

Western  
**FluidDyne**<sup>TM</sup>

**High Torque,  
Low Speed Motors  
10,000 Series**



**Interchangeable with:**

- Charlynn
- White
- Ross
- Parker
- Danfoss

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## MOTOR CROSS-REFERENCE GUIDE

Western FluidDyne	Eaton/Charlynn	White	Danfoss	Parker Ross/ TRW
H Series	A, H (130-,101-)	RS (200-)	DH, OMP	TC, TB, MK, MG
S Series	S, T (103-, 158- )	WR (255-)	OMR, DS (151-)	TB, TE, MG, MF
2000 Series	2000 (104-)	HB, RE (300-, 500-)	OMS, OME	TF, TG, MB, ME
6000 Series	4K, 6K (109-,112-)	RE, DR (500-, 600-)	OMT, TMK, TMT	TG, TH, TK, ME, MJ
10,000 Series	10K (119-)	DT	OMV, TMV	

Western FluidDyne reserves the right to make alterations to it's product.

# HIGH TORQUE, LOW SPEED MOTORS

## Western FluidDyne LSHT Hydraulic Motors

Western FluidDyne's extensive range of multiple displacement Low Speed – High Torque (LSHT) hydraulic motors are form fit and function interchangeable with many of the common motor products from Parker, White, Charlynn and Danfoss. Both Geroter and Geroler technologies are incorporated in the Western FluidDyne "H" Series, "S" series, "2000" series, "6000" series and "10,000" series.

These Western FluidDyne motors are manufactured with ISO 9001:2000 documented quality standards which results in product which consistently meets or exceeds the life and performance expectations of similar products. The Western FluidDyne product is built to perform in even the harsh environments where rugged mobile equipment is expected to operate. For optimal life the following guidelines are recommended:

- 1) Motors should be operated at less than 30% of full rated performance for the first hour of operation
- 2) During normal sustained operations, oil temperature should be between 70 to 150 degrees F (20 to 60 degrees C)
- 3) Maximum operating temperature should not exceed 190 degrees F (90 degrees C)
- 4) ISO oil cleanliness level should be 18/13 or cleaner. Normally this is achieved with Beta 10=100 full flow return line filtration.
- 5) High grade petroleum based hydraulic oil must be used
- 6) Minimum oil viscosity should be 100 SUS
- 7) Simultaneous maximum torque and maximum speed is not recommend for this design of motor

### Technical Data Summary:

Model	Distributor type	Displacement		Maximum Operating Pressure		Speed RPM
		in3/rev	cm3/rev	PSI	BAR	
H Series	Axial	3-23	50-400	2400	163	30-800
S Series	Axial	3-23	50-375	3000	200	30-970
2000 Series	Disc	5-23	80-375	3250	225	30-800
6000 Series	Disc	10-49	160-800	3400	240	30-705
10,000 Series	Disc	19-49	315- 800	4000	280	10-446

# HIGH TORQUE, LOW SPEED MOTORS

## 10,000-SERIES

The 10,000 series motor adapts the advanced GEROLER™ gear set design with DISC distribution flow and high pressure. These motors can be supplied with various options to meet application requirements. The output shaft tapered roller bearings permit high axial and radial forces offering a smooth operation during low pressure start up and high pressure operation.

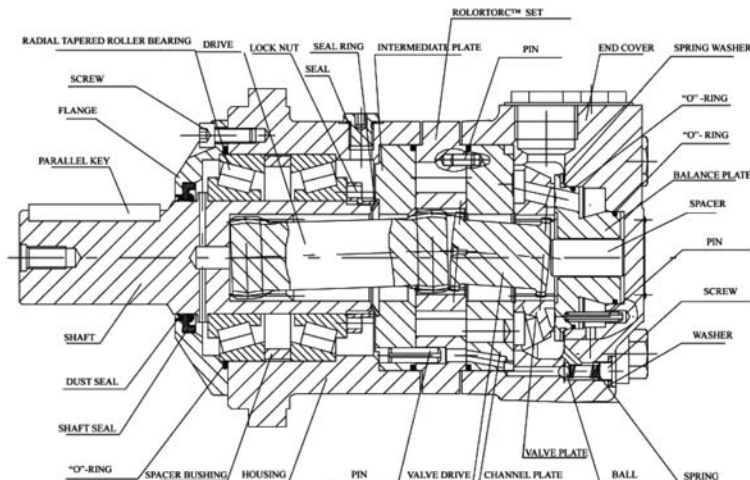
These low weight advanced construction design motors are manufactured in accordance with the requirements of the ISO 9001:2000 quality system.

### Technical Specifications

Fluidyne			DISPLACEMENT cm <sup>3</sup> /r (in <sup>3</sup> /r)			
			315 cm <sup>3</sup> 333 (20.3)	500 cm <sup>3</sup> 518 (31.6)	630 cm <sup>3</sup> 666 (40.6)	1000 cm <sup>3</sup> 990 (60.4)
<i>Char Lynn reference</i>			345 cm <sup>3</sup> (21.0)	480 cm <sup>3</sup> (29.3)	665 cm <sup>3</sup> (40.6)	940 cm <sup>3</sup> (57.4)
MOUNTING	SHAFTS	PORTS				
Standard SAE C-Mount	2-1/4 inch Straight Key Shaft	1-5/16 O-ring	WF1191028	WF1191029	WF1191030	WF1191031
		1 1/4 inch Split Flange	WF1191040	WF1191041	WF1191042	WF1191043
	2-1/8 inch 16T Spline	1-5/16 O-ring	WF1191032	WF1191033	WF1191034	WF1191035
		1 1/4 inch Split Flange	WF1191044	WF1191045	WF1191046	WF1191047
	2-1/4 Inch Tapered	1-5/16 O-ring	WF1191036	WF1191037	WF1191038	WF1191039
		1 1/4 inch Split Flange	WF1191048	WF1191049	WF1191050	WF1191051
Wheel Mount	2-1/4 inch Straight Key Shaft	1-5/16 O-ring	WF1201005	WF1201006	WF1201007	WF1201008
		1 1/4 inch Split Flange	WF1201017	WF1201018	WF1201019	WF1201020
	2-1/8 inch 16T Spline	1-5/16 O-ring	WF1201009	WF1201010	WF1201011	WF1201012
		1 1/4 inch Split Flange	WF1201021	WF1201022	WF1201023	WF1201024
	2-1/4 Inch Tapered	1-5/16 O-ring	WF1201013	WF1201014	WF1201015	WF1201016
		1 1/4 inch Split Flange	WF1201025	WF1201026	WF1201027	WF1201028
BEARINGLESS		1-5/16 O-ring	WF1211007	WF1211008	WF1211009	WF1211010
		1 1/4 inch Split Flange	WF1211011	WF1211012	WF1211013	WF121-1014
Max Torque (in-lbs)	Continuous		8,181	12,824	14,504	17,821
	Intermittent		9,728	15,742	17,688	20,164
Max Pressure (PSI)	Continuous		3,045	3,045	3,045	3,045
	Intermittent		3,625	3,625	3,625	3,625
Max Flow (GPM)	Continuous		39.6	39.6	39.6	39.6
	Intermittent		59.4	59.4	59.4	59.4
Max RPM	Continuous		446	386	223	145
	Intermittent		649	425	331	220
Weight kg (lbs)	Standard or Wheel Mount		43.5 (96.0)	45.5 (100.0)	46.3 (100.0)	47.2 (104.0)
	Bearingless		31.3 (69.0)	33.1 (73.0)	33.1 (73.0)	34.9 (77.0)

Continuous = maximum of continuous operation

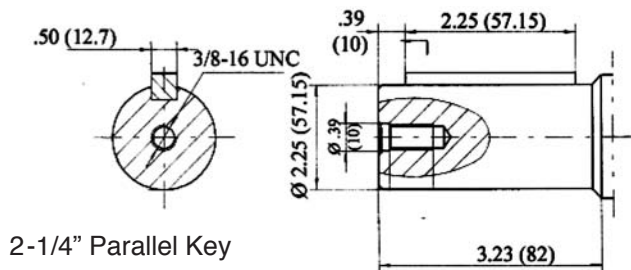
Intermittent = maximum operating range for 6 seconds per minute



# HIGH TORQUE, LOW SPEED MOTORS

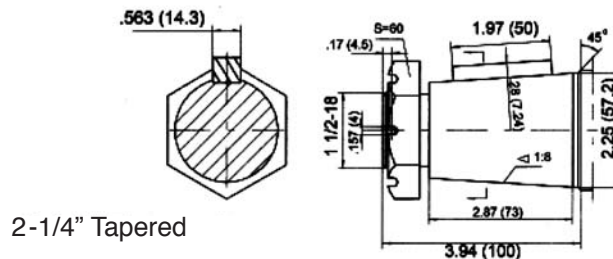
## 10,000-SERIES SHAFT DATA

**01**



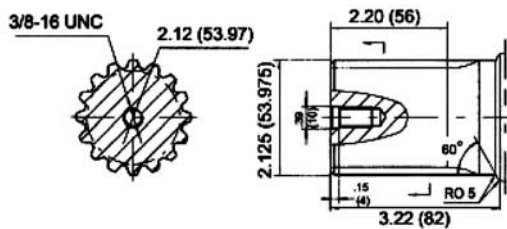
2-1/4" Parallel Key

**02**



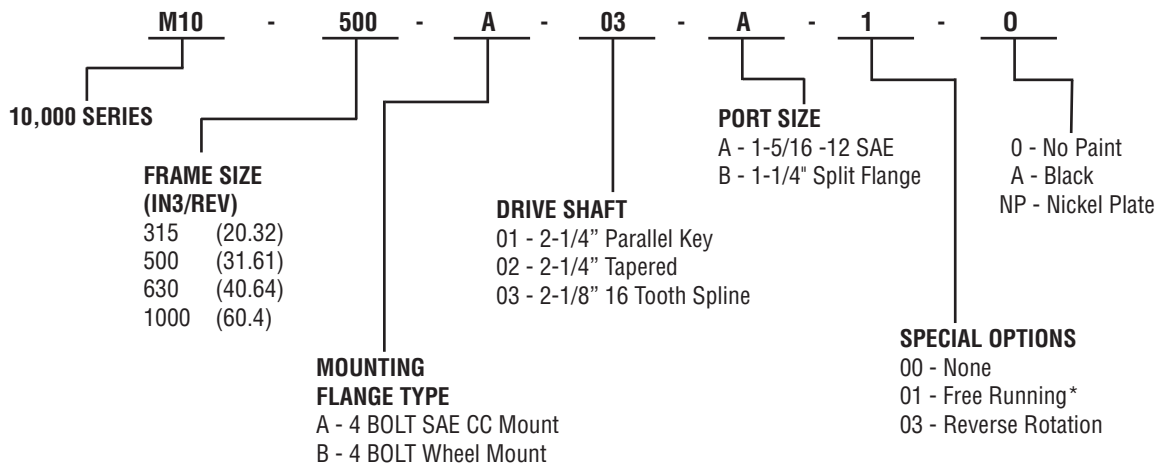
2-1/4" Tapered

**03**



2-1/8" 16 Tooth Spline 8/16 DP 30° FRSF

## MODEL CODE - 10,000 SERIES

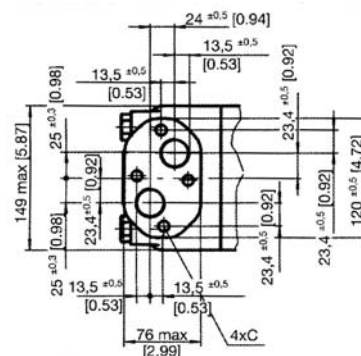
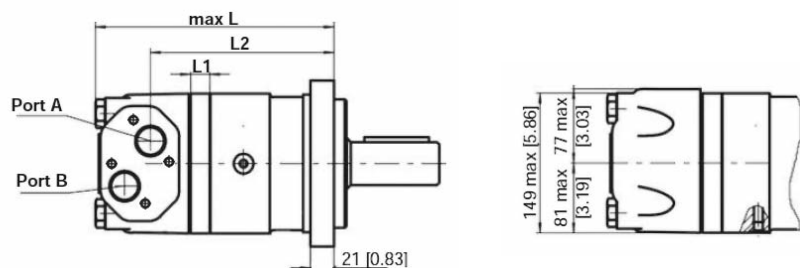


Additional flange and drive shaft options available please consult factory

\*Available on selected models

# HIGH TORQUE, LOW SPEED MOTORS

## 10,000 SERIES INSTALLATION DATA

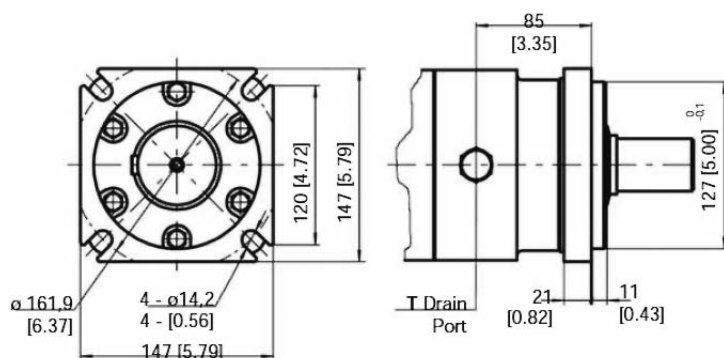


	[INCHES]			MILLIMETERS		
MODEL	L	L1	L2	L	L1	L2
315	[9.69]	[0.79]	[7.44]	246	20	189
500	[10.28]	[1.38]	[8.03]	261	35	204
630	[10.75]	[1.85]	[8.50]	273	47	216
1000	[11.89]	[3.02]	[9.84]	302	74	241

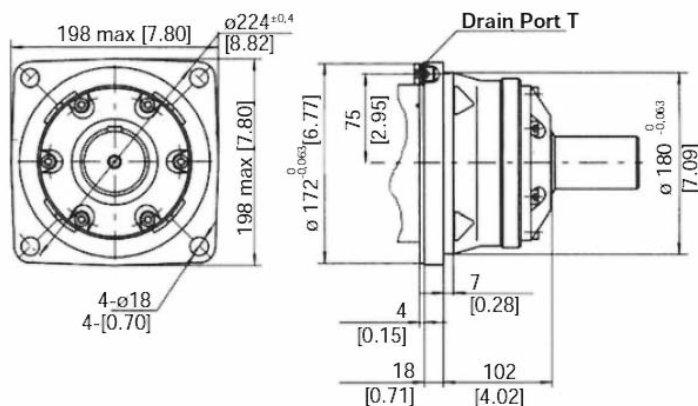
### PORT & DRAIN PORT ORDERING CODES

ORDER CODE	A	DEPTH
PORTS - A and B	1-5/16-12UN	18 mm
TANK PORT - T	9/16-18UNF	12 mm
BOLTS - C	4-M12	10 mm

### A - 4 Bolt SAE CC Mount

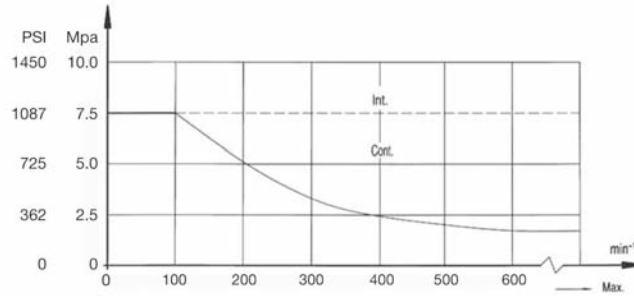
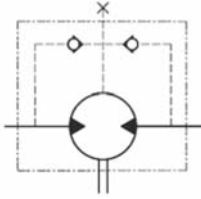


### B - 4 Bolt Wheel Mount



# HIGH TORQUE, LOW SPEED MOTORS

## SHAFT SEAL RATED PRESSURE



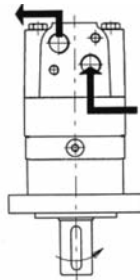
## CASE DRAIN

In applications without a motor drain line, the pressure exerted on the shaft seal is marginally in excess of the return line pressure. When the drain line is used the pressure exerted on the shaft seal is equal to the return line pressure.

## SHAFT ROTATION DIRECTION

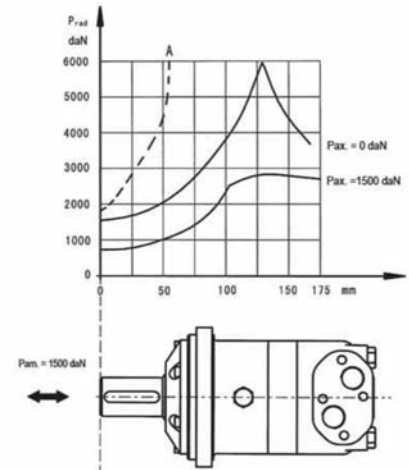
STANDARD ROTATION VIEWED FROM SHAFT END

Port A pressurized = CW rotation  
Port B pressurized = CCW rotation



## RADIAL FORCES

Curve "A" shows max radial shaft load. Any shaft loads exceeding these values will involve risk of breakage. The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.



# HIGH TORQUE, LOW SPEED MOTORS

## 10,000 SERIES TECHNICAL DATA

10,000 SERIES 315		333 Cm <sup>3</sup> /Rev 20.32 in <sup>3</sup> /Rev					Max Cont.		Max Int.	
Pressure Bar (psi)		70 (1030)	100 (1470)	140 (2060)	160 (2355)	180 (2652)	200 (2950)	210 (3090)	240 (3535)	
F L O W	LPM (GPM)	Torque Mn (in.Lbs) Speed Specification								
	30 (7.92)	305 (2588) 89 rpm	435 (3850) 85 rpm	605 (5143) 79 rpm	718 (6354) 71 rpm	790 (6992) 70 rpm	892 (7894) 68 rpm	942 (8337) 62 rpm	1060 (9381) 55 rpm	
	60 (15.85)	303 (2672) 183 rpm	445 (3938) 179 rpm	625 (5531) 174 rpm	736 (6514) 168 rpm	828 (7528) 163 rpm	925 (8186) 160 rpm	968 (8567) 154 rpm	1097 (9708) 148 rpm	
	90 (23.77)	300 (2655) 275 rpm	440 (3894) 272 rpm	625 (5531) 266 rpm	730 (6461) 258 rpm	826 (7310) 254 rpm	922 (8160) 248 rpm	962 (8514) 242 rpm	1082 (9576) 235 rpm	
	105 (27.74)	295 (2611) 325 rpm	435 (3850) 320 rpm	620 (5487) 312 rpm	726 (6425) 306 rpm	822 (7275) 300 rpm	917 (8115) 292 rpm	958 (8478) 290 rpm	1078 (9540) 285 rpm	
	120 (31.70)	290 (2566) 371 rpm	431 (3814) 366 rpm	610 (5399) 359 rpm	720 (6372) 350 rpm	820 (7257) 345 rpm	912 (8071) 337 rpm	952 (8425) 332 rpm	1070 (9470) 325 rpm	
	150 (39.50)	278 (2460) 464 rpm	411 (3637) 459 rpm	602 (5328) 454 rpm	716 (6337) 445 rpm	802 (7098) 435 rpm	904 (8000) 428 rpm	942 (8337) 422 rpm	1057 (9354) 412 rpm	
	Max Cont.	190 (50.19)	260 (2301)	392 (3469)	588 (5204)	710 (6284)	795 (7036)	892 (7894)	930 (8231)	
	Max Int.		595 rpm	588 rpm	582 rpm	575 rpm	568 rpm	562 rpm	555 rpm	

10,000 SERIES 500		518 Cm <sup>3</sup> /Rev 31.61 in <sup>3</sup> /Rev					Max Cont.		Max Int.	
Pressure Bar (psi)		70 (1030)	100 (1470)	140 (2060)	160 (2355)	180 (2652)	200 (2950)	210 (3090)	240 (3535)	
F L O W	LPM (GPM)	Torque Mn (in.Lbs) Speed Specification								
	30 (7.92)	442 (3912) 57 rpm	675 (5975) 55 rpm	998 (8832) 53 rpm	1180 (10443) 52 rpm	1260 (11151) 50 rpm	1410 (12478) 48 rpm	1485 (13142) 44 rpm	1759 (15567) 40 rpm	
	60 (15.85)	455 (4026) 117 rpm	685 (6062) 115 rpm	1025 (9071) 111 rpm	1210 (10708) 106 rpm	1265 (11195) 101 rpm	1445 (12788) 97 rpm	1510 (13364) 95 rpm	1780 (10930) 90 rpm	
	90 (23.77)	450 (3982) 186 rpm	678 (6000) 184 rpm	1020 (9023) 183 rpm	1205 (10664) 180 rpm	1260 (11151) 178 rpm	1450 (12832) 173 rpm	1520 (13452) 170 rpm	1786 (15806) 166 rpm	
	105 (27.74)	445 (3938) 205 rpm	672 (5947) 202 rpm	1012 (8956) 198 rpm	1200 (10620) 194 rpm	1255 (11106) 192 rpm	1446 (12797) 187 rpm	1513 (13390) 186 rpm		
	120 (31.70)	440 (3894) 240 rpm	668 (4553) 238 rpm	1005 (8894) 235 rpm	1194 (10567) 232 rpm	1250 (11062) 230 rpm	1399 (12381) 226 rpm	1510 (13363) 225 rpm		
	150 (39.50)	435 (3850) 294 rpm	663 (5867) 290 rpm	1000 (8850) 286 rpm	1186 (10496) 282 rpm	1246 (11027) 278 rpm				
	Max Cont.	190 (50.19)	428 (3788)	658 (5823)	993 (8788)					
	Max Int.		373 rpm	368 rpm	362 rpm					

# HIGH TORQUE, LOW SPEED MOTORS

## 10,000 SERIES TECHNICAL DATA

10,000 SERIES 630		666 Cm <sup>3</sup> /Rev 40.64 in <sup>3</sup> /Rev				Max Cont.	Max Int.	
Pressure Bar (psi)		70 (1030)	100 (1470)	140 (2060)	160 (2355)	180 (2652)	200 (2950)	210 (3090)
F L O W	LPM (GPM)	Torque Mn (in.Lbs) Speed Specification						
	30 (7.92)	610 (5399) 43 rpm	880 (7788) 41 rpm	1280 (11328) 38 rpm	1404 (12425) 36 rpm	1616 (14302) 34 rpm	1780 (15753) 31 rpm	1843 (16311) 30 rpm
	60 (15.85)	615 (5443) 90 rpm	888 (5443) 87 rpm	1336 (11824) 84 rpm	1412 (12496) 82 rpm	1628 (14408) 81 rpm	1800 (15930) 77 rpm	
	90 (23.77)	608 (5381) 140 rpm	878 (7770) 138 rpm	1331 (11779) 136 rpm	1422 (12585) 134 rpm	1640 (14514) 132 rpm	1810 (16019) 128 rpm	
	105 (27.74)	600 (5310) 164 rpm	872 (7717) 162 rpm	1326 (11135) 158 rpm	1415 (12523) 155 rpm	1632 (14443) 153 rpm	1790 (15842) 149 rpm	
	120 (31.70)	595 (5266) 186 rpm	865 (7655) 183 rpm	1310 (11594) 180 rpm	1405 (12434) 177 rpm	1625 (14381) 174 rpm	1780 (15753) 171 rpm	
	Max Cont.	150 (39.50) 235 rpm	855 (7567) 232 rpm	1302 (11533) 228 rpm	1398 (12372) 224 rpm			
	Max Int.	190 (50.19) 298 rpm	864 (7487) 292 rpm					

10,000 SERIES 1000		990 Cm <sup>3</sup> /Rev 60.4 in <sup>3</sup> /Rev		Max Cont.	Max Int.	
Pressure Bar (PSI)		70 (1015)	100 (1450)	140 (2030)	160 (2320)	
F L O W	LPM (GPM)	Torque in Nm (in.Lbs) Speed specification				
	30 (7.90) (rpm)	978 (8649) 28	1410 (12410) 27	1980(12511) 26	20075(2270) 24	
	60 (15.9) (rpm)	992 (8773) 58	1422 (12576) 56	2015(17821) 55	2280(20129) 51	
	90 (23.8) (rpm)	987 (8129) 87	1425 (12603) 85	2003(17715) 82	2276(20129) 76	
	105 (27.7) (rpm)	983 (8694) 101	1418 (12541) 98	1994(17635) 94	2243(19837) 87	
	120 (31.7) (rpm)	975 (8623) 113	1409 (12461) 109	1988(17582) 105	2224(19669) 100	
	Max Cont.	150 (39.6) (rpm)	961 (8499) 140	1368 (12099) 136	1903(16830) 123	
	Max Int.	190 (50.2) (rpm)	943 (8340) 170	1338 (11833) 158		

*Western*  
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