

To be No. 1 Global One-Stop Mall in Dump Truck Field

American Truck Products



台州永暢液壓機械有限公司
Taizhou Eternal Hydraulic Machine CO.,Ltd

COMPANY PROFILE



Eternal Hydraulic belongs to Eternal Group, which is a International Well-known Professional Hydraulic Enterprise with 6 Own Manufacturing Bases, and we will complete our 12+ Manufacturing Bases in future 5 years to become the No.1 Hydraulic Alliance Group Enterprise.

Eternal Hydraulic are integrating Design&Develop&Manufacturing&Marketing for Hydraulic Components, and with more than 16+ years experience in Hydraulic Field.

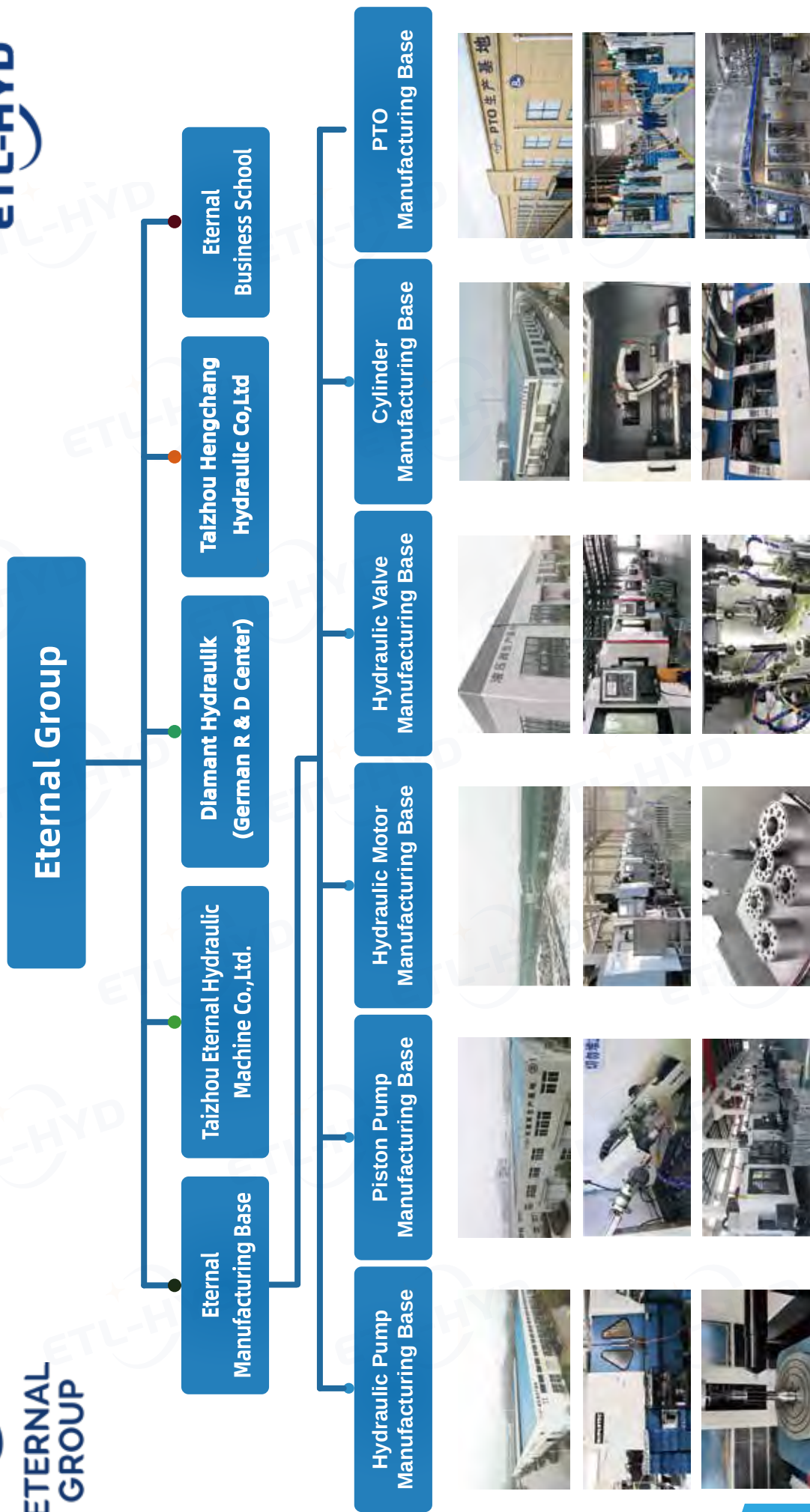
Eternal Hydraulic commit ourselves to the No.1 Global One-Stop Mall in Hydraulic Field, Our products are widely used in Agricultural Machinery, Forestry Machinery, Dump Trucks & Special Vehicles, Municipal Sanitation Machinery, Construction Machinery, Logistics&Forklift Machinery, Industrial Equipment, Mining machinery, Marine Machinery and Military Machinery etc, with 98% Good Quality&Price Feedback from market.

Eternal Hydraulic can be used in all Equipments which need Hydraulic Power.

Eternal Hydraulic keep good cooperative relationship with most of International Well-known Hydraulic Companies to provide best Service to our all regular customers.

Eternal Hydraulic firmly believes that **"Only the Best can Satisfied the Best"**, become the First and Best Purchase Choice of Hydraulic Components in all over the World.

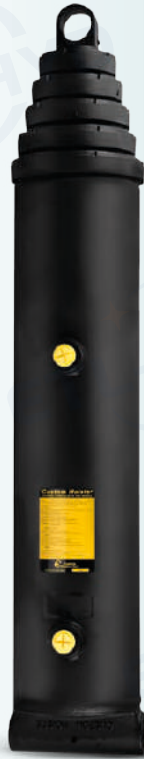
Inviting all ability Partners to join in us to complete **86+** Strategic Partners in all over the World.



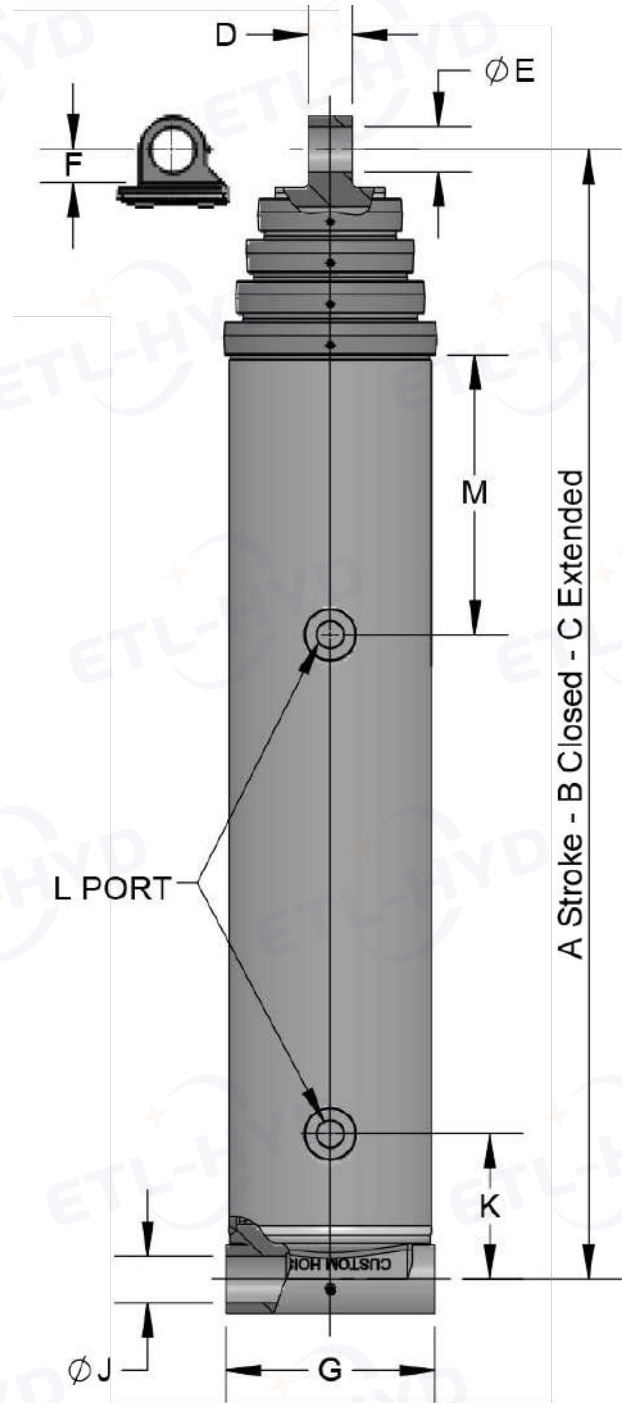
6+ Own Manufacturing Bases 1,400+ Workers Field Area > 220,000m²

Single-acting Cylinder

Pin-Pin Mounting



- Self-bleeding design
- Pre-loaded v-packing with a self-adjusting wave spring energizer or an energized Z seal package as an option
- Threaded headnuts for added strength and field seal adjustment
- Longer bearing length for stability



Single-acting Cylinder

Pin-Pin Mounting



S series

MODEL NUMBER	A		B		C		D		E		F		G		J		K		L	M		GAL of OIL		WEIGHT
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	PORT	in	mm	FILL	EXT	lbs
S53DC-4459-128	125.94	3199	54.50	1384	180.44	4583	1.50	38	1.78	45	2.00	51	7.00	178	2.06	52	26.50	673	SAE #16	N/A	N/A	2.0	7.1	227
S53DC-4531-130	126.13	3204	54.56	1386	180.69	4590	2.00	51	1.78	45	1.88	48	7.00	178	2.06	52	33.50	851	1" NPTF	N/A	N/A	2.0	7.1	234
S53DC-4592-72	71.94	1827	36.62	930	108.56	2757	1.50	38	2.06	52	2.00	51	7.00	178	2.06	52	19.50	495	3/4" NPTF	N/A	N/A	1.3	4.0	155
S53DC-4592-84	84.19	2138	41.12	1044	125.31	3183	1.50	38	2.06	52	2.00	51	7.00	178	2.06	52	19.50	495	3/4" NPTF	N/A	N/A	1.4	4.7	171
S53DC-4592-106	106.06	2694	48.00	1219	154.06	3913	1.50	38	2.06	52	2.00	51	7.00	178	2.06	52	19.50	495	3/4" NPTF	N/A	N/A	1.7	6.0	208
S63DC-4402-84	84.38	2143	41.00	1041	125.38	3185	2.00	51	2.06	52	1.75	44	7.00	178	2.13	54	19.50	495	1" NPTF	N/A	N/A	1.8	7.3	208
S63DC-4402-104	103.75	2635	47.62	1210	151.37	3845	2.00	51	2.06	52	1.75	44	7.00	178	2.13	54	19.50	495	1" NPTF	N/A	N/A	2.1	9.0	241
S63DC-4402-108	108.38	2753	49.00	1245	157.38	3997	2.00	51	2.06	52	1.75	44	7.00	178	2.13	54	19.50	495	1" NPTF	N/A	N/A	2.2	9.4	250
S63DC-4402-120	120.38	3058	53.00	1346	173.38	4404	2.00	51	2.06	52	1.75	44	7.00	178	2.13	54	19.50	495	1" NPTF	N/A	N/A	2.4	10.4	278
S63DC-4402-126	126.38	3210	55.00	1397	181.38	4607	2.00	51	2.06	52	1.75	44	7.00	178	2.13	54	19.50	495	1" NPTF	N/A	N/A	2.5	11.0	286
S63DC-4402-132	132.38	3362	57.00	1448	189.38	4810	2.00	51	2.06	52	1.75	44	7.00	178	2.13	54	19.50	495	1" NPTF	N/A	N/A	2.7	11.5	290
S63DC-4402-140	140.62	3572	59.75	1518	200.37	5089	2.00	51	2.06	52	1.75	44	7.00	178	2.13	54	19.50	495	1" NPTF	N/A	N/A	2.8	12.2	307
S64DC-4435-135	134.75	3423	47.13	1197	181.88	4620	2.69	68	1.56	40	1.63	41	8.00	203	1.88	48	N/A	N/A	1" NPTF	4.50	114	2.5	9.7	272
S64DC-4435-156	155.75	3956	52.38	1330	208.13	5286	2.69	68	1.56	40	1.63	41	8.00	203	1.88	48	N/A	N/A	1" NPTF	4.50	114	2.8	11.2	302
S64DC-4467-156	155.75	3956	52.63	1337	208.38	5293	1.75	44	2.03	52	1.88	48	7.25	184	2.06	52	6.38	162	1" NPTF	5.00	127	2.8	11.2	300
S73DC-4500-110	108.94	2767	49.88	1267	158.81	4034	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	2.7	13.5	318
S73DC-4500-118	117.19	2977	52.13	1324	169.31	4301	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	2.8	14.5	332
S73DC-4500-127	126.19	3205	55.13	1400	181.31	4605	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	3.0	15.7	352
S73DC-4500-142	141.19	3586	60.13	1527	201.31	5113	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	3.3	17.5	380
S73DC-4500-151	150.19	3815	63.13	1603	213.31	5418	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	3.5	18.7	407
S74DC-4401-120	119.94	3046	44.75	1137	164.69	4183	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	2.8	12.6	309
S74DC-4401-135	134.69	3421	48.25	1226	182.94	4647	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	3.1	14.2	330
S74DC-4401-140	139.69	3548	49.50	1257	189.19	4805	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	3.2	14.8	346
S74DC-4401-156	154.56	3926	53.38	1356	207.94	5282	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	3.5	16.2	373
S74DC-4401-161	159.56	4053	54.63	1387	214.19	5440	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	3.6	16.8	384
S74DC-4401-167	166.06	4218	56.25	1429	222.31	5647	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	3.7	17.5	395
S74DC-4401-180	179.06	4548	59.50	1511	238.56	6059	2.00	51	2.06	52	1.75	44	8.63	219	2.13	54	6.50	165	1" NPTF	12.00	305	4.0	18.9	415
S84DC-4466-148	145.00	3683	51.50	1308	196.50	4991	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.50	165	1" NPTF	12.75	324	3.9	21.2	451
S84DC-4466-156	153.00	3886	53.50	1359	206.50	5245	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.50	165	1" NPTF	12.75	324	4.1	22.4	474
S84DC-4466-161	157.50	4001	54.88	1394	212.38	5394	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.50	165	1" NPTF	12.75	324	4.2	23.1	483
S84DC-4466-170	167.00	4242	57.00	1448	224.00	5690	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.50	165	1" NPTF	12.75	324	4.4	24.5	504
S84DC-4466-180	176.50	4483	59.50	1511	236.00	5994	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.50	165	1" NPTF	12.75	324	4.6	25.9	527
S85DC-4402-170	168.63	4283	49.88	1267	218.50	5550	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	4.2	21.3	462
S85DC-4402-190	188.63	4791	53.88	1368	242.50	6160	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	4.6	23.8	500
S85DC-4402-200	198.62	5045	55.88	1419	254.50	6464	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	4.9	25.3	519
S85DC-4402-220	218.63	5553	59.88	1521	278.50	7074	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	5.2	27.7	554
S85DC-4402-235	234.25	5950	65.00	1651	299.25	7601	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	5.8	29.7	611
S85DC-4402-250	249.25	6331	68.00	1727	317.25	8058	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	6.1	31.7	655
S85DC-4453-265	263.63	6696	70.88	1800	334.50	8496	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	5.6	33.9	664
S85DC-4466-265	264.25	6712	74.38	1889	338.63	8601	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	6.8	33.7	710
S85DC-4466-280	279.25	7093	77.50	1969	356.75	9061	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	7.1	35.7	746
S85DC-4466-285	284.25	7220	78.50	1994	362.75	9214	2.00	51	2.06	52	1.75	44	9.50	241	2.13	54	6.63	168	1" NPTF	12.75	324	7.2	36.4	758
S95DC-4461-220	219.63	5578	60.88	1546	280.50	7125	2.00	51	2.06	52	1.75	44	10.69	271	2.13	54	13.50	343	1" NPTF	12.75	324	6.6	38.0	723
S95DC-4461-235	232.75	5912	65.00	1651	297.75	7563	2.00	51	2.06	52	1.75	44	10.69	271	2.13	54	6.50	165	1" NPTF	12.75	324	7.2	40.1	783
S95DC-4461-250	249.88	6347	72.63	1845	322.50	8192	2.00	51	2.06	52	1.75	44	10.69	271	2.13	54	6.50	165	1" NPTF	12.75	324	8.2	43.6	891
S95DC-4461-265	264.88	6728	75.63	1921	340.50	8649	2.00	51	2.06	52	1.75	44	10.69	271	2.13	54	6.50	165	1" NPTF	12.75	324	8.6	46.3	934
S95DC-4461-280	279.88	7109	78.63	1997	358.50	9106	2.00	51	2.06	52	1.75	44	10.69	271	2.13	54	6.50	165	1" NPTF	12.75	324	8.9	48.9	956
S95DC-4461-300	299.88	7617	82.63	2099	382.50	9716	2.00	51	2.06	52	1.75	44	10.69	271	2.13	54	6.50	165	1" NPTF	12.75	324	9.5	52.4	1002
S95DC-4509-340	338.94	8609	87.00	2210	425.94	10819	2.00	51	2.06	52	1.75	44	10.69	271	2.13	54	6.50	165	1" NPTF	N/A	N/A	8.9	59.3	1078

ETR Hydraulic Cylinder

for Agricultural Machinery



ETR TIE ROD CYLINDERS

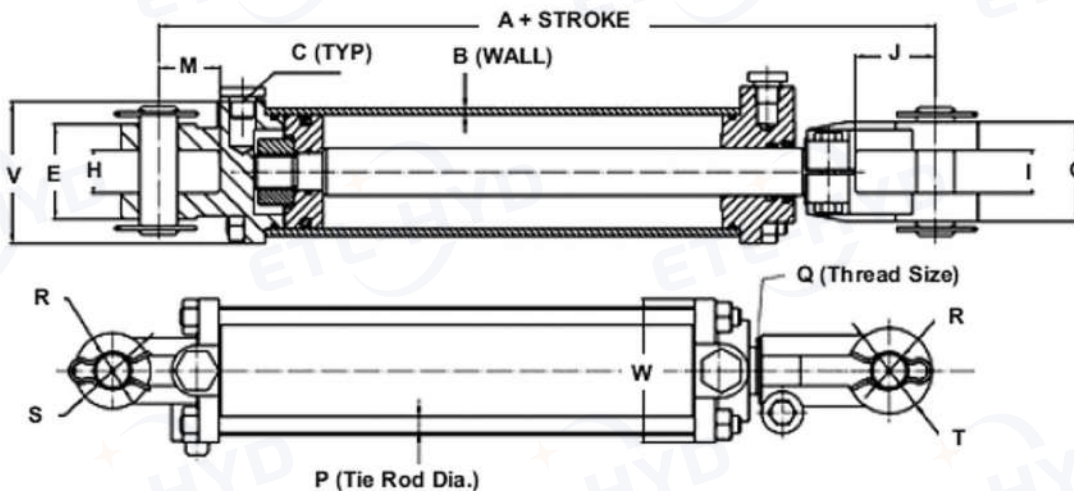
(4" Bore = 3000 PSI, 5" Bore = 2500 PSI)

FEATURES:

Intended Use: Double-acting applications **Tube:** Precision honed steel **Rod:** Hard chrome plated

Piston: Ductile iron **Gland:** Ductile iron, drilled oil passages

End Mounts: Ductile iron female clevises with pins and clips included **Seal Brand:** Hallite



Dimensional Data in Inches (Millimeters)

BORE	DIMENSIONS															
	A	B	C	E	G	H	I	J	M	P	Q	R	S	T	V	W
2.000 (50.8)	10.250 (260.4)	0.189 (4.80)	3/8NPT	2.440 (62)	2.677 (68)	1.142 (30)	1.180 (30)	2.125 (54.0)	2.000 (50.8)	0.394 (10)	11/8- 12UNF	1.016 (25.8)	1.772 (45)	2.086 (52)	3.220 (83)	2.875 (73)
2.500 (63.5)	10.250 (260.4)	0.189 (4.80)	3/8NPT	2.440 (62)	2.677 (68)	1.142 (30)	1.180 (30)	2.125 (54.0)	2.000 (50.8)	0.394 (10)	11/8- 12UNF	1.016 (25.8)	1.772 (45)	2.086 (52)	3.220 (83)	2.875 (73)
3.000 (76.2)	10.250 (260.4)	0.189 (4.80)	1/2NPT	2.717 (70)	2.677 (68)	1.142 (30)	1.180 (30)	2.125 (54.0)	2.000 (50.8)	0.472 (12)	11/4- 12UNF	1.016 (25.8)	2.031 (51.6)	2.086 (52)	3.858 (98)	3.780 (96.0)
3.500 (88.9)	10.250 (260.4)	0.189 (4.80)	1/2NPT	2.717 (69)	2.677 (68)	1.142 (30)	1.180 (30)	2.125 (54.0)	2.000 (50.8)	0.472 (14)	11/4- 12UNF	1.016 (25.8)	2.031 (51.6)	2.086 (52)	4.331 (110)	3.780 (96.0)
4.000 (101.6)	10.250 (260.4)	0.189 (4.8)	1/2NPT	2.717 (69)	2.717 (69)	1.142 (30)	1.180 (30)	2.125 (54.0)	2.000 (50.8)	0.630 (16)	11/4- 12UNF	1.016 (25.8)	2.126 (55)	2.086 (52)	5.157 (131)	5.118 (130)
5.000 (127.0)	12.250 (311.15)	0.250 (6.35)	1/2NPT	2.992 (76)	2.913 (74)	1.26 (32)	1.26 (32)	2.125 (54.0)	2.118 (53.80)	0.72 (18.28)	11/4- 12UNF	1.265 (32.13)	2.756 (70)	2.756 (70)	6.500 (165.10)	6.500 (165.10)

ETR Hydraulic Cylinder

for Agricultural Machinery



ETR TIE ROD CYLINDERS

(4" Bore = 3000 PSI, 5" Bore = 2500 PSI)



ETR Part #	Stroke (in)	Rod Dia.	Retract Length	Port Type	Column Load	Pin Size	Wt.	1-9	10 & Up
2" BORE									
ETR-2004	4	1 1/8	14.25	3/8 NPTF	7,854 lbs	1"	14.30	82.08	75.52
ETR-2006	6	1 1/8	16.25	3/8 NPTF	7,854 lbs	1"	15.84	90.91	83.62
ETR-2008	8	1 1/8	18.25	3/8 NPTF	7,854 lbs	1"	17.60	94.24	71.40
ETR-2008-A	8	1 1/8	20.25	3/8 NPTF	7,854 lbs	1"	17.60	93.67	86.17
ETR-2010	10	1 1/8	20.25	3/8 NPTF	7,854 lbs	1"	18.70	105.34	96.90
ETR-2012	12	1 1/8	22.25	3/8 NPTF	7,854 lbs	1"	20.24	112.59	103.61
ETR-2014	14	1 1/8	24.25	3/8 NPTF	7,854 lbs	1"	22.00	119.44	109.87
ETR-2016	16	1 1/8	26.25	3/8 NPTF	7,854 lbs	1"	23.54	120.46	110.83
ETR-2018	18	1 1/8	28.25	3/8 NPTF	7,854 lbs	1"	25.08	133.80	123.11
ETR-2020	20	1 1/8	30.25	3/8 NPTF	6,950 lbs	1"	26.62	138.22	127.19
ETR-2022	22	1 1/8	32.25	3/8 NPTF	5,180 lbs	1"	27.50	146.88	134.57
ETR-2024	24	1 1/8	34.25	3/8 NPTF	5,180 lbs	1"	28.50	153.23	140.95
ETR-2030	30	1 1/8	40.25	3/8 NPTF	3,570 lbs	1"	31.50	180.19	165.76
ETR-2036	36	1 1/8	46.25	3/8 NPTF	2,610 lbs	1"	33.00	203.35	187.10
ETR-2048	48	1 1/4	58.25	3/8 NPTF	1,570 lbs	1"	35.00	239.34	231.21
2½" BORE									
ETR-2504	4	1 1/8	14.25	3/8 NPTF	12,272 lbs	1"	16.28	98.58	90.70
ETR-2506	6	1 1/8	16.25	3/8 NPTF	12,272 lbs	1"	18.04	104.32	95.99
ETR-2508	8	1 1/8	18.25	3/8 NPTF	12,272 lbs	1"	20.24	106.59	98.07
ETR-2508-A	8	1 1/8	20.25	3/8 NPTF	12,272 lbs	1"	20.24		100.75
ETR-2510	10	1 1/8	20.25	3/8 NPTF	12,272 lbs	1"	21.34	119.34	109.81
ETR-2512	12	1 1/8	22.25	3/8 NPTF	12,272 lbs	1"	23.10	126.43	116.31
ETR-2514	14	1 1/8	24.25	3/8 NPTF	12,272 lbs	1"	24.86	136.70	125.79
ETR-2516	16	1 1/8	26.25	3/8 NPTF	10,001 lbs	1"	26.62	143.62	132.13
ETR-2518	18	1 1/8	28.25	3/8 NPTF	8,370 lbs	1"	28.38	150.53	138.50
ETR-2520	20	1 1/8	30.25	3/8 NPTF	7,104 lbs	1"	30.14	154.04	141.73
ETR-2522	22	1 1/8	32.25	3/8 NPTF	5,301 lbs	1"	31.00	154.69	142.31
ETR-2524	24	1 1/8	34.25	3/8 NPTF	5,301 lbs	1"	33.66	171.41	157.70
ETR-2530	30	1 1/4	40.25	3/8 NPTF	5,504 lbs	1"	39.66	190.09	174.91
ETR-2536	36	1 1/4	46.25	3/8 NPTF	4,020 lbs	1"	38.25	223.01	205.17
ETR-2548	48	1 1/4	58.25	3/8 NPTF	2,411 lbs	1"	50.25	267.38	246.00
ETR-2560	60	1 1/4	70.25	3/8 NPTF	1,614 lbs	1"	73.00	425.46	391.48
3" BORE									
ETR-3004	4	1 1/4	14.25	1/2 NPTF	17,672 lbs	1"	21.56	111.20	102.30
ETR-3006	6	1 1/4	16.25	1/2 NPTF	17,672 lbs	1"	23.76	116.59	107.27
ETR-3008	8	1 1/4	18.25	1/2 NPTF	17,672 lbs	1"	26.62	119.91	110.32
ETR-3008-A	8	1 1/4	20.25	1/2 NPTF	17,672 lbs	1"	26.62	121.45	111.75
ETR-3010	10	1 1/4	20.25	1/2 NPTF	17,672 lbs	1"	28.16	133.61	122.92
ETR-3012	12	1 1/4	22.25	1/2 NPTF	17,672 lbs	1"	30.36	143.64	132.17
ETR-3014	14	1 1/4	24.25	1/2 NPTF	17,672 lbs	1"	32.56	152.60	140.37
ETR-3016	16	1 1/4	26.25	1/2 NPTF	17,672 lbs	1"	34.76	154.35	144.10
ETR-3016-A	16	1 3/8	31.5	1/2 NPTF	17,672 lbs	1 1/4"	34.76	161.03	148.13
ETR-3018	18	1 1/4	28.25	1/2 NPTF	12,691 lbs	1"	36.96	167.29	152.51
ETR-3020	20	1 1/4	30.25	1/2 NPTF	10,785 lbs	1"	39.16	173.13	159.29
ETR-3022	22	1 1/4	32.25	1/2 NPTF	9,126 lbs	1"	40.00	182.91	168.28
ETR-3024	24	1 1/4	34.25	1/2 NPTF	8,050 lbs	1"	43.34	189.77	174.59
ETR-3030	30	1 1/4	40.25	1/2 NPTF	11,240 lbs	1"	48.00	212.21	195.24
ETR-3036	36	1 1/2	46.25	1/2 NPTF	8,222 lbs	1"	54.55	236.62	207.32
ETR-3048	48	1 1/2	58.25	1/2 NPTF	4,950 lbs	1"	74.69	279.24	256.90

ETR Hydraulic Cylinder

for Agricultural Machinery



ETR Part #	Stroke (in)	Rod Dia.	Retract Length	Port Type	Pin Size	Column Load	Wt.	1-9	10-Up
3 1/2" BORE									
ETR-3504	4	1 1/4	14.25	1/2 NPTF	19,242 lbs	1"	23.32	122.98	105.44
ETR-3506	6	1 1/4	16.25	1/2 NPTF	19,242 lbs	1"	25.52	135.93	116.53
ETR-3508	8	1 1/4	18.25	1/2 NPTF	19,242 lbs	1"	28.82	144.40	123.80
ETR-3508-A	8	1 3/8	20.25	1/2 NPTF	19,242 lbs	1"	28.82	145.95	125.12
ETR-3510	10	1 1/4	20.25	1/2 NPTF	19,242 lbs	1"	29.92	161.15	138.15
ETR-3512	12	1 1/4	22.25	1/2 NPTF	19,242 lbs	1"	32.34	169.94	145.70
ETR-3514	14	1 1/4	24.25	1/2 NPTF	18,733 lbs	1"	34.76	184.47	158.16
ETR-3516	16	1 1/4	26.25	1/2 NPTF	15,394 lbs	1"	37.18	196.94	168.83
ETR-3516-A	16	1 3/8	31.5	1/2 NPTF	22,050 lbs	1"	37.18	198.47	170.14
ETR-3518	18	1 1/4	28.25	1/2 NPTF	12,877 lbs	1"	39.60	204.89	175.64
ETR-3520	20	1 1/2	30.25	1/2 NPTF	10,921 lbs	1"	42.02	214.25	183.67
ETR-3522	22	1 1/2	32.25	1/2 NPTF	10,222 lbs	1"	47.00	237.44	203.53
ETR-3524	24	1 1/2	34.25	1/2 NPTF	16,652 lbs	1"	51.07	246.14	211.02
ETR-3530	30	1 1/2	40.25	1/2 NPTF	11,480 lbs	1"	55.00	315.50	270.48
ETR-3532	32	1 1/2	42.25	1/2 NPTF	10,100 lbs	1"	58.00	350.29	300.29
ETR-3536	36	1 1/2	46.25	1/2 NPTF	8,388 lbs	1"	62.00	356.64	305.73
ETR-3548	48	1 1/2	58.25	1/2 NPTF	5,038 lbs	1"	74.69	400.87	343.67
4" BORE									
ETR-4004	4	1 1/4	14.25	1/2 NPTF	31,416 lbs	1"	29.48	153.74	141.45
ETR-4006	6	1 1/4	16.25	1/2 NPTF	31,416 lbs	1"	33.60	158.32	152.59
ETR-4008	8	1 1/4	18.25	1/2 NPTF	31,416 lbs	1"	35.16	177.66	164.49
ETR-4008-A	8	1 1/2	20.25	1/2 NPTF	31,416 lbs	1"	35.16	179.21	164.84
ETR-4010	10	1 1/4	20.25	1/2 NPTF	31,416 lbs	1"	37.84	198.19	182.34
ETR-4012	12	1 1/4	22.25	1/2 NPTF	31,416 lbs	1"	40.70	215.66	198.43
ETR-4014	14	1 1/4	24.25	1/2 NPTF	31,416 lbs	1"	43.56	233.16	214.52
ETR-4016	16	1 1/2	26.25	1/2 NPTF	31,416 lbs	1"	46.42	246.72	226.99
ETR-4016-A	16	1 3/4	31.5	1/2 NPTF	31,416 lbs	1 1/4"	46.42	249.77	229.78
ETR-4018	18	1 1/4	28.25	1/2 NPTF	31,416 lbs	1"	50.60	263.80	242.70
ETR-4020	20	1 1/2	30.25	1/2 NPTF	22,600 lbs	1"	53.46	276.82	254.70
ETR-4024	24	1 1/2	34.25	1/2 NPTF	16,650 lbs	1"	59.18	287.62	264.62
ETR-4024-2	24	2	34.25	1/2 NPTF	31,416 lbs	1"	68.00	298.29	274.42
ETR-4030	30	1 3/4	40.25	1/2 NPTF	31,416 lbs	1"	75.00	356.19	327.72
ETR-4030-3	30	2	40.25	8 SAE	31,416 lbs	1"	78.00	398.99	315.15
ETR-4036	36	2	46.25	1/2 NPTF	25,890 lbs	1"	82.00	402.75	370.52
ETR-4048	48	2	58.25	1/2 NPTF	15,566 lbs	1"	90.00	454.15	417.83
5" BORE									
ETR-5004	4	1 1/2	16.25	1/2 NPTF	49,087 lbs	1"	53.46	367.17	337.81
ETR-5006	6	1 1/2	18.25	1/2 NPTF	49,087 lbs	1"	56.76	388.29	357.21
ETR-5008	8	1 1/2	20.25	1/2 NPTF	49,087 lbs	1"	61.16	390.61	359.36
ETR-5010	10	1 1/2	22.25	1/2 NPTF	49,087 lbs	1"	63.36	412.50	379.51
ETR-5012	12	2	24.25	1/2 NPTF	49,087 lbs	1"	73.04	443.85	408.35
ETR-5014	14	2	26.25	1/2 NPTF	49,087 lbs	1"	77.00	450.78	414.73
ETR-5016	16	2	28.25	1/2 NPTF	49,087 lbs	1"	81.18	474.83	436.83
ETR-5016-A	16	2	31.5	1/2 NPTF	49,087 lbs	1 1/4"	81.18	440.23	405.03
ETR-5018	18	2	30.25	1/2 NPTF	49,087 lbs	1"	85.14	480.61	442.12
ETR-5020	20	2	32.25	1/2 NPTF	49,087 lbs	1"	89.10	494.66	455.05
ETR-5024	24	2	36.25	1/2 NPTF	49,087 lbs	1"	97.24	548.14	504.30
ETR-5030	30	2	42.25	1/2 NPTF	49,087 lbs	1"	109.56	627.68	577.45



EWCT Hydraulic Cylinder

for Agricultural Machinery



EWCT WELDED CYLINDERS WITH CROSS TUBE
MOUNTES (4" Bore = 3000 PSI, 5" Bore = 2500 PSI)

FEATURES:

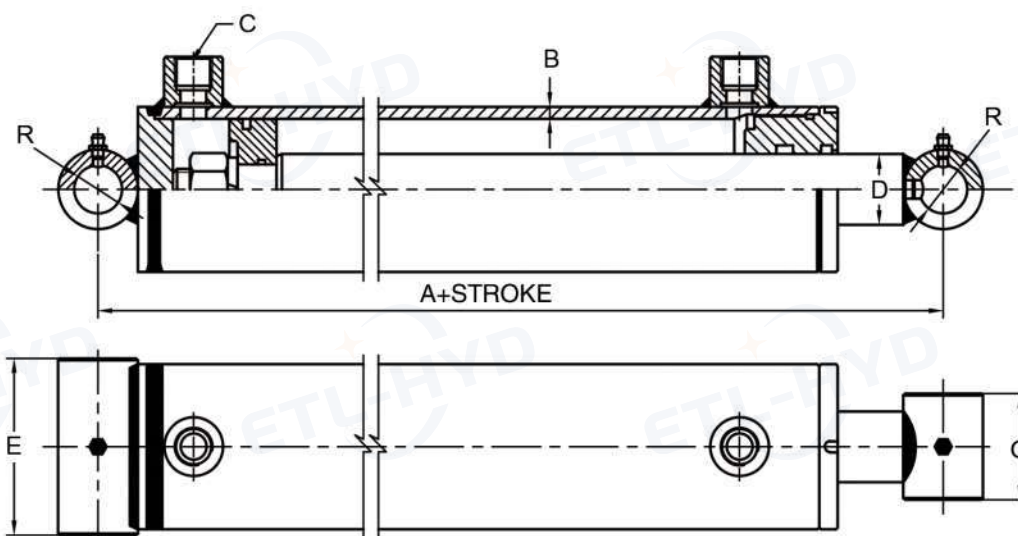
Intended Use: Double-acting applications

Tube: Steel tube honed or skived for extended seal life

Rod: Ground and polished hard chromed plated rod

Piston & Gland: Ductile iron

Seal Brand: Hallite



Dimensional Data in Inches (Millimeters)

BORE	DIMENSIONS						
	A	B	C	D	E	G	R
1.50 (38.10)	8 (203.2)	0.25 (6.35)	1/4NPT	1.00 (25.40)	2.25 (57.15)	2.00 (50.80)	0.77 (19.56)
2.00 (50.80)	8 (203.2)	0.25 (6.35)	3/8NPT	1.25 (31.75)	2.75 (69.85)	2.25 (57.15)	1.02 (25.90)
2.50 (63.50)	8 (203.2)	0.25 (6.35)	3/8NPT	1.50 (38.10)	3.25 (82.55)	2.25 (57.15)	1.02 (25.90)
3.00 (76.20)	8 (203.2)	0.25 (6.35)	1/2NPT	1.50 (38.10)	3.75 (95.25)	2.25 (57.15)	1.02 (25.90)
3.50 (88.90)	10 (254)	0.25 (6.35)	1/2NPT	1.75 (44.45)	4.25 (107.95)	2.25 (57.15)	1.27 (32.26)
4.00 (101.60)	10 (254)	0.25 (6.35)	1/2NPT	2.00 (50.80)	4.75 (120.65)	2.50 (63.50)	1.52 (38.61)
5.00 (127.00)	12 (304.8)	0.25 (6.35)	1/2NPT	2.50 (63.50)	5.75 (146.05)	3.25 (82.55)	1.77 (44.96)

EWCT Hydraulic Cylinder

for Agricultural Machinery



EWCT WELDED CYLINDERS

(4" Bore = 3000 PSI, 5" Bore = 2500 PSI)



EWCT Part #	Stroke	Rod Dia.	Retracted Length	Port Size	Pin Dia.	Wt.	1-9	10 & Up
1½" BORE								
EWCT-1504	4	1	12	1/4 NPTF	¾"	9.04	128.89	118.58
EWCT-1506	6	1	14	1/4 NPTF	¾"	10.14	135.09	124.30
EWCT-1508	8	1	16	1/4 NPTF	¾"	11.47	141.31	130.01
EWCT-1510	10	1	18	1/4 NPTF	¾"	12.79	147.50	135.71
EWCT-1512	12	1	20	1/4 NPTF	¾"	16.00	165.68	152.44
EWCT-1500-SK	PACKING KIT						30.91	
2" BORE								
EWCT-2004	4	1 ¼	12	3/8 NPTF	1"	10.00	139.76	128.59
EWCT-2006	6	1 ¼	14	3/8 NPTF	1"	12.00	147.50	135.71
EWCT-2008	8	1 ¼	16	3/8 NPTF	1"	13.45	159.81	147.03
EWCT-2010	10	1 ¼	18	3/8 NPTF	1"	15.21	167.10	153.72
EWCT-2012	12	1 ¼	20	3/8 NPTF	1"	16.98	172.98	159.15
EWCT-2014	14	1 ¼	22	3/8 NPTF	1"	18.74	181.92	167.34
EWCT-2016	16	1 ¼	24	3/8 NPTF	1"	20.51	191.48	176.16
EWCT-2018	18	1 ¼	26	3/8 NPTF	1"	22.27	198.44	187.53
EWCT-2020	20	1 ¼	28	3/8 NPTF	1"	24.03	207.20	190.62
EWCT-2024	24	1 ¼	32	3/8 NPTF	1"	27.56	218.95	201.39
EWCT-2028	28	1 ¼	36	3/8 NPTF	1"	31.09	232.81	214.19
EWCT-2030	30	1 ¼	38	3/8 NPTF	1"	32.85	241.67	222.32
EWCT-2032	32	1 ¼	40	3/8 NPTF	1"	34.84	249.22	229.26
EWCT-2036	36	1 ¼	44	3/8 NPTF	1"	38.37	270.22	248.59
EWCT-2040	40	1 ¼	48	3/8 NPTF	1"	41.90	351.03	322.94
EWCT-2048	48	1 ¼	56	3/8 NPTF	1"	48.95	416.82	383.48
EWCT-2000-SK	PACKING KIT						42.04	
2½" BORE								
EWCT-2504	4	1 ½	12	1/2 NPTF	1"	14.00	181.30	166.78
EWCT-2506	6	1 ½	14	1/2 NPTF	1"	17.00	188.19	173.13
EWCT-2508	8	1 ½	16	1/2 NPTF	1"	19.85	193.74	178.23
EWCT-2510	10	1 ½	18	1/2 NPTF	1"	21.83	205.28	188.85
EWCT-2512	12	1 ½	20	1/2 NPTF	1"	24.03	212.74	195.72
EWCT-2514	14	1 ½	22	1/2 NPTF	1"	26.24	220.51	202.88
EWCT-2516	16	1 ½	24	1/2 NPTF	1"	28.44	226.73	208.59
EWCT-2518	18	1 ½	26	1/2 NPTF	1"	30.65	236.04	217.16
EWCT-2520	20	1 ½	28	1/2 NPTF	1"	32.85	245.36	225.73
EWCT-2524	24	1 ½	32	1/2 NPTF	1"	37.26	262.29	238.57
EWCT-2528	28	1 ½	36	1/2 NPTF	1"	41.45	273.42	251.55
EWCT-2530	30	1 ½	38	1/2 NPTF	1"	43.66	277.95	255.73
EWCT-2532	32	1 ½	40	1/2 NPTF	1"	45.86	291.93	268.58
EWCT-2536	36	1 ½	44	1/2 NPTF	1"	50.27	310.58	285.73
EWCT-2540	40	1 ½	48	1/2 NPTF	1"	54.68	384.10	353.38
EWCT-2548	48	1 ½	56	1/2 NPTF	1"	63.28	479.91	441.51
EWCT-2500-SK	PACKING KIT						39.47	
3" BORE								
EWCT-3004	4	1 ½	12	1/2 NPTF	1"	16.00	217.40	200.01
EWCT-3006	6	1 ½	14	1/2 NPTF	1"	19.00	230.87	212.42
EWCT-3008	8	1 ½	16	1/2 NPTF	1"	24.70	239.34	220.20
EWCT-3010	10	1 ½	18	1/2 NPTF	1"	27.12	246.82	227.07
EWCT-3012	12	1 ½	20	1/2 NPTF	1"	29.55	255.57	235.12
EWCT-3014	14	1 ½	22	1/2 NPTF	1"	31.97	268.09	246.66
EWCT-3016	16	1 ½	24	1/2 NPTF	1"	34.40	280.22	257.80
EWCT-3018	18	1 ½	26	1/2 NPTF	1"	36.82	292.36	269.07
EWCT-3020	20	1 ½	28	1/2 NPTF	1"	39.25	299.10	275.17
EWCT-3024	24	1 ½	32	1/2 NPTF	1"	44.10	320.94	295.26
EWCT-3028	28	1 ½	36	1/2 NPTF	1"	48.95	340.59	313.36
EWCT-3030	30	1 ½	38	1/2 NPTF	1"	51.38	346.11	318.42

EWCT Hydraulic Cylinder

for Agricultural Machinery



EWCT Part #	Stroke	Rod Dia.	Retracted Length	Port Size	Pin Dia.	Wt.	1-9	10 & Up
EWCT-3032	32	1 1/2	40	1/2 NPTF	1"	57.00	359.08	333.60
EWCT-3036	36	1 1/2	44	1/2 NPTF	1"	58.43	387.39	356.38
EWCT-3040	40	1 1/2	48	1/2 NPTF	1"	63.28	420.50	386.86
EWCT-3048	48	1 1/2	56	1/2 NPTF	1"	72.99	449.86	413.86
EWCT-3060	60	1 1/2	72	1/2 NPTF	1"	90.00	504.37	460.04
EWCT-3000-SK				PACKING KIT			38.64	

3 1/2" BORE

EWCT-3504	4	1 3/4	14	1/2 NPTF	1 1/4"	28.00	217.75	213.62
EWCT-3506	6	1 3/4	16	1/2 NPTF	1 1/4"	31.00	239.96	227.91
EWCT-3508	8	1 3/4	18	1/2 NPTF	1 1/4"	32.63	254.32	233.94
EWCT-3510	10	1 3/4	20	1/2 NPTF	1 1/4"	35.72	273.43	251.48
EWCT-3512	12	1 3/4	22	1/2 NPTF	1 1/4"	38.81	291.96	268.61
EWCT-3514	14	1 3/4	24	1/2 NPTF	1 1/4"	41.67	303.02	278.80
EWCT-3516	16	1 3/4	26	1/2 NPTF	1 1/4"	44.76	321.42	295.71
EWCT-3518	18	1 3/4	28	1/2 NPTF	1 1/4"	47.63	339.30	312.12
EWCT-3520	20	1 3/4	30	1/2 NPTF	1 1/4"	50.72	349.70	321.73
EWCT-3524	24	1 3/4	34	1/2 NPTF	1 1/4"	56.67	377.07	346.90
EWCT-3528	28	1 3/4	38	1/2 NPTF	1 1/4"	62.62	397.60	365.80
EWCT-3530	30	1 3/4	40	1/2 NPTF	1 1/4"	65.71	419.01	385.50
EWCT-3532	32	1 3/4	42	1/2 NPTF	1 1/4"	68.80	439.69	404.52
EWCT-3536	36	1 3/4	46	1/2 NPTF	1 1/4"	74.75	467.04	429.67
EWCT-3540	40	1 3/4	50	1/2 NPTF	1 1/4"	80.70	494.12	454.60
EWCT-3548	48	1 3/4	58	1/2 NPTF	1 1/4"	92.61	561.13	516.23
EWCT-3500-SK				PACKING KIT			44.16	

4" BORE

EWCT-4008	8	2	18	1/2 NPTF	1 1/2"	40.79	372.94	343.11
EWCT-4010	10	2	20	1/2 NPTF	1 1/2"	44.54	390.94	359.66
EWCT-4012	12	2	22	1/2 NPTF	1 1/2"	48.29	402.63	370.43
EWCT-4014	14	2	24	1/2 NPTF	1 1/2"	51.82	420.38	386.74
EWCT-4016	16	2	26	1/2 NPTF	1 1/2"	55.57	433.63	398.94
EWCT-4018	18	2	28	1/2 NPTF	1 1/2"	59.09	453.17	417.04
EWCT-4020	20	2	30	1/2 NPTF	1 1/2"	62.84	467.29	429.91
EWCT-4024	24	2	34	1/2 NPTF	1 1/2"	70.12	499.40	460.72
EWCT-4028	28	2	38	1/2 NPTF	1 1/2"	77.40	540.46	497.07
EWCT-4030	30	2	40	1/2 NPTF	1 1/2"	81.14	548.33	504.45
EWCT-4032	32	2	42	1/2 NPTF	1 1/2"	84.67	558.11	513.46
EWCT-4036	36	2	46	1/2 NPTF	1 1/2"	91.95	577.77	511.12
EWCT-4040	40	2	50	1/2 NPTF	1 1/2"	99.23	606.98	558.44
EWCT-4042	42	2	52	1/2 NPTF	1 1/2"	106.00	652.39	600.19
EWCT-4048	48	2	58	1/2 NPTF	1 1/2"	114.00	679.47	625.10
EWCT-4096	96	2 1/4	113	#8 SAE	1 1/4"	270.00	1464.31	1347.17
EWCT-4120	120	2 1/4	134	#8 SAE	1 1/4"	353.00	1574.08	1447.91
EWCT-4000-SK				PACKING KIT			51.06	

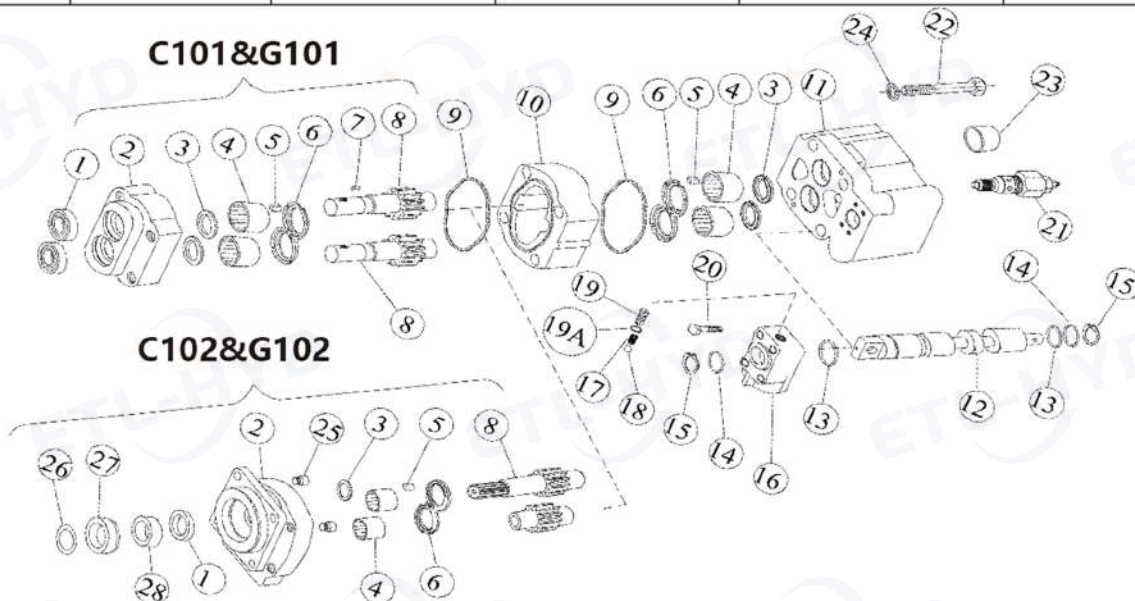
5" BORE

EWCT-5008	8	2 1/2	20	1/2 NPTF	1 3/4"	71.88	602.66	554.45
EWCT-5010	10	2 1/2	22	1/2 NPTF	1 3/4"	76.07	640.06	588.86
EWCT-5012	12	2 1/2	24	1/2 NPTF	1 3/4"	80.48	671.15	617.46
EWCT-5014	14	2 1/2	26	1/2 NPTF	1 3/4"	84.67	696.28	640.58
EWCT-5016	16	2 1/2	28	1/2 NPTF	1 3/4"	89.08	716.29	658.97
EWCT-5018	18	2 1/2	30	1/2 NPTF	1 3/4"	93.49	736.08	677.18
EWCT-5020	20	2 1/2	32	1/2 NPTF	1 3/4"	97.68	756.01	695.52
EWCT-5024	24	2 1/2	36	1/2 NPTF	1 3/4"	106.28	805.85	741.39
EWCT-5028	28	2 1/2	40	1/2 NPTF	1 3/4"	115.10	838.55	771.54
EWCT-5030	30	2 1/2	42	1/2 NPTF	1 3/4"	119.29	870.08	800.49
EWCT-5032	32	2 1/2	44	1/2 NPTF	1 3/4"	123.70	895.91	808.40
EWCT-5036	36	2 1/2	48	1/2 NPTF	1 3/4"	132.30	947.35	871.59
EWCT-5040	40	2 1/2	52	1/2 NPTF	1 3/4"	140.90	1035.23	952.41
EWCT-5048	48	2 1/2	60	1/2 NPTF	1 3/4"	158.10	1089.72	1002.54
EWCT-5000-SK				PACKING KIT			67.62	

C/G Series Gear Pump



C102	-2.5	L	AS	-3	-20
型号 Model	齿宽 Gear Width	旋向 Rotation	操作方式 Operation style	回路数 Line No	安全阀压力 Relief Valve Setting
G101 G102	0.75"	L: 逆时针 CCW Rotation R: 顺时针 CW Rotation	MS: 手动 Manual AS: 气动 Airshift	2: 2 回路 2 Line installation 3: 3 回路 3 Line installation	20: 137bar(2000PSI) 25: 172bar(2500PSI)
	1.5"				
	2.0"				
C101 C102	2.0" 2.5"				



ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Shaft Seal	11	Port End Cover	20	Cap Screw
2	Lip Seal	12	Valve Spool	21	Relief Valve
3	Shaft Ring Seal	13	O-Ring	22	Cap Crew
4	Roller Bearing	14	Retainer Ring	23	Sleeve(Optional)
5	Pocket Seal	15	Snap Ring	24	Washers
6	Thrust Plate	16	Valve Cap	25	Check Assembly
7	Shaft Key	17	Poppet Spring	26	Snap Ring
8	Gear Set	18	Steel Ball	27	Spacer
9	Gasket Seal	19	Detent Retainer	28	Retainer
10	Gear Housing	19A	Local Washer		

C/G Series Gear Pump



C101 SERIES REMOTE MOUNT



ETL-HYD	Replacement for Parker/Commercial	Replacement for Metaris	Replacement for Permco
C101-2.5-L-MS-3-20 C101-2.0-L-MS-3-20	C101D-2.5-1 C101D-2.0-1	MH101-C-25-L MH101-C-20-L	DM-640-25-ZL-O-T-200 DM-512-20-ZL-O-T-200
•2.5" OR 2.0" GEAR WIDTH •3 OR 2 LINE INSTALLATION •49 GPM FLOW @ 1800 RPM		•CCW OR CW ROTATION •2000PSI OR 2500PSI RELIEF VALVE SETTING •MAX. RPM 2400	

C101 SERIES REMOTE MOUNT WITH *AIR SHIFT CYLINDER



ETL-HYD	Replacement for Parker/Commercial	Replacement for Metaris	Replacement for Permco
C101-2.5-L-AS-3-20 C101-2.0-L-AS-3-20	C101D-2.5-1-AS C101D-2.0-1-AS	MH101-C-25-L-AS MH101-C-20-L-AS	DM-640-25-ZL-O-AS-200 DM-512-20-ZL-O-AS-200
•2.5" OR 2.0" GEAR WIDTH •3 OR 2 LINE INSTALLATION •49 GPM FLOW @ 1800 RPM		•CCW OR CW ROTATION •2000PSI OR 2500PSI RELIEF VALVE SETTING •MAX. RPM 2400 •PRE-MOUNTED SHIFT CYLINDER	

C102 SERIES DIRECT MOUNT



ETL-HYD	Replacement for Parker/Commercial	Replacement for Metaris	Replacement for Permco
C102-2.5-L-MS-3-20 C102-2.0-L-MS-3-20	C102D-2.5-1 C102D-2.0-1	MH102-C-25-L MH102-C-20-L	DMD-25-Z-L-MS-20-EB DMD-20-Z-L-MS-20-EB
•2.5" OR 2.0" GEAR WIDTH •3 OR 2 LINE INSTALLATION •49 GPM FLOW @ 1800 RPM		•CCW OR CW ROTATION •2000PSI OR 2500PSI RELIEF VALVE SETTING •MAX. RPM 2400	

C102 SERIES DIRECT MOUNT WITH *AIR SHIFT CYLINDER



ETL-HYD	Replacement for Parker/Commercial	Replacement for Metaris	Replacement for Permco
C102-2.5-L-AS-3-20 C102-2.0-L-AS-3-20	C102D-2.5-1-AS C102D-2.0-1-AS	MH102-C-25-L-AS MH102-C-20-L-AS	DMD-25-Z-L-AS-20-EB DMD-20-Z-L-AS-20-EB
•2.5" OR 2.0" GEAR WIDTH •3 OR 2 LINE INSTALLATION •49 GPM FLOW @ 1800 RPM		•CCW OR CW ROTATION •2000PSI OR 2500PSI RELIEF VALVE SETTING •MAX. RPM 2400 •PRE-MOUNTED SHIFT CYLINDER	

C/G Series Gear Pump



G101 SERIES REMOTE MOUNT



ETL-HYD	Replacement for Parker/Commercial	Replacement for Metaris	Replacement for Permco
G101-2.0-L-MS-3-20 G101-1.5-L-MS-3-20 G101-0.75-L-MS-3-20	G101-1-2.0-L-4S G101-1-1.5-L-4S	MH101-G-2-L MH101-G-1.5-L MH101-G-0.7-L	DMR-400-20-ZL-200 DMR-300-15-ZL-200
•2.0" OR 1.5" OR 0.75" GEAR WIDTH •3 OR 2 LINE INSTALLATION • 15 GPM AT 1000 RPM TO 37 GPM AT 2400 RPM • PRESSURE BALANCED THRUST PLATES		•CCW OR CW ROTATION •2000PSI OR 2500PSI RELIEF VALVE SETTING •3 PIECE CAST IRON DESIGN • HEAVY DUTY ROLLER BEARINGS	

G101 SERIES DIRECT MOUNT WITH *AIR SHIFT CYLINDER



ETL-HYD	Replacement for Parker/Commercial	Replacement for Metaris	Replacement for Permco
G101-2.0-L-AS-3-20 G101-1.5-L-AS-3-20 G101-0.75-L-AS-3-20	G101-1-2.0-L-4S-AS G101-1-1.5-L-4S-AS	MH101-G-2-L-AS MH101-G-1.5-L-AS MH101-G-0.7-L-AS	DMR-400-20-ZL-200-AS DMR-300-15-ZL-200-AS
•2.0" OR 1.5" OR 0.75" GEAR WIDTH •3 OR 2 LINE INSTALLATION • 15 GPM AT 1000 RPM TO 37 GPM AT 2400 RPM • PRESSURE BALANCED THRUST PLATES •PRE-MOUNTED SHIFT CYLINDER		•CCW OR CW ROTATION •2000PSI OR 2500PSI RELIEF VALVE SETTING •3 PIECE CAST IRON DESIGN • HEAVY DUTY ROLLER BEARINGS	

G102 SERIES DIRECT MOUNT



ETL-HYD	Replacement for Parker/Commercial	Replacement for Metaris	Replacement for Permco
G102-2.0-L-MS-3-20 G102-1.5-L-MS-3-20 G102-0.75-L-MS-3-20	G102-1-2.0-L-4S G102-1-1.5-L-4S	MH102-G-2-L MH102-G-1.5-L MH102-G-0.7-L	DMD-400-20-ZL-200 DMD-300-15-ZL-200
•2.0" OR 1.5" OR 0.75" GEAR WIDTH •3 OR 2 LINE INSTALLATION • 15 GPM AT 1000 RPM TO 37 GPM AT 2400 RPM • PRESSURE BALANCED THRUST PLATES		•CCW OR CW ROTATION •2000PSI OR 2500PSI RELIEF VALVE SETTING •3 PIECE CAST IRON DESIGN • HEAVY DUTY ROLLER BEARINGS	

G102 SERIES DIRECT MOUNT WITH *AIR SHIFT CYLINDER



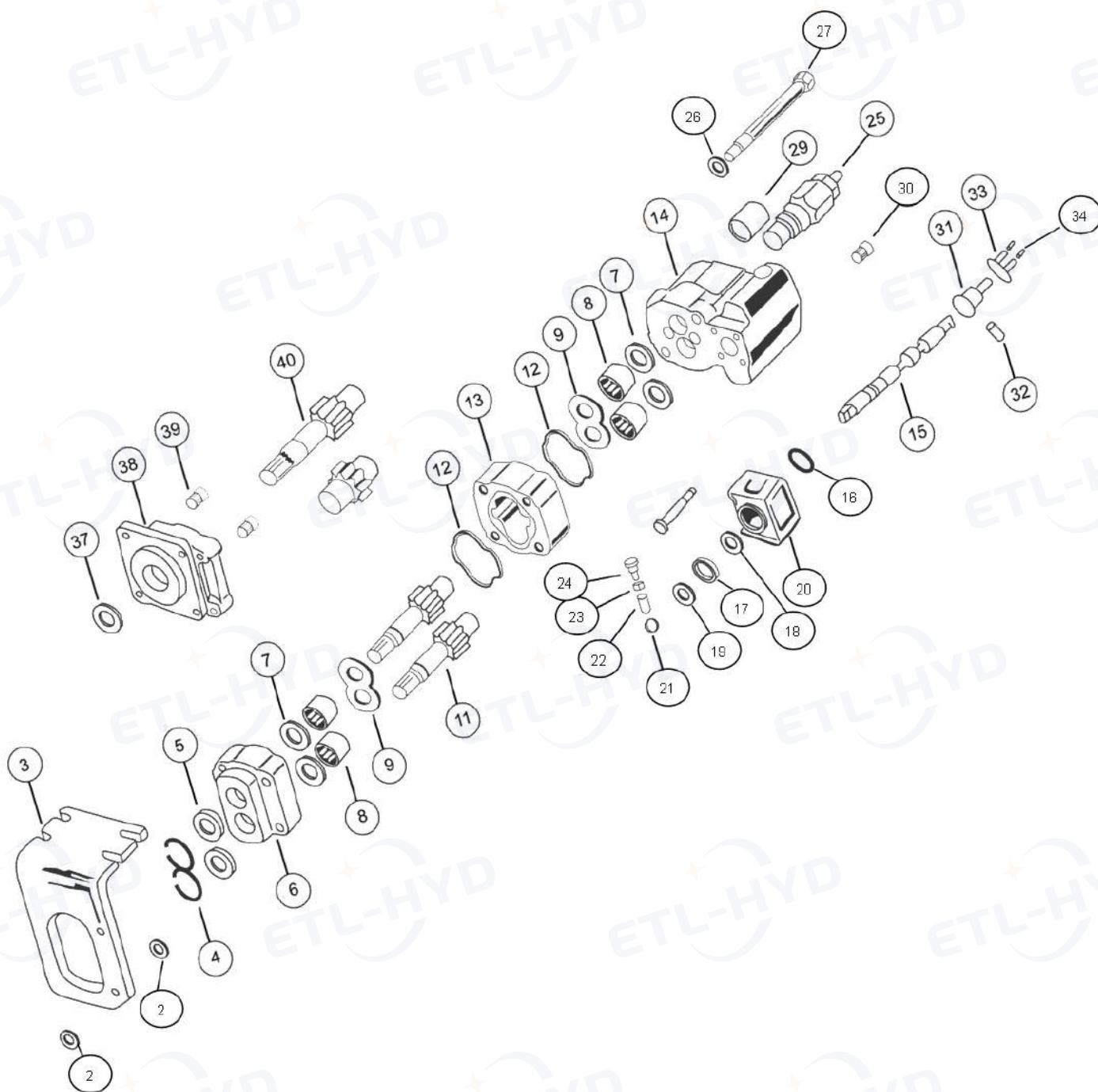
ETL-HYD	Replacement for Parker/Commercial	Replacement for Metaris	Replacement for Permco
G102-2.0-L-AS-3-20 G102-1.5-L-AS-3-20 G102-0.75-L-AS-3-20	G102-1-2.0-L-4S-AS G102-1-1.5-L-4S-AS	MH102-G-2-L-AS MH102-G-1.5-L-AS MH102-G-0.7-L-AS	DMD-400-20-ZL-200-AS DMD-300-15-ZL-200-AS
•2.0" OR 1.5" OR 0.75" GEAR WIDTH •3 OR 2 LINE INSTALLATION • 15 GPM AT 1000 RPM TO 37 GPM AT 2400 RPM • PRESSURE BALANCED THRUST PLATES •PRE-MOUNTED SHIFT CYLINDER		•CCW OR CW ROTATION •2000PSI OR 2500PSI RELIEF VALVE SETTING •3 PIECE CAST IRON DESIGN • HEAVY DUTY ROLLER BEARINGS	

C/G 101 / 102 Parts

PICK THE CORRECT SERIES		G SERIES		C SERIES	
DRW. NO.	DESCRIPTION	PART NO.	GENERAL NO.	PART NO.	GENERAL NO.
Not Shown	ONLY HEX NUT	N/A	N/A		391-1451-076
2	ONLY WASHER	N/A	N/A		391-3784-028
3	101 BRACKET OPTIONAL	N/A	N/A		314-0100-005
4	101 SNAP RING	HPN-208	391-2681-487		391-2681-493
5	101 LIP SEAL		391-2883-119		391-2883-096
6	101 SHAFT END COVER		308-5016-201	XB-1686-3	314-5039-201
7	RING SEAL	HPN-126	391-2585-006	HPN-114	391-2585-009
8	ROLLER BRG.	MY1032	391-0381-068	MS1032	391-0381-059
9	THRUST PLATE	AA-1058	391-2185-013	HPN-017	391-2185-012
Not Shown	POCKET SEAL		391-2882-086		391-2882-050
11	101 SHAFT & GEAR SET		312-29XX-842	HPN-046-XX	314-29XX-640
12	GEAR HOUSING GASKET		391-2884-019		391-2884-021
13	GEAR HOUSING		308-80XX-901	TA-1688-XX	314-80XX-100
14 a	101 PORT END COVER		308-3910-902	HPN-043-1	314-3910-903
14 b	102 PORT END COVER		308-3910-901	HPN-043	314-3910-904
15	SPOOL VALVE		308-4000-001	HPN-067	314-4000-001
16	QUAD RING		391-1985-014		391-2881-103
17	WIPER RING		391-2883-152		391-2883-147
18	C ONLY RETAINER RING	N/A	N/A	HPN-054	391-3782-126
19	C ONLY SNAP RING	N/A	N/A		391-2688-003
20	DETENT CAP		308-4000-102	HPN-049	314-0100-003
21	DETENT BALL		391-0282-009		391-0282-009
22	DETENT SPRING		391-3581-383	HPN-069	391-3581-383
23	LOCK WASHER		391-3788-002	HPN-115	391-3788-002
24	DETENT RETAINER		391-2583-079	HPN-053	391-2583-079
25	RELIEF VALVE		355-9001-197	HPN-071	355-9001-067
26	WASHER		391-3782-146		391-3784-029
27 a	CAP SCREW / MH101-20		391-1401-382		391-1401-111
27 b	CAP SCREW / MH101-25	N/A	N/A		391-1401-110
28 a	CAP SCREW / MH102 -20		391-1401-382		391-1425-433
28 b	CAP SCREW / MH102 -25		N/A		391-1425-432
29	OPTIONAL SLEEVE	HPN-070	391-3283-052	HPN-070	391-3283-052
30	PIPE PLUG		391-2282-029	HPN-055	391-2282-006
31	SPOOL END CAP		391-1881-072	HPN-050	391-1881-073
32	SPIRAL PIN		391-2085-009		391-2085-009
33	BRACKET		391-0981-007	HPN-052	391-0981-010
34	S.H.C.SCREW		391-1402-063		391-1402-063
Not Shown	102 SNAP RING		391-2686-063		391-2686-065
Not Shown	102 SEAL RETAINER		391-3381-040		391-3383-087
36	102 SPACER		391-3383-069		N/A
37	102 LIP SEAL		391-2883-119		391-2883-115
38	102 SHAFT END COVER		308-5030-201	HB-1685-3	313-5037-201
39	CHECK VALVES		391-3681-001		391-3681-001
40	MH 102 SHAFT & GEAR SET 7/8" x 13 tooth spline		312-29XX-130		314-29XX-130
41 a	CAP SCREW / MH101-102		391-1433-020		391-1401-082
Not Shown	SHAFT KEY		391-1781-021		391-1781-021
Not Shown	SEAL RETAINER		391-2183-124		N/A

NOTE The **XX** shown in the part number is in place of the size the true value must be placed into the part number when ordering parts.
(eg.) Gear set no. A13-50-XX221 changes to A13-50-15221 for 1.5" gear size
Housing no. A13-32-XX000 changes to A13-32-15000 for a 1.5" housing size
No porting sizes have been indicated all porting must be specified when ordering parts.

C/G 101 / 102 Parts



P Series Gear Pump



P20/21 P30/31 P50/51 P75/76

•Standardization, universalization, serialization design. Connecting dimensions are SAE standard, multiple assemblies are available.

•Speed range: 600-2400 RPM

Max rated pressure: 207bar, intermittent: 245bar

•Displacement range :

P20/21: 16.1 ml/r - 64.6 ml/r

P30/31: 16.4 ml/r - 80.7 ml/r

P75/76: 33.58 ml/r - 201.5 ml/r

P50/51: 20.9 ml/r - 125.4 ml/r



P315 P330 P350 P365

•Heavy duty, cast iron, external gear pump

•Standardization, universalization, serialization design

•Speed range: 400-3000 RPM (P315/P330); 400-2400 RPM (P350/P365)

•Max rated pressure: 245bar, intermittent: 275bar

•Displacement range :

P315: 10.2 ml/r - 40.6 ml/r

P330: 16.1 ml/r - 64.6 ml/r

P350: 20.9 ml/r - 104.5 ml/r

P365: 44.3 ml/r - 147.5 ml/r

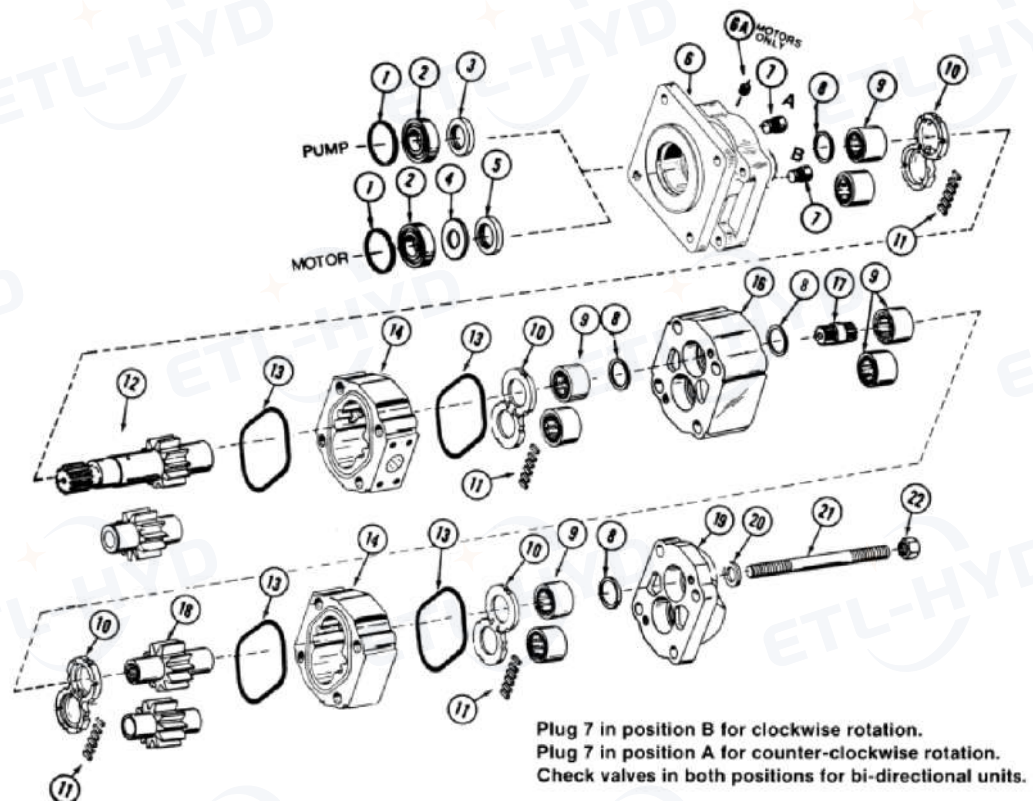


P Series Gear Pump



P SEREIS GEAR PUMP PARTS

- 1 Snap Ring
- 2 Outboard Bearing
- 3 Outboard Spacer
- 4 Lip Seal (pump)
- 5 Seal Retainer (motor)
- 6 Lip Seal (motor)
- 6 Shaft End Cover
- 6A Drain Plug (motor)
- 7 Check Assemblies for Motors
& Bi-Rotational Pumps
Plugs (pumps only)
- 8 Ring Seals (per gear section)
- 9 Roller Bearings (per gear section)
- 10 Thrust plates (motor)
(per gear section)
Thrust plates (pump)
(per gear section)
- 11 Pocket Seals (per gear section)
- 12 Drive Shaft Gear Set
- 13 Gasket Seals (per gear section)
- 14 Gear Housing
- 16 Bearing Carrier
- 17 Connecting Shaft
- 18 Gear Set
- 19 Port End Cover
- 20 Washers
- 21 Cap Screws (single units)
- 22 Studs (multiple units)
- 22 Nuts (multiple units)

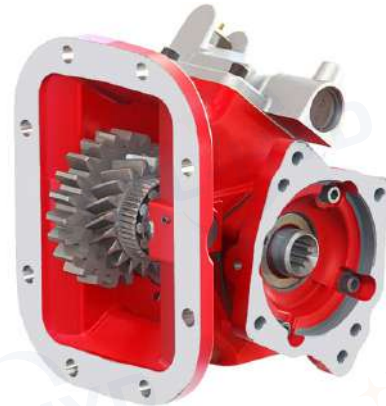


PLEASE SEE INDEX AT ETERNAL HYDRAULIC P PUMP CATALOG FOR EXACT INTERCHANGES

8 HOLE PTO'S MODEL E489



FOR REMOTE MOUNT PUMP



FOR DIRECT MOUNT PUMP

6 HOLE PTO'S MODEL E442



FOR REMOTE MOUNT PUMP



FOR DIRECT MOUNT PUMP



PLEASE SEE INDEX AT ETERNAL HYDRAULIC PTO CATALOG FOR EXACT INTERCHANGES

Power Take-offs



E489 X Q AH X - A 3 XK

Basic Model
E489 / E442 / E447

Mounting Option

- ♦ E = Eaton FTS Mount
- G = Standard Mount w/ MetricStud Kit
- K = Standard Mount w/o Stud Kit
- Q = Eaton Endurant™
- X = Standard Mount
- Z = Deep Mount
- ♦ C = CAT TH55 (only for 489/447)
- ♦ F = Eaton After Market (only for 489/447)
- D = Detroit® Mount (only for 489/447)
- L = Deep Mount w/o Stud Kit (only for 442/447)

Gear Ratio

- Q = 19/24
- ♦ R = 22/24
- ¹ S = 24/22
- U = 26/20
- W = 26/17
- A = 14/39 (only for 442/489)
- ♦ B = 14/39 (only for 442/489)
- C = 17/37 (only for 442/489)
- F = 21/37 (only for 442/489)
- H = 23/35 (only for 442/489)
- L = 25/34 (only for 442/489)

Input Option

IT: Without Gear
BG: TTC Transmission
DA: Eaton Transmission
AH: Fuller Series
DC: Mack Transmission

Lube Option

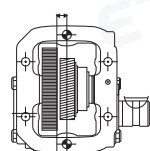
- X = No Pressure Lube
- P = Pressure Lube

Shift Option

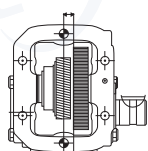
- ¹ A = Air Shift
- ♦ C = Special Shift Control & Bracket Kit
- H = No Shifter Assembly
- M = Constant Mesh
- ¹ P = 12VDC Elec/Air Shift
- Q = 24VDC Elec/Air Shift
- ²¹ S = Air Shift w/ PTO/Dump Pump Combo Valve w/ Kick Out w/ Neutral Spring Return
- ²¹ T = Air Shift w/ PTO/Dump Pump Combo Valve w/o Kick Out w/ Neutral Spring Return
- ♦ ²¹ U = Air Shift w/ PTO/Dump Pump Combo Valve w/ Kick Out w/o Neutral Spring Return
- V = Air Shift w/o Installation Kit
- ¹ W = Wire Shift
- X = Wire Shift w/o Cable & Knob
- ♦ Y = Lever Shift
- ♦ Z = 12VDC Elec Shift
- 5 = Double Acting Air Shift w/o Installation Kit (only for 442/489)
- 6 = Double Acting Air Shift w/ Installation Kit (only for 442/489)
- D = Eaton Endurant HD™ 12VDC Elec/Air Shift (only for 442/489)
- ♦ E = Eaton Procision® Hydraulic Shift (only for 442)

Assembly Arrangement

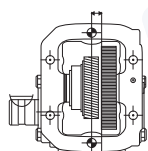
- 3 = Right side - bulge down Left side - bulge up
- 4 = Right side - bulge down Left side - bulge up
- 5 = Left side - bulge down Right side - bulge up
- 6 = Left side - bulge down Right side - bulge up



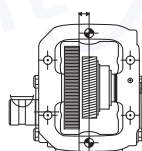
Ass'y 3



Ass'y 4



Ass'y 5



Ass'y 6

Output Option

Driveline Output

- XB** = Rd Standard Shaft (1-1/4" - 5/16" Key) (only for 442/489)
- XD** = Rd Standard Shaft (1-1/4" - 5/16" Key)
- XX** = 1-1/4" Tapered Output Shaft w/ Keyway

Pump Mount

- ♦ **AA** = Special Pump for England
- AF** = SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T)
- AK** = SAE B 2-Bolt Flange, SAE B Shaft (7/8" - 13T)
- AZ** = SAE B 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)
- ♦ **FF** = SAE B Pump Flange, SAE B Shaft (7/8" - 1/4" Key)
- GA** = Greaseable SAE B 2-Bolt Rotatable Flange, SAE B Shaft (7/8" - 13T)
- GB** = Greaseable SAE B 4-Bolt Rotatable Flange, SAE B Shaft (7/8" - 13T)
- ♦ **GE** = Greaseable SAE A 2 or 4-Bolt Flange, SAE A Shaft (5/8" - 9T)
- GF** = Greaseable SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T) (only for 442/489)
- GH** = Greaseable SAE B 2-Bolt Rotatable Flange, SAE BB Shaft (1" - 15T)
- ♦ **GJ** = Greaseable SAE B 4-Bolt Rotatable Flange, SAE BB Shaft (1" - 15T)
- GK** = Greaseable SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)
- GL** = Greaseable SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T) (only for 442/489)
- ♦ **GP** = Greaseable Special SAE A Pilot & 2-Bolt Flange, SAE B Shaft
- ⁵⁹ **GQ** = Greaseable SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)
- GR** = Greaseable Chelsea Special (Cloverleaf), SAE B Shaft (7/8" - 13T)
- GY** = Greaseable ISO 7653 Pump Mount DIN 5462 Shaft
- GZ** = Greaseable SAE B 2 or 4-Bolt Flange, SAE C Shaft (1-1/4" - 14T)
- ♦ **L*** = Self Lube
- ♦ **PA** = Rotatable SAE B 2-Bolt Flange, SAE B Shaft (7/8" - 13T) (only for 489)
- ♦ **PF** = Rotatable SAE B 2-Bolt Flange, SAE BB Shaft (1" - 15T) (only for 489)
- RA** = Rotatable SAE B 2-Bolt Flange, SAE B Shaft (7/8" - 13T)
- RB** = Rotatable SAE B 4-Bolt Flange, SAE B Shaft (7/8" - 13T)
- RC** = Rotatable SAE A 2-Bolt Flange, SAE A Shaft (5/8" - 9T)
- RD** = Rotatable SAE A 2-Bolt Flange, SAE B Shaft (7/8" - 13T)
- RE** = Rotatable SAE B 4-Bolt Flange, SAE BB Shaft (1" - 15T)
- RF** = Rotatable SAE B 2-Bolt Flange, SAE BB Shaft (1" - 15T)
- RH** = Rotatable SAE B 2-Bolt Flange, SAE BB Shaft (1" - 15T) (only for 442/489)
- RJ** = Rotatable SAE B 2 or 4-Bolt Flange, SAE BB Shaft (1" - 15T)
- RK** = Rotatable SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)
- ⁷⁹ **RY** = Rotatable ISO 7653 Pump Mount DIN 5462 Shaft
- SQ** = SAE B 4-Bolt Flange, SAE B Shaft (7/8" - 13T) (only for 442/489)
- XE** = SAE A 2 or 4-Bolt Flange, SAE A Shaft (5/8" - 9T)
- ♦ **XG** = Non-Standard SAE Class A 2-Bolt Flange, Non-Standard Shaft (3/4" - 3/16" Key)
- ♦ **XJ** = Non-Standard SAE A 2-Bolt Flange, Non-Standard Shaft (3/4" - 3/16" Key)
- XK** = SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)
- ♦ **XL** = Non-Standard SAE Class A 2-Bolt Flange, Non-Standard SAE B Shaft
- ♦ **XO** = Special SAE A Pilot & 2-Bolt Flange, Non-Standard Shaft (3/4" - 3/16" Key)
- ♦ **XP** = Special SAE A Pilot & 2-Bolt Flange, SAE Class B Shaft
- ⁵⁹ **XQ** = SAE B 2 or 4-Bolt Flange, SAE B Shaft (7/8" - 13T)
- XR** = Chelsea Special (Cloverleaf), SAE B Shaft (7/8" - 13T)
- XV** = 1410 Series Companion Flange (only for 489)
- XY** = ISO 7653 Pump Mount DIN 5462 Shaft

¹ Includes mounting parts

²¹ Includes installation kit, console sold separately

⁵⁹ Same as XK except rotated 90°

⁷⁹ Flooded Cavity ♦ No longer a current option

OPTIONS

“A”

AIR SHIFT PTO W/ CONTROL VALVE
& INSTALLATION KIT



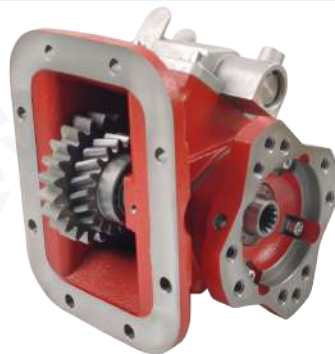
“U”

AIR SHIFT PTO W/ “COMBO”
CONTROL VALVE & INSTALLATION KIT



“V”

AIR SHIFT PTO ONLY



ETL-PTO010 MOUNTING STUD KIT

“W”

CABLE SHIFT PTO W/STANDARD 10’
CONTROL CABLE & MOUNTING STUDS



PLEASE SEE INDEX AT ETERNAL HYDRAULIC PTO CATALOG FOR EXACT INTERCHANGES

COMBINATION PTO/DUMP PUMP CONTROL VALVE FOR ALL AIR SHIFT PTO'S AND PUMPS

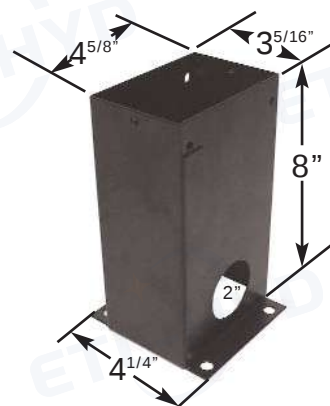
ETL-HYD	Replacement for Chelsea Number	
ES-D522	329358X	
ES-E205	328388-79X	COMBO VALVE W/INST. KIT

- SAFETY PUSH LATCH PREVENTS ACCIDENTAL PTO ENGAGEMENT
- BRIGHT LED INDICATOR LIGHT
- AUTOMATIC DISENGAGEMENT OF PTO IN "LOWER" POSITION
- A "FEATHERED" CONTROLLED LOWERING OF THE BODY
- PUSH-TO-CONNECT FITTINGS FOR EASE OF ASSEMBLY
- MANUAL RETURN TO NEUTRAL POSITION ON DUMP CONTROL
- DETENT LOCK ON NEUTRAL POSITION OF DUMP CONTROL



ETL-HYD	Replacement for Chelsea Number	
ES-D523	329219X	

- UNIVERSAL 8" TOWER/CONSOLE
WILL ACCEPT BOTH THE COMBO VALVE
AND THE PTO ONLY VALVE (SEE NEXT PAGE)



ETL-HYD	Replacement for Apsco Number	
ES-E067	AV295C	
PTO COMBO VALVE WITH CONSOLE		
ES-E211	AVC-295-8	
PTO COMBO VALVE WITH CONSOLE AND INSTALLATION KIT		

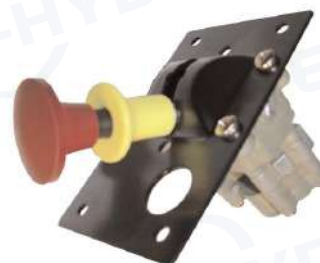


PTO AIR CONTROL COMPONENTS

ETL-HYD	Replacement for Part Number	Description
ES-C085	328863X BAV030 WM781A 118315	PTO SHIFT ASSEMBLY
• POSITIVE LOCKING TWO POSITION, THREE-WAY CONTROL VALVE • SPRING LOADED LOCKOUT SAFETY KNOB PREVENTS UNINTENTIONAL LEVER MOVEMENT • 1/8" NPT PORTS • INCLUDES MOUNTING BRACKET AND KNOBS		



ETL-HYD	Replacement for Chelsea Number
ES-E900	328865X WM83A 118317 4-WAY - 3 POSITION



ETL-HYD	Replacement for Hyva Number
ETL-503WK	BKQF34 Nominal pressure: 1Mpa. Air channel diameter: $\varnothing$ 4mm. Control air pressure: 0.6-1MPa. Operating temperature: -20 to +80°C



PTO AIR CONTROL COMPONENTS

ETL-HYD	Replacement for Chelsea Number	
ES-C581	328388-37X	PTO AIR SHIFT KIT



ES-C581 Includes the following 7 accessories:

NO.	ETL-HYD	Replacement for Chelsea Number	Description	
①	ES-C085	328863X	CONTROL VALVE	
②	ES-C086	378978	INDICATOR LIGHT • FITS THE ABOVE MOUNTING BRACKET FOR PTO SHIFT VALVE ASSEMBLY	
③	ES-C540	----	TUBING AND FITTING PACKAGE	
④	ES-C456	378884	FUSE HOLDER	
⑤	ES-C455	379640	PTO WIRE & BALL SWITCH CONNECTOR	
⑥	ES-E533	379130	BRACKET COMPONENTS PRES.	
⑦	ES-C088	378414	PROT. VALVE	

TAILGATE LOCK KIT FOR DUMP PUMP TRUCK BODY

ETL-HYD	Replacement for Apsco Number	Description
ES-C686	K2508M TG5-3	INCLUDES CYLINDER W/CLEVIS ASSY, PUSH-PULL VALVE AND D.O.T. APPROVED TUBE AND FITTINGS.



TAILGATE CYLINDER W/CLEVIS AND COTTER PIN

ETL-HYD	Replacement for Part Number	Description
ES-C509	C5450 29-250X8	DOUBLE-ACTING CYLINDER 2 1/2" X 8"



PUSH - PULL VALVE - 4 WAY

ETL-HYD	Replacement for Apsco Number	Description
ES-C619	V-8 BAV040	SINGLE SPOOL VALVE (STACKABLE) 1 - 1/8" NPT INLET PORT 2 - 1/8" NPT OUTLET PORTS



PILLOW BLOCK ASSEMBLIES

ETL-HYD	Replacement for Part Number	Description
ES-E905	P16 HCP205-16	MIDSHIP FOR 1" SHAFT
ES-E906	P20 HCP207-20	MIDSHIP FOR 1 1/4" SHAFT



Hydraulic Tanks



ETL-HYD Replacement for Part Number	
ES-10252	A-2000
Polythylene Upright - 50 Gallon	
Tank Size:	35" LONG X 16" WIDE X 26" HIGH
Shipping Weight:	Tank Carton - 80#
Polethylene tank assembly with two (2) inch screw-in NPT bottom ports filler/breather assembly-including 40 micron filter/breather cap (chain mounted) heavy duty mounting base; stainless strap assembly (rubber shielded); screw-in diffuser; one (1) 2" to 1-1/4" plated reducer bushing; and, the mounting and spring kit. This unit may be used for a two or three line system. Tank, base and fill assembly are factory installed and mounted. Diffuser, fill cap, reducer bushing and mounting kit are boxed individually. The poly tank should only be used for intermittent (dump) applications. It should never be used in a continuous duty (longer than 15 minute cycle times)	



ETL-HYD Replacement for Part Number	
ES-10253	A-3500
Steel Saddle Mount - 50 Gallon	
Tank Size:	24" DIAMETER X 27" LONG
Shipping Weight:	Tank Carton - 80# Mounting Kit Carton - 44#
Roll-formed cylindrical steel tank, domed ends are die stamped. Tank powder coated black filter mushroom vent in tank top for increased air exchange. Filler/Breather assembly including 40 micron filter/breather cap (chain mounted) with nylon strainer basket and bayonet closure. Three 1-1/4" NPT ports with built-in diffusers. Includes one 1-1/4" NPT plug. Includes Mounting kit: two frame mount powder coated J-brackets (rubber shielded) and two rubber shielded, powder coated carbon steel strap assemblies.	



ETL-HYD Replacement for Part Number	
ES-13404	A-4525
Aluminum Saddle Mount - 25 Gallon	
Tank Size:	24" DIAMETER X 15" LONG
Shipping Weight:	Tank Carton - 29# Mounting Kit Carton - 44#
Roll-formed cylindrical aluminum tank, domed ends are die stamped; bright mill finish, Filtered mushroom vent in tank top for increased air exchange. Filler/Breather assembly including 40 micron filter/breather cap (chain mounted) with nylon strainer basket and bayonet closure. Three heavy duty machined 1-1/4" NPT ports with built-in diffusers. Includes one 1-1/4" NPT plug. Includes Mounting kit: two frame mount powder coated J-brackets (rubber shielded) and two rubber shielded, powder coated carbon steel strap assemblies.	



ETL-HYD	Replacement for Part Number
ES-10254	A-4000
Aluminum Upright - 50 Gallon	
Tank Size:	34" LONG X 13" WIDE X 26" HIGH
Shipping Weight:	Tank Carton - 77#
Total aluminum construction; top tank section built of bright diamond plate, balance bright mill finish; fully baffled. Two heavy duty machined 1-1/4" NPT bottom ports, internally diffused. Features filtered mushroom vent in tank top for increased air exchange Filler/Breather assembly-including 40 micron filter/breather cap (chain mounted with nylon strainer basket and bayonet closure. Dual mounting rails (2" X 2") welded to tank assembly. Mounting kit includes four pre-drilled powder coating mounting angles, plated bolts, washers, lock-nuts four plated springs, and four pre-drilled mounting pads Mounting kit is boxed and shipped in the tank assembly carton.	



ETL-HYD	Replacement for Part Number
ES-10255	A3000
Steel Upright - 50 Gallon	
Tank Size:	34" LONG X 13" WIDE X 26" HIGH
Shipping Weight:	Tank Carton - 150#
Total steel construction; top tank section built of bright diamond plate, balance bright mill finish; fully baffled. Two heavy duty machined 1-1/4" NPT bottom ports, internally diffused. Features filtered mushroom vent in tank top for increased air exchange Filler/Breather assembly-including 40 micron filter/breather cap (chain mounted with nylon strainer basket and bayonet closure. Dual mounting rails (2" X 2") welded to tank assembly. Mounting kit includes four pre-drilled powder coating mounting angles, plated bolts, washers, lock-nuts four plated springs, and four pre-drilled mounting pads Mounting kit is boxed and shipped in the tank assembly carton.	



ETL-HYD	Replacement for Part Number
ES-10256	A-4500
Aluminum Saddle Mount - 50 Gallon	
Tank Size:	24" DIAMETER X 27" LONG
Shipping Weight:	Tank Carton - 40# Mounting Kit Carton - 44#
Roll-formed cylindrical aluminum tank, domed ends are die stamped; bright mill finish. Filtered mushroom vent in tank top for increased air exchange. Filler/Breather assembly including 40 micron filter/breather cap (chain mounted) with nylon strainer basket and bayonet closure. Three heavy duty machined 1-1/4" NPT ports with built-in diffusers. Includes one 1-1/4" NPT plug. Includes Mounting kit: two frame mount powder coated J-brackets (rubber shielded) and two rubber shielded, powder coated carbon steel strap assemblies.	



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