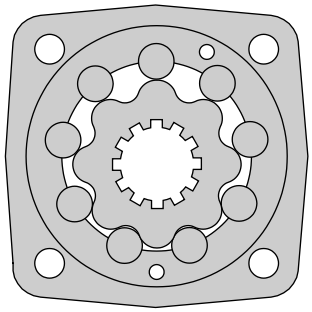
HYDRAULIC MOTORS MLHT

APPLICATION

» Conveyors
» Metal working machines
» Machines for agriculture
» Road building machines
» Mining machinery
» Food industries
» Special vehicles etc.



CONTENTS

OPTIONS

» Model- Disc valve, roll-gerotor
» Flange and wheel mount
» Short motor
» Tacho connection
» Speed sensoring
» Side and rear ports
» Shafts- straight, splined and tapered
» SAE, Metric and BSPP ports
» Other special features

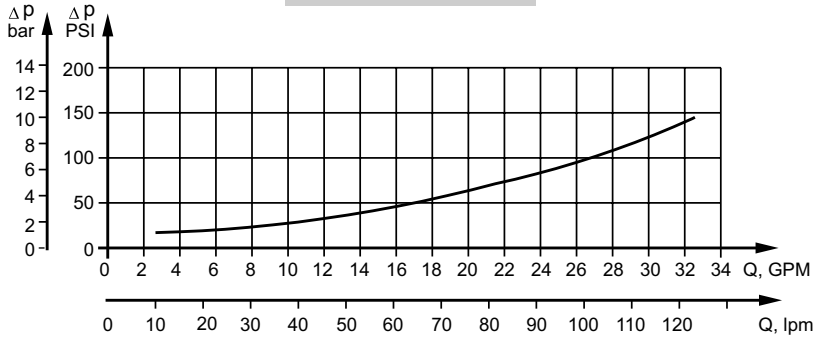
GENERAL

Displacement, in^3/rev [cm^3/rev.]	9.83÷44.24 [161,1÷725]
Max. Speed, [RPM]	175÷625
Max. Torque, in-lb [daNm]	4160÷11060 [47÷125]
Max. Output, HP [kW]	27÷45 [20,2÷33,5]
Max. Pressure Drop, PSI [bar]	1700÷2900 [115÷200]
Max. Oil Flow, GPM [lpm]	26.5÷33 [100÷125]
Min. Speed, [RPM]	5÷10
Permissible Shaft Loads lbs [daN]	P_a=2250 [1000]
Pressure fluid	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
Temperature range, ^oF [^oC]	-22÷194 [-30÷90]
Optimal Viscosity range, SUS [mm^2/s]	98÷347 [20÷75]
Filtration	ISO code 20/16 (Min. recommended fluid filtration of 25 micron)

Oil flow in drain line

Pressure drop PSI [bar]	Viscosity SUS [mm^2/s]	Oil flow in drain line GPM [lpm]
2030 [140]	98 [20]	.660 [2,5]
	164 [35]	.396 [1,5]
3045 [210]	98 [20]	1.321 [5]
	164 [35]	.793 [3]

Pressure Losses



SPECIFICATION DATA

Type		MLHT 160	MLHT 200	MLHT 250	MLHT 315
Displacement, in.³/rev. [cm.³/rev.]		9.83 [161,1]	12.29 [201,4]	15.36 [251,8]	19.90 [326,3]
Max. Speed, [RPM]	Cont.	622	620	496	382
	Int.*	775	752	601	461
Max. Torque in-lb [daNm]	Cont.	4160 [47]	5220 [59]	6460 [73]	8410 [95]
	Int.*	4960 [56]	6285 [71]	7790 [88]	10090 [114]
	Peak**	5840 [66]	7260 [82]	9030 [102]	11770 [133]
Max. Output HP [kW]	Cont.	36 [26,5]	45 [33,5]	45 [33,5]	45 [33,5]
	Int.*	43 [32]	54 [40]	54 [40]	54 [40]
Max. Pressure Drop PSI [bar]	Cont.	2900 [200]	2900 [200]	2900 [200]	2900 [200]
	Int.*	3450 [240]	3450 [240]	3450 [240]	3450 [240]
	Peak**	4050 [280]	4050 [280]	4050 [280]	4050 [280]
Max. Oil Flow GPM [lpm]	Cont.	26,5 [100]	33 [125]	33 [125]	33 [125]
	Int.*	33 [125]	40 [151,4]	40 [151,4]	40 [151,4]
Max. Inlet Pressure PSI [bar]	Cont.	3050 [210]	3050 [210]	3050 [210]	3050 [210]
	Int.*	3600 [250]	3600 [250]	3600 [250]	3600 [250]
	Peak**	4350 [300]	4350 [300]	4350 [300]	4350 [300]
Max. Return Pressure without Drain Line or Max. Pressure in Drain Line, PSI [bar]	Cont. 0-100 RPM	1100 [75]	1100 [75]	1100 [75]	1100 [75]
	Cont. 100-300 RPM	580 [40]	580 [40]	580 [40]	580 [40]
	Cont. >300 RPM	290 [20]	290 [20]	290 [20]	290 [20]
	Int.* 0-max. RPM	1100 [75]	1100 [75]	1100 [75]	1100 [75]
Max. Return Pressure with Drain Line PSI [bar]	Cont.	2030 [140]	2030 [140]	2030 [140]	2000 [140]
	Int.*	2540 [175]	2540 [175]	2540 [175]	2500 [175]
	Peak**	3050 [210]	3050 [210]	3050 [210]	3000 [210]
Max. Starting Pressure with Unloaded Shaft, PSI [bar]		150 [10]	150 [10]	150 [10]	150 [10]
Min. Starting Torque in-lb [daNm]	At max. press. drop Cont.	3010 [34]	3800 [43]	4690 [53]	6550 [74]
	At max. press. drop Int.*	3630 [41]	4600 [52]	5580 [63]	7880 [89]
Min. Speed*, [RPM]**		10	9	8	7
Weight, lb [kg] For Rear Ports + .992 [0,450]	MLHT	44.1 [20]	47.4 [21,5]	46.3[21]	48.5 [22]
	MLHTW	48.5 [22]	49.6 [22,5]	50.7 [23]	52.9 [24]
	MLHTS	33.1 [15]	34.2 [15,5]	35.3 [16]	37.5 [17]
	MLHTV	24.3 [11]	25.4 [11,5]	26.5 [12]	28.7 [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.

*** For speeds of 5 RPM lower than given, consult factory or your regional manager.

1. Intermittent speed and intermittent pressure must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommend using a premium quality, anti-wear type mineral based hydraulic oil, HLP(DIN51524) or HM(ISO6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 70 SUS [13 cm³/s] at 122°F [50°C].
5. Recommended maximum system operating temperature is 180°F [82°C].
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

SPECIFICATION DATA (continued)

Type		MLHT 400	MLHT 500	MLHT 630	MLHT 725
Displacement, in.³/rev. [cm.³/rev.]		25.06 [410,9]	31.95 [523,6]	38.52 [631,2]	44.2 [724,3]
Max. Speed, [RPM]	Cont.	304	238	197	164
	Int.*	368	289	234	199
Max. Torque in-lb [daNm]	Cont.	9560 [108]	10800 [122]	12215 [138]	13540 [153]
	Int.*	11150 [126]	12125 [137]	13720 [155]	15220 [172]
	Peak**	12745 [144]	14160 [160]	15930 [180]	17700 [200]
Max. Output HP [kW]	Cont.	40 [30]	36 [26,5]	33 [24,3]	27 [20,2]
	Int.*	47 [35]	40 [30]	37 [27,5]	36 [26,8]
Max. Pressure Drop PSI [bar]	Cont.	2600 [180]	2300 [160]	2010 [140]	1740 [120]
	Int.*	3050 [210]	2600 [180]	2310 [160]	2010 [140]
	Peak**	3450 [240]	3050 [210]	2760 [190]	2395 [165]
Max. Oil Flow GPM [lpm]	Cont.	33 [125]	33 [125]	33 [125]	33 [125]
	Int.*	40 [151,4]	40 [151,4]	40 [151,4]	40 [151,4]
Max. Inlet Pressure PSI [bar]	Cont.	3050 [210]	3050 [210]	3050 [210]	3050 [210]
	Int.*	3600 [250]	3600 [250]	3600 [250]	3600 [250]
	Peak**	4350 [300]	4350 [300]	4350 [300]	4350 [300]
Max. Return Pressure without Drain Line or Max. Pressure in Drain Line, PSI [bar]	Cont. 0-100 RPM	1100 [75]	1100 [75]	1100 [75]	1100 [75]
	Cont. 100-300 RPM	580 [40]	580 [40]	580 [40]	580 [40]
	Cont. >300 RPM	290 [20]	-	-	-
	Int.* 0-max. RPM	1100 [75]	1100 [75]	1100 [75]	1100 [75]
Max. Return Pressure with Drain Line PSI [bar]	Cont.	2000 [140]	2000 [140]	2000 [140]	2000 [140]
	Int.*	2500 [175]	2500 [175]	2500 [175]	2500 [175]
	Peak**	3000 [210]	3000 [210]	3000 [210]	3000 [210]
Max. Starting Pressure with Unloaded Shaft, PSI [bar]		150 [10]	150 [10]	150 [10]	150 [10]
Min. Starting Torque in-lb [daNm]	At max. press. drop Cont.	7435 [84]	8410 [95]	8410 [95]	8410 [95]
	At max. press. drop Int.*	8585 [97]	9380 [106]	9740 [110]	10180 [115]
Min. Speed*, [RPM]**		6	5	5	5
Weight, lb [kg] For Rear Ports + .992 [0,450]	MLHT	50.7 [23]	52.9 [24]	51.8 [23,5]	54.0 [24,5]
	MLHTW	55.1 [25]	57.3 [26]	56.2 [25,5]	58.4 [26,5]
	MLHTS	39.7 [18]	41.9 [19]	40.8 [18,5]	43.0 [19,5]
	MLHTV	30.9 [14]	33.1 [15]	32.0 [14,5]	34.2 [15,5]

* 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.

*** For speeds of 5 RPM lower than given, consult factory or your regional manager.

1. Intermittent speed and intermittent pressure must not occur simultaneously.
2. Recommended filtration is per ISO cleanliness code 20/16. A nominal filtration of 25 micron or better.
3. Recommend using a premium quality, anti-wear type mineral based hydraulic oil, HLP(DIN51524) or HM(ISO6743/4). If using synthetic fluids consult the factory for alternative seal materials.
4. Recommended minimum oil viscosity 70 SUS [13 cm³/s] at 122°F [50°C].
5. Recommended maximum system operating temperature is 180°F [82°C].
6. To assure optimum motor life fill with fluid prior to loading and run at moderate load and speed for 10-15 minutes.

Performance Data MLHT 160

Flow [GPM]	Pressure (Δ PSI) 500	1000	1500	2030	2540	Max. Cont. 2900	Max. Int. 3450	Speed (theor.)
3	670 **68**	1345 **67**	2085 **66**	2835 **64**	3440 **61**	3955 **57**	4695 **50**	**70**
5	680 **114**	1380 **113**	2140 **111**	2865 **108**	3545 **103**	4060 **97**	4885 **90**	**117**
10	691 **236**	1375 **233**	2150 **230**	2860 **224**	3635 **218**	4165 **211**	5025 **201**	**235**
15	627 **351**	1360 **347**	2150 **343**	2860 **337**	3635 **330**	4160 **322**	5020 **312**	**352**
20	592 **466**	1320 **463**	2095 **459**	2845 **452**	3615 **445**	4120 **437**	4975 **423**	**469**
Max. Cont. 26.5	535 **616**	1220 **613**	2000 **608**	2780 **600**	3525 **592**	4030 **584**	4895 **572**	**622**
Max. Int. 33	440 **769**	1130 **763**	1935 **757**	2690 **749**	3425 **740**	3965 **730**	4840 **714**	**775**
Torque (theor.) in-lb. [daNm]	781 [8,83]	1562 [17,65]	2343 [26,48]	3172 [35,84]	3969 [44,84]	4532 [51,2]	5391 [60,91]	

Torque [in-lb] 4840
Speed [RPM] 714

9.83 in.^{3}/rev. [161,1 cm.^{3}/rev.]

Performance Data MLHT 200

Flow [GPM]	Pressure (Δ PSI) 500	1000	1500	2030	2540	Max. Cont. 2900	Max. Int. 3450	Speed (theor.)
3	945 **54**	1775 **53**	2646 **51**	3510 **48**	4326 **45**	4955 **42**	5872 **38**	**56**
5	950 **90**	1822 **89**	2726 **87**	3578 **85**	4460 **82**	5100 **79**	6102 **71**	**94**
10	918 **185**	1836 **183**	2714 **181**	3638 **177**	4528 **173**	5216 **169**	6278 **158**	**188**
15	884 **281**	1810 **279**	2700 **276**	3630 **272**	4562 **267**	5216 **261**	6298 **249**	**282**
20	824 **374**	1760 **372**	2646 **368**	3618 **363**	4522 **357**	5190 **350**	6278 **340**	**376**
25	756 **466**	1728 **464**	2620 **460**	3550 **456**	4495 **449**	5136 **442**	6244 **435**	**470**
Max. Cont. 33	640 **615**	1586 **611**	2525 **607**	3435 **602**	4380 **595**	5008 **588**	6115 **572**	**620**
Max. Int. 40	532 **750**	1478 **747**	2376 **742**	3348 **734**	4260 **724**	4900 **713**	5980 **688**	**751**
Torque (theor.) in-lb. [daNm]	979 [11]	1957 [22,11]	2936 [33,17]	3974 [44,9]	4972 [56,18]	5677 [64,14]	6754 [76,3]	

Torque [in-lb] 5980
Speed [RPM] 688

12.29 in.^{3}/rev. [201,4 cm.^{3}/rev.]

The Performance data was collected at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122ºF [50ºC].

Performance Data MLHT 250

Flow [GPM]	Pressure (Δ PSI) 500	1000	1500	2030	2540	Max. Cont. 2900	Max. Int. 3450	Speed (theor.)
3	1050 **43**	2180 **43**	3248 **42**	4322 **41**	5332 **39**	6100 **37**	7232 **35**	45
5	1090 **72**	2255 **71**	3336 **70**	4460 **68**	5535 **66**	6262 **63**	7482 **59**	75
10	1062 **148**	2295 **146**	3402 **144**	4540 **141**	5656 **138**	6400 **135**	7756 **127**	150
15	1006 **224**	2242 **223**	3402 **221**	4556 **217**	5648 **212**	6432 **207**	7790 **196**	225
20	978 **300**	2158 **299**	3330 **297**	4468 **291**	5595 **287**	6380 **283**	7780 **269**	300
25	958 **375**	2150 **373**	3248 **370**	4404 **366**	5546 **360**	6335 **353**	7716 **340**	375
Max. Cont. 33	888 **495**	1986 **492**	3110 **488**	4274 **483**	5414 **476**	6218 **469**	7580 **454**	496
Max. Int. 40	670 **598**	1850 **594**	2932 **590**	4096 **585**	5268 **577**	6075 **570**	7434 **550**	601
Torque (theor.) in-lb. [daNm]	1223 [13,83]	2447 [27,65]	3671 [41,48]	4969 [56,14]	6217 [70,24]	7098 [80,2]	8445 [95,41]	

Torque [in-lb] 7434
Speed [RPM] 550

15.36 in.^{3}/rev. [251,8 cm.^{3}/rev.]

Performance Data MLHT 315

Flow [GPM]	Pressure (PSI) 500	1000	1500	2030	2540	Max. Cont. 2900	Max. Int. 3450	Speed (theor.)
3	1400 **34**	2768 **33**	4148 **32**	5624 **31**	7002 **30**	7886 **28**	9320 **26**	35
5	1444 **57**	2898 **56**	4320 **55**	5806 **53**	7218 **51**	8112 **49**	9728 **47**	58
10	1455 **115**	2908 **114**	4428 **112**	5882 **109**	7380 **106**	8446 **103**	10084 **99**	116
15	1444 **173**	2865 **171**	4514 **169**	5915 **166**	7358 **163**	8510 **159**	10125 **150**	174
20	1368 **231**	2812 **229**	4385 **226**	5838 **223**	7326 **219**	8446 **215**	10115 **205**	232
25	1292 **289**	2725 **288**	4276 **285**	5806 **282**	7228 **278**	8338 **273**	10030 **261**	290
Max. Cont. 33	1120 **380**	2564 **378**	4094 **375**	5612 **371**	7100 **367**	8145 **362**	9890 **349**	383
Max. Int. 40	905 **462**	2424 **460**	3954 **457**	5430 **453**	6798 **448**	7908 **435**	9620 **429**	464
Torque (theor.) in-lb. [daNm]	1587 [17,93]	3174 [35,86]	4761 [53,79]	6443 [72,8]	8062 [91,09]	9205 [104]	10950 [123,7]	

Torque [in-lb] 9620
Speed [RPM] 429

19.90 in.^{3}/rev. [326,3 cm.^{3}/rev.]

The Performance data was collected at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122ºF [50ºC].

Performance Data MLHT 400

Flow [GPM]	Pressure (Δ PSI) 500	1000	1500	2030	2400	Max. Cont. 2600	Max. Int. 3050	Speed (theor.)
3	1795 **27**	3730 **26**	5700 **25**	7275 **24**	8640 **23**	9260 **22**	10715 **20**	28
5	1820 **46**	3765 **45**	5750 **44**	7380 **42**	8780 **40**	9445 **38**	10960 **36**	46
10	1795 **91**	3765 **90**	5770 **88**	7460 **85**	8970 **82**	9620 **79**	11195 **75**	92
15	1770 **137**	3670 **135**	5725 **132**	7415 **128**	8980 **124**	9655 **120**	11250 **115**	138
20	1690 **183**	3590 **181**	5630 **178**	7310 **174**	8910 **170**	9560 **167**	11195 **161**	184
25	1525 **229**	3445 **227**	5470 **225**	7205 **221**	8750 **216**	9410 **212**	11100 **206**	230
Max. Cont. 33	1375 **302**	3145 **300**	5330 **298**	7000 **294**	8525 **289**	9210 **285**	10820 **278**	303
Max. Int. 40	1280 **367**	2970 **365**	5165 **361**	6770 **357**	8315 **353**	8990 **349**	10610 **342**	368
Torque (theor.) in-lb. [daNm]	1997 [22,56]	3994 [45,12]	5990 [67,68]	8107 [91,6]	9585 [108,3]	10384 [117,3]	12181 [137,6]	

Torque [in-lb] 10610
Speed [RPM] 342

25.06 in.^{3}/rev. [410,9 cm.^{3}/rev.]

Performance Data MLHT 500

Flow [GPM]	Pressure (Δ PSI) 400	800	1200	1600	2030	Max. Cont. 2300	Max. Int. 2600	Speed (theor.)
3	1805 **21**	3670 **21**	5635 **20**	7255 **19**	9155 **18**	10465 **17**	11810 **15**	22
5	1880 **35**	3775 **34**	5810 **33**	7470 **32**	9330 **31**	10705 **30**	12135 **28**	36
10	1875 **71**	3790 **70**	5920 **69**	7660 **68**	9535 **66**	10910 **64**	12540 **61**	72
15	1835 **107**	3720 **106**	5810 **105**	7660 **103**	9490 **101**	10925 **99**	12420 **96**	108
20	1730 **143**	3510 **142**	5665 **141**	7545 **139**	9385 **137**	10910 **135**	12350 **131**	145
25	1580 **179**	3420 **178**	5530 **177**	7335 **175**	9265 **173**	10735 **171**	12190 **167**	181
Max. Cont. 33	1480 **237**	3235 **236**	5220 **235**	7135 **233**	8925 **231**	10515 **229**	11920 **225**	239
Max. Int. 40	1200 **287**	3005 **286**	5030 **285**	6945 **283**	8750 **281**	10235 **279**	11680 **275**	289
Torque (theor.) in-lb. [daNm]	2036 [23]	4073 [46]	6109 [69]	8145 [92]	10334 [116,7]	11709 [132,3]	13236 [149,5]	

Torque [in-lb] 11680
Speed [RPM] 275

31.95 in.^{3}/rev. [523,6 cm.^{3}/rev.]

The Performance data was collected at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122ºF [50ºC].

Performance Data MLHT 630

Flow [GPM]	Pressure (Δ PSI) 400	800	1200	1600	Max. Cont. 2030	Max. Int. 2300	Speed (theor.)
3	2080 **17**	4240 **17**	6500 **16**	8370 **15**	10560 **15**	12080 **14**	**18**
5	2165 **28**	4360 **28**	6700 **27**	8620 **26**	10760 **25**	12260 **24**	**30**
10	2165 **58**	4370 **57**	6830 **56**	8850 **55**	10100 **54**	12590 **52**	**60**
15	2120 **87**	4290 **86**	6710 **85**	8840 **84**	10950 **82**	12600 **81**	**90**
20	2000 **116**	4055 **116**	6535 **115**	8710 **113**	10825 **112**	12590 **110**	**120**
25	1800 **146**	3940 **145**	6380 **144**	8465 **142**	10690 **141**	12385 **139**	**150**
Max. Cont. 33	1705 **193**	3740 **192**	6025 **191**	8230 **190**	10290 **188**	12130 **186**	**193**
Max. Int. 40	1390 **234**	3470 **233**	5800 **232**	8015 **230**	10100 **229**	11805 **227**	**240**
Torque (theor.) in-lb. [daNm]	2455 [27,7]	4910 [55,4]	7360 [83,2]	9810 [110,9]	12460 [140,7]	14110 [159,4]	

Torque [in-lb] 11805
Speed [RPM] 227

38.52 in.^{3}/rev. [631,2 cm.^{3}/rev.]

Performance Data MLHT 725

Flow [GPM]	Pressure (Δ PSI) 400	800	1200	Max. Cont. 1600	Max. Int. 2030	Speed (theor.)
3	2310 **15**	4700 **15**	7210 **14**	9285 **13**	11705 **12**	**16**
5	2400 **24**	4830 **23**	7430 **23**	9550 **22**	11930 **21**	**26**
10	2400 **49**	4850 **48**	7570 **48**	9800 **47**	12190 **46**	**52**
15	2340 **74**	4755 **73**	7440 **72**	9800 **71**	12135 **70**	**78**
20	2220 **99**	4495 **98**	7245 **97**	9660 **96**	12000 **94**	**105**
25	1990 **123**	4370 **123**	7075 **122**	9380 **121**	11850 **120**	**131**
Max. Cont. 33	1890 **163**	4140 **162**	6680 **162**	9120 **161**	11410 **160**	**173**
Max. Int. 40	1540 **198**	5850 **197**	6430 **196**	8890 **195**	11200 **194**	**209**
Torque (theor.) in-lb. [daNm]	2815 [31,8]	5630 [63,6]	8850 [95,4]	11260 [127,2]	14290 [161,5]	

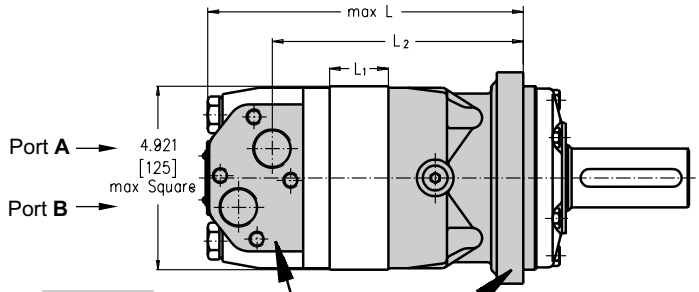
Torque [in-lb] 11200
Speed [RPM] 194

44.2 in.^{3}/rev. [724,3 cm.^{3}/rev.]

Metric Conversions
Flow 1 lpm = 0.264 GPM
Pressure 1 bar = 14.51 PSI
Torque 1 Nm = 8.85 in-lb

The Performance data was collected at back pressure 72.5÷145 PSI [5÷10 bar] and oil with viscosity of 150 SUS [32 mm²/s] at 122ºF [50ºC].

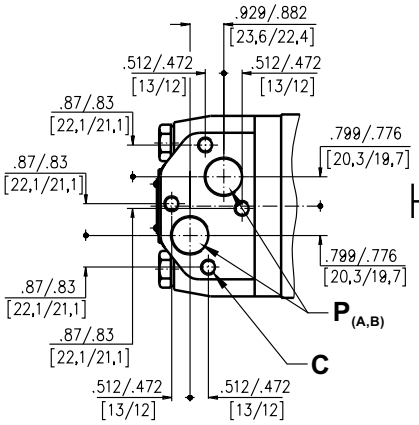
DIMENSIONS AND MOUNTING DATA



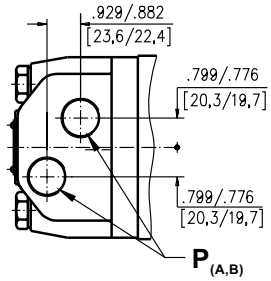
Porting

Side Ports

Version 2 3

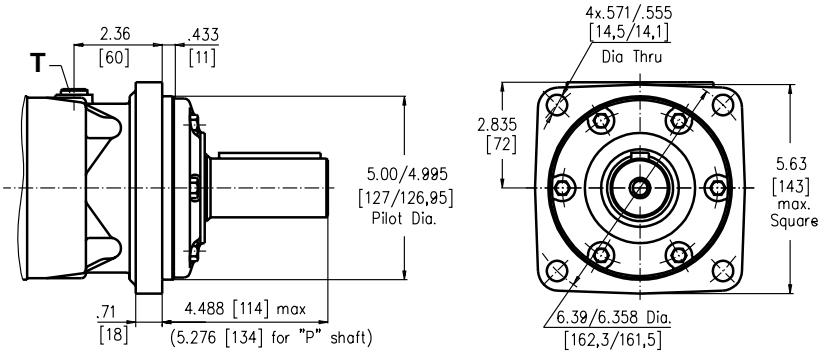


Version 4

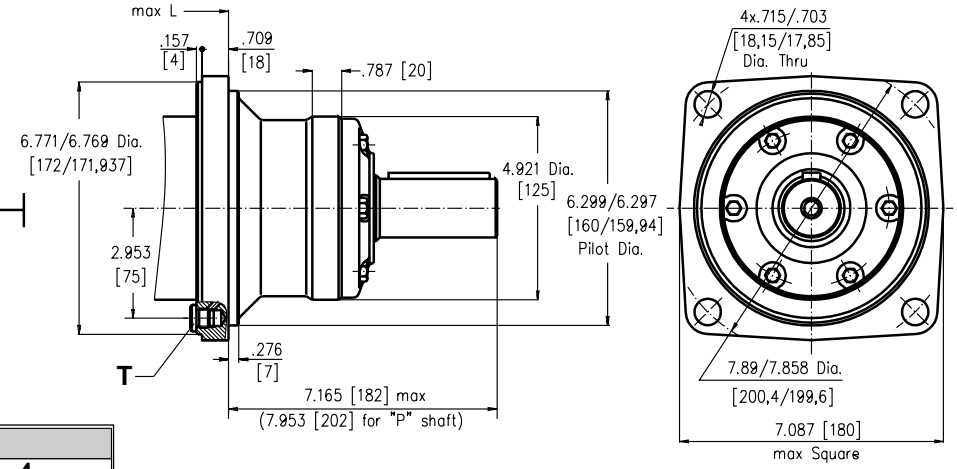


Mounting

SAE C Flange



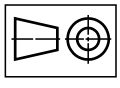
W Wheel Flange



	Versions		
	2	3	4
C	4xM10	4xM10	-
P (A,B)	2xG¾	2xM27x2	2x1 1/16-12UN
T	G¼	M14x1,5	9/16-18UNF

Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

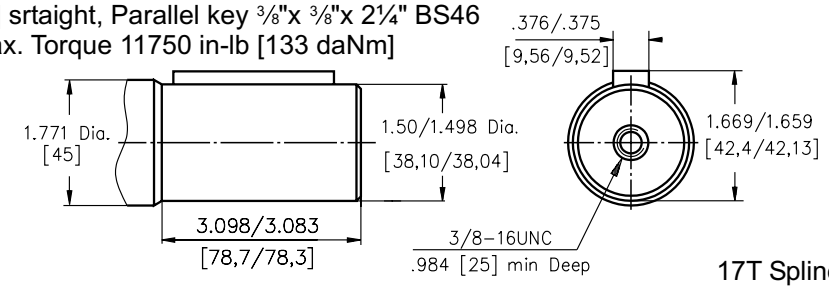


Type	L, in.[mm]	L_2, in.[mm]	Type	L, in.[mm]	L_2, in.[mm]	L_1, in.[mm]
MLHT 160	7.68 [195]	5.79 [147]	MLHTW 160	5.04 [128]	3.15 [80]	.79 [20]
MLHT 200	7.87 [200]	5.98 [152]	MLHTW 200	5.24 [133]	3.35 [85]	.98 [25]
MLHT 250	8.11 [206]	6.22 [158]	MLHTW 250	5.47 [139]	3.58 [91]	1.23 [31,3]
MLHT 315	8.50 [216]	6.61 [168]	MLHTW 315	5.87 [149]	3.98 [101]	1.59 [40,5]
MLHT 400	8.90 [226]	7.01 [178]	MLHTW 400	6.26 [159]	4.37 [111]	2.01 [51]
MLHT 500	9.45 [240]	7.56 [192]	MLHTW 500	6.81 [173]	4.92 [125]	2.56 [65]
MLHT 630	9.29 [236]	7.40 [188]	MLHTW 630	6.65 [169]	4.76 [121]	2.40 [61]
MLHT 725	9.65 [245]	7.76 [197]	MLHTW 725	7.01 [178]	5.12 [130]	2.76 [70]

SHAFT EXTENSIONS

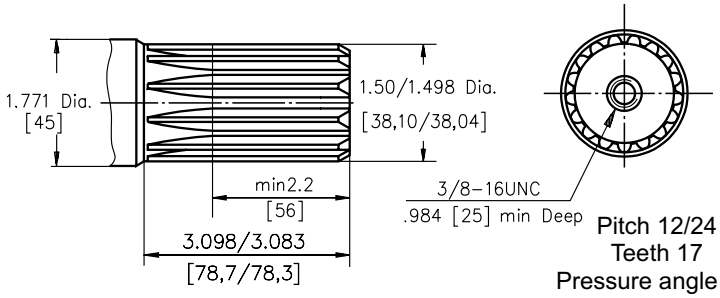
C

1½"[38,1] srtaight, Parallel key ⅜"x ⅜"x 2¼" BS46
Max. Torque 11750 in-lb [133 daNm]



G

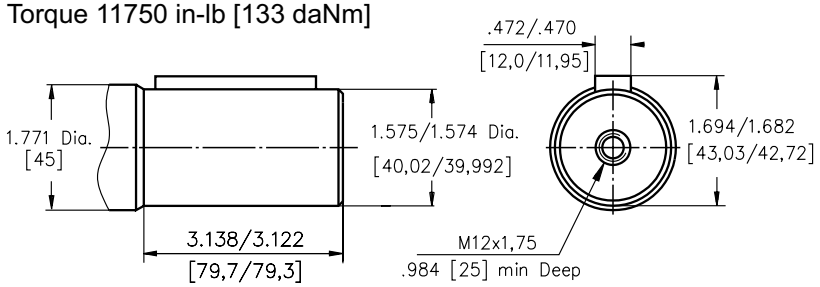
17T Splined, 1½" [38,1] ANS B92.1-1976
Max. Torque 11750 in-lb [133 daNm]



Pitch 12/24
Teeth 17
Pressure angle 30°

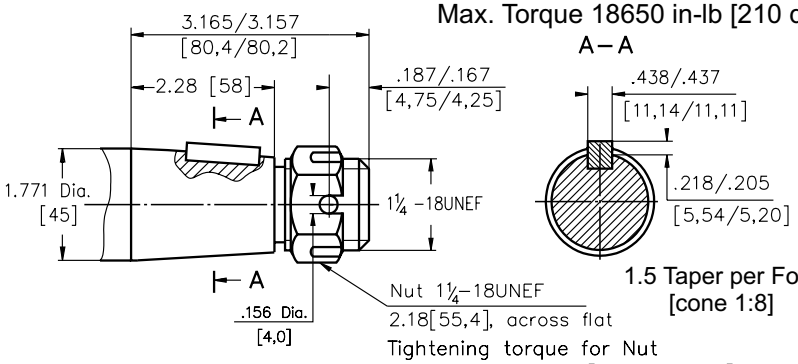
M

ø40 straight, Parallel key A12x8x70 DIN 6885
Max. Torque 11750 in-lb [133 daNm]



T

SAE J501 Tapered 1:8
Parallel key 7/16"x7/16"x 1¼ " BS46
Max. Torque 18650 in-lb [210 daNm]

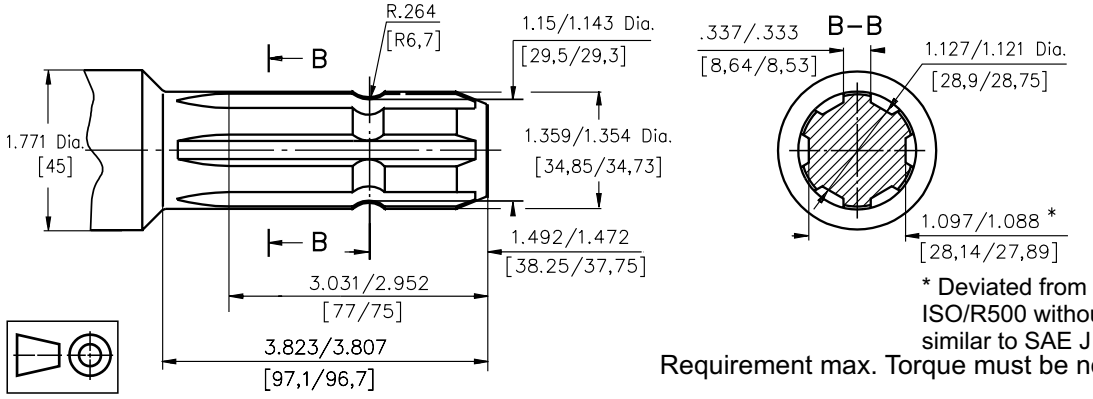


1.5 Taper per Foot
[cone 1:8]

Tightening torque for Nut
4160÷4690 in–lb [50±1 daN.m]

P

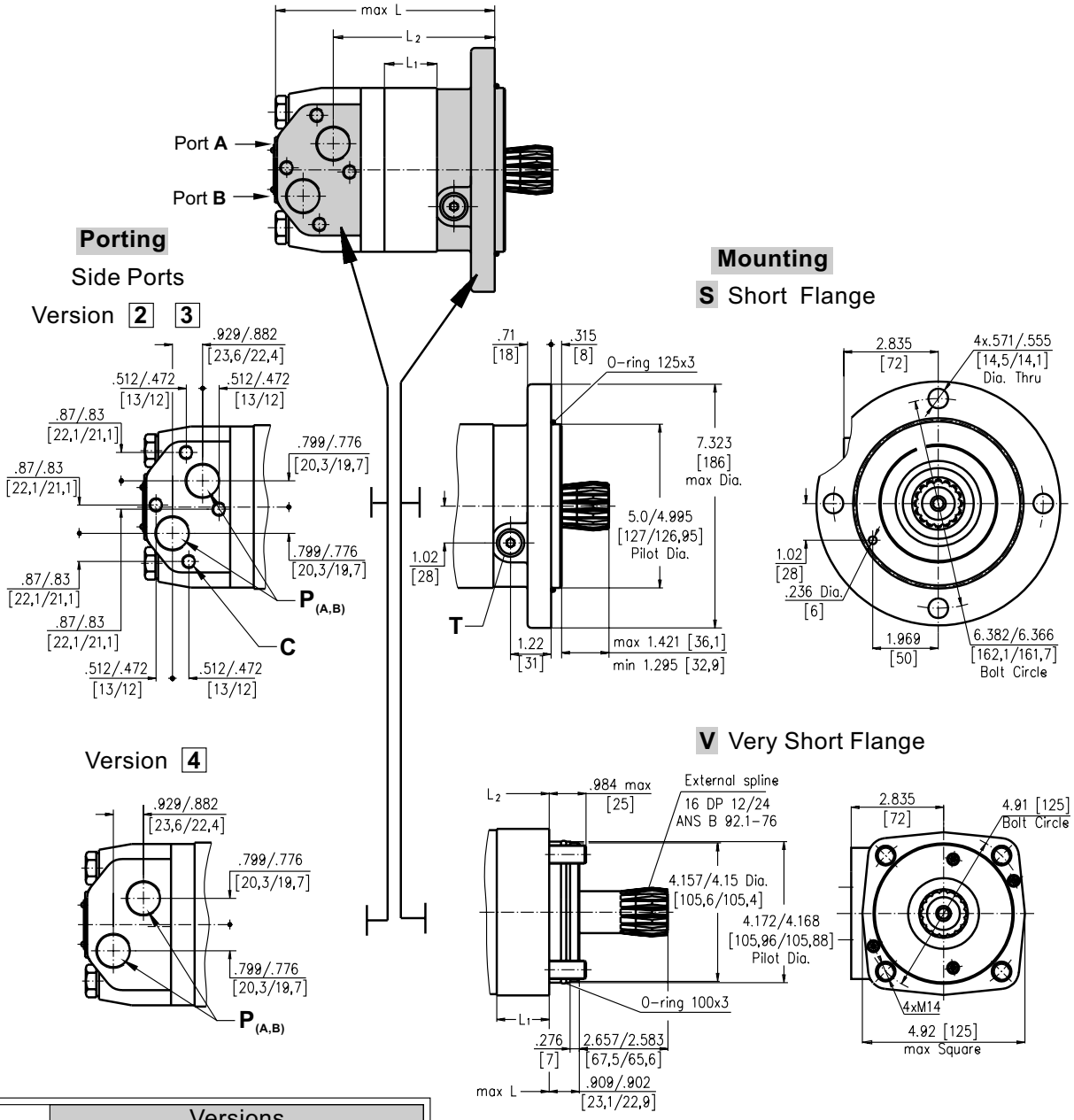
ø 34,85 p.t.o. DIN 9611 Form 1
Max. Torque 6815 in-lb [77 daNm]



* Deviated from DIN 9611
ISO/R500 without pin hole
similar to SAE J1170

Requirement max. Torque must be not exceeded.

DIMENSIONS AND MOUNTING DATA - MLHTS and MLHTV



	Versions		
	2	3	4
C	4xM10	4xM10	-
P (A,B)	2xG¾	2xM27x2	2x1 1/16-12UN
T	G¼	M14x1,5	9/16-18UNF

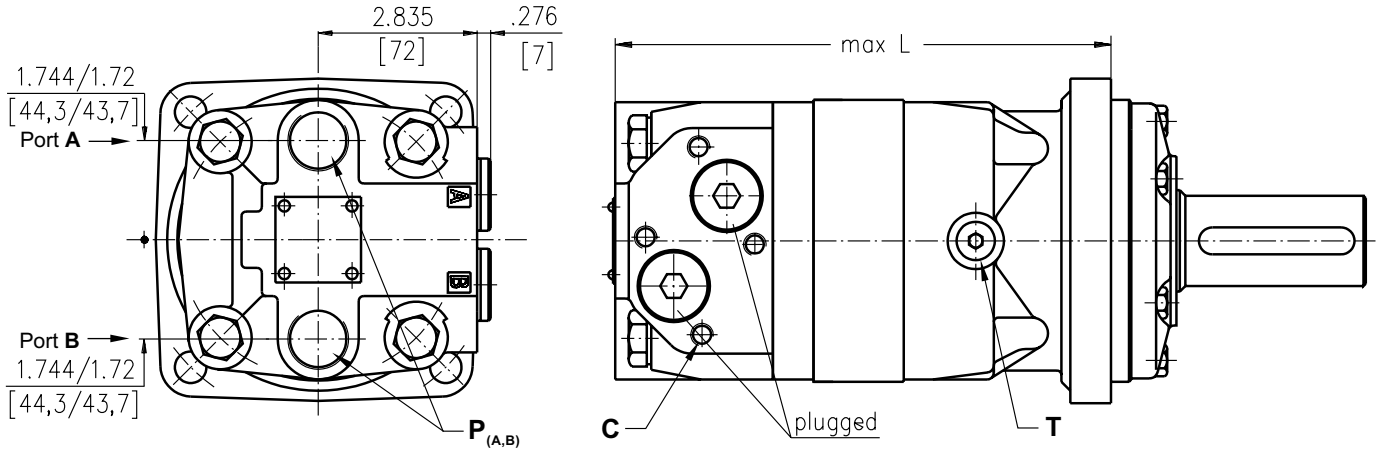
Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

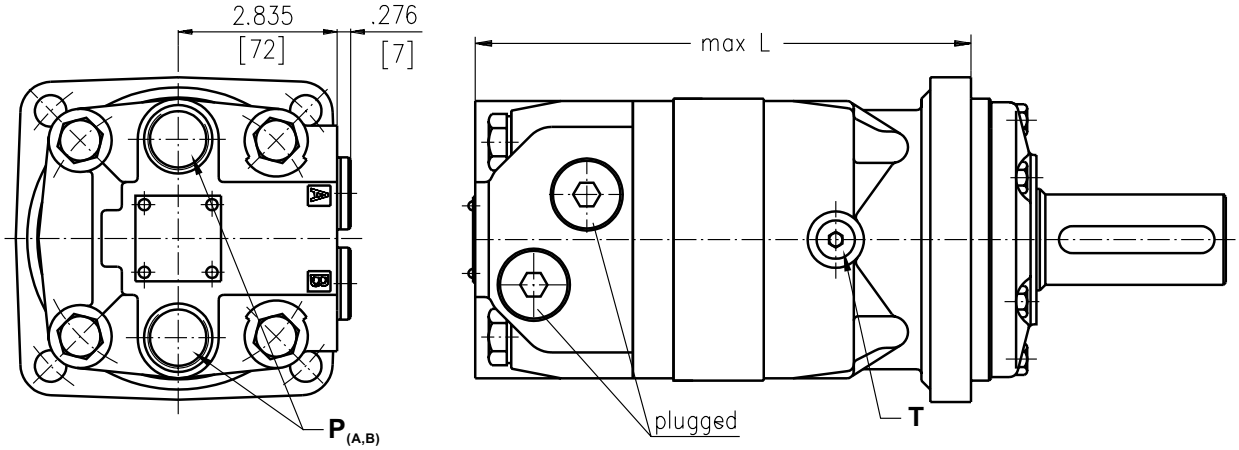
Type	L, in.[mm]	L_2, in.[mm]	Type	L, in.[mm]	L_2, in.[mm]	L_1, in.[mm]
MLHTS 160	5.95 [151]	4.06 [103]	MLHTV 160	4.17 [106]	2.30 [51,8]	.79 [20]
MLHTS 200	6.14 [156]	4.25 [108]	MLHTV 200	4.37 [111]	2.50 [63,5]	.98 [25]
MLHTS 250	6.38 [162]	4.53 [115]	MLHTV 250	4.61 [117]	2.76 [70,0]	1.23 [31,3]
MLHTS 315	6.73 [171]	4.84 [123]	MLHTV 315	4.96 [126]	3.11 [79,0]	1.59 [40,5]
MLHTS 400	7.17 [182]	5.28 [134]	MLHTV 400	5.39 [137]	3.52 [89,5]	2.01 [51]
MLHTS 500	7.72 [196]	5.87 [149]	MLHTV 500	5.95 [151]	4.07 [103,5]	2.56 [65]
MLHTS 630	7.56 [192]	5.67 [144]	MLHTV 630	5.79 [147]	3.92 [99,5]	2.40 [61]
MLHTS 725	7.91 [201]	5.95 [151]	MLHTV 725	6.14 [156]	4.27 [108,5]	2.76 [70]

MLHT - REAR PORTS

Version 6 9

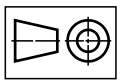


Version 7



Standard Rotation
Viewed from Shaft End
Port **A** Pressurized - **CW**
Port **B** Pressurized - **CCW**

Reverse Rotation
Viewed from Shaft End
Port **A** Pressurized - **CCW**
Port **B** Pressurized - **CW**

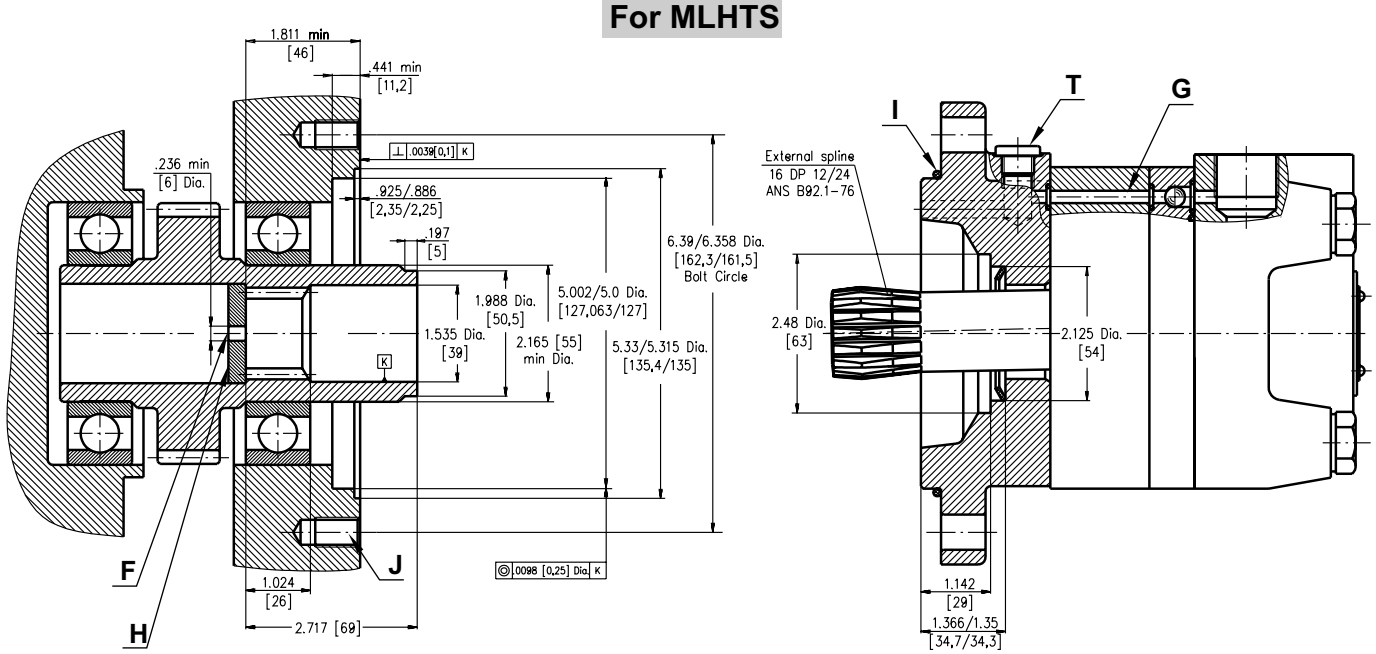


	Versions		
	6	7	9
C	4xM10	-	4xM10
P (A,B)	2xG¾	2x1$^{1}/_{16}$-12UN	2xM27x2
T	G¼	$^{9}/_{16}$-18UNF	M14x1,5

Type	L, in. [mm]	Type	L, in. [mm]	Type	L, in. [mm]	Type	L, in. [mm]
MLHT 160	7.87 [200]	MLHTW 160	5.23 [133]	MLHTS 160	6.14 [156]	MLHTV 160	4.37 [111]
MLHT 200	8.07 [205]	MLHTW 200	5.43 [138]	MLHTS 200	6.33 [161]	MLHTV 200	4.57 [116]
MLHT 250	8.31 [211]	MLHTW 250	5.67 [144]	MLHTS 250	6.57 [167]	MLHTV 250	4.80 [122]
MLHT 315	8.70 [221]	MLHTW 315	6.02 [154]	MLHTS 315	6.93 [176]	MLHTV 315	5.16 [131]
MLHT 400	9.09 [231]	MLHTW 400	6.45 [164]	MLHTS 400	7.36 [187]	MLHTV 400	5.59 [142]
MLHT 500	9.64 [245]	MLHTW 500	6.61 [178]	MLHTS 500	7.91 [201]	MLHTV 500	6.14 [156]
MLHT 630	9.49 [241]	MLHTW 630	6.85 [174]	MLHTS 630	7.76 [197]	MLHTV 630	5.98 [152]
MLHT 725	9.84 [250]	MLHTW 725	7.21 [183]	MLHTS 725	8.11 [206]	MLHTV 725	6.34 [161]

DIMENSIONS OF THE ATTACHED COMPONENT

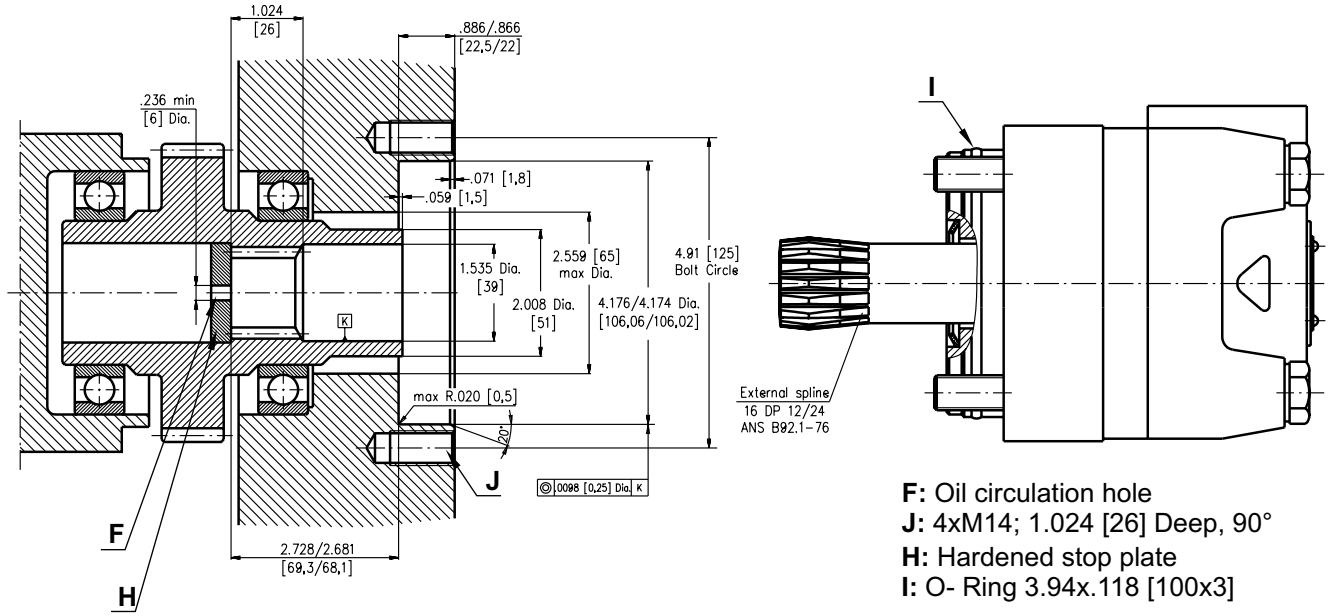
For MLHTS



F: Oil circulation hole
G: Internal drain channel
H: Hardened stop plate

I: O- Ring 4.921x.118 [125x3]
J: 4x1/2-16UN; 0.71 [18] Deep, 90°
T: Drain connection G1/4, M14x1,5 or 9/16 - 18UNF

For MLHTV



F: Oil circulation hole
J: 4xM14; 1.024 [26] Deep, 90°
H: Hardened stop plate
I: O- Ring 3.94x.118 [100x3]

DRAIN CONNECTION

A drain line ought to be used when pressure in the return line can exceed the permissible pressure. It can be connected:

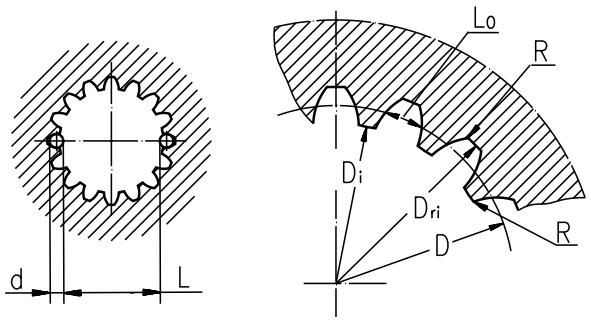
- For MLHTS at the drain port of the motor;
- For MLHTV at the drain connection of the attached component. The maximum pressure in the drain line is limited by the attached component and its shaft seal.

The drain line must be possible for oil to flow freely between motor and attached component and must be led to the tank. The maximum pressure in the drain line is limited by the attached component and its seal.

INTERNAL SPLINE DATA FOR THE ATTACHED COMPONENT

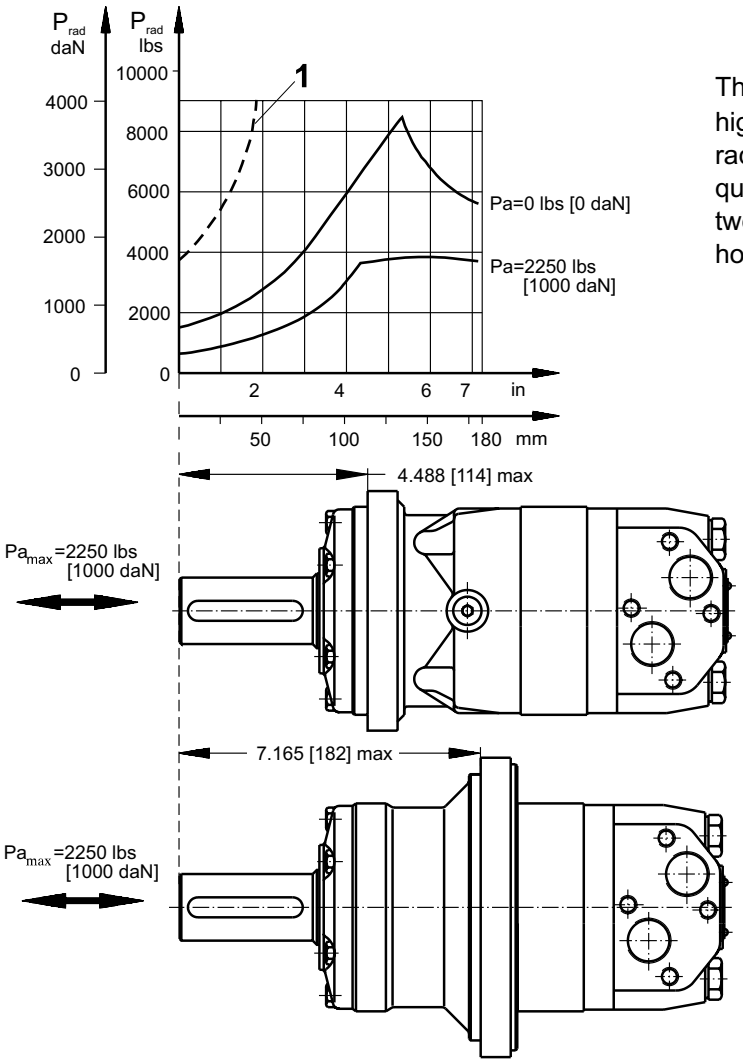
Standard ANS B92.1-1976, class 5
[m=2.1166; corrected x.m=1]

Fillet Root Side Fit		inch	mm
Number of Teeth	z	16	16
Diametral Pitch	DP	12/24	12/24
Pressure Angle		30^0	30^0
Pitch Dia.	D	1.3333	33,8656
Major Dia.	Dri	1.5118÷1.5275	$38,4^{+0,4}$
Minor Dia.	Di	1.2657÷1.2673	$32,15^{+0,04}$
Space Width [Circular]	Lo	.1763÷.1791	4,516±0,037
Fillet Radius	R	.02	0,5
Max. Measurement between Pins	L	1.063÷1.059	$26,9^{+0,10}$
Pin Dia.	d	.19026÷.19034	4,835±0,001



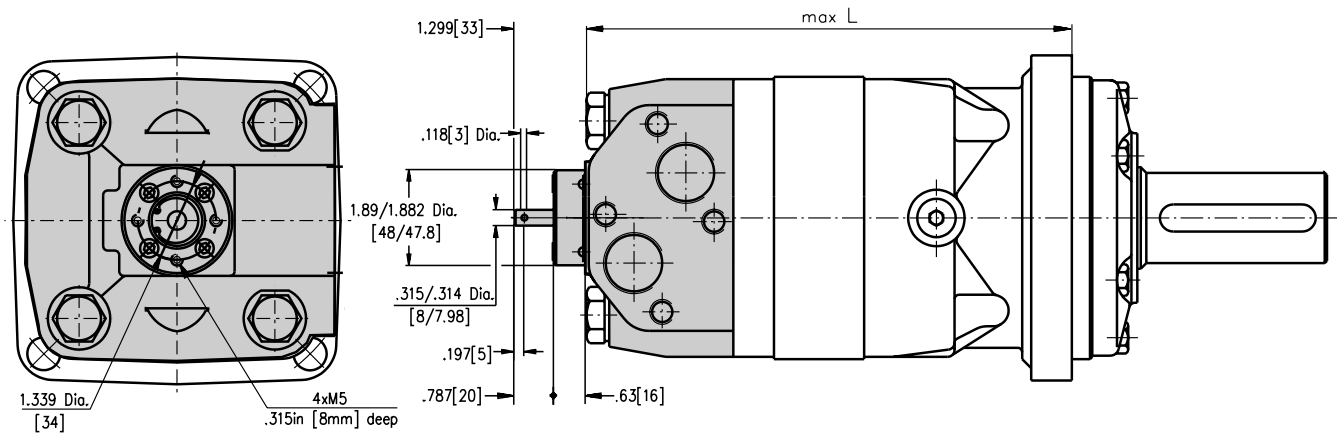
Hardening Specification:
HV=750±50 on the surface.
HV=560 at .035÷.019 [0,7±0,2] case depth
Material: 20 MoCr4 DIN 17210 or SAE8620.

PERMISSIBLE SHAFT LOADS



The output shaft runs in tapered bearings that permit high axial and radial forces. Curve "**1**" shows max. radial shaft load. Any shaft load exceeding the values quoted in the curve will involve a risk of breakage. The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.

MOTORS WITH TACHO CONNECTION



ORDER CODE

	1	2	3	4	5	6
M L H T						

Pos.1 - **Mounting Flange**

omit - SAE C, four holes

S	- Short
V	- Very short
W	- Wheel mount

Pos.2 - **Displacement code**

160	- 9.83 [61,6] in.^{3}/rev. [cm.^{3}/rev.]
200	- 12.29 [201,4] in.^{3}/rev. [cm.^{3}/rev.]
250	- 15.36 [251,8] in.^{3}/rev. [cm.^{3}/rev.]
315	- 19.90 [326,3] in.^{3}/rev. [cm.^{3}/rev.]
400	- 25.06 [410,9] in.^{3}/rev. [cm.^{3}/rev.]
500	- 31.95 [523,6] in.^{3}/rev. [cm.^{3}/rev.]
630	- 38.52 [631,2] in.^{3}/rev. [cm.^{3}/rev.]
725	- 44.20 [724,3] in.^{3}/rev. [cm.^{3}/rev.]

Pos.3 - **Shaft Extensions***

omit - for **S** and **V** mounting flange

C	- 1½" [38,10] straight, Parallel key
G	- 1½" [38,10] 17T Splined
M	- 40 mm straight, Parallel key
P	- 34,85 mm Splined, p.t.o. DIN 9611 Form 1
T	- 1¾" [44,50] J501 Tapered

Pos.4 - **Port Size/Type** [standard manifold to each]

2	- side ports, 2xG¾, G¼, BSP thread, ISO 228
3	- side ports, 2xM27x2; M14x1,5; metric thread,ISO 262
4	- side ports, 2xG1 1/16 -12 UN, O-ring, 9/16 -18 UNF
6	- rear ports, 2xG¾, G¼; BSP thread, ISO 228
7	- rear ports, 2x1 1/16 -12 UN, O-ring, 9/16 -18 UNF
9	- rear ports, 2xM27x2; M14x1,5; metric thread,ISO 262

Pos.5 - **Special Features** [see page 56]

Pos.6 - **Design Series**

omit - Factory specified

*Notes: * The permissible output torque for shafts must not be exceeded!*

The hydraulic motors are mangano-phosphatized as standard.