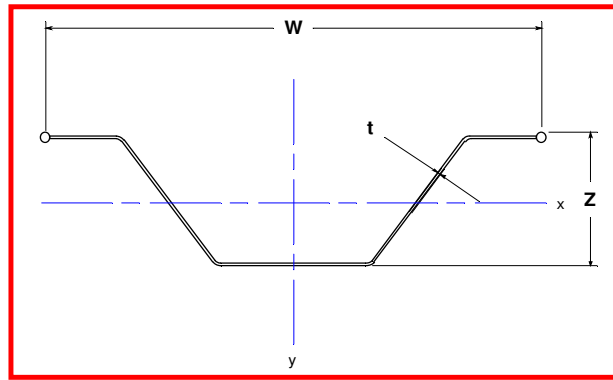


ESC H-PILE SYSTEM

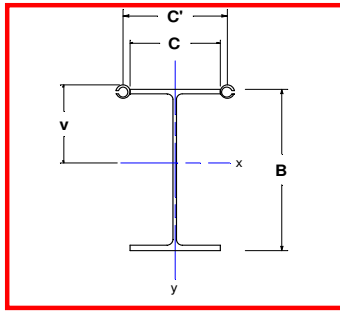
- SHEET PILE UNIT PROPERTIES
- SINGLE H PILE UNIT PROPERTIES
- DOUBLE H PILE UNIT PROPERTIES
- COMBINATION ESC H../... - 1 / 8 & COMBINATION ESC H../... - 1 / 9
- COMBINATION ESC H../... - 1 / 10 & COMBINATION ESC H../... - 1 / 12
- COMBINATION ESC H../... - 2 / 8 & COMBINATION ESC H../... - 2 / 9
- COMBINATION ESC H../... - 2 / 10 & COMBINATION ESC H../... - 2 / 12

SHEET PILE UNIT PROPERTIES



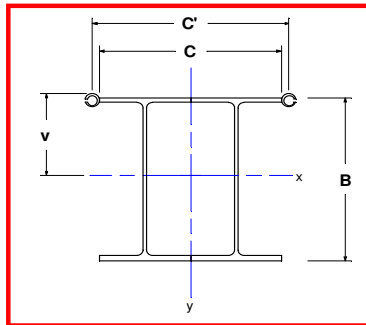
Sheet Pile	Dimensions			Sectional Area	Unit Weight	Moment Of Inertia	Modulus of Section
	t	W	Z				
	mm	mm	mm	cm ²	kg/m	cm ⁴	cm ³
ESC-8	8	1452	413	157.9	124.0	40,591	1,961
ESC-9	9	1452	413	176.1	138.3	45,053	2,176
ESC-10	10	1452	414	194.3	152.5	49,620	2,397
ESC-12	12	1452	415	230.7	181.1	58,744	2,838

SINGLE H PILE UNIT PROPERTIES



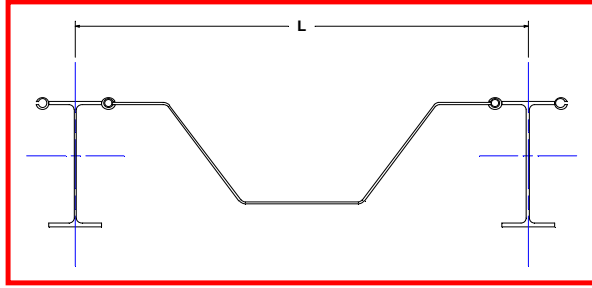
Section	Dimensions				Sectional Area	Unit Weight	Radius of Gyration		Moment of Inertia		Section Modulus	
	B	C'	C	v			r _x	r _y	I _x	I _y	Z _x	Z _y
	mm	mm	mm	mm			cm ²	kg/m	cm	cm	cm ⁴	cm ⁴
H50/20A	496	247.3	199	283	118.9	93.34	20.75	6.12	51210	4460	1810	302
H50/20B	500	248.3	200	282	131.8	103.46	20.87	6.02	57409	4778	2036	322
H50/20C	506	249.3	201	281	148.9	116.89	21.11	5.93	66345	5239	2361	352
H60/30A	582	348.3	300	317	192.1	150.80	24.35	8.18	113944	12868	3594	649
H60/30B	588	348.3	300	318	210.1	164.93	24.84	8.23	129607	14218	4076	717
H60/30C	594	350.3	302	318	240	188.40	24.93	8.12	149109	15842	4689	795
H60/30D	622	375.3	327	330	266	208.81	26.34	8.71	184541	20200	5592	954
H70/30A	692	348.3	300	368	229.1	179.84	28.81	7.69	190092	13537	5166	683
H70/30B	700	348.3	300	370	253.1	198.68	29.49	7.78	220159	15336	5950	773
H70/30C	708	350.3	302	372	291.1	228.51	29.66	7.74	256139	17451	6885	876
H90/40A	915	436.3	388	497	320.69	251.74	37.65	10.24	454547	33655	9146	1389
H90/40B	915	436.3	388	491	383.94	301.39	37.55	10.02	541375	38545	11026	1591
H90/40C	925	436.3	388	493	422.74	331.85	38.43	10.13	624452	43411	12666	1792

DOUBLE H PILE UNIT PROPERTIES



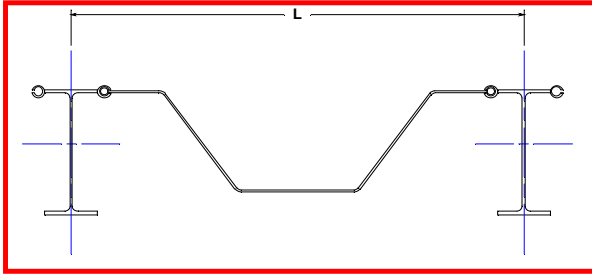
Section	Dimensions				Sectional Area	Unit Weight	Radius of Gyration		Moment of Inertia		Section Modulus	
	B	C'	C	v			r _x	r _y	I _x	I _y	Z _x	Z _y
	mm	mm	mm	mm			cm ²	kg/m	cm	cm	cm ⁴	cm ⁴
	in	in	in	in	in ²	lb/ft	in	in	in ⁴	in ⁴	in ³	in ³
H50/20A	496	446.3	398	283	220.2	172.86	20.71	12.16	94406	32561	3336	1317
	19.53	17.57	15.67	28.785433	34.1	116.15	0.82	0.48	691	238	62	24
H50/20B	500	448.3	400	282	246	193.11	20.81	12.10	106518	36022	3777	1451
	19.69	17.65	15.75	28.824803	38.1	129.76	0.82	0.48	780	264	70	27
H50/20C	506	450.3	402	281	280.2	219.96	21.04	12.05	124070	40660	4415	1631
	19.92	17.73	15.83	28.864173	43.4	147.80	0.83	0.47	909	298	82	30
H60/30A	582	648.3	600	317	366.6	287.78	24.26	17.41	215802	111078	6808	3189
	22.91	25.52	23.62	32.761811	56.8	193.38	0.96	0.69	1,580	813	127	59
H60/30B	588	648.3	600	318	402.6	316.04	24.76	17.22	246816	119415	7762	3429
	23.15	25.52	23.62	32.761811	62.4	212.37	0.97	0.68	1,807	874	144	64
H60/30C	594	652.3	604	318	462.4	362.98	25.02	17.40	289420	139996	9101	3996
	23.39	25.68	23.78	32.840551	71.7	243.91	0.98	0.69	2,119	1,025	169	74
H60/30D	622	702.3	654	330	514.4	403.80	26.27	18.91	354966	183893	10757	4900
	24.49	27.65	25.75	33.824803	79.7	271.34	1.03	0.74	2,599	1,347	200	91
H70/30A	692	648.3	600	368	440.6	345.87	28.83	17.18	366184	130036	9951	3733
	27.24	25.52	23.62	32.761811	68.3	232.41	1.13	0.68	2,681	952	185	69
H70/30B	700	648.3	600	370	488.6	383.55	29.48	17.19	424568	144435	11475	4147
	27.56	25.52	23.62	32.761811	75.7	257.73	1.16	0.68	3,109	1,058	213	77
H70/30C	708	652.3	604	372	564.6	443.21	29.64	17.23	496156	167587	13338	4784
	27.87	25.68	23.78	32.840551	87.5	297.82	1.17	0.68	3,633	1,227	248	89
H90/40A	915	824.3	776	497	607.14	476.60	37.62	22.50	859430	307245	17292	7042
	36.02	32.45	30.55	36.226378	94.1	320.26	1.48	0.89	6,293	2,250	322	131
H90/40B	915	824.3	776	491	733.64	575.91	37.51	22.29	1032438	364614	21027	8357
	36.02	32.45	30.55	36.226378	113.7	386.99	1.48	0.88	7,560	2,670	391	155
H90/40C	925	824.3	776	493	811.24	636.82	38.42	22.30	1197458	403573	24289	9250
	36.42	32.45	30.55	36.226378	125.7	427.9	1.51	0.88	8,768	2,955	452	172

COMBINATION ESC H./... - 1 / 8



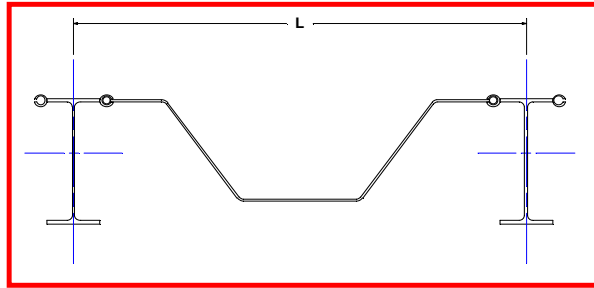
Section	Properties per meter of wall				Weight Combinations for intermediate section		
	Unit Width L m	Sectional Area cm ² /m	Moment of Inertia cm ⁴ /m	Section Modulus cm ³ /m	SP=60%H kg/m ²	SP=75%H kg/m ²	SP=100%H kg/m ²
ESC-H50/20A-1/8	1.699	162.9	54023	1909	98.70	109.64	127.88
ESC-H50/20B-1/8	1.700	170.4	57637	2044	104.60	115.53	133.76
ESC-H50/20C-1/8	1.701	180.3	62855	2237	112.42	123.35	141.57
ESC-H60/30A-1/8	1.800	194.4	85838	2708	125.08	135.41	152.62
ESC-H60/30B-1/8	1.800	204.4	94539	2973	132.93	143.26	160.47
ESC-H60/30C-1/8	1.802	220.8	105254	3310	145.80	156.12	173.32
ESC-H60/30D-1/8	1.827	232.0	123205	3733	154.98	165.15	182.11
ESC-H70/30A-1/8	1.800	215.0	128136	3482	141.21	151.54	168.76
ESC-H70/30B-1/8	1.800	228.3	144837	3915	151.68	162.01	179.22
ESC-H70/30C-1/8	1.802	249.1	164640	4426	168.06	178.38	195.57
ESC-H90/40A-1/8	1.900	251.9	260558	5243	171.62	181.40	197.71
ESC-H90/40B-1/8	1.900	285.1	306250	6237	197.74	207.53	223.84
ESC-H90/40C-1/8	1.900	305.6	349967	7099	213.77	223.56	239.87

COMBINATION ESC H./... - 1 / 9



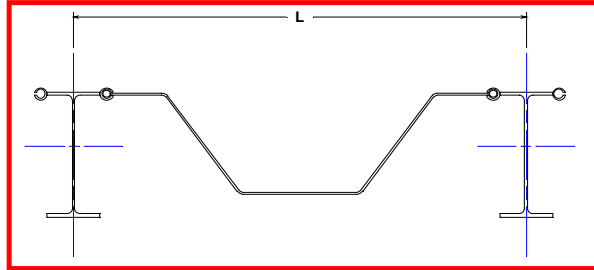
Section	Properties per meter of wall				Weight Combinations for intermediate section		
	Unit Width L m	Sectional Area cm ² /m	Moment of Inertia cm ⁴ /m	Section Modulus cm ³ /m	SP=60%H kg/m ²	SP=75%H kg/m ²	SP=100%H kg/m ²
ESC-H50/20A-1/9	1.699	173.6	56649	2002	103.74	115.95	136.29
ESC-H50/20B-1/9	1.700	181.1	60261	2137	109.64	121.83	142.16
ESC-H50/20C-1/9	1.701	191.0	65478	2330	117.46	129.65	149.97
ESC-H60/30A-1/9	1.800	204.5	88317	2786	129.84	141.36	160.56
ESC-H60/30B-1/9	1.800	214.5	97017	3051	137.69	149.21	168.41
ESC-H60/30C-1/9	1.802	230.9	107730	3388	150.56	162.07	181.24
ESC-H60/30D-1/9	1.827	242.0	125647	3807	159.67	171.02	189.93
ESC-H70/30A-1/9	1.800	225.1	130614	3549	145.97	157.49	176.69
ESC-H70/30B-1/9	1.800	238.4	147315	3981	156.44	167.96	187.16
ESC-H70/30C-1/9	1.802	259.2	167115	4492	172.82	184.32	203.50
ESC-H90/40A-1/9	1.900	261.4	262906	5290	176.13	187.04	205.23
ESC-H90/40B-1/9	1.900	294.7	308598	6285	202.26	213.17	231.36
ESC-H90/40C-1/9	1.900	315.1	352315	7146	218.28	229.20	247.38

COMBINATION ESC H../... - 1 / 10



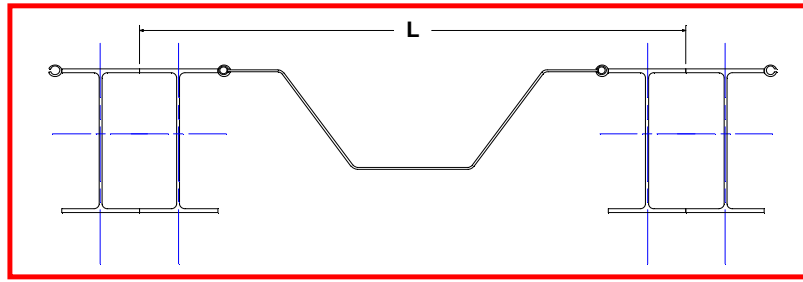
Section	Properties per meter of wall				Weight Combinations for intermediate section		
	Unit Width L m	Sectional Area cm ² /m	Moment of Inertia cm ⁴ /m	Section Modulus cm ³ /m	SP=60%H kg/m ²	SP=75%H kg/m ²	SP=100%H kg/m ²
ESC-H50/20A-1/10	1.699	184.3	59336	2097	108.79	122.25	144.69
ESC-H50/20B-1/10	1.700	191.8	62947	2232	114.68	128.14	150.56
ESC-H50/20C-1/10	1.701	201.7	68163	2426	122.50	135.95	158.37
ESC-H60/30A-1/10	1.800	214.6	90854	2866	134.60	147.31	168.49
ESC-H60/30B-1/10	1.800	224.6	99554	3131	142.45	155.16	176.34
ESC-H60/30C-1/10	1.802	241.0	110264	3467	155.32	168.01	189.17
ESC-H60/30D-1/10	1.827	251.9	128146	3883	164.36	176.88	197.75
ESC-H70/30A-1/10	1.800	235.2	133151	3618	150.73	163.44	184.63
ESC-H70/30B-1/10	1.800	248.5	149852	4050	161.20	173.91	195.09
ESC-H70/30C-1/10	1.802	269.3	169649	4560	177.57	190.27	211.43
ESC-H90/40A-1/10	1.900	271.0	265309	5338	180.64	192.68	212.75
ESC-H90/40B-1/10	1.900	304.3	311001	6334	206.77	218.81	238.87
ESC-H90/40C-1/10	1.900	324.7	354719	7195	222.79	234.83	254.90

COMBINATION ESC H../... - 1 / 12



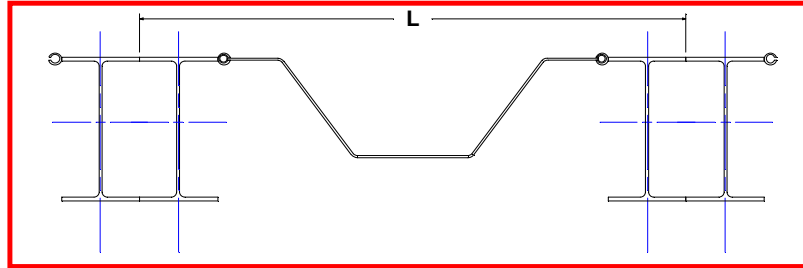
Section	Properties per meter of wall				Weight Combinations for intermediate section		
	Unit Width L m	Sectional Area cm ² /m	Moment of Inertia cm ⁴ /m	Section Modulus cm ³ /m	SP=60%H kg/m ²	SP=75%H kg/m ²	SP=100%H kg/m ²
ESC-H50/20A-1/12	1.699	205.7	64705	2286	118.88	134.86	161.51
ESC-H50/20B-1/12	1.700	213.2	68313	2422	124.76	140.74	167.37
ESC-H50/20C-1/12	1.701	223.1	73526	2617	132.58	148.55	175.16
ESC-H60/30A-1/12	1.800	234.9	95922	3026	144.12	159.22	184.37
ESC-H60/30B-1/12	1.800	244.9	104622	3290	151.97	167.06	192.21
ESC-H60/30C-1/12	1.802	261.2	115327	3627	164.83	179.90	205.02
ESC-H60/30D-1/12	1.827	271.8	133139	4035	173.74	188.61	213.39
ESC-H70/30A-1/12	1.800	255.4	138219	3756	160.26	175.35	200.50
ESC-H70/30B-1/12	1.800	268.7	154920	4187	170.72	185.81	210.96
ESC-H70/30C-1/12	1.802	289.5	174712	4697	187.08	202.16	227.28
ESC-H90/40A-1/12	1.900	290.2	270111	5435	189.66	203.96	227.78
ESC-H90/40B-1/12	1.900	323.5	315802	6432	215.79	230.08	253.91
ESC-H90/40C-1/12	1.900	343.9	359520	7292	231.82	246.11	269.94

COMBINATION ESC H./... - 2 / 8



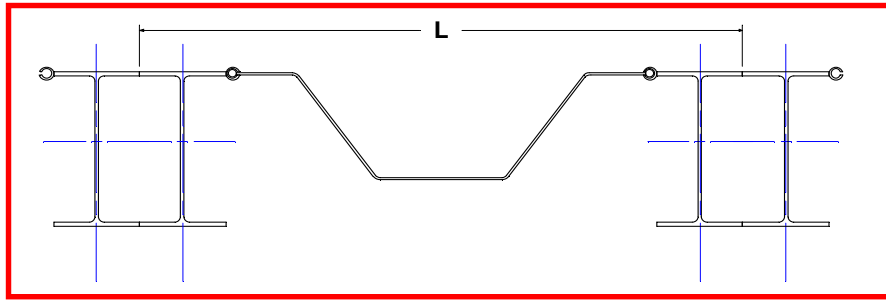
Section	Properties per meter of wall				Weight Combinations for intermediate section		
	Unit Width L m	Sectional Area cm ² /m	Moment of Inertia cm ⁴ /m	Section Modulus cm ³ /m	SP=60%H kg/m ²	SP=75%H kg/m ²	SP=100%H kg/m ²
ESC-H50/20A-2/8	1.898	199.2	71115	2513	130.24	140.04	156.36
ESC-H50/20B-2/8	1.900	212.6	77414	2745	140.76	150.55	166.86
ESC-H50/20C-2/8	1.902	230.3	86559	3080	154.73	164.50	180.79
ESC-H60/30A-2/8	2.100	249.7	122074	3851	172.43	181.29	196.04
ESC-H60/30B-2/8	2.100	266.9	136841	4303	185.89	194.74	209.50
ESC-H60/30C-2/8	2.104	294.8	156827	4932	207.84	216.68	231.41
ESC-H60/30D-2/8	2.154	312.1	183613	5564	221.97	230.60	244.99
ESC-H70/30A-2/8	2.100	285.0	193675	5263	200.09	208.94	223.70
ESC-H70/30B-2/8	2.100	307.8	221473	5986	218.03	226.88	241.64
ESC-H70/30C-2/8	2.104	343.4	255072	6857	245.97	254.81	269.53
ESC-H90/40A-2/8	2.288	334.3	393314	7914	240.78	248.91	262.45
ESC-H90/40B-2/8	2.288	389.6	468920	9550	284.18	292.31	305.85
ESC-H90/40C-2/8	2.288	423.5	541034	10974	310.80	318.93	332.47

COMBINATION ESC H./... - 2 / 9



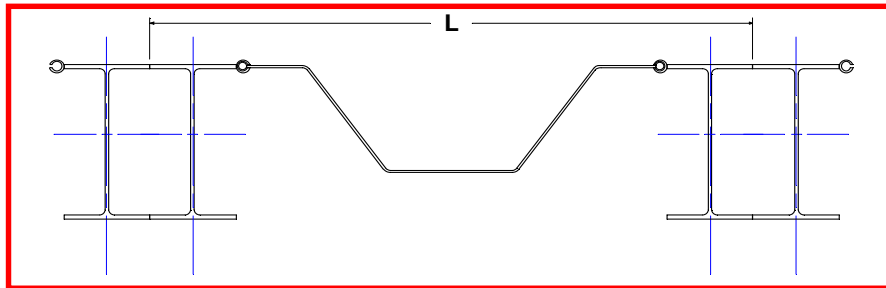
Section	Properties per meter of wall				Weight Combinations for intermediate section		
	Unit Width L m	Sectional Area cm ² /m	Moment of Inertia cm ⁴ /m	Section Modulus cm ³ /m	SP=60%H kg/m ²	SP=75%H kg/m ²	SP=100%H kg/m ²
ESC-H50/20A-2/9	1.898	208.8	73465	2596	134.76	145.68	163.89
ESC-H50/20B-2/9	1.900	222.1	79762	2828	145.27	156.19	174.37
ESC-H50/20C-2/9	1.902	239.9	88904	3164	159.23	170.13	188.30
ESC-H60/30A-2/9	2.100	258.4	124199	3918	176.51	186.39	202.84
ESC-H60/30B-2/9	2.100	275.5	138965	4370	189.97	199.84	216.30
ESC-H60/30C-2/9	2.104	303.4	158947	4998	211.92	221.77	238.20
ESC-H60/30D-2/9	2.154	320.5	185684	5627	225.95	235.57	251.62
ESC-H70/30A-2/9	2.100	293.6	195799	5321	204.17	214.05	230.50
ESC-H70/30B-2/9	2.100	316.5	223597	6043	222.11	231.99	248.44
ESC-H70/30C-2/9	2.104	352.0	257192	6914	250.04	259.90	276.32
ESC-H90/40A-2/9	2.288	342.3	395264	7953	244.53	253.59	268.70
ESC-H90/40B-2/9	2.288	397.6	470870	9590	287.93	296.99	312.09
ESC-H90/40C-2/9	2.288	431.5	542984	11014	314.55	323.61	338.71

COMBINATION ESC H./... - 2 / 10



Section	Unit Width	Sectional Area	Moment of Inertia	Section Modulus	Weight Combinations for intermediate section		
	L				SP=60%H	SP=75%H	SP=100%H
	m	cm ² /m	cm ⁴ /m	cm ³ /m	kg/m ²	kg/m ²	kg/m ²
ESC-H50/20A-2/10	1.898	218.4	75871	2681	139.27	151.33	171.42
ESC-H50/20B-2/10	1.900	231.7	82165	2914	149.78	161.82	181.89
ESC-H50/20C-2/10	1.902	249.4	91305	3249	163.74	175.77	195.81
ESC-H60/30A-2/10	2.100	267.1	126373	3987	180.60	191.49	209.65
ESC-H60/30B-2/10	2.100	284.2	141140	4438	194.05	204.95	223.10
ESC-H60/30C-2/10	2.104	312.1	161118	5067	215.99	226.86	244.99
ESC-H60/30D-2/10	2.154	329.0	187804	5691	229.93	240.55	258.25
ESC-H70/30A-2/10	2.100	302.3	197974	5380	208.25	219.15	237.31
ESC-H70/30B-2/10	2.100	325.2	225772	6102	226.19	237.09	255.25
ESC-H70/30C-2/10	2.104	360.7	259362	6972	254.12	264.99	283.11
ESC-H90/40A-2/10	2.288	350.2	397260	7993	248.28	258.28	274.94
ESC-H90/40B-2/10	2.288	405.5	472865	9631	291.67	301.67	318.34
ESC-H90/40C-2/10	2.288	439.4	544980	11054	318.29	328.29	344.96

COMBINATION ESC H./... - 2 / 12



Section	Unit Width	Sectional Area	Moment of Inertia	Section Modulus	Weight Combinations for intermediate section		
	L				SP=60%H	SP=75%H	SP=100%H
	m	cm ² /m	cm ⁴ /m	cm ³ /m	kg/m ²	kg/m ²	kg/m ²
ESC-H50/20A-2/12	1.898	237.5	80677	2851	148.30	162.62	186.47
ESC-H50/20B-2/12	1.900	250.9	86966	3084	158.81	173.10	196.93
ESC-H50/20C-2/12	1.902	268.6	96102	3420	172.75	187.03	210.84
ESC-H60/30A-2/12	2.100	284.4	130718	4124	188.76	201.69	223.25
ESC-H60/30B-2/12	2.100	301.5	145484	4575	202.21	215.15	236.71
ESC-H60/30C-2/12	2.104	329.4	165454	5203	224.14	237.05	258.57
ESC-H60/30D-2/12	2.154	345.9	192039	5819	237.88	250.49	271.51
ESC-H70/30A-2/12	2.100	319.6	202318	5498	216.42	229.35	250.91
ESC-H70/30B-2/12	2.100	342.5	230116	6219	234.36	247.29	268.85
ESC-H70/30C-2/12	2.104	377.9	263698	7089	262.26	275.17	296.69
ESC-H90/40A-2/12	2.288	366.1	401247	8073	255.77	267.64	287.43
ESC-H90/40B-2/12	2.288	421.4	476853	9712	299.16	311.04	330.82
ESC-H90/40C-2/12	2.288	455.3	548967	11135	325.78	337.66	357.44