

Delta Series

Highlights



Description

This wheel motor is the latest addition to the Char Lynn product line. The Delta motor provides torques up to 11,500 in-lbs. Eaton has packed this motor with many “best in class” features: the optimized geroler profile ensures smooth operation; the disc valve technology has the best performance and the bearing capacity is the highest in the industry for very demanding applications.

Delta Series

Geroler Element	12 Displacements
Flow l/min [GPM]	75 [20] Continuous**
	115 [30] Intermittent*
Speed RPM	670 Cont.**
	837 Inter.*
Pressure bar [PSI]	200 [3000] Cont.**
	275 [4000] Inter.*
Torque Nm [lb-in]	1015 [9000] Cont**.
	1185 [10500] Inter.*

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White is a trademark of White Drive Products, Inc.

** Continuous— (Cont.) Continuous rating, motor may be run continuously at these ratings.

* Intermittent— (Inter.) Intermittent operation, 10% of every minute.

Features:

- Excellent reliability with time proven Char-Lynn components
- Proven disc valve technology with the highest efficiencies in its class
- Leak resistant motor with the front bearing protecting the shaft seal
- Torque up to 10,500 lb-in intermittent duty / Flow up to 30 GPM intermittent
- 12 displacements available from 6.9 to 46 CID
- Shaft sizes up to 1-5/8 inch
- 3-1/4 inch front pilot and 5 inch rear pilot
- STC ports available

Benefits:

- Perfect replacement for Parker® TF-TG and White™ RE motors
- Lowest no load pressure drop which leads to longer life and lower temperature operation
- Highest overall efficiency: more available HP to the system than competitive motors
- The highest side load capacity with 4,500 lbs at 3" from the mount face

C-3

Applications:

- Scissor Lift
- Boom Lift
- Industrial Sweeper
- Mower



Boom Lift



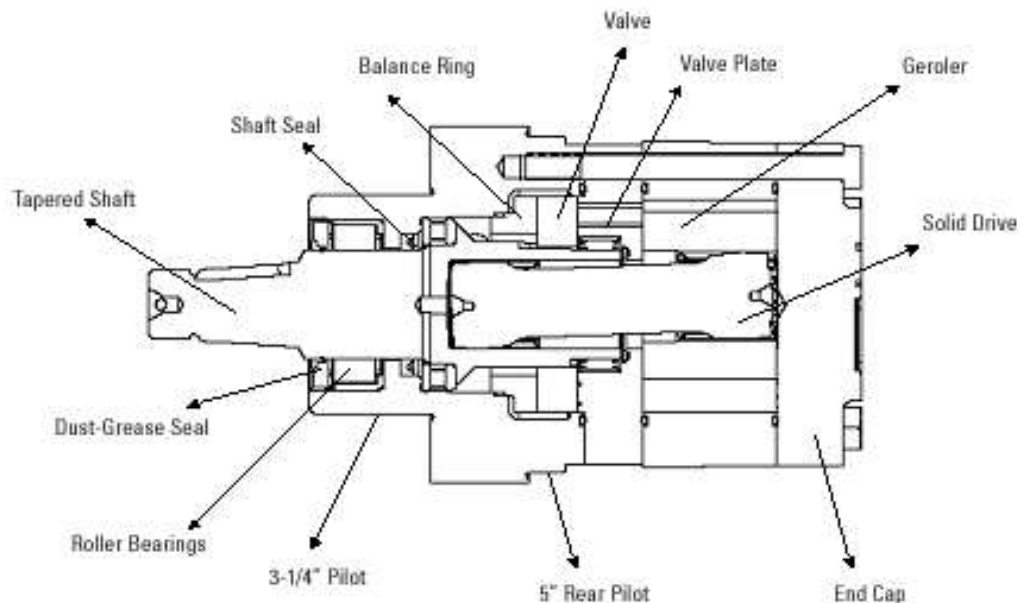
Sweeper



Mower

Delta Series

Specifications



DELTA SERIES MOTORS

Displ. cm ³ /r (in ³ /rev)		113 [6.9]	146 [8.9]	198 [12.1]	234 [14.3]	252 [15.4]	300 [18.3]	347 [21.2]	395 [24.1]	470 [28.7]	542 [33.1]	649 [39.6]	754 [46.0]
Max Speed (RPM)	Continuous	668	519	382	323	300	252	218	192	161	140	117	100
	Intermittent	831	778	516	485	450	379	327	288	241	209	175	151
@Flow													
Flow l/min [GPM]	Continuous	75 [20]	75 [20]	75 [20]	75 [20]	75 [20]	75 [20]	75 [20]	75 [20]	75 [20]	75 [20]	75 [20]	75 [20]
	Intermittent	95 [25]	115 [30]	115 [30]	115 [30]	115 [30]	115 [30]	115 [30]	115 [30]	115 [30]	115 [30]	115 [30]	115 [30]
Torque 1028 [9102] [10698]	Continuous	320 [2834]	429 [3800]		554 [4904]		651 [5763]	712 [6311]	844 [7472]	933 [8260]	972 [8607]	1039 [9199]	994 [8809]
		985 [8721]	Nm [lb-in]	Intermittent		417 [3697]		563 [4984]	725 [6421]	852 [7543]	930 [8236]	1087 [9629]	1208
		1206 [10684]	1222 [10824]		1202 [10644]		1253 [11100]		1232 [10910]				
Pressure 120 [1750] 240 [3500]	Continuous	205 [3000]	205 [3000]		205 [3000]		205 [3000]	205 [3000]	205 [3000]	205 [3000]	190 [2750]	170 [2500]	140 [2000]
		105 [1500]	Δ bar [Δ PSI]	Intermittent		275 [4000]		275 [4000]	275 [4000]	275 [4000]	275 [4000]	275 [4000]	275 [4000]
		205 [3000]	170 [2500]	155 [2250]	140 [2000]								
Weight 19,1 [42,0]		12,7 [28,0]	12,9 [28,5]	13,8 [30,5]	14,3 [31,5]	15,0 [33,0]		15,0 [33,0]	15,4 [34,0]	16,1 [35,5]	16,8 [37,0]	17,5 [38,5]	18,4 [40,5]
	kg [lb]												

Note:

Top assure best motor life, run motor for approximately one hour at 30% of rated pressure before application to full load. Be sure motor is filled with fluid prior to any load applications.

When pressurizing B port, all displacements have a continuous rating of 2000 psi.

Maximum Inlet Pressure:

310 bars (4500 PSI)

Do not exceed Δ pressure rating (see chart above).

Recommended Fluids:

Premium quality, anti wear type hydraulic oil with a viscosity of no less than 70 SUS at operating temperature.

Recommended System Operating Temp.:

-34°C to 82°C [-30°F to 180°F]

Recommended Filtration:

Per ISO cleanliness Code 4406: 20/18/13

Delta Series

Performance Data

Motors run with high efficiency in all areas designated with a number for torque and speed. For best motor life select a motor to run with a torque and speed range shown in the light shaded area.

Performance data is typical at 120 SUS. Actual data may vary slightly from unit to unit in production.

	Continuous
	Intermittent
	No operation

		113cm ³ /r [6.9 in ³ /r]															
		Δ Pressure Bar [PSI]															
Flow LPM [GPM]		17	34	52	69	86	103	121	138	155	172	190	207	224	241	259	276
		250	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
2	204	450	686	915	1140	1355	1593	1814	2018	2197	2349	2573	2776	2975	3182	3362	3562
7.6	65	64	63	62	60	60	59	57	56	55	56	54	52	48	49	44	44
4	210	457	706	950	1194	1436	1677	1906	2129	2351	2571	2790	3010	3231	3454	3660	3860
15	24	52	80	107	135	162	189	215	240	265	290	315	340	365	390	413	433
6	132	131	130	129	128	127	126	125	123	122	120	118	115	113	112	110	110
23	196	445	696	942	1186	1432	1674	1914	2144	2367	2587	2805	3027	3252	3476	3695	3915
8	22	50	79	106	134	162	189	216	242	267	292	317	342	367	392	417	442
30	199	196	196	195	193	192	191	190	189	185	183	182	180	177	174	172	172
38	176	425	677	921	1168	1420	1666	1906	2152	2386	2616	2834	3051	3265	3481	3697	3913
10	20	48	76	104	132	160	188	215	243	269	295	320	344	369	393	417	441
30	266	264	263	261	261	259	257	257	255	252	250	248	246	244	241	237	237
45	160	407	659	901	1149	1398	1650	1894	2134	2370	2601	2823	3044	3258	3475	3684	3894
12	18	46	74	102	130	158	186	214	241	268	294	319	344	368	390	413	436
38	333	333	329	326	324	323	321	320	318	314	312	309	306	303	301	295	295
45	134	382	632	876	1122	1372	1621	1868	2111	2353	2589	2821	3046	3270	3499	3680	3894
14	15	43	71	99	127	155	183	211	238	266	292	319	344	369	393	415	438
53	399	398	396	393	392	389	387	386	383	381	377	374	372	370	367	364	364
16	111	357	608	855	1102	1350	1599	1847	2090	2330	2569	2800	3024	3250	3455	3614	3814
61	13	40	69	97	124	152	181	208	236	263	290	316	341	367	390	408	428
61	466	465	462	460	457	455	453	451	449	446	442	438	436	433	429	415	415
18	81	325	577	822	1071	1321	1572	1817	2063	2307	2549	2781	3011	3237	3436	3578	3758
68	9	37	65	93	121	149	177	205	233	260	288	314	340	365	388	404	424
68	533	532	529	527	524	522	520	517	516	513	509	506	503	500	496	477	477
20	48	295	543	790	1036	1283	1535	1781	2027	2271	2512	2751	2984	3214	3431	3597	3797
76	5	33	61	89	117	145	173	201	229	256	284	311	337	363	387	406	426
76	601	600	597	593	591	587	586	583	581	577	573	570	568	564	559	542	542
22	14	263	510	758	1005	1249	1499	1746	1988	2231	2474	2712	2945	3176	3395	3597	3797
83	2	30	58	86	113	141	169	197	224	252	279	306	332	359	383	406	426
83	668	666	664	661	658	654	652	649	646	644	640	637	634	630	628	621	621
25		228	477	725	972	1218	1468	1712	1957	2201	2447	2686	2917	3149	3350	3523	3697
95		26	54	82	110	138	166	193	221	249	276	303	329	355	378	398	418
95		733	731	728	724	721	718	715	713	710	705	704	700	697	688	664	664
30		170	416	663	913	1153	1402	1646	1891	2136	2382	2622	2856	3081	3273	3452	3627
114		19	47	75	103	130	158	186	214	241	269	296	322	348	369	390	410
114		831	829	827	825	821	818	815	812	809	805	803	800	794	776	745	745
114		114	429	755	1076	1400	1725	2047	2368	2687	3003	3323	3635	3942	4249	4552	4852
114		13	48	85	122	158	195	231	267	303	339	375	410	445	480	514	544
114		778	777	773	770	765	759	756	753	749	746	744	742	740	737	735	735

114
13
778 } Torque [lb-in]
Nm
Speed RPM

		146cm ³ /r [8.9 in ³ /r]															
		ΔPressure Bar [PSI]															
Flow LPM [GPM]		17	34	52	69	86	103	121	138	155	172	190	207	224	241	259	276
		250	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
2		288	596	907	1184	1445	1718	1992	2247	2537	2810	3039	3290	3595	3846	3996	4265
7.6		32	67	102	134	163	194	225	254	286	317	343	371	406	434	451	482
		50	48	46	42	44	43	40	39	38	37	36	34	32	31	25	28
4		289	619	947	1267	1593	1914	2227	2482	2755	3042	3295	3615	3916	4135	4456	4680
15		33	70	107	143	180	216	251	280	311	343	372	408	442	467	503	528
		102	100	98	96	95	95	94	93	91	88	84	81	79	76	74	70
6		275	604	934	1259	1588	1908	2232	2552	2869	3181	3497	3800	4102	4397	4680	4955
23		31	68	105	142	179	215	252	288	324	359	395	429	463	496	528	559
		154	151	149	148	146	145	144	143	141	137	135	133	130	128	125	123
8		256	580	909	1235	1566	1887	2209	2528	2845	3160	3475	3783	4091	4397	4692	4984
30		29	66	103	139	177	213	249	285	321	357	392	427	462	496	530	563
		206	204	201	200	198	198	196	195	190	187	185	182	179	179	176	173
10		227	553	879	1204	1535	1861	2184	2504	2820	3133	3447	3757	4061	4369	4667	4963
38		26	62	99	136	173	210	247	283	318	354	389	424	459	493	527	560
		258	256	253	251	250	249	248	246	241	238	236	233	231	229	228	225
12		199	521	850	1172	1501	1825	2148	2469	2780	3091	3402	3714	4017	4324	4627	4922
45		23	59	96	132	170	206	243	279	314	349	384	419	454	488	522	556
		310	308	305	303	301	300	299	297	292	290	287	284	282	281	278	276
14		157	480	809	1130	1458	1784	2104	2426	2743	3057	3369	3679	3983	4291	4593	4892
53		18	54	91	128	165	201	238	274	310	345	380	415	450	484	519	552
		362	360	356	354	353	352	351	346	344	341	339	337	335	332	331	329
16		132	457	780	1102	1429	1753	2081	2397	2714	3025	3335	3645	3947	4255	4558	4857
61		15	52	88	124	161	198	235	271	306	342	377	412	446	480	515	548
		414	412	408	406	405	403	402	398	395	392	389	387	384	382	380	377
18		98	414	742	1065	1390	1715	2039	2360	2675	2986	3295	3605	3906	4213	4518	4817
68		11	47	84	120	157	194	230	266	302	337	372	407	441	476	510	544
		467	465	461	459	457	456	453	450	447	444	442	439	437	435	432	430
20		42	373	700	1020	1347	1670	1989	2308	2628	2944	3255	3568	3866	4172	4475	4774
76		5	42	79	115	152	189	225	261	297	332	368	403	436	471	505	539
		519	517	514	511	509	507	503	500	498	495	492	489	488	485	484	482
22		16	328	659	978	1306	1628	1950	2268	2586	2900	3211	3522	3823	4128	4429	4732
83		2	37	74	110	147	184	220	256	292	327	362	398	432	466	500	534
		571	569	565	562	559	559	555	552	549	546	544	541	538	536	534	531
25			253	576	899	1221	1544	1864	2179	2500	2811	3120	3433	3736	4036	4337	4639
95		29	65	102	138	174	210	246	282	317	352	388	422	456	490	524	558
		647	645	641	639	637	633	629	626	624	621	618	616	613	612	610	609
30			114	429	755	1076	1400	1725	2047	2368	2687	3003	3323	3635	3942	4249	4552
114		13	48	85	122	158	195	231	267	303	339	375	410	445	480	514	548
		778	777	773	770	765	759	756	753	749	746	744	742	740	737	735	733

Delta Series

Performance Data

		198cm ³ /r [12.1 in ³ /r] ΔPressure Bar [PSI]															
		17 250	34 500	52 750	69 1000	86 1250	103 1500	121 1750	138 2000	155 2250	172 2500	190 2750	207 3000	224 3250	241 3500	259 3750	276 4000
Flow LPM [GPM]	2	313 35 36	732 83 35	1113 126 34	1480 167 32	1870 211 31	2249 254 30	2668 301 29	3059 345 27	3447 389 27	3822 432 26	4189 473 24	4544 513 22	4875 550 21	5194 586 18	5508 622 17	5948 671 18
	4	367 41 75	809 91 74	1228 139 72	1640 185 71	2038 230 69	2437 275 68	2844 321 67	3234 365 65	3623 409 63	4010 453 62	4398 497 61	4779 540 58	5164 583 56	5545 626 56	5917 668 54	6275 708 52
	6	365 41 112	799 90 111	1231 139 110	1654 187 109	2066 233 107	2473 279 106	2878 325 104	3270 369 102	3665 414 101	4056 458 99	4446 502 98	4833 546 96	5215 589 95	5598 632 93	5975 675 91	6347 717 89
	8	343 39 151	782 88 150	1219 138 149	1648 186 147	2069 234 146	2484 280 145	2898 327 143	3300 373 142	3702 418 140	4093 462 138	4482 506 135	4865 549 134	5237 591 133	5607 633 131	5976 675 129	6349 717 127
	10	322 36 190	759 86 188	1201 136 187	1633 184 186	2063 233 185	2483 280 182	2904 328 181	3316 374 178	3726 421 177	4125 466 174	4515 510 173	4904 554 171	5290 597 169	5672 640 168	6048 683 166	6421 725 164
	12	283 32 45	719 81 229	1158 131 226	1590 180 224	2020 228 223	2448 276 221	2868 324 220	3279 370 218	3691 417 216	4096 462 215	4492 507 212	4883 551 211	5265 594 209	5644 637 206	6015 679 205	6385 721 202
	14	238 27 53	671 76 267	1110 125 264	1538 174 262	1970 222 261	2396 271 259	2816 318 257	3228 364 255	3644 411 253	4050 457 251	4451 503 249	4846 547 246	5231 591 244	5613 634 242	5982 675 240	6357 718 238
	16	191 22 61	625 71 305	1063 120 303	1493 169 301	1923 217 300	2345 265 298	2768 312 296	3182 359 295	3596 406 293	4003 452 291	4403 497 289	4801 542 287	5191 586 285	5576 630 284	5947 671 281	6316 713 279
	18	139 16 68	567 64 342	1006 114 340	1438 162 339	1871 211 337	2299 260 335	2720 307 333	3133 354 331	3547 400 330	3956 447 328	4359 492 326	4760 537 324	5128 579 322	5492 620 321	5871 663 319	6247 705 317
	20	99 11 76	457 52 382	886 100 380	1315 148 377	1745 197 375	2168 245 373	2590 292 371	3006 339 369	3418 386 366	3822 432 364	4224 477 362	4622 522 359	5018 567 358	5418 612 356	5816 657 354	6208 701 352
	22	15 2 83	383 43 420	810 91 417	1243 140 415	1676 189 413	2096 237 411	2520 284 409	2938 332 407	3351 378 405	3759 424 403	4161 470 401	4558 515 399	4953 559 397	5339 603 395	5722 646 392	6095 688 390
	25		272 31 476	700 79 475	1131 128 474	1559 176 472	1985 224 470	2408 272 468	2823 319 466	3231 365 465	3639 411 463	4042 456 461	4443 502 459	4842 547 457	5229 590 455	5617 634 453	5992 677 450
	30		163 18 516	600 68 506	1037 117 494	1474 166 487	1902 215 484	2315 261 488	2723 307 494	3134 354 501	3536 399 506	3933 444 511	4338 490 514	4737 535 515	5125 579 516	5516 623 515	5899 666 514

163
18
516

Torque lb-in
Nm
Speed RPM

		234cm ³ /r [14.3 in ³ /r] ΔPressure Bar [PSI]															
		17 250	34 500	52 750	69 1000	86 1250	103 1500	121 1750	138 2000	155 2250	172 2500	190 2750	207 3000	224 3250	241 3500	259 3750	276 4000
Flow LPM [GPM]	2	470 53 7.6	971 110 31	1457 164 29	1921 217 28	2414 273 26	2877 325 25	3348 378 25	3821 431 25	4275 483 24	4730 534 23	5164 583 22	5630 636 21	5997 677 19	6446 728 20	6863 775 19	7217 815 15
	4	468 53 15	988 112 64	1504 170 61	1989 225 60	2482 280 59	2964 335 58	3447 389 57	3916 442 56	4384 495 55	4843 547 55	5302 599 55	5763 651 54	6213 701 52	6668 753 51	7113 803 50	7543 852 48
	6	449 51 23	966 109 96	1484 168 93	1980 224 92	2470 279 92	2953 333 91	3445 389 90	3922 443 89	4397 496 88	4851 548 88	5304 599 88	5750 649 87	6197 700 86	6643 750 86	7085 800 84	7524 849 83
	8	416 47 30	931 105 129	1446 163 128	1954 221 125	2458 277 124	2948 333 123	3438 388 123	3909 441 121	4381 495 121	4835 546 120	5280 596 120	5714 645 119	6150 694 119	6584 743 118	7015 792 117	7445 841 116
	10	380 43 38	896 101 161	1410 159 160	1917 216 157	2425 274 156	2919 330 155	3412 385 154	3890 439 153	4373 494 153	4831 545 152	5280 596 151	5716 645 150	6148 694 149	6586 744 148	7017 792 147	7452 841 146
	12	341 39 45	856 97 194	1366 154 193	1876 212 190	2384 269 189	2880 325 188	3370 380 187	3843 434 186	4319 488 185	4782 540 185	5229 590 184	5665 640 183	6102 689 182	6537 738 181	6962 786 180	7392 835 178
	14	290 33 53	804 91 226	1312 148 224	1813 205 222	2320 262 221	2821 318 220	3315 374 219	3793 428 218	4268 482 217	4732 534 216	5181 585 215	5623 635 214	6057 684 214	6485 732 212	6907 780 211	7327 827 209
	16	239 27 61	743 84 258	1249 141 257	1756 198 255	2264 256 254	2759 312 253	3255 367 252	3735 422 251	4207 475 251	4669 527 250	5122 578 249	5568 629 247	6004 678 246	6432 726 245	6845 773 244	7268 820 242
	18	176 20 68	688 78 291	1187 134 289	1694 191 287	2203 249 286	2698 305 285	3195 361 284	3676 415 283	4146 468 282	4603 520 281	5055 571 279	5497 621 278	5930 669 277	6358 718 276	6774 765 276	7194 812 275
	20	108 12 76	614 69 323	1121 127 322	1623 183 320	2124 240 319	2620 296 317	3118 352 317	3603 407 316	4077 460 314	4541 513 312	4990 563 311	5430 613 310	5865 662 310	6301 711 310	6720 759 309	7139 806 309
	22	28 3 83	535 60 355	1081 122 355	1582 179 352	2082 235 351	2579 291 350	3071 347 349	3550 401 348	4018 454 345	4483 506 343	4943 558 342	5406 610 341	5855 661 341	6300 711 341	6723 759 341	7139 806 341
	25		410 46 404	956 108 404	1460 165 402	1959 221 401	2454 277 399	2941 332 398	3419 386 397	3892 439 394	4356 492 392	4806 543 391	5251 593 390	5683 642 390	6117 691 389	6531 737 390	6939 783 389
	30		171 19 485	700 79 485	1297 146 485	1735 196 483	2226 251 481	2718 307 480	3204 362 478	3689 417 476	4162 470 474	4623 522 472	5079 573 472	5519 623 471	5959 673 471	6377 720 471	6781 766 471

Delta Series

Performance Data

252cm³/r [15.4 in³/r]

ΔPressure Bar [PSI]

	17	34	52	69	86	103	121	138	155	172	190	207	224	241	259	276
	250	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
2	485	1011	1520	2032	2564	3059	3569	4065	4561	5085	5589	6054	6536	6891	7388	7872
7.6	55	114	172	229	289	345	403	459	515	574	631	683	738	778	834	889
	28	27	26	26	25	24	23	23	22	23	23	22	22	19	19	20
4	504	1062	1609	2145	2684	3213	3744	4263	4780	5294	5804	6311	6811	7308	7787	8236
15	57	120	182	242	303	363	423	481	540	598	655	712	769	825	879	930
	59	57	56	56	55	55	54	54	53	53	53	51	51	49	49	47
6	478	1031	1585	2132	2670	3195	3717	4222	4726	5222	5721	6211	6700	7179	7658	8118
23	54	116	179	241	301	361	420	477	534	590	646	701	756	810	865	917
	89	88	86	85	85	84	84	84	84	83	83	82	82	80	78	78
8	453	1012	1571	2115	2664	3191	3717	4224	4725	5215	5706	6194	6678	7161	7628	8076
30	51	114	177	239	301	360	420	477	533	589	644	699	754	808	861	912
	120	118	117	115	114	113	113	112	113	113	113	112	111	110	109	108
10	398	957	1516	2063	2609	3137	3668	4181	4678	5157	5636	6116	6589	7059	7522	7974
38	45	108	171	233	295	354	414	472	528	582	636	690	744	797	849	900
	149	148	147	145	144	143	142	142	142	143	142	142	141	140	139	138
12	370	914	1468	2011	2557	3085	3614	4125	4622	5102	5577	6059	6538	7017	7497	7966
45	42	103	166	227	289	348	408	466	522	576	630	684	738	792	846	899
	180	179	178	176	174	173	172	172	172	172	172	172	171	171	170	169
14	290	842	1399	1948	2496	3024	3552	4065	4571	5056	5525	5987	6445	6905	7359	7813
53	33	95	158	220	282	341	401	459	516	571	624	676	728	780	831	882
	210	209	208	206	205	203	202	201	200	199	199	200	200	200	200	199
16	239	795	1346	1891	2434	2962	3494	4003	4511	4995	5461	5919	6382	6841	7292	7743
61	27	90	152	213	275	334	395	452	509	564	616	668	720	772	823	874
	240	240	238	237	235	233	232	231	229	228	229	230	230	230	230	230
18	157	716	1265	1810	2355	2881	3408	3921	4431	4924	5401	5860	6310	6749	7184	7627
68	18	81	143	204	266	325	385	443	500	556	610	662	712	762	811	861
	270	270	269	267	265	264	261	261	258	256	256	258	259	260	260	260
20	96	650	1203	1750	2294	2820	3345	3857	4366	4865	5340	5801	6242	6686	7122	7553
76	11	73	136	198	259	318	378	435	493	549	603	655	705	755	804	853
	300	300	299	297	295	293	292	289	287	286	286	287	289	290	291	290
22	26	569	1111	1656	2195	2725	3250	3763	4268	4769	5259	5733	6182	6609	7030	7459
83	3	64	125	187	248	308	367	425	482	538	594	647	698	746	794	842
	330	330	330	328	327	324	322	320	316	314	313	314	316	318	320	320
25		425	967	1508	2042	2574	3093	3605	4110	4602	5084	5561	6028	6482	6899	7316
95		48	109	170	231	291	349	407	464	520	574	628	681	732	779	826
		375	375	374	372	369	366	364	361	358	357	356	358	361	364	364
30		179	723	1266	1800	2330	2852	3364	3868	4368	4856	5338	5811	6269	6701	7096
114		20	82	143	203	263	322	380	437	493	548	603	656	708	757	801
		450	450	450	449	447	443	439	436	433	430	430	431	434	437	438

179 } Torque lb-in
20 } Nm
450 } Speed RPM

300cm³/r [18.3 in³/r]

ΔPressure Bar [PSI]

	17	34	52	69	86	103	121	138	155	172	190	207	224	241	259	276
	250	500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
2	608	1257	1919	2553	3196	3824	4475	5087	5707	6307	6901	7472	8015	8484	8962	9413
7.6	69	142	217	288	361	432	505	574	644	712	779	844	905	958	1012	1063
	24	23	23	22	21	21	21	20	19	18	17	16	15	13	11	11
4	612	1283	1940	2587	3227	3856	4483	5094	5693	6293	6881	7462	8024	8574	9113	9629
15	69	145	219	292	364	435	506	575	643	710	777	842	906	968	1029	1087
	50	48	47	46	45	44	44	44	43	42	41	40	40	39	38	37
6	570	1248	1906	2547	3178	3800	4420	5025	5619	6203	6773	7345	7899	8449	8992	9525
23	64	141	215	288	359	429	499	567	634	700	765	829	892	954	1015	1075
	76	74	73	71	70	69	68	68	69	68	68	67	66	65	64	63
8	540	1210	1871	2522	3152	3781	4404	5008	5607	6186	6749	7319	7879	8433	8977	9512
30	61	137	211	285	356	427	497	565	633	698	762	826	890	952	1013	1074
	101	100	98	96	94	93	92	92	92	93	93	93	93	92	91	91
10	496	1161	1825	2471	3110	3733	4362	4968	5574	6157	6721	7274	7811	8356	8887	9416
38	56	131	206	279	351	421	492	561	629	695	759	821	882	943	1003	1063
	126	126	124	122	120	118	115	113	113	113	114	116	118	118	117	117
12	443	1108	1768	2418	3059	3688	4307	4918	5526	6114	6681	7239	7786	8338	8876	9411
45	50	125	200	273	345	416	486	555	624	690	754	817	879	941	1002	1062
	151	151	150	148	145	143	141	140	139	139	140	142	144	144	144	144
14	387	1034	1701	2346	2985	3610	4227	4839	5452	6050	6622	7184	7723	8269	8816	9362
53	44	117	192	265	337	408	477	546	615	683	748	811	872	934	995	1057
	177	177	176	173	171	168	166	165	163	163	165	167	169	171	170	170
16	366	961	1620	2264	2903	3530	4147	4753	5366	5960	6540	7098	7642	8189	8685	9211
61	41	109	183	256	328	399	468	537	606	673	738	801	863	922	980	1040
	202	202	201	199	197	195	192	190	189	188	188	189	191	194	196	196
18	291	893	1546	2187	2829	3450	4067	4678	5283	5873	6451	7005	7537	8064	8580	9103
68	33	101	175	247	319	390	459	528	596	663	728	791	851	910	969	1028
	227	227	227	224	222	219	217	215	213	211	212	214	217	220	221	221
20	204	797	1444	2094	2736	3361	3974	4585	5184	5775	6353	6907	7448	7974	8489	8992
76	23	90	163	236	309	380	449	518	585	652	717	780	841	900	958	1015
	252	252	252	251	249	246	243	241	239	238	238	239	242	245	247	248
22	102	710	1366	2013	2651	3270	3885	4496	5096	5689	6271	6831	7362	7877	8375	8880
83	12	80	154	227	299	369	439	508	575	642	708	771	831	889	945	1003
	278	278	278	277	274	272	269	267	265	264	263	265	269	273	275	275
25		553	1208	1851	2489	3114	3726	4335	4930	5523	6108	6670	7220	7763	8298	8777
95		62	136	209	281	352	421	489	557	624	690	753	815	879	937	991
		316	316	316	313	310	307	303	301	299	298	298	301	306	310	312
30		233	941	1539	2179	2811	3430	4028	4625	5217	5802	6385	6957	7522	8060	8565
114		26	106	174	246	317	387	455	522	589	655	721	785	849	910	967
		379	379	379	377	374	371	367	365	363	362	361	364	368	374	376

Delta Series

Performance Data

Continuous

Intermittent

No operation

		347cm³/r [21.2 in³/r] ΔPressure Bar [PSI]															
		17 250	34 500	52 750	69 1000	86 1250	103 1500	121 1750	138 2000	155 2250	172 2500	190 2750	207 3000	224 3250	241 3500	259 3750	276 4000
Flow LPM [GPM]	2	687 78 20	1415 160 19	2128 240 18	2824 319 18	3532 399 17	4248 480 18	4947 558 17	5633 636 17	6298 711 16	6964 786 15	7575 855 14	8182 924 13	8743 987 12	9209 1040 9	9624 1087 8	10081 1138 4
	4	689 78 42	1443 163 41	2179 246 41	2891 326 40	3606 407 39	4302 486 37	4986 563 38	5653 638 38	6316 713 39	6965 786 38	7615 860 37	8260 933 37	8891 1004 37	9515 1074 35	10120 1143 33	10698 1208 31
	6	648 73 64	1406 159 64	2154 243 63	2866 324 61	3580 404 60	4276 483 58	4970 561 57	5641 637 57	6290 710 59	6921 781 60	7563 854 60	8190 925 59	8812 995 58	9427 1064 57	10029 1132 56	10630 1200 55
	8	606 68 87	1356 153 86	2105 238 85	2825 319 84	3545 400 82	4241 479 81	4943 558 79	5621 635 78	6274 708 79	6899 779 81	7522 849 82	8144 919 81	8768 990 81	9388 1060 80	9998 1129 78	10598 1196 77
	10	550 62 109	1295 146 108	2041 230 107	2765 312 106	3488 394 104	4188 473 103	4891 552 100	5585 631 98	6264 707 97	6899 779 98	7505 847 100	8091 913 103	8672 979 103	9283 1048 103	9885 1116 102	10488 1184 101
	12	478 54 131	1227 139 130	1976 223 130	2698 305 129	3411 385 127	4108 464 125	4802 542 122	5479 619 119	6146 694 117	6782 766 115	7396 835 115	7992 902 119	8585 969 123	9176 1036 125	9767 1103 125	10345 1168 124
	14	409 46 153	1151 130 153	1896 214 152	2624 296 152	3344 378 149	4048 457 147	4742 535 145	5418 612 142	6083 687 140	6722 759 139	7339 829 139	7939 896 143	8541 964 147	9142 1032 148	9738 1099 147	10318 1165 147
	16	339 38 174	1033 117 174	1774 200 174	2494 282 174	3209 362 172	3907 441 169	4605 520 166	5280 596 164	5956 672 162	6610 746 159	7243 818 159	7850 886 160	8438 953 165	9014 1018 168	9592 1083 170	10166 1148 170
	18	245 28 196	943 106 196	1676 189 196	2401 271 195	3113 351 193	3809 430 192	4500 508 189	5175 584 187	5837 659 185	6477 731 183	7107 802 181	7711 871 182	8308 938 185	8895 1004 188	9466 1069 192	10040 1133 193
	20	143 16 218	832 94 218	1571 177 218	2290 259 218	3003 339 216	3697 417 214	4386 495 212	5050 570 209	5715 645 207	6351 717 205	6968 787 203	7569 855 203	8147 920 205	8721 985 210	9297 1050 214	9855 1113 215
	22	34 4 240	715 81 240	1454 164 240	2175 246 240	2896 327 240	3594 406 238	4280 483 236	4950 559 233	5602 632 230	6236 704 228	6854 774 226	7449 841 226	8027 906 228	8590 970 231	9150 1033 237	9705 1096 240
	25		523 59 272	1251 141 272	1969 222 272	2693 304 272	3395 383 272	4081 461 269	4756 537 266	5414 611 263	6057 684 261	6687 755 259	7296 824 259	7882 890 261	8457 955 265	9011 1017 270	9534 1076 272
	30		152 17 327	1072 121 327	1749 197 327	2434 275 327	3123 353 327	3802 429 323	4468 504 319	5114 577 315	5763 651 314	6400 723 313	7018 792 315	7633 862 319	8232 929 323	8819 996 327	9397 1016 327

152
17
327

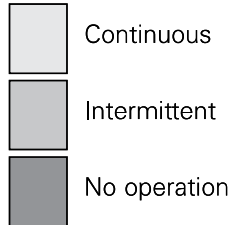
Torque lb-in
Nm
Speed RPM

395cm³/r [24.1 in³/r]
ΔPressure Bar [PSI]

		17 250	34 500	52 750	69 1000	86 1250	103 1500	121 1750	138 2000	155 2250	172 2500	190 2750	207 3000	224 3250	241 3500
Flow LPM [GPM]	2	782 88 18	1622 183 17	2436 275 17	3237 365 16	4034 455 16	4837 546 16	5650 638 17	6428 726 16	7213 814 15	7911 893 15	8607 972 15	9235 1043 14	9798 1106 13	10439 1179 12
	4	770 87 38	1643 186 37	2476 280 36	3287 371 35	4088 462 33	4860 549 33	5617 634 35	6357 718 36	7103 802 36	7838 885 35	8566 967 35	9285 1048 34	9990 1128 34	10684 1206 33
	6	746 84 58	1609 182 57	2460 278 55	3280 370 54	4083 461 52	4867 549 51	5644 637 50	6384 721 51	7103 802 53	7811 882 54	8520 962 55	9232 1042 54	9930 1121 53	10616 1199 53
	8	699 79 77	1561 176 76	2430 274 75	3249 367 74	4062 459 72	4852 548 70	5638 637 68	6398 722 67	7126 805 69	7820 883 72	8506 960 74	9198 1038 74	9884 1116 74	10565 1193 73
	10	630 71 96	1489 168 96	2345 265 95	3180 359 93	4008 453 91	4819 544 90	5622 635 87	6397 722 85	7142 806 83	7856 887 83	8525 962 88	9142 1032 93	9776 1104 93	10438 1178 93
	12	556 63 115	1412 159 115	2264 256 115	3090 349 113	3898 440 111	4689 529 109	5473 618 107	6225 703 105	6976 788 102	7710 870 100	8415 950 100	9081 1025 105	9681 1093 110	10304 1163 113
	14	469 53 134	1325 150 134	2178 246 134	2999 339 133	3819 431 131	4611 521 128	5391 609 126	6137 693 124	6867 775 122	7581 856 120	8270 934 119	8942 1010 123	9598 1084 133	10234 1155 134
	16	360 41 153	1220 138 153	2069 234 153	2894 327 153	3715 419 151	4506 509 148	5290 597 145	6048 683 143	6782 766 140	7495 846 138	8190 925 138	8873 1002 139	9534 1076 145	10181 1149 151
	18	334 38 173	1098 124 173	1951 220 173	2777 314 173	3591 405 171	4386 495 169	5172 584 166	5924 669 162	6665 752 161	7387 834 159	8087 913 157	8763 989 158	9418 1063 162	10048 1134 169
	20	221 25 192	993 112 192	1837 207 192	2660 300 192	3479 393 191	4259 481 189	5030 568 186	5780 653 183	6518 736 181	7238 817 179	7939 896 177	8613 972 178	9258 1045 182	9892 1117 188
	22	115 13 211	862 97 211	1698 192 211	2521 285 211	3337 377 211	4135 467 209	4895 553 206	5641 637 203	6366 719 201	7067 798 200	7752 875 199	8414 950 200	9062 1023 204	9702 1095 209
	25		637 72 240	1473 166 240	2296 259 240	3117 352 240	3909 441 238	4687 529 235	5434 613 232	6163 696 229	6861 775 227	7536 851 227	8192 925 228	8829 997 233	9475 1070 240
	30		211 24 288	1079 122 288	1903 215 288	2725 308 288	3526 398 286	4311 487 283	5079 573 280	5824 658 277	6547 739 274	7240 817 273	7921 894 275	8577 968 280	9228 1042 287

Delta Series

Performance Data



Flow LPM [GPM]

470cm³/r [28.7 in³/r]													
ΔPressure Bar [PSI]													
	17 250	34 500	52 750	69 1000	86 1250	103 1500	121 1750	138 2000	155 2250	172 2500	190 2750	207 3000	
2	925	1885	2820	3727	4639	5526	6404	7270	8129	8978	9794	10551	
7.6	104 14	213 14	318 13	421 12	524 12	624 12	723 11	821 10	918 9	1014 9	1106 8	1191 7	
4	942	1942	2917	3849	4776	5692	6594	7488	8352	9199	10014	10824	
15	106 31	219 30	329 29	435 29	539 28	643 27	744 27	845 26	943 25	1039 24	1131 23	1222 23	
6	906	1921	2892	3833	4772	5676	6572	7440	8309	9152	9974	10786	
23	102 47	217 46	327 45	433 45	539 44	641 43	742 43	840 42	938 42	1033 41	1126 41	1218 40	
8	856	1866	2853	3795	4730	5634	6520	7379	8230	9075	9895	10693	
30	97 63	211 62	322 62	428 61	534 60	636 58	736 57	833 57	929 58	1025 58	1117 57	1207 56	
10	780	1799	2800	3745	4685	5594	6479	7337	8177	9009	9843	10638	
38	88 79	203 79	316 78	423 77	529 76	632 75	731 74	828 72	923 72	1017 74	1111 74	1201 74	
12	699	1709	2711	3661	4597	5508	6403	7258	8101	8916	9719	10506	
45	79 96	193 95	306 94	413 93	519 92	622 91	723 90	819 89	915 89	1007 90	1097 90	1186 91	
14	596	1612	2609	3561	4490	5390	6268	7112	7941	8743	9519	10282	
53	67 112	182 111	295 111	402 110	507 109	608 107	708 106	803 104	897 103	987 101	1075 102	1161 104	
16	467	1486	2480	3440	4371	5268	6152	6992	7810	8601	9370	10118	
61	53 129	168 128	280 127	388 126	493 125	595 123	695 122	789 120	882 119	971 117	1058 116	1142 116	
18	332	1353	2357	3317	4256	5157	6043	6892	7713	8501	9270	10026	
68	37 145	153 145	266 144	375 143	481 142	582 140	682 138	778 136	871 135	960 134	1047 132	1132 133	
20	304	1226	2218	3172	4102	4994	5873	6731	7557	8365	9147	9922	
76	34 161	138 161	250 160	358 159	463 158	564 157	663 155	760 153	853 152	944 150	1033 149	1120 150	
22	137	1059	2048	3004	3945	4840	5727	6576	7399	8198	8967	9715	
83	15 177	120 177	231 177	339 176	445 175	546 174	647 172	742 170	835 169	926 167	1012 166	1097 166	
25		833	1816	2765	3680	4575	5455	6313	7133	7928	8691	9436	
95		94	205	312	415	517	616	713	805	895	981	1065	
		201	201	201	200	198	196	194	193	191	191	192	
30		491	1318	2295	3232	4142	5022	5881	6721	7522	8300	9320	
114		55	149	259	365	468	567	664	759	849	937	1052	
		241	241	241	241	240	237	236	236	233	232	227	

491 } Torque lb-in
55 } Nm
241 } Speed RPM

542cm³/r [33.1 in³/r]
ΔPressure Bar [PSI]

		17 250	34 500	52 750	69 1000	86 1250	103 1500	121 1750	138 2000	155 2250	172 2500
2		1131	2304	3433	4558	5668	6725	7732	8683	9645	10457
7.6		128	260	388	515	640	759	873	980	1089	1181
		13	12	11	11	11	11	10	8	8	7
4		1139	2352	3515	4638	5735	6781	7819	8809	9752	10644
15		129	266	397	524	648	766	883	994	1101	1202
		27	26	25	25	25	25	24	23	23	22
6		1063	2267	3433	4549	5645	6694	7697	8675	9630	10557
23		120	256	388	514	637	756	869	979	1087	1192
		41	40	39	38	38	38	39	38	37	36
8		992	2186	3354	4475	5578	6646	7665	8608	9535	10449
30		112	247	379	505	630	750	865	972	1076	1180
		56	55	54	53	52	52	51	52	52	51
10		897	2090	3259	4378	5482	6555	7602	8578	9482	10343
38		101	236	368	494	619	740	858	968	1071	1168
		70	69	68	67	67	65	64	64	64	65
12		807	1980	3138	4256	5365	6440	7494	8481	9403	10275
45		91	224	354	481	606	727	846	957	1062	1160
		84	83	83	81	80	79	78	77	76	77
14		693	1873	3028	4138	5218	6268	7318	8304	9235	10105
53		78	211	342	467	589	708	826	937	1043	1141
		98	98	97	96	95	93	91	90	91	92
16		554	1732	2882	3993	5083	6107	7118	8089	9032	9928
61		63	196	325	451	574	689	804	913	1020	1121
		112	112	111	110	109	108	106	104	104	106
18		409	1582	2738	3844	4924	5952	6956	7928	8874	9772
68		46	179	309	434	556	672	785	895	1002	1103
		126	126	126	125	124	123	121	119	119	121
20		355	1428	2587	3696	4767	5804	6813	7786	8732	9624
76		40	161	292	417	538	655	769	879	986	1087
		140	140	140	139	138	137	136	134	134	135
22		310	1259	2412	3518	4595	5619	6618	7589	8536	9438
83		35	142	272	397	519	634	747	857	964	1065
		154	154	154	154	152	151	150	148	148	149
25			958	2107	3215	4281	5310	6305	7264	8204	9110
95			108	238	363	483	599	712	820	926	1029
			174	174	174	174	173	171	170	168	169
30			521	1599	2696	3769	4804	5809	6776	7705	8617
114			59	181	304	425	542	656	765	870	973
			209	209	209	209	208	207	207	205	205

Delta Series

Performance Data

Continuous

Intermittent

No operation

		649cm³/r [39.6 in³/r] ΔPressure Bar [PSI]									
		17 250	34 500	52 750	69 1000	86 1250	103 1500	121 1750	138 2000	155 2250	
Flow LPM [GPM]	2	1365 154 10	2787 315 10	4156 469 10	5488 620 9	6775 765 9	7949 897 8	9102 1028 7	10174 1149 6	11100 1253 3	
	7.6										
	4	1326 150 22	2770 313 22	4113 464 21	5400 610 20	6632 749 21	7819 883 20	8973 1013 19	10030 1132 19	11015 1244 18	
	15										
	6	1258 142 35	2663 301 34	3998 451 33	5270 595 32	6521 736 32	7692 868 32	8774 991 32	9808 1107 32	10809 1220 31	
	23										
	8	1154 130 47	2558 289 46	3902 441 45	5195 587 44	6455 729 42	7659 865 42	8775 991 42	9770 1103 43	10708 1209 43	
	30										
	10	1045 118 58	2442 276 58	3787 428 57	5076 573 56	6331 715 55	7541 851 53	8691 981 53	9685 1093 54	10573 1194 55	
	38										
	12	928 105 70	2321 262 70	3662 413 70	4939 558 68	6193 699 67	7385 834 66	8536 964 65	9577 1081 65	10469 1182 66	
	45										
	14	740 84 82	2127 240 82	3469 392 82	4746 536 81	5989 676 80	7188 812 79	8352 943 77	9433 1065 76	10439 1179 76	
	53										
	16	614 69 93	1990 225 93	3318 375 93	4588 518 93	5795 654 92	6942 784 91	8081 912 90	9154 1033 89	10141 1145 90	
	61										
	18	448 51 105	1830 207 105	3158 356 105	4414 498 105	5619 634 104	6754 763 103	7853 887 102	8890 1004 102	9873 1115 104	
	68										
	20	281 32 117	1618 183 117	2944 332 117	4198 474 117	5410 611 117	6551 740 116	7653 864 114	8689 981 114	9676 1092 115	
	76										
	22	276 31 128	1518 171 128	2842 321 128	4099 463 128	5313 600 128	6453 728 128	7554 853 126	8596 970 125	9576 1081 126	
	83										
	25	1079 122 146	2393 270 146	3646 412 146	4834 546 146	5969 674 146	7071 798 145	8112 916 144	9105 1028 144	9105 1028 144	
	95										
	30	436 49 175	1747 197 175	3013 340 175	4225 477 175	5356 605 175	6454 729 174	7489 845 174	8479 957 175	8479 957 175	
	114										

8479
957
175

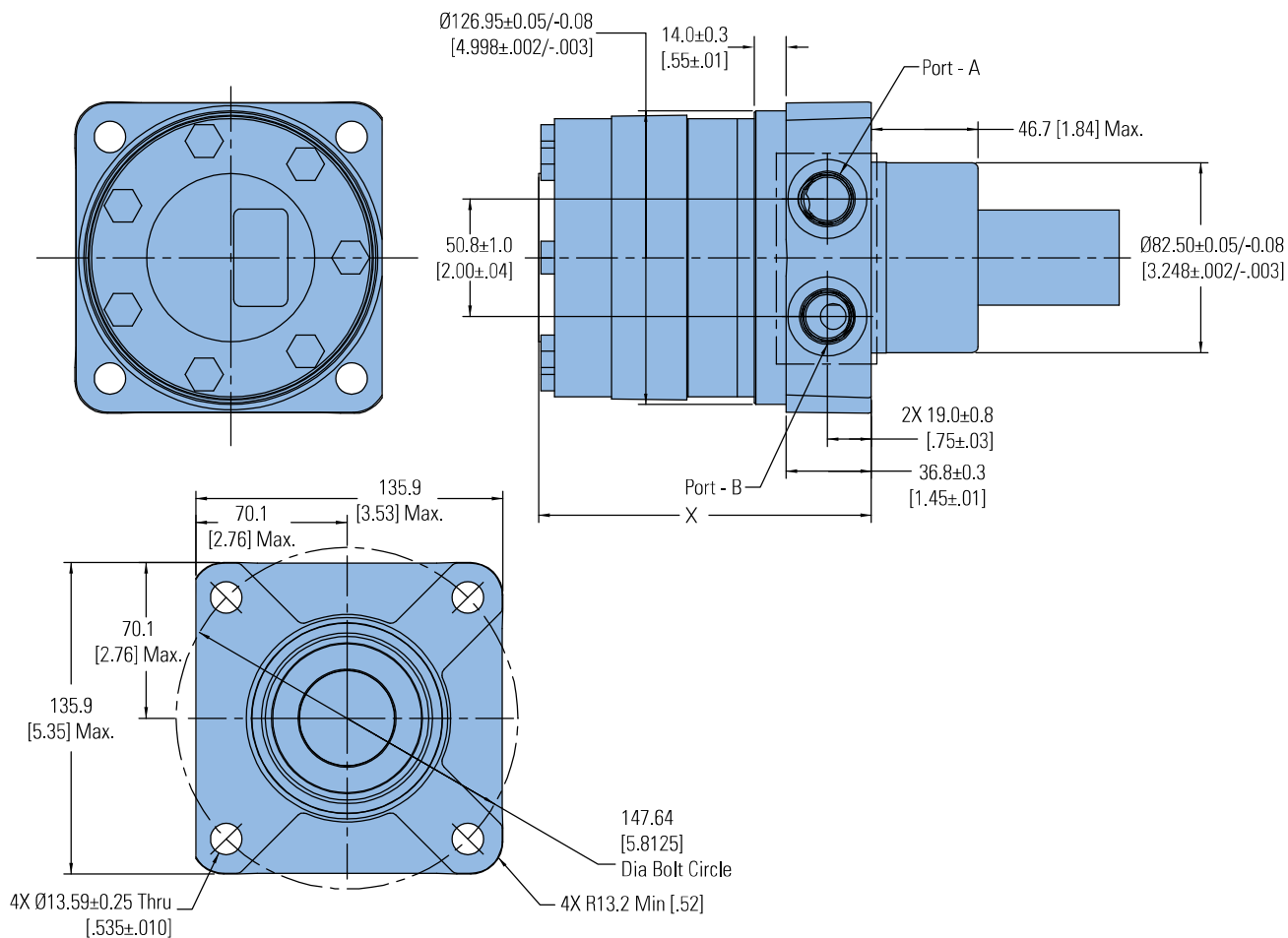
Torque lb-in
Nm
Speed RPM

		754cm³/r [46.0 in³/r] ΔPressure Bar [PSI]									
		17 250	34 500	52 750	69 1000	86 1250	103 1500	121 1750	138 2000		
Flow LPM [GPM]	2	1561 176 9	3128 353 8	4605 520 8	6014 679 8	7422 838 7	8721 985 7	9978 1127 6	10910 1232 5		
	7.6										
	4	1548 175 19	3142 355 18	4650 525 18	6029 681 18	7350 830 18	8605 971 18	9785 1105 17	10892 1230 17		
	15										
	6	1470 166 30	3084 348 29	4608 520 28	6022 680 27	7346 829 27	8555 966 27	9722 1098 27	10850 1225 27		
	23										
	8	1359 153 40	2975 336 39	4504 509 38	5925 669 38	7263 820 37	8488 958 36	9638 1088 37	10694 1207 38		
	30										
	10	1240 140 50	2844 321 50	4364 493 49	5815 656 48	7185 811 47	8458 955 46	9603 1084 46	10584 1195 47		
	38										
	12	1079 122 60	2686 303 60	4207 475 60	5641 637 59	7008 791 58	8248 931 57	9390 1060 57	10400 1174 57		
	45										
	14	932 105 70	2512 284 70	4038 456 70	5477 618 70	6850 773 69	8124 917 68	9274 1047 67	10286 1161 67		
	53										
	16	753 85 80	2328 263 80	3834 433 80	5246 592 80	6577 742 80	7831 884 79	8999 1016 78	10040 1133 78		
	61										
	18	547 62 90	2119 239 90	3632 410 90	5024 567 90	6320 714 90	7551 852 90	8706 983 90	9721 1097 90		
	68										
	20	310 35 100	1919 217 100	3430 387 100	4826 545 100	6126 692 100	7339 829 100	8466 956 100	9430 1065 100		
	76										
	22	248 28 110	1666 188 110	3172 358 110	4571 516 110	5878 664 110	7102 802 110	8254 932 110	9269 1046 110		
	83										
	25	547 62 90	2119 239 90	3632 410 90	5024 567 90	6320 714 90	7551 852 90	8706 983 90	9721 1097 90		
	95										
	30	545 62 151	2055 232 151	3474 392 151	4800 542 151	6036 681 151	7175 810 151	8231 929 151			
	114										

Wheel Mount

G 1/2 (BSP) Ports

Port B Pressurized — CW



DISPLACEMENT CODE	X MAX	CODE	MAX
069	130.6 [5.14]	212	156.5 [6.16]
089	135.9 [5.35]	241	162.6 [6.40]
121	144.3 [5.68]	287	172.5 [6.79]
143	150.4 [5.92]	331	181.9 [7.16]
154	153.2 [6.03]	396	195.6 [7.70]
183	150.4 [5.92]	460	209.0 [8.23]

Delta Series

Dimensions

Standard Mount

Ports

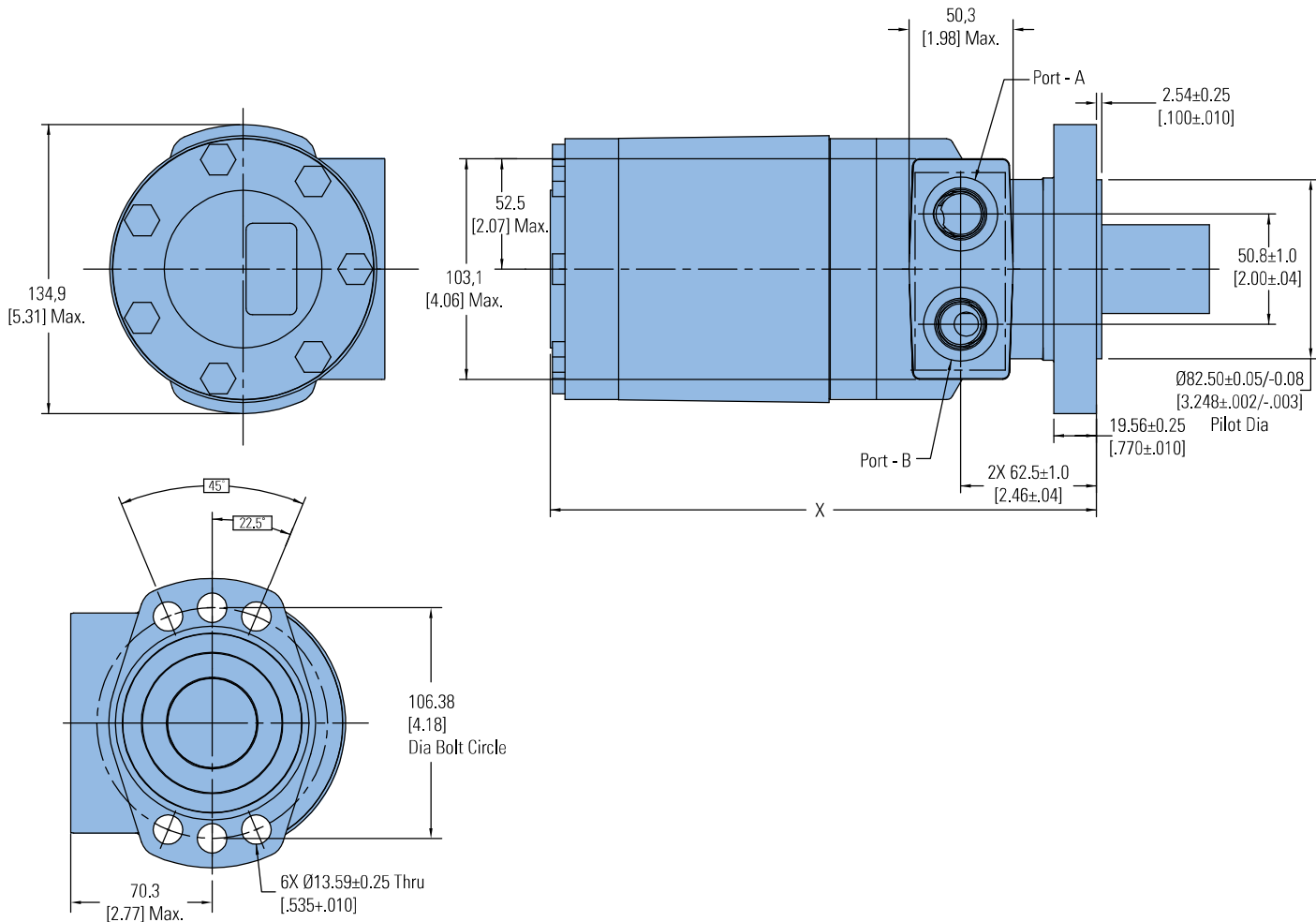
7/8 -14 UNF-2B SAE O-ring Ports

G 1/2 (BSP) Ports

Standard Rotation Viewed from Shaft End

Port A Pressurized — CCW

Port B Pressurized — CW



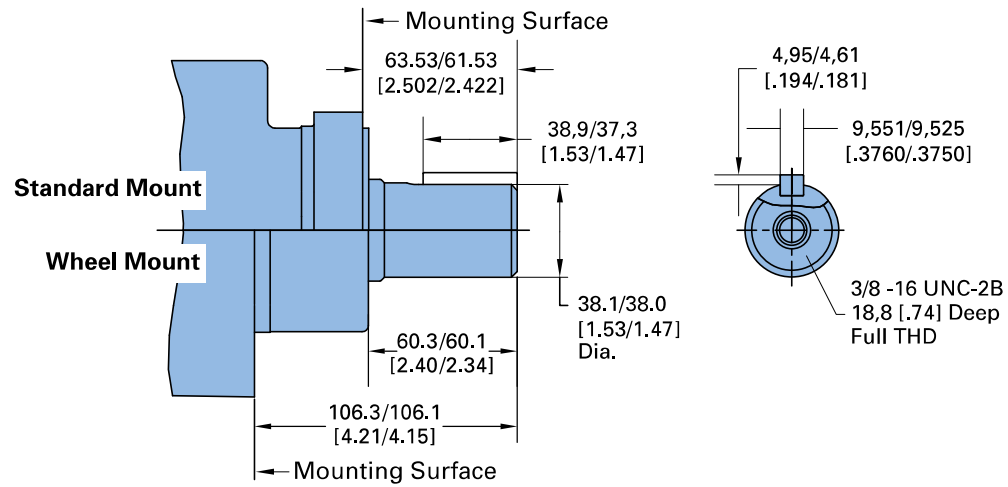
DISPLACEMENT CODE	X MAX	CODE	MAX
069	173.8 [6.84]	212	199.8 [7.87]
089	179.7 [7.08]	241	206.0 [8.11]
121	187.7 [7.39]	287	215.8 [8.50]
143	193.7 [7.63]	331	225.1 [8.86]
154	196.5 [7.74]	396	238.8 [9.40]
183	193.7 [7.63]	460	252.3 [9.93]

Delta Series

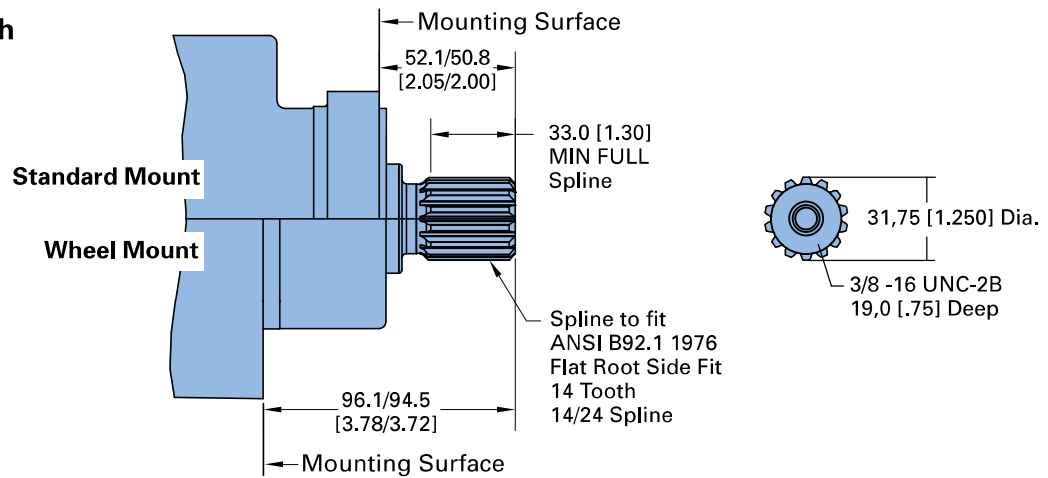
Dimensions

Shafts

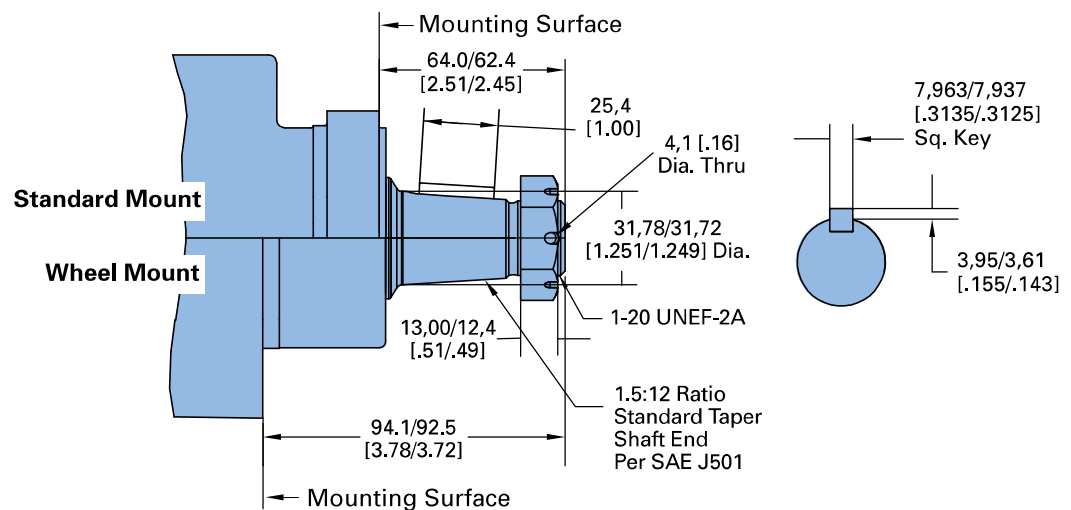
1 ½ Inch Straight



1 ¼ Inch 14 Tooth Splined



1 ¼ Inch Tapered



Delta Series

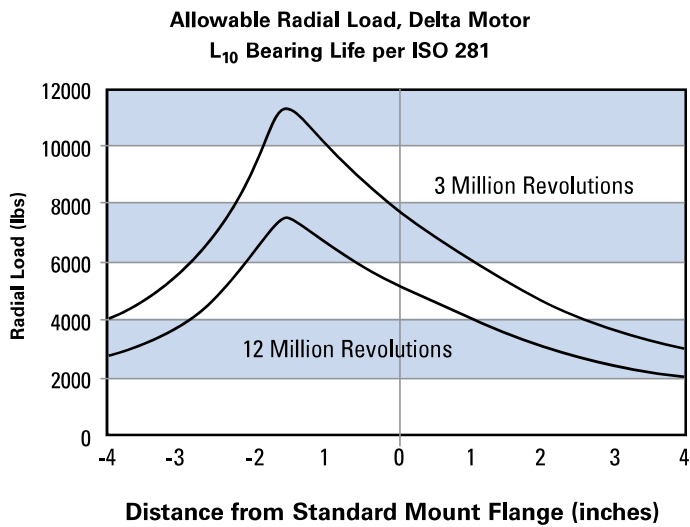
Shaft Side Load Capacity

These curves indicate the radial load capacity on the motor shaft(s) at various locations.

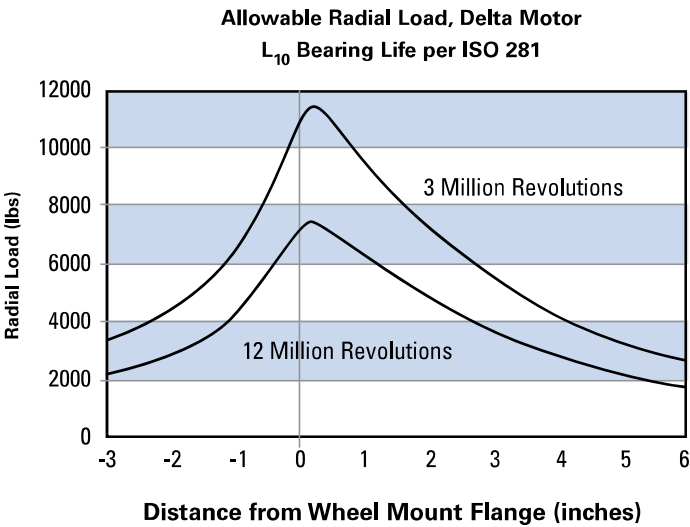
Each curve is based on **B 10 bearing life (2000 hours of 12,000,000 shaft revolutions at 100 RPM) at rated output torque.** To determine radial load at speeds other than 100 RPM, multiply the load values given on the bearing curve by the factors in the chart below.

RPM	Multiplication Factor
50	1.23
100	1.00
200	0.81
300	0.72
400	0.66
500	0.62
600	0.58
700	0.56
800	0.54

Side Load Chart for Standard Mount



Side Load Chart for Wheel Mount



Delta Series

Product Numbers

Note:

For Delta Series Motors with a configuration **Not Shown** in the charts below contact your Eaton Representative.

Mounting	Shaft	Port Size	Timing	Displacement cm^3/r [in^3/r] / Product Number			
				113 [6.9]	146 [8.9]	198 [12.1]	234 [14.3]
Wheel Motor	1-1/4 Inch	7/8" O-ring	Standard -CCW	184-0005-002	184-0006-002	184-0002-002	184-0001-002
	Tapered		Standard -CW	184-0025-002	184-0026-002	184-0027-002	184-0028-002
	1-1/2 Inch	7/8" O-ring	Standard -CCW	184-0013-002	184-0014-002	184-0015-002	184-0016-002
	17 T Splined		Standard -CW	184-0037-002	184-0038-002	184-0039-002	184-0040-002
				252 [15.4]	300 [18.3]	347 [21.2]	395 [24.1]
	1-1/4 Inch	7/8" O-ring	Standard -CCW	184-0003-002	184-0004-002	184-0007-002	184-0008-002
	Tapered		Standard -CW	184-0029-002	184-0030-002	184-0031-002	184-0032-002
	1-1/2 Inch	7/8" O-ring	Standard -CCW	184-0017-002	184-0018-002	184-0019-002	184-0020-002
	17 T Splined		Standard -CW	184-0041-002	184-0042-002	184-0043-002	184-0044-002
				470 [28.7]	542 [33.1]	649 [39.6]	754 [46.0]
	1-1/4 Inch	7/8" O-ring	Standard -CCW	184-0009-002	184-0010-002	184-0011-002	184-0012-002
	Tapered		Standard -CW	184-0033-002	184-0034-002	184-0035-002	184-0036-002
	1-1/2 Inch	7/8" O-ring	Standard -CCW	184-0021-002	184-0022-002	184-0023-002	184-0024-002
	17 T Splined		Standard -CW	184-0045-002	184-0046-002	184-0047-002	184-0048-002

Delta Series

Model Code

The following 26-digit coding system has been developed to identify all of the configuration options for the Delta Low Speed High Torque motor. Use this model code to specify a motor with the desired features. All 26 digits of the code must be present when ordering. You may want to photocopy the matrix below to ensure that each number is entered in the correct box.

M	D L		* * *			* *		* *		* *		0	*	*	0 0		0 0		* *		* *		0 0		A
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

1 Product

M – Motor

2, 3 Series

DL – Delta Series

4, 5, 6 Displacement cm³/r [in³/r]

069 – 113 [6.9]

089 – 146 [8.9]

121 – 198 [12.1]

143 – 234 [14.3]

154 – 252 [15.4]

183 – 300 [18.3]

212 – 347 [21.2]

241 – 395 [24.1]

287 – 470 [28.7]

331 – 542 [33.1]

396 – 649 [39.6]

460 – 754 [46.0]

7, 8 Mounting Type

AA – Wheel, 4 Bolt: 82.6 [3.25] Pilot Dia. 13.59 [.535] Dia. Holes On 147.6 [5.81] Dia. Bolt Circle. 127.0 [5.00] Dia. Rear Mount Pilot

AB – Standard, 6 Bolt: 82.6 [3.25] Pilot Dia. 13.59 [.535] Dia. Holes on 106.4 [4.19] Dia. Bolt Circle. .100 [2.54] Pilot Length. Sae A, Magneto

AC – Standard, 6 Bolt: 82.6 [3.25] Pilot Dia. 13.59 [.535] Dia. Holes on 106.4 [4.19] Dia. Bolt Circle. .250 [6.35] Pilot Length. SAE A, Magneto

9, 10 Output Shaft

01 – 38.10 [1.500] Dia. Straight with .375-16 UNC-2B Thread, and 9.52 [.375] Sq x 25.40 [1.000] Straight Key

02 – 31.75 [1.250] Dia. .125:1 Tapered Shaft per SAE J501 with 1.000-20 UNEF-2A Threaded Shaft End and Slotted Hex Nut, 7.938 [.3125] Sq x 25.40 [1.000] Straight Key

03 – 41.30 [1.626] Dia. .125:1 Tapered Shaft per SAE J501 with 1.250-18 UNEF-2A Threaded Shaft End and Slotted Hex Nut, 11.125 [.4380] Sq x 34.04 [1.340] Straight Key

04 – 31.75 [1.250] Dia. Flat Root Side Fit, 14 Tooth, 12/24 DP 30 Deg. Involute Spline with .375-16 UNC-2B Thread in End, 33.0 [1.30] Minimum Full Spline Length

05 – 38.10 [1.500] Dia. Flat Root Side Fit, 17 Tooth, 12/24 DP 30 Deg. Involute Spline, 31.8 [1.25] Minimum Full Spline Length, with .375-16 UNC-2B Thread in End

06 – 38.10 [1.500] Dia. Tapered Shaft per SAE J501 with 1.000-20 UNEF-2A Thread in End, 7.938 [.3125] Sq x 31.75 [1.250] Key

11, 12 Ports

AA – .875-14 UNF-2B SAE O-Ring

AC – G 1/2 BSP Straight Thread

13 Pressure/Flow Option

0 – None

14 Geroler Option

0 – Standard

B – Tight Fitting Geroler

15 Seal Option

00 – Standard Seals

02 – Seal Guard

03 – Viton Seals

04 – Viton Shaft Seal

11 – High pressure shaft seal, slinger seal

19 – Extreme duty seal guard

16, 17 Accessories

00 – None

18, 19 Special Features (Hardware)

00 – None

20, 21 Special Features (Assembly)

00 – Standard Rotation - CCW

01 – Standard Rotation - CW

22, 23 Paint/Packaging

AA - No Paint, Individual Box

AB - Low Gloss Black Primer, Individual Box

AC - Epoxy Coated (Frost Gray), Individual Box

AE - No Paint, Bulk Box

AF - Low Gloss Black Primer, Bulk Box

24, 25 Customer Identification

00 – None

26 Design Code

B – Two (2)

Feature in **bold** are preferred and allow for shorter lead time.