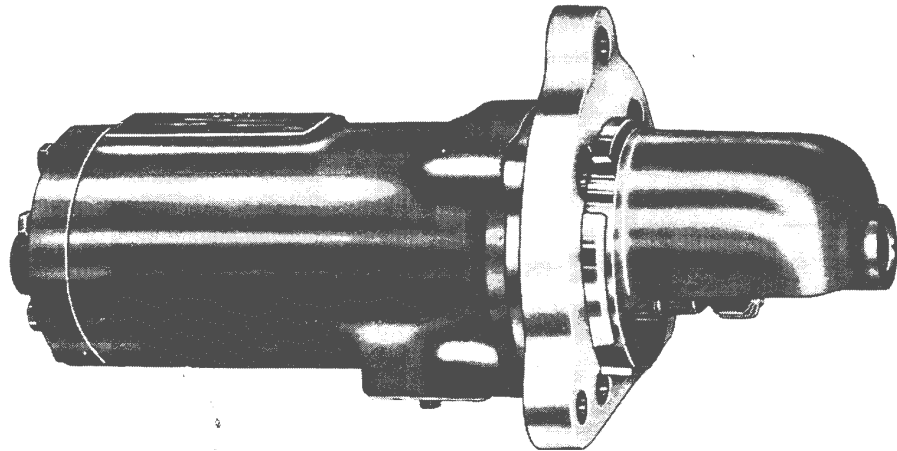


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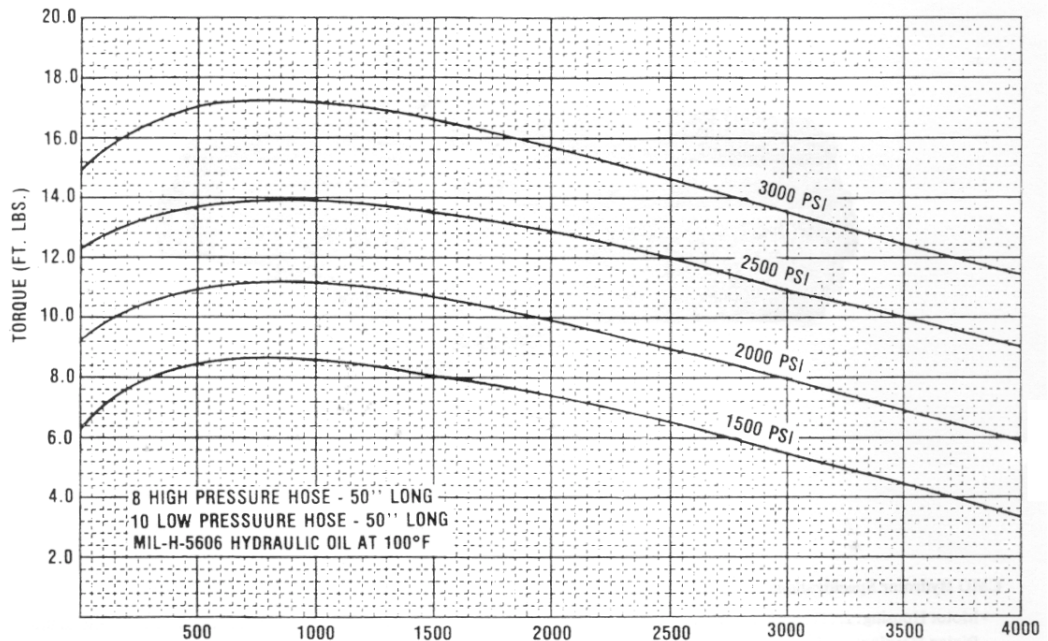
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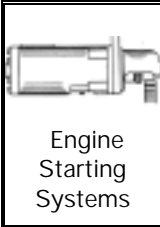
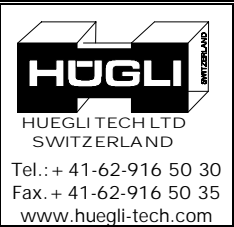


CMO Hydrotor Specifications

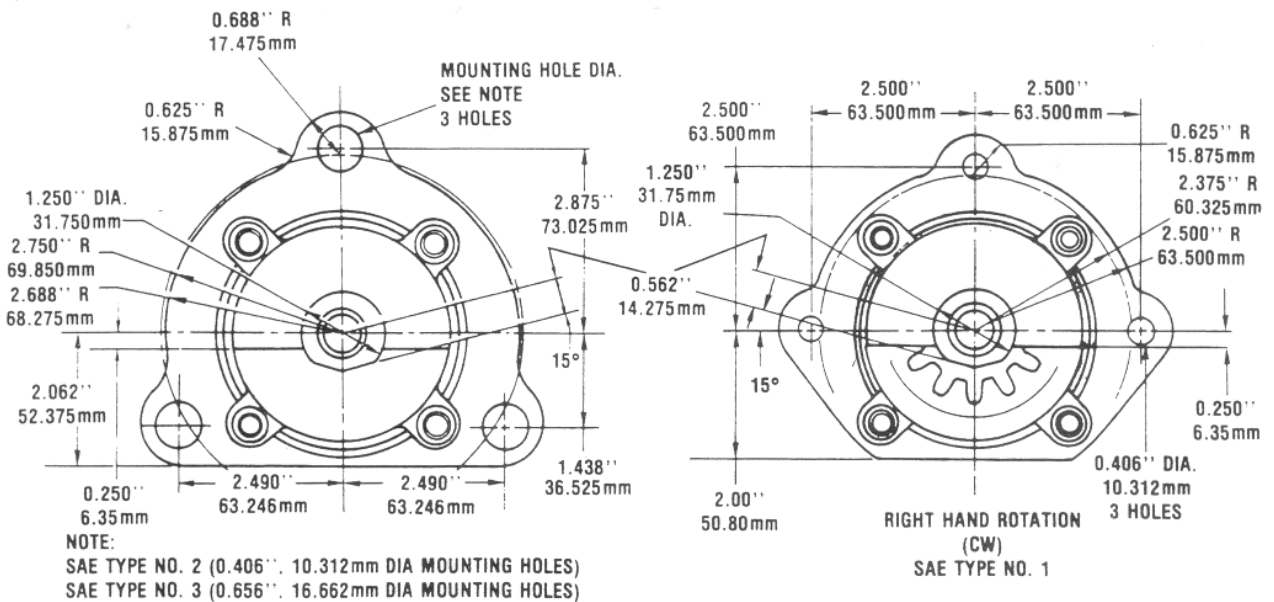
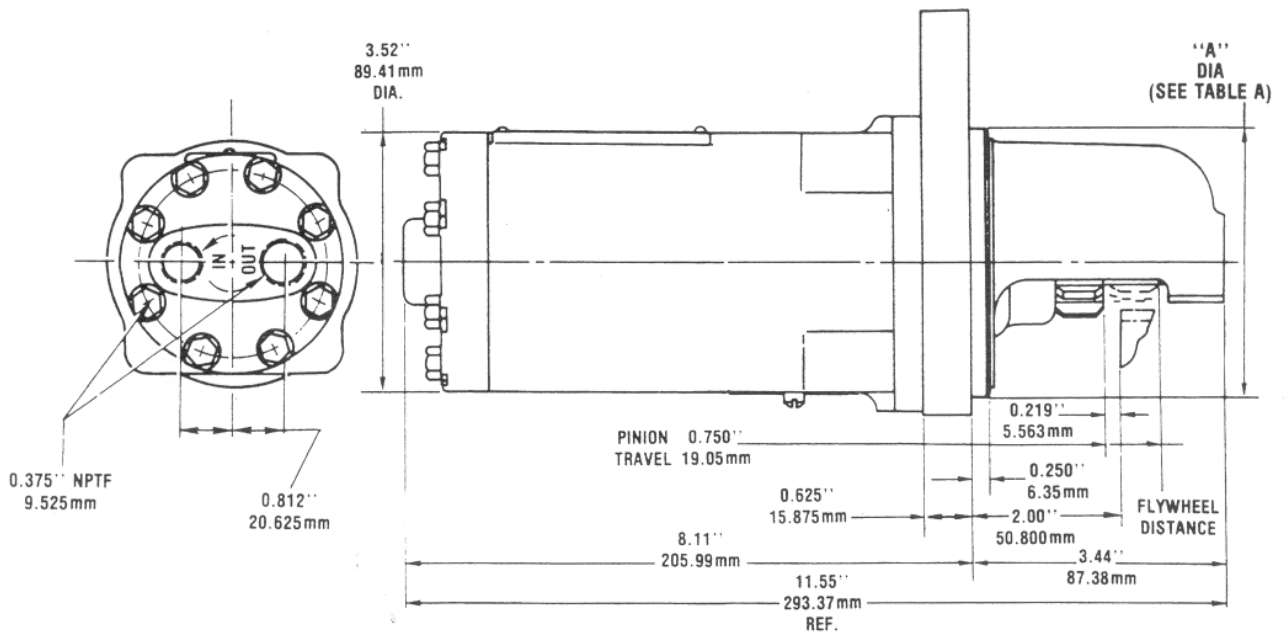
- Motor Housing Aluminum
- Pinion Housing Aluminum
- Cylinder Steel
- Piston Bronze
- Number of Pistons Seven
- Displacement 0.50 in³ (8.19 cm³)/Rev.
- Speed Range 0 to 7000 RPM
- Drive Type Inertia
- Maximum Working Pressure 3000 psi (207 bars)
- Rotation (Viewing Drive End) cw - standard, ccw - optional
- Duty Cycle Intermittent
- Torque Chart See Page 6
- Dimensions See Page 7
- Weight 11.0 lbs (5.0 kgs)
- Overall Volumetric Efficiency 92 percent



Torque vs RPM of CMO Hydrotor

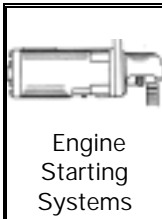
 <p>Engine Starting Systems</p>	<p>Document: Data Sheet Version: 1 Status: actual Author: bs Date: 02-07-15 Approved: rs Date: 02-07-15 File: PC</p>	<p align="center">CMO Hydrator Data Sheet</p>	 <p>HUGLI HUEGLI TECH LTD SWITZERLAND Tel.: + 41-62-916 50 30 Fax: + 41-62-916 50 35 www.huegli-tech.com</p>
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Dimensions



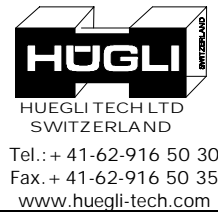
SAE TYPE MOUNTING FLANGE	"A" DIA. (PILOT DIA.)	
	IN.	MM
SAE NO. 1	3.495-3.499	(88.773-88.875)
SAE NO. 2	3.620-3.624	(91.948-92.050)
SAE NO. 3	3.620-3.624	(91.948-92.050)

Table A



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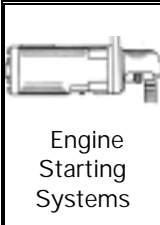
CMO Hydrotor Data Sheet



Hydrotor Variations

MODEL TYPE	MOUNTING FLANGE TYPE	FLANGE TO RING GEAR DIMENSION INCHES (MM)	FLANGE MOUNTING HOLES INCH (MM)	NUMBER OF TEETH	DIAM-ETRAL PITCH	PINION O.D. INCHES (MM)	PRESSURE ANGLE	ROTA-TION	REMARKS	
CMO 300271	SAE #3	2.00 (50.8)	.53 (13.46)	12/13	8/10	1.825 (46.355)	20°	CW		
* CMO 300416				10/11	8/10	1.575 (40.005)	20°	CW		
* CMO 308051	SAE #3	2.00 (50.8)	.53 (13.46)	12/13	10/12	1.467 (37.262)	20°	CW		
* CMO 308056	SPECIAL	0.98 (24.89)	.45 (11.43)	13	8/10	1.825 (46.355)	20°	CW	SUPERSEDED BY CMO 308121 MNTNG FLNG ROTATED 90° CCW	
CMO 308057	SAE #1	2.00 (50.8)	.41 (10.41)	10/11	8/10	1.575 (40.005)	20°	CW		
* CMO 308064	SAE #3			13	8/10	1.825 (46.355)	20°	CW		
* CMO 308065	SAE #3			12	10/12	1.467 (37.262)	20°	CW		
* CMO 308066	2 BOLT SPEC.			13	8/10	1.825 (46.355)	20°	CW		
CMO 308068	SAE #1	2.00 (50.8)	.41 (10.41)	10/11	8/10	1.575 (40.005)	20°	CW		
CMO 308069	SPECIAL	0.94 (23.88)	.45 (11.43)	10/11	8/10	1.575 (40.005)	20°	CW		
CMO 308075	SAE OUTBRD	1.61 (40.89)	.41 (10.41)	10/11	8/10	1.575 (40.005)	20°	CW		
* CMO 308077	SAE #3	2.00 (50.8)	.66 (16.76)	12	6/8	2.250 (57.150)	20°	CW		SUPERSEDED BY CMA 308008 ETHYLENE - PROPLYENE SEALS
CMO 308081	SAE #1	2.00 (50.8)	.41 (10.41)	10/11	8/10	1.575 (40.005)	20°	CW		
* CMO 308083	SAE #1	2.00 (50.8)	.41 (10.41)	13	8/10	1.825 (46.355)	20°	CCW		
CMO 308084	SAE #1	2.00 (50.8)	.41 (10.41)	13	8/10	1.825 (46.355)	20°	CW		
* CMO 308085	SAE #3	2.00 (50.8)	.41 (10.41)	12	6/8	2.250 (57.150)	20°	CCW		
CMO 308086	SAE #1	2.00 (50.8)	.41 (10.41)	10/11	8/10	1.575 (40.005)	20°	CCW		
* CMO 308094	SPECIAL			9/10	10/12	1.167 (29.642)	20°	CW		
CMO 308103	SAE #1	2.00 (50.8)	.41 (10.41)	10/11	8/10	1.575 (40.005)	20°	CW		
CMO 308106	SAE #1	2.00 (50.8)	.41 (10.41)	9/10	10	1.200 (30.480)	14.5°	CW		
CMO 308111	SAE #2 BOLT	1.61 (40.89)	.41 (10.41)	10/11	8/10	1.575 (40.005)	20°	CCW		
CMO 308121	SPECIAL	0.98 (24.89)	.45 (11.43)	13	8/10	1.825 (46.355)	20°	CW	WET CLUTCH	
CMO 308122	SAE #1	2.00 (50.8)	.41 (10.41)	9/10	10/12	1.167 (29.642)	20°	CW	WET CLUTCH	
CMO 308126	2 BOLT SP.	0.87 (22.10)	.48 (12.19)	10/11	8/10	1.575 (40.005)	20°	CW		
CMO 308128	SPECIAL	0.92 (23.37)	.45 (11.43)	10/11	8/10	1.575 (40.005)	20°	CW		
CMO 308131	SAE #1	2.00 (50.8)	.41 (10.41)	9/10	8/10	1.450 (36.830)	20°	CW		
CMO 308132	SAE #4	.87 (22.098)	.48 (12.19)	10/11	8/10	1.575 (40.005)	20°	CCW		
CMO 308134	SPECIAL	2.00 (50.8)	.41 (10.41)	9/9.5	MOD 3	1.358 (34.932)	15°	CW	4 - BOLT FLANGE	
CMO 308135	SPECIAL	2.00 (50.8)	.41 (10.41)	9/9.5	MOD 3	1.358 (34.932)	15°	CW	4 - BOLT FLANGE	
CMO 308145	SPECIAL	.94 (23.88)	.45 (11.43)	10/11	8/10	1.575 (40.005)	20°	CCW		
CMO 308146	SAE #1	2.00 (50.8)	.41 (10.41)	9/10	10/12	1.167 (29.642)	20°	CCW		
CMO 308172	SAE #4	1.61 (40.89)	.48 (12.19)	10/11	8/12	1.575 (40.005)	20°	CW		

*OBSELETE - NOT AVAILABLE



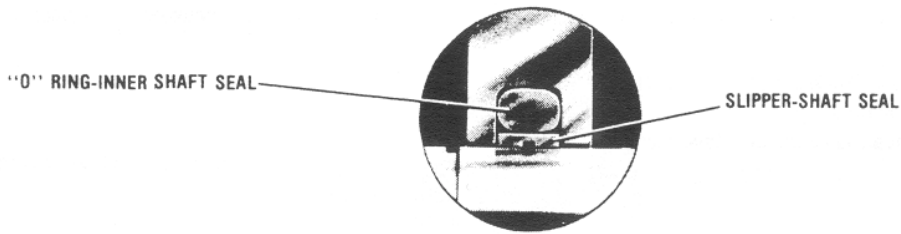
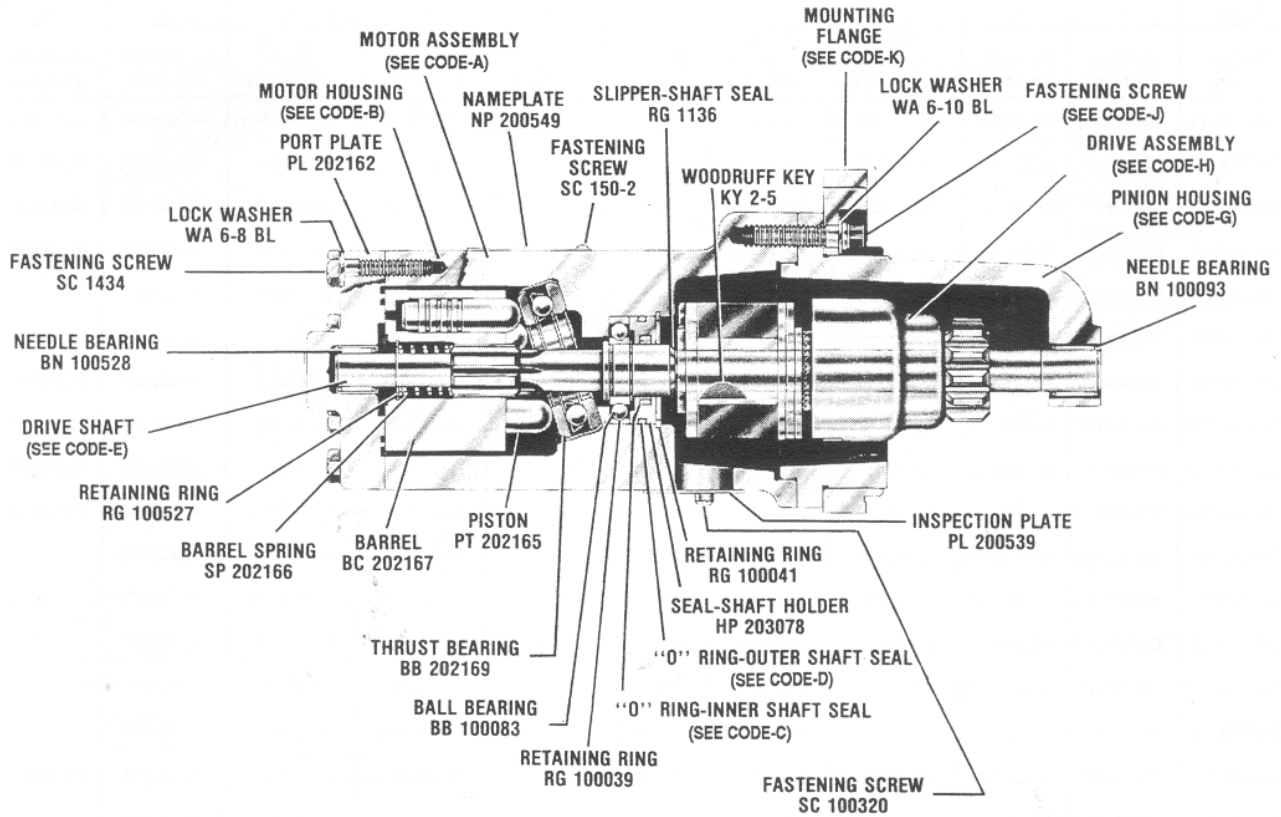
Engine Starting Systems

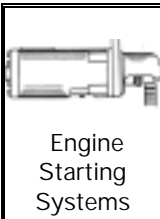
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Spare Parts





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CMO
Hydrotor
Data Sheet



Spare Part Variations

CODE	A	B	C	D	E	F	G	H	J	K
MODEL TYPE	MOTOR ASSEMBLY	MOTOR HOUSING	INNER 'O' RING SHAFT SEAL	OUTER 'O' RING SHAFT SEAL	DRIVE SHAFT	GASKET	PINION HOUSING	DRIVE ASSEMBLY	FASTENING SCREWS	MOUNTING FLANGE
CMO300271	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV200551	SC100196	FL200544
CMO308057	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV200550	SC100196	FL200547
CMO308068	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV200550	SC100196	FL200547
CMO308069	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV200550	SC100272	FL200694
CMO308075	HM202983	HG202814	GA100088	GA100104	SH202815		HG200749	DV200550	SC100273	
CMO308081	HM202551	HG202161	GA202543	GA202540	SH202164		HG200541	DV200550	SC100196	FL200547
CMO308084	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV200551	SC100196	FL200547
CMO308086	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV200558	SC100196	FL200547
CMO308103	HM202743	HG202161	GA100088	GA100104	SH202164		HG200541	DV200558	SC100196	FL200547
CMO308106	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV200553	SC100196	FL200547
CMO308111	HM202816	HG202814	GA100088	GA100104	SH202815		HG200749	DV200558	SC100273	(1)
CMO308121	HM202170	HG202161	GA100088	GA100104	SH202164	GA203068	HG202442	DV200551	SC100272	(2) (3)
CMO308122	HM202170	HG202161	GA100088	GA100104	SH202164	GA203068	HG200541	DV200559	SC100273	FL200547 (3)
CMO308126	HM203205	HG202814	GA100088	GA100104	SH202164		HG203178	DV200550	SC100273	
CMO308128	HM202170	HG202161	GA100088	GA100104	SH202164		EHS41-3062	DV200550	SC100272	
CMO308131	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV200555	SC100196	FL200547
CMO308132	HM203365	HG202814	GA100088	GA100104	SH202164		HG203178	DV200558	SC100273	
CMO308134	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV203423-1	SC100196	FL203367
CMO308135	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV203423-1	SC100196	FL203368
CMO308145	HM202550	HG202161	GA100088	GA100104	SH202164		HG200541	DV200558	SC100272	FL200694
CMO308146	HM202170	HG202161	GA100088	GA100104	SH202164		HG200541	DV200559	SC100196	FL200547
CMO308172	HM206193	HG202814	GA100088	GA100104	SH202815		HG200689	DV200550	SC100273	(1)

- (1) Replace needle bearing BN100093 with bearing BN100091
- (2) Integral part of the pinion housing
- (3) Special wet clutch application (Parts not illustrated)