 mm
79H-BMR-160P1	BMR 160	470 rpm	60 L	140 bar	310 Nm	10	28 mm
79H-BMR-200P1	BMR 200	300 rpm	60 L	140 bar	369Nm	8	35 mm
79H-BMR-250P1	BMR 250	240 rpm	60 L	110 bar	380 Nm	6	44 mm
79H-BMR-315P1	BMR 315	190 rpm	60 L	90 bar	380 Nm	5	56 mm
79H-BMR-400P1	BMR 400	160 rpm	60 L	70 bar	380 Nm	4	70 mm

<u>BMR - SERIES</u>							
COMPETITOR MODELS ; (OMR - DANFOSS) (BMR - ZHENJIANG) (S - CHAR - LYNN)							
Specs ; 1" P/KEY SHAFT 1-3/4" SPIGOT 4 BOLT SQUARE MOUNT							
	Type cc/rev	Cont. Speed	Cont. flow	Cont. Press Drop	Cont. Torque	Cont. Kw	Rotor Height
79H-BMR-36P3	BMR 36	800 rpm	40 L	140 bar	70 Nm	7	8.0 mm
79H-BMR-50P3	BMR 50	775 rpm	60 L	140 bar	93 Nm	7	9.0 mm
79H-BMR-80P3	BMR 80	750 rpm	60 L	140 bar	152 Nm	10	14 mm
79H-BMR-100P3	BMR 100	475 rpm	60 L	140 bar	194 Nm	10	17.5 mm
79H-BMR-125P3	BMR 125	600 rpm	60 L	140 bar	237 Nm	10	22 mm
79H-BMR-160P3	BMR 160	470 rpm	60 L	140 bar	310 Nm	10	28 mm
79H-BMR-200P3	BMR 200	300 rpm	60 L	140 bar	369Nm	8	35 mm
79H-BMR-250P3	BMR 250	240 rpm	60 L	110 bar	380 Nm	6	44 mm
79H-BMR-315P3	BMR 315	190 rpm	60 L	90 bar	380 Nm	5	56 mm
79H-BMR-400P3	BMR 400	160 rpm	60 L	70 bar	380 Nm	4	70 mm

63H-V05900500	VALVE VAU DE C 1/2" OMP / OMR CROSS OVER PORT RELIEF MOTOR
79H-BMRXX-H2	4 BOLT MOUNT 6 SPLINE USE BMR-XXP1 A11Y10/T7 PRICE AND ADD
79H-BMRSKAIT7	BMR SEAL KIT T7 FOR P1 / P3 BMR/SK/AII/T7 ID: 30 OD: 48 W: 7 3-1/4" SPIGOT 2 BOLT MOUNT
79H-BMRSKC1T10	BMR SEAL KIT T10 FOR P3 BMR/SK/C1/T10 ID: 28 OD: 42 W: 5 1-3/4" SPIGOT 4 BOLT MOUNT

<u>BMR - SERIES MOTOR DATA</u>							
	TYPE	SPIGOT	MOUNT	SHAFT	KEY WIDTH	PORTS	DRAIN
79H-BMRXX-P1	BMR - SERIES	3-1/4"	2 BOLT	25mm P/K	8mm	1/2"BSPP	1/4"BSPP
79H-BMRXX-P52	BMR - SERIES	3-1/4"	2 BOLT	32mm P/K	8mm	1/2"BSPP	1/4"BSPP
79H-BMRXX-P3	BMR - SERIES	1-3/4"	4 BOLT	1" P/K	6,35mm	1/2"BSPP	1/4"BSPP
79H-BMRXX-H2	BMR - SERIES	1-3/4"	4 BOLT	6 SPLINE	25 mm O/D	1/2"BSPP	1/4"BSPP



BMR-XXXXP3



BMR-XXXXP1



VAU 1/2" BMR

<u>BM3Y - SERIES</u>								
COMPETITOR MODELS ; (OMS - DANFOSS) (BMS - ZHENJIANG) (2000 - CHAR - LYNN)								
Specs ; 1-1/4" P/KEY SHAFT 3-1/4" SPIGOT 4 BOLT MAGNETO MOUNT								
	<u>Type</u>	<u>cc/rev</u>	<u>Cont. Speed</u>	<u>Cont. Flow</u>	<u>Cont. Press Drop</u>	<u>Cont. Torque</u>	<u>Cont. Kw</u>	<u>Rotor Height</u>
79H-BM3Y-100P5	BM3Y	100	750 rpm	75 L	175 bar	283 Nm	16	14.5 mm
79H-BM3Y-125P5	BM3Y	125	600 rpm	75 L	175 bar	345 Nm	16	19 mm
79H-BM3Y-160P5	BM3Y	160	470 rpm	75 L	160 bar	429 Nm	16	25 mm
79H-BM3Y-200P5	BM3Y	200	375 rpm	75 L	160 bar	540 Nm	14	32 mm
79H-BM3Y-250P5	BM3Y	250	300 rpm	75 L	125 bar	580 Nm	11	41 mm
79H-BM3Y-315P5	BM3Y	315	240 rpm	75 L	125 bar	625 Nm	10	53 mm
79H-BM3Y-400P5	BM3Y	400	180 rpm	75 L	100 bar	687 Nm	08	67 mm

79H-BM3-K3SH	BM3 K3 SHAFT 1-1/4" 14 SPLINE ADD ON TO PRICE - LENGTH 56,5mm
79H-BM3Y-K13SH	BM3Y K13 SHAFT 1-1/4" 14 SPLINE ADD ON TO PRICE - LENGTH 63,5mm (Zhenjiang)
79H-BM3SK	BMS SEAL KIT

<u>BM4U - SERIES</u>								
COMPETITOR MODELS ; (OMT - DANFOSS) (BMT - ZHENJIANG) (4000 - CHAR - LYNN)								
Specs ; 40mm SHAFT 125 SPIGOT 4 BOLT SQUARE MOUNT								
	<u>Type</u>	<u>cc/rev</u>	<u>Cont. Speed</u>	<u>Cont. Flow</u>	<u>Cont. Press Drop</u>	<u>Cont. Torque</u>	<u>Cont. Kw</u>	<u>Rotor Height</u>
79H-BM4U-200P3	BM4U	200	625 rpm	125 L	200 Bar	714 Nm	25	16.5 mm
79H-BM4U-250P3	BM4U	250	500 rpm	125 L	200 Bar	883 Nm	25	22.0 mm
79H-BM4U-320P3	BM4U	320	380 rpm	125 L	200 Bar	1143 Nm	25	29.0 mm
79H-BM4U-400P3	BM4U	400	305 rpm	125 L	180 Bar	1095 Nm	22	38.0 mm
79H-BM4U-500P3	BM4U	500	240 rpm	125 L	160 Bar	1377 Nm	31	56.0 mm
79H-BM4U-600P3	BM4U	600	196 rpm	125 L	140 Bar	1318 Nm	25.3	54.0 mm
79H-BM4U-725P3	BM4U	725	154 rpm	125 L	125 Bar	1464 Nm	22.2	73.5 mm

<u>BM4E - SERIES</u>								
COMPETITOR MODELS ; (OMT-DANFOSS) (BMT - ZHENJIANG) (4000 - CHAR-LYNN)								
Specs ; 1-1/4" P/KEY SHAFT 4" SPIGOT 4 BOLT SQUARE MOUNT								
	<u>Type</u>	<u>cc/rev</u>	<u>Cont. Speed</u>	<u>Cont. Flow</u>	<u>Cont. Press Drop</u>	<u>Cont. Torque</u>	<u>Cont. Kw</u>	<u>Rotor Height</u>
79H-BM4E-200P13	BM4E	200	625 rpm	125 L	200 Bar	714 Nm	25	16.5 mm
79H-BM4E-250P13	BM4E	250	500 rpm	125 L	200 Bar	883 Nm	25	22.0 mm
79H-BM4E-320P13	BM4E	320	380 rpm	125 L	200 Bar	1143 Nm	25	29.0 mm
79H-BM4E-400P13	BM4E	400	305 rpm	125 L	180 Bar	1095 Nm	22	38.0 mm
79H-BM4E-500P13	BM4E	500	240 rpm	125 L	160 Bar	1377 Nm	31	56.5 mm

<u>BM3 & BM4 - SERIES MOTOR DATA</u>							
	<u>TYPE</u>	<u>SPIGOT</u>	<u>MOUNT</u>	<u>SHAFT</u>	<u>KEY WIDTH</u>	<u>PORTS</u>	<u>DRAIN</u>
79H-BM3XX-P5	BM3 - SERIES	3-1/4"	4 Magneto	1-1/4" P/K	7,96mm	1/2"BSPP	1/4"BSPP
79H-BM3XX-K13	BM3 - SERIES	3-1/4"	4 Magneto	14 SPLINE	1-1/4" O/D	1/2"BSPP	1/4"BSPP
79H-BM4UXX-P3	BM4U - SERIES	125mm	4 BOLT	40mm P/K	12mm	3/4"BSPP	1/4"BSPP
79H-BM4EXX-P13	BM4E - SERIES	4"	4 BOLT	1-1/4" P/K	7,96mm	3/4"SAE"0"	3/8"SAE"0"
79H-BM4EXX-K10	BM4E - SERIES	4"	4 BOLT	14 SPLINE	1-1/4" O/D	3/4"SAE"0"	3/8"SAE"0"

79H-BM4U-SK	BM4U SEAL KIT
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Part Number	MOTORS GEROLOR TAK - BOK							RETAIL:
								01-10-2022
	<u>BM5 - SERIES</u>							
	COMPETITOR MODELS; (OMV - DANFOSS) (BMV - ZHENJIANG) (10 000 - CHAR-LYNN)							
	Specs ; 2-1/4" P/KEY SHAFT 5" SPIGOT 4 BOLT MOUNT							
	Type cc/rev	Cont. Speed	Cont. flow	Cont. Press Drop	Cont. Torque	Cont. Kw	Rotor Height	
79H-BM5U315P10	BM5U 315	10-475 rpm	150 litres	200 bar	873 Nm	32	19 mm	
79H-BM5U400P10	BM5U 400	9-375 rpm	150 litres	200 bar	1108 Nm	32	26 mm	
79H-BM5U500P10	BM5U 500	8-300 rpm	150 litres	200 bar	1385 Nm	32	34 mm	
79H-BM5U630P10	BM5U 630	6-315 rpm	150 litres	200 bar	1570 Nm	40	44 mm	
	<u>BM5 - SERIES MOTOR DATA</u>							
	TYPE	SPIGOT	MOUNT	SHAFT	KEY WIDTH	PORTS	DRAIN	
79H-BM5UXX-P10	BM5U - SERIES	5"	4 BOLT	2-1/4" P/K	12,7mm	1" SAE "O"	3/8" SAE "O"	
79H-BM5U-SK	BM5 SEAL KIT							
	<u>TKRE - SERIES</u>							
	COMPETITOR MODELS; (TKRE-TAK-BOK) (BMRE - ZHENJIANG) (TG - PARKER) (RE - 5001 WHITE)							
	SPECS ; 1-1/4" P/K SHAFT 3-1/4" SPIGOT 4 BOLT MAGNETO MOUNT NO CASE DRAIN							
	Type cc/rev	Cont. Speed	Cont. flow	Cont. Press Drop	Cont. Torque	Cont. Kw	Rotor Height	
79H-TKRE-125G2	TKRE 125	360 rpm	60 litres	205 bar	325 Nm	12	10.2 mm	
79H-TKRE-160G2	TKRE 160	375 rpm	60 litres	205 bar	450 Nm	15	13.5 mm	
79H-TKRE-200G2	TKRE 200	330 rpm	60 litres	205 bar	530 Nm	15.5	17.0 mm	
79H-TKRE-230G2	TKRE 230	290 rpm	60 litres	205 bar	625 Nm	16	19.5 mm	
79H-TKRE-250G2	TKRE 250	290 rpm	60 litres	205 bar	700 Nm	17.5	22.0 mm	
79H-TKRE-300G2	TKRE 300	250 rpm	60 litres	205 bar	810 Nm	18	25.4 mm	
79H-TKRE-350G2	TKRE 350	220 rpm	60 litres	205 bar	905 Nm	17.5	29.4 mm	
79H-TKRE-375G2	TKRE 375	200 rpm	60 litres	205 bar	990 Nm	16.5	31.8 mm	
79H-TKRE-475G2	TKRE 475	160 rpm	60 litres	175 bar	1085 Nm	14.5	39.4 mm	
79H-TKRE-540G2	TKRE 540	140 rpm	60 litres	140 bar	980 Nm	11.5	47.3 mm	
79H-TKRE-750G2	TKRE 750	100 rpm	60 litres	105 bar	1050 Nm	8	63.5 mm	
79H-TKRE-S-KIT	TKRE SEAL KIT							
79H-TKRE-B-KIT	TKRE BEARING KIT							
	<u>TKRE - SERIES MOTOR DATA</u>							
	TYPE	SPIGOT	MOUNT	SHAFT	KEY WIDTH	PORTS	DRAIN	
79H-TKREXXG2	TKRE -SERIES	3-1/4"	4 BOLT	1-1/4" P/K		1/2"BSPP	NONE	
79H-TKREXXRW	TKRE -SERIES	3-1/4"	4 BOLT	1" P/K		1/2"BSPP	NONE	
79H-TKREXXFD1	TKRE -SERIES	3-1/4"	4 BOLT	14 SPLINE		1/2"BSPP	NONE	
	<u>USEFUL DATA</u>							
	CODE; TKRE 200 = (196cc = 12cu.in)			CODE; TKRE 230 = (228cc = 14cu.in)				
	CODE; TKRE 250 = (257cc = 16cu.in)			CODE; TKRE 300 = (296cc = 18cu.in)				
	CODE; TKRE 350 = (345cc = 20cu.in)			CODE; TKRE 375 = (371cc = 24cu.in)				
	CODE; TKRE 475 = (462cc = 26cu.in)			CODE; TKRE 540 = (540cc = 32cu.in)				
	CODE; TKRE 750 = (745cc = 48cu.in)							

BM5U-XXXP10



TKRE-XXXG2



<u>BMM - SERIES</u>							
COMPETITOR MODELS ; (OMM - DANFOSS) (BMM - ZHENJIANG) (J - CHAR-LYNN)							
Specs ; 16mm P/KEY SHAFT 3-1/4" 2 BOLT FLANGE 63mm SPIGOT REAR PORTS							
	<u>Type cc/rev</u>	<u>Cont. Speed</u>	<u>Cont. flow</u>	<u>Cont. Press Drop</u>	<u>Cont. Torque</u>	<u>Cont. Kw</u>	<u>Rotor Height</u>
79H-BMM-08P1Y	BMM 08	1950 rpm	16 L	100 bar	16 Nm	1.8	3.5 mm
79H-BMM-12P1Y	BMM 12	1550 rpm	20 L	100 bar	16 Nm	2.4	5.5 mm
79H-BMM-20P1Y	BMM 20	1000 rpm	20 L	100 bar	25 Nm	2.4	8.5 mm
79H-BMM-32P1Y	BMM 32	630 rpm	20 L	100 bar	40 Nm	2.4	13.5 mm
79H-BMM-40P1Y	BMM 40	500 rpm	20 L	90 bar	45 Nm	2.2	17.0 mm
79H-BMM-50P1Y	BMM 50	400 rpm	20 L	70 bar	46 Nm	1.8	21.5 mm

<u>BMM - SERIES MOTOR DATA</u>							
	<u>TYPE</u>	<u>SPIGOT</u>	<u>MOUNT</u>	<u>SHAFT</u>	<u>KEY WIDTH</u>	<u>PORTS</u>	<u>DRAIN</u>
79H-BMM-XXP1Y	BMM - SERIES	3-1/4" (63mm)	2 BOLT	16mm P/K	5mm	3/8"BSPP REAR	1/8" BSPP
79H-BMM-XXP1S	BMM - SERIES	3-1/4" (63mm)	2 BOLT	16mm P/K	5mm	3/8"BSPP SIDE	1/8" BSPP
79H-BMM-XXK1Y	BMM - SERIES	3-1/4" (63mm)	2 BOLT	9 SPLINE		3/8"BSPP REAR	1/8" BSPP
79H-BMM-XXK1S	BMM - SERIES	3-1/4" (63mm)	2 BOLT	9 SPLINE		3/8"BSPP SIDE	1/8" BSPP

<u>JMGD - SERIES</u>							
COMPETITOR MODELS ;							
Specs ; 38mm P/KEY SHAFT 190mm SPIGOT 5 BOLT FLANGE SIDE PORTS							
	<u>Type cc/rev</u>	<u>Speed</u>	<u>Cont. flow</u>	<u>Cont. Press Drop</u>	<u>Cont. Torque</u>	<u>Cont. Kw</u>	
79H-JMDG3-300B	JMGB 289	30-350 rpm	105 L	140 bar	720 Nm	32	

<u>JMGD- SERIES MOTOR DATA</u>							
	<u>TYPE</u>	<u>SPIGOT</u>	<u>MOUNT</u>	<u>SHAFT</u>	<u>KEY WIDTH</u>	<u>PORTS</u>	<u>DRAIN</u>
79H-JMDG3-XXB	JMGD - SERIES	190mm	5 BOLT	38mm P/K	10mm	3/4"BSPP SIDE	3/8" BSPP




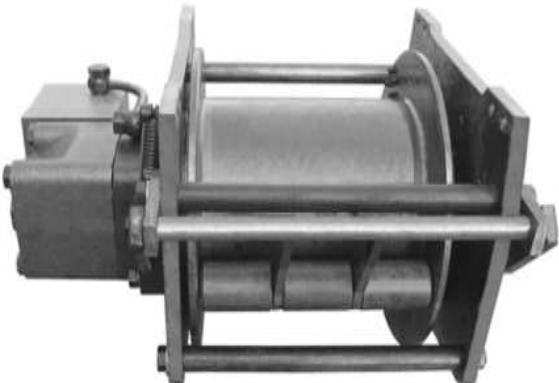

A2FM - SERIES

Specs ; 20mm P/KEY SHAFT 4 BOLT FLANGE 80mm SPIGOT REAR & SIDE PORTS
Type cc/rev Cont. Speed Cont. flow Cont. Press Drop Cont. Torque Cont. Kw Rotor Height


79H-A2FM12	A2FM 12
79H-A2FM16	A2FM 16
79H-A2FM23	A2FM 23



Part Number	MOTORS GEROLOR TAK - BOK SHAFTS	01-10-2022
	SHAFT ONLY	
79H-BMR-SH-P1	BMR SHAFT P1 / T10 - 25 mm PARALLEL KEY, 8 x 7 x 32 (HIRSCH POPULAR ONE).	
79H-BMR-SH-P3	BMR SHAFT P3 - 25.4 mm PARALLEL KEY SHAFT IMPERIAL ONLY 6.35 x 6.35 x 32	
79H-BMR-SH-P52	BMR SHAFT P52 - 32 mm P/KEY, 10x8x45 (3mm LONGER THAN P5 SHAFT) REPLACES P5 SHAFT	
79H-BMR-SH-H3	BMR SHAFT H3 - 25.4 mm 6 SPLINED SHAFT IMPERIAL, 6-25.4 x 21.4 x 6.2	
79H-BM3-SH-P5	BM3 SHAFT 1-1/4" P/KEY TYPE FOR 80cc & 100cc WITH NUT (40mm OD BEARING) M36 x 1.5 THREAD	
79H-BM3-SH-K10	BM3 14 TOOTH SPLINED SHAFT FOR 80cc & 100cc WITH NUT (40mm OD BEARING) M40 x 1.5 THREAD	
79H-BM3-SH-K3	SPECIAL - BM3 SPLINED SHAFT 1-1/4" 14 TEETH FOR 80cc & 100cc WITH NUT (40mm OD BEARING)	
79H-BM3Y-SH-P5	BM3Y SHAFT 1-1/4" P/KEY FOR 125cc - 500cc WITH NUT (45mm OD BEARING) M42 x 1.5 THREAD	
79H-BM3Y-SH-K3	BM3Y SPLINED SHAFT 1-1/4" 14 TEETH FOR 125cc - 500cc WITH NUT (45mm OD) M42 x 1.5 THREAD	
79H-BM3Y-SH-K13	SPECIAL - BM3Y SPLINED SHAFT 1-1/4" 14 TEETH FOR 125cc - 500cc (BM3Y K13) WITH NUT (45mm OD)	
	KEY ONLY	
79H-BMM-KEY-P1	BMM SHAFT KEY P1 5 X 5 X 16	
79H-BMR-KEY-P1	BMR SHAFT KEY P1 8 X 7 X 32	
79H-BMR-KEY-P3	BMR SHAFT KEY P3 6.35 X 6.35 X 32	
79H-BMR-KEY-P5	BMR SHAFT KEY P5 10 x 8 x 45	
79H-BMR-KEY-P52	BMR SHAFT KEY P52 10 x 8 x 45	
79H-BM3Y-KEY-P5	BM3Y SHAFT KEY P5 7.96 X 7.96 X 32	
79H-BM4U-KEY-P3	BM4U SHAFT KEY P3 12 X 8 X 70	
79H-BM4EKEY-P13	BM4E SHAFT KEY P13 7.96 X 7.96 X 36 (changed IT WAS 7.96 X 7.96 X 38)	
79H-BM5UKEY-P10	BM5U SHAFT KEY P10 12.7 X 12.7 X 57	
	BEARING SET	
79H-BMM-SB-P1	BEARING SET BMM-31*17*7 = QTY/set x 1	
79H-BMR-SB-P1	BEARING BMR-30*62*16(C2) + RETAINER RING A-30*1.2	
79H-BMR-SB-P3	BEARING BMR-30*62*16(C2) + RETAINER RING A-30*1.2	
79H-BMR-SB-H3	BEARING BMR-30*62*16(C2) + RETAINER RING A-30*1.2	
79H-BMR-SB-P5	BEARING BMR-35*62*14 + RETAINER RING A-35*1.5	
79H-BMR-SB-P52	BEARING BMR-35*62*14 + RETAINER RING A-35*1.5	
79H-BM3-SB-K10	Bearing BM3-40*68*19X2 + Lock nut BMRW1-11 + Space ring BM3-21	
79H-BM3-SB-K3	Bearing BM3-40*68*19X2 + Lock nut BMRW1-11 + Space ring BM3-21	
79H-BM3-SB-P5	Bearing BM3-40*68*19X2 + Lock nut BMRW1-11 + Space ring BM3-21	
79H-BM3Y-SB-P5	Bearing BM3Y-45*68*15X2 + Lock nut BM3Y-17 + Space ring BM3Y-21	
79H-BM3Y-SB-K3	Bearing BM3Y-45*68*15X2 + Lock nut BM3Y-17 + Space ring BM3Y-21	
79H-BM3Y-SB-K13	Bearing BM3Y-45*68*15X2 + Lock nut BM3Y-17 + Space ring BM3Y-21	
79H-BM4U-SB-P3	Bearing BM4-55*90*23X2 + Lock nut BM4020 + Space ring BM4021	
79H-BM4E-SB-P13	Bearing BM4-55*90*23X2 + Lock nut BM4020 + Space ring BM4021	
79H-BM5U-SB-P10	Bearing BM5-65*100*23X2 + Lock nut BM5020 + Space ring BM5021	
		
PLEASE NOTE: ALL O.E.M. NAMES OR NUMBERS ARE FOR REFERENCE USE ONLY		PAGE T 6

Part Number	WINCHES												RETAIL:
													01-10-2022
	The Hydraulic Winch consists of a BM Hydraulic Motor, a planetary Gear Box decelerator, a mechanical wet brake, spring assist, hydraulic release, 2 over centre valves and 2 cross over port relief valves.												
	It should be noted that when sizing a winch, not only the line pull should be taken into consideration, but also the maximum rope speed in metres per minute. Refer to data sheet												
	<u>HYDRAULIC WINCH</u>												
84H-YJ10-1T125	1 TON WINCH INLET FLOW 35 LITERS PRESSURE SET TO 128 Bar BM3-125 1/2" BSPP PORTS												
84H-YJ10-1T200	1 TON WINCH INLET FLOW 75 LITERS PRESSURE SET TO 80 Bar BM3-200 3/4" BSPP PORTS												
84H-YJ20-2T320	2 TON WINCH INLET FLOW 90 LITERS PRESSURE SET TO 120 BAR BM4-320 3/4" BSPP PORTS												
	<u>WINCH SPARES</u>												
84H-K5-BM3	OVERCENTRE VALVE BLOCK FOR 1 TON WINCH												
84H-K5-BM4	OVERCENTRE VALVE BLOCK FOR 2 TON WINCH												
84H-YJ10-BM3	MOTOR TO FIT YJ10												
84H-YJ20-BM4	MOTOR TO FIT -YJ20												
	<u>WINCH- SERIES MOTOR DATA</u>												
		MAX	MAX							Max Rope			
		PULL	PULL	Working	Rope	Rope	Rope			Speed		Associated	
	TYPE	FIRST	LAST	Pressure	Layers	Diameter	Capacity	Disp.	Flow	Firstn	Lastn	Motor	Weight
		kg	kg	Mpa	n	mm	m	cc/r	Liters	m/min	m/min		kg
	YJ10	1000	800	128	4	8	53	625	35	36	41	BM3-125	46
	YJ10	1000	800	80	4	8	53	1000	75	36	41	BM3-200	46
	YJ20	2000	1650	120	4	12	50	1600	90	30	36	BM4-320	103
	<u>WINCH DIMENSIONS</u>												
	YJ10 ; WIDTH 371mm , SIDE 280mm , HEIGHT 286mm , DRUM OD 168mm, Drum Circ 527mm												
	YJ20 ; WIDTH 423mm , SIDE 370mm , HEIGHT 392mm , DRUM OD 216mm, Drum Circ 678mm												
	<u>LINE SPEED CALCULATIONS</u>												
	MODEL YJ20-2000 ; DRUM DIAMETER 216mm X 3.14 = 678mm DRUM CIRCUMFERENCE ÷ LINE SPEED OF 30 METERS PER MIN = 44.25 DRUM RPM												
	THEREFORE 44.5 DRUM RPM X 5 GEAR BOX RATIO = 221.25 RPM X MOTOR 320c/r = 70.1 INPUT LITERS												
	<p>YJ-20 HYDRAULIC WINCH</p>  <p>YJ-10 HYDRAULIC WINCH</p> 												
	PLEASE NOTE: ALL O.E.M. NAMES OR NUMBERS ARE FOR REFERENCE USE ONLY												PAGE T 7

<u>Part Number</u>	STEERING UNITS					RETAIL:
						15-02-2023
	<u>BPBSI - HKUS / 4 SERIES</u>					
	OPEN CENTRE NON LOAD REACTIVE					
	RELIEF VALVE ON P PORT (150 Bar)					
	COMPETITOR MODELS ; DANFOSS (OSPC***ON ; OSPB***ON) M&S (HKUS***/4 ; HKU***/4)					
	<u>HKUS / 4 SERIES</u>	<u>DISPLACEMENT</u>	<u>MAX INPUT</u>	<u>MAIN PRESSURE SET</u>	<u>ROTOR HEIGHT</u>	
80H-BPBS1-50	HKUS 50 / 4 / A	49.5cc per rev	6 LPM	150 bar	6.6 mm	
80H-BPBS1-63	HKUS 63 / 4 / A	65.5cc per rev	6 LPM	150 bar	9.7 mm	
80H-BPBS1-80	HKUS 80 / 4 / A	79.2cc per rev	9 LPM	150 bar	10.5 mm	
80H-BPBS1-100	HKUS 100 / 4 / A	99.0cc per rev	9 LPM	150 bar	13.0 mm	
80H-BPBS1-125	HKUS 125 / 4 / A	123.8cc per rev	12 LPM	150 bar	16.0 mm	
80H-BPBS1-160	HKUS 160 / 4 / A	158.4cc per rev	12 LPM	150 bar	21.0 mm	
80H-BPBS1-200	HKUS 200 / 4 / A	198.0cc per rev	17 LPM	150 bar	26.0 mm	
80H-BPBS1-250	HKUS 250 / 4 / A	247.5cc per rev	24 LPM	150 bar	32.0 mm	
80H-BPBS1-280	HKUS 280 / 4 / A	280.0cc per rev	28 LPM	150 bar	37.0 mm	
80H-BPBS1-315	HKUS 315 / 4 / A	320.5cc per rev	30 LPM	150 bar	42.0 mm	
80H-BPBS1-400	HKUS 400 / 4 / A	400.5cc per rev	40 LPM	150 bar	52.0 mm	
80H-BPBSEALKIT	HKU SEAL KIT					
	<u>STEER WHEEL COLUMN</u>					
	<u>ACI SERIES</u>					
80H-ACI-0075	STEER WHEEL COLUMN LENGTH 75 mm					
80H-ACI-0150	STEER WHEEL COLUMN LENGTH 150 mm					
80H-ACI-0200	STEER WHEEL COLUMN LENGTH 200 mm					
80H-ACI-0400	STEER WHEEL COLUMN LENGTH 400 mm					
80H-ACI-0750	STEER WHEEL COLUMN LENGTH 750 mm					
	<u>STEER WHEEL</u>					
	<u>AV SERIES</u>					
80H-AV003200	STEER WHEEL 350 OD mm TO FIT ACI COLUMN					
80H-AT004700	STEER WHEEL CAP					
	<u>PORTS:</u>					
	P + T 1/2" SAE "O"					
	L + R 1/2" SAE "O"					
	<u>MOUNTING THREADS</u>					
	MOUNTING TO COLUMN 4 X 3/8 - 16 UNC					
	MOUNTING TO R/V BLOCK 2 X 3/8 - 24 UNF					
	<u>POSSIBLE OPTIONS</u>					
	HKU NO RELIEF VALVES					
	HKUS RELIEF VALVES BUILT IN					
	4 OPEN CENTER					
	4 A OPEN CENTER					
	5 T CLOSED CENTER LOAD SENSE					
	7 A CLOSED CENTER					
	PLEASE NOTE: ALL O.E.M. NAMES OR NUMBERS ARE FOR REFERENCE USE ONLY					PAGE U 1

<u>Part Number</u>	STEERING UNITS					RETAIL:
						01-10-2022
	<u>BPBS5T - HKUS / 5 T SERIES</u>					
	CLOSED CENTRE NON LOAD REACTIVE LOAD SENSING					
	RELIEF VALVE ON LS LINE (150Bar) AND SHOCK VALES ON L & R (200Bar)					
	COMPETITOR MODELS ; DANFOSS (OSPB***LS) M&S (HKUS***/5T)					
	<u>HKUS / 5 T SERIES</u>	<u>DISPLACEMENT</u>	<u>MAX INPUT</u>	<u>MAIN PRESSURE SET</u>	<u>ROTOR HEIGHT</u>	
80H-BPBS5T-50	HKUS 50 / 5 / T	49.5cc per rev	6 LPM	150 bar	6.6 mm	
80H-BPBS5T-63	HKUS 63 / 5 / T	65.5cc per rev	6 LPM	150 bar	9.7 mm	
80H-BPBS5T-80	HKUS 80 / 5 / T	79.2cc per rev	9 LPM	150 bar	10.5 mm	
80H-BPBS5T-100	HKUS 100 / 5 / T	99.0cc per rev	9 LPM	150 bar	13.0 mm	
80H-BPBS5T-125	HKUS 125 / 5 / T	123.8cc per rev	12 LPM	150 bar	16.0 mm	
80H-BPBS5T-160	HKUS 160 / 5 / T	158.4cc per rev	12 LPM	150 bar	21.0 mm	
80H-BPBS5T-200	HKUS 200 / 5 / T	198.0cc per rev	17 LPM	150 bar	26.0 mm	
80H-BPBS5T-250	HKUS 250 / 5 / T	247.5cc per rev	24 LPM	150 bar	32.0 mm	
80H-BPBS5T-280	HKUS 280 / 5 / T	280.0cc per rev	28 LPM	150 bar	37.0 mm	
80H-BPBS5T-315	HKUS 315 / 5 / T	320.5cc per rev	30 LPM	150 bar	42.0 mm	
80H-BPBS5T-400	HKUS 400 / 5 / T	400.5cc per rev	40 LPM	150 bar	52.0 mm	
80H-BPBS5T-500	HKUS 500 / 5 / T	495.0cc per rev	53 LPM	160 bar	65.0 mm	
80H-BPBS5T-630	HKUS 630 / 5 / T	618.8cc per rev	63 LPM	140 bar	84.0 mm	
80H-BPBS5T-800	HKUS 800 / 5 / T	800.8cc per rev	63 LPM	140 bar	104.0 mm	
80H-BPBSEALKIT	HKU SEAL KIT					
80H-564V115003	BKH 1 MAIN RELIEF + CROSS OVER PORT RELIEFS					
80H-564V300012	BKH 3 PORT RELIEFS ONLY					
	<u>BPB3 - HKU / 7 SERIES</u>					
	CLOSED CENTRE NON LOAD REACTIVE					
	NO RELIEF ON P SHOCK VALES ON L & R (200Bar)					
	COMPETITOR MODELS ; DANFOSS (OSPB***CN) M&S (HKUS***/7)					
	<u>HKUS / 7 / A SERIES</u>	<u>DISPLACEMENT</u>	<u>MAX INPUT</u>	<u>MAIN PRESSURE SET</u>	<u>ROTOR HEIGHT</u>	
80H-BPB3-50-Y4	HKUS 50 / 7 / A	49.5cc per rev	6 LPM	150 bar	6.6 mm	
80H-BPB3-63-Y4	HKUS 63 / 7 / A	65.5cc per rev	6 LPM	150 bar	9.7 mm	
80H-BPB3-80-Y4	HKUS 80 / 7 / A	79.2cc per rev	9 LPM	150 bar	10.5 mm	
80H-BPB3-100-Y4	HKUS 100 / 7 / A	99.0cc per rev	9 LPM	150 bar	13.0 mm	
80H-BPB3-125-Y4	HKUS 125 / 7 / A	123.8cc per rev	12 LPM	150 bar	16.0 mm	
80H-BPB3-160-Y4	HKUS 160 / 7 / A	158.4cc per rev	12 LPM	150 bar	21.0 mm	
80H-BPB3-200-Y4	HKUS 200 / 7 / A	198.0cc per rev	17 LPM	150 bar	26.0 mm	
80H-BPB3-250-Y4	HKUS 250 / 7 / A	247.5cc per rev	24 LPM	150 bar	32.0 mm	
80H-BPB3-280-Y4	HKUS 280 / 7 / A	280.0cc per rev	28 LPM	150 bar	37.0 mm	
80H-BPB3-315-Y4	HKUS 315 / 7 / A	320.5cc per rev	30 LPM	150 bar	42.0 mm	
80H-BPB3-400-Y4	HKUS 400 / 7 / A	400.5cc per rev	40 LPM	150 bar	52.0 mm	
80H-BPB3-500-Y4	HKUS 500 / 7 / A	495.0cc per rev	53 LPM	160 bar	65.0 mm	
80H-BPB3-630-Y4	HKUS 630 / 7 / A	618.8cc per rev	63 LPM	140 bar	84.0 mm	
80H-BPB3-800-Y4	HKUS 800 / 7 / A	800.8cc per rev	63 LPM	140 bar	104.0 mm	
80H-BPBSEALKIT	HKU SEAL KIT					
	<u>PORTS:</u>					
	P + T 1/2" SAE "O"					
	L + R 1/2" SAE "O"					
	LS 1/4" SAE "O"					
	<u>MOUNTING THREADS</u>					
	MOUNTING TO COLUMN 4 X 3/8 - 16 UNC					
	MOUNTING TO R/V BLOCK 2 X 3/8 - 24 UNF					
	<u>POSSIBLE OPTIONS</u>					
	HKU NO RELIEF VALVES					
	HKUS RELIEF VALVES BUILT IN					
	4 OPEN CENTER					
	4 A OPEN CENTER					
	5 T CLOSED CENTER LOAD SENSE					
	7 A CLOSED CENTER					
						
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PRESSURE CONVERSION CHART

1 kPa = 0,01 bar
1 Mpa = 10,00 bar

1 kPa = 0,145 P.S.I.
1 kg/cm² = 14,223 P.S.I.

Kg/cm² = 1,00 at
1 P.S.I. = 6,895 kPa

kPa	Mpa	bar	kg/cm ²	P.S.I.
5	0,005	0,05	0,05	0,73
10	0,01	0,1	0,10	1,45
25	0,025	0,25	0,25	3,63
50	0,05	0,5	0,51	7,25
75	0,075	0,75	0,76	10,88
100	0,1	1	1,02	14,5
200	0,2	2	2,04	29,0
300	0,3	3	3,06	43,5
400	0,4	4	4,08	58
500	0,5	5	5,10	72,5
600	0,6	6	6,12	87
700	0,7	7	7,14	102
800	0,8	8	8,16	116
900	0,9	9	9,18	131
1000	1	10	10,2	145
2000	2	20	20,4	290
3000	3	30	30,6	435
4000	4	40	40,8	580
5000	5	50	51,0	725
6000	6	60	61,2	870
7000	7	70	71,4	1015
8000	8	80	81,6	1160
9000	9	90	91,8	1305
10000	10	100	102	1450
11000	11	110	112	1595
12000	12	120	122	1740
13000	13	130	133	1885
14000	14	140	143	2030

kPa	Mpa	bar	kg/cm ²	P.S.I.
15000	15	150	152	2175
16000	16	160	163	2320
17000	17	170	173	2465
18000	18	180	183	2610
19000	19	190	194	2755
20000	20	200	204	2900
21000	21	210	214	3045
22000	22	220	224	3190
23000	23	230	235	3335
24000	24	240	245	3480
25000	25	250	255	3625
26000	26	260	265	3770
27000	27	270	275	3915
28000	28	280	286	4060
29000	29	290	296	4205
30000	30	300	306	4350
31000	31	310	316	4495
32000	32	320	326	4640
33000	33	330	337	4785
34000	34	340	347	4930
35000	35	350	357	5075
36000	36	360	367	5220
37000	37	370	377	5365
38000	38	380	387	5510
39000	39	390	398	5655
40000	40	400	408	5800
41000	41	410	418	5945
42000	42	420	428	6090

kPa	Mpa	bar	kg/cm ²	P.S.I.
43000	43	430	438	6235
44000	44	440	449	6380
45000	45	450	459	6525
46000	46	460	469	6670
47000	47	470	479	6815
48000	48	480	489	6960
49000	49	490	500	7105
50000	50	500	510	7250
51000	51	510	520	7395
52000	52	520	530	7540
53000	53	530	540	7685
54000	54	540	551	7830
55000	55	550	561	7975
56000	56	560	571	8120
57000	57	570	581	8265
58000	58	580	591	8410
59000	59	590	602	8555
60000	60	600	612	8700
61000	61	610	622	8845
62000	62	620	632	8990
63000	63	630	642	9135
64000	64	640	653	9280
65000	65	650	663	9425
66000	66	660	673	9570
67000	67	670	683	9715
68000	68	680	693	9860
69000	69	690	704	10005
70000	70	700	714	10150