HANSA-TMP
MANUFACTURING YOUR SUCCESS

HT 03 / CR / 0223 / E

Orbit Motors

Technical Catalogue

INDEX

SPOOL VALVE HYDRAULIC MOTORS

DISK VALVE HYDRAULIC MOTORS

APPENDIX

HYDRAULIC MOTORS WITH BRAKE

HYDRAULIC VALVES FOR MOTORS

OTMM Orbit Hydraulic Motor With Spool Valve

■ INTRODUCTION

This series of motor , with its shell made of ductile cast iron of adequate intenty, can be applied to situations with less load and interval operation,widely to agriculture,forestry,plastics,machine tools and minmachines etc.

■ CHARACTERISTICS

1. With the axial oil distribution structur,it is of smaller,high efficiency and long life.

2. Shaft seal can bear high pressure of motor of which can be used in parallel or in series.

■ TECHNICAL DATA

Type		OTMM–8	OTMM–12.5	OTMM–20	OTMM–32	OTMM–40	OTMM–50
Displacement.(ml/r)		8.2	12.9	19.9	31.6	39.8	50.3
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.torque (Nm)	cont.	11	16	25	40	45	46
	int.	15	23	35	57	70	88
	peak.	21	33	51	64	82	100
Speed.Range(cont.)(r/min)		1950	1550	1005	630	500	395
Max.Flow(cont.)(L/min)		16	20	20	20	20	20
Max.Output.Power(cont.)		1.8	2.4	2.4	2.4	2.2	1.8
Weight(Kg)		1.9	2	2.1	2.2	2.3	2.4

Intermittent operation the permissible values may occur for max.10% of every minute,
Peak load:the permissible values may occur for max.1% of every minute.

■ PERFORMANCE DATA

OTMM 8(8.2ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	5	7	10	12	14
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
Max.cont. 16		4 1912	7 1900	10 1861	12 1833	14 1780
Max.int. 20			6 2395	10 2350	11 2328	14 2281

OTMM12.5(12.9ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	5	7	10	12	14
2	6 140	8 136	11 119	15 68	19 35	
4	6 296	8 289	12 274	16 229	19 200	23 145
8	5 605	8 596	12 583	16 543	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
Max.cont. 20	3 1542	7 1532	10 1521	15 1500	19 1482	22 1437
Max.int. 25	2 1910	6 1891	9 1878	14 1848	18 1828	22 1788

OTMM 20(19.9ml/r)

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

OTMM 32(31.6ml/r)

Flow(L/min)	Pressure(Mpa) 2	3.5	5	7	10	12	14
2	7 61	15 57	21 52	28 47	39 16		
4	7 126	15 121	21 114	29 106	40 82	48 67	57 49
8	7 250	15 244	21 239	29 231	40 207	49 194	58 167
12	6 378	13 374	20 369	28 362	40 338	48 322	58 297
15	4 474	12 472	18 468	27 462	39 441	47 429	57 406
Max.cont. 20	3 631	10 630	17 627	25 619	37 601	46 585	55 566
Max.int. 25	1 791	8 789	15 787	23 783	35 766	43 753	52 732

OTMM 40(39.8ml/r)

Flow(L/min)	Pressure(Mpa) 3	5	7	9	10	12
2	16 45	27 40	36 34	44 28	51 17	
4	16 96	27 93	37 85	45 79	52 65	62 52
8	15 197	26 195	36 182	45 176	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
Max.cont. 20	10 497	21 492	31 487	39 480	48 472	59 463
Max.int. 25	7 622	19 617	29 612	37 607	44 600	56 591

(Torque) : 44Nm
(Speed) : 600r/min

OTMM50(50.3ml/r)

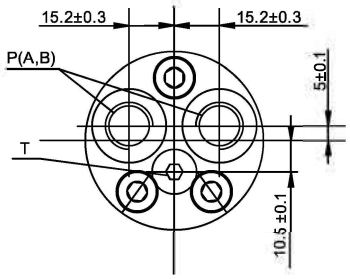
Flow(L/min)	Pressure(Mpa) 1.5	3	5	7	10
2	9 37	18 33	32 27	45 22	
4	9 76	19 73	33 68	46 63	64 55
8	9 157	19 154	33 149	46 145	64 137
12	9 237	18 234	32 231	46 226	63 218
15	8 296	17 295	31 294	42 288	62 282
Max.cont. 20	6 395	13 395	27 393	40 390	59 381
Max.int. 25	4 497	11 496	25 494	37 490	58 484

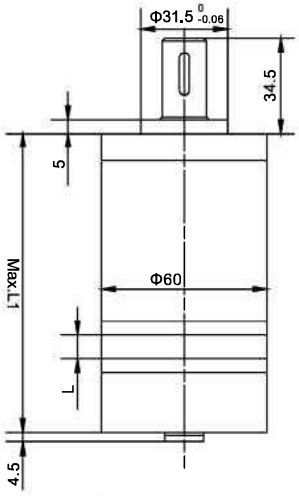
Cont.
Int.

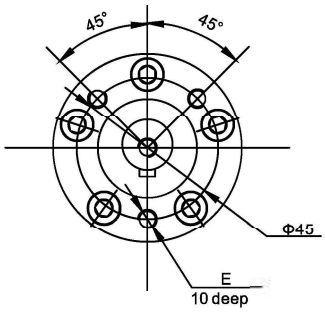
■ OTMM Installation

Y*(End port Y*)

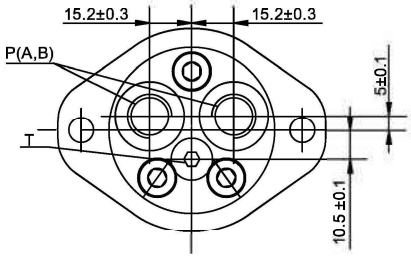
lange C,C1

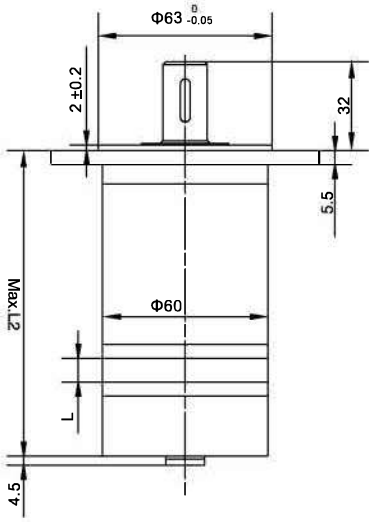


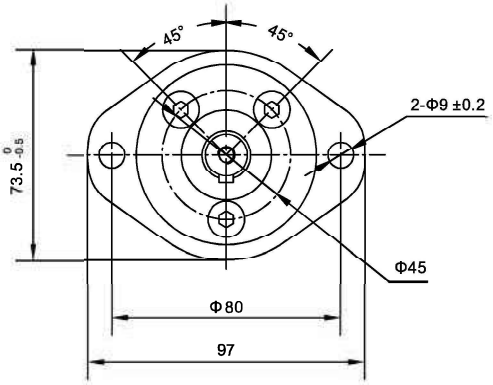




All 2–hole oval flange AII







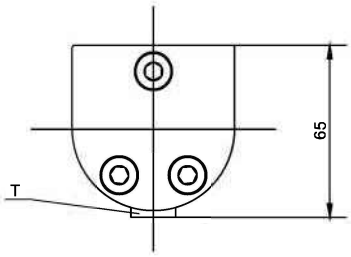
Flange	E
C	3–M6
C1	3–1/4–28UNF

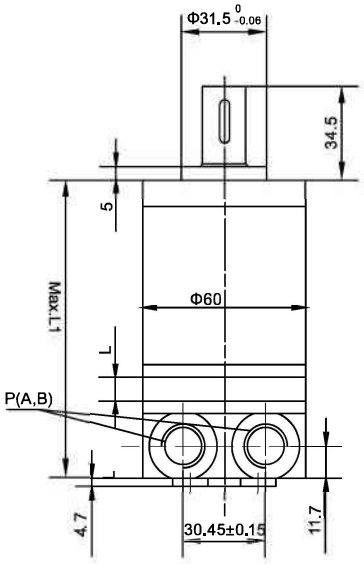
Type	OTMM–8	OTMM–12.5	OTMM–20	OTMM–32	OTMM–40	OTMM–50
L	3.5	5.5	8.5	13.5	17	21.5
L1	104.5	106.5	109.5	114.5	118	122.5
L2	107	109	112	117	120.5	125

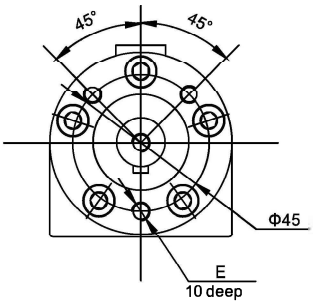
■ OTMM Installation

S*(Side port S*)

lange C,C1

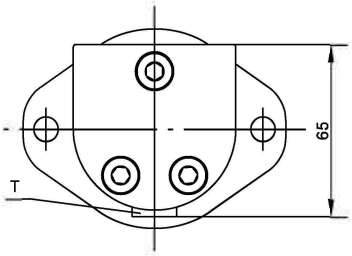


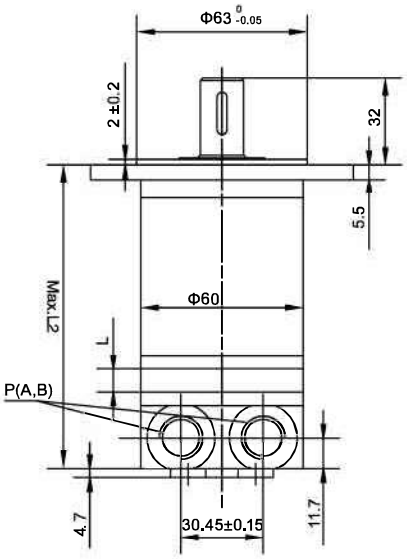


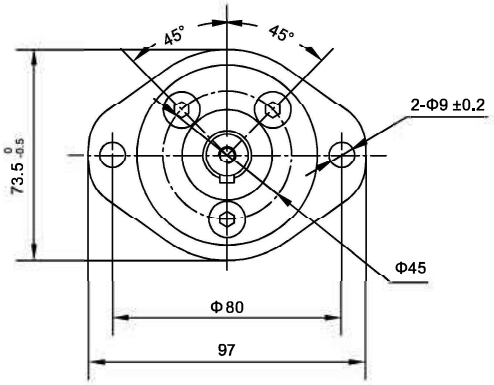


Flange	E
C	3–M6
C1	3–1/4–28UNF

A ll 2–hole oval flange AII



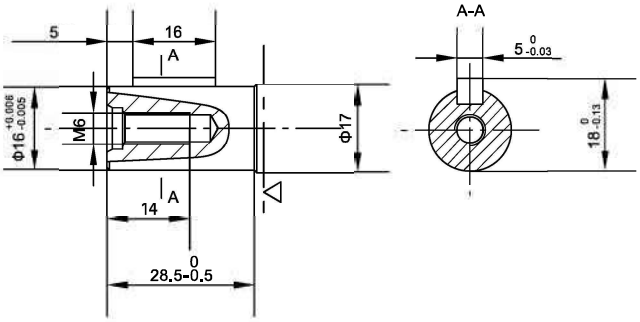




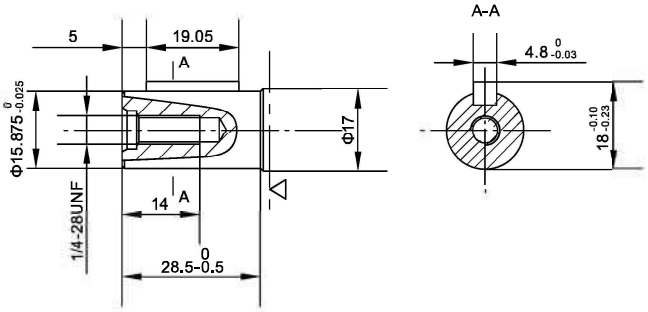
Type	OTMM–8	OTMM–12.5	OTMM–20	OTMM–32	OTMM–40	OTMM–50
L	3.5	5.5	8.5	13.5	17	21.5
L1	106	108	111	116	119.5	124
L2	108.5	110.5	113.5	118.5	122	126.5

■ SHAFT VERSION

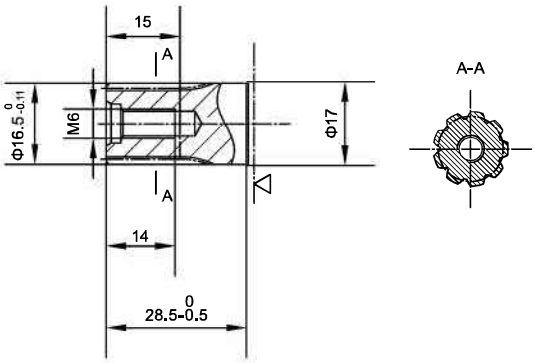
P1: Φ16 Cylindrical shaft，parallel key5 × 5 × 16



P2: Φ15.875Cylindrical shaft，parallel key4.8 × 4.8 × 19.05



K1: Φ16.5involute splined shaft B17 × 14 DIN5482

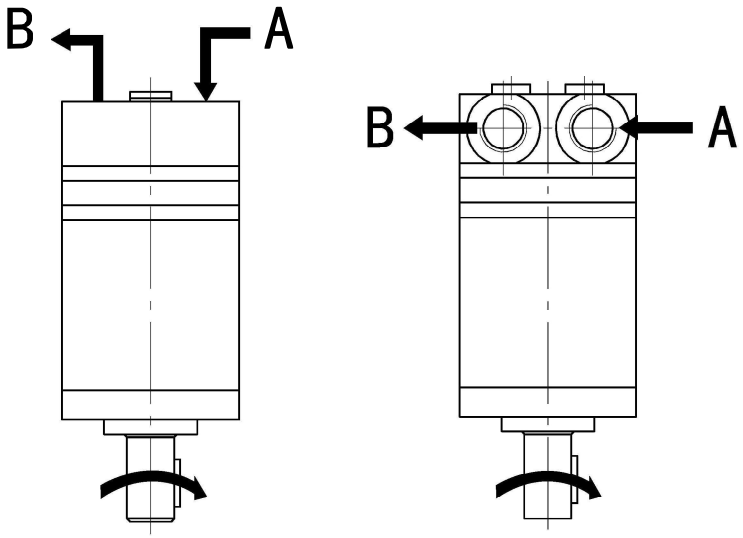


◁ : Motor mounting surface

■ DIRECTION OF SHAFT ROTATION: STANDARD

Direction of shaft ration：Standard

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



■ ORDERING CODE

1		2	3	4	5		6		7
OTMM	—					/		—	

Pos.1	2	3		4	
Series	Disp		Output		Flange
OTMM	8 12.5 20 32 40 50	P1	Φ16 Cylindrical shaft，parallel key5×5×16	C	3–M6 Flange, pilot Φ31.5
		P2	Φ15.875 Cylindrical shaft，parallel key4.8×4.8×19.05	C1	3–1/4–28UNF Fange, pilot Φ Φ31.5
		K1	Φ16.5 involute splined shaft，B17×14 DIN5482	A Ⅱ	2–Φ9 Oval fange, pilot Φ Φ63

5		6		7	
Code	Ports Ports(A,B)(deep) Drain port T(deep)	Special features		Rotation direction	
	(End port Y*)	Omit	Standard	Omit	Standard
Y1	G3/8(12),G1/8(8)				
Y2	9/16–18UNF(12),3/8–24UNF(8)				
	S*(Side port S*)			L	Opposite
S1	G3/8(12),G1/8(8)				
S2	9/16–18UNF(12),3/8–24UNF(8)				

OTMR Orbit Hydraulic Motor With Spool Valve

■ OTMR INTRODUCTION

This series of motor, with its shell made of ductile cast iron of adequate intensity, can be applied to situations with less load and interbval operation, widely to agriculture, forestry, plastics, machine tools and min machines, such as the mould height adjustment of the injection molding machine, the cleaner, the sawmill the worktable etc.

■ OTMR CHARACTERISTICS

1. The output shaft, with the deep groove ball bearing, can bear certain axial force and radial force.
2. With the axial oil distrbution structur, it is of smaller size and less weight.
3. With two inner check valves, no drain connection.
4. With cycoid group with the roller, it has a small friction and high mechanical efficiency.

■ OTMR TECHNICAL DATA

Type		OTMR OTMRW OTMRS OTMRE 50	OTMR OTMRW OTMRS OTMRE 80	OTMR OTMRW OTMRS OTMRE 100	OTMR OTMRW OTMRS OTMRE 125	OTMR OTMRW OTMRS OTMRE 160	OTMR OTMRW OTMRS OTMRE 200	OTMR OTMRW OTMRS OTMRE 250	OTMR OTMRW OTMRS OTMRE 315	OTMR OTMRW OTMRS OTMRE 400
Displacement.(ml/r)		51.7	80.5	100.5	126.3	160.8	200.9	252.6	321.5	401.9
Max.Pressure. Drop (Mpa)	cont.	14	14	14	14	14	14	11	9	7
	int.	17.5	17.5	17.5	17.5	17.5	17.5	14	11	9
	peak.	20	20	20	20	20	20	16	13	11
Max.torque (Nm)	cont.	93	152	194	237	310	369	380	380	380
	int.	118	189	236	296	378	450	470	470	470
	peak.	135	216	270	338	433	509	540	540	540
Max.Speed(cont.)(r/min)		770	745	595	475	370	295	235	185	150
Max.Flow(cont.)(L/min)		40	60	60	60	60	60	60	60	60
Max.Output.Power(cont.)(Kw)		7	10	10	10	10	8	6	5	4
Weight(Kg)		6.5	6.9	7.0	7.3	7.5	8.0	8.5	9.0	11

Intermittent operation the permissible values may occur for max.10% of every minute,
Peak load:the permissible values may occur for max.1% of every minute.

OTMR Orbit Hydraulic Motor With Spool Valve

■ OTMRY TECHNICAL DATA

Type		OTMRY 50	OTMRY 80	OTMRY 100	OTMRY 125	OTMRY 160	OTMRY 200	OTMRY 250	OTMRY 315	OTMRY 400
Displacement.(ml/r)		51.7	80.5	100.5	126.3	160.8	200.9	252.6	321.5	401.9
Max.Pressure. Drop (Mpa)	cont.	17.5	17.5	17.5	17.5	17.5	17.5	14	12	10
	int.	20	20	20	20	20	19	16	14	12
	peak.	22	22	22	22	22	20	18	15	14
Max.torque (Nm)	cont.	110	189	236	296	378	450	470	485	500
	int.	135	216	270	338	433	486	540	573	614
	peak.	144	225	281	353	450	511	579	614	710
Max.Speed(cont.)(r/min)		770	745	595	475	370	295	235	185	150
Max.Flow(cont.)(L/min)		40	60	60	60	60	60	60	60	60
Max.Output.Power(cont.) (Kw)		7.5	12	12	12	12	11	9.5	7.5	6.5
Weight(Kg)		6.9	7.3	7.4	7.7	7.9	8.4	8.9	9.4	11.4

Intermittent operation the permissible values may occur for max.10% of every minute,
Peak load:the permissible values may occur for max.1% of every minute.

■ OTMR PERFORMANCE DATA

OTMR 50[51.7ml/r]
Pressure (Mpa)

Flow(L/min)	5	7	9	10	12	14 (Max.cont.)	16	17.5 (Max.int.)
5	34 **94**	44 **85**	58 **77**	65 **77**	75 **72**	88 **50**		
10	35 **188**	45 **179**	61 **167**	68 **163**	79 **154**	94 **137**	107 **119**	119 **98**
15	34 **285**	48 **279**	62 **271**	72 **263**	87 **252**	100 **232**	108 **213**	122 **187**
20	34 **379**	46 **377**	60 **367**	68 **363**	82 **348**	95 **332**	109 **304**	125 **272**
30	32 **578**	43 **571**	59 **563**	66 **556**	79 **544**	94 **533**	107 **502**	121 **467**
40 (Max.cont.)	30 **762**	40 **760**	57 **755**	65 **752**	78 **740**	91 **726**	105 **702**	120 **672**
45	29 **858**	39 **855**	56 **851**	64 **847**	77 **837**	89 **817**	104 **798**	120 **772**
50 (Max.int.)	25 **952**	36 **942**	52 **927**	59 **908**	72 **882**	84 **854**	98 **834**	113 **803**

OTMR 80[80.5ml/r]
Pressure (Mpa)

Flow(L/min)	5	7	9	10	12	14 (Max.cont.)	16	17.5 (Max.int.)
5	48 **61**	58 **58**	84 **52**	106 **46**	129 **40**			
10	50 **122**	74 **116**	96 **112**	106 **108**	126 **106**	145 **99**	170 **60**	
20	54 **243**	76 **239**	100 **231**	109 **219**	131 **206**	152 **192**	174 **176**	193 **152**
30	50 **362**	72 **358**	96 **356**	104 **350**	128 **349**	148 **335**	172 **325**	191 **300**
40	45 **484**	70 **480**	95 **478**	104 **476**	125 **470**	146 **468**	171 **440**	188 **438**
50	41 **610**	68 **608**	91 **606**	101 **603**	122 **600**	145 **598**	168 **550**	186 **520**
60 (Max.cont.)	35 **726**	65 **723**	88 **720**	96 **718**	120 **710**	142 **700**	164 **698**	182 **680**
70	30 **845**	58 **834**	81 **820**	93 **802**	114 **789**	136 **767**	158 **754**	175 **730**
75 (Max.int.)	19 **910**	48 **895**	76 **881**	88 **867**	108 **852**	132 **830**	151 **806**	168 **787**

■ OTMR PERFORMANCE DATA

TMR 100[100.5ml/r]
Pressure (Mpa)

Flow(L/min)	5	7	9	10	12	14 (Max.cont.)	16 (Max.int.)	17.5
5	64 **49**	90 **48**	118 **46**	134 **42**	154 **38**			
10	65 **96**	93 **94**	122 **93**	134 **91**	155 **80**	183 **60**	210 **48**	
20	62 **192**	93 **188**	121 **184**	135 **178**	153 **171**	184 **168**	208 **158**	236 **146**
30	61 **296**	90 **294**	118 **290**	130 **290**	150 **288**	180 **282**	200 **270**	232 **258**
40	55 **387**	86 **380**	115 **369**	126 **361**	146 **356**	181 **348**	206 **338**	228 **320**
50	46 **484**	77 **479**	108 **472**	121 **463**	146 **452**	181 **445**	200 **428**	221 **410**
60 (Max.cont.)	34 **583**	62 **567**	98 **569**	110 **555**	136 **540**	170 **536**	186 **528**	199 **516**
70	30 **680**	63 **672**	97 **662**	110 **650**	138 **640**	170 **635**	190 **620**	210 **606**
75 (Max.int.)	20 **728**	54 **720**	90 **710**	106 **695**	130 **681**	165 **667**	188 **650**	200 **634**

OTMR 125[126.3ml/r]
Pressure (Mpa)

Flow(L/min)	5	7	9	10	12	14 (Max.cont.)	16 (Max.int.)	17.5
5	74 **37**	106 **32**	140 **27**	163 **21**				
10	81 **78**	114 **77**	152 **74**	172 **59**	200 **45**	220 **29**	250 **20**	
20	80 **157**	114 **156**	150 **154**	170 **151**	200 **146**	221 **142**	254 **120**	292 **114**
30	78 **232**	112 **230**	149 **228**	169 **222**	198 **220**	220 **218**	252 **199**	290 **170**
40	77 **312**	111 **311**	147 **307**	168 **300**	196 **298**	218 **284**	250 **270**	288 **252**
50	62 **391**	105 **388**	143 **384**	165 **380**	195 **372**	223 **362**	254 **346**	287 **330**
60 (Max.cont.)	52 **470**	98 **468**	136 **464**	160 **459**	191 **448**	220 **434**	250 **412**	282 **405**
70	41 **548**	90 **544**	130 **540**	156 **541**	187 **538**	215 **535**	242 **530**	278 **496**
75 (Max.int.)	32 **586**	79 **583**	126 **578**	148 **570**	180 **560**	208 **546**	234 **532**	262 **520**

OTMR 160[160.8ml/r]
Pressure (Mpa)

Flow(L/min)	5	7	9	10	12	14 (Max.cont.)	16 (Max.int.)	17.5
5	100 **29**	142 **26**	188 **21**	207 **19**				
10	104 **62**	146 **60**	191 **58**	211 **49**	245 **45**	282 **32**	330 **25**	
20	102 **124**	148 **120**	194 **118**	218 **114**	251 **109**	290 **104**	338 **99**	368 **94**
30	96 **183**	141 **181**	186 **179**	215 **176**	248 **166**	288 **158**	335 **144**	364 **132**
40	87 **246**	136 **242**	180 **240**	206 **235**	248 **231**	286 **219**	330 **200**	358 **181**
50	70 **309**	126 **307**	172 **300**	198 **295**	238 **287**	278 **278**	320 **262**	350 **247**
60 (Max.cont.)	58 **371**	111 **367**	168 **359**	191 **354**	232 **346**	271 **338**	312 **323**	342 **306**
70	47 **435**	104 **430**	160 **421**	190 **415**	228 **403**	267 **393**	301 **381**	338 **365**
75 (Max.int.)	34 **470**	91 **463**	150 **450**	180 **441**	221 **431**	261 **420**	291 **405**	328 **389**

(Torque) : 150Nm
(Speed) : 450r/min

Cont.
Int.

OTMR 200[200.9ml/r]
Pressure (Mpa)

Flow(L/min)	5	7	9	10	12	14 (Max.cont.)	16 (Max.int.)	17.5
5	129 **24**	176 **22**	230 **18**	256 **13**				
10	133 **49**	182 **47**	236 **45**	261 **43**	310 **38**	352 **33**	400 **24**	
20	131 **99**	181 **97**	232 **94**	256 **92**	308 **88**	354 **83**	400 **74**	431 **64**
30	126 **149**	176 **147**	299 **144**	252 **141**	308 **135**	353 **126**	400 **113**	430 **105**
40	112 **200**	168 **197**	224 **194**	248 **191**	304 **185**	350 **174**	393 **160**	423 **151**
50	94 **252**	154 **249**	220 **246**	243 **243**	294 **238**	343 **228**	384 **212**	414 **194**
60 (Max.cont.)	78 **304**	144 **301**	213 **298**	236 **294**	287 **286**	339 **276**	382 **262**	410 **243**
70	67 **355**	135 **353**	206 **349**	228 **340**	277 **329**	336 **316**	375 **300**	408 **288**
75 (Max.int.)	58 **382**	125 **379**	197 **373**	220 **362**	270 **350**	321 **337**	360 **322**	398 **312**

■ OTMR PERFORMANCE DATA

OTMR 250[252.6ml/r]

Pressure (Mpa)

Flow(L/min)	5	7	9	10	11	12 (Max.cont.)	14 (Max.int.)
5	172 **20**	240 **19**	300 **18**	338 **16**	352 **15**		
10	173 **42**	242 **38**	308 **36**	340 **33**	351 **33**	405 **28**	462 **22**
20	170 **79**	238 **77**	301 **75**	339 **72**	350 **71**	402 **69**	460 **61**
30	160 **117**	231 **114**	298 **111**	330 **109**	347 **108**	398 **103**	455 **95**
40	141 **157**	221 **155**	298 **153**	327 **150**	342 **148**	394 **146**	445 **135**
50	122 **196**	206 **193**	287 **190**	321 **177**	332 **175**	382 **170**	438 **163**
60 (Max.cont.)	101 **236**	190 **233**	278 **230**	312 **227**	328 **225**	369 **221**	424 **208**
70	86 **276**	176 **273**	262 **270**	298 **266**	302 **264**	353 **255**	416 **245**
75 (Max.int.)	60 **297**	163 **294**	254 **290**	286 286	291 **282**	345 **277**	410 **266**

OTMR 315[321.5ml/r]

Pressure (Mpa)

Flow(L/min)	3	5	7	9	10 (Max.cont.)	11 (Max.int.)
5	110 **14**	199 **12**				
10	108 **31**	190 **30**	272 **29**	360 **28**	400 **26**	451 **25**
20	110 **61**	196 **60**	279 **59**	356 **57**	398 **55**	448 **53**
30	106 **91**	186 **90**	270 **89**	355 **86**	390 **84**	442 **82**
40	100 **123**	179 **122**	262 **120**	350 **117**	382 **112**	436 **110**
50	92 **154**	169 **153**	252 **151**	342 **147**	373 **140**	432 **136**
60 (Max.cont.)	86 **185**	159 **184**	241 **182**	339 **177**	369 **172**	428 **170**
70	77 **217**	146 **216**	235 **213**	324 **208**	342 **201**	412 **200**
75 (Max.int.)	66 **232**	132 **231**	212 **228**	303 **222**	332 **216**	402 **214**

OTMR 400[401.9ml/r]

Pressure (Mpa)

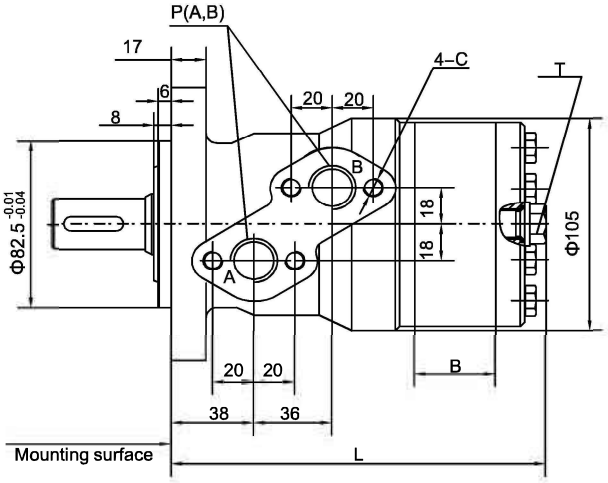
Flow(L/min)	3	4	6	7	8 (Max.cont.)	9 (Max.int.)
5	152 **12**					
10	154 **24**	205 **21**	308 **18**	349 **17**		
20	150 **49**	201 **48**	302 **47**	340 **46**	392 **44**	441 **41**
30	146 **73**	198 **74**	296 **73**	331 **72**	387 **70**	438 **67**
40	140 **98**	191 **97**	290 **96**	321 **95**	381 **94**	421 **92**
50	132 **122**	182 **121**	281 **118**	315 **115**	376 **112**	402 **110**
60 (Max.cont.)	128 **146**	176 **145**	272 **143**	312 **140**	362 **138**	389 **132**
70	110 **170**	171 **168**	259 **166**	301 **162**	341 **160**	379 **154**
75 (Max.int.)	98 **182**	162 **180**	232 **178**	292 **176**	320 **174**	356 **170**

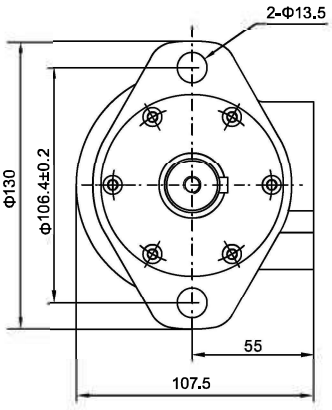
(Torque) : 232Nm
(Speed) : 178r/min

Cont.
Int.

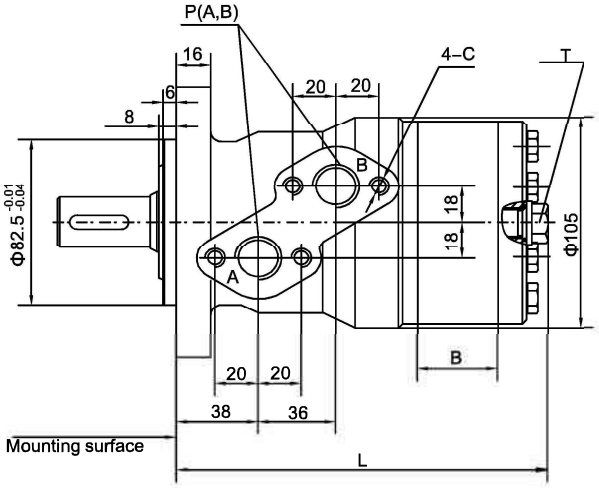
■ OTMR, OTMRE Installation

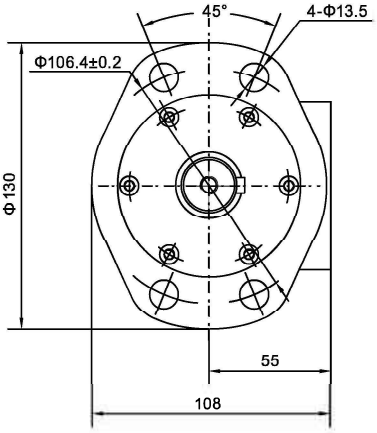
2–hole oval flange A Ⅱ



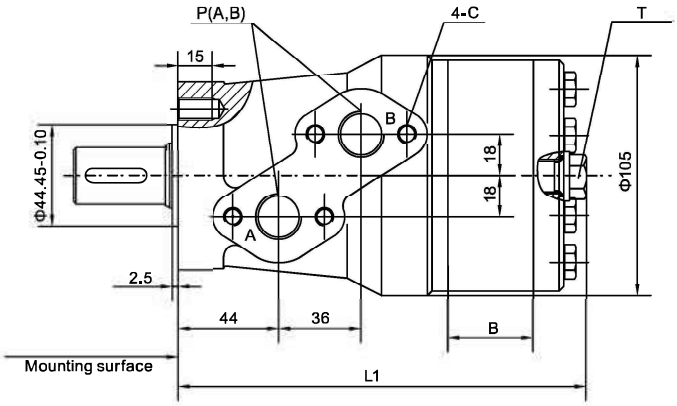


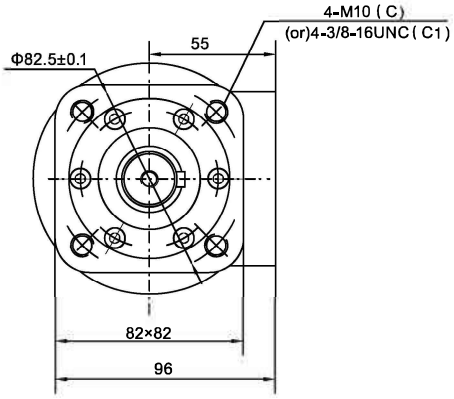
4–hole oval flange A Ⅳ





Square flange C，C1

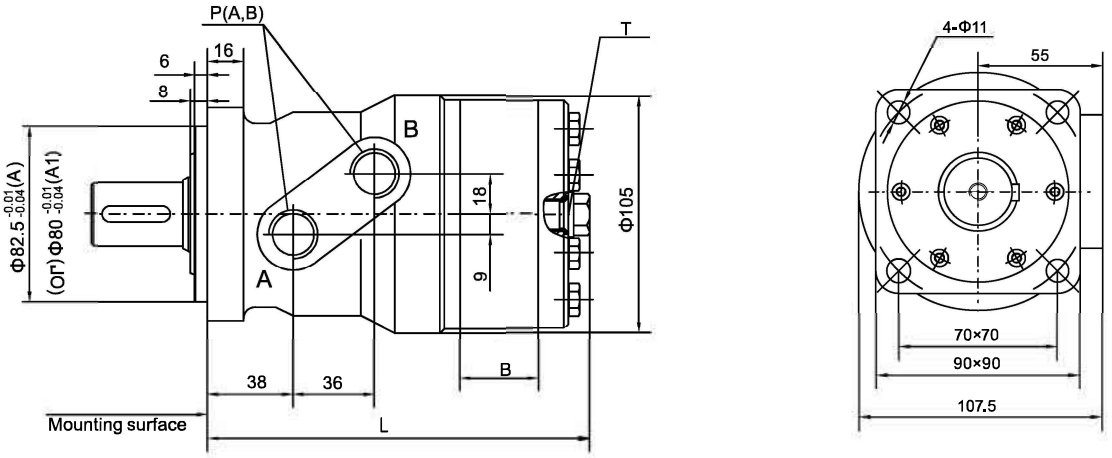




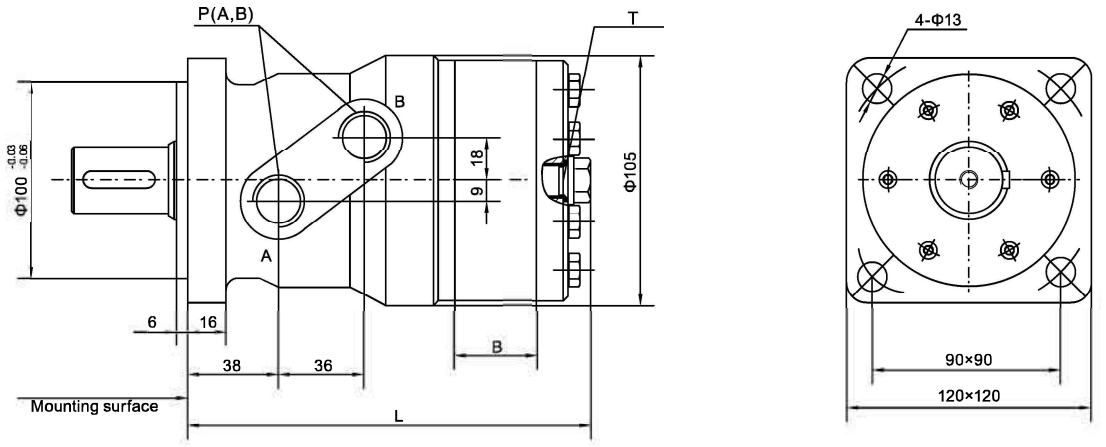
Note：C，C1 mounting are assembling to BMRS shaft

■ OTMR, OTMRE Installation

Square flange A , A 1



Square flange A2 Ⅲ



Type	OTMR - 50	OTMR - 80	OTMR - 100	OTMR - 125	OTMR - 160	OTMR - 200	OTMR-250	OTMR-315	OTMR-400
L	143	148	151.5	156	162	169	178	190	204
L1	151	156	159.5	164	170	177	186	198	212
B	9	14	17.5	22	28	35	44	56	70

■ OTMRY Installtion

Type	OTMRY - 50	OTMRY - 80	OTMRY - 100	OTMRY - 125	OTMRY - 160	OTMRY - 200	OTMRY-250	OTMRY-315	OTMRY-400
L	150	155	158.5	163	169	176	185	197	211
L1	158	163	166.5	171	177	184	193	205	219
B	9	14	17.5	22	28	35	44	56	70

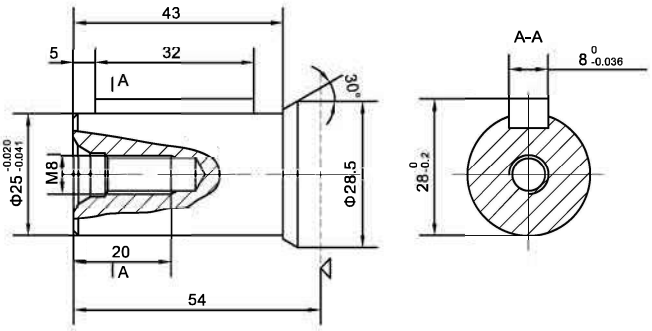
■ OTMR,TMRE PORTS CODE

Ports / Code	P(A、B)(deep)	C（deep）	T（deep）
Y	G1/2 (15)	M8 (13)	M14×1.5 (12)
Y1	M18×1.5 (15)	M8 (13)	M14×1.5 (12)
Y2	M22×1.5 (15)	M8 (13)	M14×1.5 (12)
Y4	ZG3/8 (15)	M8 (13)	M14×1.5 (12)
Y5	7/8–14UNF (15)	—	M14×1.5 (12)
Y7	ZG1/2 (15)	M8 (13)	M14×1.5 (12)
Y8	NPT1/2 (15)	M8 (13)	M14×1.5 (12)
Y9	NPTF1/2 (15)	5/16–18UNC (13)	7/16–20UNF (12)
Y10	G1/2 (15)	M8 (13)	G1/4 (12)
Y15	7/8–14UNF (15)	5/16–18UNC (13)	7/16–20UNF (12)

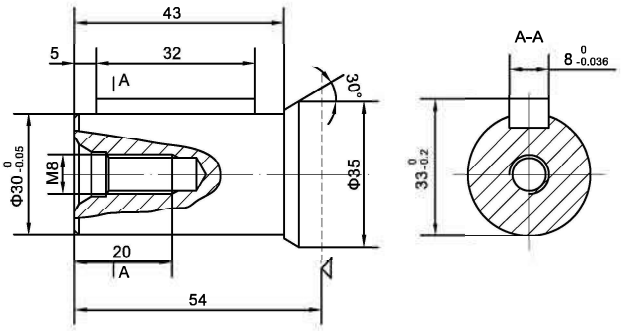
Note:P(A，B)––Ports，C––Mounting Thread （—Indicates no this thread），T––Drain connettion

■ OTMR, OTMRE — SHAFT VERSION

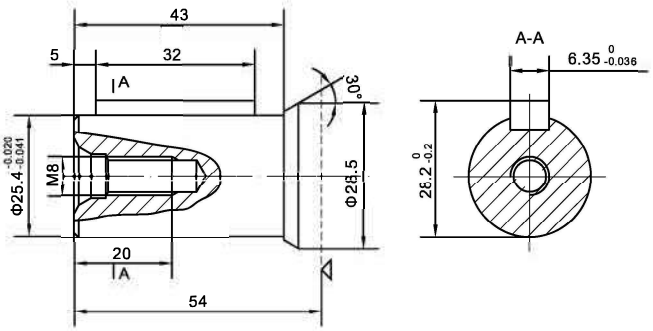
P1: Φ25 Cylindrical shaft，parallel key8×7×32



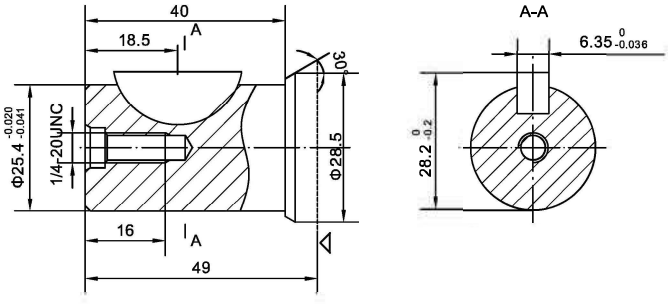
P2: Φ30 Cylindrical shaft，parallel key8×7×32



P3: Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32



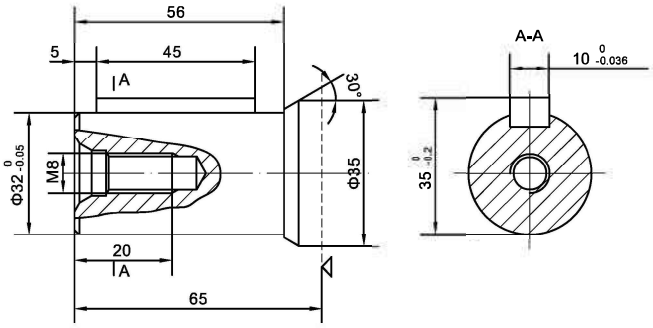
P4: Φ25.4 Cylindrical shaft，Woodruff key Φ25.4×6.35



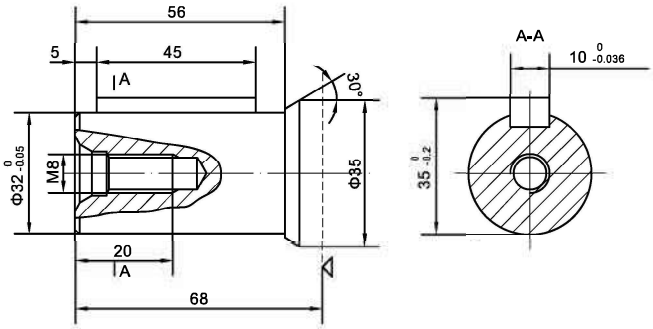
◁ : Motor mounting surface

■ OTMR, OTMRE — SHAFT VERSION

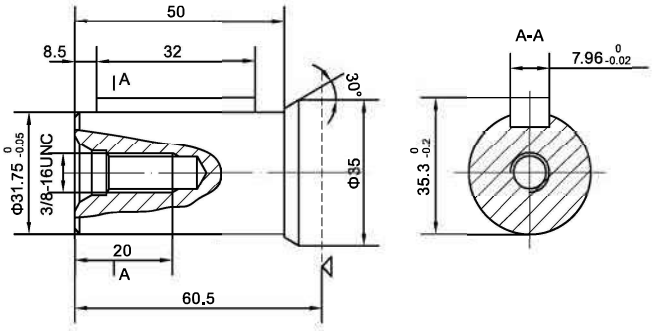
P5: Φ32 Cylindrical shaft，parallel key10 × 8 × 45



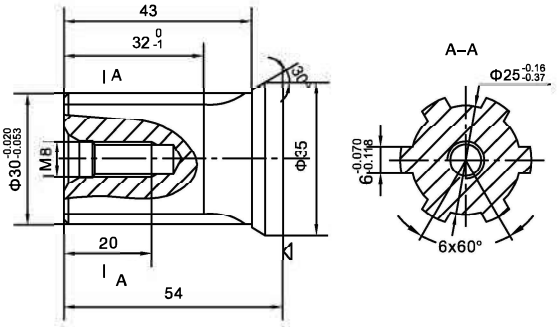
P52: Φ32 Cylindrical shaft，parallel key10 × 8 × 45



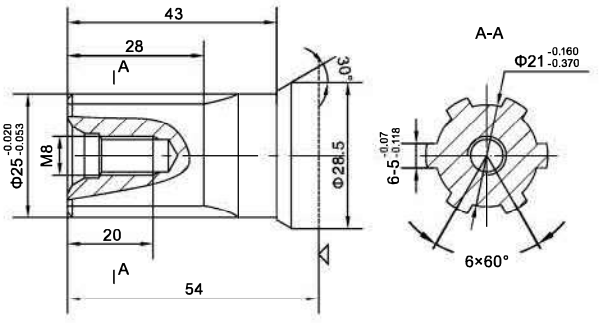
P6: Φ31.75 Cylindrical shaft，parallel key7.96 × 7.96 × 32



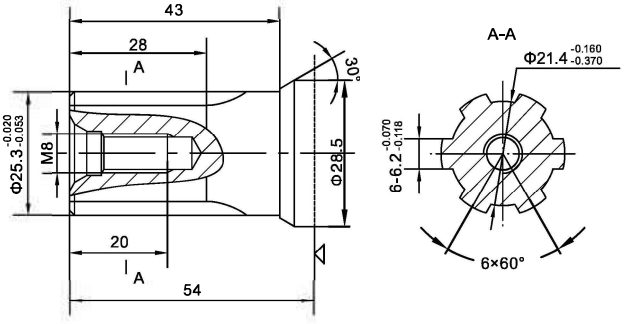
H1: Φ30 Splined shaft，6–30 × 25 × 6



H2: Φ25 Splined shaft，6–25 × 21 × 5



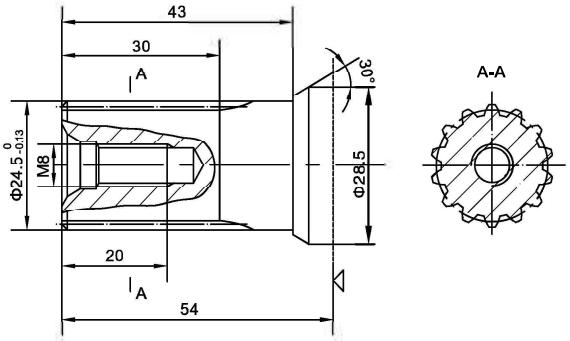
H3: Φ25.3 Splined shaft，6–25.3 × 21.4 × 6.2



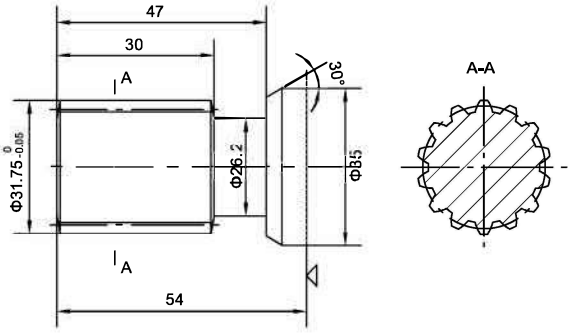
◁ : Motor mounting surface

■ OTMR,TMRE — SHAFT VERSION

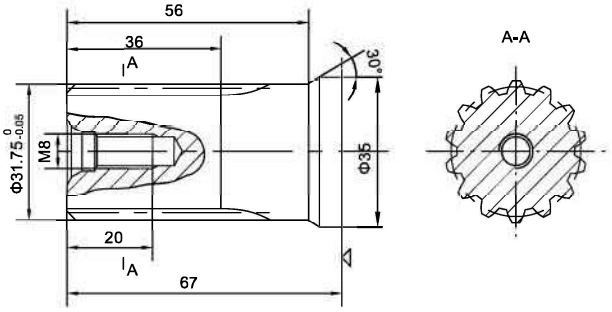
K4: Φ24.5 involute splined shaft B25 × 22 DIN5482 m: 1.6 Z:14



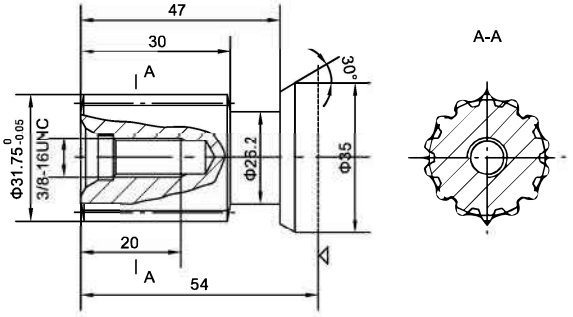
K10: Φ31.75 involve splined shaft 14–DP12/24 a=30°



K13: Φ31.75 involute splined shaft 14–DP12/24 a=30°



K14: Φ31.75 involute splined shaft 14–DP12/24 a=30°

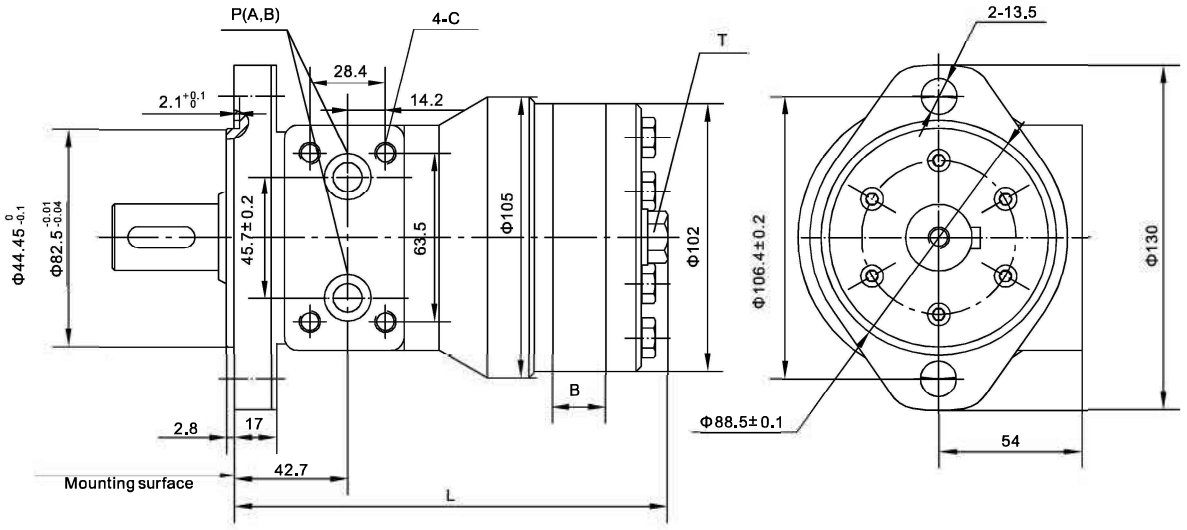


Note：OTMRE series motors don't include the following output shafts：P2, P5, P52, P6, H1, K4, K10, K13, K14.

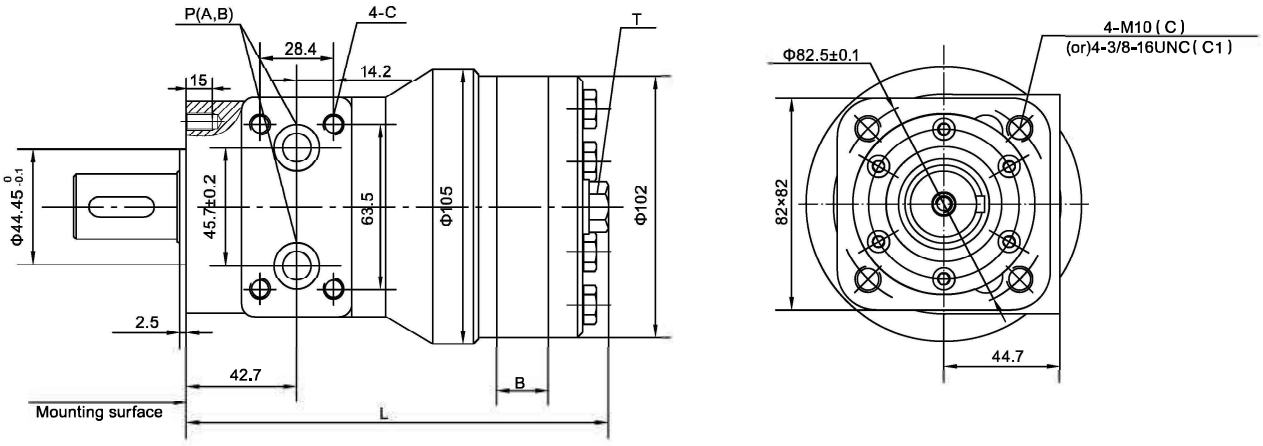
◁ : Motor mounting surface

■ OTMRS Installation

2–hole oval flange A II



C,C1 Square flange



Type	OTMRS-50	OTMRS-80	OTMRS-100	OTMRS-125	OTMRS-160	OTMRS-200	OTMRS-250	OTMRS-315	OTMRS-400
L	151	156	159.5	164	170	177	186	198	212
B	9	14	17.5	22	28	35	44	56	70

OTMRS Orbit Hydraulic Motor With Spool Valve

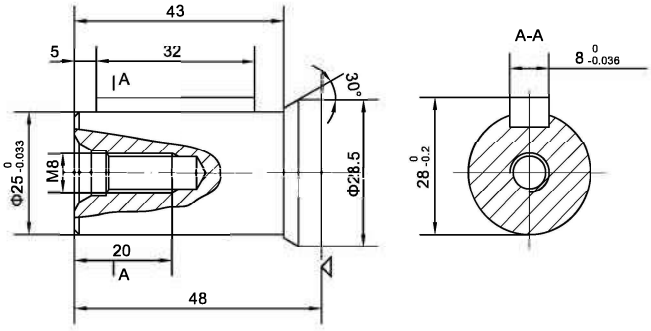
■ OTMRS PORTS CODE

Ports / Code	P(A、B)(deep)	C (deep)	T (deep)
Y	G1/2 (15)	—	M14 × 1.5(12)
Y5	7/8–14UNF(15)	—	7/16–20UNF(12)
Y7	ZG1/2(15)	—	G1/4(12)
Y9	NPTF1/2(15)	—	7/16–20UNF(12)
Y10	G1/2(15)	—	G1/4(12)
Y17	3/4–16UNF(15)	—	7/16–20UNF(12)
Y19	Φ11(15)	5/16–18UNC(13)	7/16–20UNF(12)
Y20	M18 × 1.5(15)	M8 (13)	G1/4(12)

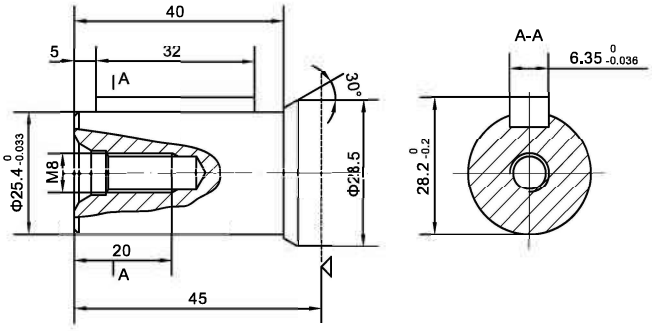
P(A、B)--Ports，C--Mounting Thread （—Indicates no this thread），T--Drain connettion

■ OTMRS SHAFT VERSION

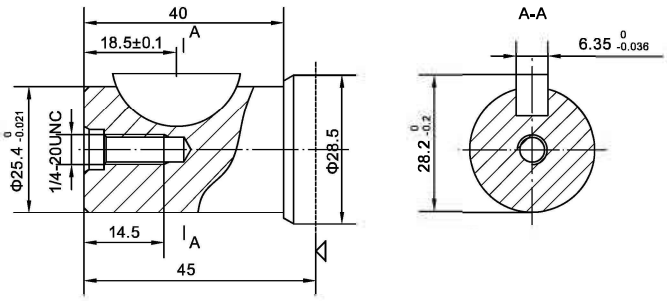
P1: Φ25 Cylindrical shaft，parallel key8 × 7 × 32



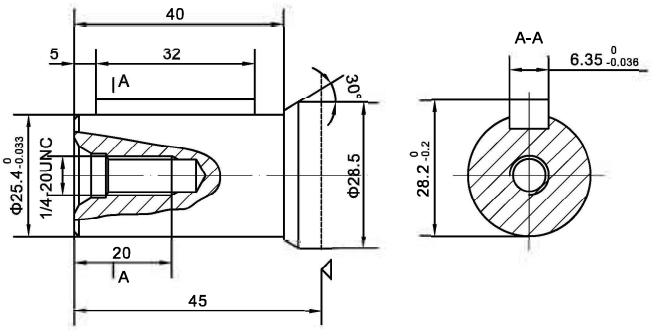
P3：Φ25.4 Cylindrical shaft，parallel key6.35 × 6.35 × 32



P4: Φ25.4 Cylindrical shaft，Woodruff key Φ25.4 × 6.35



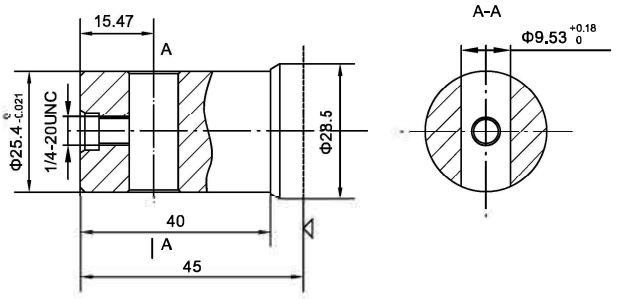
P33: Φ25.4 Cylindrical shaft，parallel key6.35 × 6.35 × 32



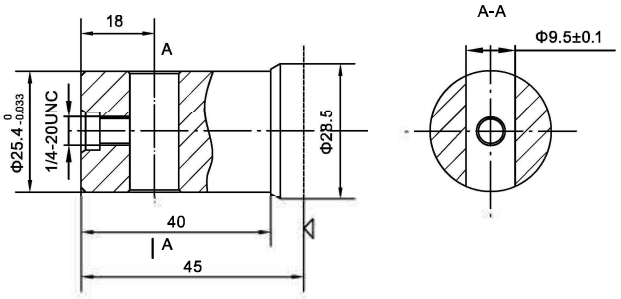
◁ : Motor mounting surface

■ OTMRS SHAFT VERSION

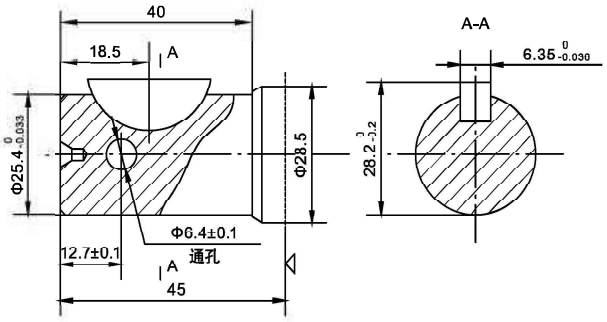
P89: Φ25.4Cylindrical shaft pin hole Φ9.53



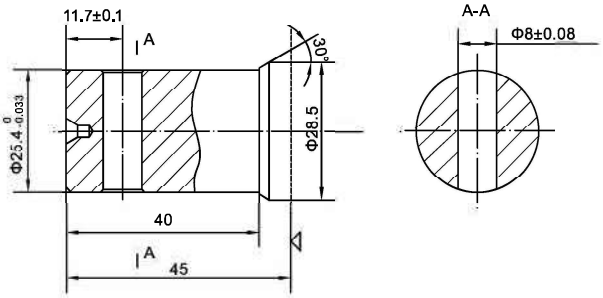
P93: Φ25.4Cylindrical shaft pin hole Φ9.5



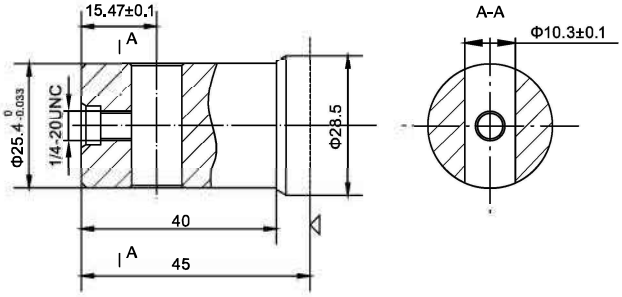
P95: Φ25.4Cylindrical shaft pin hole Φ6.4， Woodruff key Φ25.4 × 6.35



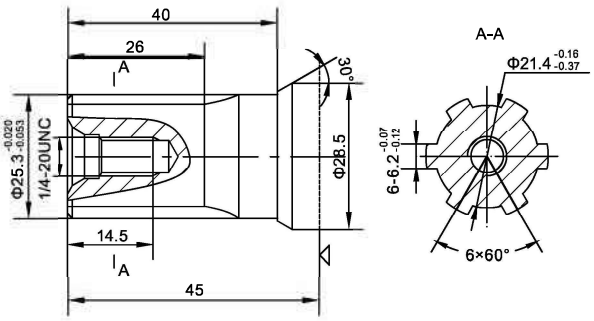
P96: Φ25.4Cylindrical shaft pin hole Φ8



P97: Φ25.4Cylindrical shaft pin hole Φ10.3



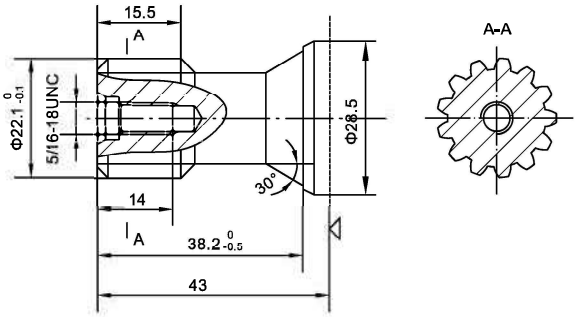
H4： Φ25.3 Splined shaft， 6–25.3 × 21.4 × 6.2



◁ : Motor mounting surface

■ OTMRS SHAFT VERSION

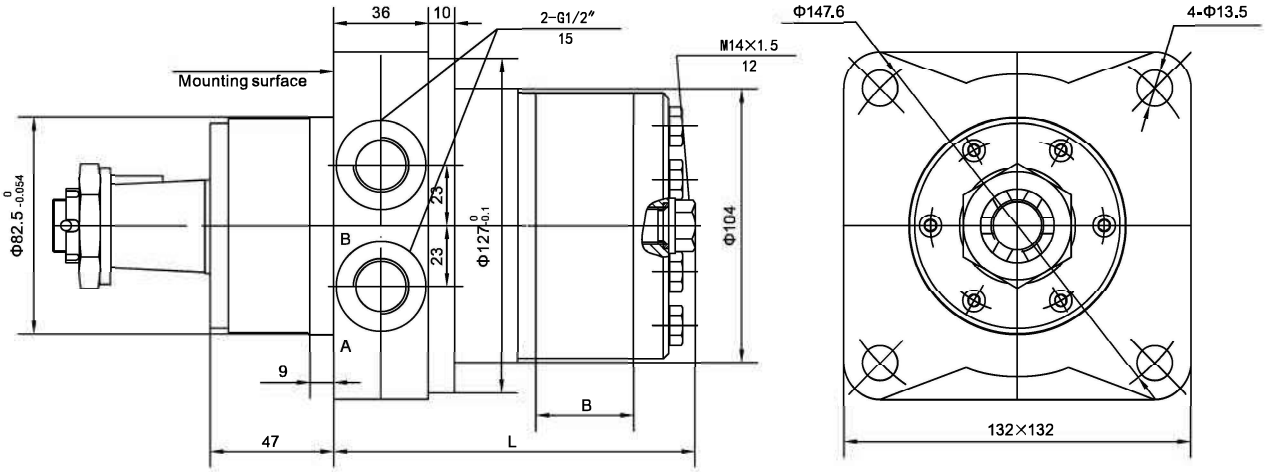
K8: Φ22.1 involute splined shaft，13–DP16/32



◁ : Motor mounting surface

OTMRW Orbit Hydraulic Motor With Spoor Valve

■ OTMRW Installation



Type	OTMRW-50	OTMRW-80	OTMRW-100	OTMRW-125	OTMRW- 160	OTMRW-200	OTMRW-250	OTMRW- 315	OTMRW- 400
L	108	113	117	121	127	134	143	155	169
B	9	14	17.5	22	28	35	44	56	70

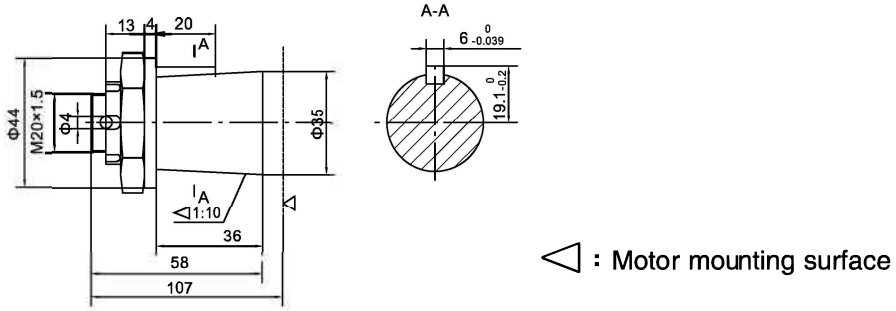
■ OTMRW PORTS CODE

Ports / Code	P(A、B)(deep)	C (deep)	T (deep)
Y	G1/2 (15)	—	M14 × 1.5(12)

P(A、B)--Ports，C--Mounting Thread （—Indicates no this thread），T--Drain connettion

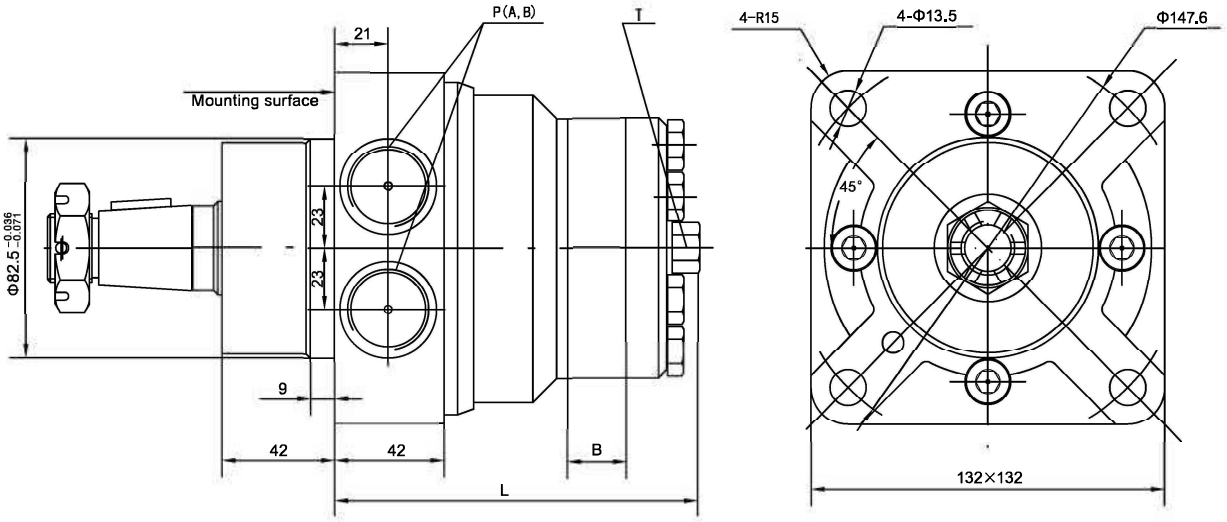
■ OTMRW

Z： Φ35 Tapered shaft，taper1:10，parallel key B6 × 6 × 20



◁ : Motor mounting surface

■ OTMRW1 Installation



Type	OTMRW1-50	OTMRW1-80	OTMRW1-100	OTMRW1-125	OTMRW1-160	OTMRW1-200	OTMRW1-250	OTMRW1-315	OTMRW1-400
L	125	130	134	138	144	151	160	172	186
B	9	14	17.5	22	28	35	44	56	70

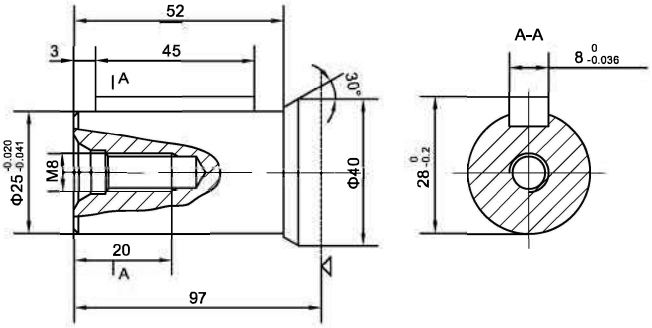
■ OTMRW1 PORTS CODE

Ports / Code	P(A、B)(deep)	C (deep)	T (deep)
Y	G1/2 (15)	—	M14 × 1.5(12)
Y5	7/8–14UNF(15)	—	M14 × 1.5(12)
Y10	G1/2 (15)	—	G1/4 (12)

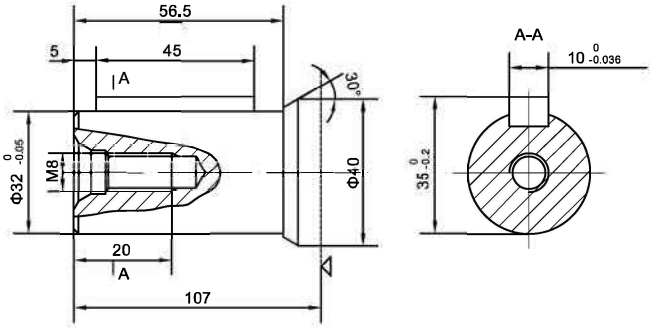
P(A、B)--Ports，C--Mounting Thread （—Indicates no this thread ），T--Drain connettion

■ OTMRW1 SHAFT VERSION

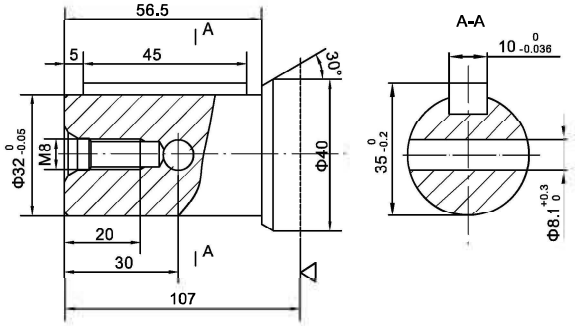
P1：Φ25 Cylindrical shaft，Parallel key 8 × 7 × 45



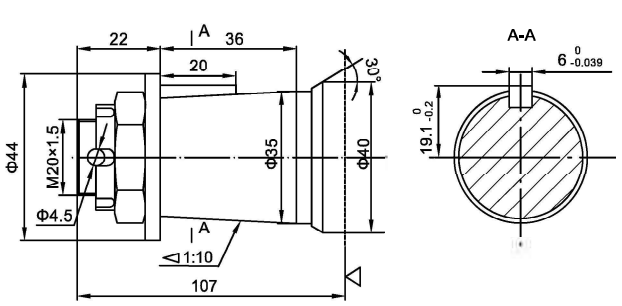
P5：Φ32 Cylindrical shaft，parallel key 10 × 8 × 45



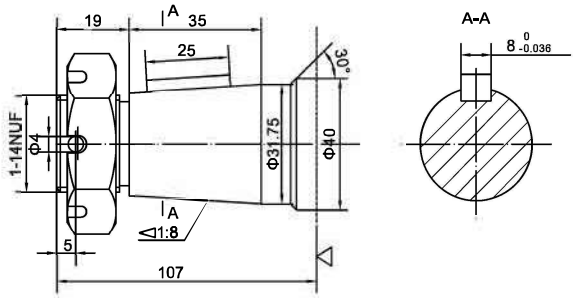
P6：Φ32 Cylindrical shaft，Cylindrical shaft pin hole Φ 8.1，parallel key 10 × 8 × 45



Z：Φ35 Tapered shaft，taper1:10，parallel key B6 × 6 × 20



Z1：Φ31.75 Tapered shaft，taper1:8，parallel key 8 × 7 × 25

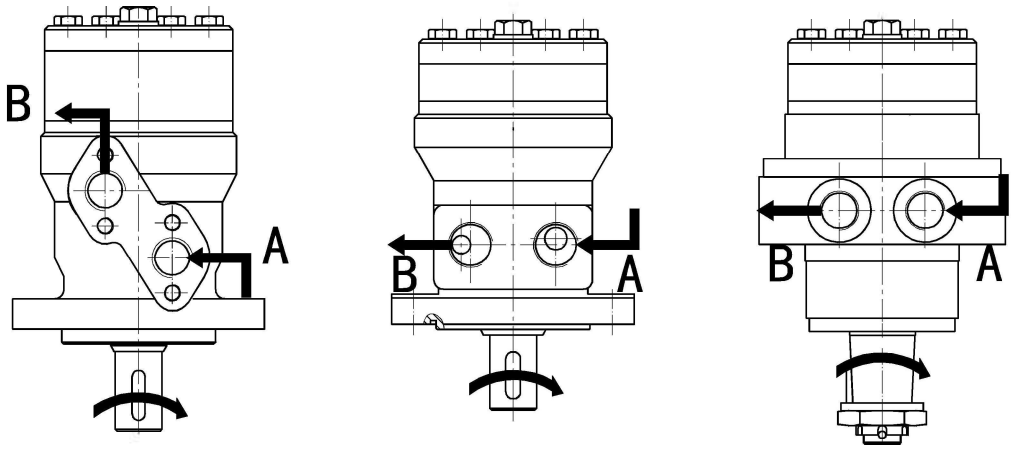


◁ : Motor mounting surface

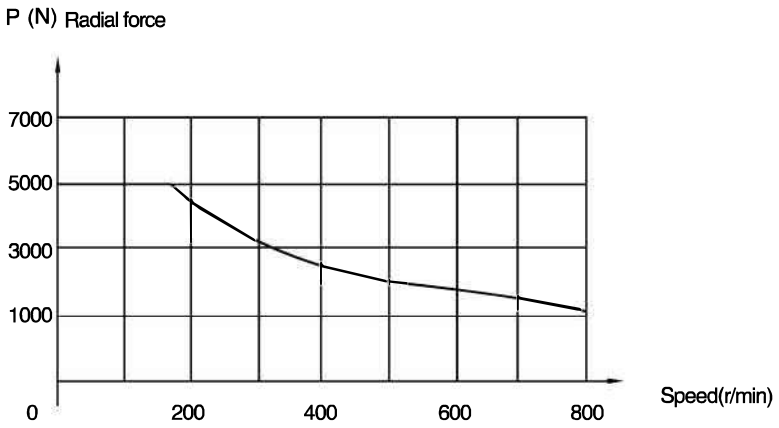
■ OTMR、OTMRS、OTMRW Series Motor

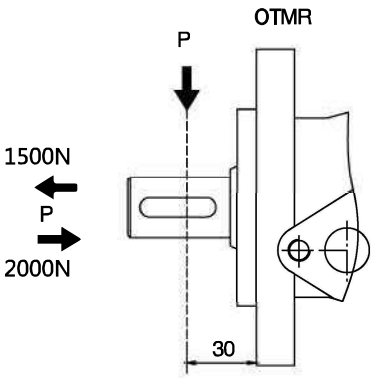
Direction of shaft ration：Standard

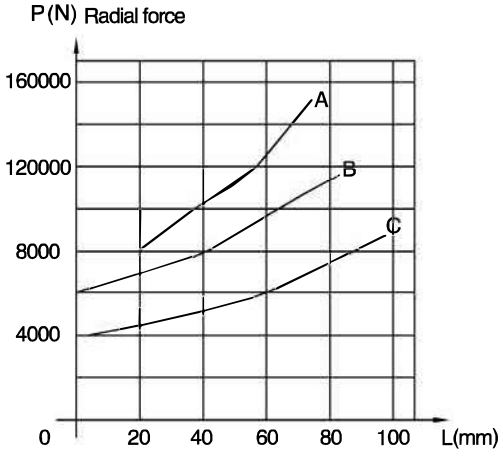
When facing shaft end of motor，shaft to rotate：
Clockwise when port “A” is pressurized.
Counter–clockwise port “B” is pressurized.



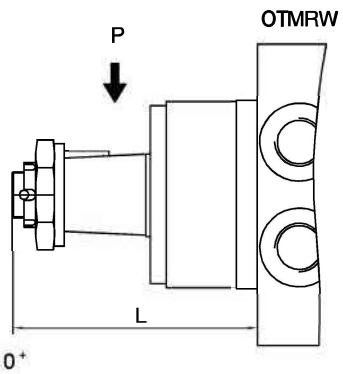
■ OTMR,OTMRW PERMISSIBLE SHAFT LOADS



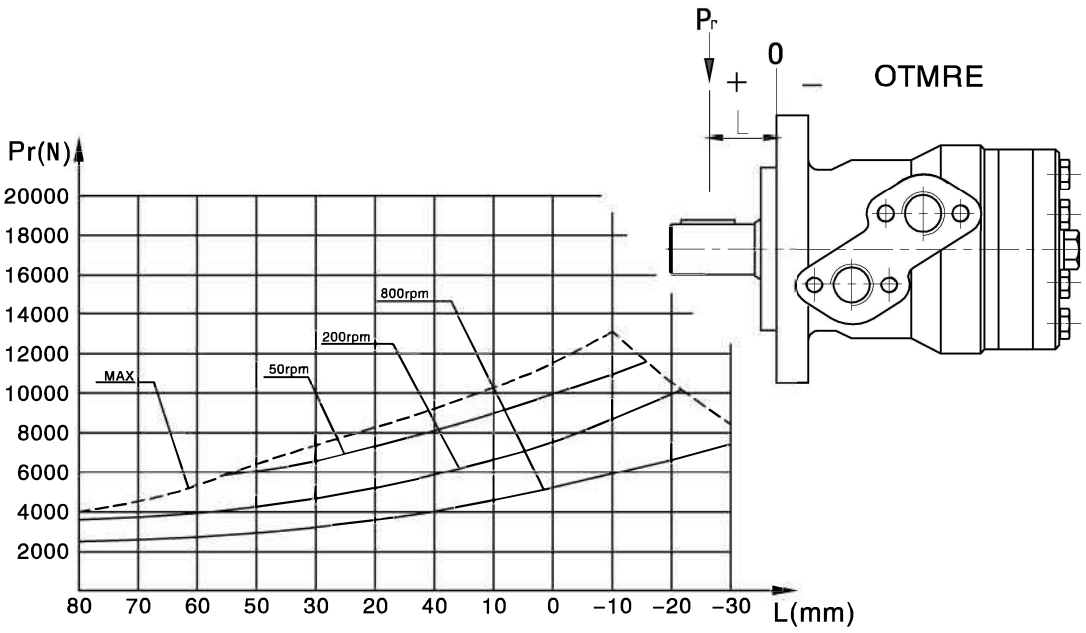




A:n=50 r/min
B:n=200 r/min
C:n=800 r/min



■ OTMRE PERMISSIBLE SHAFT LOADS



■ OTMR、OTMRE、OTMRS、OTMRW ORDERING CODE

1		2	3	4	5		6		7
OTMR/ OTMRE	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTMR/ OTMRE	50	P1	Φ25 Cylindrical shaft，parallel key8×7×32	A Ⅱ	2–Φ13.5 Oval flange, pilot Φ82.5×6
		P2	Φ30 Cylindrical shaft，parallel key8×7×32		
	80	P3	Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32		
		P4	Φ25.4 Cylindrical shaft，Woodruff key Φ25.4×6.35	AⅣ	4–Φ13.5 Oval flange, pilot Φ82.5×6
	100	P5	Φ32 Cylindrical shaft，parallel key10×8×45		
		P52	Φ32 Cylindrical shaft，parallel key10×8×45	C	4–M10 Square flange, pilot Φ44.45×2.5
	125	P6	Φ31.75 Cylindrical shaft，parallel key7.96×7.96×32		
		H1	Φ30 Splined shaft， 6–30×25×6	C1	4–3/8–16UNC Square flange, pilot Φ44.45×2.5
	160	H2	Φ25 Splined shaft， 6–25×21×5		
		H3	Φ25.3 Splined shaft， 6–25.3×21.4×6.2	A	4–Φ11Square flange, pilot Φ82.5×6
	200	K4	Φ24.5 involute splined shaft，B25×22 DIN5482		
		K10	Φ31.75 involute splined shaft，14–DP12/24 a=30°	A1	4–Φ11 Square flange, pilot Φ80×6
	250	K13	Φ31.75 involute splined shaft，14–DP12/24 a=30°		
		K14	Φ31.75 involute splined shaft，14–DP12/24 a=30°	A2 Ⅲ	4–Φ13 Square flange, pilot Φ100×6
	315	Z1	Φ28.56 Tapered shaft，taper1:10，parallel key 5×5×14		
	400				

OTMRE series motors don't include the following output shafts:P2、P5、P52、P6、H1、K4、K10、K13、K14

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	M14×1.5(12)	Omit	Standard	Omit	Standard
Y1	M18×1.5(15)	M14×1.5(12)				
Y2	M22×1.5(15)	M14×1.5(12)				
Y4	ZG3/8(15)	M14×1.5(12)				
Y5	7/8–14UNF(15)	M14×1.5(12)	T7	With dustproof ring	L	Opposite
Y7	ZG1/2(15)	M14×1.5(12)	T10	With high pressure seals		
Y8	NPT1/2(15)	M14×1.5(12)				
Y9	NPTF1/2(15)	7/16–20UNF(12)				
Y10	G1/2(15)	G1/4(12)				
Y15	7/8–14UNF(15)	7/16–20UNF(12)				

■ OTMR, OTMRS、OTMRW ORDERING CODE

1		2	3	4	5		6		7
OTMRS	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTMRS	50	P1	Φ25 Cylindrical shaft，parallel key8×7×32	A Ⅱ	2–Φ13.5 Oval flange, pilot Φ82.5×2.8
	80	P3	Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32		
		P4	Φ25.4 Cylindrical shaft，Woodruff key Φ25.4×6.35		
	100	P33	Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32		
	125	P89	Φ25.4 Cylindrical shaft pin hole Φ 9.53		
	160	P93	Φ25.4 Cylindrical shaft pin hole Φ 9.5	C	4–M10 Square flange, pilot Φ44.45×2.8
	200	P95	Φ25.4 Cylindrical shaft pin hole Φ6.4，Woodruff key Φ25.4×6.35		
		P96	Φ25.4 Cylindrical shaft pin hole Φ8		
	250	P97	Φ25.4 Cylindrical shaft pin hole Φ10.3	C1	4–3/8–16UNC Square flange, pilot Φ44.45×2.8
	315	H4	Φ25.3 Splined shaft， 6–25.3×21.4×6.2		
	400	K8	Φ22.1 involute splined shaft，13–DP16/32		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	M14 × 1.5(12)	Omit	Standard	Omit	Standard
Y5	7/8–14UNF(15)	7/16–20UNF(12)				
Y7	ZG1/2(15)	G1/4(12)				
Y9	NPTF1/2(15)	7/16–20UNF(12)	T21	No case drain	L	Opposite
Y10	G1/2(15)	G1/4(12)				
Y17	3/4–16UNF(15)	7/16–20UNF(12)				
Y19	Φ11(15)	7/16–20UNF(12)				
Y20	M18 × 1.5(15)	G1/4(12)				

■ OTMR、OTMRS、OTMRW ORDERING CODE

1		2	3	4	5		6		7
OTMRW	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTMRW	50 80 100 125 160 250 315 400 200	Z	Φ35 Tapered shaft，taper1:10，parallel key B6×6×20	A	4–Φ13.5 Square flange, pilot Φ82.5×9

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	M14×1.5(12)	Omit	Standard	Omit	Standard
					L	Opposite

1		2	3	4	5		6		7
OTMRW1	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTMRW1	50 80 100 125 160 200 250 315 400	P1	Φ25 Cylindrical shaft，parallel key 8×7×45	A	4–Φ13.5 Square flange, pilot Φ82.5×9
		P5	Φ32 Cylindrical shaft，parallel key 10×8×45		
		P6	Φ32 Cylindrical shaft，Cylindrical shaft pin hole Φ8.1, parallel key 10×8×45		
		Z	Φ35Tapered shaft, taper1:10, parallel key B6×6×20		
		Z1	Φ31.75Tapered shaft, taper1:8, parallel key 8×7×25		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	M14×1.5(12)	Omit	Standard	Omit	Standard
Y5	7/8–14UNF(15)	M14×1.5(12)	T7	With dustproof ring	L	Opposite
Y10	G1/2(15)	G1/4(12)				

OTS Orbit Hydraulic Motor With Spool Valve

■ OTS INTRODUCTION

This series of motor is with spool valve design, with the advanced geroler gear set and ductile iron of adequate intensity. It can be applied to the situation with less load and interval operation, and widely to agricultural machines, forestry machinery, plastic injection machinery, mining machines, metal working machines, conveyors etc.

■ OTS CHARACTERISTICS

1、Compact volume, easy installation, especially for limited space working condition.
2、Using geroler gear set design, with the function of low friction, low starting pressure, high efficiency, smooth working and longer working life.
3、Spool valve design with less side and weight.
4、With two inner check valves, drain line can be closed.
5、With high pressure seal, the motor can be used in parallel or in series.

■ OTS TECHNICAL DATA

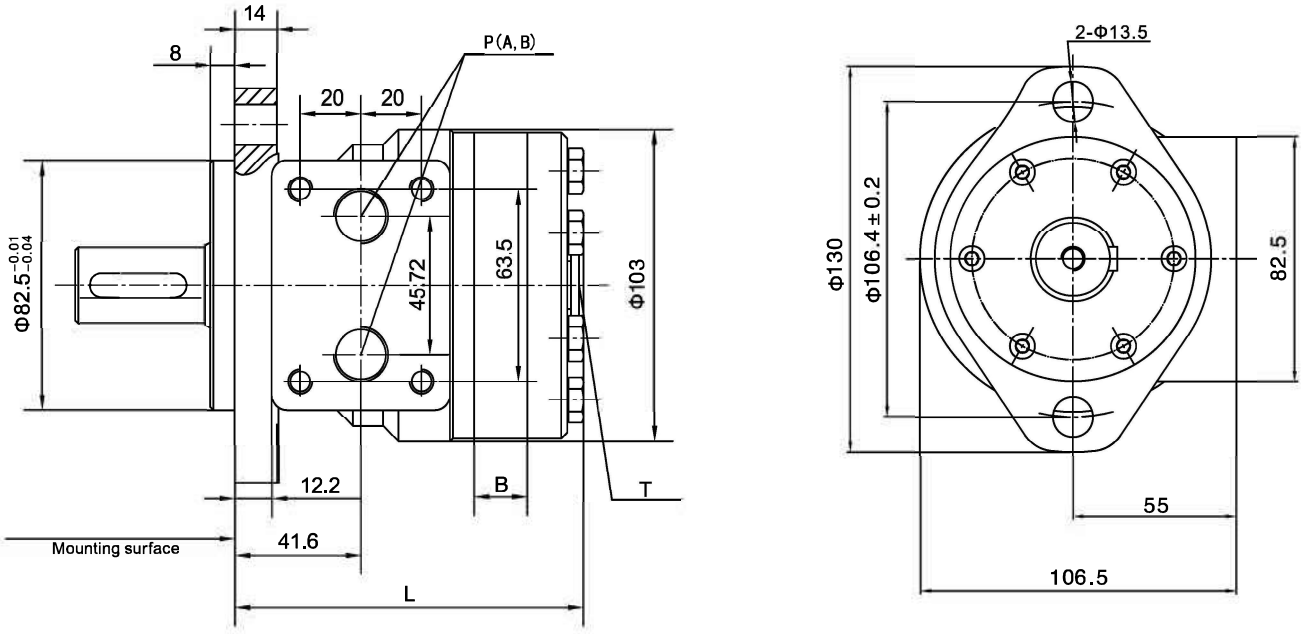
TYPE		OTS-50	OTS-80	OTS-100	OTS-125	OTS-160	OTS-200	OTS-250	OTS-315	OTS-400
Displacement(ml/r)		51.7	80.5	100.5	126.3	160.8	200.9	252.6	321.5	401.9
Max.Pressure.Drop (Mpa)	cont.	14	14	14	14	14	12.5	11	9	7
	int.	17.5	17.5	17.5	17.5	17.5	15.5	14	11	9
	peak.	20	20	20	20	20	18	16	13	11
Max.torque (N.m)	cont.	93	152	194	237	310	320	380	380	380
	int.	118	189	236	296	378	398	470	470	470
	peak.	135	216	270	338	433	460	540	540	540
Max.Speed(cont.)(r/min)		770	745	595	475	370	295	235	185	150
Max.Flow(L/min)		40	60	60	60	60	60	60	60	60
Max.Output.Power(cont.)(Kw)		7	10	10	10	10	7	6	5	4

Intermittent operation the permissible values may occur for max. 10% of every minute
Peak load: the permissible values may occur for max. 1% of every minute

OTS Orbit Hydraulic Motor With Spool Valve

■ OTS INSTALLATION

2–ø13.5hole oval flange AII



TYPE	OTS-50	OTS-80	OTS-100	OTS-125	OTS-160	OTS-200	OTS-250	OTS-315	OTS-400
L	107	112	115.5	120	126	133	142	154	168
B	9	14	17.5	22	28	35	44	56	70

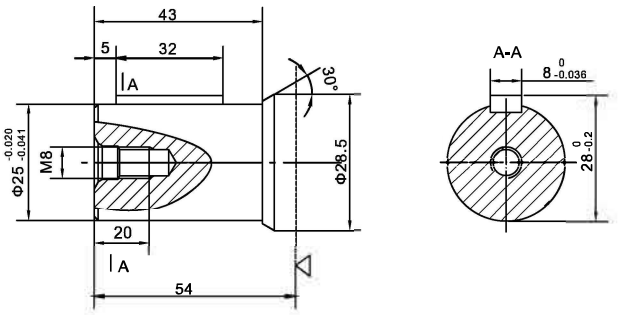
■ OTS Ports Code

Ports / Code	P (A, B) (deep)	C (deep)	T (deep)
Y	G1/2 (15)	M8 (13)	M14x1. 5 (12)
Y1	M18x1.5 (15)	M8 (13)	M14x1. 5 (12)
Y2	M22x1.5 (15)	M8 (13)	M14x1. 5 (12)
Y9	NPTF1/2 (15)	5/6–18UNC (13)	7/16–20UNF (12)
Y10	G1/2 (15)	M8 (13)	G1/4 (12)
Y15	7/8–14UNF (15)	5/6–18UNC (13)	7/16–20UNF (12)

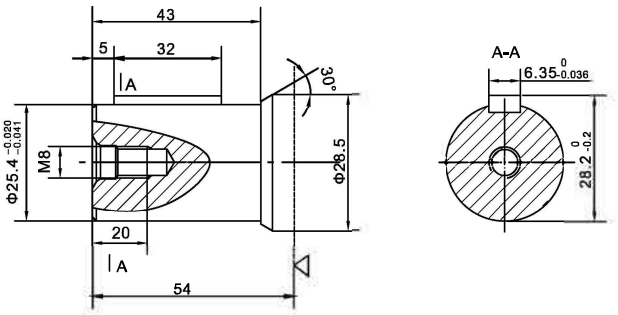
Note:P(A、B)––Ports，C––Mounting Thread （—Indicates no this thread），T––Drain connettion

■ OTS SHAFT VERSION

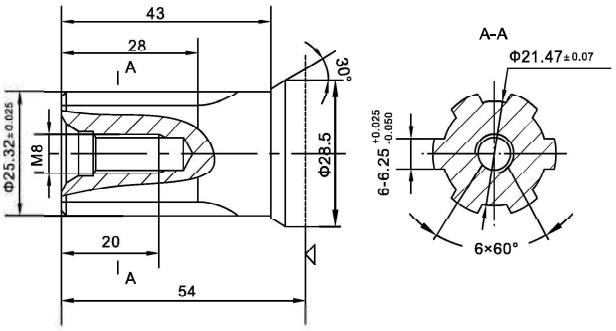
P1：Φ25 Cylindrical shaft,parallel key 8x7x32



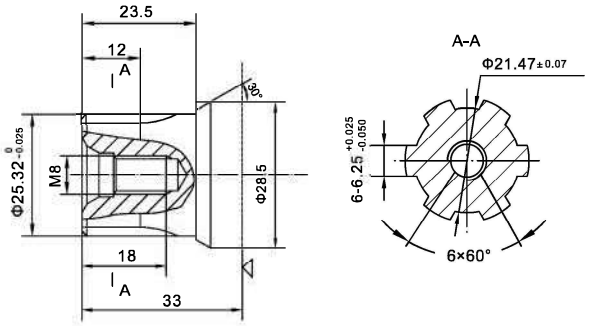
P3：Φ25.4 Cylindrical shaft,parallel key 6.35x6.35x32



H3：Φ25.3 Splined shaft，6-25.32x21.47x6.25



H5：Φ25.3 Splined shaft，6-25.32x21.47x6.25



◁ : Motor mounting surface

OTS Orbit Hydraulic Motor With Spool Valve

■ OTS

1		2	3	4	5		6		7
OTS	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output Shaft		Flange	
OTS	50 80 100 125 160 200 250 315 400	P1	Φ 25Cylindrical shaft，parallel key 8x7x32	A Ⅱ	2–Φ13.5 Oval flange polit Φ82.5x8
		P3	Φ 25.4 Cylindrical shaft，parallel key 6.35x6.35x32		
		H3	Φ25.3Splined shaft， 6–25.32x21.47x6.25		
		H5	Φ25.3Splined shaft， 6–25.32x21.47x6.25		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2 (15)	M14x1. 5 (12)	Omit	Standard	Omit	Standard
Y1	M18x1. 5 (15)	M14x1. 5 (12)				
Y2	M22x1. 5 (15)	M14x1. 5 (12)				
Y9	NPTF1/2 (15)	7/16–20UNF (12)				
Y10	G1/2 (15)	G1/4 (12)			L	Opposite
Y15	7/8–14UNF (15)	7/16–20UNF (12)				

OTMH Orbit Hydraulic Motor With Spool Valve

■ OTMH INTRODUCTION

This series of motor, with its shell made of ductile cast iron of adequate intensity, can be applied to situations with less load and interbval operation, widely to agriculture, forestry, plastics, machine tools and min machines, such as the mould height adjustment of the injection molding machine, the cleaner, the sawmill the worktable etc.

■ OTMH CHARACTERISTICS

1. The output shaft, with the deep groove ball bearing, can bear certain axial force and radial force.

2. With the axial oil distrbution structur, it is of smaller size and less weight.

3. With two inner check valves, no drain connection.

4. With cycoid group with the roller, it has a small friction and high mechanical efficiency.

■ OTMH TECHNICAL DATA

TYPE		OTMH–200	OTMH–250	OTMH–315	OTMH–400	OTMH–500
Displacement(ml/r)		203	253.7	318.9	405.9	471.1
Max.Pressure.Drop (Mpa)	cont.	16	16	15	14	12
	int.	19	19	18	17	15
	peak.	22	22	21	20	18
Max.torque (N.m)	cont.	425	530	610	825	720
	int.	510	635	750	900	910
	peak.	590	735	875	1055	1090
Max. Cont. Speed (r/min)		365	295	235	180	155
Max.Flow(cont.)(L/min)		75	75	75	75	75
Max.Output.Power(cont.)(Kw)		13.8	13.8	12.5	11.5	9.8
Weight(kg)		10.5	11	11.5	12.5	13

Intermittent operation the permissible values may occur for max. 10% of every minute
Peak load: the permissible values may occur for max. 1% of every minute

■ OTMH PERFORMANCE DATA

OTMH 200(203ml/r)

Pressure (Mpa)

Flow(L/min)	3.5	7	10.5	14	16	19
5	91 **25**	192 **24**	284 **23**			
10	92 **48**	191 **47**	282 **48**	344 **44**	440 **42**	520 **38**
20	90 **96**	188 **95**	280 **94**	342 **92**	438 **90**	516 **88**
30	88 **144**	181 **143**	278 **139**	388 **130**	435 **114**	511 **101**
40	86 **193**	172 **192**	270 **191**	384 **188**	432 **186**	506 **171**
50	83 **241**	168 **240**	264 **238**	380 **234**	428 **230**	498 **228**
60	80 **290**	156 **289**	258 **287**	375 **284**	420 **271**	492 **264**
70	75 **334**	149 **333**	249 **331**	362 **329**	419 **324**	489 **320**
Max.cont. 75	69 **362**	132 **360**	240 **359**	351 **358**	408 **351**	478 **342**
80	53 **382**	124 **381**	231 **360**	338 **374**	395 **365**	453 **360**
Max.int. 90	41 **434**	119 **433**	228 **431**	324 **429**	387 **418**	446 **411**

Max.cont. Max.int.

OTMH 250(253.7ml/r)

Pressure (Mpa)

Flow(L/min)	3.5	7	10.5	14	16	19
5	118 **19**	242 **19**	311 **18**			
10	126 **38**	251 **37**	326 **38**	421 **34**	550 **30**	
20	124 **85**	250 **84**	325 **83**	414 **81**	542 **78**	640 **71**
30	118 **115**	243 **113**	321 **111**	410 **105**	538 **95**	634 **84**
40	111 **153**	238 **152**	315 **150**	402 **143**	530 **139**	629 **132**
50	106 **190**	231 **188**	310 **187**	395 **186**	523 **183**	621 **172**
60	101 **230**	223 **229**	302 **227**	390 **224**	518 **217**	613 **209**
70	96 **268**	218 **267**	294 **266**	381 **262**	512 **257**	602 **241**
Max.cont. 75	84 **287**	210 **285**	284 **284**	375 **280**	506 **275**	596 **270**
80	76 **306**	201 **305**	271 **303**	368 **301**	497 **297**	581 **286**
Max.int. 90	56 **347**	182 **345**	268 **341**	351 **337**	481 **333**	562 **328**

Max.cont. Max.int.

OTMH 315(318.9ml/r)

Pressure (Mpa)

Flow(L/min)	3.5	7.5	10	15	18
10	148 **31**	312 **30**	416 **28**	650 **23**	
20	142 **61**	308 **60**	411 **58**	645 **51**	765 **46**
30	140 **91**	301 **90**	402 **89**	639 **86**	751 **78**
40	131 **122**	294 **121**	398 **120**	631 **117**	732 **107**
50	128 **152**	289 **151**	391 **149**	623 **144**	715 **135**
60	121 **183**	281 **181**	382 **179**	611 **174**	703 **170**
70	110 **215**	273 **214**	372 **211**	600 **207**	692 **200**
Max.cont. 75	98 **228**	261 **226**	357 **224**	586 **221**	679 **214**
80	72 **243**	258 **240**	346 **237**	571 **233**	666 **222**
Max.int. 90	62 **274**	243 **272**	332 **270**	559 **263**	643 **252**

Max.cont. Max.int.

OTMH 400(405.9ml/r)

Pressure (Mpa)

Flow(L/min)	3.5	5.5	7	10.5	14	17
10	186 **24**	284 **22**	370 **20**			
20	184 **48**	282 **47**	365 **45**	541 **41**	760 **34**	920 **28**
30	182 **72**	280 **71**	361 **70**	538 **64**	751 **59**	911 **48**
40	178 **96**	274 **95**	356 **93**	532 **91**	740 **85**	899 **78**
50	175 **119**	270 **118**	351 **116**	530 **111**	731 **106**	882 **99**
60	171 **143**	261 **141**	342 **138**	522 **135**	712 **129**	870 **116**
70	164 **167**	248 **165**	338 **161**	513 **158**	703 **152**	857 **146**
Max.cont. 75	152 **179**	240 **177**	332 **175**	510 **171**	689 **166**	841 **159**
80	141 **193**	223 **192**	330 **190**	497 **187**	670 **181**	823 **172**
Max.int. 90	120 **217**	218 **215**	320 **211**	480 **208**	645 **202**	800 **185**

Max.cont. Max.int.

(Torque) : 320Nm
(Speed) : 211r/min

OTMH500(471.1ml/r)

Pressure (Mpa)

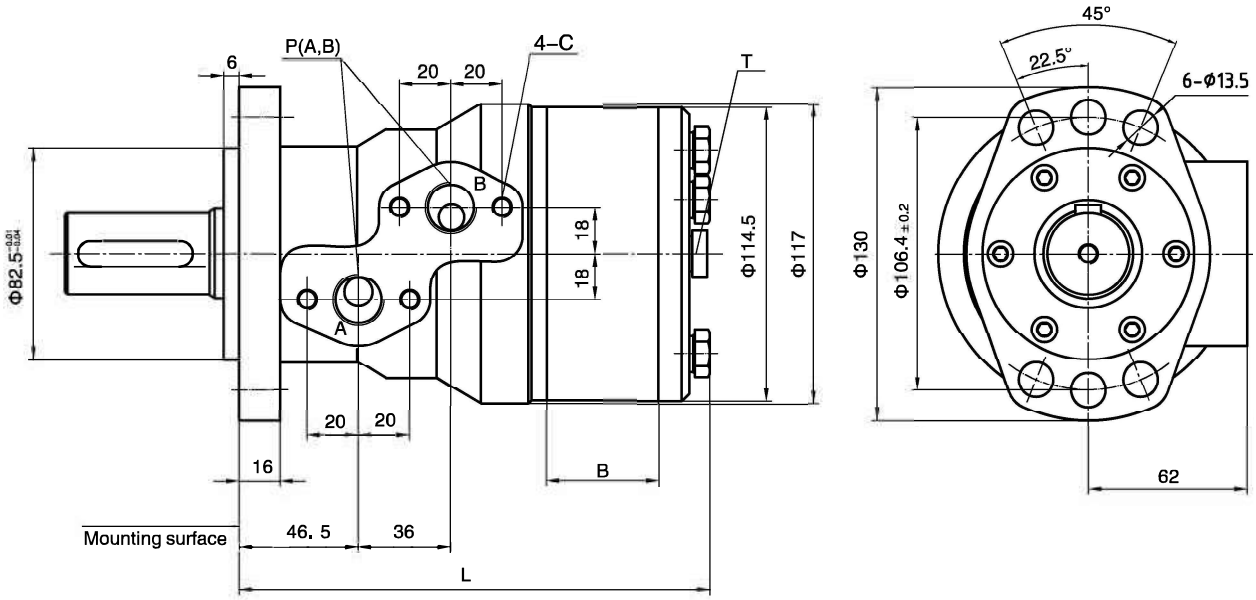
Flow(L/min)	2.5	4	6	8.5	12	15
10	153 **21**	249 **20**				
20	152 **42**	242 **41**	370 **40**	650 **34**	755 **29**	940 **23**
30	150 **62**	236 **61**	361 **60**	645 **55**	742 **49**	931 **45**
40	147 **82**	230 **81**	352 **80**	640 **74**	731 **69**	922 **65**
50	145 **104**	224 **102**	340 **100**	637 **96**	720 **90**	911 **84**
60	142 **124**	212 **122**	331 **120**	632 **114**	703 **110**	899 **104**
70	140 **146**	202 **143**	328 **140**	621 **136**	689 **131**	887 **125**
Max.cont. 75	130 **154**	197 **152**	324 **150**	612 **142**	682 **136**	879 **130**
80	121 **165**	183 **163**	310 **161**	601 **150**	661 **142**	865 **138**
Max.int. 90	110 **185**	172 **184**	294 **182**	583 **172**	654 **167**	848 **161**

Max.cont. Max.int.

Cont.
Int.

OTMH Installation

6-hole oval flange AIV



TYPE	OTMH-200	OTMH-250	OTMH-315	OTMH-400	OTMH-500
L	168	175	184	196	205
B	28	35	44	56	65

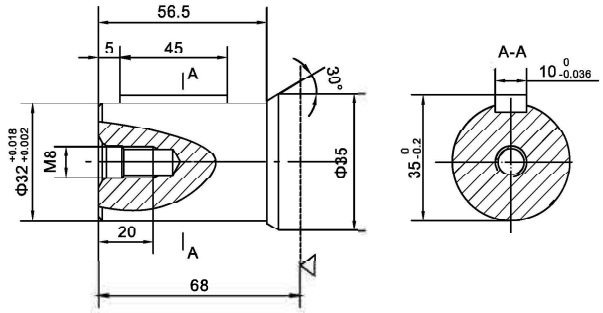
OTMH PORTS CODE

Ports / Code	P(A、B)(deep)	C (deep)	T (deep)
Y	G1/2 (15)	M8 (13)	G1/4 (12)
Y5	7/8-14UNF (15)	3/8-16UNC (13)	7/16-20UNF (12)
Y8	NPT1/2 (15)	5/16-18UNC (13)	7/16-20UNF (12)
Y25	7/8-14UNF (15)	M8 (13)	7/16-20UNF (12)

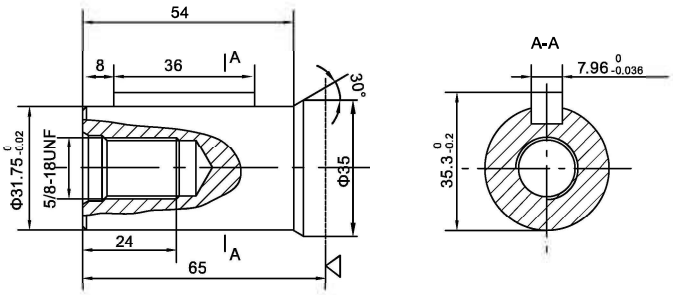
Note:P(A、B)--Ports，C--Mounting Thread （—Indicates no this thread），T--Drain connettion

■ OTMH SHAFT VERSION

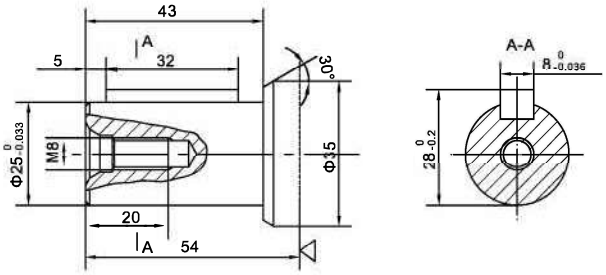
P1: Φ32Cylindrical shaft，parallel key10 × 8 × 45



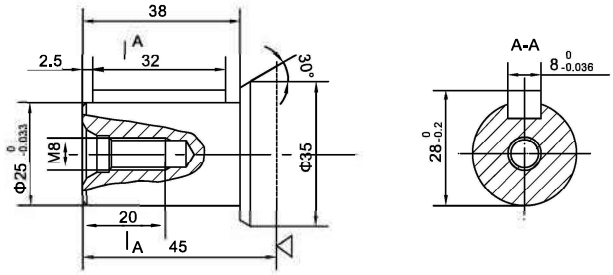
P2: Φ31.75Cylindrical shaft，parallel key7.96 × 7.96 × 36



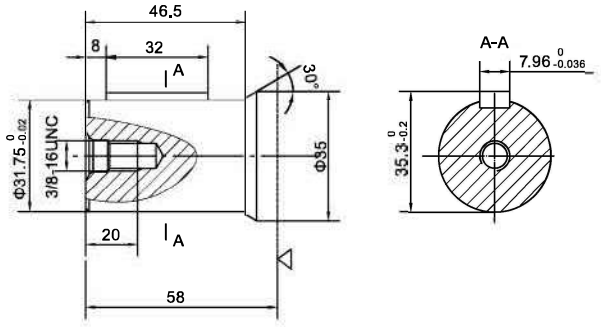
P3: Φ25Cylindrical shaft，parallel key8 × 7 × 32



P4: Φ25Cylindrical shaft，parallel key8 × 7 × 32



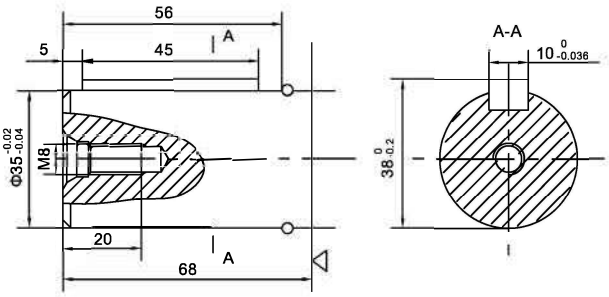
P5: Φ31.75 Cylindrical shaft，parallel key7.96 × 7.96 × 32



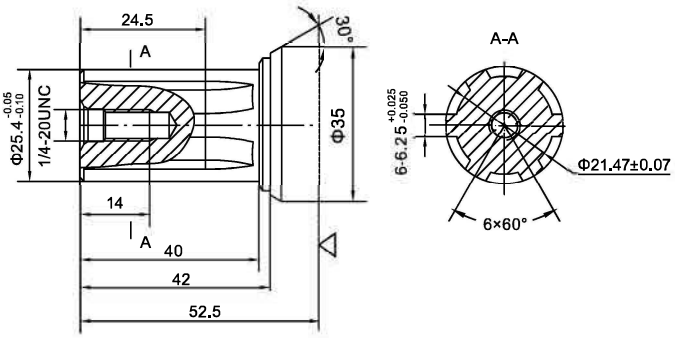
◁ : Motor mounting surface

■ OTMH SHAFT VERSION

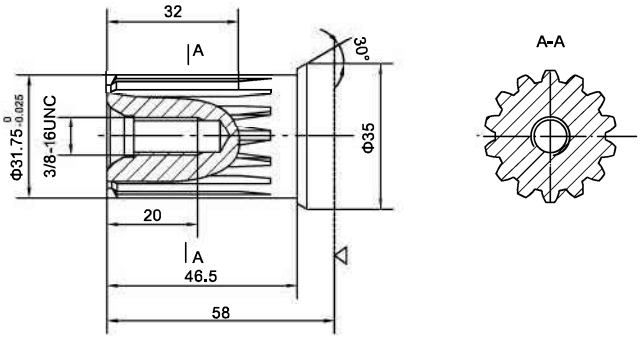
P7: Φ35Cylindrical shaft，parallel key10 × 8 × 45



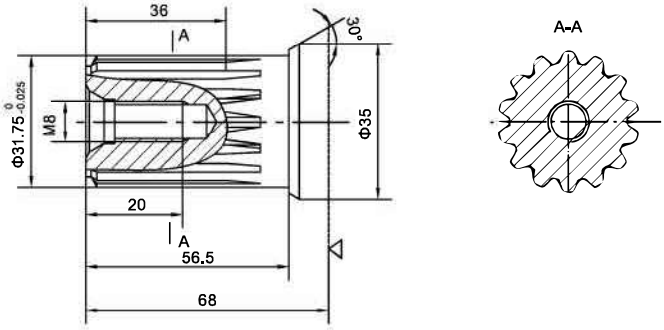
H3: Φ25.4 Splined shaft，6–25.4 × 21.47 × 6.25



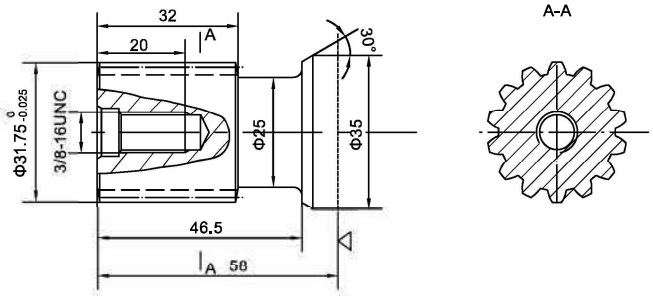
K1: Φ31.75 involve splined shaft 14–DP12/24 a=30°



K2: Φ31.75 involve splined shaft 14–DP12/24 a=30°



K11: Φ31.75 involute splined shaft 14–DP12/24 a=30°

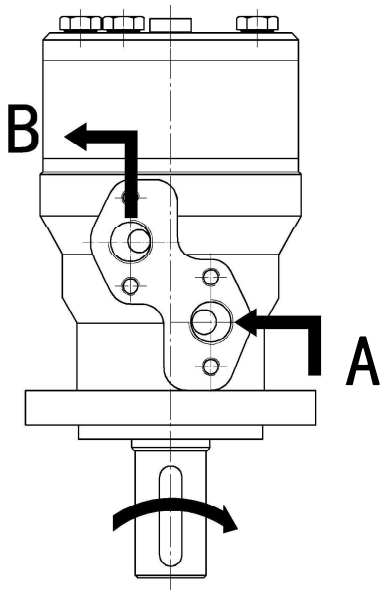


◁ : Motor mounting surface

■ OTMH Series Motor

Direction of shaft ration：Standard

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



■ OTMH ORDERING CODE

1		2	3	4	5		6		7
OTMH	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTMH	200 250 315 400 500	P1	Φ32 Cylindrical shaft，parallel key10×8×45	AIV	6–Φ13.5 Oval flange, pilot Φ82.5×6
		P2	Φ31.75 Cylindrical shaft，parallel key7.96×7.96×36		
		P3	Φ25 Cylindrical shaft，parallel key8×7×32		
		P4	Φ25 Cylindrical shaft，parallel key8×7×32		
		P5	Φ31.75 Cylindrical shaft，parallel key7.96×7.96×32		
		P6	Φ32 Cylindrical shaft，parallel key10×8×45		
		P7	Φ35 Cylindrical shaft，parallel key10×8×45		
		H3	Φ25.4 Splined shaft， 6–25.4×21.47×6.25		
		K1	Φ31.75 involute splined shaft，14–DP12/24 a=30°		
		K2	Φ31.75 involute splined shaft，14–DP12/24 a=30°		
		K11	Φ31.75 involute splined shaft，14–DP12/24 a=30°		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	G1/4(12)	Omit	Standard	Omit	Standard
Y5	7/8–14UNF(15)	7/16–20UNF(12)				
Y8	NPTF1/2(15)	7/16–20UNF(12)			L	Opposite
Y25	7/8–14UNF(15)	7/16–20UNF(12)				

OTMP Orbit Hydraulic Motor With Spool Valve

■ INTRODUCTION

This series of motor are small volume,economical type,which is designed with Spool Valve,which adapt the gerotor gear set design and provide compact volume,high power and low weight.

■ CHARACTERISTICS

1 Advanced manufacturing devices for the Gerotor gear set, which provide small volume, high efficiency and long life.

2 Shaft seal can bear high pressure of motor of which can be used in parallel or in series.

3 Advanced construction design,high power and low weight.

■ OTMP TECHNICAL DATA

TYPE		OTMP 50	OTMP 80	OTMP 100	OTMP 125	OTMP 160	OTMP 200	OTMP 250	OTMP 315	OTMP 400
Displacement(ml/r)		52.9	79.3	98.2	120.9	158.7	196.4	241.8	317.3	392.9
Max.Pressure.Drop (Mpa)	cont.	14	14	14	14	14	14	12	10	8
	int.	17.5	17.5	17.5	17.5	17.5	17.5	14	12	10
	peak.	22	22	22	22	22	22	20	15	13
Max.torque (N.m)	cont.	97	148	183	229	295	364	369	404	416
	int.	125	189	238	292	382	470	444	501	531
	peak.	149	222	276	340	445	532	568	555	596
Max.Speed(cont.)(r/min)		755	750	610	490	375	305	245	185	150
Max.Flow(cont.)(L/min)		40	60	60	60	60	60	60	60	60
Max.Output.Power(cont.)(Kw)		6.5	10	10	10	10	10	8	7	5.7
Weight (kg)		5.6	5.7	5.9	6	6.2	6.4	6.6	6.9	7.4

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

Peak load: the permissible values may occur for max. 1% of every minute

■ OTMP PERFORMANCE DATA

OTMP 50(52.9ml/r)

Pressure (Mpa)

Flow(L/min)	3	6	8	10	12.5	14 (Max.cont.)	16	17.5 (Max.int.)
8	18	38	55	69	87	100	115	
	148	140	123	102	83	61	42	
15	19	39	56	70	87	102	116	128
	277	264	251	242	233	219	202	188
20	19	39	54	69	89	100	115	127
	370	359	348	337	328	320	301	282
30	18	38	53	68	88	98	114	126
	556	541	529	516	509	500	487	461
35	17	37	52	67	86	97	113	125
	649	629	619	608	601	595	578	559
40	16	36	50	66	85	96	111	123
	741	725	718	710	695	688	673	627
Max.cont. 50	13	31	47	59	81	94	104	115
	927	919	910	900	888	874	856	837
Max.int. 60	9	25	42	50	76	90	98	106
	1122	1101	1094	1082	1075	1064	1042	1011

OTMP 80(79.3ml/r)

Pressure (Mpa)

Flow(L/min)	3	6	8	10	12.5	14 (Max.cont.)	16	17.5 (Max.int.)
8	33	60	81	103	133	148	172	
	99	91	79	67	56	42	32	
15	36	61	82	104	133	149	173	192
	185	172	163	152	134	125	117	94
20	34	62	83	105	134	150	174	192
	247	238	230	220	205	197	189	172
30	33	60	82	104	133	149	172	190
	370	363	355	342	327	316	302	285
35	32	59	80	102	131	148	170	189
	433	417	406	398	390	384	367	365
40	30	57	78	101	129	147	169	188
	494	484	478	471	461	453	443	411
50	29	56	77	100	128	145	168	186
	617	604	597	590	578	571	558	519
Max.cont. 60	28	55	76	99	127	144	167	184
	741	726	718	710	700	686	673	624
Max.int. 75	22	48	71	93	120	134	160	175
	926	906	896	887	867	857	838	779

OTMP 100(98.2ml/r)

Pressure (Mpa)

Flow(L/min)	3	6	8	10	12.5	14 (Max.cont.)	16	17.5 (Max.int.)
8	37	73	98	128	164	186		
	80	68	59	50	163	33		
15	38	74	99	129	165	187	218	240
	150	139	129	117	102	96	87	69
20	39	75	100	130	166	188	219	241
	200	189	180	171	159	150	136	119
30	37	73	98	127	163	185	216	239
	299	286	279	270	259	250	234	219
35	36	71	97	126	161	183	214	238
	349	338	333	329	318	309	299	281
40	35	70	96	124	160	182	213	236
	399	391	387	383	375	370	363	338
50	34	69	95	123	159	181	211	235
	499	489	484	479	468	463	453	423
Max.cont. 60	33	68	94	122	158	180	210	233
	599	587	580	574	562	556	544	507
Max.int. 75	27	61	86	111	149	168	198	202
	748	733	726	718	703	695	680	634

OTMP 125(120.9ml/r)

Pressure (Mpa)

Flow(L/min)	3	6	8	10	12.5	14 (Max.cont.)	16	17.5 (Max.int.)
8	44	90	123	158	205	231		
	65	61	51	44	36	30		
15	45	91	124	159	206	232	265	294
	122	118	112	105	99	91	79	61
20	46	90	125	160	206	233	266	295
	165	152	143	133	126	112	106	98
30	45	88	123	158	204	230	264	293
	243	238	236	231	224	217	206	191
35	43	86	121	156	202	229	263	292
	284	278	275	272	266	263	258	240
40	42	85	120	154	200	226	262	290
	342	323	314	311	304	301	294	274
50	41	84	118	152	197	223	261	288
	405	397	393	389	380	376	368	343
Max.cont. 60	40	83	116	150	195	221	259	286
	486	476	470	465	465	452	441	412
Max.int. 75	31	78	107	139	187	211	241	272
	608	596	589	583	571	564	552	515

OTMP 160(158.7ml/r)

Pressure (Mpa)

Flow(L/min)	3	6	8	10	12.5	14 (Max.cont.)	16	17.5 (Max.int.)
8	57	117	160	206	261			
	49	46	41	34	29			
15	58	118	161	207	262	298	349	385
	93	84	79	72	64	58	50	41
20	59	119	162	208	263	299	350	386
	123	118	115	111	104	99	93	82
30	58	117	160	205	261	298	348	384
	185	181	177	173	168	165	159	148
35	57	115	159	203	260	295	346	382
	216	211	209	207	202	200	196	183
40	55	114	156	201	259	293	344	380
	247	241	238	236	231	228	220	207
50	53	111	154	199	258	292	342	378
	309	302	299	296	289	286	280	261
Max.cont. 60	52	109	152	197	256	290	340	376
	370	363	359	355	348	344	336	314
Max.int. 75	43	101	143	190	249	282	322	358
	463	453	448	444	430	420	410	383

(Torque) : 143Nm
(Speed) : 448r/min

Cont.
Int.

OTMP 200(196.4ml/r)

Pressure (Mpa)

Flow(L/min)	3	6	8	10	12.5	14 (Max.cont.)	16	17.5 (Max.int.)
8	69	140	193	248				
	40	33	29	25				
15	70	141	194	249	324	366	428	
	75	70	64	58	50	41	32	
20	71	142	195	250	325	367	428	472
	100	92	83	75	69	58	52	47
30	70	141	193	248	323	366	426	471
	150	140	136	129	120	112	101	93
35	69	140	191	247	321	364	425	470
	175	170	164	160	154	148	140	129
40	67	138	190	246	320	362	423	468
	199	194	191	188	183	179	171	159
50	66	136	189	244	318	361	422	466
	249	244	241	239	234	230	226	211
Max.cont. 60	65	135	187	243	316	359	420	465
	299	293	290	287	281	278	255	238
Max.int. 75	58	127	179	234	308	348	408	456
	374	366	362	358	351	347	339	317

■ OTMP PERFORMANCE DATA

OTMP 250(241.8ml/r)
Pressure (Mpa)

Flow(L/min)	3	6	8	10	12	14
					Max.cont.	Max.int.
8	86 **32**	172 **30**	234 **26**			
15	87 **61**	173 **59**	235 **54**	297 **49**	368 **40**	443 **33**
20	88 **81**	174 **78**	236 **73**	298 **68**	369 **62**	444 **56**
30	86 **123**	173 **120**	235 **118**	297 **116**	368 **112**	443 **103**
35	85 **142**	171 **138**	234 **132**	296 **125**	366 **117**	442 **108**
40	83 **162**	169 **159**	232 **154**	294 **150**	364 **144**	440 **135**
50	82 **203**	167 **198**	230 **195**	293 **193**	362 **191**	438 **186**
Max.cont. 60	81 **243**	166 **238**	228 **236**	292 **233**	360 **230**	437 **221**
Max.int. 75	74 **304**	153 **297**	212 **294**	281 **291**	349 **288**	423 **277**

OTMP 315(317.3ml/r)
Pressure (Mpa)

Flow(L/min)	3	5	7	9	10	12
					Max.cont.	Max.int.
8	114 **25**	191 **22**	270 **19**			
15	115 **46**	192 **42**	271 **38**	355 **34**	403 **29**	500 **21**
20	116 **62**	193 **59**	272 **55**	356 **51**	404 **45**	501 **40**
30	114 **93**	191 **90**	270 **86**	354 **80**	403 **76**	499 **65**
35	112 **108**	189 **105**	268 **103**	352 **101**	400 **100**	497 **95**
40	110 **123**	187 **121**	266 **119**	350 **116**	398 **114**	495 **109**
50	108 **154**	184 **151**	264 **148**	348 **144**	396 **142**	493 **137**
Max.cont. 60	106 **185**	182 **181**	262 **179**	346 **176**	394 **174**	491 **171**
Max.int. 75	100 **231**	175 **226**	156 **222**	339 **219**	387 **215**	482 **209**

OTMP 400(392.9ml/r)
Pressure (Mpa)

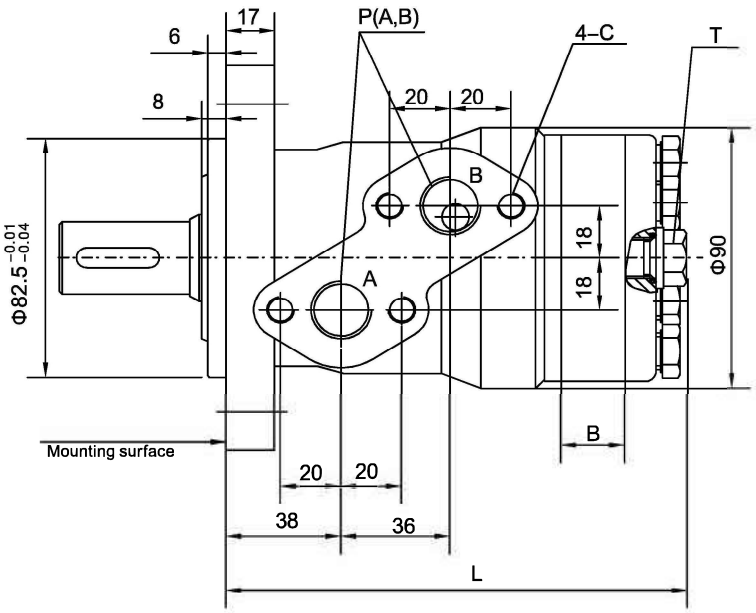
Flow(L/min)	3	4	5	7	8	10
					Max.cont.	Max.int.
8	155 **20**	204 **18**				
15	156 **37**	205 **34**	262 **31**	366 **27**	428 **24**	544 **19**
20	157 **50**	208 **47**	264 **44**	368 **39**	434 **37**	549 **32**
30	152 **75**	204 **72**	258 **69**	362 **66**	424 **64**	540 **60**
35	148 **87**	198 **84**	252 **81**	356 **77**	416 **74**	531 **69**
40	142 **100**	193 **97**	246 **94**	348 **90**	406 **88**	523 **84**
50	136 **125**	186 **122**	238 **120**	341 **117**	398 **115**	515 **111**
Max.cont. 60	131 **150**	180 **148**	231 **146**	333 **142**	390 **140**	506 **137**
Max.int. 75	123 **187**	168 **183**	215 **179**	312 **172**	371 **169**	492 **162**

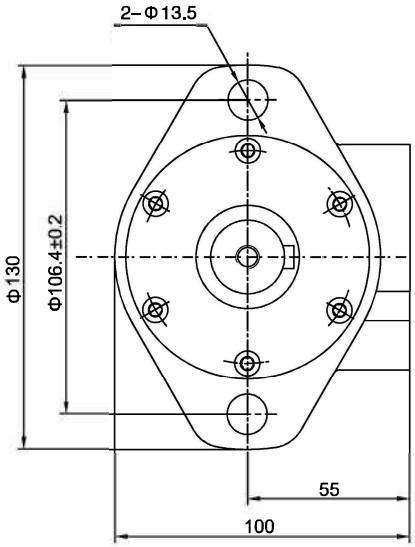
(Torque) : 312Nm
(Speed) : 172r/min

Cont.
Int.

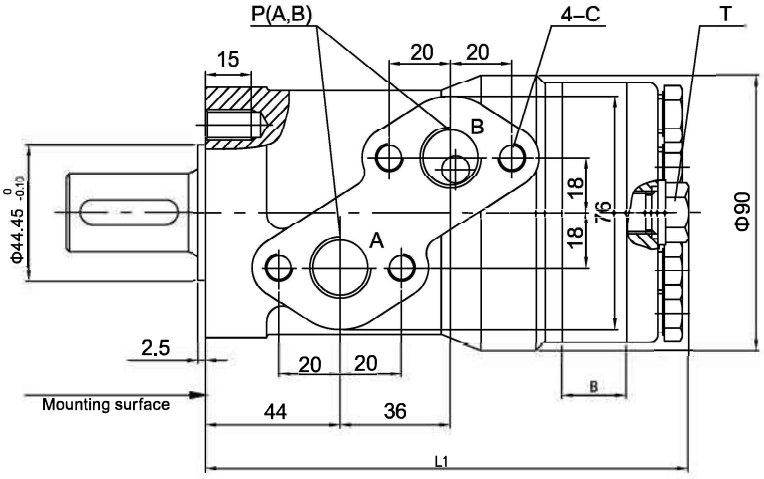
■ OTMP Installation

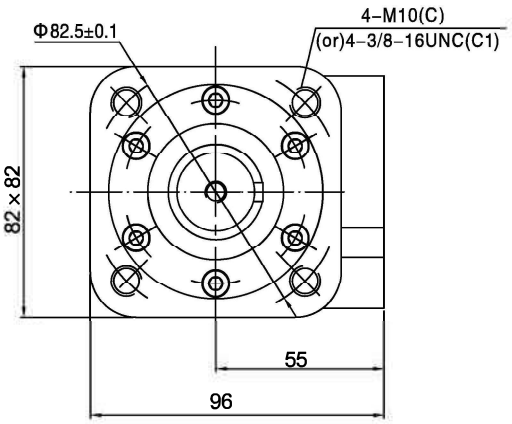
2–hole oval flange A Ⅱ





Square flange C,C1





Note: C、C1 mounting are assembling to OTMPH shaft.

TYPE	OTMP-50	OTMP-80	OTMP-100	OTMP-125	OTMP-160	OTMP-200	OTMP-250	OTMP-315	OTMP-400
L	143.5	145	147	150	155	160	166	176	186
L1	151.5	153	155	158	163	168	174	184	194
B	7	11	13	16	21	26	32	42	52

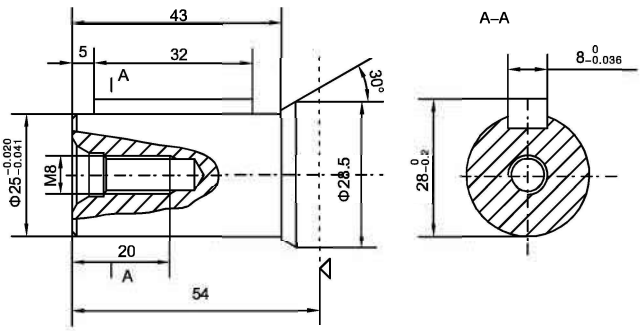
■ OTMP PORTS CODE

Code \ Ports	P(A、B)(deep)	C（deep）	T（deep）
Y	G1/2 (15)	M8 (10)	M14×1.5 (12)
Y1	M18×1.5 (15)	M8 (10)	M14×1.5 (12)
Y2	M22×1.5 (15)	M8 (10)	M14×1.5 (12)
Y4	ZG3/8 (15)	M8 (10)	M14×1.5 (12)
Y5	7/8–14UNF (15)	—	M14×1.5 (12)
Y7	ZG1/2 (15)	M8 (10)	M14×1.5 (12)
Y8	NPT1/2 (15)	M8 (10)	M14×1.5 (12)
Y9	NPTF1/2 (15)	5/16-18 UNC(10)	7/16-20UNF(12)
Y10	G1/2 (15)	M8 (10)	G1/4 (12)
Y15	7/8–14UNF (15)	5/16–18UNC (10)	7/16–20UNF (12)

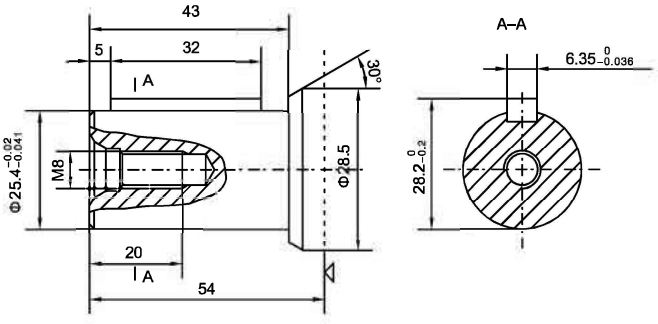
Note:P(A、B)––Ports，C––Mounting Thread （—Indicates no this thread），T––Drain connettion

■ OTMP SHAFT VERSION

P1: Φ25 Cylindrical shaft，parallel key8×7×32



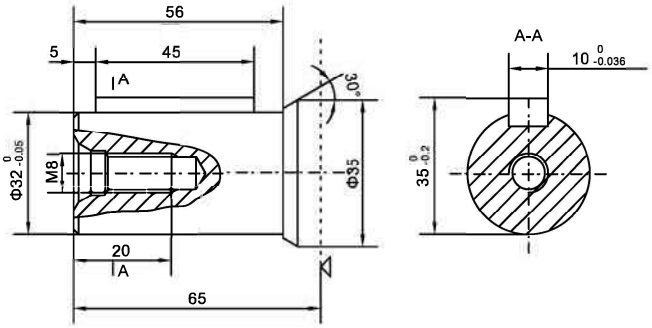
P3: Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32



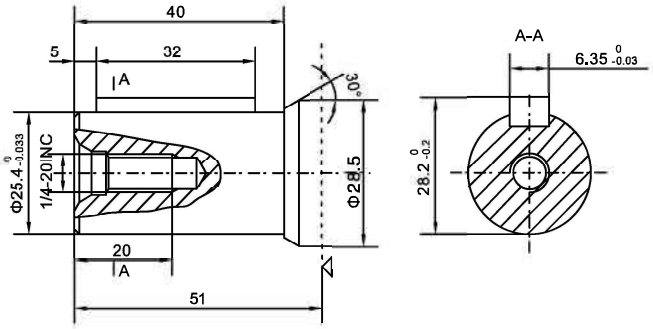
◁ : Motor mounting surface

■ OTMP SHAFT VERSION

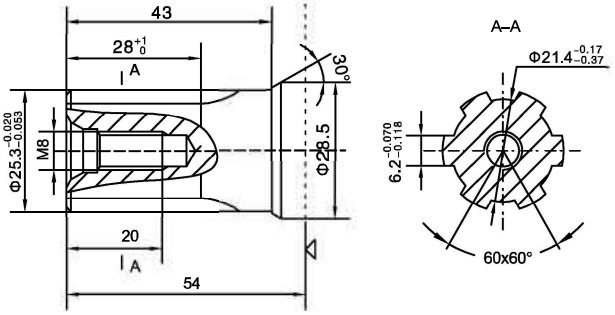
P5: Φ32 Cylindrical shaft，parallel key10 × 8 × 45



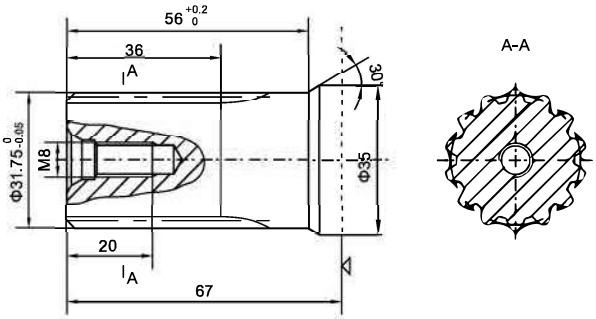
P33: Φ25.4 Cylindrical shaft，parallel key6.35 × 6.35 × 32



H3: Φ25.3Splined shaft，6–25.3 × 21.4 × 6.2



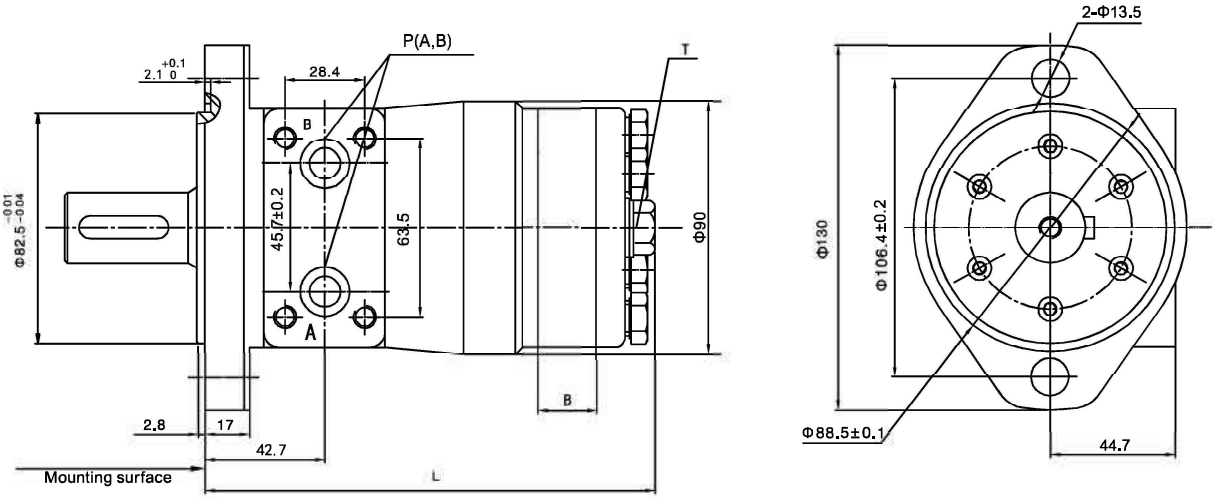
K13: Φ31.75 involute splined shaft 14–DP12/24 a=30°



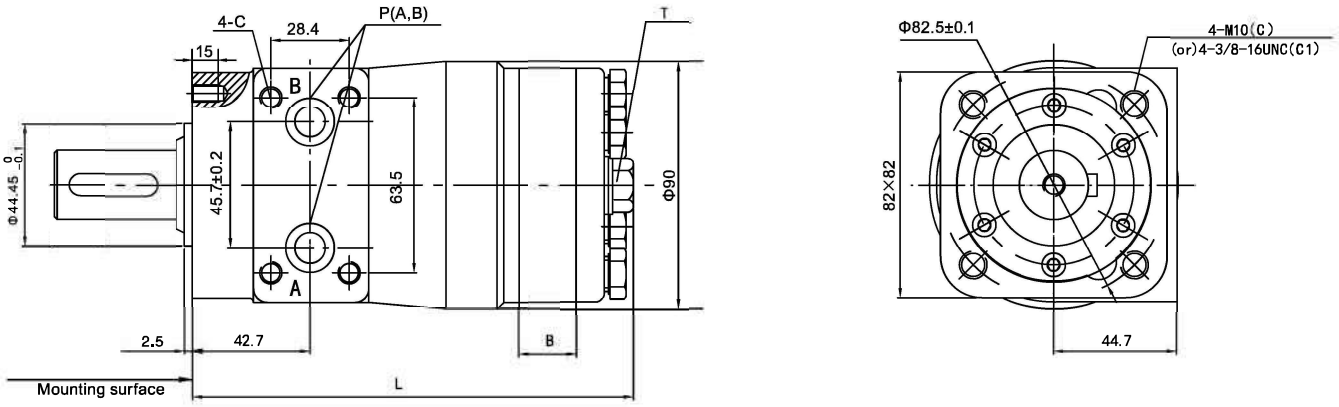
◁ : Motor mounting surface

■ OTMPH Installation

2–hole oval flange A Ⅱ



Square flange C,C1



TYPE	OTMPH-50	OTMPH-80	OTMPH-100	OTMPH-125	OTMPH-160	OTMPH-200	OTMPH-250	OTMPH-315	OTMPH-400
L	151.5	153	155	158	163	168	174	184	194
B	7	11	13	16	21	26	32	42	52

OTMPH Orbit Hydraulic Motor With Spool Valve

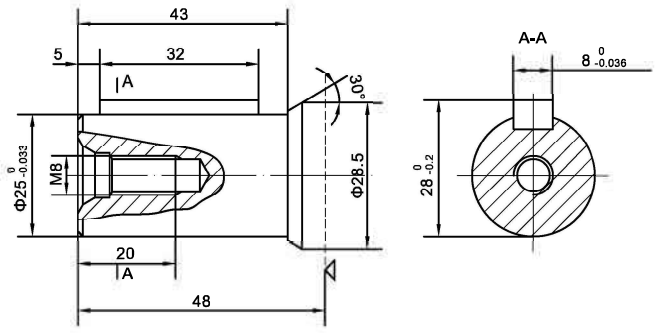
■ OTMPH PORTS CODE

Code \ Ports	P(A、B)(deep)	C (deep)	T (deep)
Y	G1/2 (15)	—	M14×1.5(12)
Y5	7/8–14UNF(15)	—	7/16–20UNF(12)
Y7	ZG1/2(15)	—	G1/4(12)
Y9	NPTF1/2(15)	—	7/16–20UNF(12)
Y10	G1/2(15)	—	G1/4(12)
Y17	3/4–16UNF(15)	—	7/16–20UNF(12)
Y19	Φ11(15)	5/16–18UNC(13)	7/16–20UNF(12)
Y20	M18×1.5(15)	M8 (13)	G1/4(12)

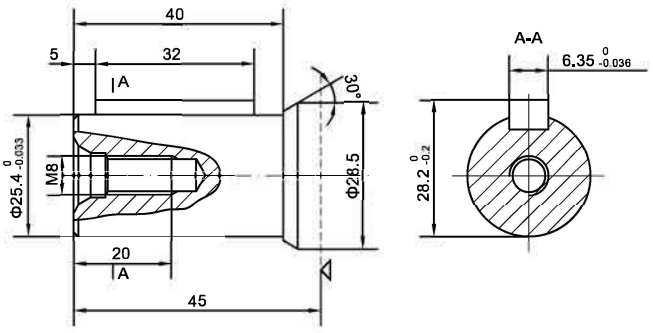
P(A、B)––Ports，C––Mounting Thread （—Indicates no this thread），T––Drain connettion

■ OTMPH SHAFT VERSION

P1: Φ25 Cylindrical shaft，parallel key8×7×32



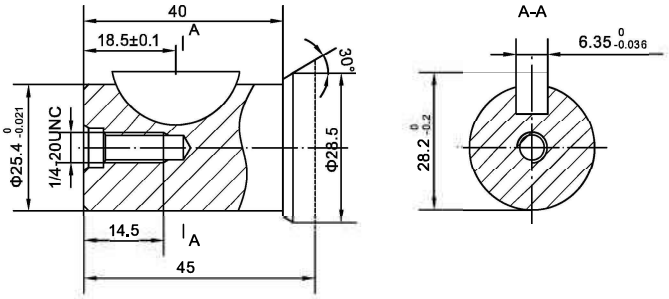
P3: Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32



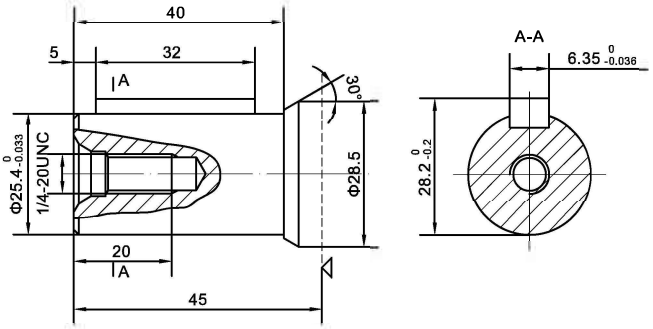
◁ : Motor mounting surface

■ OTMPH SHAFT VERSION

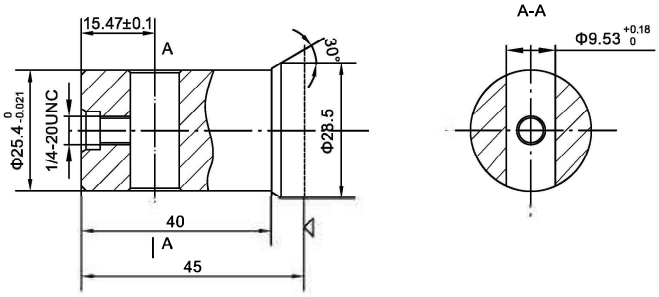
P4: Φ25.4 Cylindrical shaft，Woodruff key Φ25.4 × 6.35



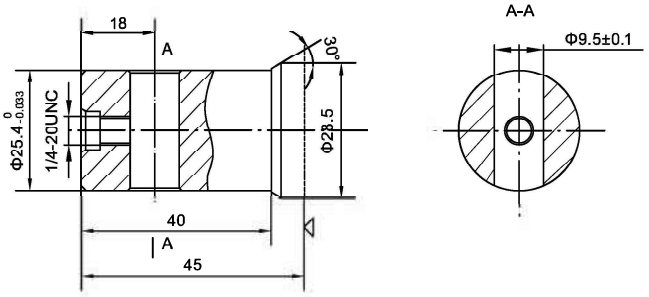
P33: Φ25.4 Cylindrical shaft，parallel key6.35 × 6.35 × 32



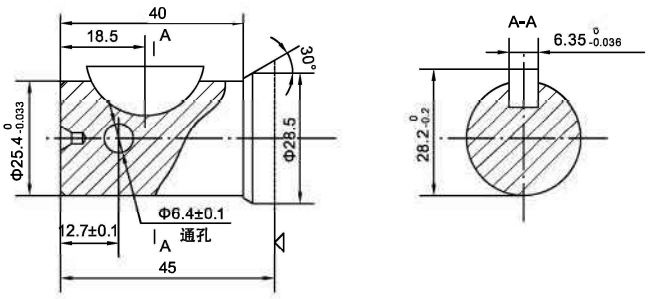
P89: Φ25.4Cylindrical shaft pin hole Φ9.53



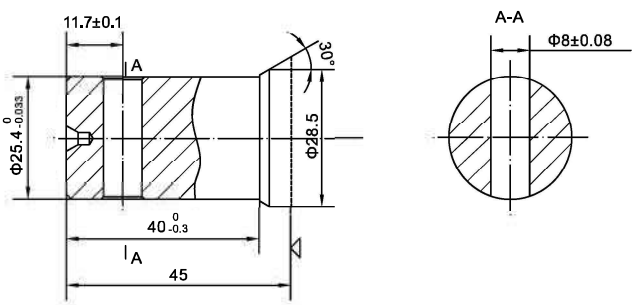
P93: Φ25.4Cylindrical shaft pin hole Φ9.5



P95: Φ25.4Cylindrical shaft pin hole Φ6.4，
Woodruff key Φ25.4 × 6.35



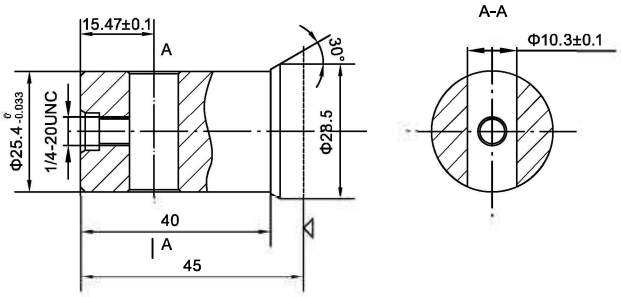
P96: Φ25.4Cylindrical shaft pin hole Φ8



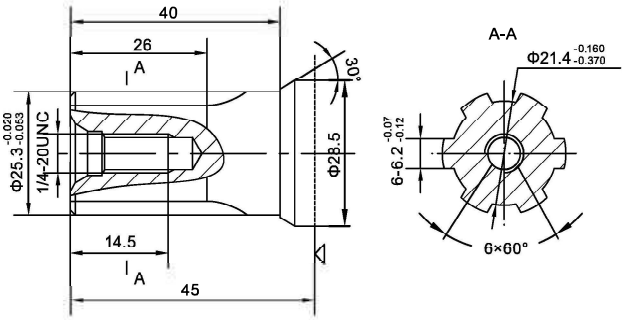
◁ : Motor mounting surface

■ OTMPH SHAFT VERSION

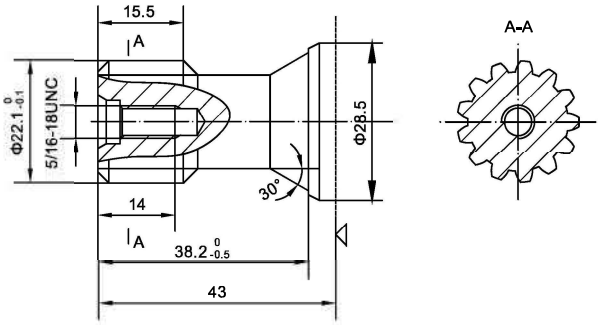
P97: Φ25.4Cylindrical shaft pin hole Φ10.3



H4: Φ25.3 Splined shaft，6–25.3 × 21.4 × 6.2



K8: Φ22.1 involve splined shaft 13–DP16/32

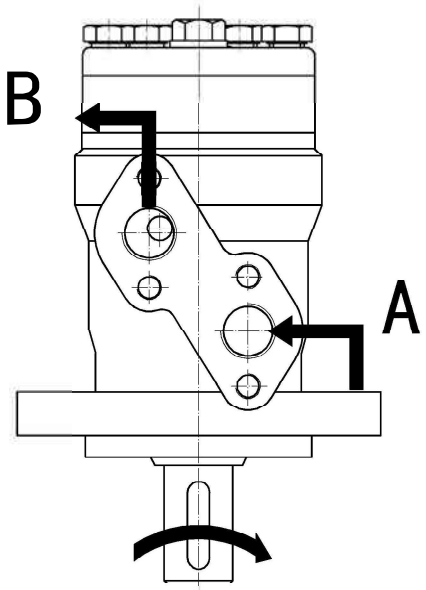


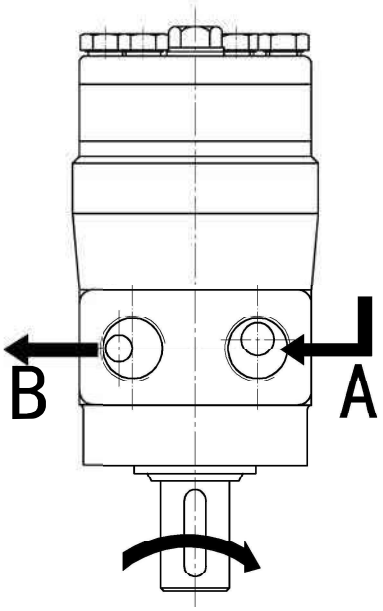
◁ : Motor mounting surface

■ OTMP、OTMPH Series Motor

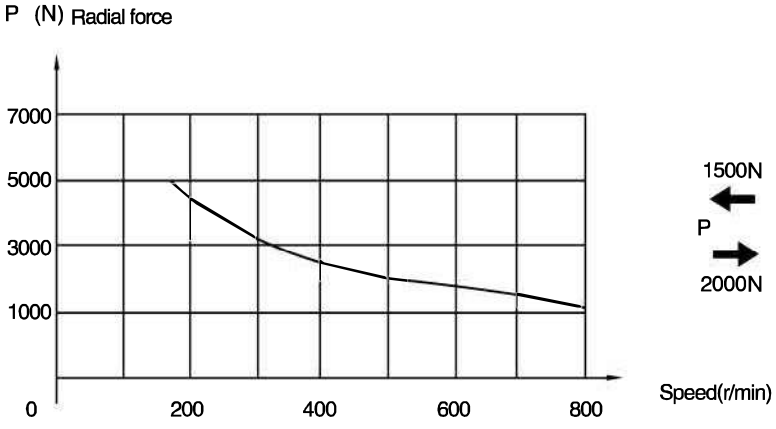
Direction of shaft ration：Standard

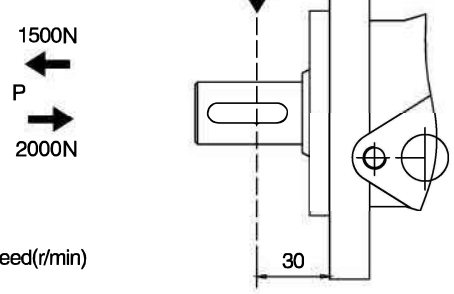
When facing shaft end of motor，shaft to rotate：
Clockwise when port “A” is pressurized.
Counter–clockwise port “B” is pressurized.





■ PERMISSIBLE SHAFT LOADS





OTMP、OTMPH ORDERING CODE

■ OTMP OTMPH ORDERING CODE

1		2	3	4	5		6		7
OTMP	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTMP	50 80 100 125 160 200 250 315 400	P1	Φ25 Cylindrical shaft，parallel key8×7×32	A Ⅱ	2–Φ13.5 Oval flange, pilot Φ82.5×8
		P3	Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32		
		P5	Φ32 Cylindrical shaft，parallel key10×8×45		
		P33	Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32	C	4–M10 Square flange, pilot Φ44.45×2.5
		H3	Φ25.3 Splined shaft， 6–25.3×21.4×6.2		
		H33	Φ25.3 Splined shaft， 6–25.3×21.4×6.2	C1	4–3/8–16UNC Square flange, pilot Φ44.45×2.5
		K13	Φ31.75 involute splined shaft，14–DP12/24 a=30°		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	M14×1.5(12)	Omit	Standard	Omit	Standard
Y1	M18×1.5(15)	M14×1.5(12)				
Y2	M22×1.5(15)	M14×1.5(12)				
Y4	ZG3/8(15)	M14×1.5(12)				
Y5	7/8–14UNF(15)	M14×1.5(12)	T7	With dustproof ring	L	Opposite
Y7	ZG1/2(15)	M14×1.5(12)				
Y8	NPT1/2(15)	M14×1.5(12)				
Y9	NPTF1/2(15)	7/16–20UNF(12)	T10	With high pressure seals		
Y10	G1/2(15)	G1/4(12)				
Y15	7/8–14UNF(15)	7/16–20UNF(12)				

Note: C、C1 mounting are assembling to OTMPH shaft.

■ OTMP, OTMPH ORDERING CODE

1		2	3	4	5		6		7
OTMPH	—					/		—	

Pos.1	2	3		4	
Series	Disp			Flange	
OTMPH	50	P1	Φ25 Cylindrical shaft, parallel key8×7×32	A II	2–Φ13.5 Oval flange, pilot Φ82.5×2.8
	80	P3	Φ25.4 Cylindrical shaft, parallel key6.35×6.35×32		
		P4	Φ25.4 Cylindrical shaft, Woodruff key Φ25.4×6.35		
	100	P33	Φ25.4 Cylindrical shaft, parallel key6.35×6.35×32		
	125	P89	Φ25.4 Cylindrical shaft pin hole Φ9.53		
	160	P93	Φ25.4 Cylindrical shaft pin hole Φ9.5	C	4–M10 Square flange, pilot Φ44.45×2.8
		P95	Φ25.4 Cylindrical shaft pin hole Φ6.4, Woodruff key Φ25.4×6.35		
	200	P96	Φ25.4 Cylindrical shaft pin hole Φ8		
	250	P97	Φ25.4 Cylindrical shaft pin hole Φ10.3		
	315	H4	Φ25.3 Splined shaft, 6–25.3×21.4×6.2	C1	4–3/8–16UNC Square flange, pilot Φ44.45×2.8
	400	K8	Φ22.1 involute splined shaft, 13–DP16/32		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	M14×1.5(12)	Omit	Standard	Omit	Standard
Y5	7/8–14UNF(15)	7/16–20UNF(12)				
Y7	ZG1/2(15)	G1/4(12)				
Y9	NPTF1/2(15)	7/16–20UNF(12)				
Y10	G1/2(15)	G1/4(12)	T21	No case drain	L	Opposite
Y17	3/4–16UNF(15)	7/16–20UNF(12)				
Y19	Φ11(15)	7/16–20UNF(12)				
Y20	M18×1.5(15)	G1/4(12)				

OTH Orbit Hydraulic Motor With Spool Valve

OTH INTRODUCTION

This seriees of motor,with its shell made of ductile cast iron of adequate intenty,can be applied to situations with less load and interval operation,widely to agriculture,forestry,plastics,machine tools and minmachines etc.

OTH CHARACTERISTICS

1、With the axial oil distribution structur,it is of smaller,high efficiency and long life.
2、shaft seal can bear high pressure of motor of which can be used in parallel or in series.

OTH TECHNICAL DATA

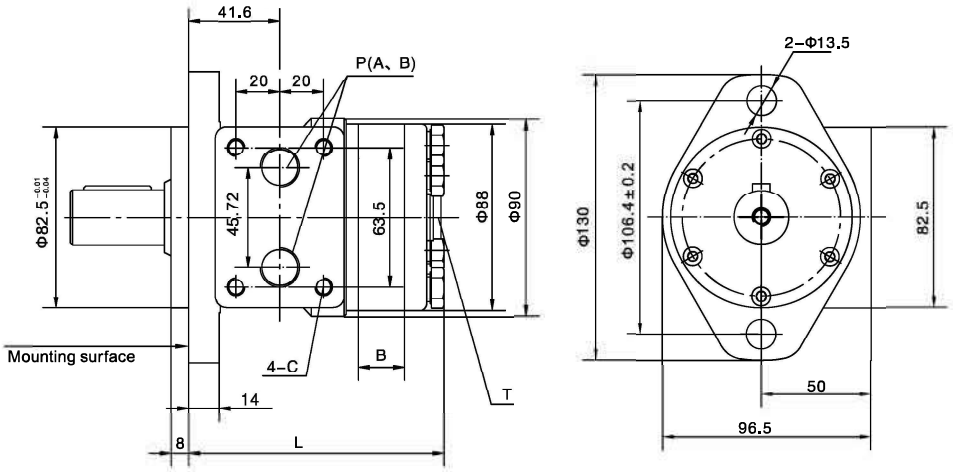
TYPE		OTH-50	OTH-80	OTH-100	OTH-125	OTH-160	OTH-200	OTH-250	OTH-315	OTH-400
Displacement(ml/r)		49.3	76.6	95.8	120.4	153.2	191.6	240.8	306.5	383.1
Max.Pressure.Drop (Mpa)	cont.	10.5	10.5	10.5	10.5	10.5	10.5	9	7	7
	int.	14	14	14	14	14	14	11.5	10.5	9
	peak.	18	18	18	18	18	18	15	14	11
Max.torque (N.m)	cont.	65	105	130	160	205	255	275	305	335
	int.	90	140	175	220	280	350	360	410	429
	peak.	115	180	225	285	365	455	475	560	550
Max.Speed (cont.)(r/min)		810	520	415	330	260	205	165	125	100
Max.Flow(L/min)		40	40	40	40	40	40	40	40	40
Max.Output.Power(cont.)(Kw)		4.5	4.8	4.8	4.8	4.8	4.6	4	3.5	3

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

Peak load: the permissible values may occur for max. 1% of every minute

OTH Orbit Hydraulic Motor With Spool Valve

■ OTH INSTALLATION



TYPE	OTH-50	OTH-80	OTH-100	OTH-125	OTH-160	OTH-200	OTH-250	OTH-315	TH-400
L	107	112	115.5	120	126	133	142	154	168
B	9	14	17.5	22	28	35	44	56	70

■ OTH PORTS CODE

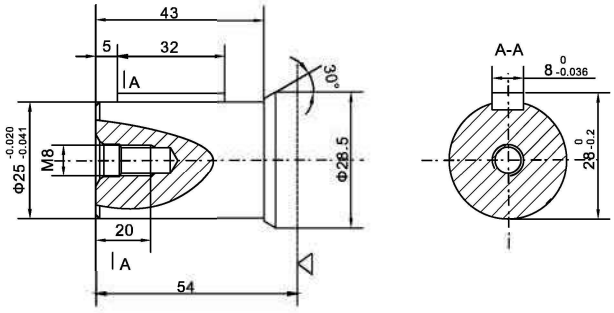
Ports / Code	P (A, B) (deep)	C (deep)	T (deep)
Y	G1/2 (15)	M8 (13)	M14x1. 5 (12)
Y1	M18x1.5 (15)	M8 (13)	M14x1. 5 (12)
Y2	M22x1.5 (15)	M8 (13)	M14x1. 5 (12)
Y9	NPTF1/2 (15)	5/16-18UNC (13)	7/16-20UNF (12)
Y10	G1/2 (15)	M8 (13)	G1/4 (12)
Y15	7/8-14UNF (15)	5/16-18UNC (13)	7/16-20UNF (12)

Note:P(A、B)--Ports，C--Mounting Thread （—Indicates no this thread ），T--Drain connettion

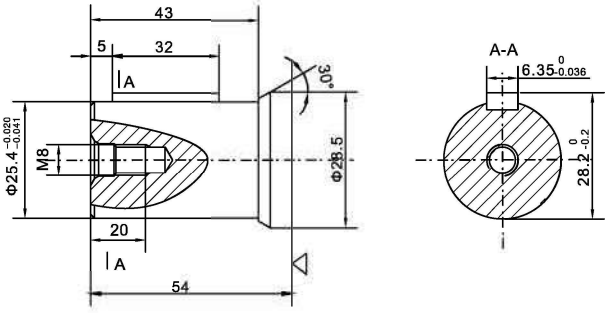
OTH Orbit Hydraulic Motor With Spool Valve

■ OTH SHAFT VERSION

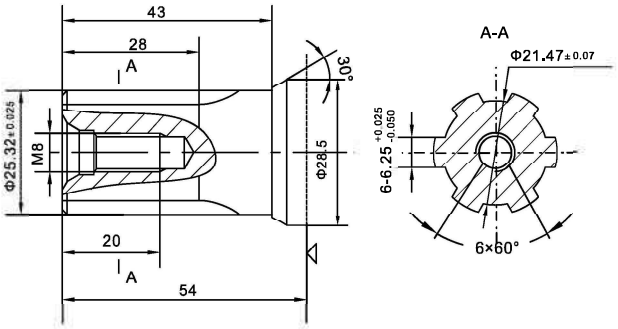
P1：Φ25 Cylindrical shaft,parallel key 8x7x32



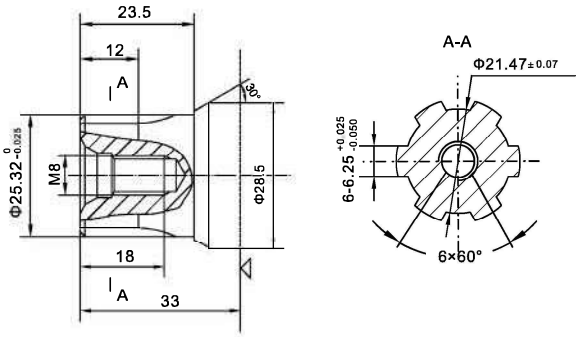
P3：Φ25.4 Cylindrical shaft,parallel key 6.35x6.35x32



H3：Φ25.3 Splined shaft，6-25.32x21.47x6.25



H5：Φ25.3 Splined shaft，6-25.32x21.47x6.25



◁ : Motor mounting surface

OTH Orbit Hydraulic Motor With Spool Valve

■ OTH ORDERING CODE

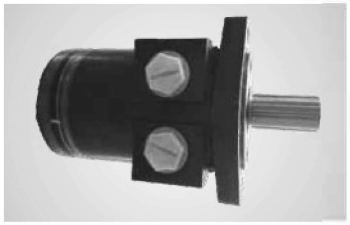
1		2	3	4	5		6		7
OTH	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output Shaft		Flange	
OTH	50 80 100 125 160 200 250 315 400	P1	Φ 25Cylindrical shaft，parallel key 8x7x32	A Ⅱ	2–Φ13.5 Oval flange polit Φ82.5x8
		P3	Φ 25.4 Cylindrical shaft，parallel key 6.35x6.35x32		
		H3	Φ25.3Splined shaft， 6–25.32x21.47x6.25		
		H5	Φ25.3Splined shaft， 6–25.32x21.47x6.25		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2 (15)	M14x1.5 (12)	Omit	Standard	Omit	Standard
Y1	M18x1.5 (15)	M14x1.5 (12)				
Y2	M22x1.5 (15)	M14x1.5 (12)				
Y9	NPTF1/2 (15)	7/16–20UNF (12)				
Y10	G1/2 (15)	G1/4 (12)			L	
Y15	7/8–14UNF (15)	7/16–20UNF (12)				

OTMPH Orbit Hydraulic Motor With Spool Valve

■ INTRODUCTION



OTMPH series motors is a compact, economical and spool valve type of hydraulic motor. Suitable for working conditions with small load and intermittent operation. Widely used in agriculture, forestry, plastics, machine tools and mining machinery. Such as in jection plastic machine's mold ad justment, sweeping car, sawmill and other work platforms.

■ CHARACTERISTICS

1. Due to the geroler type, it has low friction,high mechanical cfficiency and long lifetime.
2. High shaft seal could be used in parallel and in series.
3. With two inside check valves, it needn't to connect the case drain.
4. Same performance with BMR series motor, similar size wilh BMP series motor.
5. The mounting flange and the front housing are separated, so it is easy to replace the flange.

■ OTMPH TECHNICAL DATA

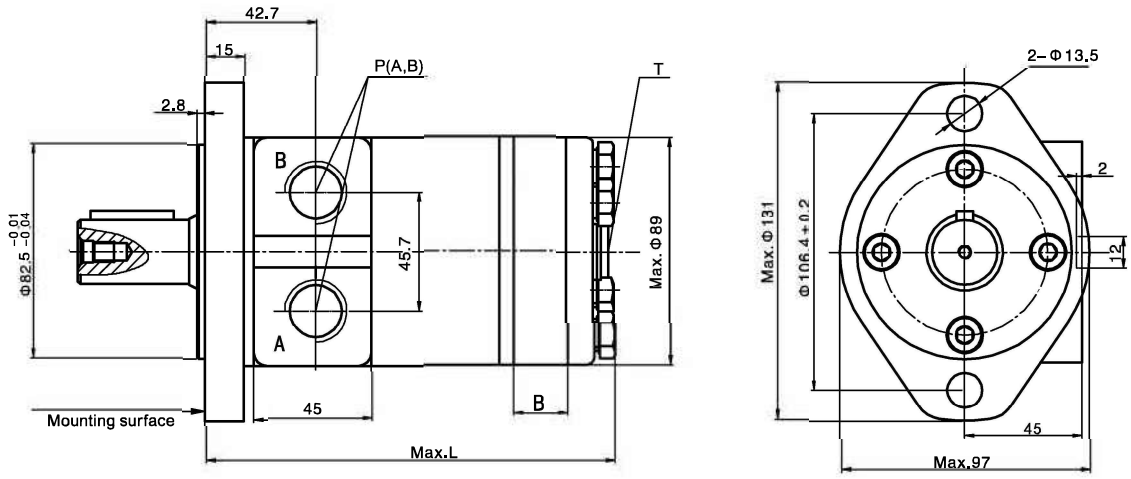
TYPE		OTMPH-50	OTMPH-80	OTMPH-100	OTMPH-125	OTMPH-160	OTMPH-200	OTMPH-250	OTMPH-315	OTMPH-400
Displacement(ml/r)		49.3	76.6	95.8	120.4	153.2	191.6	240.8	306.5	383.1
Max.Pressure.Drop (Mpa)	cont.	14	14	14	14	14	14	11	9	7
	int.	17.5	17.5	17.5	17.5	17.5	17.5	14	11	9
	peak.	20	20	20	20	20	20	16	13	11
Max.torque (N.m)	cont.	90	140	175	220	280	350	350	360	350
	int.	115	175	220	275	355	440	445	445	455
	peak.	130	205	255	320	410	510	515	530	555
Max.Speed (cont.)(r/min)		810	780	625	495	390	310	245	195	155
Max.Flow(L/min)		40	60	60	60	60	60	60	60	60
Max.Output.Power(cont.)(Kw)		6.4	9.5	9.5	9.5	9.5	9.5	7.4	6	4.8

1. Intermittent operation the permissible vavles may occur for max.10%of every minute
   Peak load:the permissible valves may occur for max.1% of every minute

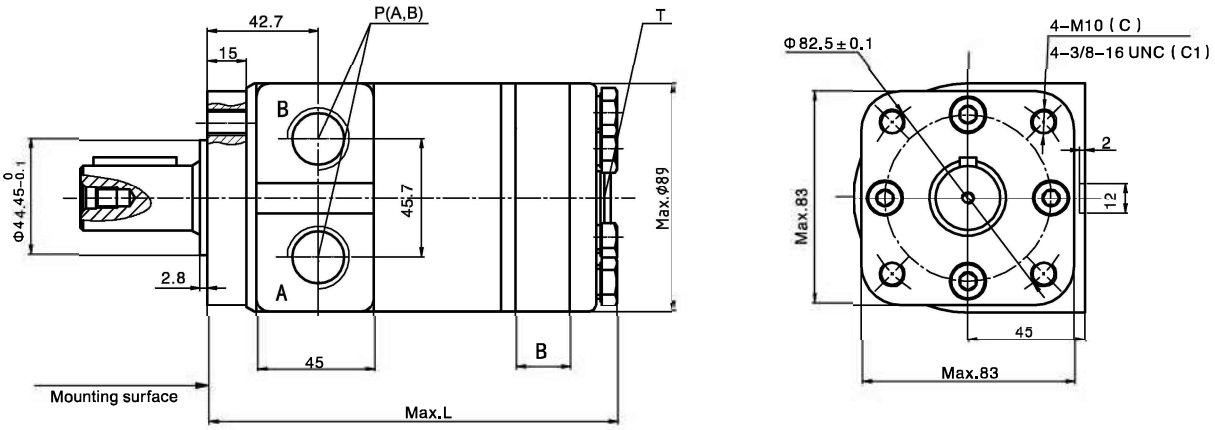
2. to use under max.speed & maxpressure at the same time is not recommended

■ OTMPH Installation

2–Ø13.5hole oval flange AⅡ



Square flangeC,C1



TYPE	OTMPH-50	OTMPH-80	OTMPH-100	OTMPH-125	OTMPH-160	OTMPH-200	OTMPH-250	OTMPH-315	OTMPH-400
L	148	153	156.5	161	167	174	183	195	209
B	9	14	17.5	22	28	35	44	56	70

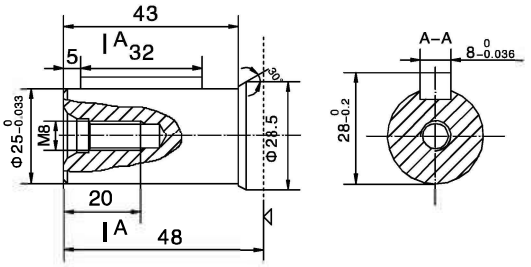
■ OTMPH Ports Code

Code \ Ports	P(A、B)(deep)	C (deep)	T (deep)
Y	G1/2 (15)	—	M14 × 1.5 (12)
Y7	ZG1/2 (15)	—	G1/4 (12)
Y9	NPTF1/2 (15)	—	7/16–20 UNF(12)
Y10	G1/2 (15)	—	G1/4 (12)
Y15	7/8–14UNF (15)	—	7/16–20 UNF(12)

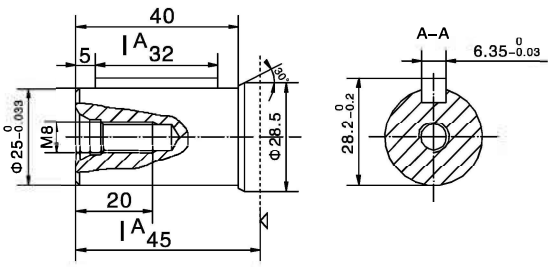
P(A、B)––Ports，C––Mounting Thread （—Indicates no this thread），T––Drain connettion

■ OTMPH SHAFT VERSION

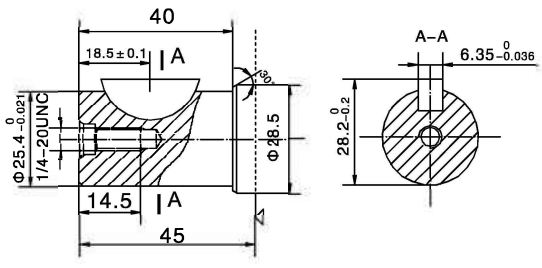
P1：Φ25Cylindrical shaft,parallel key8 × 7 × 32



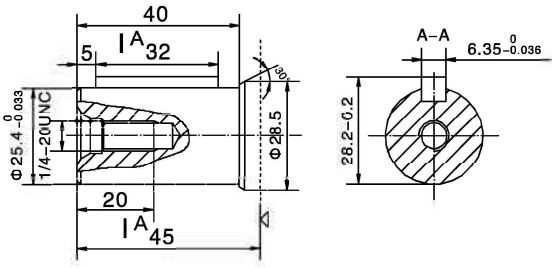
P3：Φ25.4Cylindrical shaft,parallel key6.35 × 6.35 × 32



P4：Φ25.4Cylindrical shaft,Woodruff key Φ25.4 × 6.35



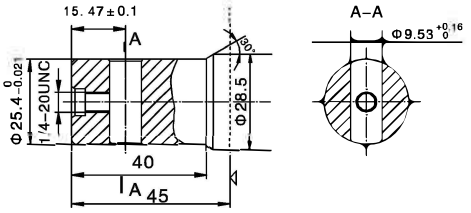
P33：Φ25.4Cylindrical shaft,parallel key6.35 × 6.35 × 32



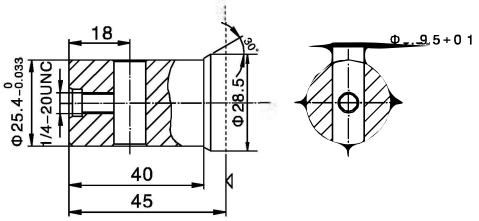
◁：Motor mounting surface

■ OTMPH SHAFT VERSION

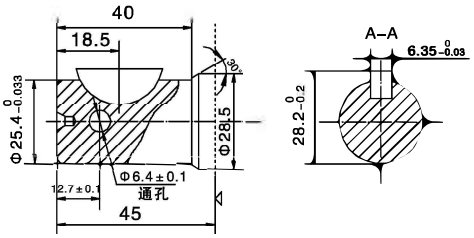
P89：Φ25.4Cylindrical shaft pin hole Φ9.53



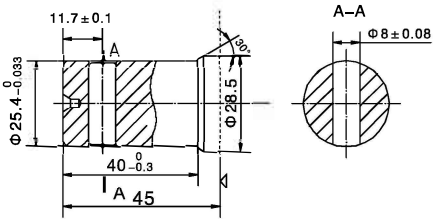
P93：Φ25.4Cylindrical shaft pin hole Φ9.5



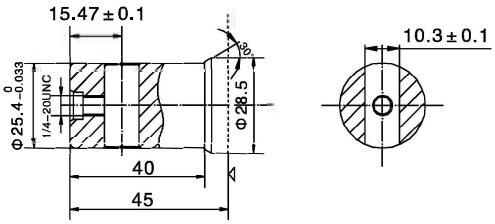
P95：Φ25.4Cylindrical shaft pin hole Φ6.4
Woodruff key Φ25.4×6.35



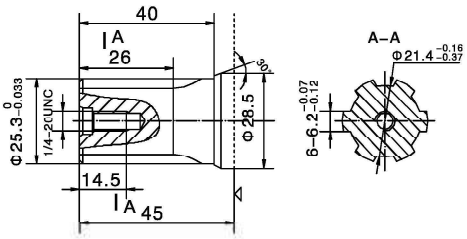
P96：Φ25.4Cylindrical shaft pin hole Φ8



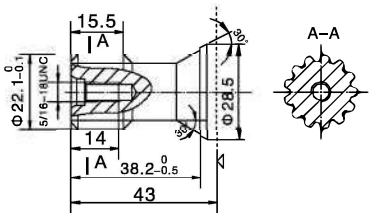
P97：Φ25.4Cylindrical shaft pin hole Φ10.3



H4：Φ25.3Splined Shaft，6-25.3×21.4×6.2



K8：Φ22.1involveCylindrical shaft，13-DP 16/32



◁：Motor mounting surface

■ OTMPH

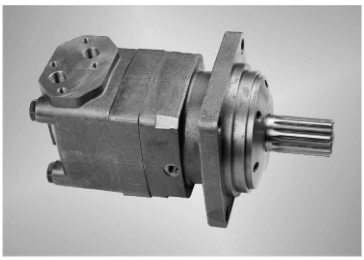
1		2	3	4	5		6		7
OTMPH	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTMPH	50	P1	Φ25 Cylindrical shaft，parallel key8×7×32	A Ⅱ	2–Φ13.5 Oval flange, pilot Φ82.5×6
	80	P3	Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32		
		P4	Φ25.4 Cylindrical shaft，Woodruff key Φ25.4×6.35		
	100	P33	Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32		
	125	P89	Φ25.4 Cylindrical shaft pin hole Φ9.53		
	160	P93	Φ25.4 Cylindrical shaft pin hole Φ9.5	C	4–M10 Square flange, pilot Φ44.45×2.8
	200	P95	Φ25.4 Cylindrical shaft pin hole Φ6.4，Woodruff key Φ25.4×6.35		
		P96	Φ25.4 Cylindrical shaft pin hole Φ8		
	250	P97	Φ25.4 Cylindrical shaft pin hole Φ6.4，Woodruff key Φ25.4×6.35		
	315	H4	Φ25.3 Splined shaft，6–25.3×21.4×6.2	C1	4–3/8–16UNC Square flange, pilot Φ44.45×2.8
	400	K8	Φ22.1 involute splined shaft，13–DP16/32		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	M14×1.5(12)	Omit	Standard	Omit	Standard
Y7	ZG1/2(15)	G1/4(12)				
Y9	NPTF1/2(15)	7/16–20UNF(12)	T21	No case drain	L	Opposite
Y10	G1/2(15)	G1/4(12)	T26	Flange face is vertical ports		
Y15	7/8–14UNF(15)	7/16–20UNF(12)				

INTRODUCTION

FEATURES AND APPLICATIONS

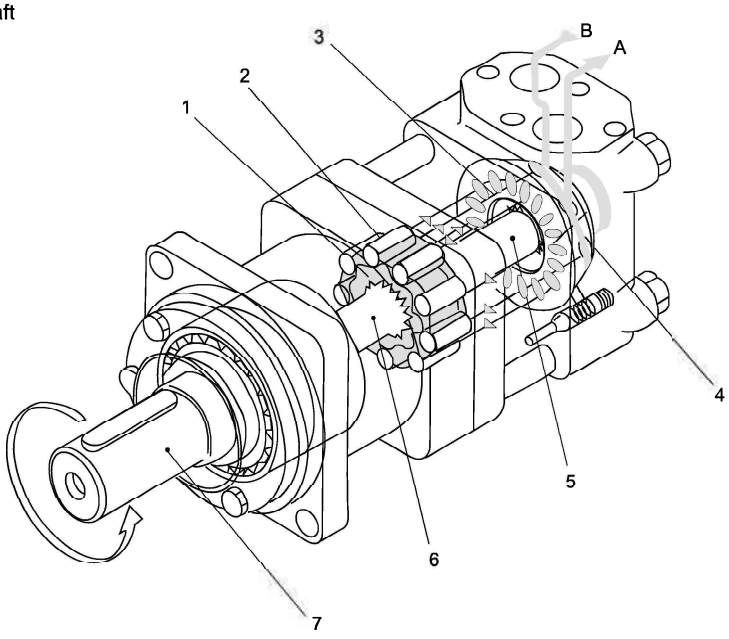


OTM hydraulic motor is one type of high torque low speed hydraulic motors, with high efficiency and long life. OTM motor has a wide Speed range, high starting torque and rotating stable at high speed Compact and light, it can be connected to working machine directly, adapted to all kinds of low speed heavy load facilities.

OTM hydraulic motors are widely applied in agriculture machinery, fishing machinery, plastic industry, mining, and construction machinery.

WORKING PRINCIPLE

1 orbit cam 2 roll 3 distributor 4 auxiliary plate
5 distributor shaft 6 transmission shaft 7 output shaft



Shown as the drawing, high pressure oil goes into the motor's housing through the inlet, passing the auxiliary plate, distributor, then the working space between the orbit cam and rolls. Pressed by the high pressure oil, orbit cam rotates from the high pressure side to the low pressure side. The orbit cam makes rotation and revolution against the rolls, at the same time, high pressure oil is distributed continuously, thus, the output shaft can also rotate continuously.

The output speed can be controlled by adjusting the inlet flow capability of the motor, and the rotating direction can be changed by exchanging the flow direction.

OTM3Y Orbit Hydraulic Motor With Disk Valve

■ OTM3Y TECHNICAL DATA

TYPE		OTM3Y OTM3SY OTM3S3Y OTM3WY 80	OTM3Y OTM3SY OTM3S3Y OTM3WY 100	OTM3Y OTM3SY OTM3S3Y OTM3WY 125	OTM3Y OTM3SY OTM3S3Y OTM3WY 160	OTM3Y OTM3SY OTM3S3Y OTM3WY 200	OTM3Y OTM3SY OTM3S3Y OTM3WY 250	OTM3Y OTM3SY OTM3S3Y OTM3WY 315	OTM3Y OTM3SY OTM3S3Y OTM3WY 400	OTM3Y OTM3SY OTM3S3Y OTM3WY 500
Displacement(ml/r)		80.5	100.5	126.3	160.8	200.9	252.6	321.5	401.9	476.5
Max.Pressure. Drop (Mpa)	cont.	20.5	20.5	20.5	20.5	20.5	20	20	15.5	12
	int.	27.5	27.5	27.5	26	25	25	24	19	14
	peak.	29.5	29.5	29.5	28	27	27	26	21	16
Max.torque (N.m)	cont.	226	282	355	451	564	684	870	813	728
	int.	293	365	459	559	672	845	1032	1021	903
	peak.	306	383	481	588	708	891	1091	1141	1044
Max.Speed(cont.)(r/min)		805	745	590	465	370	295	230	185	155
Max.Flow(cont.)(L/min)		65	75	75	75	75	75	75	75	75
Max.Output.Power(cont.)(Kw)		16	18	18	18	18	18	17	11	9
Weight (kg)		9.8	10.0	10.3	10.7	11.1	11.6	12.3	13.2	14.3

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

Peak load: the permissible values may occur for max. 1% of every minute

■ OTM3Y PERFORMANCE DATA

OTM3Y 80(80.5ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	7	10.5	14	17.5	Max.cont. 20.5	Max.int. 22.5
15	35 / **181**	75 / **177**	114 / **170**	150 / **165**	187 / **158**	220 / **151**	239 / **141**
30	35 / **363**	75 / **355**	115 / **346**	152 / **340**	190 / **330**	222 / **322**	240 / **310**
40	33 / **485**	75 / **479**	115 / **464**	155 / **453**	193 / **444**	226 / **437**	240 / **415**
50	30 / **610**	73 / **602**	113 / **594**	153 / **580**	190 / **565**	223 / **556**	237 / **530**
60	28 / **735**	70 / **724**	110 / **714**	150 / **698**	188 / **680**	220 / **670**	235 / **642**
65 (Max.cont.)	27 / **801**	68 / **790**	108 / **775**	148 / **760**	186 / **742**	215 / **727**	233 / **704**
80 (Max.int.)	23 / **988**	66 / **975**	104 / **955**	140 / **938**	176 / **915**	205 / **897**	213 / **870**

OTM3Y 100(100.5ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	7	10.5	14	17.5	Max.cont. 20.5	Max.int. 22.5
15	44 / **145**	94 / **142**	142 / **136**	187 / **132**	233 / **127**	275 / **121**	298 / **113**
30	42 / **291**	93 / **284**	144 / **277**	190 / **272**	237 / **264**	278 / **258**	300 / **248**
40	41 / **388**	92 / **384**	144 / **372**	194 / **363**	241 / **356**	282 / **350**	300 / **332**
50	37 / **489**	91 / **482**	141 / **476**	191 / **465**	237 / **453**	278 / **445**	296 / **425**
60	35 / **589**	87 / **580**	137 / **572**	187 / **559**	235 / **545**	273 / **537**	293 / **514**
75 (Max.cont.)	34 / **740**	85 / **730**	135 / **716**	185 / **702**	232 / **686**	268 / **672**	291 / **651**
90 (Max.int.)	29 / **890**	82 / **879**	130 / **861**	175 / **845**	222 / **825**	258 / **808**	266 / **784**

OTM3Y 125(126.3ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	7	10.5	14	17.5	Max.cont. 20.5	Max.int. 22.5
15	54 / **115**	117 / **113**	179 / **108**	235 / **105**	293 / **101**	348 / **96**	375 / **90**
30	55 / **231**	118 / **226**	180 / **221**	238 / **217**	298 / **210**	351 / **205**	377 / **198**
40	54 / **309**	120 / **305**	180 / **296**	243 / **289**	303 / **283**	355 / **279**	377 / **265**
50	51 / **389**	118 / **384**	177 / **379**	240 / **370**	298 / **360**	351 / **354**	372 / **338**
60	48 / **468**	114 / **461**	173 / **455**	235 / **445**	295 / **433**	347 / **427**	369 / **409**
75 (Max.cont.)	42 / **589**	109 / **581**	169 / **570**	232 / **559**	292 / **546**	342 / **535**	366 / **518**
90 (Max.int.)	38 / **708**	103 / **699**	163 / **685**	220 / **673**	279 / **656**	327 / **643**	334 / **624**

(Torque) : 163Nm
(Speed) : 685r/min

OTM3Y 160(160.8ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	7	10.5	14	17.5	Max.cont. 20.5	Max.int. 22.5
15	70 / **91**	147 / **89**	228 / **85**	300 / **83**	374 / **79**	444 / **76**	477 / **71**
30	72 / **182**	150 / **178**	230 / **173**	304 / **170**	380 / **165**	447 / **161**	479 / **155**
40	74 / **243**	151 / **240**	230 / **232**	310 / **227**	386 / **222**	451 / **219**	479 / **208**
50	71 / **305**	147 / **301**	226 / **297**	306 / **290**	380 / **283**	447 / **278**	473 / **265**
60	68 / **368**	143 / **362**	220 / **357**	300 / **349**	376 / **340**	442 / **335**	469 / **321**
75 (Max.cont.)	64 / **463**	138 / **456**	216 / **448**	296 / **439**	372 / **429**	437 / **420**	465 / **407**
90 (Max.int.)	60 / **556**	133 / **549**	208 / **538**	280 / **528**	352 / **515**	416 / **505**	425 / **490**

Cont.
Int.

■ OTM3Y PERFORMANCE DATA

OTM3Y 200(200.6ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	7	10.5	14	17.5	20.5 (Max.cont.)	22.5 (Max.int.)
15	87 / 73	184 / 71	285 / 68	374 / 66	467 / 63	557 / 61	596 / 56
30	89 / 145	187 / 142	287 / 139	379 / 136	474 / 132	560 / 129	599 / 124
40	92 / 194	187 / 192	287 / 186	387 / 182	482 / 178	564 / 175	599 / 166
50	88 / 244	182 / 241	282 / 238	382 / 232	474 / 226	560 / 223	591 / 212
60	84 / 295	175 / 290	275 / 286	374 / 280	469 / 272	555 / 268	586 / 257
75 (Max.cont.)	77 / 370	170 / 365	270 / 358	369 / 351	464 / 343	550 / 336	581 / 325
90 (Max.int.)	68 / 445	165 / 440	260 / 430	349 / 423	434 / 412	510 / 404	532 / 392

OTM3Y 250(252.6ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	7	10.5	14	17.5	20 (Max.cont.)	22.5 (Max.int.)
15	114 / 58	234 / 56	358 / 54	469 / 53	584 / 50	377 / 48	742 / 45
30	115 / 116	235 / 113	361 / 110	471 / 108	587 / 105	680 / 103	746 / 100
40	115 / 155	235 / 153	355 / 148	473 / 144	591 / 141	684 / 139	751 / 136
50	114 / 194	230 / 192	355 / 189	474 / 185	587 / 180	680 / 175	746 / 169
60	112 / 234	225 / 231	352 / 228	471 / 224	583 / 219	675 / 214	741 / 208
75 (Max.cont.)	109 / 295	220 / 290	349 / 285	467 / 279	578 / 273	669 / 267	735 / 260
90 (Max.int.)	103 / 354	213 / 350	343 / 342	460 / 334	568 / 326	654 / 320	715 / 310

OTM3Y 315(321.5ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	7	10.5	14	17.5	20 (Max.cont.)	22.5 (Max.int.)
15	140 / 45	284 / 44	433 / 43	583 / 41	745 / 40	863 / 38	947 / 35
30	140 / 91	288 / 89	437 / 87	586 / 85	748 / 83	866 / 81	951 / 78
40	138 / 121	290 / 120	440 / 116	588 / 113	752 / 111	870 / 109	956 / 106
50	136 / 153	291 / 151	439 / 149	587 / 145	748 / 141	866 / 139	951 / 136
60	134 / 184	286 / 181	435 / 179	583 / 175	744 / 170	862 / 166	947 / 160
75 (Max.cont.)	131 / 231	280 / 228	431 / 224	580 / 220	738 / 214	856 / 210	939 / 204
90 (Max.int.)	125 / 278	272 / 275	421 / 269	570 / 264	718 / 258	826 / 253	899 / 243

OTM3Y 400(401.9ml/r)

Flow(L/min)	Pressure(Mpa) 3.5	7	10.5	14	15.5 (Max.cont.)	17.5 (Max.int.)
15	172 / 36	347 / 35	522 / 34	705 / 33	806 / 32	926 / 30
30	174 / 73	350 / 71	526 / 69	708 / 68	809 / 66	930 / 64
40	173 / 97	352 / 96	529 / 93	710 / 91	813 / 89	935 / 86
50	171 / 122	350 / 121	531 / 119	710 / 116	809 / 113	930 / 110
60	168 / 147	343 / 145	522 / 143	705 / 140	801 / 136	924 / 130
75 (Max.cont.)	164 / 185	339 / 183	517 / 179	700 / 176	791 / 171	916 / 163
90 (Max.int.)	160 / 223	325 / 220	503 / 215	680 / 211	766 / 206	886 / 196

(Torque) : 503Nm
(Speed) : 215r/min

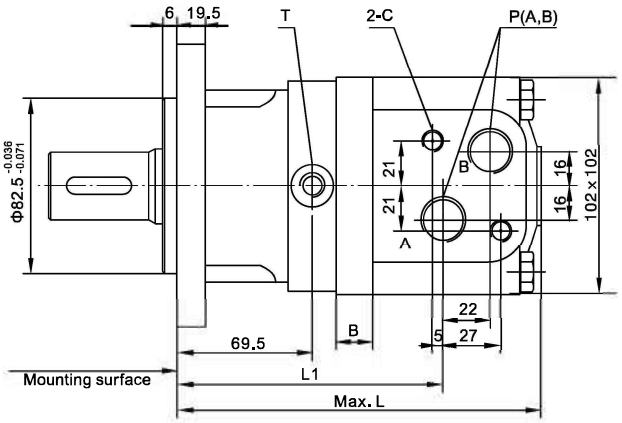
OTM3Y 500(476.5ml/r)

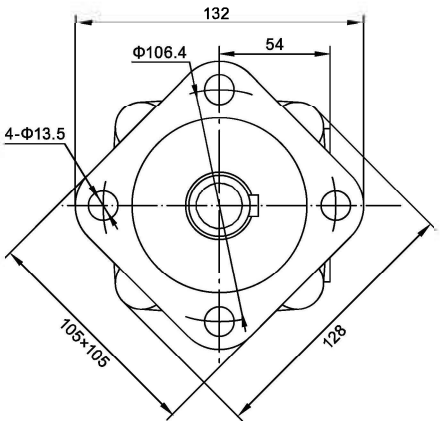
Flow(L/min)	Pressure(Mpa) 3.5	7	10.5	12 (Max.cont.)	14 (Max.int.)
15	180 / 31	403 / 30	607 / 29	721 / 28	816 / 27
30	183 / 61	407 / 60	613 / 58	724 / 57	824 / 56
40	185 / 82	409 / 81	617 / 78	728 / 77	832 / 75
50	184 / 103	406 / 102	616 / 100	724 / 98	833 / 95
60	182 / 124	403 / 122	609 / 121	719 / 118	819 / 115
75 (Max.cont.)	180 / 156	401 / 154	606 / 151	712 / 148	815 / 145
90 (Max.int.)	173 / 188	391 / 185	601 / 182	702 / 178	803 / 174

Cont.
Int.

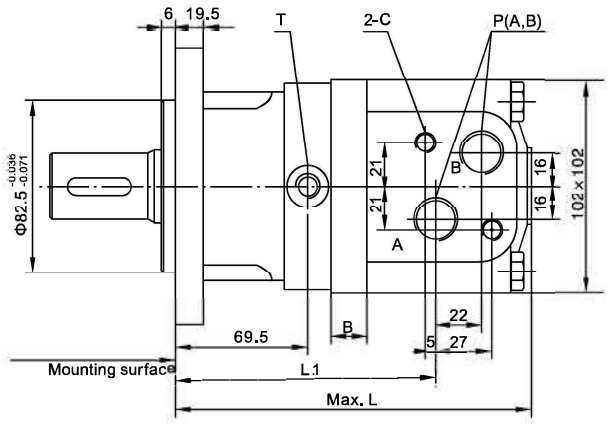
■ OTM3Y Installation

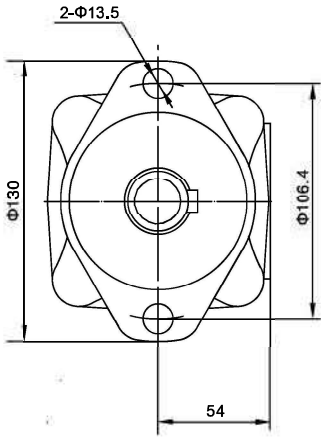
Square flange A



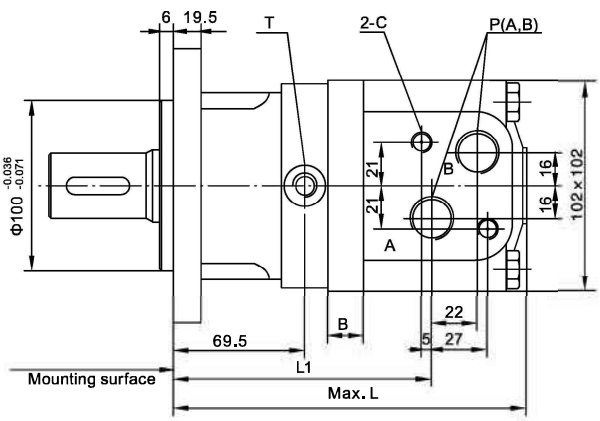


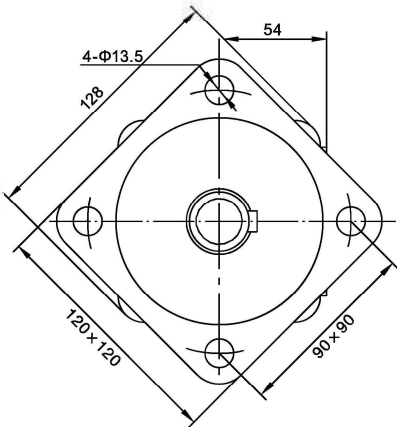
2–hole oval flange AII





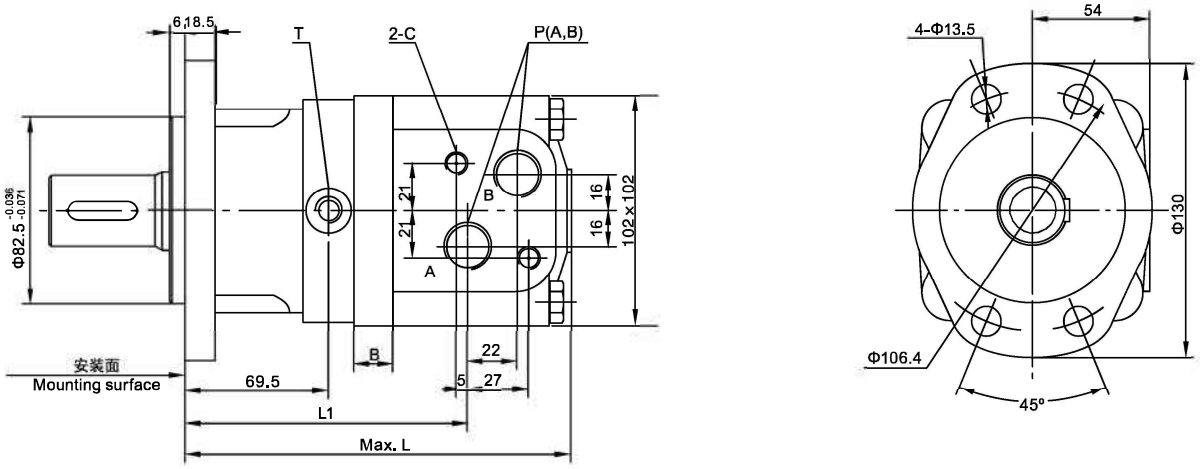
Square flange A2III





■ OTM3Y Installation

4–hole oval flange AIV



Type	OTM3Y –80	OTM3Y –100	OTM3Y –125	OTM3Y –160	OTM3Y–200	OTM3Y–250	OTM3Y –315	OTM3Y–400	OTM3Y–500
L	170	173.5	178	184	191	200	212	226	239
L1	125.5	129	133.5	139.5	146.5	155.5	167.5	181.5	194.5
B	11	14.5	19	25	32	41	53	67	80

OTM3Y Orbit Hydraulic Motor With Disk Valve

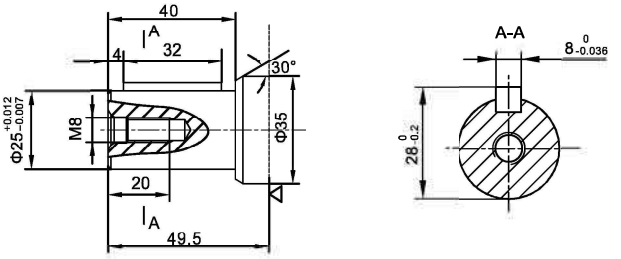
■ OTM3Y PORTS CODE

Ports / Code	P(A、B)(deep)	C (deep)	T (deep)
Y	G1/2 (15)	M10 (12)	G1/4 (12)
Y1	M18 × 1.5 (15)	M10 (12)	M14 × 1.5 (12)
Y2	M22 × 1.5 (15)	M10 (12)	M14 × 1.5 (12)
Y3	M20 × 1.5 (15)	M10 (12)	M14 × 1.5 (12)
Y5	7/8–14UNF (15)	—	7/16–20 UNF(12)
Y8	NPT1/2 (15)	M10 (12)	G1/4 (12)
Y10	G1/2 (15)	—	G1/4 (12)

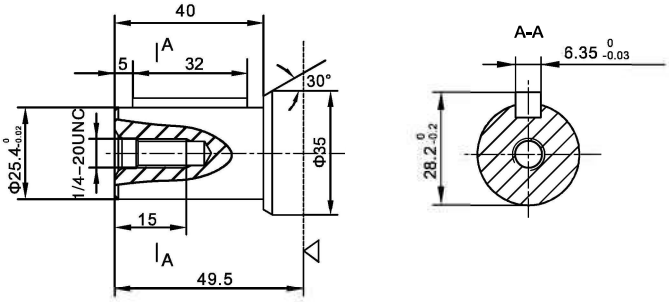
Note:P(A、B)––Ports，C––Mounting Thread （—Indicates no this thread），T––Drain connettion

■ OTM3Y SHAFT VERSION

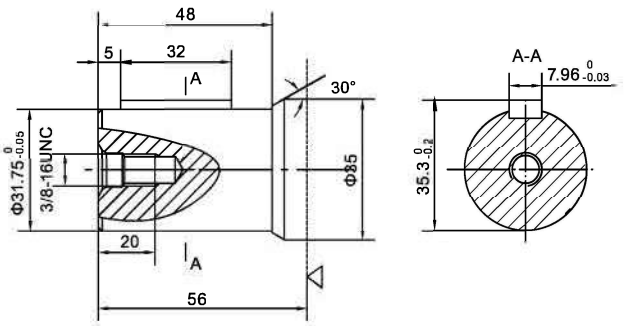
P1: Φ25 Cylindrical shaft，parallel key8 × 7 × 32



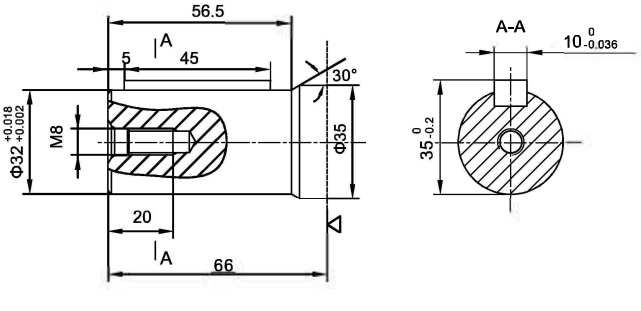
P3: Φ25.4 Cylindrical shaft，parallel key6.35 × 6.35 × 32



P5: Φ31.75 Cylindrical shaft，parallel key7.96 × 7.96 × 32



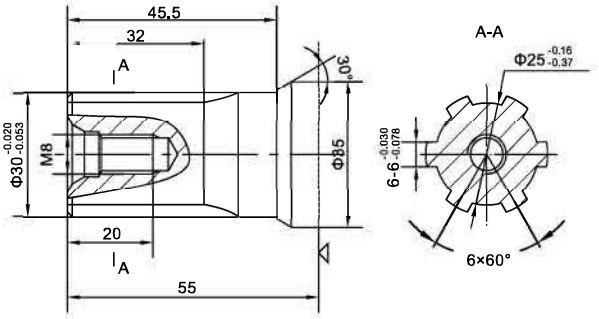
P10: Φ32 Cylindrical shaft，parallel key10 × 8 × 45



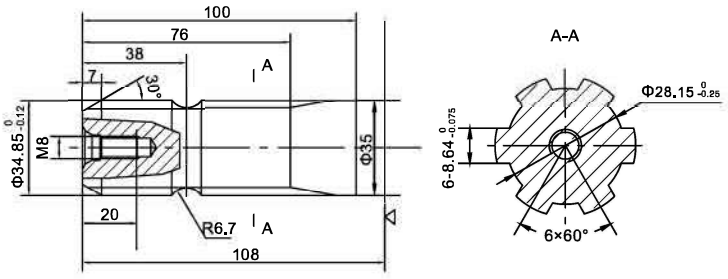
◁-- Motor mounting surface

■OTM3Y SHAFT VERSION

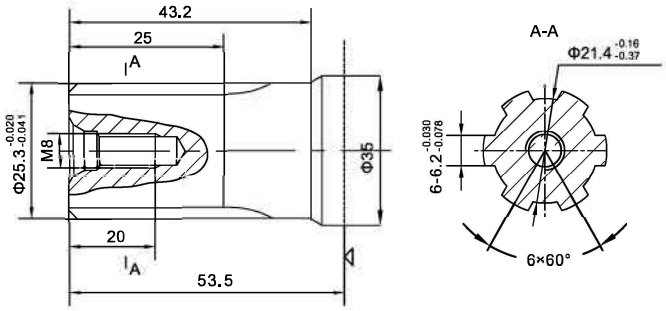
H1: Φ30 Splined shaft，6–30 × 25 × 6



H3: Φ34.85 Splined shaft，6–34.85 × 28.15 × 8.64

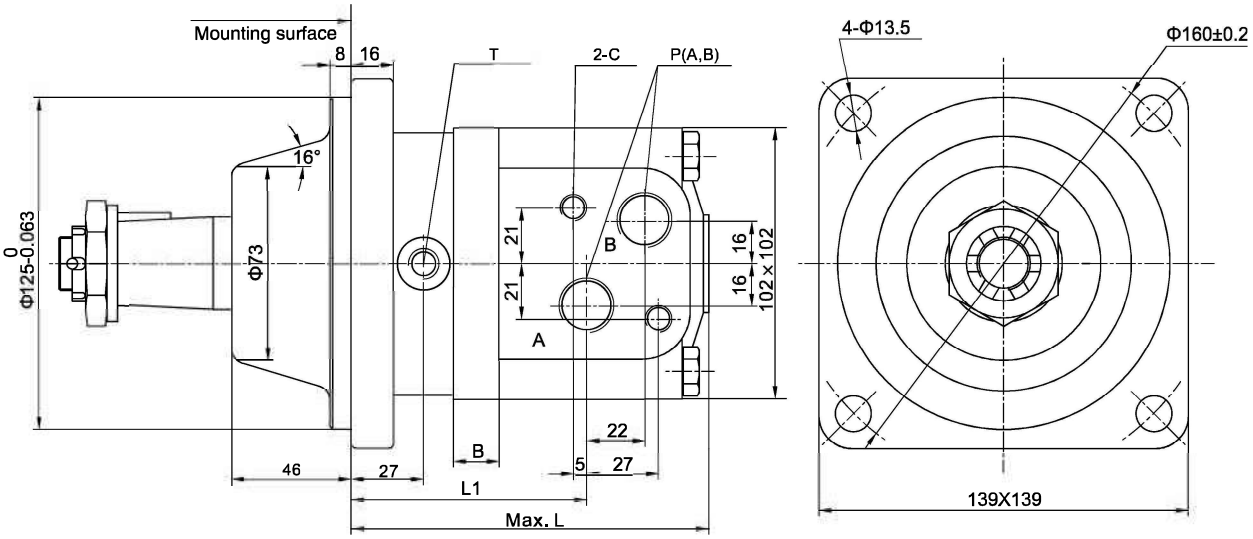


H51: Φ25.3 Splined shaft，6–25.3 × 21.4 × 6.2



◁-- Motor mounting surface

■ OTM3WY Installation



Type	OTM3WY 80	OTM3WY 100	OTM3WY 125	OTM3WY 160	OTM3WY 200	OTM3WY 250	OTM3WY 315	OTM3WY 400	OTM3WY 500
L	127.5	131	135.5	141.5	148.5	157.5	169.5	183.5	196.5
L1	83	86.5	91	97	104	113	125	139	152
B	11	14.5	19	25	32	41	53	67	80

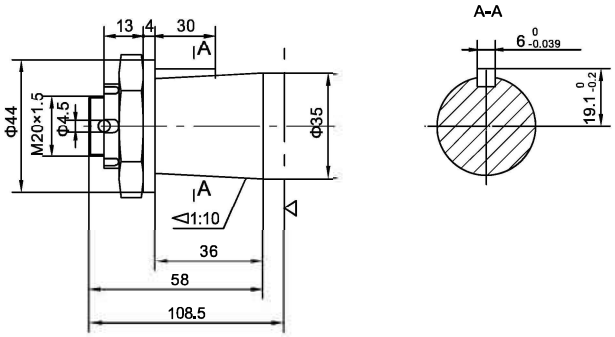
■ OTM3WY PORTS CODE

Code \ Ports	P(A、B)(deep)	C (deep)	T (deep)
Y	G1/2 (15)	M10 (12)	G1/4 (12)
Y5	7/8–14UNF (15)	—	7/16–20UNF (12)

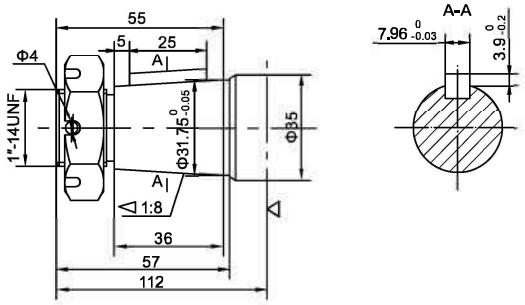
Note:P(A、B)--Ports，C--Mounting Thread （—Indicates no this thread），T--Drain connettion

■ OTM3WY SHAFT VERSION

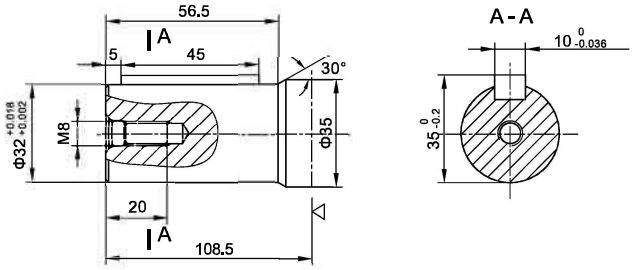
Z: Φ35 Tapered shaft, taper1:10, parallel key 6 × 6 × 30



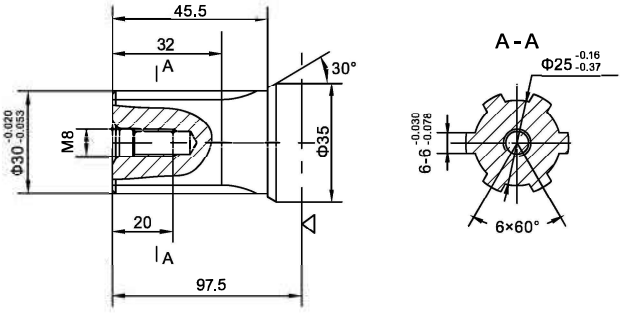
Z2: Φ31.75 Tapered shaft, taper1:8, parallel key 7.96 × 7.96 × 25



P10: Φ32 Cylindrical shaft, parallel key10 × 8 × 45

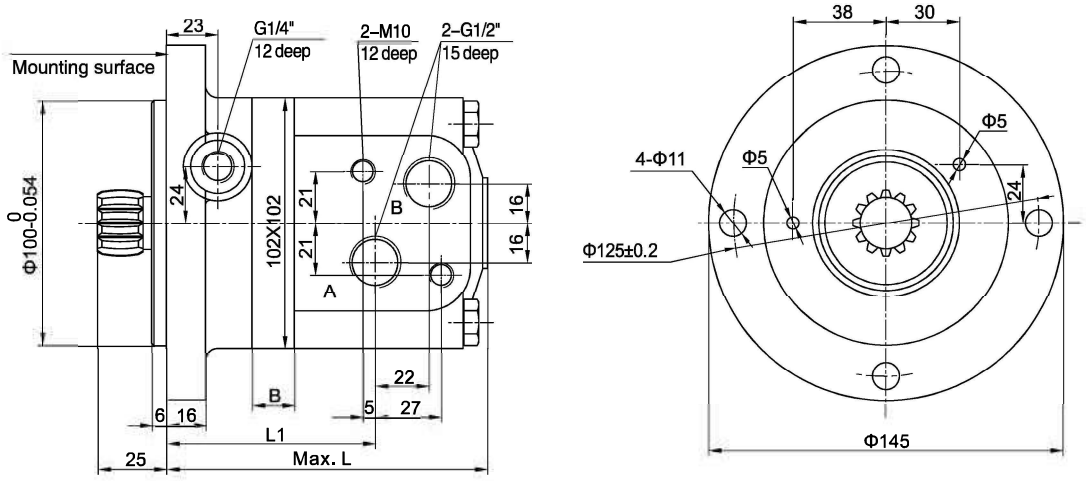


H1: Φ30 Splined shaft, 6–30 × 25 × 6



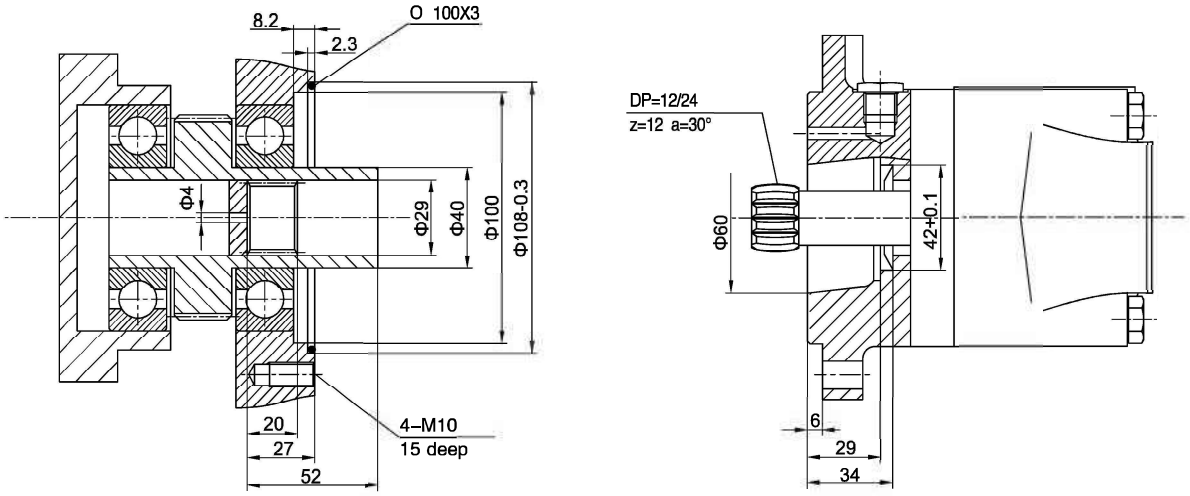
◁-- Motor mounting surface

■ OTM3SY Installation

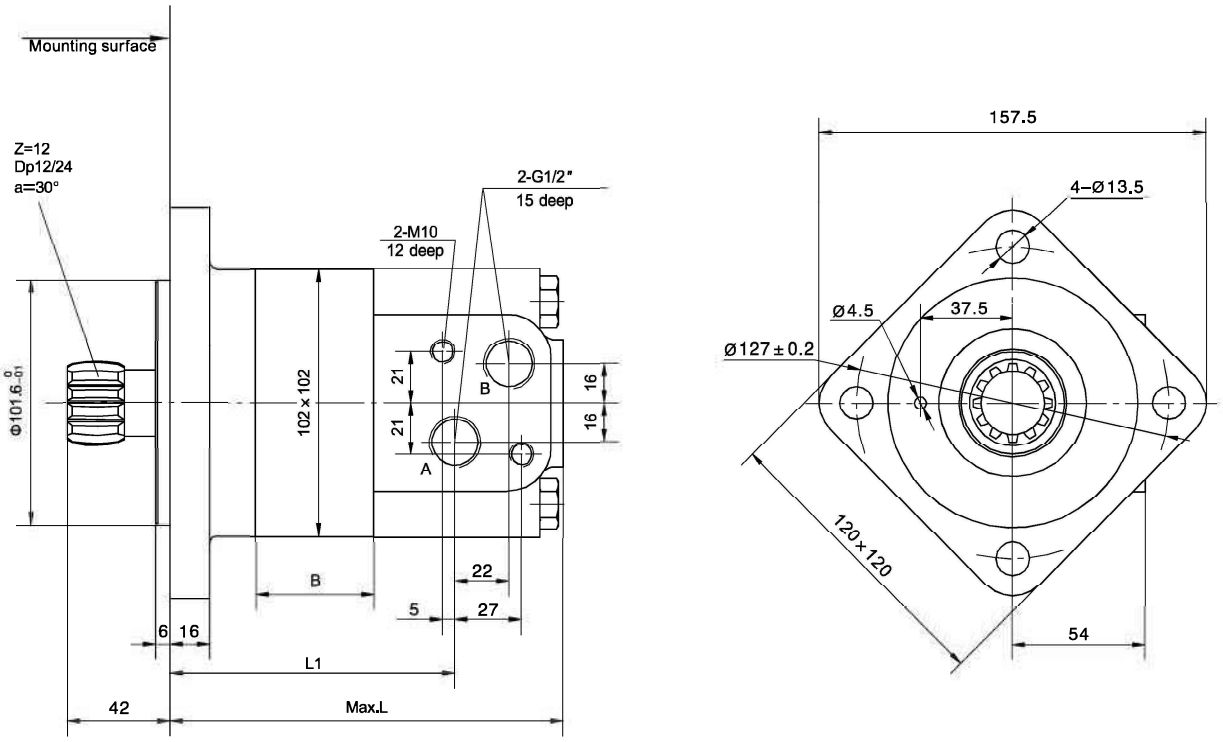


Type	OTM3SY 80	OTM3SY 100	OTM3SY 125	OTM3SY 160	OTM3SY 200	OTM3SY 250	OTM3SY 315	OTM3SY 400	OTM3SY 500
L	124	127.5	132	138	145	154	166	180	193
L1	79.5	83	87.5	93.5	100.5	109.5	121.5	135.5	148.5
B	11	14.5	19	25	32	41	53	67	80

■ OTM3SY DIMENSIONS OF THE ATTACHED COMPONENT



■ OTM3S3Y Installation

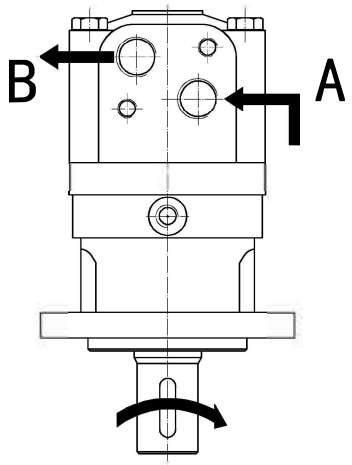


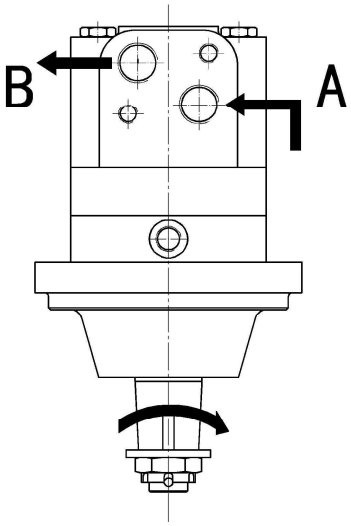
Type	OTM3S3Y 80	OTM3S3Y 100	OTM3S3Y 125	OTM3S3Y 160	OTM3S3Y 200	OTM3S3Y 250	OTM3S3Y 315	OTM3S3Y 400	OTM3S3Y 500
L	124	127.5	132	138	145	154	166	180	193
L1	79.5	83	87.5	93.5	100.5	109.5	121.5	135.5	148.5
B	11	14.5	19	25	32	41	53	67	80

■ OTM3Y、OTM3WY、OTM3SY Series Motor

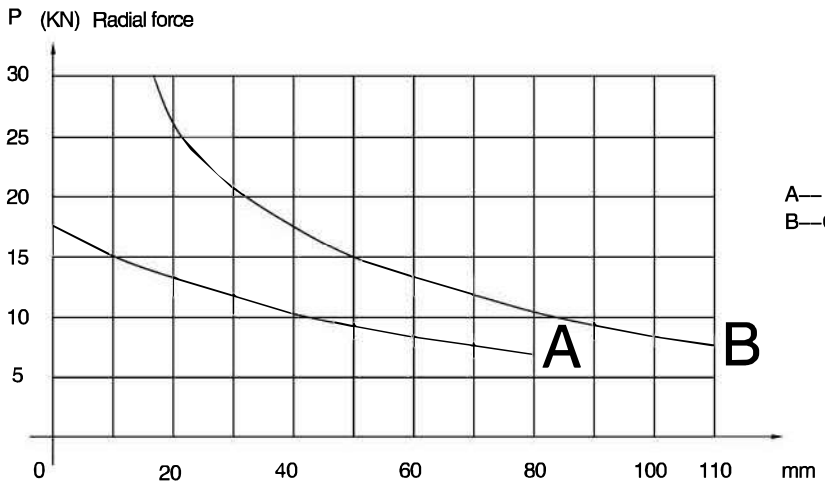
Direction of shaft ration：Standard

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

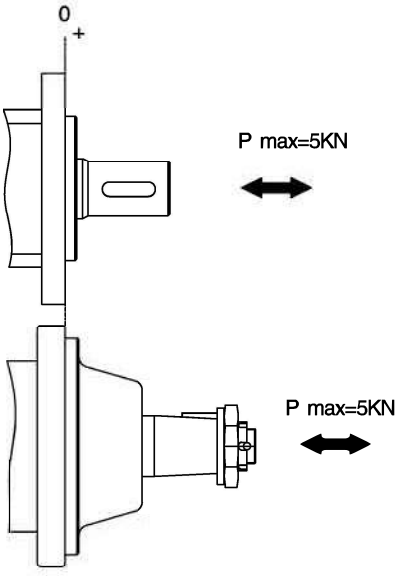




■ PERMISSIBLE SHAFT LOADS



A— OTM3Y
B—OTM3WY



■ OTM3Y ORDERING CODE

1		2	3	4	5		6		7
OTM3Y	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTM3Y	80	P1	Φ25 Cylindrical shaft，parallel key8×7×32	A	4–Φ13.5 Square flange, pilot Φ82.5
	100	P3	Φ25.4 Cylindrical shaft，parallel key6.35×6.35×32		
	125	P5	Φ31.75 Cylindrical shaft，parallel key7.96×7.96×32	AⅡ	2–Φ13.5 Oval flange, pilot Φ82.5
	160				
	200	P10	Φ32 Cylindrical shaft，parallel key10×8×45	A2Ⅲ	4–Φ13.5 Square flange, pilot Φ100
	250	H1	Φ30 Splined shaft， 6–30×25×6	AⅣ	4–Φ13.5 Oval flange, pilot Φ82.5
	315	H3	Φ34.85 Splined shaft， 6–34.85×28.15×8.64		
	400				
	500	H51	Φ25.3 Splined shaft，6–25.3×21.4×6.2		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	G1/4(12)	Omit	Standard	Omit	Standard
Y1	M18×1.5(15)	M14×1.5(12)				
Y2	M22×1.5(15)	M14×1.5(12)				
Y3	M20×1.5(15)	M14×1.5(12)			L	Opposite
Y5	7/8–14UNF(15)	7/16–20UNF(12)				
Y8	NPT1/2(15)	G1/4(12)				
Y10	G1/2(15)	G1/4(12)				

■ OTM3WY、OTM3SY、OTM3S3Y ORDERING CODE

1		2	3	4	5		6		7
OTM3WY	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTM3WY	80 100 125 160 200 250 315 400 500	P10	Φ32 Cylindrical shaft，parallel key10×8×45	A	4–Φ13.5 Square flange, pilot Φ125
		H1	Φ30 Splined shaft， 6–30×25×6		
		Z	Φ35 Tapered shaft，taper1:10，parallel key6×6×30		
		Z2	Φ31.75 Tapered shaft，taper1:8，parallel key7.96×7.96×25		

5			6		7	
Code	ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1/2(15)	M14×1.5(12)	Omit	Standard	Omit	Standard
Y5	7/8–14UNF(15)	7/16–20UNF(12)			L	Opposite

1		2		3
OTM3WY	—		/	

1		2		3
OTM3S3Y	—		/	

Pos.1	2	3	
Series	Disp	Special features	
OTM3SY	80 100 125 200 250 315 400 500	Omit	Standard

Pos.1	2	3	
Series	Disp	Special features	
OTM3S3Y	80 100 125 160 200 250 315 400 500	Omit	Standard

OTM4 Orbit Hydraulic Motor With Disk Valve

■ OTM4 TECHNICAL DATA

TYPE		OTM4-160 OTM4S-160 OTM4W-160	OTM4-200 OTM4S-200 OTM4W-200	OTM4-250 OTM4S-250 OTM4W-250	OTM4-320 OTM4S-320 OTM4W-320	OTM4-400 OTM4S-400 OTM4W-400	OTM4-500 OTM4S-500 OTM4W-500
Displacement(ml/r)		158.8	200.8	252.2	317.5	401.6	535.3
Max.Pressure.Drop (Mpa)	cont.	20	20	20	20	18	16
	int.	24	24	24	24	21	18
	peak.	28	28	28	28	24	21
Max.torque (N.m)	cont.	450	561	710	902	1008	1121
	int.	559	714	883	1143	1255	1377
	peak.	663	818	1021	1322	1431	1598
Max.Speed (cont.)(r/min)		625	495	395	310	245	185
Max.Flow(cont.)(L/min)		100	100	100	100	100	100
Max.Output.Power(cont.)(Kw)		20.1	25.2	25.2	25.2	22	21
Weight (kg)		20.3	20.8	21.4	22.4	23	24

■ OTM4Y TECHNICAL DATE

TYPE		OTM4Y-160	OTM4Y-200	OTM4Y-250	OTM4Y-320	OTM4Y-400	OTM4Y-500
Displacement(ml/r)		158.8	200.8	252.2	317.5	401.6	535.3
Max.Pressure.Drop (Mpa)	cont.	24	24	24	23	21	18
	int.	27	27	27	26	23	20
	peak.	30	30	30	29	25	23
Max.torque (N.m)	cont.	559	714	883	1095	1255	1377
	int.	639	789	985	1227	1371	1521
	peak.	710	876	1093	1369	1490	1750
Max.Speed (cont.)(r/min)		625	495	395	310	245	185
Max.Flow(L/min)		100	100	100	100	100	100
Max.Output.Power(cont.)(Kw)		24.1	30	30	28.8	25.3	24.1
Weight (kg)		20.3	20.8	21.4	22.4	23	24

Intermittent operation the permissible values may occur for max.10% of every minute,
Peak load:the permissible values may occur for max.1% of every minute.

■ OTM4 PERFORMANCE DATA

OTM4 160[158.8cm³/rev]
Pressure (Mpa)

Flow(L/min)	4	8	10	12	16	20	24
10	85	169	219	264	347	429	514
	61	**60**	**59**	**57**	**55**	**51**	**45**
20	86	174	225	266	357	441	535
	123	**122**	**119**	**116**	**111**	**105**	**97**
40	87	173	226	266	366	452	550
	254	**251**	**248**	**241**	**235**	**228**	**216**
60	79	171	226	266	366	450	549
	378	**374**	**369**	**363**	**356**	**347**	**337**
80	75	166	220	265	364	447	544
	502	**499**	**495**	**488**	**480**	**472**	**457**
Max.cont. 100	67	154	209	258	355	437	536
	626	**623**	**618**	**610**	**602**	**594**	**581**
Max.int. 125	56	142	211	251	345	430	530
	785	**779**	**773**	**765**	**756**	**746**	**729**

Max.cont. Max.int.

OTM4 200[200.8cm³/rev]
Pressure (Mpa)

Flow(L/min)	4	8	10	12	16	20	24
10	119	221	275	323	431	532	636
	48	**47**	**46**	**43**	**40**	**38**	**34**
20	120	227	283	330	445	547	661
	97	**96**	**94**	**92**	**89**	**86**	**77**
40	115	229	281	334	451	560	680
	199	**197**	**195**	**191**	**187**	**182**	**171**
60	111	225	280	334	454	560	682
	306	**301**	**298**	**296**	**288**	**282**	**269**
80	103	220	275	333	450	557	680
	403	**401**	**397**	**392**	**385**	**378**	**367**
Max.cont. 100	94	216	272	327	447	551	676
	503	**500**	**496**	**492**	**485**	**477**	**470**
125	80	198	262	316	436	538	662
	627	**623**	**619**	**614**	**607**	**600**	**584**
Max.int. 150	67	184	247	308	425	526	648
	758	**754**	**749**	**741**	**731**	**720**	**696**

Max.cont. Max.int.

OTM4 250[252.2cm³/rev]
Pressure (Mpa)

Flow(L/min)	4	8	10	12	16	20	24
10	134	277	344	406	542	689	800
	39	**39**	**38**	**37**	**35**	**33**	**32**
20	139	287	353	419	563	708	828
	78	**77**	**76**	**74**	**72**	**69**	**64**
40	135	292	361	427	575	723	858
	159	**157**	**155**	**152**	**149**	**145**	**137**
60	128	285	361	428	574	705	861
	242	**241**	**238**	**234**	**228**	**223**	**211**
80	125	275	353	420	569	699	860
	323	**322**	**320**	**314**	**309**	**305**	**290**
Max.cont. 100	123	274	344	414	565	695	853
	404	**402**	**399**	**395**	**389**	**380**	**366**
125	113	252	330	402	551	682	838
	505	**502**	**498**	**492**	**485**	**478**	**463**
Max.int. 150	85	235	310	385	535	666	822
	603	**600**	**596**	**591**	**583**	**576**	**558**

Max.cont. Max.int.

OTM4 320[317.5cm³/rev]
Pressure (Mpa)

Flow(L/min)	4	8	10	12	16	20	24
10	175	345	430	518	697	847	1011
	31	**30**	**29**	**28**	**27**	**26**	**24**
20	180	361	449	534	719	871	1054
	62	**61**	**60**	**58**	**56**	**54**	**52**
40	182	362	460	542	735	906	1092
	126	**125**	**123**	**120**	**117**	**114**	**109**
60	180	361	473	544	733	914	1096
	189	**187**	**185**	**181**	**178**	**176**	**166**
80	170	354	459	540	730	906	1095
	251	**249**	**248**	**243**	**238**	**234**	**224**
Max.cont. 100	161	342	447	537	720	895	1086
	314	**313**	**310**	**307**	**303**	**297**	**284**
125	140	321	427	519	708	874	1071
	391	**389**	**386**	**382**	**378**	**373**	**360**
Max.int. 150	113	303	412	501	677	849	1042
	471	**469**	**466**	**462**	**457**	**444**	**438**

Max.cont. Max.int.

OTM4 400[401.6cm³/rev]
Pressure (Mpa)

Flow(L/min)	3	6	9	12	15	18	21
10	165	343	524	669	827	982	1130
	25	**24**	**23**	**22**	**21**	**20**	**19**
20	167	346	528	679	841	1001	1156
	51	**50**	**49**	**46**	**44**	**42**	**40**
40	165	346	530	685	859	1020	1181
	99	**98**	**96**	**93**	**90**	**86**	**82**
60	163	338	526	682	860	1024	1187
	149	**147**	**143**	**139**	**135**	**131**	**125**
80	155	330	517	672	853	1014	1181
	199	**197**	**194**	**190**	**186**	**182**	**176**
Max.cont. 100	140	317	503	662	838	998	1171
	249	**247**	**245**	**241**	**235**	**231**	**225**
125	126	289	490	643	816	977	1142
	311	**309**	**307**	**303**	**298**	**294**	**287**
Max.int. 150	118	273	475	623	797	954	1119
	375	**373**	**369**	**365**	**361**	**357**	**350**

(Torque) : 797Nm
(Speed) : 361r/min

OTM4 500[535.3cm³/rev]
Pressure (Mpa)

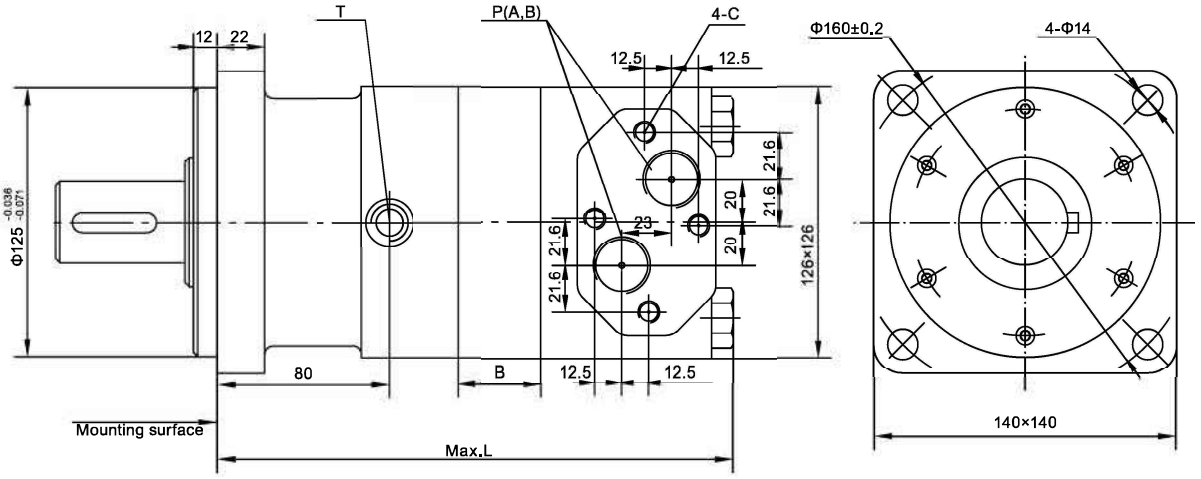
Flow(L/min)	3	6	9	12	14	16	18
10	204	415	637	821	966	1098	1233
	18	**18**	**18**	**17**	**16**	**15**	**13**
20	213	427	656	845	984	1122	1267
	37	**36**	**35**	**34**	**33**	**32**	**30**
40	212	429	669	866	1007	1145	1308
	75	**74**	**73**	**72**	**70**	**68**	**64**
60	207	421	657	866	1001	1146	1296
	113	**112**	**111**	**109**	**107**	**105**	**101**
80	196	397	640	853	990	1145	1289
	151	**150**	**149**	**147**	**145**	**143**	**138**
Max.cont. 100	179	387	626	829	978	1126	1272
	189	**188**	**187**	**185**	**183**	**181**	**177**
125	168	366	590	807	942	1103	1244
	237	**236**	**235**	**233**	**231**	**229**	**225**
Max.int. 150	135	339	569	785	924	1074	1219
	284	**283**	**282**	**280**	**278**	**276**	**272**

Max.cont. Max.int.

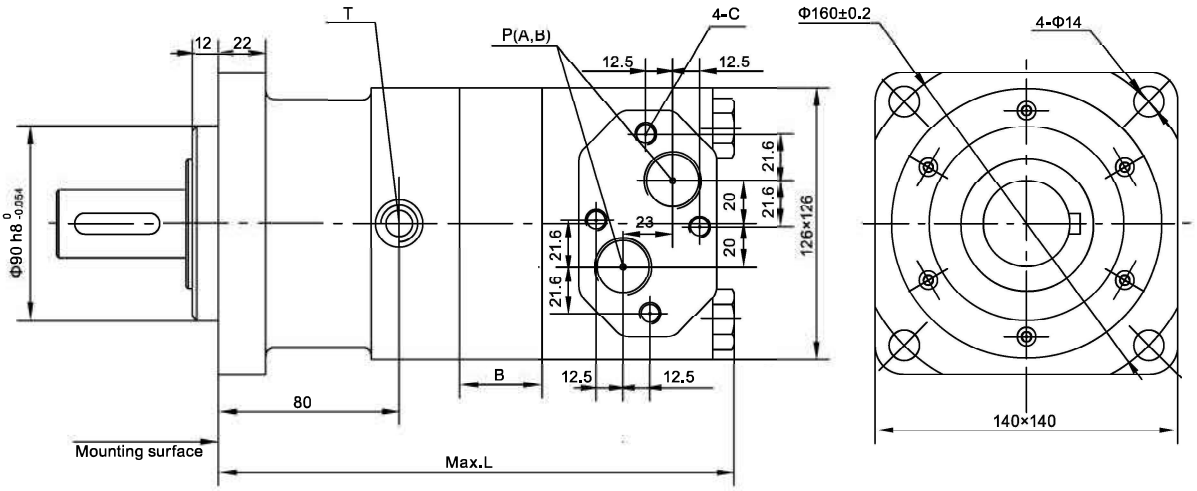
Cont.
Int.

■ OTM4 Installation

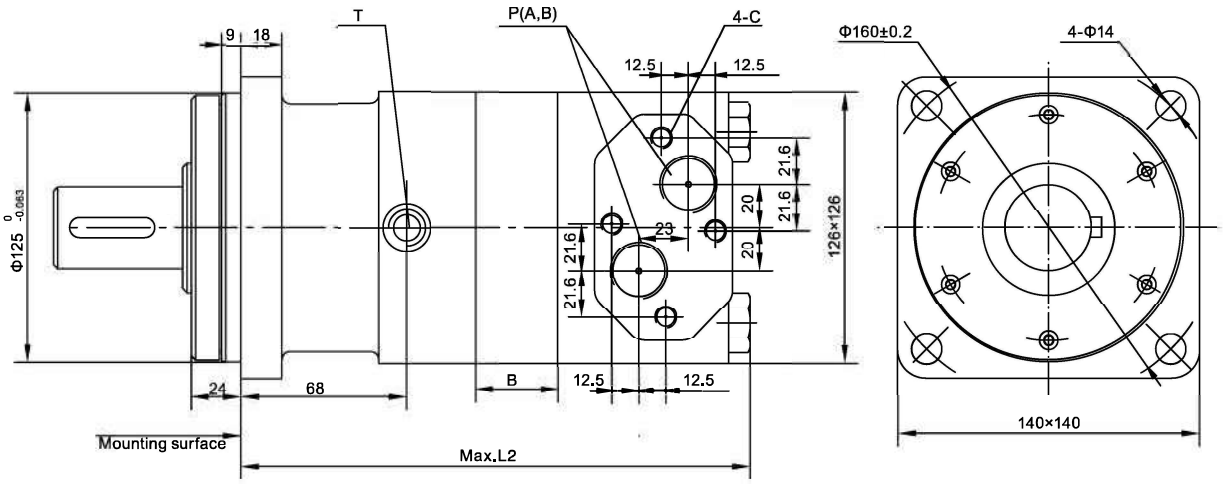
Square flange A



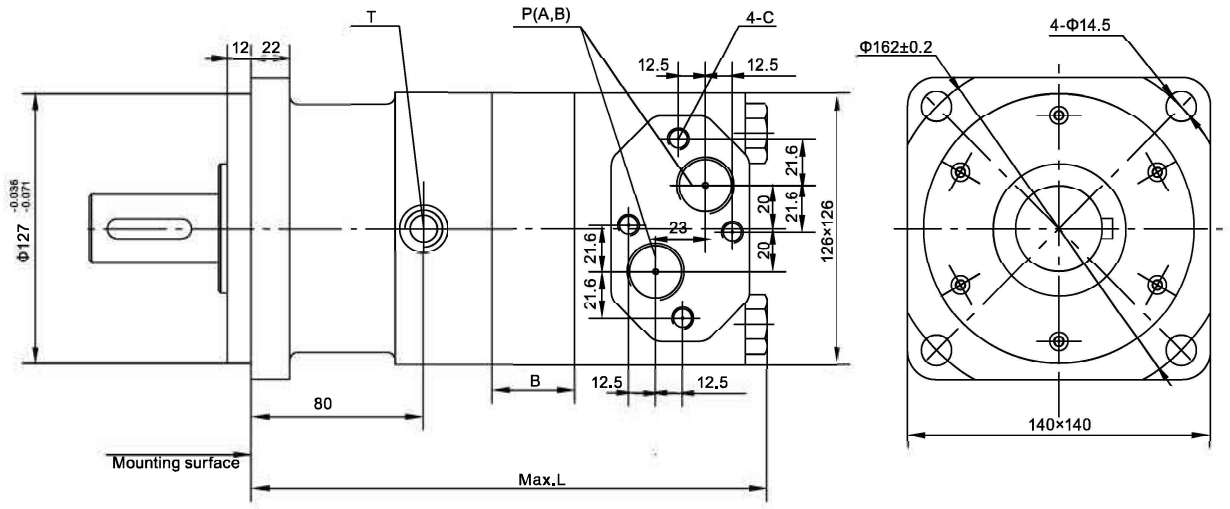
Square flange A1



Square flange A4



■ OTM4 Installation



Type	OTM4–160	OTM4–200	OTM4–250	OTM4–320	OTM4–400	OTM4–500
L	217.5	222	227.5	234.5	243.5	262
B	12	16.5	22	29	38	56.5
L2	205.5	210	215.5	222.5	231.5	250

■ OTM4 PORTS CODE

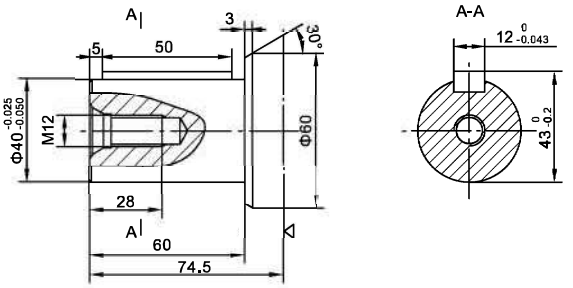
Ports / Code	P(A、B)(deep)	C (deep)	T (deep)
Y	G3/4 (15)	M10 (12)	G1/4(12)
Y3	M27 × 2(15)	M10 (12)	M14 × 1.5(12)
Y4	M22 × 1.5(15)	M10 (12)	M14 × 1.5(12)
Y8	7/8–14UNF(15)	—	7/16–20UNF(12)
Y10	1 1/16–12UN(15)	—	9/16–18UNF(12)

P(A、B)--Ports，C--Mounting Thread （—Indicates no this thread），T--Drain connettion

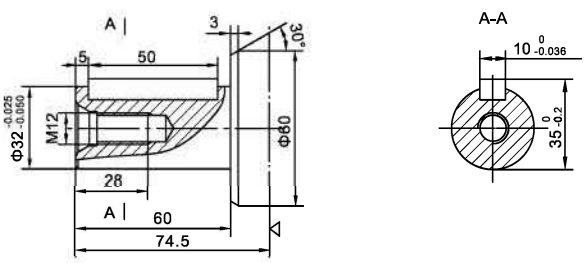
■ OTM4 SHAFT VERSION

Only match A,A1,A7 flange

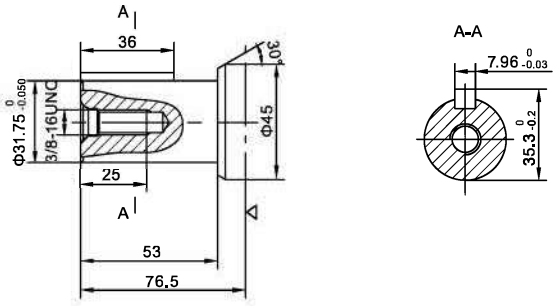
P: Φ40 Cylindrical shaft，parallel key12 × 8 × 50



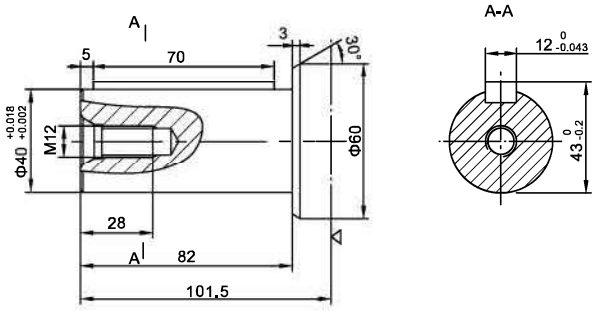
P1： Φ32 Cylindrical shaft，parallel key10 × 8 × 50



P13: Φ31.75 Cylindrical shaft，parallel key7.96 × 7.96 × 36



P33: Φ40 Cylindrical shaft，parallel key12 × 8 × 70

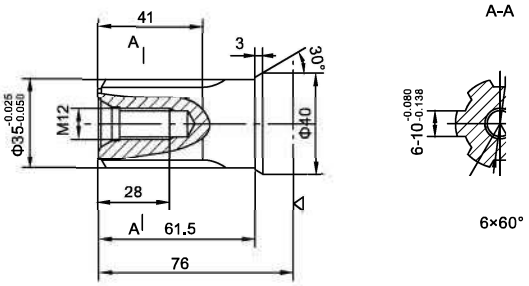


◁ : Motor mounting surface

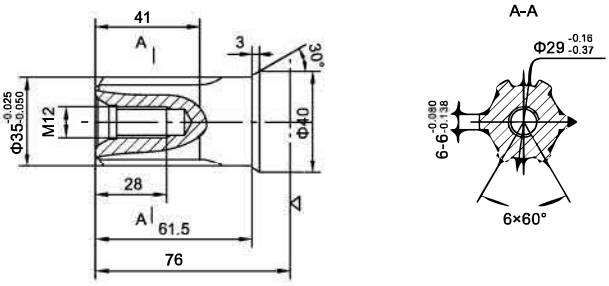
■ OTM4 SHAFT VERSION

Only match A,A1,A7 flange

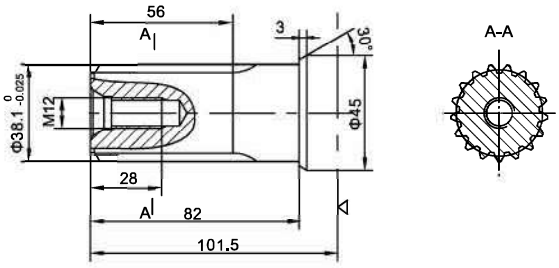
H4: Φ35 Splined shaft，6–35 × 29 × 10



H5: Φ35 Splined shaft，6–35 × 29 × 6



K3: Φ38.1 involute splined shaft 17–DP12/24 a=30°

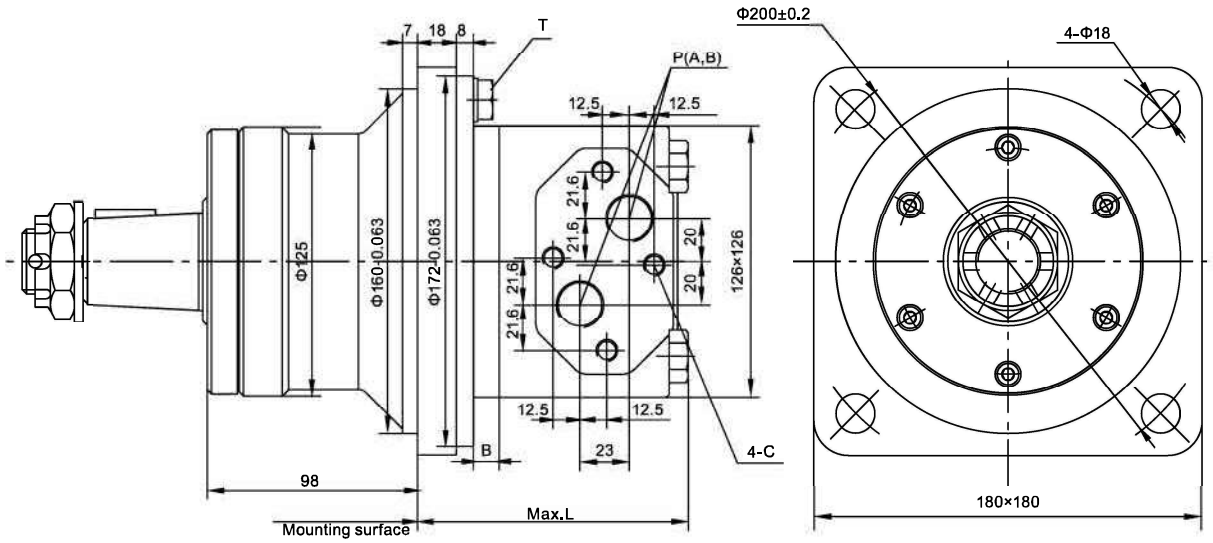


Note: Flange with A4 type, hydraulic motor shaft from the mounting surface to increase 12mm.

◁ : Motor mounting surface

O TM4W Orbit Hydraulic Motor With Disk Valve

■ OTM4W ORDERING CODE



Type	OTM4W–160	OTM4W–200	OTM4W–250	OTM4W–320	OTM4W–400	OTM4W–500
L	131.5	136	142.5	149.5	158.5	177
B	12	16.5	22	29	38	56.5

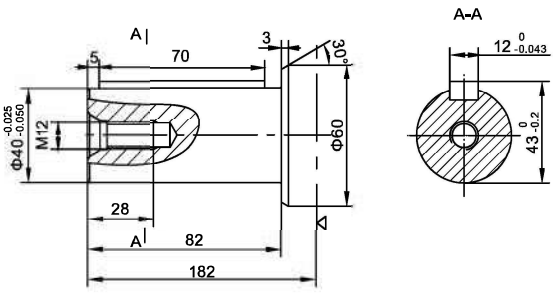
■ OTM4W PORTS CODE

Code \ Ports	P(A、B)(deep)	C (deep)	T (deep)
Y	G3/4 (15)	M10 (12)	G1/4(12)

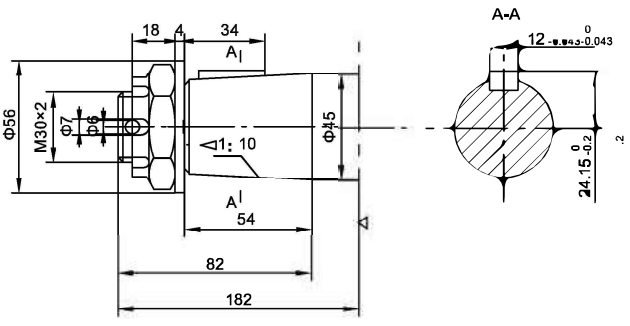
P(A、B)--Ports，C--Mounting Thread （—Indicates no this thread ），T--Drain connettion

■ OTM4W SHAFT VERSION

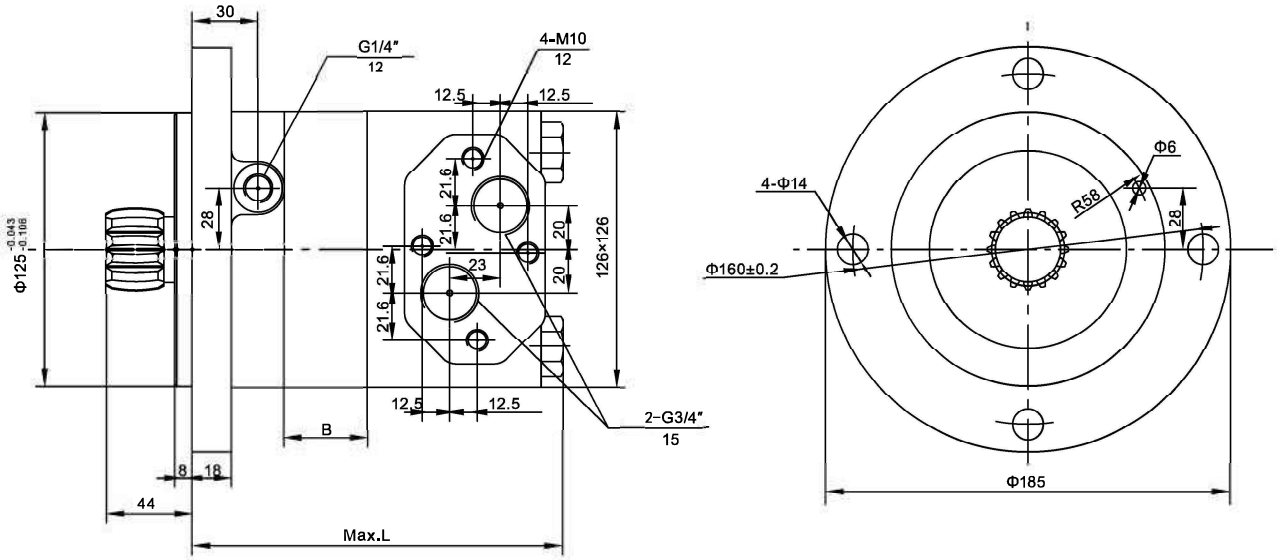
P31: Φ40 Cylindrical shaft，parallel key12 × 8 × 70



Z2: Φ45 Tapered shaft，taper1:10， parallel key 12 × 8 × 28

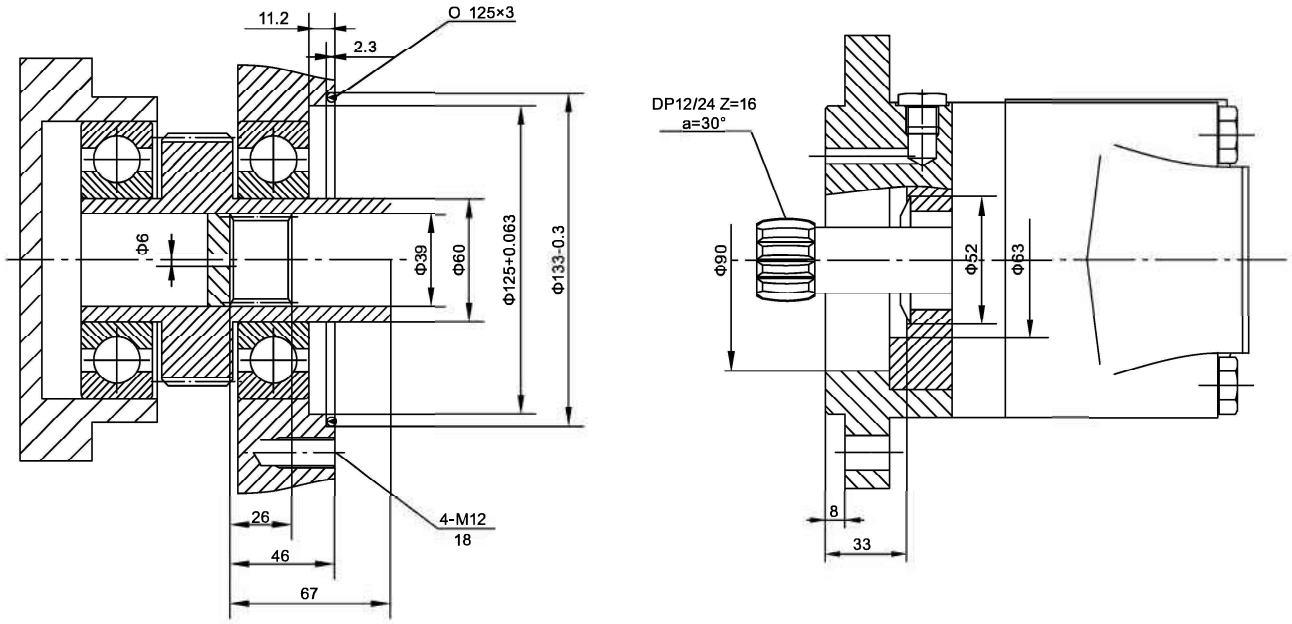


■ OTM4S INSTALLATION



Type	OTM4S–160	OTM4S–200	OTM4S–250	OTM4S–320	OTM4S–400	OTM4S–500
L	148.5	153	158.5	165.5	174.5	193
B	12	16.5	22	29	38	56.5

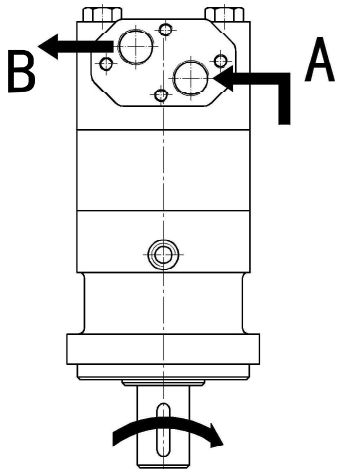
■ OTM4S SHAFT VERSION

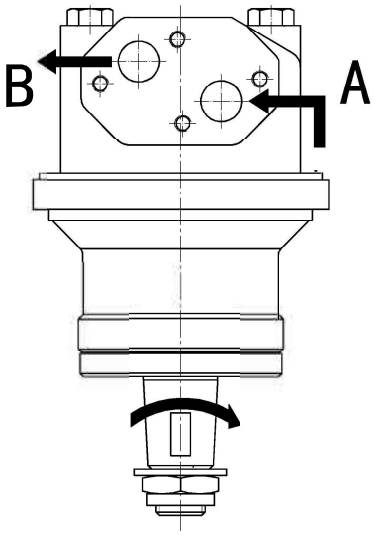


■ OTM4、OTM4W、OTM4S Series Motor

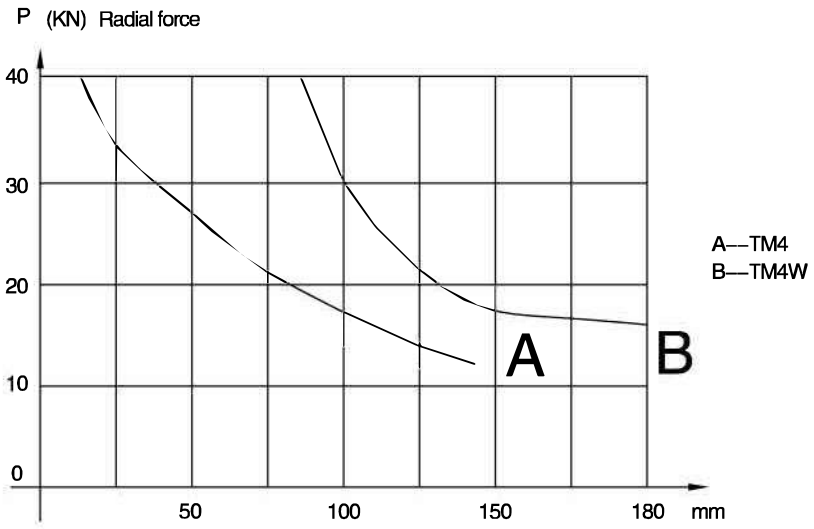
Direction of shaft ration：Standard

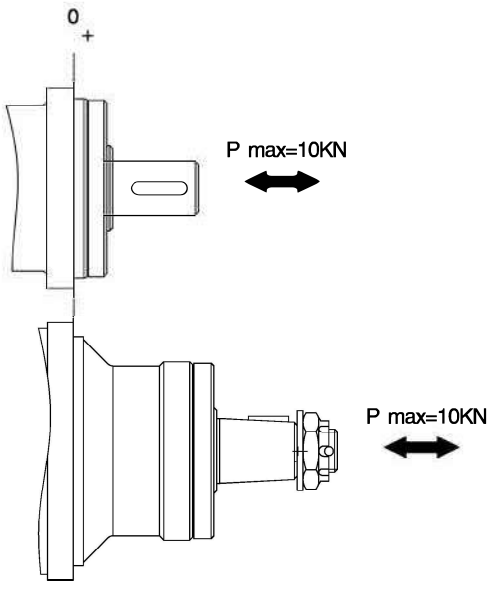
When facing shaft end of motor，shaft to rotate：
Clockwise when port “A” is pressurized.
Counter–clockwise port “B” is pressurized.





■ PERMISSIBLE SHAFT LOADS





■ OTM4、OTM4W、OTM4S ORDE RING CODE

1		2	3	4	5		6		7
OTM4	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTM4	160	P33	Φ40 Cylindrical shaft，parallel key12×8×70	A	4–Φ14 Oval flange, pilot Φ125
	200	P	Φ40 Cylindrical shaft，parallel key12×8×50		
		P1	Φ32 Cylindrical shaft，parallel key10×8×50	A1	4–Φ14 Oval flange, pilot Φ90
	250	P13	Φ31.75 Cylindrical shaft，parallel key7.96×7.96×36		
	320	H4	Φ35 Splined shaft，6–35×29×10	A4	4–Φ14 Oval flange, pilot Φ125
	400	H5	Φ35 Splined shaft，6–35×29×6		
				A7	4–Φ14.5 Oval flange, pilot Φ127
	500	K3	Φ38.1 involute splined shaft，17–DP12/24 a=30°		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G3/4(15)	G1/4(12)	Omit	Standard	Omit	Standard
Y3	M27×2(15)	M14×1.5(12)				
Y4	M22×1.5(15)	M14×1.5(12)	T7	With dustproof ring	L	Opposite
Y8	7/8–14UNF(15)	7/16–20UNF(12)				
Y10	1 1/16–12UN(15)	9/16–18UNF(12)				

■ OTM4、OTM4W、OTM4S ORDERING CODE

1		2	3	4	5		6		7
OTM4W	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTM4W	160 200 250 320 400 500	P31	Φ40 Cylindrical shaft，parallel key12×8×70	A	4–Φ18 Oval flange, pilot Φ160
		Z2	Φ45 Tapered shaft，taper1:10，parallel keyB12×8×28		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G3/4(15)	G1/4(12)	Omit	Standard	Omit L	Standard Opposite

1		2		3
OTM4S	—		/	

Pos.1	2	3	
Series	Disp	Special features	
OTM4S	160 200 250 320 400 500	Omit	Standard

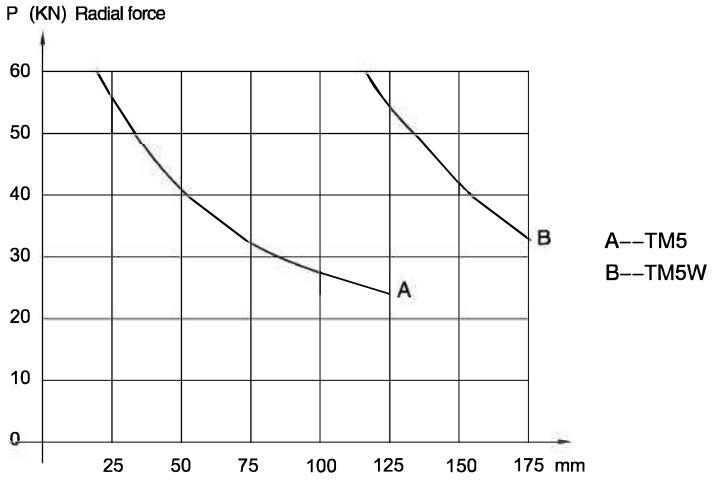
■ OTM5 TECHNICAL DATA

TYPE		OTM5-315 OTM5S-315 OTM5W-315	OTM5-400 OTM5S-400 OTM5W-400	OTM5-500 OTM5S-500 OTM5W-500	OTM5-630 OTM5S-630 OTM5W-630	OTM5-800 OTM5S-800 OTM5W-800	OTM5-985 OTM5S-985 OTM5W-985
Displacement(ml/r)		314.9	399.7	496.6	617.8	787.4	969.1
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.torque (N.m)	cont.	873	1108	1385	1570	1773	1900
	int.	1119	1440	1783	1951	2122	2133
	peak.	1293	1650	2060	2249	2481	2399
Max.Speed(cont.)(r/min)		475	375	300	240	190	150
Max.Flow(cont.)(L/min)		150	150	150	150	150	150
Max.Output.Power(cont.)(Kw)		32	32	32	32	32	24
Weight (kg)		30.7	31.5	32.4	33.6	35.2	37.2

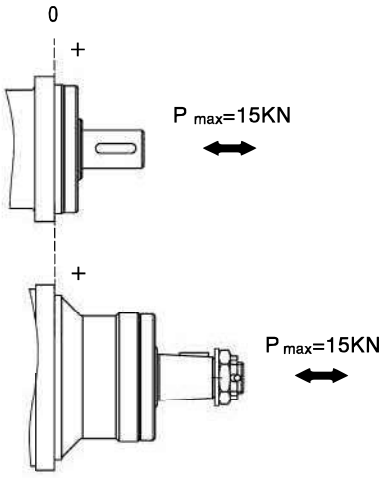
Intermittent operation the permissible values may occur for max. 10% of every minute

Peak load: the permissible values may occur for max. 1% of every minute

■ PERMISSIBLE SHAFT LOADS



A--TM5
B--TM5W



■ OTM5 PERFORMANCE DATA

OTM5 315[314.9ml/r]
Pressure (Mpa)

Flow(L/min)	3.5	7	10	14	18	20	24
10	132 / **28**	278 / **25**	416 / **24**	576 / **23**	701 / **21**	799 / **18**	945 / **15**
20	145 / **58**	297 / **57**	440 / **56**	601 / **55**	744 / **54**	846 / **51**	1011 / **47**
50	141 / **153**	295 / **152**	439 / **150**	618 / **148**	770 / **145**	884 / **141**	1051 / **134**
75	135 / **233**	287 / **231**	433 / **228**	607 / **223**	771 / **219**	888 / **214**	1057 / **206**
100	129 / **311**	281 / **309**	427 / **307**	601 / **304**	765 / **299**	885 / **294**	1047 / **286**
125	116 / **389**	270 / **387**	418 / **385**	592 / **382**	755 / **378**	870 / **372**	1033 / **365**
Max.cont. 150	108 / **471**	260 / **469**	411 / **467**	581 / **462**	745 / **455**	856 / **447**	1019 / **434**
160	101 / **503**	253 / **501**	406 / **497**	575 / **493**	737 / **487**	846 / **478**	1011 / **465**
Max.int. 200	77 / **631**	235 / **629**	389 / **624**	560 / **618**	716 / **610**	823 / **598**	989 / **576**

Max.cont. Max.int.

OTM5 400[399.7ml/r]
Pressure (Mpa)

Flow(L/min)	3.5	7	10	14	18	20	24
10	175 / **21**	367 / **21**	542 / **20**	740 / **19**	923 / **18**	1050 / **17**	1233 / **15**
20	187 / **46**	380 / **46**	563 / **45**	778 / **44**	964 / **42**	1099 / **41**	1284 / **39**
50	191 / **119**	384 / **118**	575 / **118**	803 / **117**	992 / **115**	1131 / **113**	1364 / **108**
75	186 / **183**	376 / **181**	569 / **178**	799 / **174**	995 / **171**	1133 / **165**	1366 / **159**
100	164 / **247**	367 / **246**	566 / **244**	789 / **242**	988 / **238**	1130 / **234**	1359 / **225**
125	159 / **310**	357 / **308**	556 / **305**	778 / **302**	974 / **296**	1123 / **288**	1348 / **281**
Max.cont. 150	151 / **372**	344 / **371**	533 / **369**	764 / **366**	962 / **361**	1111 / **351**	1326 / **340**
175	136 / **436**	330 / **434**	528 / **431**	748 / **427**	944 / **422**	1092 / **415**	1314 / **407**
Max.int. 200	113 / **498**	316 / **496**	511 / **492**	735 / **485**	924 / **477**	1076 / **470**	1294 / **460**

Max.cont. Max.int.

OTM5 500[496.6ml/r]
Pressure (Mpa)

Flow(L/min)	3.5	7	10	14	18	20	24
10	232 / **18**	448 / **18**	667 / **17**	919 / **17**	1140 / **16**	1296 / **14**	1540 / **11**
20	235 / **38**	480 / **37**	707 / **37**	961 / **35**	1180 / **34**	1335 / **33**	1588 / **30**
50	230 / **97**	479 / **96**	726 / **95**	982 / **94**	1217 / **92**	1388 / **89**	1670 / **84**
75	223 / **146**	477 / **145**	720 / **143**	987 / **141**	1234 / **138**	1413 / **133**	1692 / **125**
100	218 / **197**	470 / **195**	717 / **193**	983 / **190**	1235 / **186**	1410 / **181**	1686 / **173**
125	211 / **247**	463 / **246**	711 / **244**	971 / **241**	1226 / **237**	1399 / **233**	1672 / **225**
Max.cont. 150	193 / **300**	445 / **299**	693 / **296**	966 / **293**	1198 / **288**	1369 / **282**	1663 / **271**
175	174 / **350**	427 / **349**	681 / **347**	955 / **343**	1186 / **339**	1347 / **334**	1643 / **324**
Max.int. 200	154 / **401**	405 / **400**	648 / **398**	933 / **395**	1167 / **390**	1327 / **382**	1626 / **370**

Max.cont. Max.int.

OTM5 630[617.8ml/r]
Pressure (Mpa)

Flow(L/min)	3.5	6	9	12	15	18	21
10	260 / **15**	484 / **14**	753 / **14**	1020 / **13**	1175 / **13**	1436 / **12**	1654 / **11**
20	267 / **30**	512 / **30**	778 / **29**	1021 / **29**	1219 / **28**	1490 / **26**	1728 / **24**
50	268 / **78**	514 / **78**	805 / **77**	1054 / **74**	1264 / **73**	1559 / **71**	1813 / **67**
75	250 / **118**	508 / **117**	800 / **114**	1038 / **112**	1253 / **110**	1557 / **107**	1821 / **101**
100	245 / **157**	499 / **156**	794 / **154**	1013 / **152**	1251 / **149**	1552 / **146**	1822 / **140**
125	233 / **198**	478 / **197**	776 / **195**	993 / **193**	1238 / **191**	1538 / **187**	1808 / **181**
Max.cont. 150	222 / **238**	459 / **237**	757 / **236**	985 / **234**	1233 / **232**	1530 / **229**	1787 / **221**
175	195 / **279**	450 / **278**	738 / **277**	975 / **274**	1205 / **270**	1517 / **265**	1769 / **260**
Max.int. 200	169 / **320**	435 / **320**	696 / **318**	944 / **316**	1187 / **313**	1493 / **306**	1746 / **294**

Max.cont. Max.int.

OTM5 800[787.4ml/r]
Pressure (Mpa)

Flow(L/min)	2.5	5	8	10	13	16	18
10	273 / **11**	555 / **10**	816 / **10**	1076 / **9**	1381 / **8**	1683 / **8**	1882 / **7**
20	277 / **23**	561 / **22**	831 / **22**	1130 / **21**	1431 / **20**	1753 / **18**	1960 / **16**
50	283 / **61**	572 / **60**	841 / **58**	1142 / **57**	1438 / **55**	1760 / **53**	1967 / **49**
75	264 / **93**	570 / **92**	840 / **91**	1145 / **89**	1440 / **85**	1756 / **82**	1962 / **78**
100	247 / **124**	556 / **123**	826 / **122**	1121 / **120**	1423 / **117**	1737 / **113**	1951 / **107**
125	238 / **156**	526 / **155**	810 / **153**	1099 / **150**	1403 / **145**	1709 / **141**	1942 / **135**
Max.cont. 150	232 / **188**	517 / **186**	794 / **184**	1083 / **181**	1377 / **177**	1685 / **172**	1926 / **166**
175	211 / **251**	495 / **249**	780 / **247**	1061 / **244**	1354 / **241**	1669 / **236**	1903 / **229**
Max.int. 200	194 / **302**	460 / **301**	752 / **300**	1045 / **298**	1339 / **293**	1652 / **288**	1807 / **282**

Max.cont. Max.int.

OTM5 985[969.1ml/r]
Pressure (Mpa)

Flow(L/min)	2.5	5	7	10	14	16
10	305 / **9**	627 / **9**	951 / **9**	1371 / **8**	1936 / **7**	2212 / **6**
20	313 / **29**	634 / **28**	957 / **27**	1380 / **26**	1938 / **23**	2222 / **21**
50	319 / **48**	641 / **47**	971 / **46**	1392 / **44**	1973 / **42**	2232 / **39**
75	311 / **74**	629 / **73**	966 / **72**	1395 / **69**	1961 / **67**	2228 / **64**
100	303 / **100**	621 / **99**	962 / **97**	1388 / **95**	1952 / **92**	2196 / **88**
125	297 / **126**	611 / **125**	955 / **123**	1379 / **120**	1946 / **116**	2177 / **112**
Max.cont. 150	272 / **152**	589 / **151**	941 / **149**	1339 / **147**	1922 / **143**	2162 / **136**
175	258 / **178**	568 / **176**	926 / **174**	1310 / **170**	1885 / **165**	2114 / **158**
Max.int. 200	163 / **245**	502 / **242**	849 / **238**	1240 / **234**	1787 / **230**	1991 / **223**

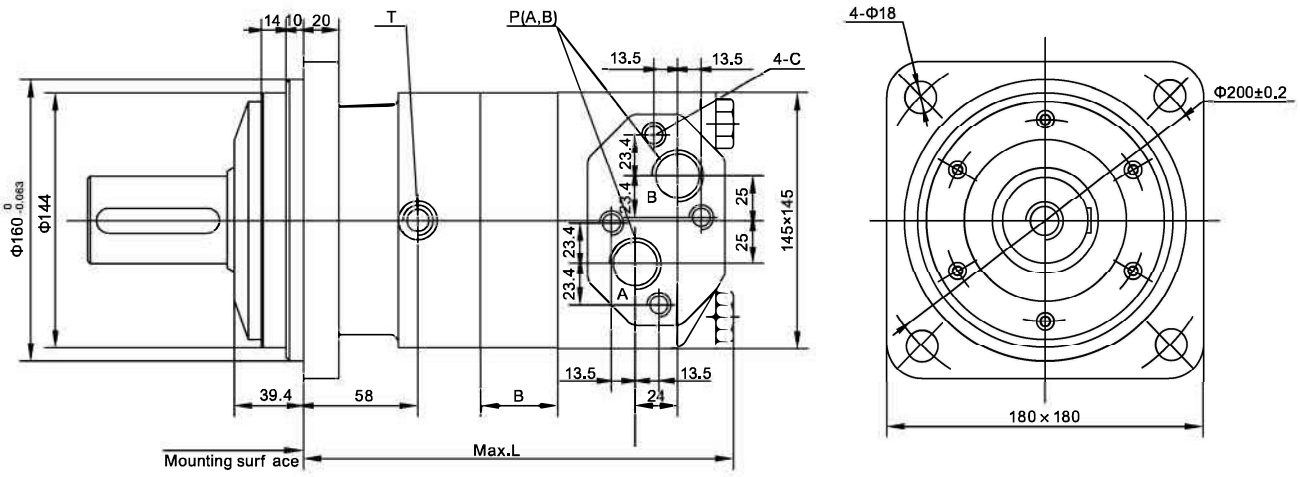
Max.cont. Max.int.

(Torque) : 1045Nm
(Speed) : 298r/min

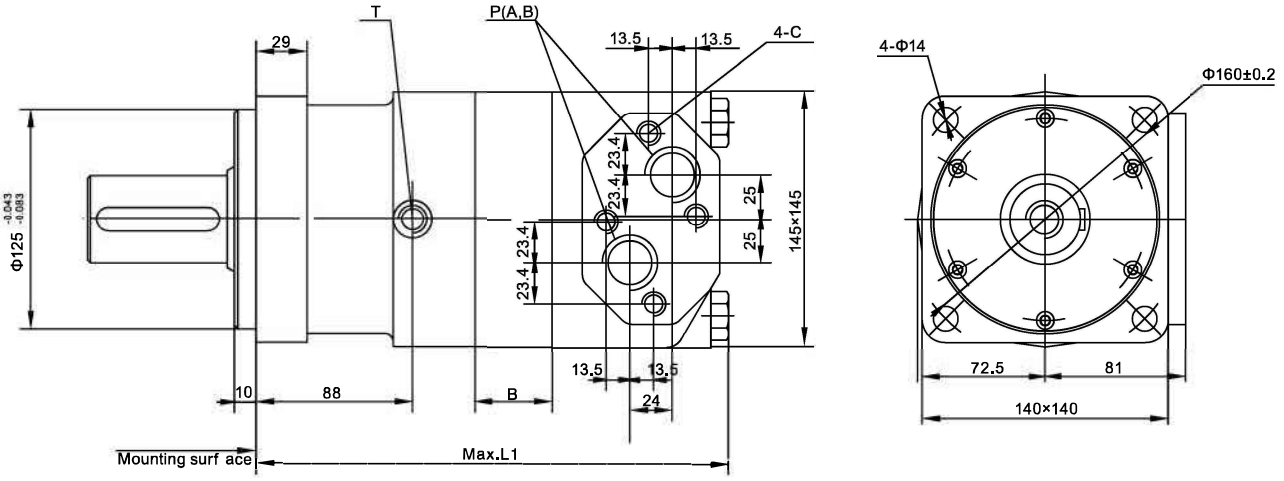
Cont.
Int.

■ OTM5 Installation

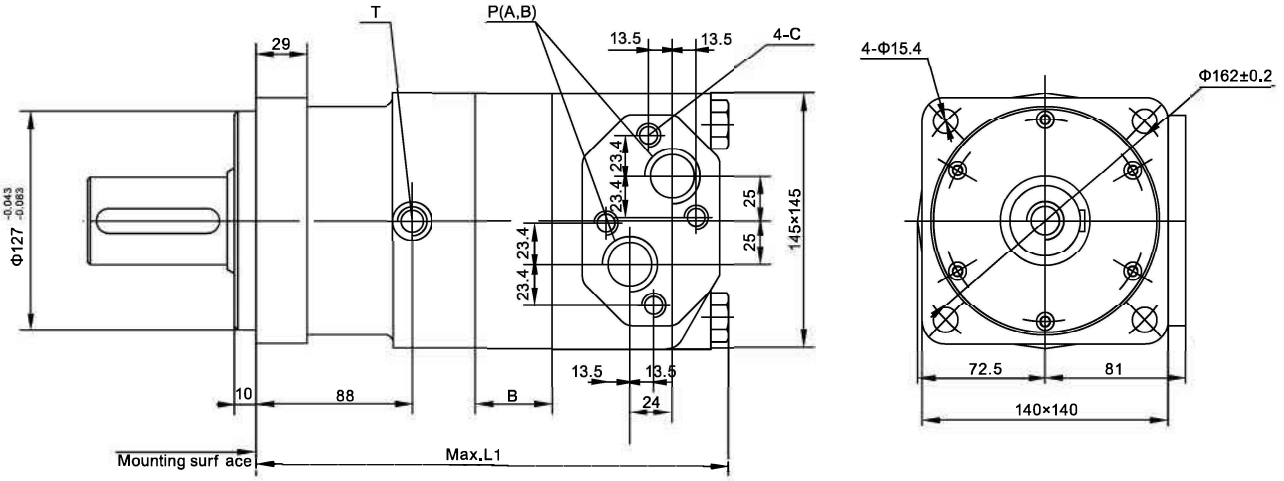
A Square flange A



A1 Square flange A1



A7 Square flange A7



OTM5 Orbit Hydraulic Motor With Disk Valve

Type	OTM5–315	OTM5–400	OTM5–500	OTM5–630	OOTM5–800	OTM5–985
L	216	223	231	241	255	270
L1	246	253	261	271	285	300
B	19	26	34	44	58	73

■ OTM5 PORTS CODE

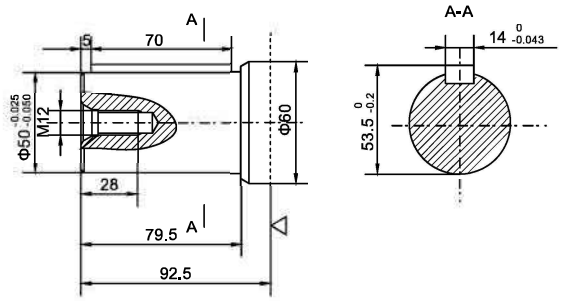
Ports / Code	P(A、B)(deep)	C (deep)	T (deep)
Y	G1 (18)	M12(12)	G1/4(12)
Y1	G3/4(18)	M12(12)	G1/4(12)
Y2	M33 × 2(18)	M12(12)	M14 × 1.5(12)
Y3	M27 × 2(18)	M12(12)	M14 × 1.5(12)
Y8	1 5/16–12UN(18)	—	9/16–18UNF(12)

P(A、B)––Ports，C––Mounting Thread （—Indicates no this thread ），T––Drain connettion

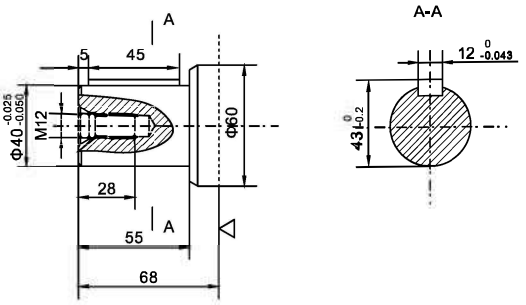
■ OTM5 SHAFT VERSION

Only match A 1,A7 flange

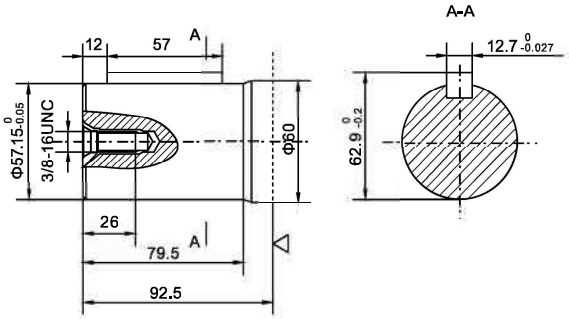
P: Φ50 Cylindrical shaft，parallel key14 × 9 × 70



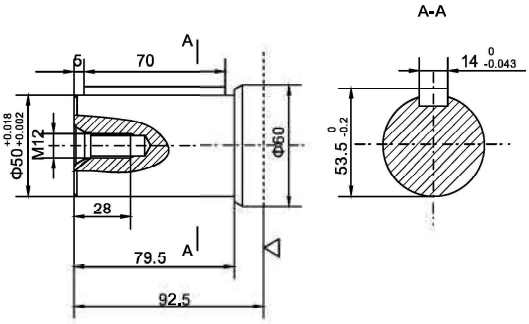
P1：Φ40 Cylindrical shaft，parallel key12 × 8 × 45



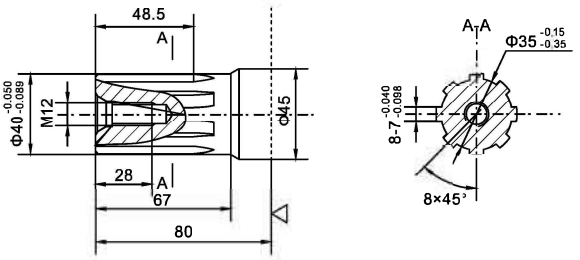
P12: Φ57.15 Cylindrical shaft，parallel key12.7 × 12.7 × 57



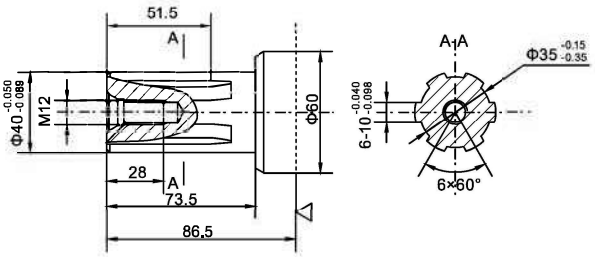
P99: Φ50 Cylindrical shaft，parallel key14 × 9 × 70



H4: Φ40 Splined shaft，8–40 × 35 × 7



H5: Φ40 Splined shaft，6–40 × 35 × 10

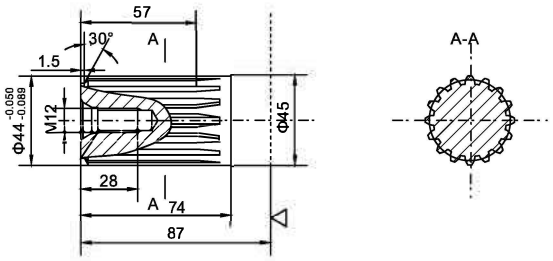


◁ : Motor mounting surface

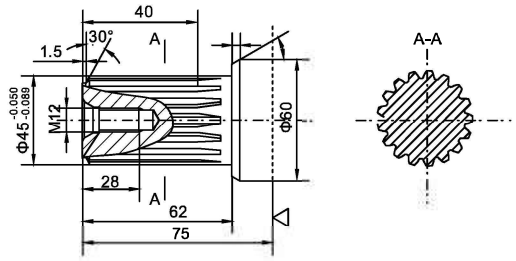
■ OTM5 SHAFT VERSION

Only match A1,A7 flange

K2: Φ44 involute splined shaft m2.5 z16 a=30°



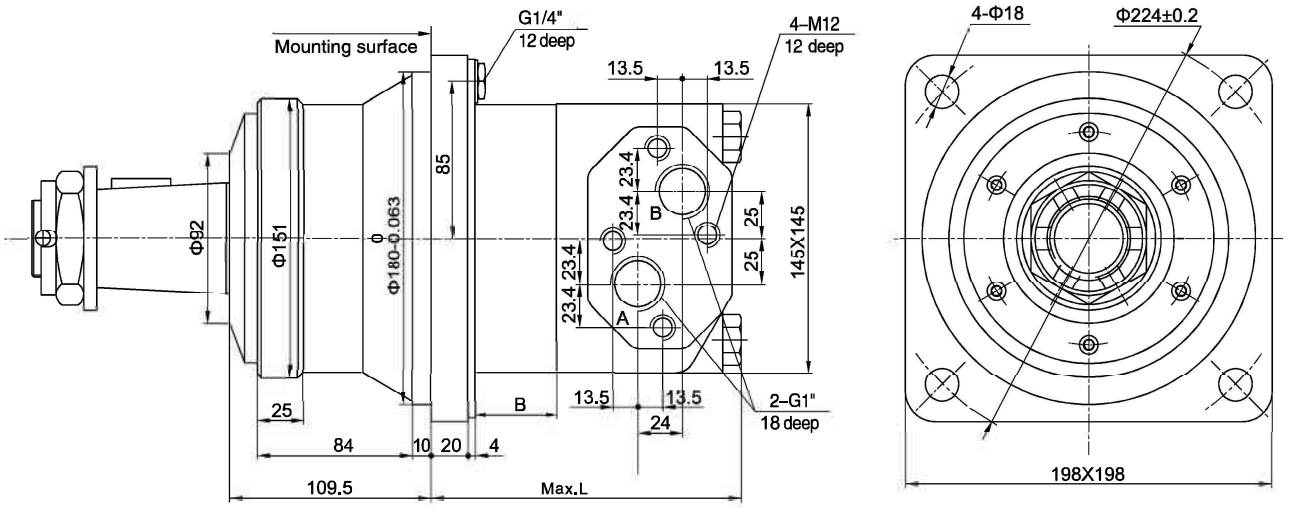
K3: Φ45 involute splined shaft m2.5 z17 a=30°



Note: Flange with A type, hydraulic motor shaft from the mounting surface to increase 30mm.

◁ : Motor mounting surface

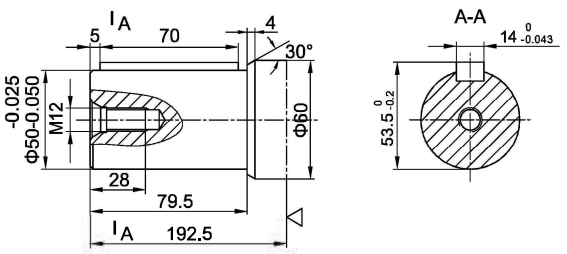
■ OTM5W Installation



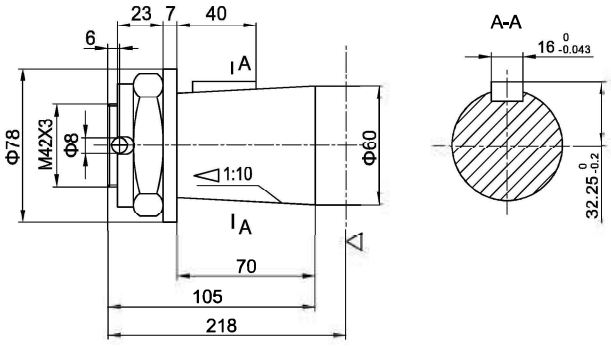
TYPE	OTMSW-315	OTMSW-400	OTMSW-500	OTMSW-630	OTMSW-800	OTMSW-985
L	148	155	163	174	187	202
B	19	26	34	44	58	73

■ OTM5W SHAFT VERSION

P: Φ50 Cylindrical shaft, parallel key 14X9X70

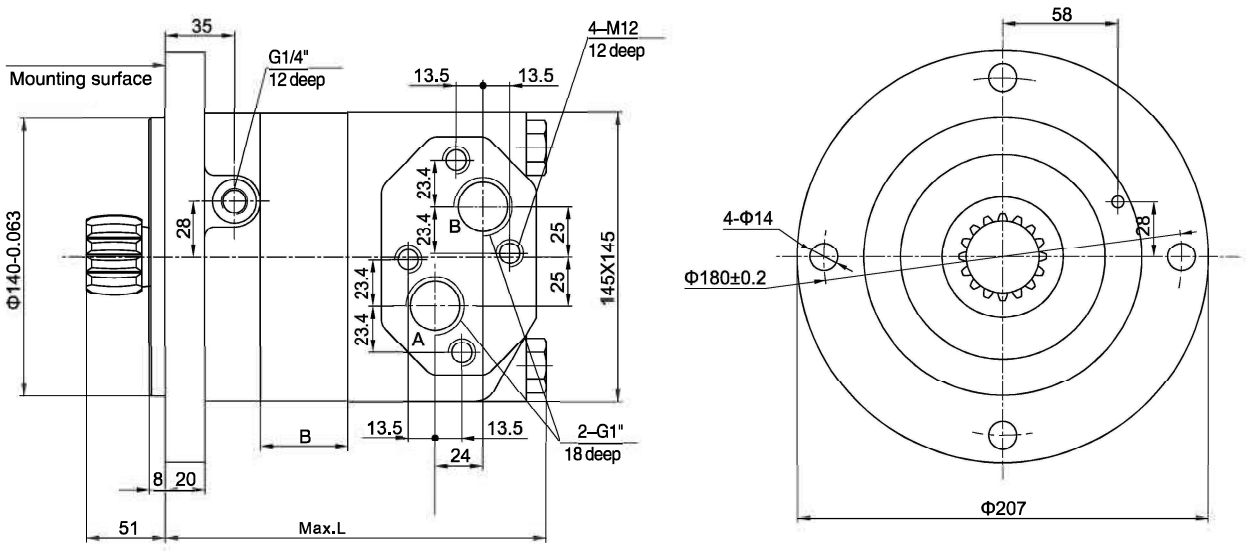


Z: Φ60 Tapered shaft, taper1: 10, parallel key 16X10X32



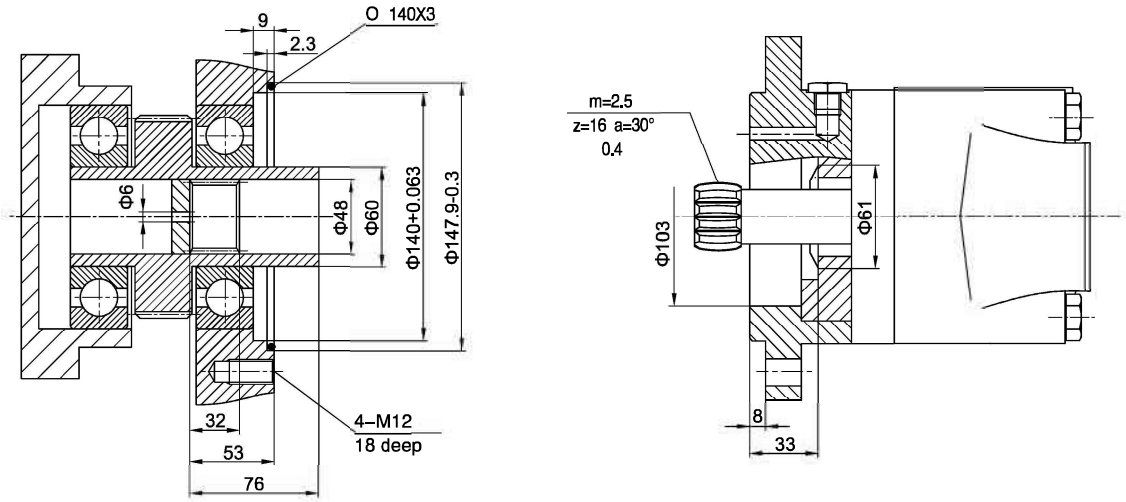
◁-- Motor mounting surface

■ OTM5S Installation



TYPE	OTM5S-315	OTM5S-400	OTM5S-500	OTM5S-630	OTM5S-800	OTM5S-985
L	170	177	185	195	209	224
B	19	26	34	44	58	73

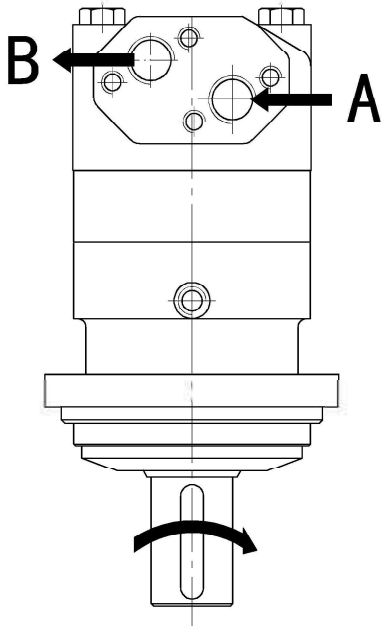
■ OTM5S SHAFT VERSION

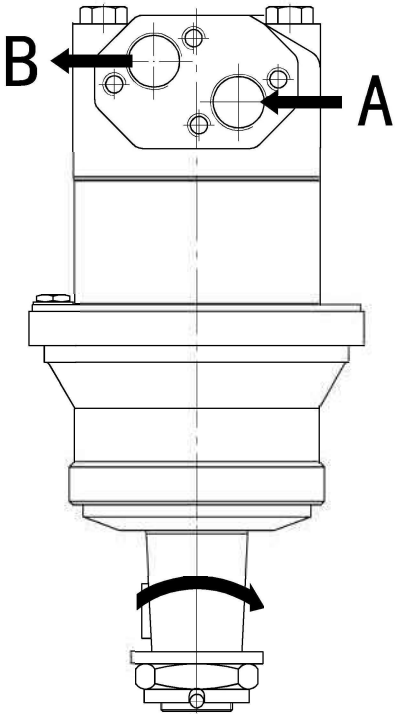


■ OTM5、OTM5W、OTM5S Series Motor

Direction of shaft ration：Standard

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





OTM5、OTM5W、OTM5S Ordering Code

■ OTM5、OTM5W、OTM5S ORDE RING CODE

1		2	3	4	5		6		7
OTM5	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output		Flange	
OTM5	315	P	Φ50 Cylindrical shaft，parallel key14×9×70	A	4–Φ18 Square flange, pilot Φ160
	400	P1	Φ40 Cylindrical shaft，parallel key12×8×45		
		P12	Φ57.15 Cylindrical shaft，parallel key12.7×12.7×57		
	500	P99	Φ50 Cylindrical shaft，parallel key14×9×70	A1	4–Φ14 Square flange, pilot Φ125
	630	H4	Φ40 Splined shaft，8–40×35×7		
		H5	Φ40 Splined shaft，6–40×35×10		
	800	K2	Φ44 involute splined shaft，m2.5,z16,a=30°	A7	4–Φ15.4 Square flange, pilot Φ127
	985	K3	Φ45 involute splined shaft，m2.5,z17,a=30°		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1(18)	G1/4(12)	Omit	Standard	Omit	Standard
Y1	G3/4(18)	G1/4(12)				
Y2	M33×2(18)	M14×1.5(12)			L	Opposite
Y3	M27×2(18)	M14×1.5(12)				
Y8	1 5/16–12UN(18)	9/16–18UNF(12)				

■ OTM5、OTM5W、OTM5S ORDERING CODE

1		2	3	4	5		6		7
OTM5W	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output			Flange
OTM5W	315 400 500 630 800 985	P	Φ50 Cylindrical shaft，parallel key14×9×70	A	4–Φ18 Square flange, pilot Φ180
		Z	Φ60 Tapered shaft，taper1:10， parallel key 16×10×32		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1(18)	G1/4(12)	Omit	Standard	Omit L	Standard Opposite

1		2		3
OTM5S	—		/	

Pos.1	2	3	
Series	Disp	Special features	
OTM5S	315 400 500 630 800 985	Omit	Standard

■ OTM6 TECHNICAL DATA

TYPE		OTM6-800	OTM6-1000	OTM6-1250
Displacement(ml/r)		759.6	949.5	1186.8
Max.Pressure.Drop (Mpa)	cont.	16	16	16
	int.	18	18	18
	peak.	21	21	21
Max.torque (N.m)	cont.	1690	2160	2650
	int.	1903	2379	2973
	peak.	2220	2774	3469
Speed.Range(cont.)(r/min)		5-200	5-160	5-130
Max.Flow(cont.)(L/min)		160	160	160
Max.Output.Power(cont.)(Kw)		35	35	35
Weight (kg)		54	56	58

Intermittent operation the permissible values may occur for max. 10% of every minute
Peak load: the permissible values may occur for max. 1% of every minute

■ OTM6 PERFORMANCE DATA

OTM6 800[759.6ml/r]
Pressure (Mpa)

Flow(L/min)	3	5	7	10.5	12	14	16	18
10	233 **13**	490 **13**	683 **12**					
15	230 **20**	485 **20**	680 **19**	1005 **17**	1145 **16**	1340 **15**		
30	297 **39**	481 **38**	678 **38**	1003 **37**	1142 **37**	1336 **36**	1685 **35**	1921 **32**
45	295 **58**	479 **58**	675 **57**	1000 **57**	1140 **56**	1332 **55**	1680 **54**	
60	292 **77**	476 **77**	671 **76**	998 **75**	1138 **75**	1329 **74**	1699 **74**	
75	288 **96**	473 **95**	668 **94**	995 **94**	1135 **93**	1325 **92**	1695 **91**	
90	283 **115**	471 **114**	660 **113**	990 **113**	1132 **112**	1320 **111**	1690 **110**	
105	280 **135**	463 **134**	650 **133**	982 **132**	1120 **130**	1312 **129**		
120		451 **153**	635 **152**	968 **151**	1111 **149**	1300 **147**		
140		440 **178**	620 **176**	952 **175**	1101 **173**			
Max.cont. 160			612 **198**	932 **197**	1092 **196**			
Max.int. 190			**241**	913 **240**	1071 **238**			

Max.cont. Max.int.

OTM6 1000[949.5ml/r]
Pressure (Mpa)

Flow(L/min)	3	5	7	10.5	12	14	16	18
15	366 **14**	602 **13**	836 **13**	1250 **12**	1438 **11**			
30	364 **31**	600 **31**	834 **30**	1248 **30**	1432 **29**	1669 **28**		
45	362 **46**	598 **45**	832 **45**	1245 **44**	1428 **43**	1667 **43**		
60	360 **62**	595 **61**	830 **61**	1242 **60**	1420 **59**	1662 **58**	2012 **57**	2316 **54**
75	358 **77**	593 **76**	828 **75**	1240 **74**	1418 **73**	1658 **72**	2006 **72**	
90	354 **93**	590 **92**	826 **92**	1238 **91**	1415 **90**	1651 **89**	2003 **88**	
105	350 **108**	581 **107**	801 **106**	1221 **105**	1402 **104**	1648 **103**		
120		571 **123**	791 **122**	1210 **121**	1394 **120**	1432 **119**		
140		552 **143**	772 **142**	1196 **140**	1385 **139**	1425 **138**		
Max.cont. 160			761 **163**	1186 **162**	1368 **161**			
Max.int. 190			742 **193**	1165 **192**	1352 **191**			

Max.cont. Max.int.

(Torque) : 1165Nm
(Speed) : 192r/min

Cont.
Int.

■ OTM6 PERFORMANCE DATA

OTM6 1250[1186.8ml/r]

Pressure (Mpa)

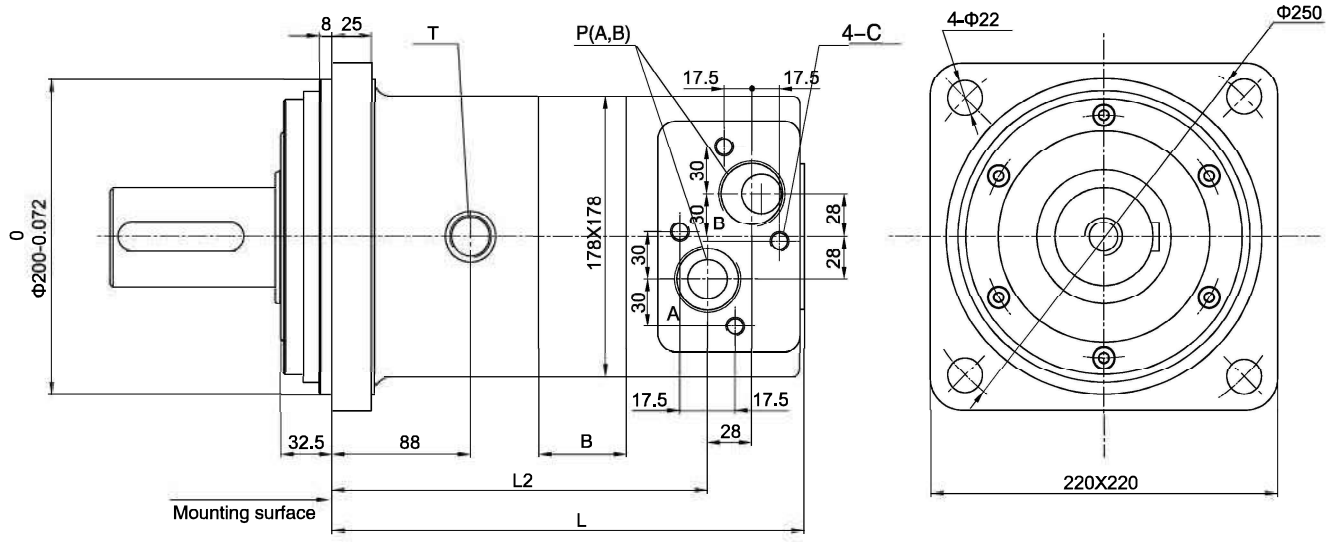
Flow(L/min)	3	5	7	10.5	12	14	16 (Max.cont.)	18 (Max.int.)
30	468 **25**	770 **24**	1070 **23**	1602 **22**				
45	465 **37**	767 **36**	1068 **35**	1599 **34**	1826 **33**			
60	462 **50**	763 **49**	1065 **48**	1596 **47**	1822 **45**			
75	460 **62**	760 **61**	1062 **60**	1592 **58**	1818 **57**	2123 **57**	2654 **56**	2978 **52**
90	456 **74**	758 **73**	1060 **72**	1590 **71**	1816 **70**	2118 **68**	2652 **67**	2975 **64**
105	453 **87**	756 **86**	1058 **85**	1587 **84**	1814 **82**	2116 **82**	2650 **81**	2973 **79**
120		751 **98**	1050 **97**	1582 **96**	1802 **95**	2110 **93**	2641 **92**	2963 **91**
140		742 **113**	1041 **112**	1561 **111**	1792 **109**	2008 **107**		
160 (Max.cont.)			1032 **129**	1550 **128**	1782 **127**	1986 **126**		
190 (Max.int.)			1020 **153**	1532 **152**	1770 **151**			

(Torque) : 1532Nm
(Speed) : 152r/min

Cont.
Int.

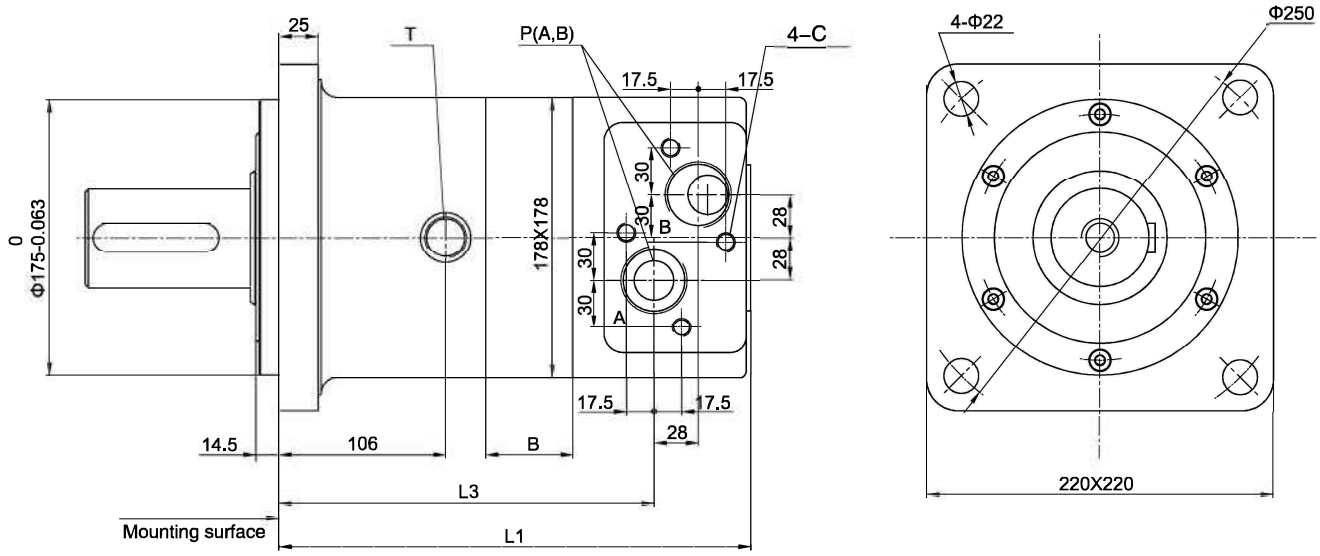
■ OTM6 Installation

4–Φ22 square flange A



■ OTM6 Installation

4–Φ22 square flange A1



TYPE	OTM6-800	OTM6-1000	OTM6-1250
L	278	288	300
L1	296	306	318
L2	217	227	239
L3	235	245	257
B	33	43	55.5

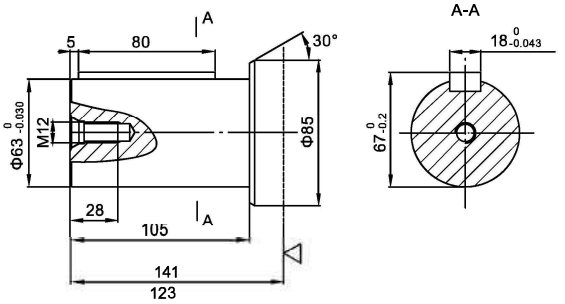
■ OTM6 PORTS CODE

Ports / Code	P(A、B)(deep)	C (deep)	T (deep)
Y	G1–1/4(20)	M12(12)	G3/8″ (12)
Y1	Φ36(20)	M12(12)	G3/8″ (12)

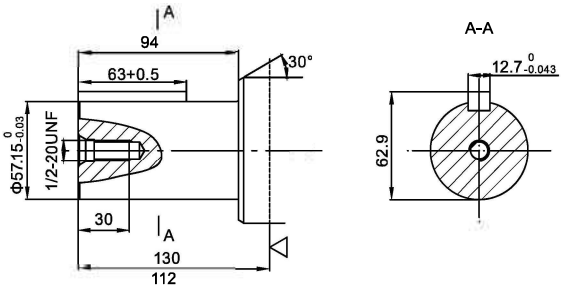
P(A、B)––Ports，C––Mounting Thread （—Indicates no this thread），T––Drain connettion

■ OTM6 SHAFT VERSION

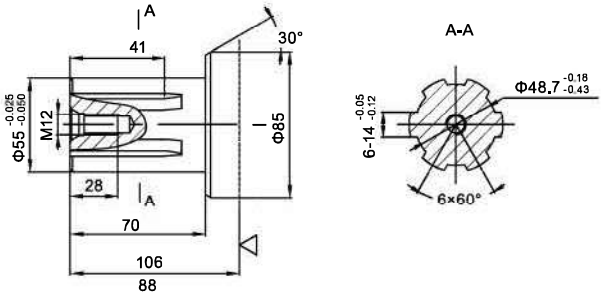
P: Φ63 Cylindrical shaft, parallel key18 × 11 × 80



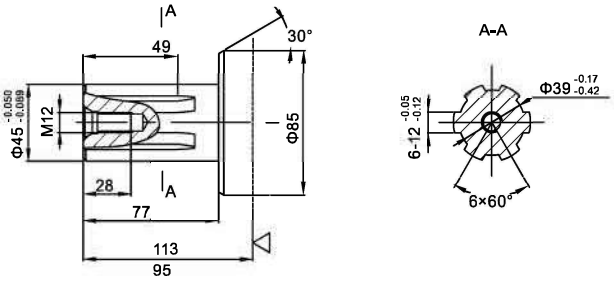
P1: Φ57.15 Cylindrical shaft, parallel key C12.7x11x63



H1: Φ55 Splined shaft, 6–55 × 48.7 × 14



H2: Φ45 Splined shaft, 6–45 × 39 × 12

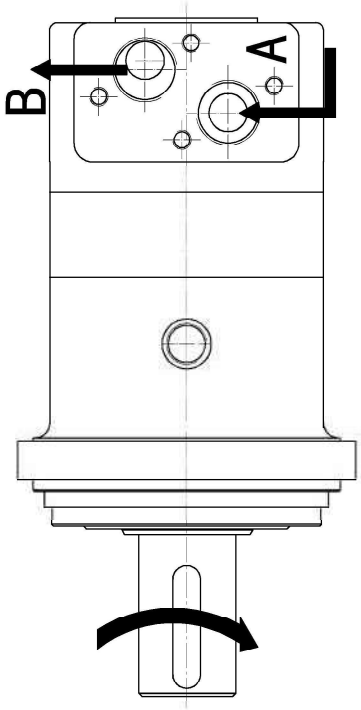


◁ : Motor mounting surface

■ OTM6 Series Motor

Direction of shaft ration：Standard

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



■ OTM6 ORDERING CODE

1		2	3	4	5		6		7
OTM6	—					/		—	

Pos.1	2	3		4	
Series	Disp	Output			
OTM6	800 1000 1250	P	Φ63 Cylindrical shaft，parallel key 18×11×80	A	4–Φ22 Square flange, pilot Φ200
		P1	Φ57.15 Cylindrical shaft，parallel key C12.7×11×63		
		H1	Φ55 Splined shaft，6–55×48.7×14	A1	4–Φ22 Square flange, pilot Φ175
		H2	Φ45 Splined shaft，6–45×39×12		

5			6		7	
Code	Ports		Special features		Rotation direction	
	Ports(A,B)(deep)	Drain port T(deep)				
Y	G1 1/4(20)	G3/8″ (12)	Omit	Standard	Omit	Standard
Y1	Φ36(20)	G3/8″ (12)			L	Opposite

APPENDIX

■ COMPARISON

	OTMP	OTMR	OTM3Y	OTM3SY	OTM4	OTM4S	OTM5	OTM5S	OTM6
Danfoss	OMP	OMR	OMS	OMSS	OMT	OMTS	OMV	OMVS	–
M+S	EPM	EPRM	EPMS	–	EPMT	–	EPMV	–	–

■ USAGE AND NOTICE

1、Selecting motor by standard technical data.

2、The motor must be coaxial with the driven part and the bracket should be stiff enough.

3、Working temperature is 25~55 ℃, maximum temperature is 65 ℃. Hydraulic oil with kenimatic viscosity 25~70mm^2/s (50 ℃) is recommended. The filter is about 20μm. The oil must be clear, polluted oil will damage the motor badly.

4、For BM4-6 there should be a pipe connected the drain port and the oil tank; for OTMR、OTMP、OTM3 the back pressure should be lower than 0.7Mpa, if the back pressure is higher than 1.0Mpa, a drain line should be connected to the oil tank.

5、If nonstandard motor is needed, please contact our technical department.

■ COMMON UNIT AND CONVERSION

N	1 N = 10^{-3} KN
kgf	1 kgf = 9.81 N
lbf	1 lbf = 4.45 N
bar	1 bar = 10^5 Pa = 14.5 Psi
Pa	1 Pa = 1 N/m^2 = 10^{-6} MPa
N · m	
kgf · m	1kgf·m=9.81 N·m

■ FORMULA

(一) n	(二) Ts	(三) Ps
$n=\frac{q_s}{V}\eta_v$ (r/min) q_s -- (L/min) V -- (L/r) η_v --	$Ts=\frac{\Delta pV}{2\pi}\eta_m$ (N·m) Δp -- (MPa) V -- (ml/r) η_m --	Ps=n*Ts/9550

ZOTMR Hydraulic Motor with Brake

INTRODUCTION

ZOTMR are OTMR orbit hydraulic motor with multi-disc brake. There are shuttle valve and inner hydraulic control system. It has small volume, short radial dimension, low weight and easy to install. It's widely applied in construction machinery, shipping machinery, cranes, mining, port, metallurgical industry, etc.

ORDERING CODE

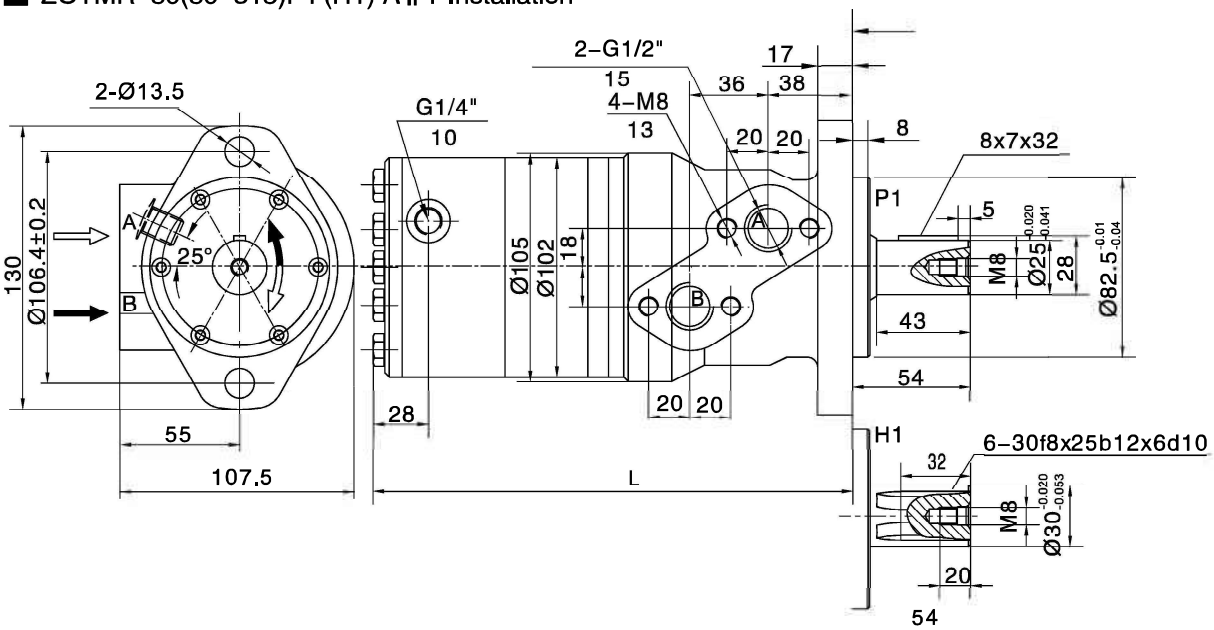
		1	2	3	4		5
ZOTMR	-					/	

1、Displacement
2、Output shaft
P1– Standard flat key H1– Standard spline key
3、Mounting Flange
4、Ports
5、Special Features

TECHNICAL DATA

Type	Displacement ml/r	Max.pressure Mpa	Max.torque N.m	Speed range r/min	Releasing pressure Mpa	Static brake torque N.m	Associated motor	Weight kg	Length mm
ZOTMR-80	80.5	14	152	20-500	1.3-1.7	250-300	OTMR-80	12.3	240
ZOTMR-100	100.5	14	194	20-450	1.3-1.7	250-300	OTMR-100	12.5	244
ZOTMR-125	126.3	14	237	20-400	1.3-1.7	250-300	OTMR-125	12.8	248
ZOTMR-160	160.8	14	310	20-300	2.6-3.2	450-500	OTMR-160	13	254
ZOTMR-200	200.9	14	369	20-250	2.6-3.2	450-500	OTMR-200	13.5	261
ZOTMR-250	252.6	11	380	15-200	2.6-3.2	450-500	OTMR-250	14	270
ZOTMR-315	321.5	9	380	15-160	2.6-3.2	450-500	OTMR-315	14.5	282

ZOTMR–80(80–315)P1 (H1) A‖Y Installation



ZOTMR/N Hydraulic motor with brake

■ INTRODUCTION

ZOTMR/N hydraulic motor–brake is made up of OTMR geroler motor and multi–disc brake, with shuttle valve and built–in control oil circuit.It has the advantages of simple structure, short radial dimension, more compact and easy installation, etc..This brake is characterized by point braking,and there are total six braking points in a circle.When receiving the stop signal, the motor needs to keep running at most 60 degrees to be braked. It can not stop running suddenly and can not be used for precise positioning.It is widely used for injection molding machine, some of transmission and horizontal pulling application.

■ ORDERING CODE

ZOTMR – 1 2 3 4 /N – 5

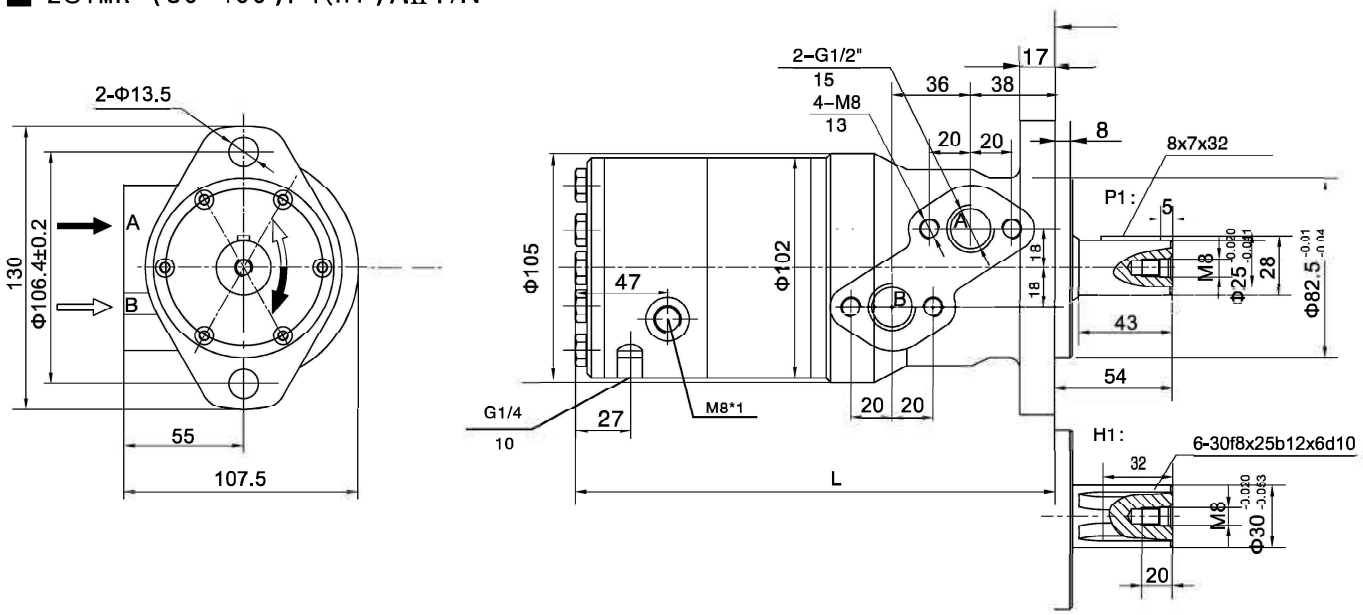
1、Displacement
2、Output shaft
P1– Standard flat key H1– Standard spline key
3、Mounting Flange
4、Ports
5、Special Features

■ TECHNICAL DATA

Type	Displacement ml/r	Max. pressure Mpa	Max. torque N • m	Speed range r/min	Braker		Associated motor	Length mm	Weight kg
					Mpa Releasing pressure	N.m Brake torque			
ZOTMR–80/N	80.5	14	152	60–500	2.4	450	OTMR–80	187	9.4
ZOTMR–100/N	100.5	14	194	50–480	2.4	450	OTMR–100	190	9.5
ZOTMR–125/N	126.3	14	237	40–380	2.4	450	OTMR–125	195	9.8
ZOTMR–160/N	160.8	14	310	30–300	2.4	450	OTMR–160	201	10
ZOTMR–200/N	200.9	14	369	25–240	2.4	450	OTMR–200	208	10.5
ZOTMR–250/N	252.6	11	380	20–195	2.4	450	OTMR–250	217	11
ZOTMR–315/N	321.5	9	380	15–150	2.4	450	OTMR–315	229	11.5
ZOTMR–400/N	401.9	7	380	10–130	2.4	450	OTMR–400	243	13.5

Notice: 1. ZOTMR/N Hydraulic Motor–Brake is only for static brake.
2.When the motor is braked: for the internal control motor, the input and output line can not be pressured, otherwise it will not be braked; for external control motor, the control line can not be pressured, otherwise it will not be braked.

■ ZOTMR-(80-400)P1(H1)AⅡY/N



ZOTM Hydraulic motor with brake

INTRODUCTION

ZOTM are OTM orbit hydraulic motor with multi-disc friction brake. The brake can be released or closed automatically while the motor starts or stops, to keep the motor being blocked stably without working pressure. Also, the control inlet can be connected to any other control loops, to accomplish different applications, adapted for high system pressure working places.

TECHNICAL DATA

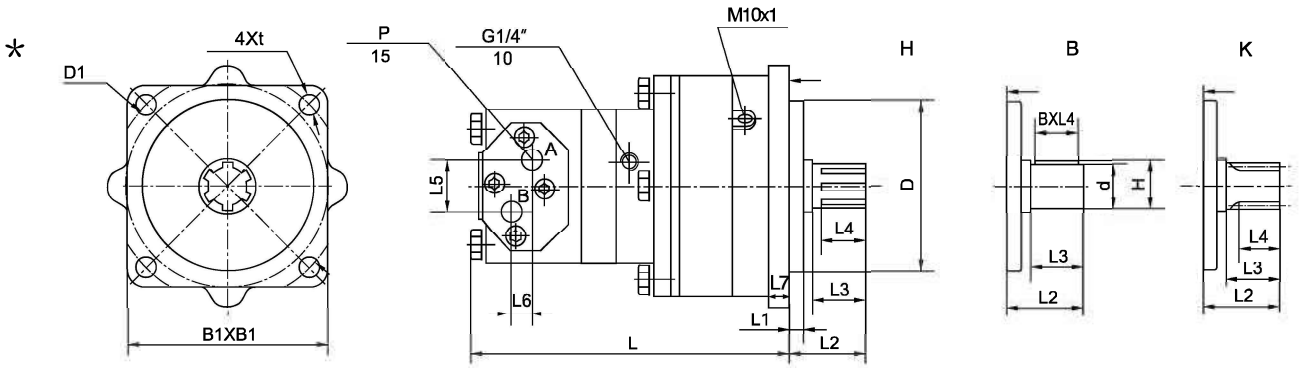
Type	Displacement ml/r	Max. pressure Mpa	Max. torque N • m	Speed range r/min	Braker		Associated motor	Weight kg
					Mpa Releasing pressure	N.m Brake torque		
ZOTM3/80	80.5	16	156	15-620	2.6	245	OTM3-80	18
ZOTM3/100	100.5	16	193	15-500	2.6	245	OTM3-100	18
ZOTM3/125	126.3	16	243	15-400	2.6	245	OTM3-125	18
ZOTM4/160	158.8	16	307	15-500	2.6	590	OTM4-160	37
ZOTM4/200	200.8	16	387	12-400	2.6	824	OTM4-200	37
ZOTM4/250	252.2	16	513	12-320	2.6	824	OTM4-250	37
ZOTM4/320	317.5	16	613	10-250	2.6	824	OTM4-320	37
ZOTM4/400	401.6	12.5	685	10-200	2.6	824	OTM4-400	38
ZOTM5/400	399.7	16	770	10-250	2.6	824	OTM5-400	46
ZOTM5/500	496.6	16	960	10-200	2.6	1060	OTM5-500	46
ZOTM5/630	617.8	13	983	10-160	2.6	1060	OTM5-630	46
ZOTM5B/630	617.8	16	1250	30-200	3.0	1450	OTM5-630	55
ZOTM5B/800	787.4	16	1600	30-150	3.0	1680	OTM5-800	55
ZOTM6B/1250	1186.8	16	2250	20-110	3.6	2330	OTM6-1250	70

ORDERING CODE

ZOTM □/□-□-□-□□
1 2 3 4 5 6 7

1. Orbit hydraulic motor with braker 2. Series 3. Displacement
4. Installation dimension: F– Vertical front flange
5. Standard spline key B– Standard flat key
6. Inner hydraulic control system (see page 121)
7. ports

ZOTM＊ / –F–H–K1 Y Installation

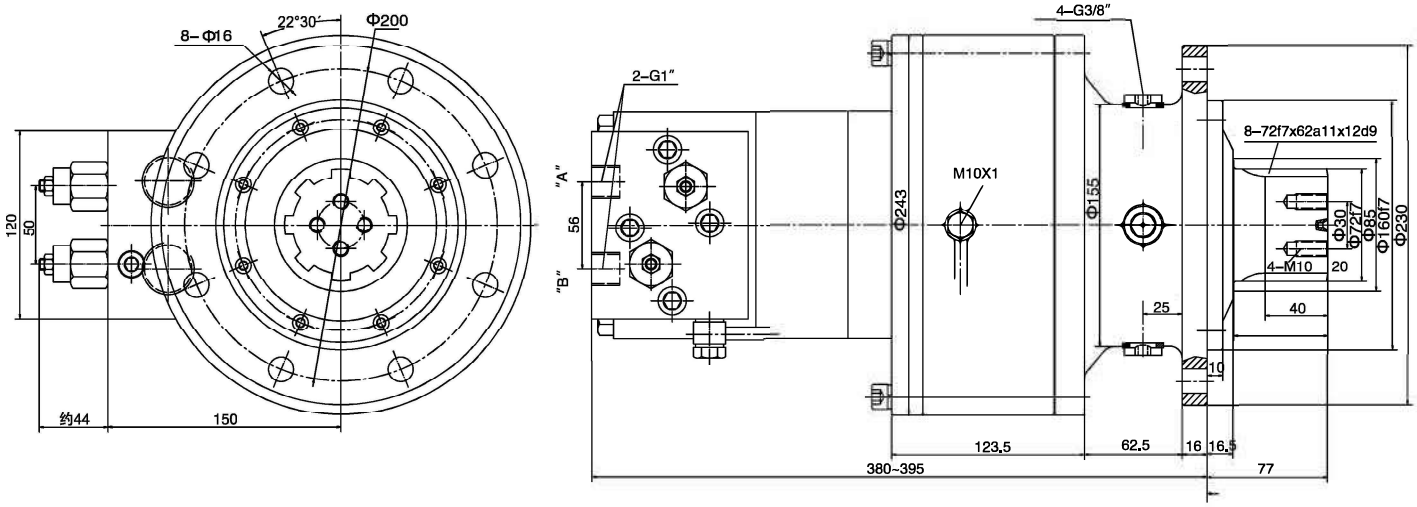


ZOTM Hydraulic motor with brake

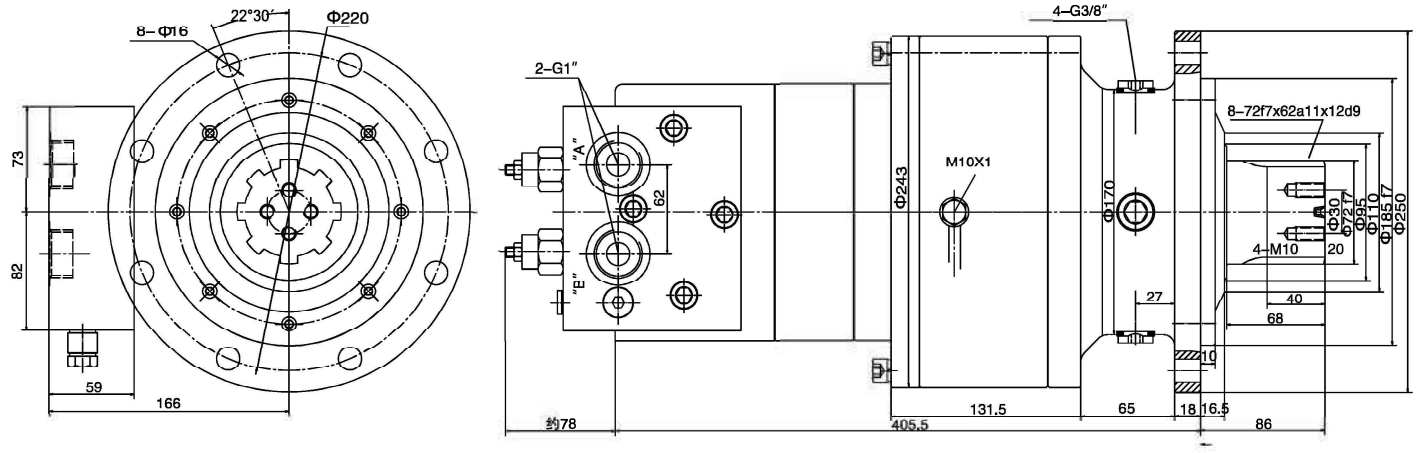
■ ZOTM DIMENSIONS

Type	Shape and junction				Flange and mounting face size						Output shaft size						
	L	L5	L6	P	D	D1	B1xB1	L1	nxt	L7	Type	d	L2	L3	L4	B	H
ZOTM 3/80-125	189-230	32	22	G1/2"	Φ100f7	Φ132	124	6.5	4xΦ10.5	16	B Type	Φ32f7	62.5	54	45	10h9	35
											H Type	Φ30f7	50	43.5	30	-	-
												6-30f7x25b12x6d10					
ZOOTM 4/160-400	249-285	4023		G3/4"	Φ125f7	Φ200	178	15	4xΦ17	18.5	B Type	Φ40f7	75	58	50	12h9	43
											H Type	Φ38f7	75	58	40	-	-
												8-38f7x30b12x6d10					
ZOTM 5/400-630	271-300	50	24	G1"	Φ160f7	Φ200	178	16.5	4xΦ17	19	B Type	Φ40f7	73.5	55	45	12h9	43
											H Type	Φ45f7	98	77.5	55	-	-
												6-45f7x38.2b12x12c10					
											K Type	ExT 17zx2.5mx30p					

■ ZOTM5B/630–800–F–H–K3Y Installation

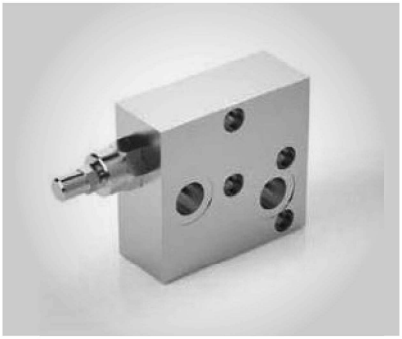


■ ZOTM6B/1250–F–H–K3Y2 Installation

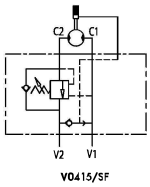


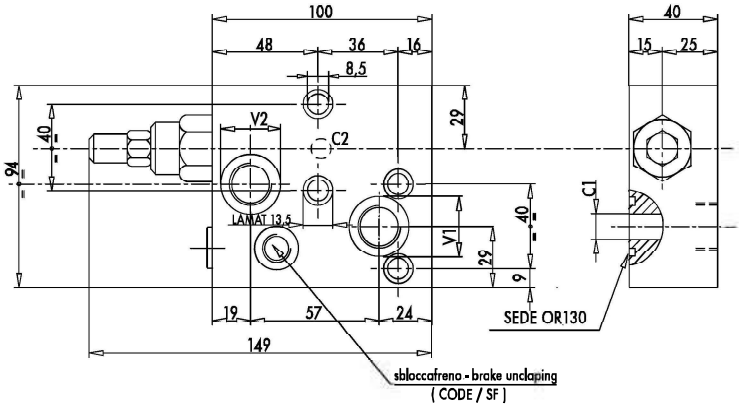
OVERCENTRE VALVES FLANGEABLE ON DANFOSS MOTORS OMP/OMR

TYPE VTCDF SE OMP/OMR



SE



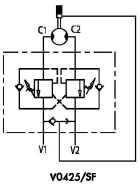


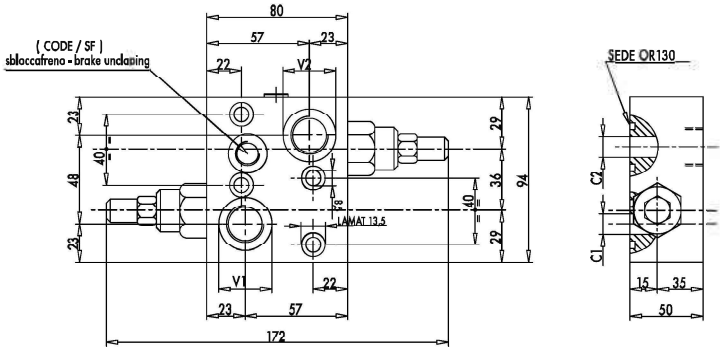
Art.	Type	Pilot radio	Max flow Lt./min	Max pressure Bar	V1-V2 Gas	C1-C2	Weight Kg
MQ248030	VTCDF 1/2" SE OMP-OMR	1:4,5	50	350	G 1/2"	Ø 9	2,686
MQ248031	VTCDF 1/2" SE OMP-OMR SF	1:4,5	50	350	G 1/2"	Ø 9	2,686

On request: VTCDF/SF-DE - With brake release port - Face mounting - Material: steel

TYPE VTCDF DE OMP/OMR

DE



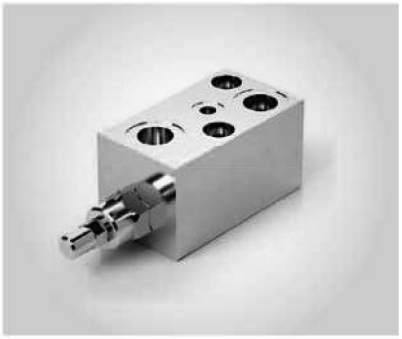


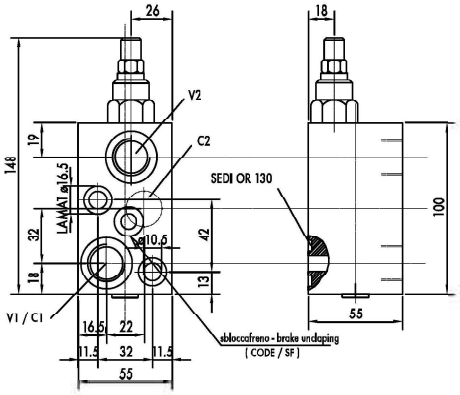
Art.	Type	Pilot radio	Max flow Lt./min	Max pressure Bar	V1-V2 Gas	C1-C2	Weight Kg
MQ248032	VTCDF 1/2" DE OMP-OMR	1:4,5	50	350	G 1/2"	Ø 9	2,708
MQ248033	VTCDF 1/2" DE OMP-OMR SF	1:4,5	50	350	G 1/2"	Ø 9	2,708

On request: VTCDF/SF-DE - With brake release port - Face mounting - Material: steel

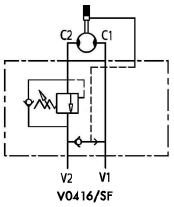
OVERCENTRE VALVES FLANGEABLE ON DANFOSS MOTORS OMS

TYPE VBCDF SE OMS





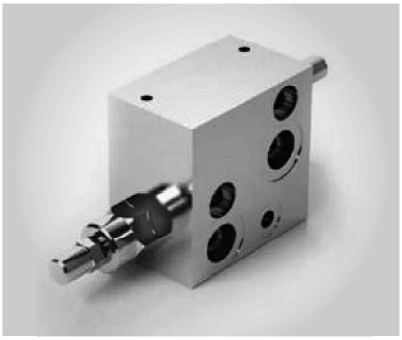
SE

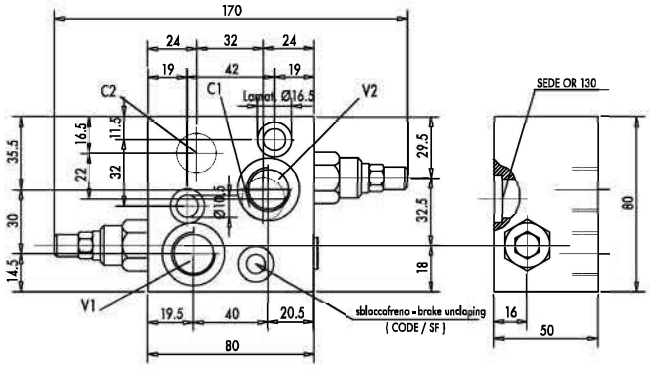


Art.	Type	Pilot radio	Max flow Lt./min	Max pressure Bar	V1-V2 Gas	C1-C2	Weight Kg
MQ248034	VTCDF 1/2" SE OMS	1:4,5	50	350	G 1/2"	Ø 9	1,700
MQ248035	VTCDF 1/2" SE OMS SF	1:4,5	50	350	G 1/2"	Ø 9	1,700

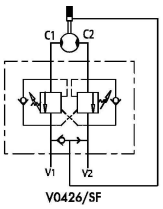
On request: VTCDF/SF-SE - With brake release port - Face mounting - Material: steel

TYPE VTCDF DE OMS





DE



Art.	Type	Pilot radio	Max flow Lt./min	Max pressure Bar	V1-V2 Gas	C1-C2	Weight Kg
MQ248036	VTCDF 1/2" DE OMS	1:4,5	50	350	G 1/2"	Ø 9	2,150
MQ248037	VTCDF 1/2" DE OMS SF	1:4,5	50	350	G 1/2"	Ø 9	2,150

On request: VBCDF/SF-SE - With brake release port - Face mounting - Material: steel

HANSA-TMP
MANUFACTURING YOUR SUCCESS

HANSA-TMP S.r.l.
Via M. L. King, 6 – 41122 Modena (ITALY)
Tel.: +39 059 415 711
Fax: +39 059 415 730
E-mail: hansatmp@hansatmp.it
Website: www.hansatmp.it

Certified Company
ISO 9001:2015 – ISO 14001:2015

Share Capital: € 300.000,00
VAT Number: IT01167360369
REA Number: MO-225785