

PRODUCT SUMMARY

INNOVATIVE PILING EQUIPMENT



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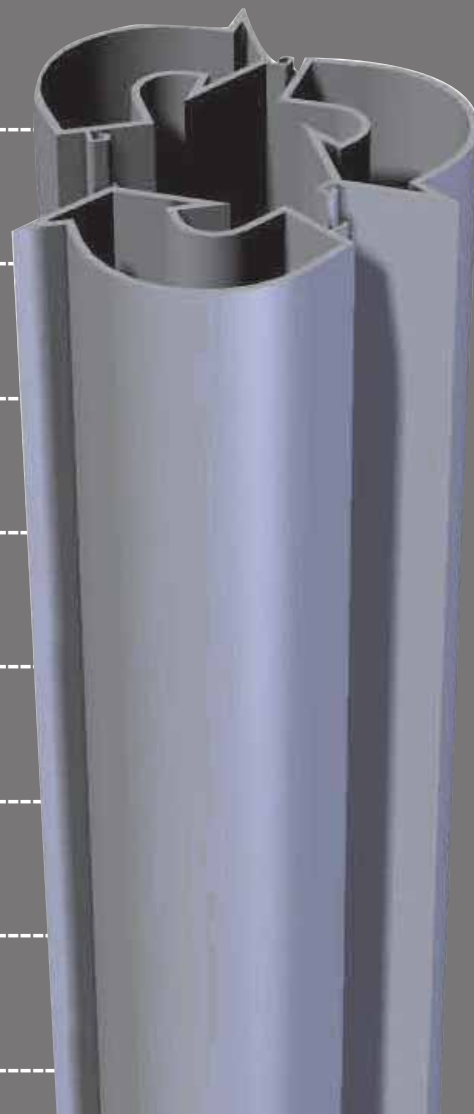
Est .1974-2018

contacts

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GLOBAL SUPPLY, LOCAL SUPPORT.*

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Innovation Piling Equipment

The title says it all. Few other modern piling equipment manufacturers can claim to be truly innovative - most settle for variations on the same old themes.

Dawson philosophy is to apply new ideas, new techniques and new technology to create a better future for the piling industry. By supplying equipment that offers real benefits, work can be completed more productively, to higher standards and with much improved levels of safety. Of course, as a Dawson customer, you will expect high levels of equipment reliability, quality and service. You will expect equipment that is well designed and durable. You will expect to deal with an internationally recognised organisation that will value your custom for the longer term, building relationships for the future. You will not expect, perhaps, to find a team of innovative engineers committed to developing a range of equipment that will give you a real competitive edge on your piling project

.....TODAY and long into the future

NEW INNOVATION HPH2500 7



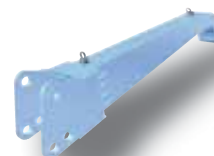
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NEW Innovation hph2500

Principal Advantages

- . Easy maintenance
- . Stability on pile due to forces all being balanced
- . Stronger construction
- . Completely water-tight and can operate under water in excess of 100m in depth
- . Hammers can be crane suspended & Rig mounted

SPECIFICATION	UNITS	HPH2500
RAM WEIGHT	kg	2,100
IMPACT VELOCITY	m/s	4.98
MAXIMUM PILE ENERGY	KNm	25.00
MINIMUM PILE ENERGY	KNm	10.5
BLOW RATE	bpm	80-120
MAXIMUM - PILE MOMENTUM	kg.m/s	9,462
WEIGHT- Ø914 GUIDE SLEEVE CONFIGURATION	kg	7,600





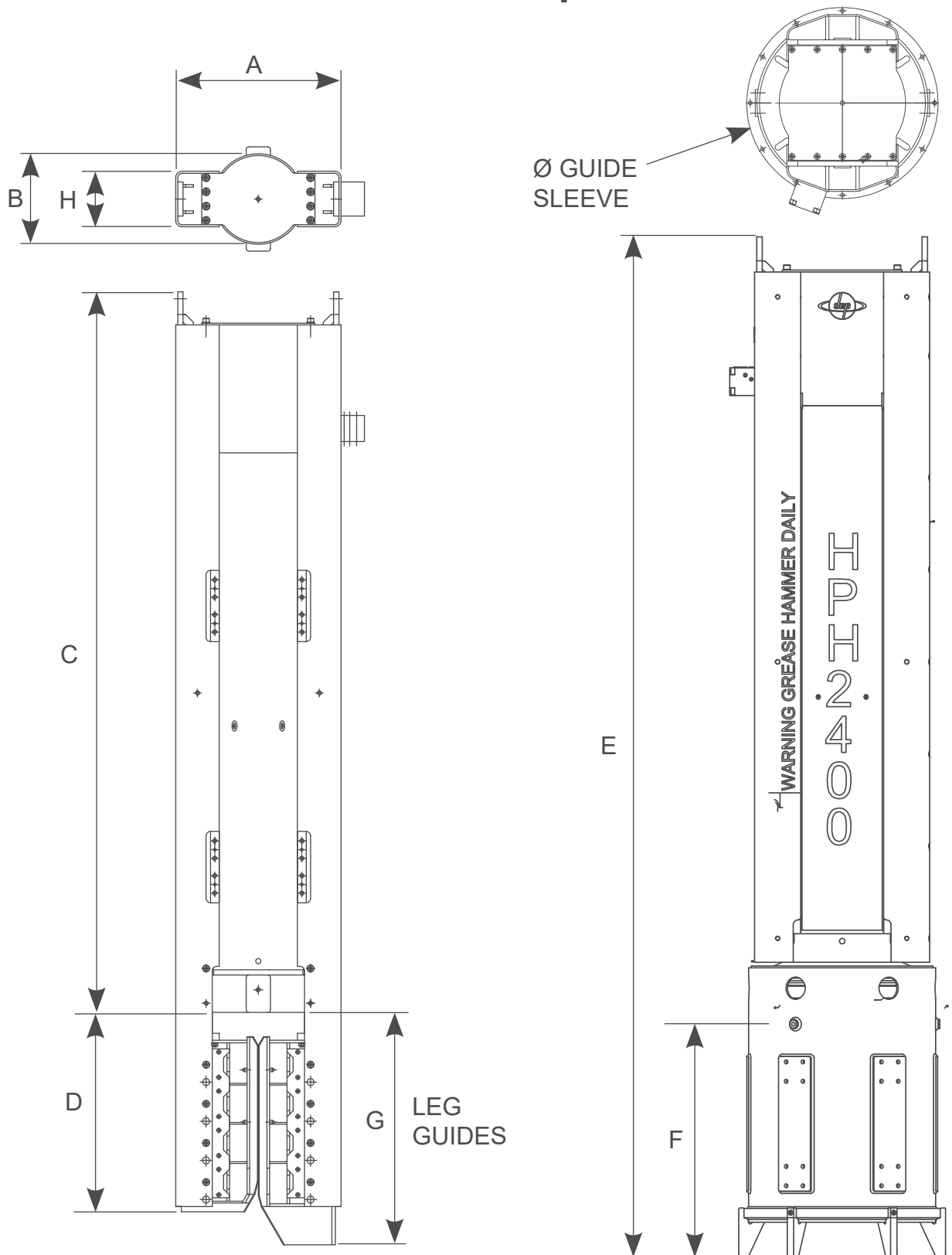
hydraulic piling hammer



Principal Advantages

- Unrivalled production rates - rapid blow rates save time and money, shortening project duration
- Rapid blow rates - “chisel” through compacted sands, out-driving heavier, slower hammers
- High energy transfer efficiency to the pile - smaller hammer out performs older more cumbersome equipment
- Variable energy output - stepless adjustment between limits at the touch of a button, with single or automatic blow regulation, these hammers offer complete control of the driving process
- Compact, enclosed design - simplifies application and handling whilst protecting vital components
- Simple integration with alternative power sources - can be operated from hydraulic excavators, hydraulic crawler cranes or non-Dawson hydraulic power packs
- Versatility - all models are designed to be truly multi-tasking, driving a huge range of pile types either free-hanging or leader mounted
- All Dawson hammers can operate under water in excess of 100m in depth
- Hammers can be crane suspended & Rig mounted

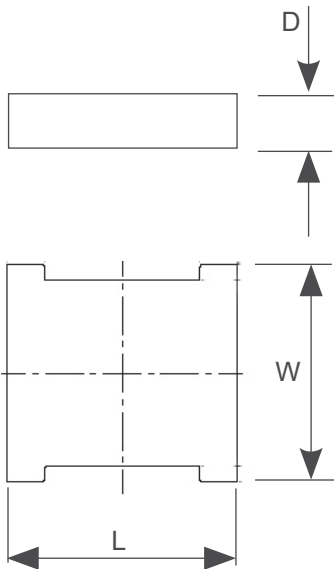
technical specifications



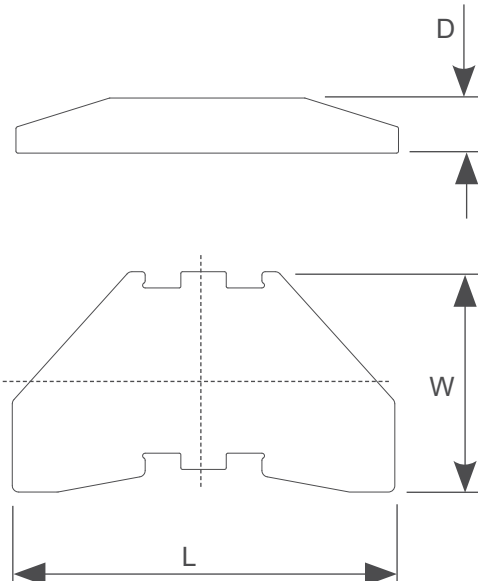
Weights & dims for guidance only & may vary according to application. Hammers can be leader mounted & configured for most pile types. Please contact Dawsons for further information.

SPECIFICATION		UNITS	Hammer Model						
			HPH1200E	HPH1800E	HPH2400E	HPH4500	HPH6500	HPH10000	HPH15000E
HAMMER									
RAM WEIGHT		kg	1,040	1,500	1,900	3,500	4,650	8,000	12,000
		lbs	2,300	3,300	4,189	7,840	10,250	17,650	26,450
IMPACT VELOCITY		m/s	4.76	4.99	4.98	5.05	5.25	5.00	5.00
		ft/s	15.60	16.40	16.30	16.60	17.20	16.40	16.40
MAXIMUM IMPACT ENERGY		kgm	1,200	1,900	2,400	4,500	6,500	10,000	15,000
		ft lb	8,680	13,750	17,360	32,560	47,000	73,750	110,600
MAXIMUM MOMENTUM		kg.m/s	4,950	7,485	9,462	17,675	24,413	40,000	60,000
		lbs ft/s	35,880	54,120	68,281	130,144	176,300	289,460	433,780
BLOW RATE		bpm	80-120	80-120	80-120	80-120	80-120	60-120	80-120
WEIGHT - WITH SHEET PILE LEGS + SPREADER PLATE		kg	3,000	4,250	7,000	10,750	14,900	-	-
		lbs	6,600	9,350	15,400	23,700	32,780	-	-
WEIGHT - WITH GUIDE SLEEVE	Ø914	kg	-	-	7,600	9,600	12,600	21,000	-
		lbs	-	-	16,720	21,120	27,720	46,300	-
	Ø1220	kg	-	-	-	-	13,900	22,300	37,000
		lbs	-	-	-	-	30,580	49,160	81,400
	Ø1450	kg	-	-	-	-	15,600	24,000	-
		lbs	-	-	-	-	34,320	52,900	-
	Ø1530	kg	-	-	-	-	-	-	39,500
		lbs	-	-	-	-	-	-	86,900
All dimensions in mm		A	700	800	950	1335	1050	1200	1800
		B	Ø406	Ø470	Ø520	Ø640	Ø750	Ø850	1150
		C	3762	3960	4240	4278	4927	-	-
		D	950	1036	1145	1260	1458	-	-
GUIDE SLEEVE TO SUIT MAX. TUBE DIA. (mm)	Ø914 Ø1220 Ø1450 Ø1530	E	-	-	5690	5597	6310	6800	-
			-	-	-	-	6371	6861	7055
			-	-	-	-	6340	6800	-
			-	-	-	-	-	-	8300
	Ø914 Ø1220 Ø1450 Ø1530	F	-	-	1040	1307	1373	1373	-
			-	-	-	-	1375	1375	1150
			-	-	-	-	1310	1310	-
			-	-	-	-	-	-	2340
LEG GUIDES		G	1130	1216	1335	1400	1600	-	-
		H	280	280	320	550	620	-	700
POWER PACK									
DIESEL ENGINE POWER		kW	93	93	93	120	168	224	470
HYDRAULIC SYSTEM PRESSURE		bar	240	230	230	250	270	270	280
OIL FLOW RATE		L/min	75	105	150	230	270	390	850
WEIGHT		kg	2000	3000	3000	3200	4800	7800	12000

spreader plate



TYPICAL
SPREADER PLATE
PROFILE OF 1-161-00-01



DELTA
SPREADER PLATE
PROFILE OF 2-174-00-01

HAMMER SPREADER PLATES

Spreader Plate	Dimensions LxWxD	Type	Hammer Model
1-160-00-01	650 x 530 x 125	Std	HPH1200
1-161-00-01	460 x 434 x 125	Std	HPH1200
1-167-00-01	630 x 480 x 125	Std	HPH1200
1-162-00-01	940 x 440 x 125-130	Std	HPH1200
18-160-00-01	550 x 530 x 125	Std	HPH1800
18-167-00-01	870 x 515 x 125	Std	HPH1800
18-166-00-01	1020 x 600 x 125	Delta	HPH1800
18-168-00-01	630 x 480 x 125	Std	HPH1800
18-162-00-01	940 x 500 x 125-130	Std	HPH1800
18-169-00-01	706 x 530 x 125	Std	HPH1800
2-100-03-01	760 x 610 x 125	Std	HPH2400
2-165-00-01	900 x 560 x 125	Std	HPH2400
2-171-00-01	1060 x 690 x 125	Std	HPH2400
2-166-00-01	1060 x 635 x 125	Std	HPH2400
2-164-00-01	870 x 610 x 125	Std	HPH2400
2-161-00-01	552 x 580 x 125	Std	HPH2400
2-160-00-01	970 x 510 x 120	Std	HPH2400
2-162-00-01	940 x 600 x 125	Std	HPH2400
2-170-00-01	706 x 610 x 125	Std	HPH2400
2-172-00-01	1100 x 730 x 170	Std	HPH2400
2-173-00-01	970 x 745 120	Std	HPH2400
2-174-00-01	1800 x 680 x 170	Delta	HPH2400
2-175-00-01	1180 x 683 x 170	Delta	HPH2400
2-176-00-01	1180 x 780 x 170	Delta	HPH2400
2-177-00-01	950 x 610 x 170	Std	HPH2400
2-178-00-01	900 x 580 x 170	Std	HPH2400
2-180-00-01	1220 x 694 x 190	Delta	HPH2400
45-160-00-01	840 x 610 x 170	Std	HPH4500
45-160-03-01	1040 x 730 x 170	Delta	HPH4500
45-160-01-01	1060 x 730 x 170	Std	HPH4500
45-160-04-01	1240 x 730 x 230	Delta	HPH4500
45-160-05-01	1260 x 730 x 230	Std	HPH4500
6-005-31-02	780 x 800 x 230	Std	HPH6500
6-005-32-02	780 x 1190 x 230	Std	HPH6500
6-005-33-02	780 x 1040 x 230	Std	HPH6500
6-005-30-02	Ø975 x 170	Std	HPH6500
6-005-42-01	1190 x 780 x 230	Delta	HPH6500
6-005-43-01	1070 x 780 x 230	Delta	HPH6500

bearing capacity

The Bearing Capacities tabulated below are based on the Hiley Formula;

Bearing Capacity (tonnes) = Blow Efficiency x $E/(s+2.54)$, where E =Hammer Energy (kg.m), s =Final Set per Blow (mm/blow).

Blow efficiency for a hydraulic hammer is typically around 80% and adding a safety factor of 2 permits the formula to be modified to -

Bearing Capacity (tonnes) = $0.4 \times E/(s+2.54)$.

Irrespective of hammer selection the Hiley formula is a simplified analysis and actual bearing capacity achieved will be significantly affected by pile type, length, mass and stiffness, in addition to prevailing ground conditions. The Hiley formula was originally devised to estimate pile bearing capacity based on actual site measurements.

The Dawson Hydraulic Impact Hammer has a visible stroke marker on the side of the hammer. This marker can be calibrated to indicate maximum and minimum hammer energy outputs and any energy figure between those two limits. In addition, it is possible to relate the hammer blow rate at final drive to hammer energy output as set out in the table and on the graph shown below providing hammer performance meets with manufacturers specifications.

Please note that practical refusal is considered to be 10 blows/25mm. Driving in excess of 10 blows/25mm for more than 150mm of pile penetration or any driving in excess of 20 blows/25mm will invalidate the hammer warranty.

HPH1200

Blow Rate bpm	Impact Energy			Bearing Capacity at Final Set (blows/25 mm) - tonnes									
	kgm	kNm	ft lb	2	4	6	8	10	12	14	16	18	20
120	640	6.2	4629	17	29	38	45	50	55	59	62	65	67
115	710	6.9	5135	19	32	42	50	56	61	65	69	72	75
110	780	7.6	5641	20	35	46	55	61	67	72	76	79	82
105	850	8.3	6148	22	38	50	59	67	73	78	82	86	89
100	930	9.1	6726	24	42	55	65	73	80	85	90	94	98
95	1000	9.8	7233	26	45	59	70	79	86	92	97	101	105
90	1070	10.4	7739	28	48	63	75	84	92	98	104	108	112
85	1140	11.1	8245	30	51	67	80	90	98	105	110	115	120
80	1210	11.8	8751	32	54	71	85	95	104	111	117	122	127

HPH1800

Blow Rate bpm	Impact Energy			Bearing Capacity at Final Set (blows/25 mm) - tonnes									
	kgm	kNm	ft lb	2	4	6	8	10	12	14	16	18	20
120	1005	9.8	7269	26	45	59	70	79	86	92	97	102	106
115	1119	10.9	8093	29	50	66	78	88	96	103	108	113	117
110	1233	12.0	8918	32	55	73	86	97	106	113	119	125	129
105	1347	13.2	9742	35	61	80	94	106	116	124	131	136	141
100	1458	14.2	10545	38	66	86	102	115	125	134	141	148	153
95	1567	15.3	11334	41	71	93	110	123	135	144	152	159	165
90	1680	16.4	12151	44	76	99	118	132	144	154	163	170	176
85	1797	17.6	12997	47	81	106	126	141	154	165	174	182	189
80	1910	18.7	13815	51	87	114	135	152	165	177	186	194	202

HPH2400

Blow Rate bpm	Impact Energy			Bearing Capacity at Final Set (blows/25 mm) - tonnes									
	kgm	kNm	ft lb	2	4	6	8	10	12	14	16	18	20
120	998	9.7	7218	26	45	59	70	79	86	92	97	101	105
115	1166	11.4	8433	31	52	69	82	92	100	107	113	118	122
110	1333	13.0	9641	35	60	79	93	105	115	122	129	135	140
105	1496	14.6	10820	39	67	88	105	118	129	137	145	151	157
100	1668	16.3	12064	44	75	99	117	131	143	153	162	169	175
95	1832	17.9	13250	48	82	108	128	144	157	168	178	185	192
90	1996	19.5	14437	52	90	118	140	157	171	183	193	202	210
85	2167	21.2	15673	57	98	128	152	171	186	199	210	219	228
80	2335	22.8	16889	61	105	138	163	184	201	215	226	236	245
78	2402	23.5	17373	63	108	142	168	189	206	221	233	243	252

HPH2500

Blow Rate bpm	Impact Energy			Bearing Capacity at Final Set (blows/25 mm) - tonnes									
	kgm	kNm	ft lb	2	4	6	8	10	12	14	16	18	20
120	998	9.7	7218	26	45	59	70	79	86	92	97	101	105
115	1166	11.4	8433	31	52	69	82	92	100	107	113	118	122
110	1333	13.0	9641	35	60	79	93	105	115	122	129	135	140
105	1496	14.6	10820	39	67	88	105	118	129	137	145	151	157
100	1668	16.3	12064	44	75	99	117	131	143	153	162	169	175
95	1832	17.9	13250	48	82	108	128	144	157	168	178	185	192
90	1996	19.5	14437	52	90	118	140	157	171	183	193	202	210
85	2167	21.2	15673	57	98	128	152	171	186	199	210	219	228
80	2335	22.8	16889	61	105	138	163	184	201	215	226	236	245
78	2402	23.5	17373	63	108	142	168	189	206	221	233	243	252

HPH4500

Blow Rate bpm	Impact Energy			Bearing Capacity at Final Set (blows/25 mm) - tonnes									
	kgm	kNm	ft lb	2	4	6	8	10	12	14	16	18	20
120	1838	18.0	13294	48	83	109	129	145	158	169	178	186	193
115	2173	21.3	15717	57	98	128	152	171	187	200	211	220	228
110	2509	24.6	18147	66	113	148	176	198	216	230	243	254	263
105	2854	27.9	20642	75	128	169	200	225	245	262	277	289	300
100	3192	31.3	23087	84	144	189	223	251	274	293	309	323	335
95	3533	34.6	25554	93	159	209	247	278	303	325	342	358	371
90	3874	37.9	28020	102	174	229	271	305	333	356	375	392	407
85	4213	41.3	30472	111	190	249	295	332	362	387	408	427	442
80	4549	44.6	32902	119	205	269	318	358	391	418	441	461	478

HPH6500

Blow Rate bpm	Impact Energy			Bearing Capacity at Final Set (blows/25 mm)- tonnes									
	kgm	kNm	ft lb	2	4	6	8	10	12	14	16	18	20
120	2500	24.5	18082	65	113	148	175	197	215	230	243	254	264
116	2900	28.4	20975	76	131	172	204	229	250	267	282	295	305
112	3300	32.3	23868	87	149	195	232	261	285	305	321	335	347
108	3700	36.2	26762	97	167	219	260	293	319	341	360	375	390
104	4100	40.2	29655	108	185	243	288	324	354	378	399	416	432
100	4500	44.1	32548	118	204	266	316	355	388	415	437	457	475
96	4900	48	35441	129	221	291	345	387	423	452	476	498	516
92	5300	51.9	38334	139	239	314	372	418	455	487	515	537	557
88	5700	55.8	41228	150	257	337	399	449	490	525	553	578	599
84	6100	59.8	44121	160	275	361	427	481	525	561	592	618	642
80	6500	63.7	47014	171	293	385	455	513	559	598	631	659	684

HPH10000

Blow Rate bpm	Impact Energy			Bearing Capacity at Final Set (blows/25 mm) - tonnes												
	kgm	kNm	ft lb	2	4	6	8	10	12	14	16	18	20	22	24	25
120	4078	40	29502	108	186	243	289	325	354	379	400	417	433	446	458	464
115	4894	48	35402	128	220	288	342	384	419	448	473	494	512	528	543	549
110	5608	55	40565	148	254	333	395	444	485	518	547	571	592	611	627	635
105	6424	63	46466	168	288	378	448	503	549	587	620	647	671	692	711	719
100	7138	70	51629	188	322	423	501	564	615	658	694	725	751	775	796	805
95	7953	78	57529	208	357	468	555	624	681	728	769	803	833	859	882	892
90	8667	85	62692	228	392	514	609	685	748	799	843	881	914	942	967	979
85	9483	93	68593	249	426	559	663	746	814	870	918	959	995	1026	1053	1066
80	10197	100	73756	269	460	604	716	806	879	940	992	1036	1074	1108	1138	1151

HPH15000

Blow Rate bpm	Impact Energy			Bearing Capacity at Final Set (blows/25 mm) - tonnes									
	kgm	kNm	ft lb	2	4	6	8	10	12	14	16	18	20
120	6220	61	44991	162	278	365	433	487	531	568	599	626	649
115	7341	72	53104	192	329	432	512	577	629	673	710	741	769
110	8463	83	61217	222	381	500	592	666	727	778	820	857	889
105	9585	94	69330	252	432	566	671	755	824	881	929	971	1007
100	10707	105	77443	282	483	634	752	846	922	986	1041	1087	1127
95	11930	117	86294	312	535	702	833	937	1022	1093	1153	1204	1249
90	13052	128	94407	343	587	771	914	1028	1121	1199	1265	1322	1371
85	14174	139	102520	373	639	839	995	1119	1221	1305	1377	1438	1492
80	15397	151	111371	403	691	907	1075	1209	1319	1410	1488	1554	1612



Driving in excess of 10 blows per inch (25 mm) is considered practical refusal. Driving in excess of 10 blows per inch (25 mm) for more than 6 inches (150 mm) or driving in excess of 20 blows per inch (25 mm) at all is considered improper use and will void the hammer warranty.

hydraulic hammer powerpacks



IMAGE OF
DHP170

This Dawson power pack is fully self contained, including all oil and fuel reservoirs, prime mover and hydraulic circuitry. The power pack is designed to be directly connected to the working element of the system; however it can be connected through further hydraulic valves to perform alternative operations with guidance from the manufacturer.

The power pack is designed to produce a fixed oil flow rate at a pre-set pressure to supply hydraulic piling hammers in various environments from hot summers in Kuwait to cold winters in Ontario.

The diesel engine runs at a fixed RPM and is calibrated against the pump flow rate. A built in offline filtration system is used to condition the hydraulic oil to 2 microns and remove an amount of water contamination.

technical specifications

	Power Packs					
	HPH1200	HPH1800E	HPH2400E	HPH4500	HPH6500	HPH15000
Pack Type	Dawson	Dawson	Dawson	Dawson	DHP170	DHP470
Engine	93 kW 125 hp 2100 rpm	93 kW 125 hp 2100 rpm	93 kW 125 hp 2100 rpm	128 kW 172 hp 2100 rpm	168 kW 225 hp 2200 rpm	470 kW 630 hp 2100 rpm
DIMS LxWxH (mm)	2850x1340 x2260	2850x1340 x2260	2850x1340 x2260	3300x1340 x2260	3800x1500 x2000	5250x2200 x2400
Main Flow	75 L/min	105 L/min	150 L/min	230 L/min	270 L/min	850 L/min
Working Pressure	240 bar	230 bar	230 bar	250 bar	270 bar	280 bar
Weight	2000 kg	3000 kg	3000 kg	3200 kg	4800 kg	12000 kg
Fuel Consumption @ 60%	15.2 L/h	15.2 L/h	15.2 L/h	19.9 L/h	28 L/h	78.6 L/h
Fuel Capacity	275 Ltr	275 Ltr	275 Ltr	300 Ltr	460 Ltr	1000 Ltr
Hydraulic Oil Capacity	360 Ltr	360 Ltr	360 Ltr	540 Ltr	500 Ltr	1875 Ltr



IMAGE OF 350E

Powerpack Model	Vibro Model	Engine	Power	Operating Speed	Max Drive Pressure	Max Drive Flow	Clamp Pressure	Clamp Flow	Weight (w/fluid)	Length	Width	Height	Fuel Capacity	Fuel Consumption	Hydraulic Reservoir
Units		Cat	kW	rpm	bar	lpm	bar	lpm	kg	mm	mm	mm	litres	ltr/hr	litres
230E		C6.6	168	2200	310	292	331	24	3900	3200	1500	1700	462	28	1041
350CE	28C/32	C9	261	2200	380	366	331	24	5800	4200	1700	1900	447	42.1	1041
595CE	44B/51	C15	444	2100	380	592	331	24	7800	4700	1800	2200	568	74.1	1628
800CE	66C/76	C18 TTA	597	2100	380	900	331	24	10000	5000	2200	2400	901	88.5	2082

additional equipment

A full range of accessories are available from Dawson to help solve numerous pile driving challenges. If it is not contained within this brochure please do not hesitate to contact us to discuss your requirements - there is a good chance we may have met the challenge successfully before.

Hydraulic Interface Control Module

Integrates the HPH Hydraulic Hammer range with a vast array of hydraulic power sources e.g. crawler crane, power packs etc, with minimum installation effort.

Maximum flow input 400 L/min (107 gpm US)

Maximum pressure input 350 bar (5,075 psi)

Unit requires a 24V/5A power supply.

Dimensions - 650x450x470 (LxHxW)

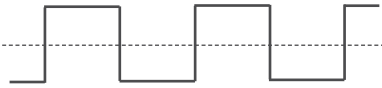
Weight - 126 kg



Underwater Kit

All Dawson hammers can be set up to operate under water in depths of excess of 100 m.

electrical switching



Dawson Construction Plant has developed an industry leading, robust and simple, electronic control system that **constantly** monitors the drop weight position. This constant monitoring allows the switching timing on the main hydraulic spool to be trended to continually optimise hammer performance throughout varying piling conditions, such as:

- 1 – Hard driving with pile recoiling
- 2 – Soft driving with a running pile
- 3 – Cold hydraulic oil on start up
- 4 – Raking piles

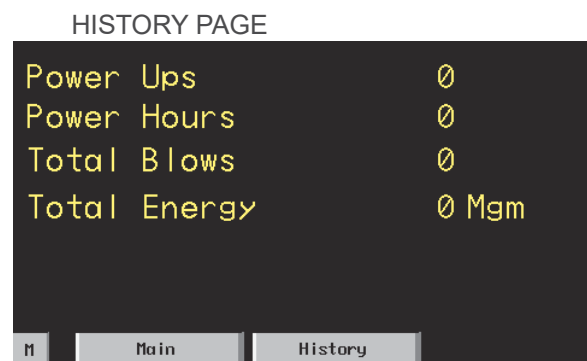
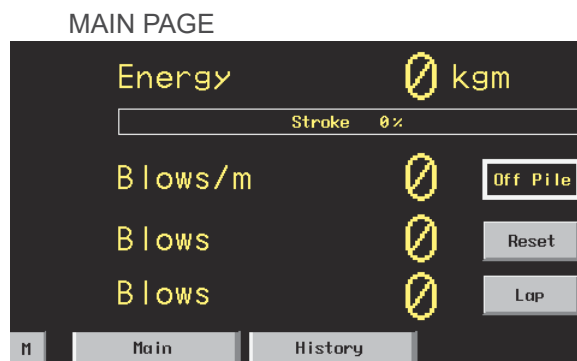


DATA CAN BE
RECORDED TO
A LAPTOP



With constant drop weight position monitoring, the velocity of the drop weight is also known, therefore energy output can be accurately measured and is displayed to the operator on the powerpack interface screen. This information can be recorded direct to a laptop via a Dawson software interface, and can be saved in standard spreadsheet formats, giving a blow by blow account of every pile driven and a day to day productivity record.

INTERFACE SCREEN MOUNTED ON POWER PACK



TYPICAL SCREEN SHOTS

The main screen displays bar graphs showing hammer stroke & hydraulic oil temperature.

An Off Pile indicator confirms when the hammer is securely seated on the pile, and allows piling to commence.

There are numerical read outs showing blows per minute, energy per blow and total blows. The lower reading shows blows in LAP cycle. (Measuring blows per increment). The units can be changed from imperial to metric.

The history screen provides information on the total number of start ups / total hours / total blows and total energy through out the life of the hammer.



emv and csv



Dawson excavator mounted vibrators have been designed specifically to work in place of an excavator bucket to drive and extract piles. The pile can be lifted to vertical using the built-in lifting chain where it is then gripped tightly in a powerful hydraulic jaw. Once secured, the pile is then vibrated with high frequency vibrations so as to 'fluidise' the soil resisting the pile. Down-crowd force applied by the excavator boom, coupled with the self-weight of the pile and the vibrator, provides sufficient force to push the pile into the ground. Naturally, the process works in reverse for pile extraction. The equipment offers a highly productive and cost effective piling rig based around a standard, readily available excavator!

Principal Advantages

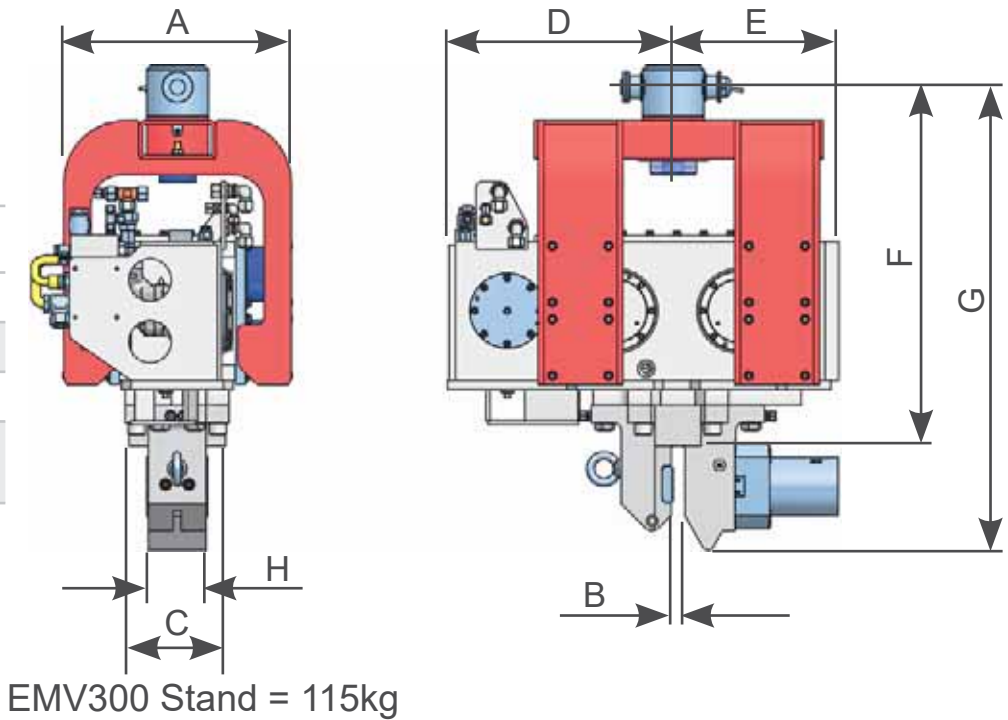
- . Compact, robust and reliable - no electrics!
- . Simple and fast attachment to excavator
- . Minimal height to maximise pile length
- . Slim design to drive single sheet piles
- . High power to weight ratio
- . Universal joint suspension for easy alignment of piles
- . Extremely low vibration transmitted to the excavator
- . Environmentally friendly - low noise/localised directional vibration
- . Automatic hydraulic clamp operation
- . Flexibility in application
- . Flow regulator prevents excessive oil supply to vibrator
- . Heavy saddles available for crane suspended models

Driving / extracting when the movement is less than 1" (25mm) per minute is considered practical refusal. Driving / extracting when movement is less than 1" (25mm) for more than 5 minutes of driving / extracting or driving at all when penetration is less than 1" (25mm) per minute and amplitude is greater than 1" (25mm) [vibrator and pile are bouncing] is considered improper use and will void the warranty. Contact DCP for an alternative larger vibrator.

technical specifications

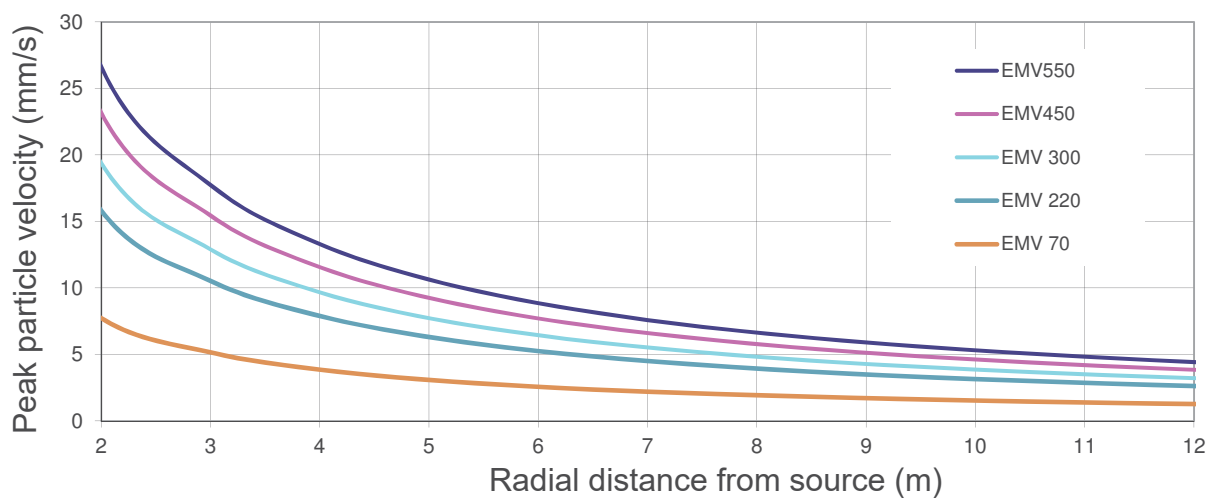
SPECIFICATION	UNITS	Excavator Mounted Vibro Model				
		EMV70	EMV220	EMV300A	EMV450	EMV550
STATIC MOMENT	in lbs	60	200	400	600	714
	kgm	0.7	2.3	4.6	6.9	8.23
FREQUENCY	rpm	3,000	3,000	2,400	2,460	2,500
CENTRIFUGAL FORCE	lbs	15,730	50,236	67,420	100,000	125,592
	kN	70	220	300	453	564
AMPLITUDE - PEAK TO PEAK	in	0.157	0.45	0.58	0.54	0.54
	mm	4	12	14.7	13.7	13.7
REQUIRED HYDRAULIC FLOW RATE	gpm	8	24	35	52	68
	L/min	30	90	130	195	256
MINIMUM HYDRAULIC PRESSURE	psi	3,480	4,060	4,060	3,915	4,060
	bar	240	280	280	270	280
MAXIMUM HYDRAULIC PRESSURE	psi	5,076	5,076	5,076	5,076	5,076
	bar	350	350	350	350	350
HYDRAULIC MOTOR POWER	hp	16	80	80	118	160
	kW	12	50	60	88	120
DYNAMIC MASS INCLUDING UNIVERSAL CLAMP	lbs	781	814	1,380	2,240	2,576
	kg	355	370	625	1,008	1,150
TOTAL MASS INCLUDING UNIVERSAL CLAMP	lbs	1,122	1,276	2,123	2,834	3,360
	kg	510	580	965	1,275	1,500
MAXIMUM PILE MASS	lbs	1,760	1,760	1,760	2,240	3,136
	kg	800	800	800	1,000	1,400
MAXIMUM PUSH/PULL LOADING	lbs	6,171	16,500	33,600	33,600	49,500
	kg	2,800	7,500	15,000	15,000	22,500
TYPICAL EXCAVATOR WEIGHT	Ton	5.5 to 17	7.5 to 24	13 to 39	27 to 50	33 to 60
	tonne	5 to 15	7 to 18	12 to 35	25 to 45	30 to 55
CLAMP FORCE	tonne	30	26.5	36	54	66
DIMENSIONS mm (inch)	A	445 (17.5)	445 (17.5)	615 (24)	615 (24)	646 (25.4)
	B	40 (1.5)	40 (1.5)	25 (1)	32 (1.25)	50 (1.97)
	C	275 (10.8)	275 (10.8)	250 (10)	230 (9)	370 (14.5)
	D	431 (17)	550 (21.6)	582 (23)	640 (25)	708 (27.9)
	E	431 (17)	550 (21.6)	429 (17)	510 (20)	555 (21.8)
	F	850 (33.5)	824 (32.5)	927 (36.5)	945 (37)	1137 (44.8)
	G	1120 (44)	1094 (43)	1200 (47.25)	1250 (49)	1477 (58.2)
	H	130 (5.1)	130 (5.1)	150 (6)	175 (6.9)	190 (7.5)

Clamps	Mass
300 Universal Clamp	163 kg
450 Universal Clamp	273 kg
550 Universal Clamp	416 kg
Caisson Beam with Clamps	670 kg



SPECIFICATION	UNITS	VIBRO MODEL				
		EMV70	EMV220	EMV300A	EMV450	EMV550
TRANSPORT WEIGHTS (approx)	kg	725	530	1165	1300	1500
DIMENSION ON A PALLET (approx)	mm LxWxH	1.2x0.8x1.6	1.2x0.8x1.7	1.2x0.8x1.93	1.2x0.8x1.8	1.6x0.85x1.7

SPECIFICATION	UNITS	VIBRO MODEL				
		EMV70	EMV220	EMV300A	EMV450	EMV550
AVERAGE SOUND PRESSURE LEVEL (at operators position)	dB(A)	85	85	85	91	91
SOUND POWER LEVEL	dB(A)	107	107	109	113	113



EMV - Maximum Predicted vibration from piling operations - from BS5228

$\text{kW} = \text{Flow (L/min)} \times \text{Pressure (bar)}$

600

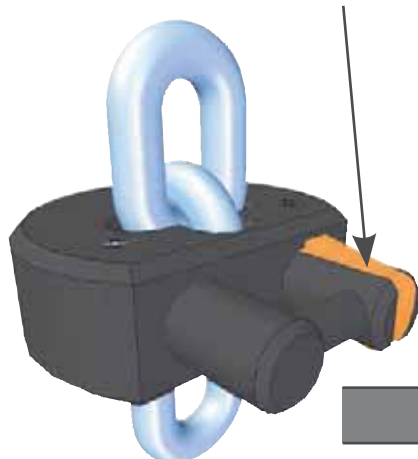
chain clamp

For all lifting applications. The unit indexes along the links of the chain and locks into place giving a quick and simple chain lock for lifting.

Features

- SWL of 2000kg for the 8mm chain clamp
3200kg for the 10mm chain clamp
8000kg for the 16mm chain clamp
- Robust high strength steel body
- Designed to withstand vibration - no screws or bolts!
- Minimal parts for durability
- Proof loading to twice the safe working load
- Quick coupling and release from load

ADDITIONAL
SAFETY LATCH



Part Number		Chain Type	Safe Working Load
4130	4130-2	16 mm	8 tonnes
TLR 360	TLR 360-2	10 mm	3.2 tonnes
4082	4082-2	8 mm	2 tonnes

(OLD TYPE) (LATCH TYPE)

selection guide

EXCAVATOR SIZING GUIDE

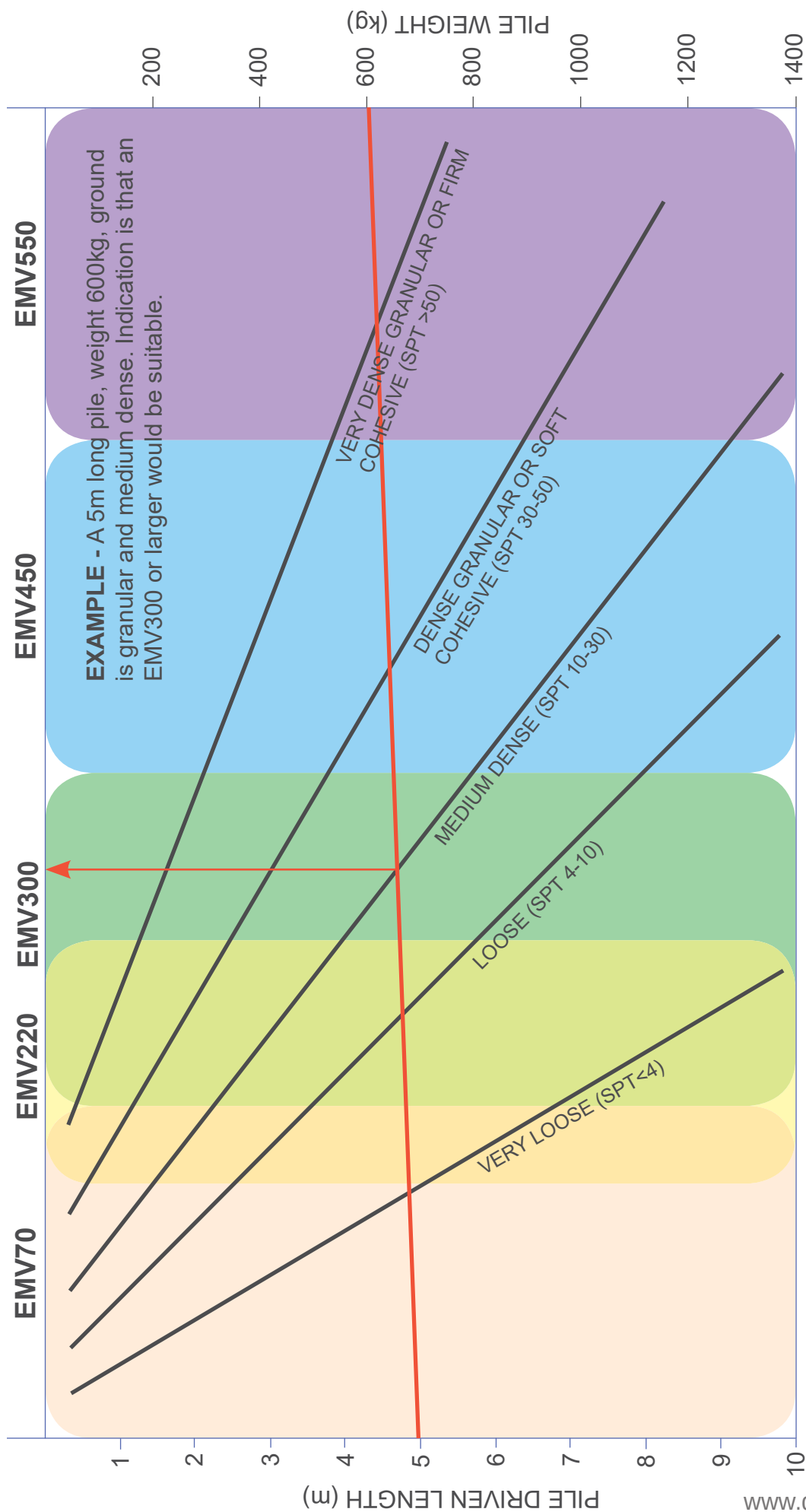
For completeness, the flow and pressure from the excavator to the EMV should be checked against the specification sheets to confirm adequate hydraulic power. As a guide the EMVs typically suit the following base machine sizes:

EMV70 (requires 30 L/min, 240 bar)	~ 5.5 - 17 t excavator
EMV220 (requires 90 L/min, 280 bar)	~ 7 - 18 t excavator
EMV300 (requires 130 L/min, 280 bar)	~ 12 - 35t excavator
EMV450 (requires 195 L/min, 270 bar)	~ 25 - 45t excavator
EMV550 (requires 256 L/min, 280 bar)	~ 30 - 55t excavator

EMV SELECTION GUIDE

There are many variables that determine how effectively a vibratory pile driver will perform. This graph below is a guide, not a guarantee!

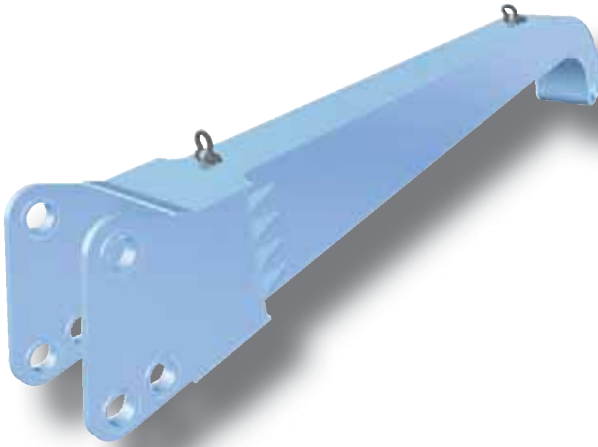
Vibratory drivers work at their best in granular (gravels and sands) materials, where the amplitude in the pile can “fluidise” the ground and allow the pile to advance as the ground rearranges itself. They will still function in cohesive materials (clays), but piles will not penetrate as far.



EXAMPLE - A 5m long pile, weight 600kg, ground is granular and medium dense. Indication is that an EMV300 or larger would be suitable.

For further soils & driving characteristics see Pg 80, 81.

swan neck



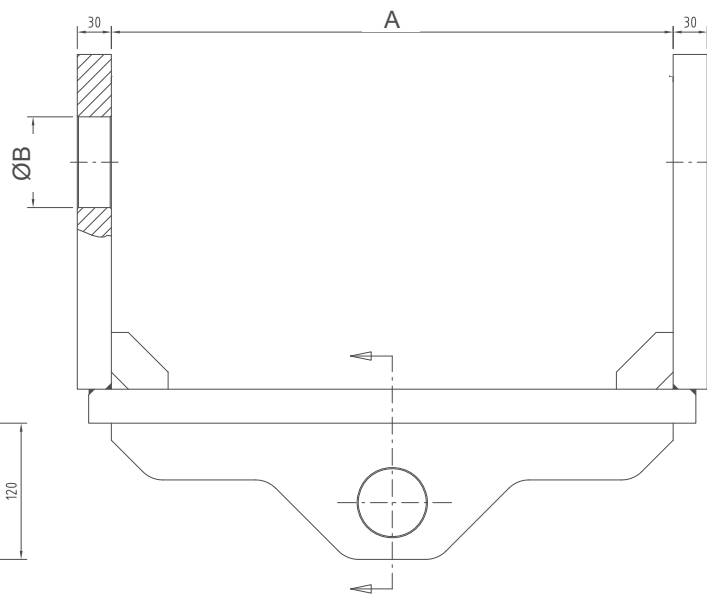
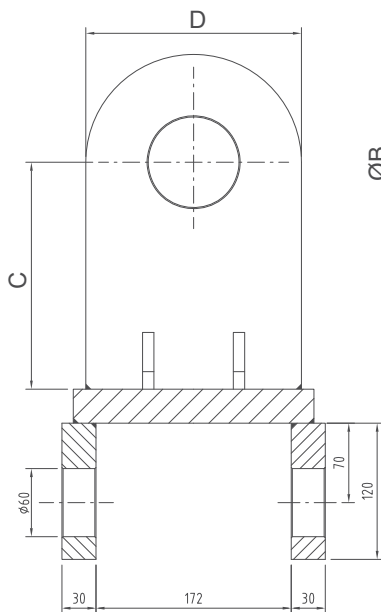
For extended reach and greater pile clearance on your excavator arm, enabling longer piles to be driven.

Part Number

SN01-000-01

Swan Neck

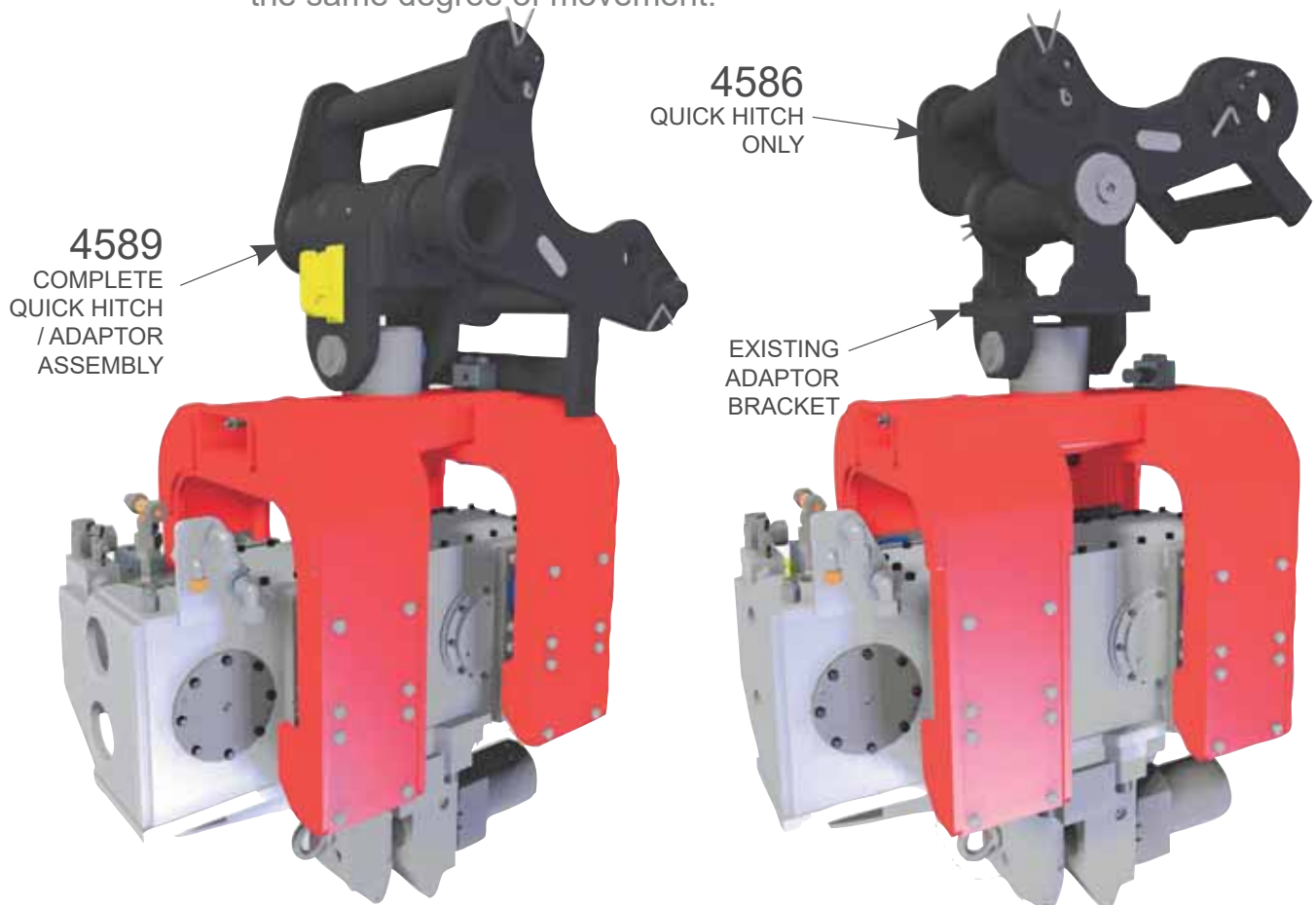
adaptor bracket



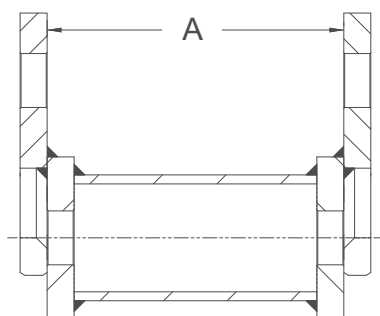
Part Number	Dimensions - mm				Dipper Pin Part Number
	A	B	C	D	
4063	340	60	175	140	4089
4063A	495	80	200	190	4089A
4063C	458	89.5	225	190	4089C
4063D	410	60	200	190	4089D
4063E	458	60	225	190	4089E
4063F	495	63.75	200	190	4089F
4063M	458	63.75	225	190	4089M
4063R	495	69.85	225	190	4089R

quick hitch adaptor

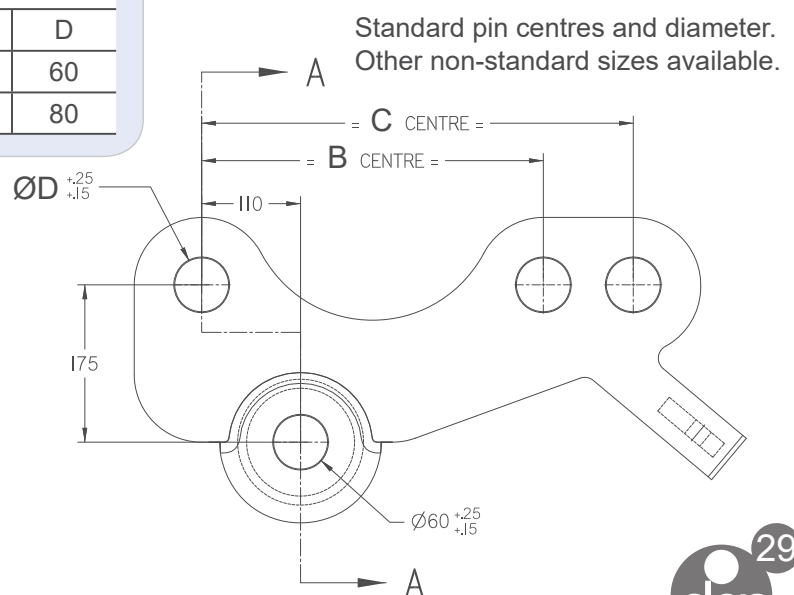
When an excavator has a guide hitch fitted and a double acting breaker to supply the EMV, the Dawson quick hitch adaptor bracket supplies fast, easy connection to the end equipment while maintaining the same degree of movement.



Part Number	Dimensions - mm			
	A	B	C	D
4586	330	380	480	60
4589	452	475	590	80

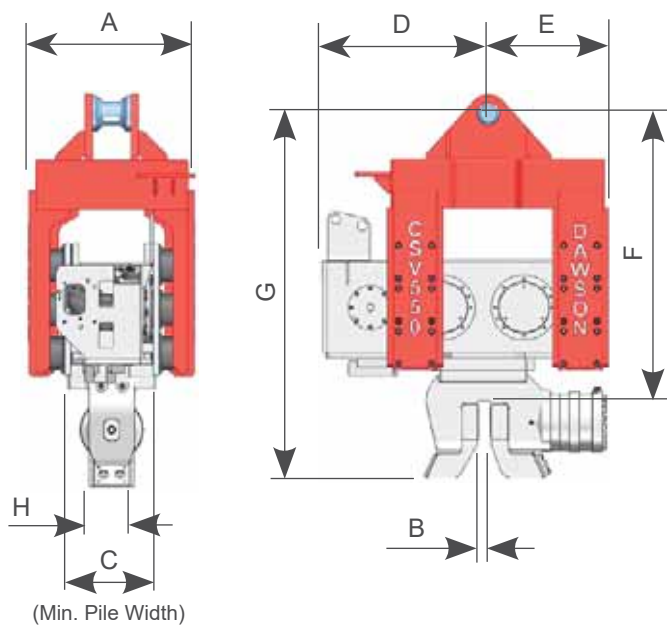


SECTION A-A

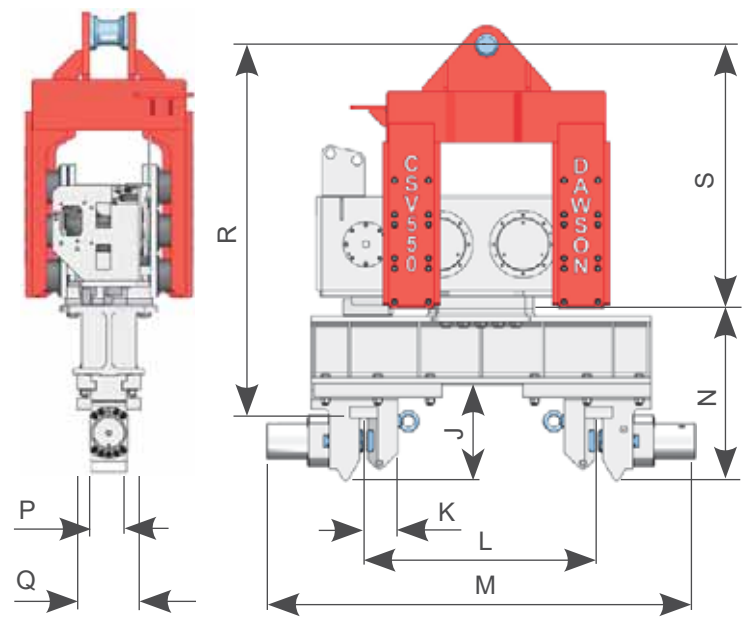


technical specifications

SPECIFICATION	UNITS	Crane Suspended Vibro Model		
		CSV300	CSV450	CSV550
STATIC MOMENT	in lbs	400	600	714
	kgm	4.6	6.9	8.23
FREQUENCY	rpm	2,400	2,460	2,500
CENTRIFUGAL FORCE	lbs	67,420	100,000	125,592
	kN	300	450	550
AMPLITUDE - PEAK TO PEAK	in	0.58	0.5	0.51
	mm	14.7	12	13
MINIMUM REQUIRED FLOW RATE	gpm	35	52	68
	L/min	130	195	256
MAXIMUM ALLOWABLE FLOW RATE	gpm	35.5	59	74.9
	L/min	140	220	280
MINIMUM HYDRAULIC RUNNING PRESSURE	psi	4,060	3,915	3,625
	bar	280	270	280
MAXIMUM HYDRAULIC RUNNING PRESSURE	psi	4,350	4,350	4,350
	bar	300	300	300
MINIMUM HYDRAULIC MOTOR POWER	hp	80	118	160
	kW	60	88	120
DYNAMIC MASS INCLUDING UNIVERSAL CLAMP	lbs	1,430	1,980	2,376
	kg	650	900	1,080
TOTAL MASS INCLUDING UNIVERSAL CLAMP	lbs	3,344	4,092	5236
	kg	1,520	1,860	2,380
TOTAL MASS INCLUDING CAISSON BEAM & CLAMPS	lbs	4,460	4,944	5,236
	kg	2,027	2,247	2,634
MAXIMUM PILE MASS	lbs	1,760	2,240	3,136
	kg	800	1,000	1,400
MAXIMUM PUSH/PULL LOADING	lbs	33,600	33,600	49,500
	kg	15,000	15,000	22,500
CLAMP FORCE	tonne	36	54	66



UNIVERSAL CLAMP



CAISSON BEAM

Jaw assemblies can be positioned to suit any tube size between Ø300 I.D & Ø1100 mm O.D.

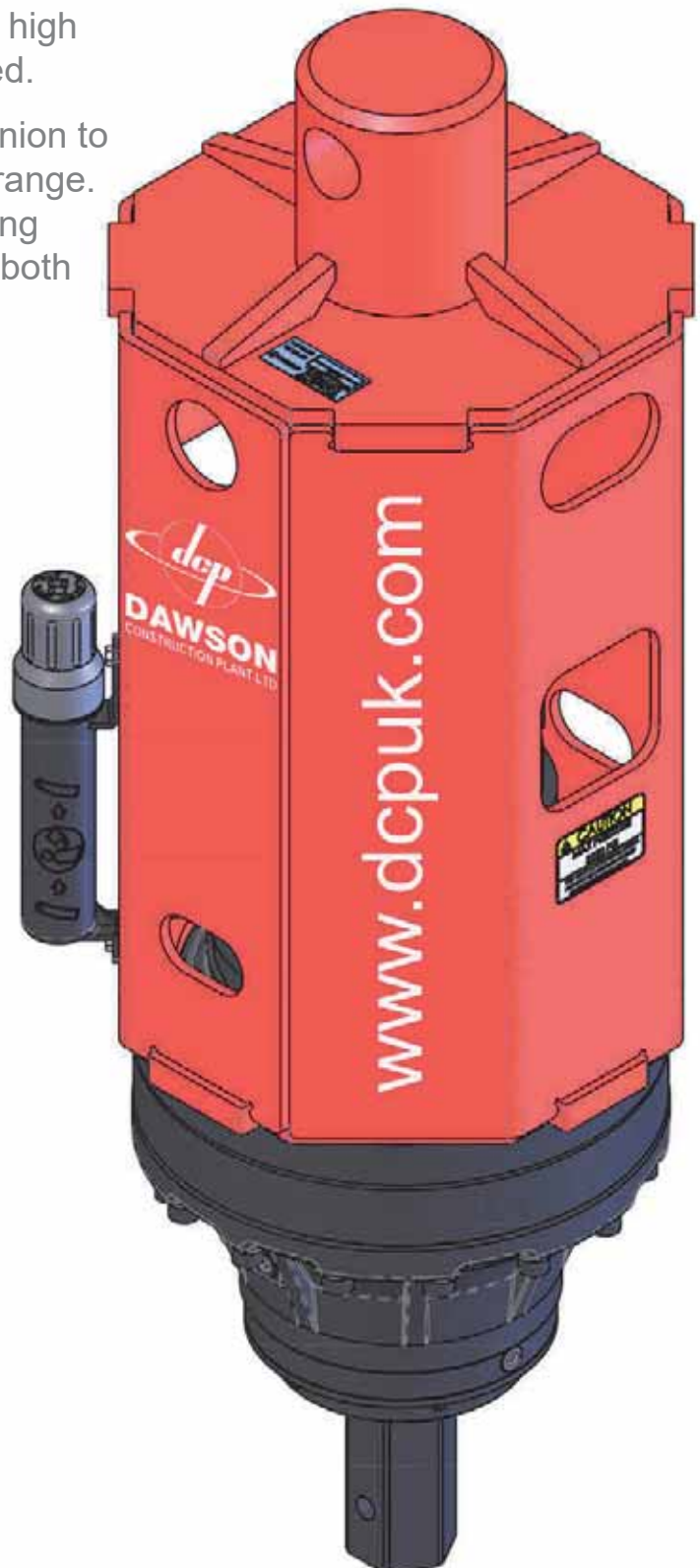
DIMENSIONS mm (inch)			
	CSV300	CSV450	CSV550
A	654 (26)	615 (24)	705 (27.7)
B	32 (1.25)	32 (1.25)	50 (1.97)
C	250 (10)	230 (9)	268 (10.4)
D	582 (23)	640 (25)	732 (28.8)
E	429 (17)	510 (20)	529 (20.8)
F	1022 (40)	945 (37)	1274 (50.2)
G	1292 (51)	1250 (49)	1614 (63.5)
H	150 (6)	160 (6.4)	195 (7.7)
J	450 (17.7)		
K	147.5 (5.8)		
L	NOMINAL JAW CTRS 300 (11.8) MIN / 1100 (43.3) MAX		
M	1865 (73.5) FULLY OUT / 1320 (52) FULLY IN		
N	735 (29)		
P	158 (6.2)		
Q	250 (9.85)		
R	1295 (51)	1347 (53)	1472 (58)
S	825 (32.5)	877 (34.5)	1002 (39.5)



Introducing 2 NEW excavator mounted drills to the Dawson range.

The EMD-15 drilling drive will turn those utility and small foundation augers in most soil types. The auto shift feature allows the drive to automatically shift between high speed and low torque and low speed.

The EMD-20 is an excellent companion to the Dawson excavator attachment range. This powerhouse is capable of drilling holes up to 6m deep and Ø1.8m in both rock and dirt.



NEW model

excavator mounted drill

EMD-15

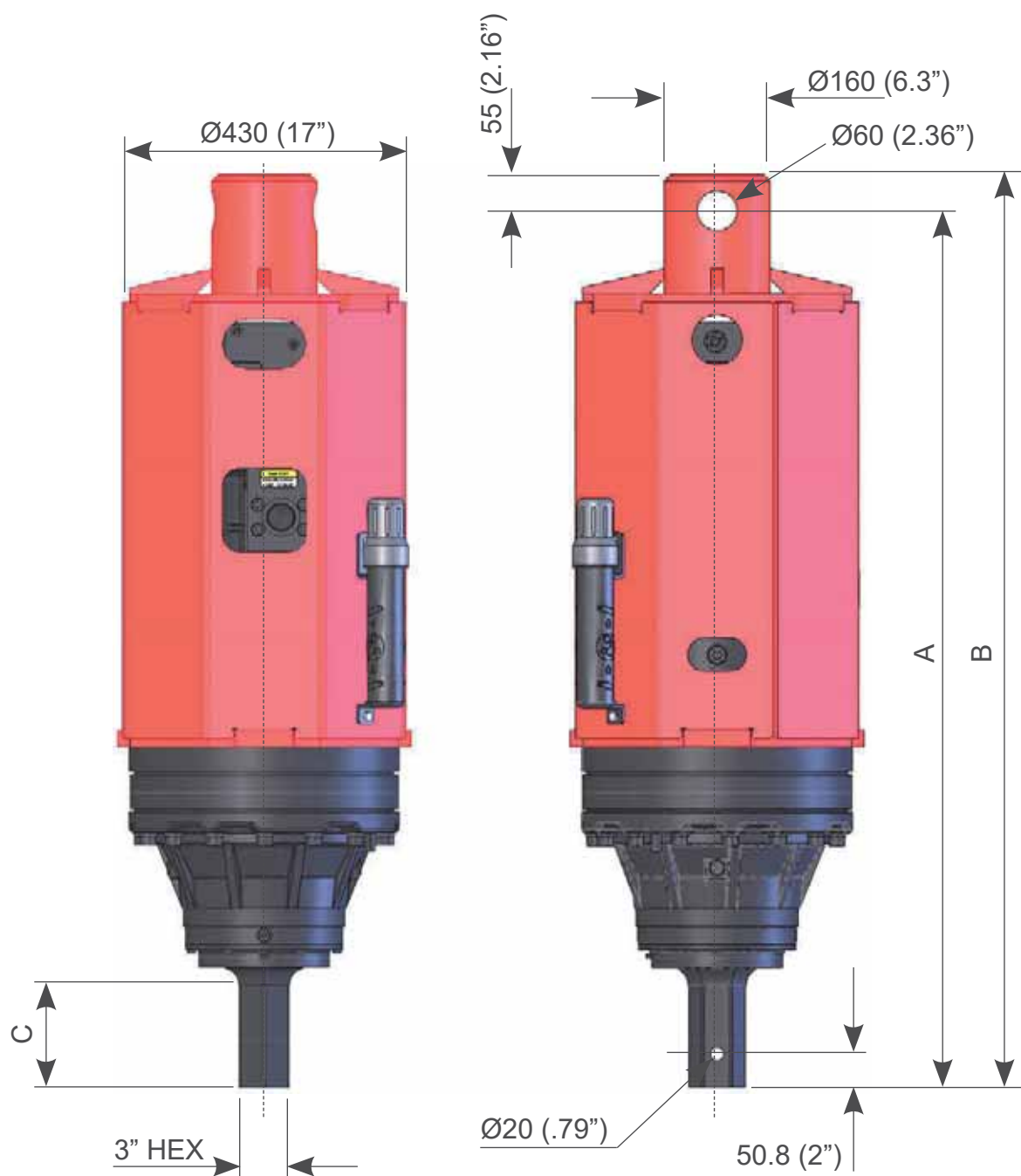
HYDRAULIC MOTOR INFORMATION	
DISPLACEMENT	17.8 cu in (293cc)
MOTOR TYPE	TWO SPEED BI-DIRECTIONAL
MOTOR OUTPUT SHAFT	1 1/4" SPLINE 14T
MOTOR MOUNTS	SAE -C 4 BOLT
MOTOR PORTS	1 5/8" - 12UN-2B
CROSS OVER PRESSURE RELIEF	SET AT 3,100PSI
PLANETARY GEARBOX INFORMATION	
GEARBOX TYPE	PLANETARY TWO STAGE
REDUCTION RATIO	26.52:1
OUTPUT SHAFT	3" HEX
INTERNAL OIL CAPACITY	3.0 GALLONS (US) / 11.35 litres
OIL TYPE	SAE 80W90 GL-5
SHAFT PULL OUT	22,500 lbs

EMD-20

HYDRAULIC MOTOR INFORMATION	
DISPLACEMENT	8.25 cu/in (135cc)
MOTOR TYPE	VARIABLE SPEED BI-DIRECTIONAL
MOTOR OUTPUT SHAFT	8/16" SPLINE 13T
MOTOR MOUNTS	SAE -D 2 BOLT
MOTOR PORTS	CODE 62 SAE SPLIT FLANGE
CROSS OVER PRESSURE RELIEF	NONE
PLANETARY GEARBOX INFORMATION	
GEARBOX TYPE	PLANETARY THREE STAGE
REDUCTION RATIO	60.56:1
OUTPUT SHAFT	3" HEX
INTERNAL OIL CAPACITY	3.0 GALLONS (US) / 11.35 litres
OIL TYPE	SAE 80W90 GL-5
SHAFT PULL OUT	44,000 lbs

	EXCAVATOR SIZE	MAX. HOLE DEPTH	MAX, HOLE DIAMETER	WEIGHT	CONNECTIONS (HEX)
EMD-15	11-18 tonne (12-20 ton)	3,658 mm (12')	1,524 mm (5')	375 Kg (825 lbs)	3"
EMD-20	11-18 tonne (12-20 ton)	6,096 mm (20')	1829 mm (6')	400 Kg (880 lbs)	3"

technical specifications



	EMD-15	EMD-20
A	1327 (52")	1271 (50")
B	1382 (54")	1326 (52")
C	162 (6.4")	154 (6")



Dawson lists output speeds at both theoretical and actual. Actual torque numbers are NOT listed at 100% efficiency. Dawson recommends to go by ACTUAL torque listings.

REFERENCE SPEED CHART		
FLOW L/m (gpm - US)	Low (rpm)	High (rpm)
75 (20)	8	16
113 (30)	12	24
151 (40)	16	32
190 (50)	20	40

EMD-15

REFERENCE TORQUE CHART (LT / HS)		
PRESSURE bar (psi)	THEORETICAL Torque kg.m (ft.lb)	ACTUAL Torque kg.m (ft.lb)
1000	435 (3,145)	357 (2,579)
1200	522 (3,775)	428 (3,096)
1400	609 (4,404)	499 (3,611)
1600	696 (5,033)	570 (4,124)
1800	783 (5,662)	642 (4,643)
137 (2000)	870 (6,291)	713 (5,159)
151 (2200)	957 (6,920)	784 (5,674)
165 (2400)	1044 (7,550)	856 (6,191)
179 (2600)	1131 (8,179)	927 (6,707)
193 (2800)	1218 (8,808)	999 (7,223)
206 (3000)	1305 (9,437)	1070 (7,738)

REFERENCE TORQUE CHART (HT / LS)		
PRESSURE (psi)	THEORETICAL Torque kg.m (ft.lb)	ACTUAL Torque kg.m (ft.lb)
1000	870 (6,291)	713 (5,159)
1200	1043 (7,550)	856 (6,191)
1400	1218 (8,808)	999 (7,223)
1600	1392 (10,066)	1141 (8,254)
1800	1566 (11,325)	1283 (9,287)
137 (2000)	1739 (12,583)	1426 (10,318)
151 (2200)	13841 (13,841)	1569 (11,350)
165 (2400)	2088 (15,100)	1711 (12,382)
179 (2600)	2262 (16,358)	1854 (13,414)
193 (2800)	2435 (17,616)	1998 (14,450)
206 (3000)	2609 (18,875)	2140 (15,478)

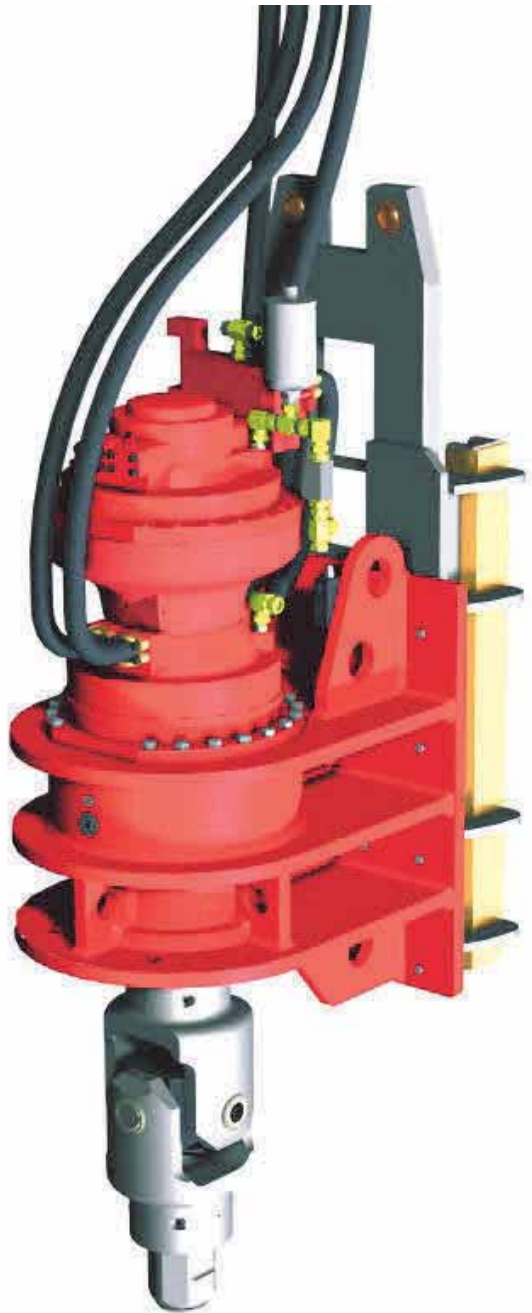
REFERENCE SPEED CHART		
FLOW L/m (gpm -US)	Low (rpm)	High (rpm)
151 (40)	16	27
169 (45)	18	30
188 (50)	20	33
206 (55)	22	37
225 (60)	24	40

EMD-20

REFERENCE TORQUE CHART (LT / HS)		
PRESSURE bar (psi)	THEORETICAL Torque kg.m (ft.lb)	ACTUAL Torque kg.m (ft.lb)
137 (2000)	1084 (7,845)	921 (6,668)
151 (2200)	1193 (8,630)	1014 (7,336)
165 (2400)	1301 (9,414)	1106 (8,002)
179 (2600)	1410 (10,199)	1198 (8,669)
193 (2800)	1518 (10,984)	1290 (9,336)
206 (3000)	1626 (11,768)	1382 (10,003)
220 (3200)	1735 (12,553)	1475 (10,670)
234 (3400)	1843 (13,337)	1567 (11,336)
248 (3600)	1952 (14,122)	1659 (12,004)
262 (3800)	2060 (14,907)	1751 (12,671)
275 (4000)	2169 (15,691)	1843 (13,337)

REFERENCE TORQUE CHART (HT / LS)		
PRESSURE bar (psi)	THEORETICAL Torque kg.m (ft.lb)	ACTUAL Torque kg.m (ft.lb)
137 (2000)	1834 (13,269)	1555 (11,253)
151 (2200)	2013 (14,563)	1711 (12,379)
165 (2400)	2196 (15,887)	1867 (13,504)
179 (2600)	2379 (17,211)	2022 (14,629)
193 (2800)	2562 (18,535)	2178 (15,755)
206 (3000)	2745 (19,859)	2333 (16,880)
220 (3200)	2928 (21,183)	2489 (18,006)
234 (3400)	3111 (22,507)	2644 (19,131)
248 (3600)	3294 (23,831)	2800 (20,256)
262 (3800)	3477 (25,155)	2956 (21,382)
275 (4000)	3660 (26,479)	3111 (22,507)

11tm drill



Total weight including stand = 4500 kg

Total weight less stand = 4000 kg

Max Pressure 350 bar Single Motor Mode = 60,000 Nm Torque

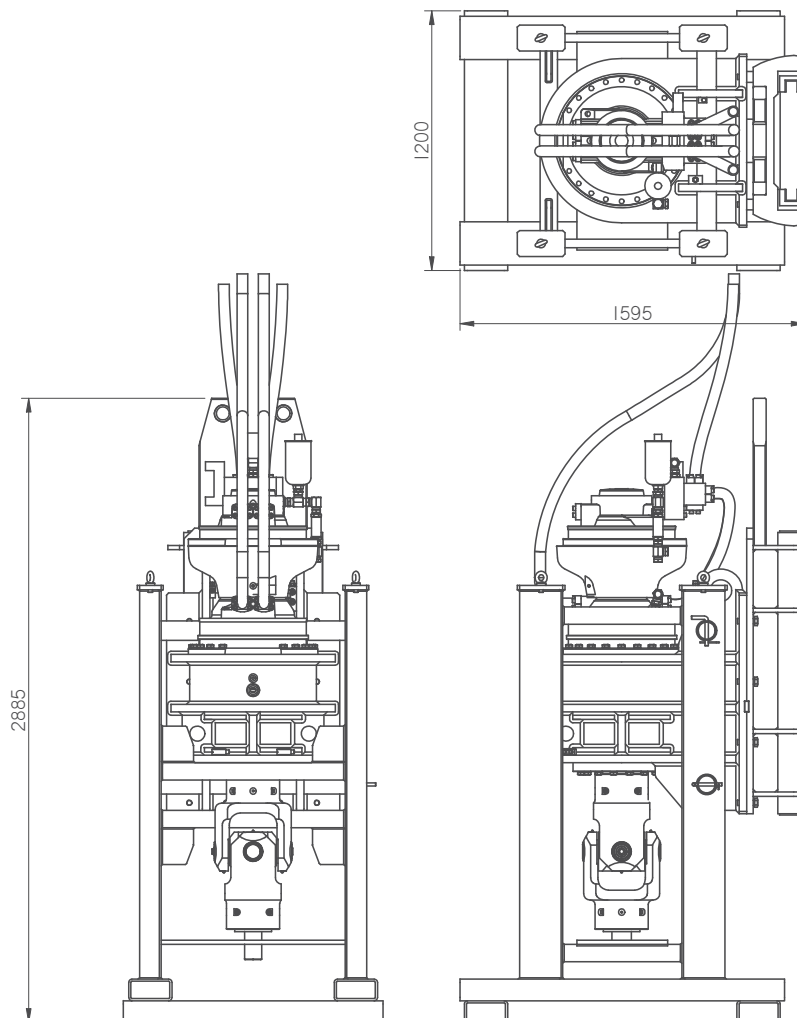
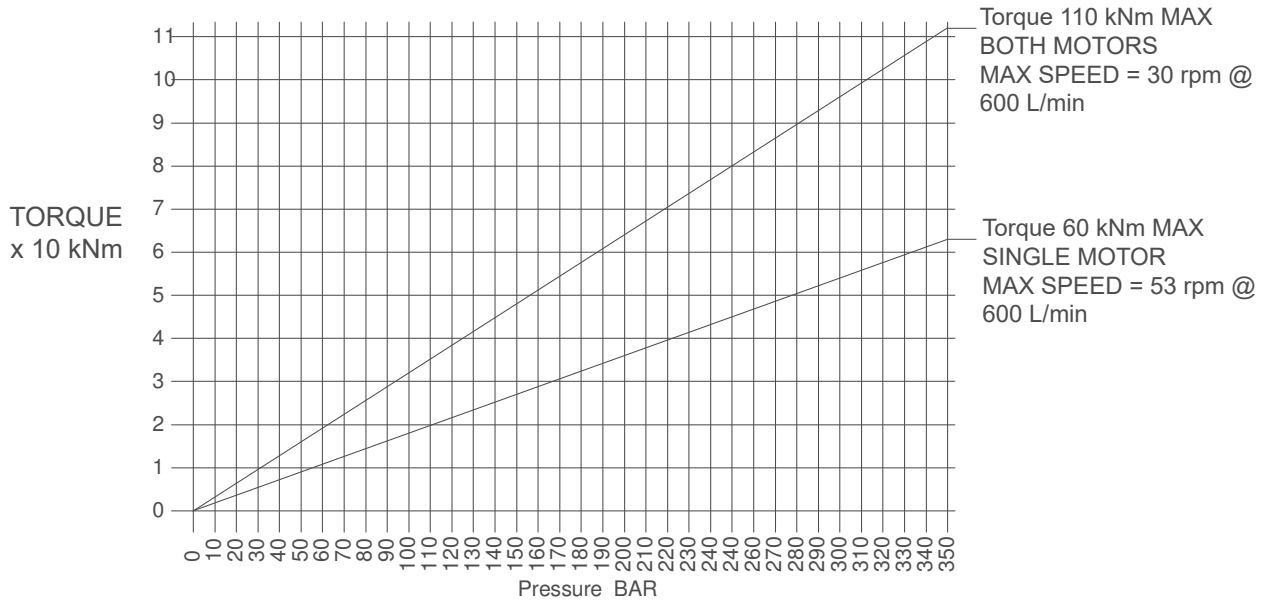
Max Pressure 350 bar Twin Motor Mode = 110,000 Nm Torque

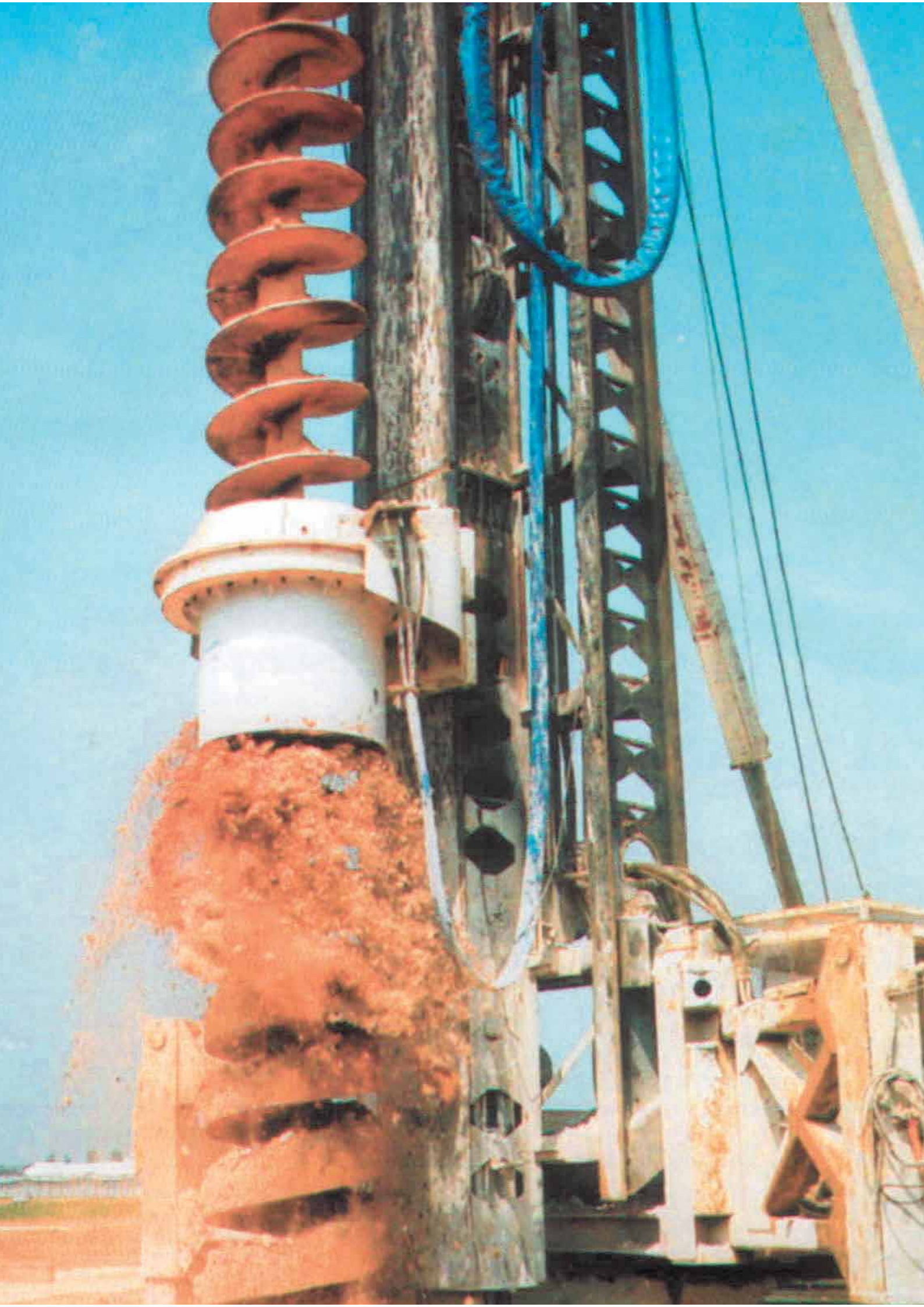
Max rpm @ Flow 600 L/min Single Motor Mode = 53 rpm

Max rpm @ Flow 600 L/min Twin Motor Mode = 30 rpm

Output Shaft 150 Hex Male with various adaptors.

technical specifications





auger cleaner



Spoil from continuous flight augers should be removed at the lowest possible level so as to prevent rig instability and avoid injury to personnel or damage to machinery due to falling debris.

Units are custom built to suit customer's drilling rigs and auger specifications. An auger cleaner can be adapted to a variety of different auger diameters and pitches using alternative shells. The shell, or barrel, is attached to the underside of the auger cleaner drive.

Auger cleaners provide a fast, powerful and productive means of cleaning all soil types from a continuous flight auger. This becomes increasingly important as the diameters increase, particularly with heavy soils. Models are available to clean auger diameters from 300 to 2,000 mm, depending on rig specification.

Model Reference	To Clean Auger Diameters (mm)
M 600	400 - 600
M 700	450 - 700
M 800	450 - 800
M 900	450 - 900
M 1000	500 - 1000
M 1200	500 - 1200
M 1500	750 - 1500
M 2000	900 - 2000



New Swing Door type



silent piling pushpull system



Quiet, vibration-less installation and removal of steel sheet and foundation piles

Principal Advantages

- . Quiet and vibration-less
- . Powerful Push-Pull force of up to 200 tonnes for effective installation and extraction
- . Fast installation or extraction rates deliver high productivity and economy
- . Ready configured to suit Z, U & H-pile profiles in groups of between 2 to 6
- . No reaction frame required to start pile installation - unlike conventional pile presses
- . Corner piles easily installed without reaction frame
- . Offers truly recyclable foundation solutions
- . Standard Z-piles can be installed close to property boundaries - maximise development footprint
- . Leader guided operation reduces interlock friction and produces high quality, accurate installations
- . Piles can be removed, returning site to original 'greenfield' condition
- . Piles can be threaded without the use of a crane

Extra Advantages

- . Can be configured to install high capacity foundation piles formed by interlocking 4, 5 or 6 sheet piles in a box - SWL capacities up to 1400 tonnes
- . No spoil removal to landfill
- . No ground heave
- . Pile capacity measured during installation
- . Immediate loading
- . Low mass/volume material transport
- . Will accept side loads
- . Piles can be extended out of the ground to form permanent piers or columns

technical specifications

SPECIFICATION	UNITS	Push Pull Type				
		2-Cylinder U & Z-piles	3-Cylinder U & Z-piles	4-Cylinder Z-piles	4-Cylinder U-piles	4-Cylinder Box Pile
PUSH PULL						
PRESSING FORCE PER CYLINDER	kN	2,078	2,078	2,078	2,078	2,078
	ton (US)	233	233	233	233	233
EXTRACTION FORCE PER CYLINDER	kN	2,078	2,078	2,078	2,078	2,078
	ton (US)	233	233	233	233	233
MAXIMUM CYLINDER ADVANCE DISTANCE	mm	600	600	600	600	600
	in	23.6	23.6	23.6	23.6	23.6
CYLINDER ADVANCE RATE	mm / min	5,890	5,890	5,890	5,890	5,890
	in / mm	232	232	232	232	232
WEIGHT*	kg	7,000	11,500	13,000	13,000	13,000
	lbs	15,430	25,300	28,650	28,650	28,650
REQUIRED HYDRAULIC PRESSURE	bar	350	350	350	350	350
	psi	5,075	5,075	5,075	5,075	5,075
MINIMUM REQUIRED HYDRAULIC FLOW RATE	L/min	350	350	350	350	350
	gpm (US)	93	93	93	93	93
ELECTRICAL SUPPLY	Volts/Amps	24DC/10A	24DC/10A	24DC/15A	24DC/15A	24DC/15A

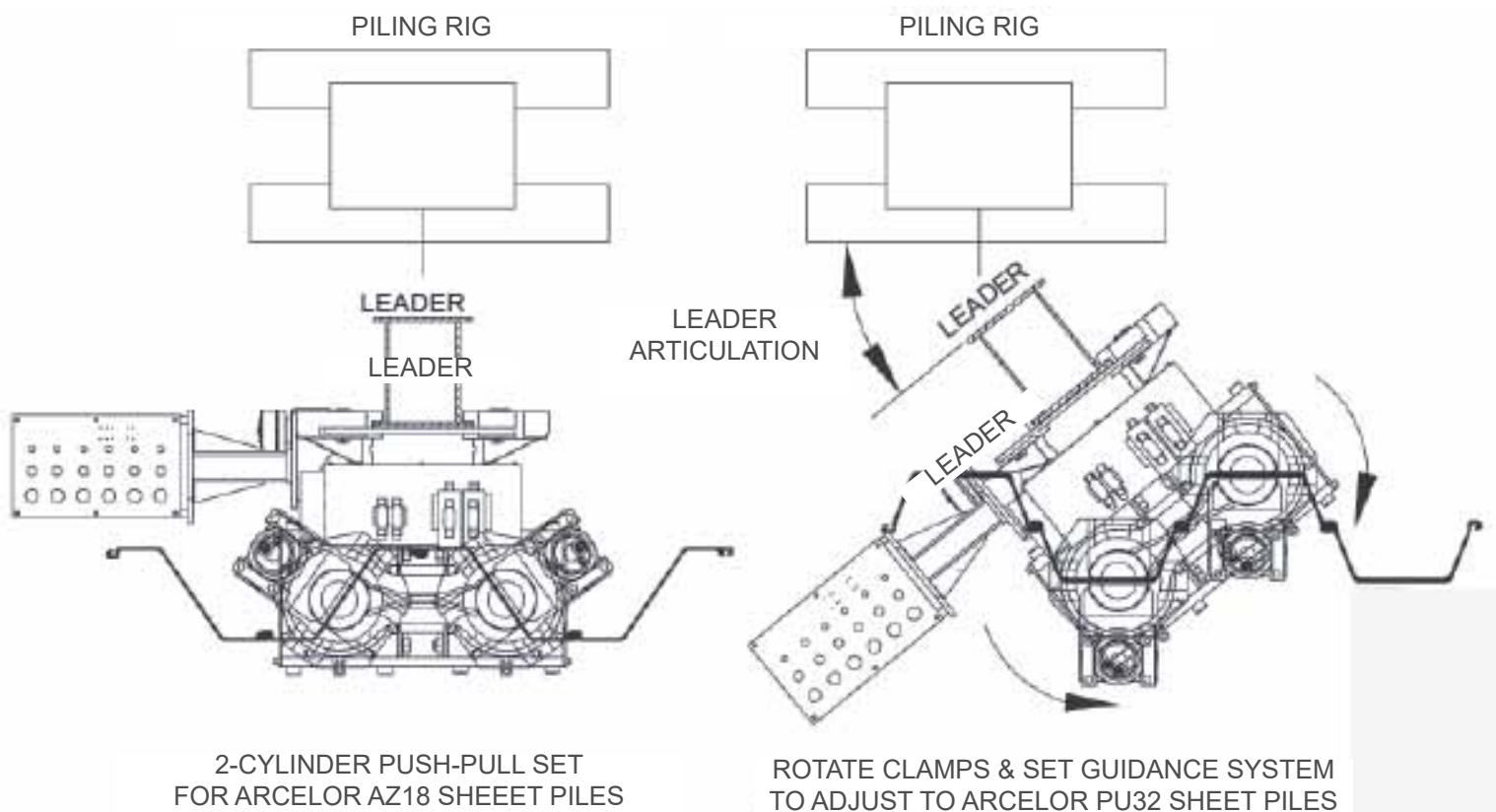


* Weight will vary depending on leader mounting arrangements

Leader Articulation

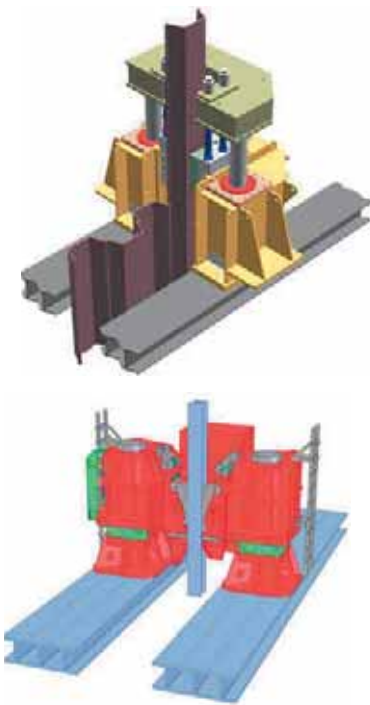
The leader should have the ability to articulate or pivot (in plan view). This is typical of any rig that has been engineered to undertake sheet-pile work - though alternative arrangements can be supplied. This feature offers two significant operational benefits:

- The entire piling process is faster, more economic and safer when the operator has the ability to see what he is doing. Lead articulation means the operator can position the leader for good visibility with minimum track movement.
- The 2-Cylinder Push-Pull unit can accommodate numerous pile profiles simply by articulating the lead and/or adjusting the rotational setting of the individual cylinder assemblies. The example below shows the same 2-Cylinder Push-Pull unit working with Arcelor AZ18 and PU32 steel sheet piles. The centres of the two Modular Hydraulic Cylinder Sub-Assemblies remains the same, but the Adjustable Guidance System is altered to correctly align the Clamp Assemblies with the clamping faces of each pile.





universal sheet pile extraction



The D.C.P. Universal Pile Extractor is a vibration free hydraulic pile extraction device, which is suitable for extracting a wide range of pile types from a large variety of ground types.

Principal Advantages

- Quiet and vibration-less hydraulic pile extraction system
- 400 tonne to 1000 tonne extraction force
- Can extract 'H' piles, 'U' and 'Z' profile sheets. With modification it can be used to extract tubular piles
- Typical extraction rate: 3 m/min (118 "/min)
- Uses the ground as reaction (as opposed to other piles) hence stand alone piles can be extracted
- Safer than extracting piles using a vibrator or pulling with a crane

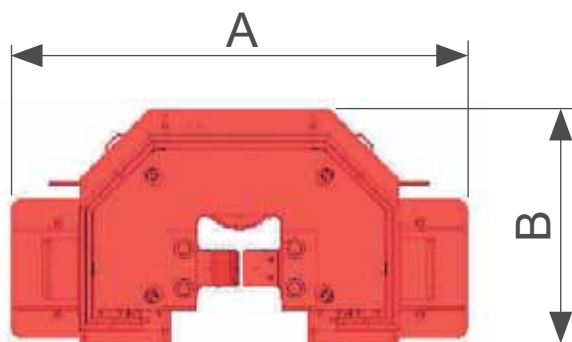
technical specifications

Technical Specifications

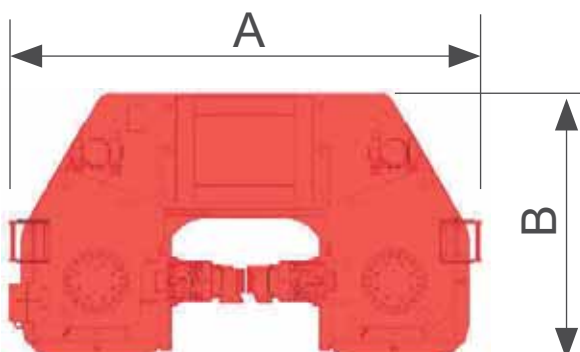
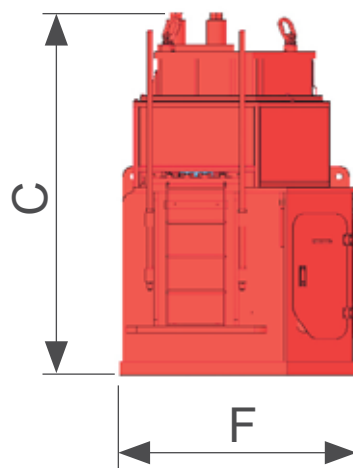
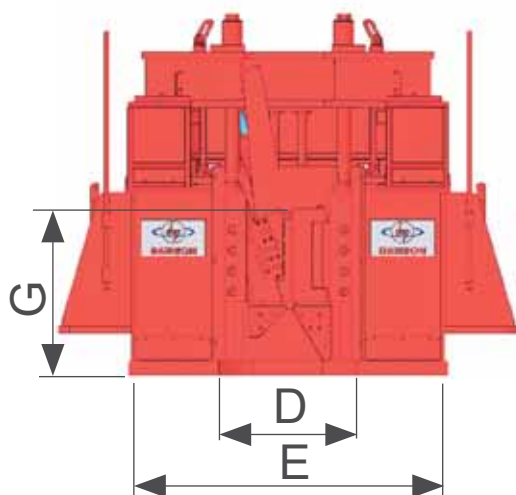
	X400		X1000	
MAXIMUM EXTRACTION FORCE	4000 kN	408 t	9700 kN	1090 t (US)
RAM SPEED	3 m/min	118 "/min	3 m/min	118 "/min
MAXIMUM HYDRAULIC OIL PRESSURE	200 bar	2900 psi	350 bar	5075 psi
MAXIMUM HYDRAULIC OIL FLOW	300 L/min	66 g.p.m	400 L/min	106 gpm (US)
EXTRACTION DISTANCE (EACH STROKE)	750 mm	29.5 "	500 mm	19.7 "
DIMENSION A	3295 mm	129.7 "	3780 mm	148.8 "
DIMENSION B	1700 mm	66.9 "	2100 mm	82.7 "
DIMENSION C - RETRACTED	2225 mm	87.6 "	2650 mm	104 "
DIMENSION C - EXTENDED	2975 mm	117.1 "	3150 mm	124 "
DIMENSION D	995 mm	39 "	1180 mm	46.5 "
DIMENSION E	2295 mm	90 "	3580 mm	141 "
DIMENSION F	1700 mm	67 "	1900 mm	74.8 "
DIMENSION G	1200 mm	47 "	1524 mm	60 "
TOTAL WEIGHT	16000 kg	35275 lbs	26500 kg	58400 lbs

	X400	X1000
Minimum pile height extending from ground required to clamp to =	1581 mm	1905 mm
Lowered clamp height =	1200 mm	1524 mm
Spreader beam height =	381 mm	381 mm

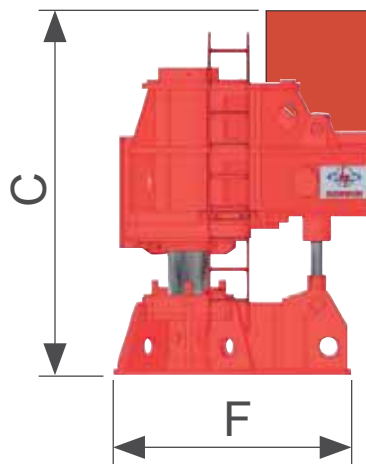
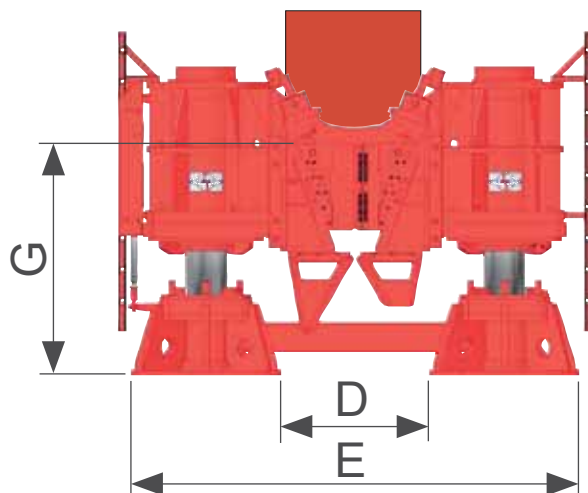
Spreader beam dimensions - 8000 mm x 1185 mm x 381 mm
 3x spreader beams per mat = 6.5 ton



X400



X1000





sheet pile capping system



The Redeb/Multi-pile Soffit Panel system provides a fast economical method of support shuttering for capping beams on permanent sheet piling works such as: River banks, Sea walls, Piers and Jetties; Flood alleviation work.

- . Replaces slow, labour and material intensive on-site fabricated methods
- . Greatly increases speed of working
- . Quickly dismantled for re-use
- . No damage to sheet piles

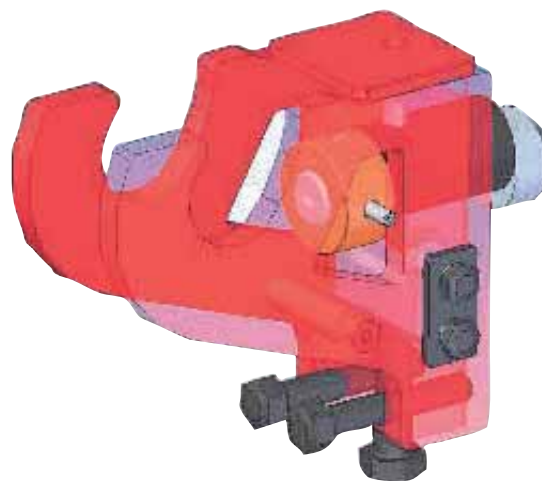
MEDIUM + HEAVY DUTY SYSTEM

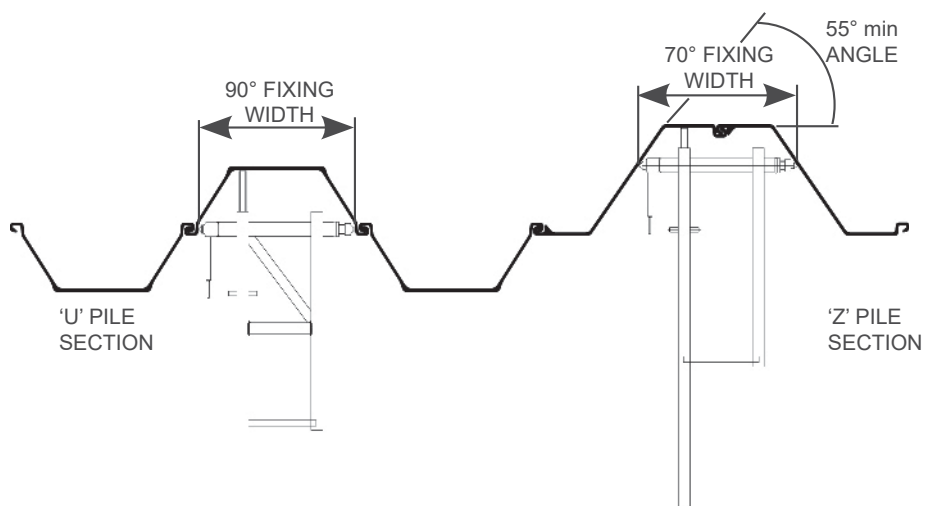
- . Can be installed on flat or round faces
- . Requires Ø53mm hole MDBS
- . Requires Ø85mm hole HDS



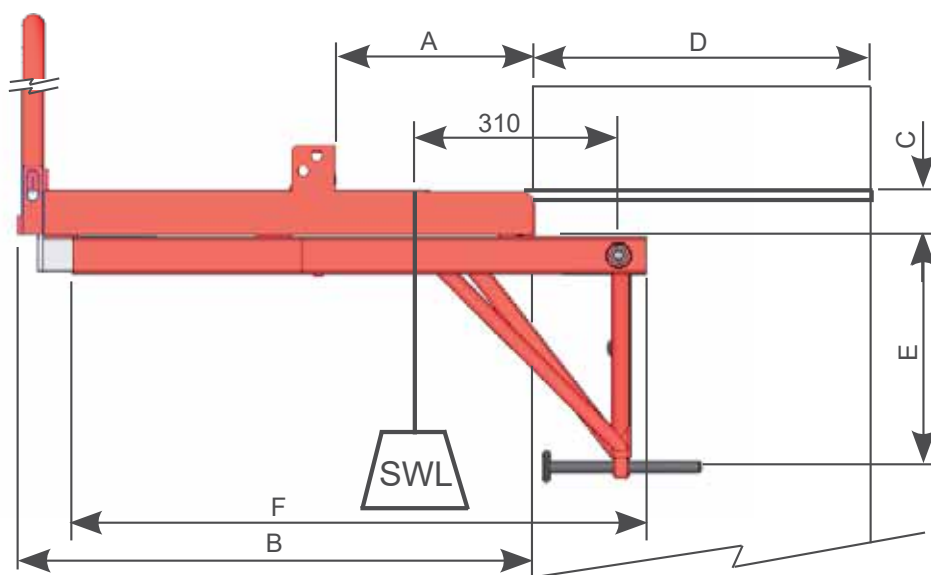
MDBS - MEDIUM DUTY BRACKET SUPPORT

To be used with the current Redeb Support Bracket, increase current capacity for AZ/AU pile to 3000Kg. Allows brackets to be used on round + flat faces.





MODEL	Fixing Width (mm)			
	70° HARD POINT		90° HARD POINT	
	MIN	MAX	MIN	MAX
RSB500	447	524	433	510
RSB600	532	609	518	595
RSB700	652	729	638	715

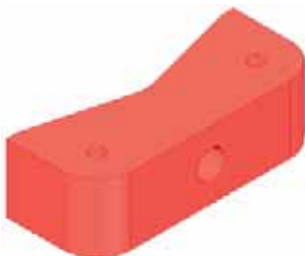


	Panel Sizes			
	2.5M	3M	3M DEEP	HD
A	435	435	435	750
B	1130	1130	1330	2250
C	100	100	100	225
D	510	510	712	1300
PANEL WEIGHT	360 kg	450 kg	477.5 kg	2000 kg

technical specifications

Support Brackets					
	RSB225	RSB500	RSB600	RSB700	HD
E	475	475	524	525	1840
F	705	1250	1250	1250	2690
WEIGHT	-	20 kg	25.5 kg	27.5 kg	500 kg

Capping System					
	Z	Z +LOCATION BUTTON	U	MDBS	HD
SWL PER BRACKET	1500 kg	2000 kg	2000 kg	3000 kg	15,000 kg
MAX MASS INCLUDING PANEL, PER LINEAR METRE	1000 kg	1300 kg	1300 kg	2000 kg	10,000 kg

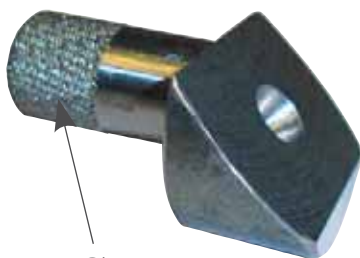


V-BLOCK

To be used in conjunction with the M.D.B.S and R.S.B. Bracket. The V-Block locates over the end of the R.S.B. lower adjusting bolt preventing it from slipping off round tubular piles.

Part No.

MDBS-028-01



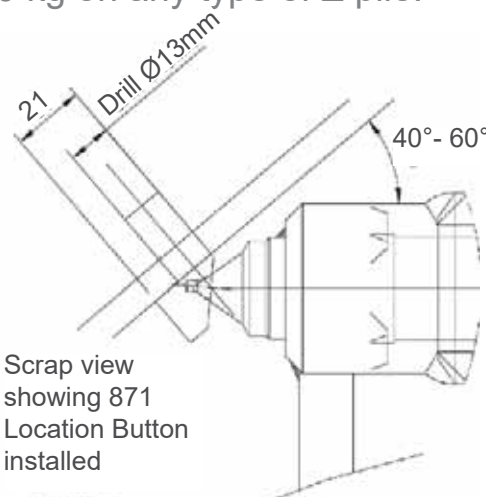
Ø13mm

LOCATION BUTTONS

To be used on piles such as AZ17-700 and AZ13-770 which have angles too shallow to attach to standard system. Minimum included angle possible 40°, max angle 60°, see attached sketch. Also increase load carrying capacity to 2000 kg on any type of Z pile.

Part No.

871



Scrap view
showing 871
Location Button
installed

www.dcpuk.com



FEATURES

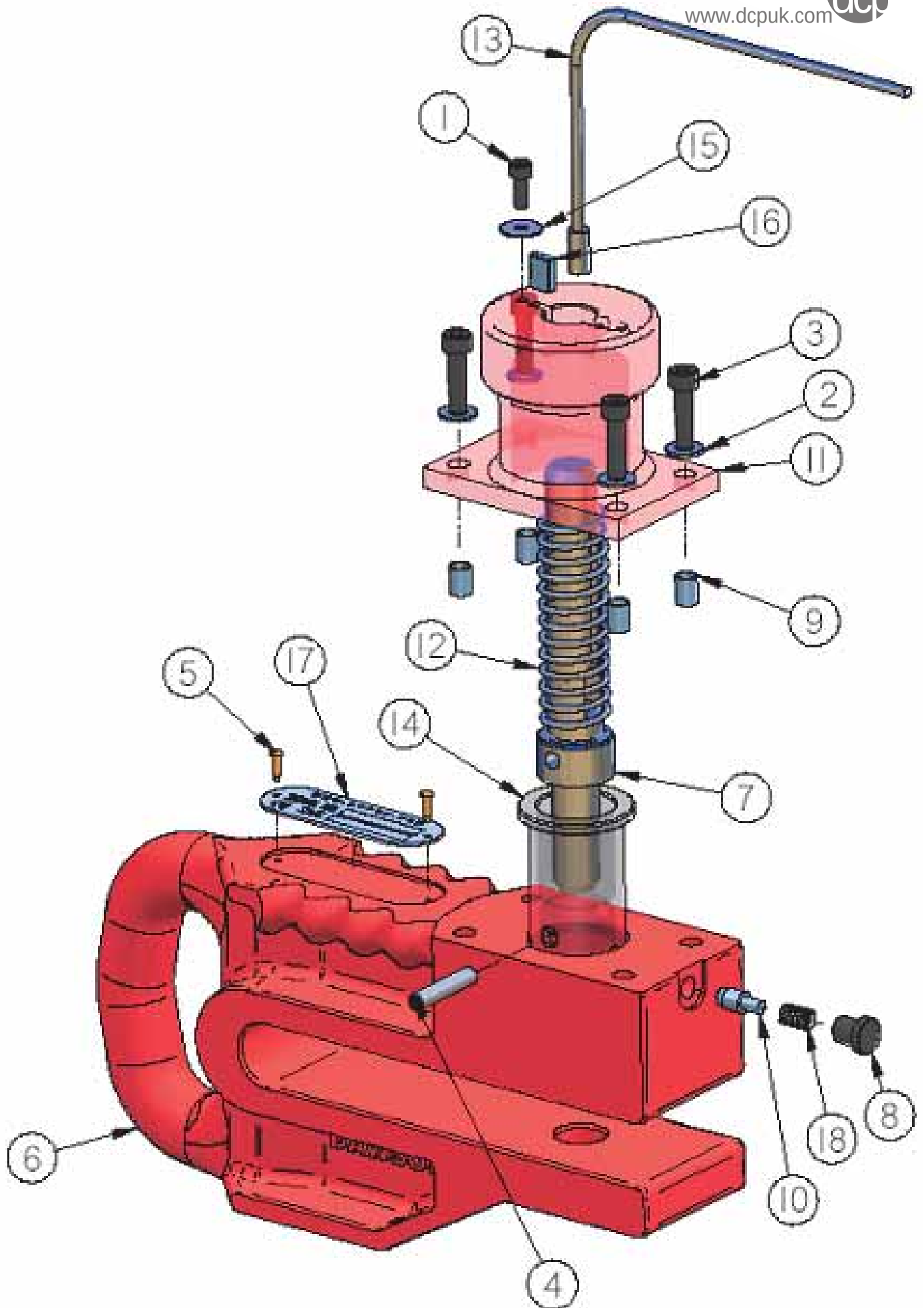
- . Robust High Strength cast steel body. High alloy steel plunger
- . Plunger mechanism concealed for maximum protection
- . Plunger mechanism easily detachable for maintenance
- . Heavy web stiffening to withstand side lift (i.e. 90° to the axis) imposed when lifting piles from a stack
(See “Safety Check List” for correct working practice)



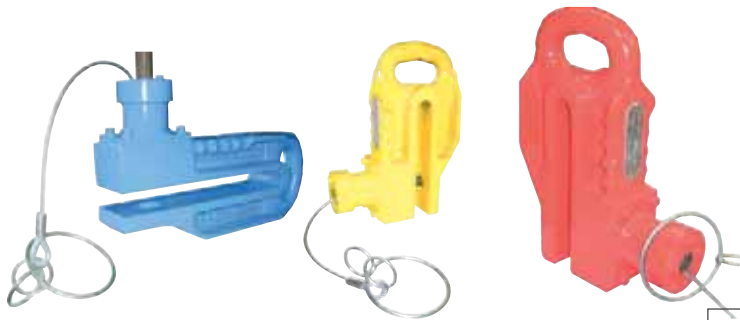
euro ground release shackles

This robust pile lifting shackle was contractor designed and developed over many years of site use and abuse. The use of these shackles compliments the “Feet on the Ground” approach to piling. When used in conjunction with the Sheet Pile Threader, there is no need for site operatives to go above the safety of top frame level for interlocking sheet piles or releasing the lifting shackles. The shackles are suitable for lifting all steel piles up to 28 mm thick and within the safe working load of the shackle. The shackle is stiffened to resist spreading of the forks when lifting at 90° to the axis of the pile. (See “Safety Check List”). When lifting sheet piles in pairs or individual piles weighing more than the Safe Working Load of the shackle, it is necessary to use multiple shackles in order to keep within the safe working load. Pairs of shackles can be supplied mounted on a two legged steel wire rope sling. The advantage being that the standard pair of shackles with lifting sling can be fitted to any pair of Larssen ‘U’ piles, Frodingham ‘Z’ piles, pipe or box piles. No additional parts or change of components is necessary. The ring at the top of the sling can be hooked directly onto a standard crane hook block, ‘D’ shackle or fork anchor. Shackles can also be fitted onto a solid steel cross head according to customers requirements.

Model No.	Description
5983	4T EGRS 150 Throat General Assembly
5984	7.5T EGRS 150 Throat General Assembly
5985	10T EGRS 150 Throat General Assembly
5986	7.5T EGRS 250 Throat General Assembly
5987	10T EGRS 250 Throat General Assembly
GRS-017 ISSA	Optional Remote Release Detent Kit
	SPECIAL SHACKLES
5987A/AL	10T EGRS 250 Throat General Assembly Low Temperature -40C
5990	10T EGRS 250 Throat General Assembly Throat Width - 32.5mm
5991	5T EGRS 250 Throat General Assembly Throat Width - 36mm
5992	10T EGRS 150 Throat General Assembly Throat Width - 35mm
5993	7.5T EGRS 150 Throat General Assembly Throat Width - 35mm



parts list



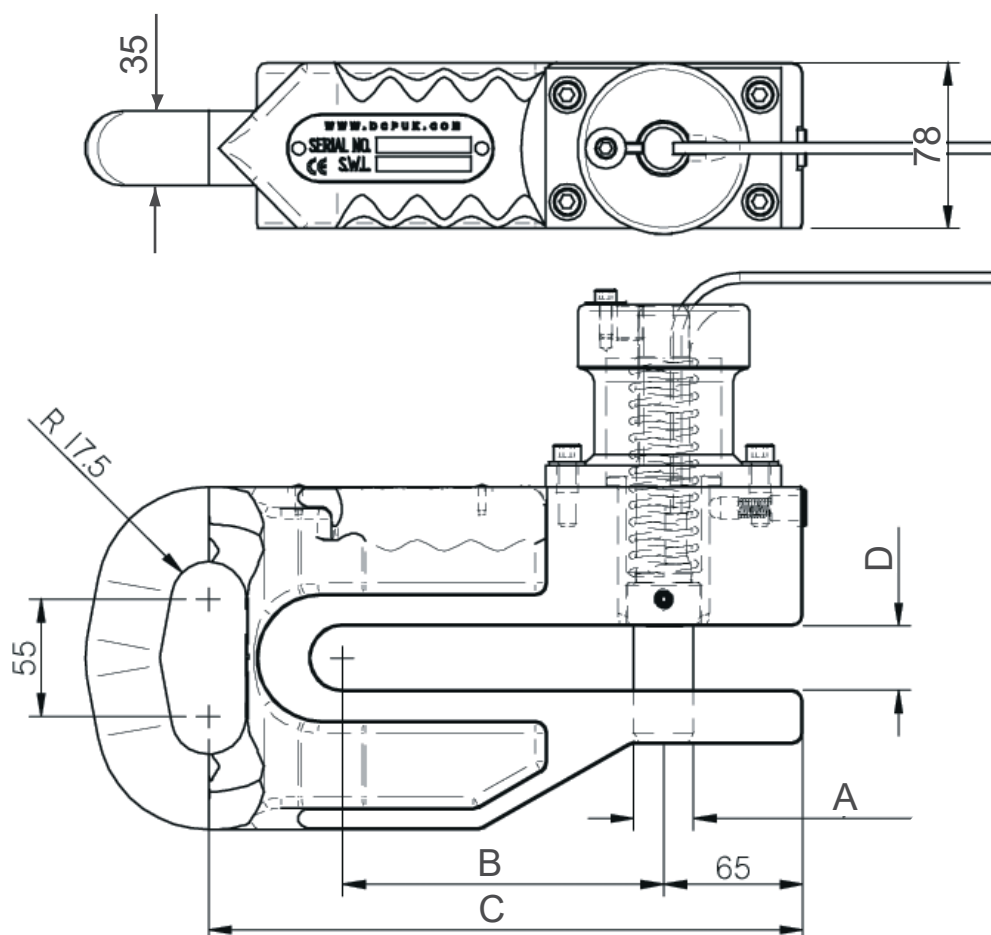
STANDARD SHACKLES

Item No.	Q'ty	Part Name	5983	5984	5985	5986	5987
1	1	Socket Head Cap Screw	0M06.016.02				
2	4	Socket Head Cap Screw	0M08-030-02				
3	4	Washer	0M08.000.20				
4	1	Coiled Spring Pin	0M08.040.36				
5	2	No6 x 1/2" Rivet	1-204-00-01				
6	1	EGRS Throat	5903	5904	5905	5906	5907
7	1	Plunger	5908	5909	5913	5909	5913
8	1	M12 X 1.5 Plug	5915				
9	4	Dowel Bushing	5916				
10	1	Detent Pin	5919				
11	1	Tube Assembly	5922A-B				
12	1	Compression Spring	5926				
13	1	Safety Pull Wire Assy	5930A				
14	1	Sleeve	5931				
15	1	M6 x Ø19 Washer	5936				
16	1	Guide Key	5937				
17	1	Shackle ID Plate	5938				
18	1	Compression Spring	6935				

SPECIAL SHACKLES

Item No.	Q'ty	Part Name	5987 A/AL	5990	5991	5992	5993
6	1	EGRS Throat	5907L	5907W	5906W	5905W	5904W
7	1	Plunger	5913L	5913	5909	5913	5909

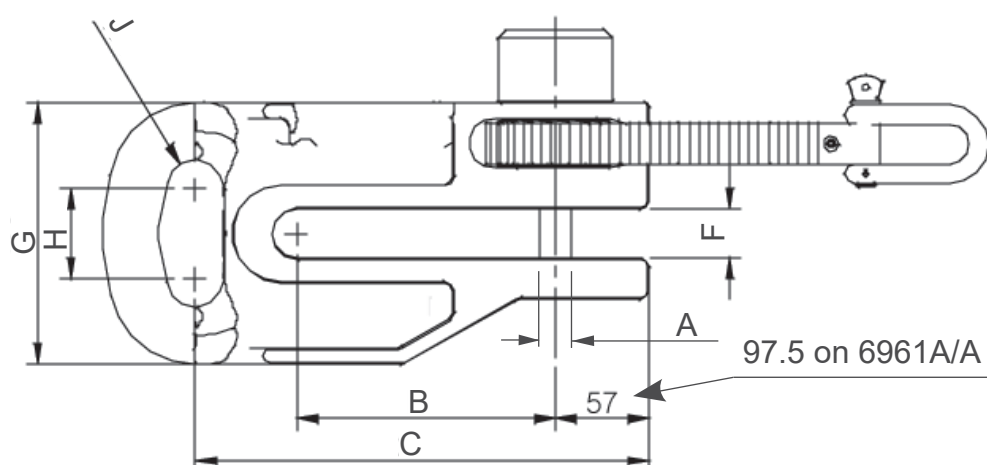
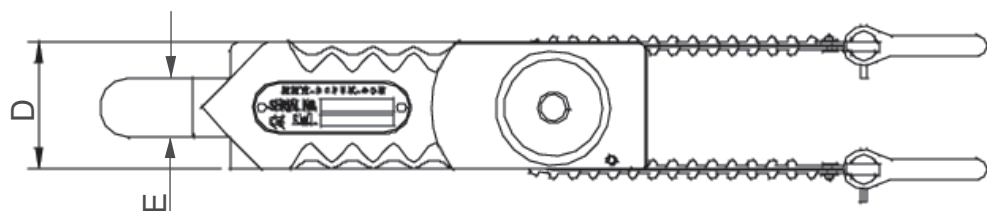
ground release shackle dimension



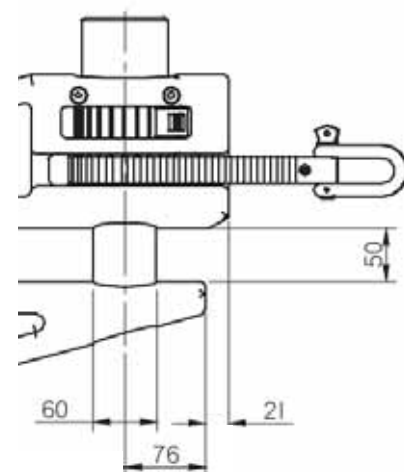
DRAWING No.

	5983	5984	5985	5986	5987	5987A/AL	5990	5991	5992	5993
TYPE (COLOUR)	STANDARD (RED)					LOW TEMP. (BLUE)	WIDE THROAT (YELLOW)			
WEIGHT KG	17.5	17.5	17.5	21.5	21.5	21.5	21.5	21.5	17.5	17.5
A	Ø22	Ø28	Ø35	Ø28	Ø35	Ø35	Ø35	Ø28	Ø35	Ø28
B	150	150	150	250	250	250	250	250	150	150
C	277	277	277	377	377	377	377	377	277	277
D	30	30	30	30	30	30	32.5	36	35	35

ratchet release shackle dimension



3.5T- 10T ERRS 150/250/300 THROAT



40T ERRS 250 THROAT

	Model No.											
	681	682	683	684	686	687	688	689	692A	693A	6961A/A	6962A
WEIGHT	15 kg	19 kg	15 kg	19 kg	19 kg	15 kg	19 kg	15 kg	22 kg	22 kg	48 kg	67 kg
A	Ø20	Ø20	Ø24	Ø24	Ø27	Ø35	Ø35	Ø27	Ø27	Ø35	Ø60	Ø60
B	158	258	158	258	258	158	258	158	303	303	250	239
C	277	377	277	377	377	277	377	277	360	360	423	457
D	78	78	78	78	78	78	78	78	80	80	120	125
E	35	35	35	35	35	35	35	35	40	40	50	60
F	30	30	30	30	30	30	30	30	32	32	50	50
G	160	160	160	160	160	160	160	160	202	202	231	280
H	55	55	55	55	55	55	55	55	60	60	80	80
J	R17.5	R17.5	R17.5	R17.5	R17.5	R17.5	R17.5	R17.5	R20	R20	R27	R40



euro ratchet release shackles

This robust lifting shackle was contractor designed and developed over many years of site use and abuse.

The use of these shackles compliments the “Feet on the Ground” approach to steel erection and pile installation. There is no need for site operatives to go into a dangerous position to release the lifting attachment.

The shackle is stiffened to resist spreading of the forks when lifting at 90° to the axis of the lift (see “Safety Check List”).

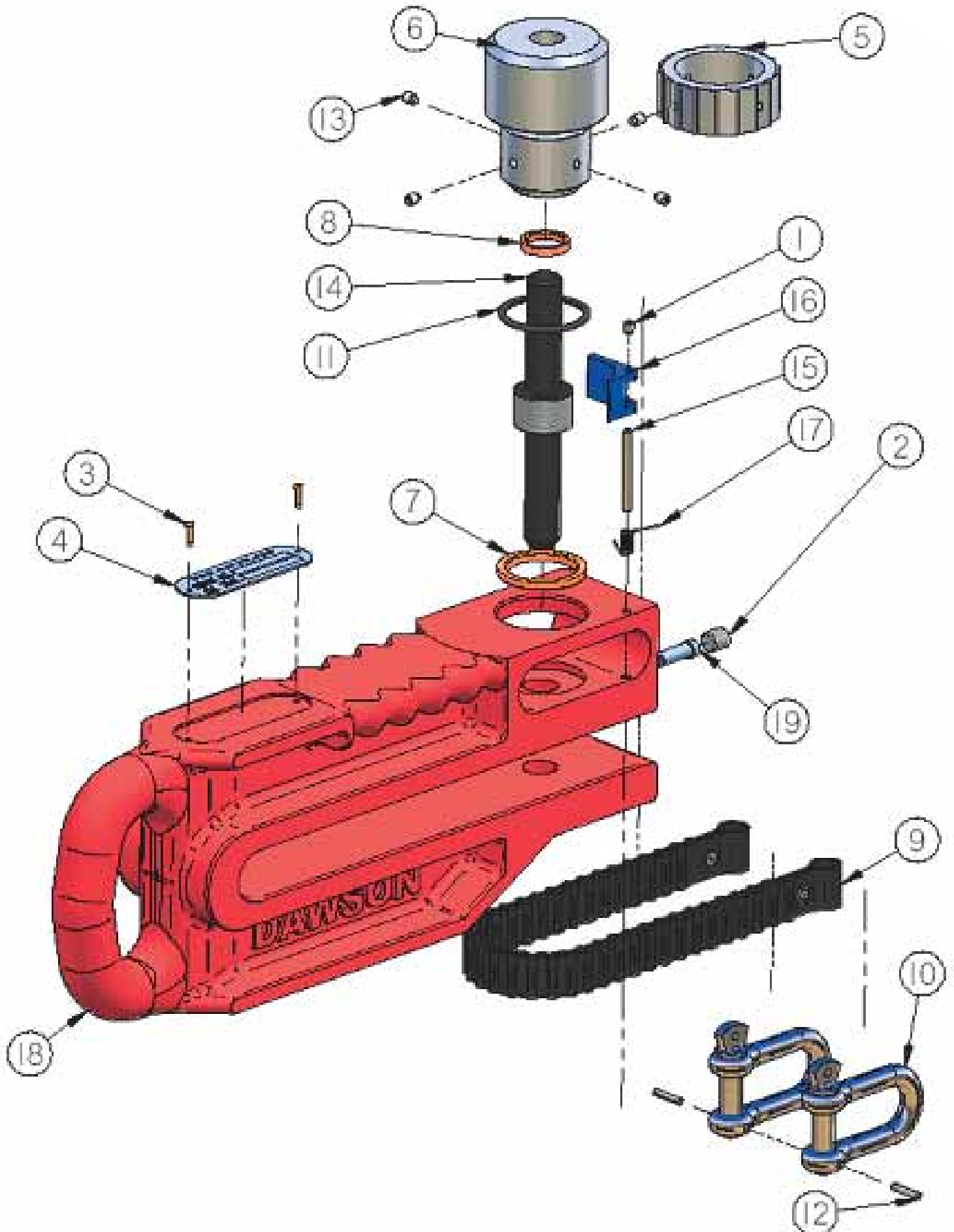
The Ratchet Shackle is designed for lifting steel through standard bolt holes or other units of lift having a suitable hole through which the pin can be conveniently and safely engaged.

FEATURES

- Robust High Strength cast steel body
- Pin mechanism concealed for maximum protection
- Pin mechanism easily detachable for maintenance
- Can be used for lifting columns, pipe piles, sheet piles & steel fabrications
- Heavy web stiffening to withstand side lift (i.e. 90° to the axis) imposed when lifting from the horizontal.

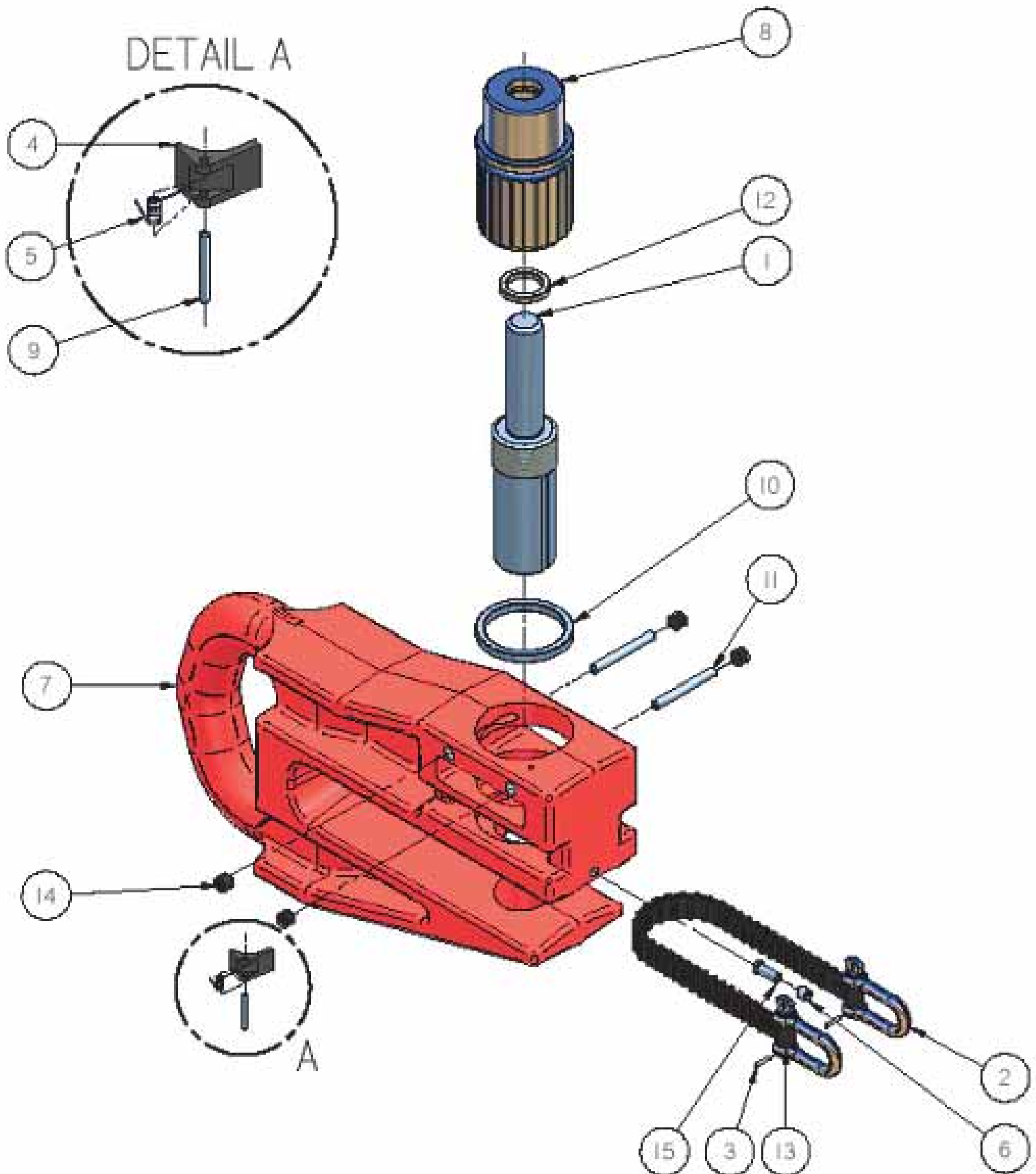
(See “Safety Check List for correct working practice)

Model No.	Description
681	3.5T ERRS 150 Throat General Assembly
682	3.5T ERRS 250 Throat General Assembly
683	5T ERRS 150 Throat General Assembly
684	5T ERRS 250 Throat General Assembly
686	7.5T ERRS 250 Throat General Assembly
687	10T ERRS 150 Throat General Assembly
688	10T ERRS 250 Throat General Assembly
689	7.5T ERRS 150 Throat General Assembly
692A	7.5T ERRS 300 Throat General Assembly
693A	10T ERRS 300 Throat General Assembly
6961A/A	25T ERRS 250 Throat General Assembly
6962A	40T ERRS 250 Throat General Assembly



parts list

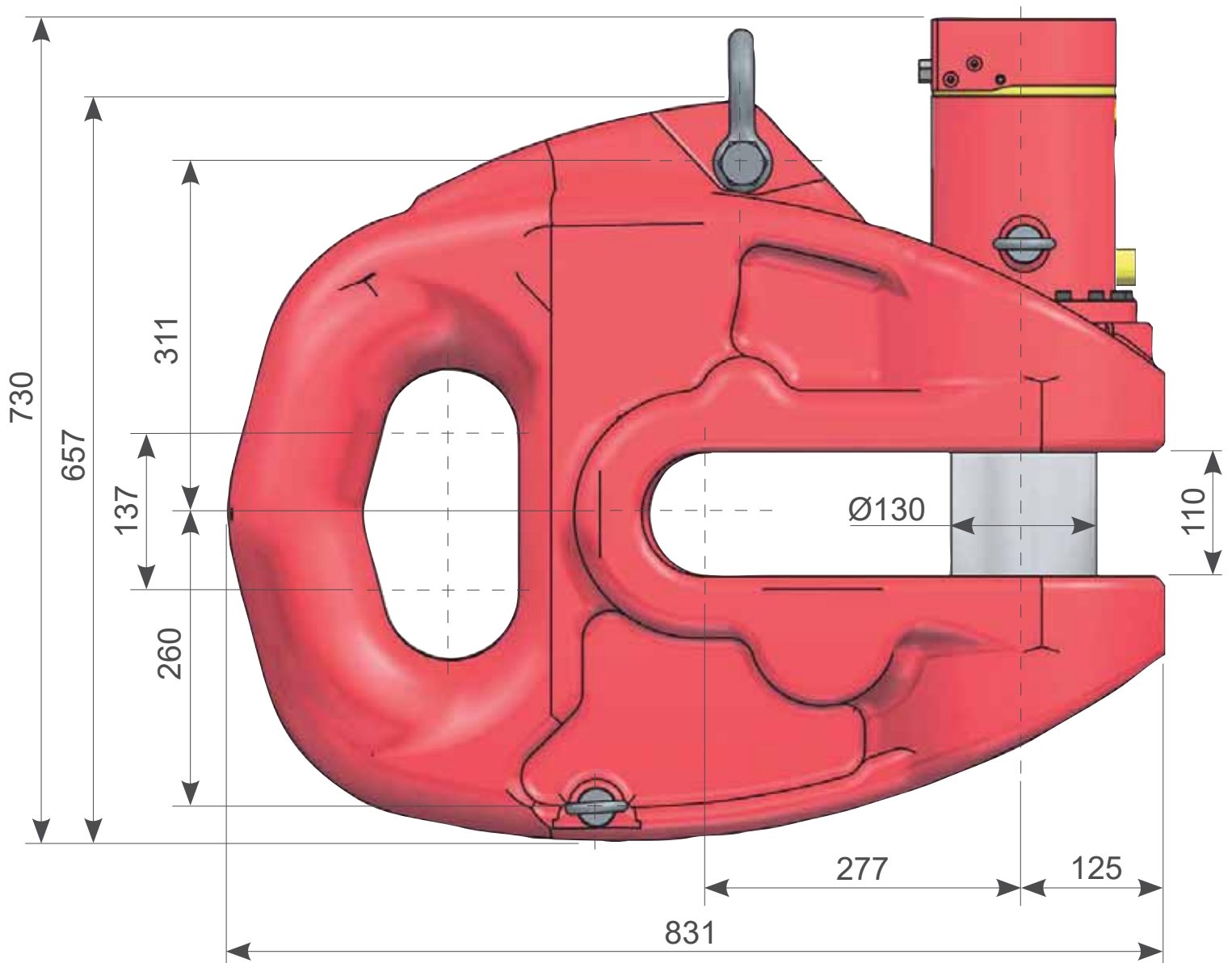
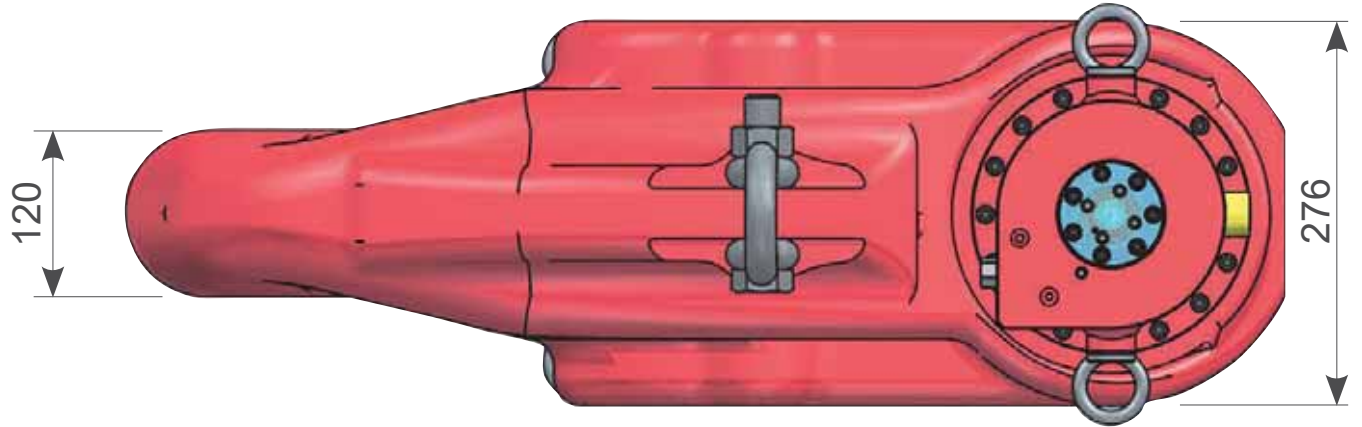
Euro Ratchet Release Shackle													
Item No.	Qty	Part Name	681	682	683	684	686	687	688	689	692A	6961A/A	693A
1	1	Socket Set Screw M6 x 6	0M06.006.05										
2	1	Socket Set Screw M12 x 12	0M12-012-05										
3	2	No.6 x 1/2 " Rivet	1-204-00-01										
4	1	Shackle ID Plate	5938										
5	1	Ratchet Collar Machined	604					642	642	604	604	694	642
6	1	Release Nut	605					643	643	605	605	690	643
7	1	Nylon Ring	606	606	606	606	606	644	644	606	606	692	644
8	1	Nylon Buffer / Rubber Stop	607 / 607R									695	607/607R
9	1	Ratchet Belt Assy	608A									6936A	608A
10	2	Small D Shackle	609										
11	1	O-Ring	610									697	610
12	2	Spring Pin	0M04.020.22										
13	4	Dog P't Grub Screw	0M06.008.16										
14	1	Threaded Pin	621	621	671	671	601	641	641	601	601	674	641
15	1	Pivot Pin	626										
16	1	Pawl	627										
17	1	Pawl Spring	628										
18	1	ERRS Main Body	661/A	666/A	662/A	667/A	668/A	664/A	669/A	663/A	678	670	679
19	1	Guide Peg	6942										



parts list

40T Ratchet Release Shackle			
Item No.	Quantity	Part Name	6962A
1	1	Threaded Pin	6912
2	2	Small D Shackle	609
3	2	Spring Pin	0M04.020.22
4	1	Pawl	627
5	1	Pawl Spring	628
6	1	M12x12 Flat Nose Grub Screw	0M12.012.05
7	1	Main Body	6902/A
8	1	Release Nut	6920
9	1	Pivot Pin	6923
10	1	Bearing Washer	6930
11	2	Location Bar	6931
12	1	Nylon / Rubber Buffer Stop	6932 / 6932R
13	1	Ratchet Belt Assembly	6936A
14	4	Plain Cup Point Set Screw	0M16.016.05
15	1	Guide Pin	6942

Weight:
Shackle = 410kg
Shackle and Stand = 645kg



100t hydraulic release shackle

The Dawson 100 ton release shackle has been specifically designed for use on large tubes, and when used as a pair, tubes weighing up to 200 tons can be lifted.

The pin size is 130mm Diameter and is retracted and engaged hydraulically with a hand pump mounted on the ground complete with spooler to keep the hose under control.

The hose length is 60mts allowing long piles to be positioned; because the pin is released hydraulically the operator does not need to be directly underneath the shackle.

The shackle and spooler are mounted into a fabricated frame so that loading and unloading or moving around the job site is just a single crane lift.

FEATURES

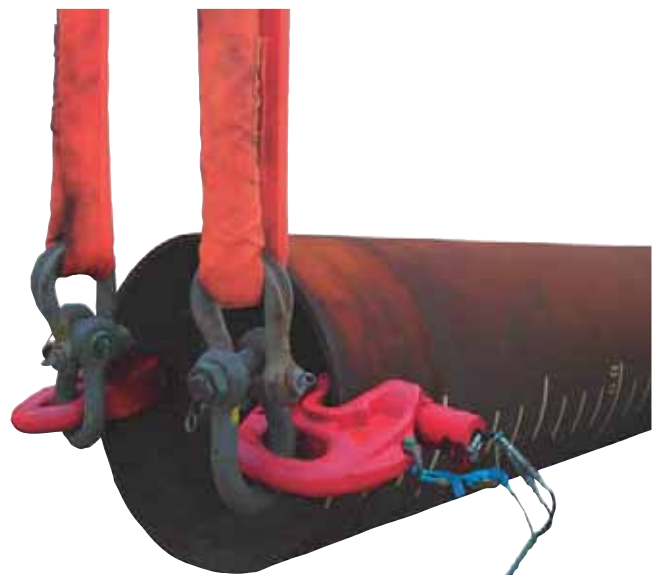
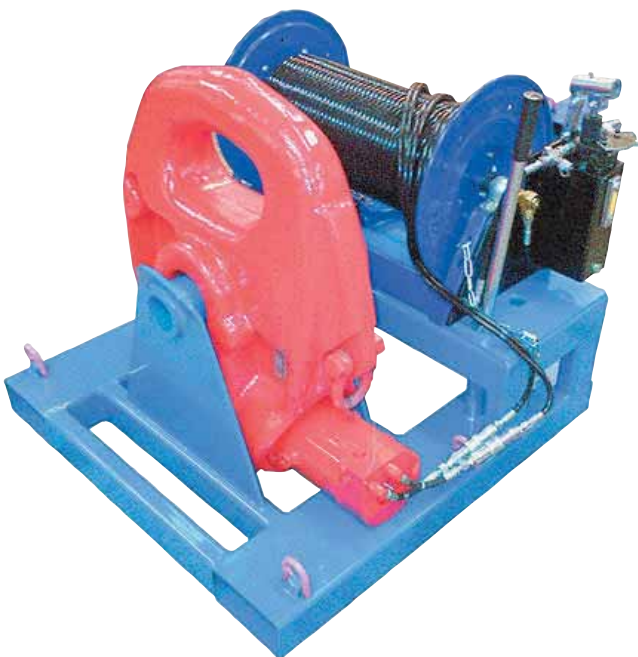
High strength cast steel body.

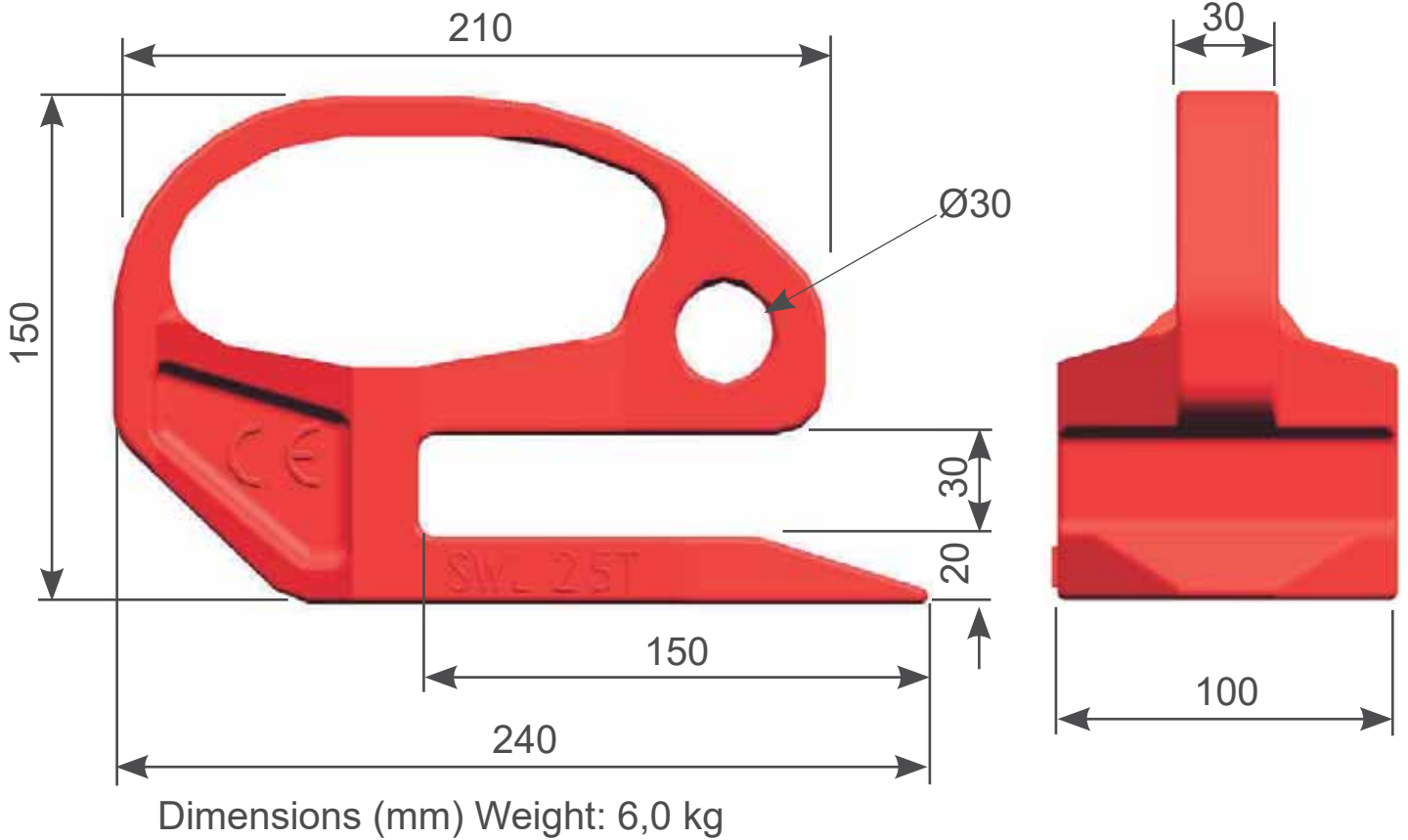
Pin and hydraulic ram are easily removed for easy maintenance.

Main body tested to 5 times SWL

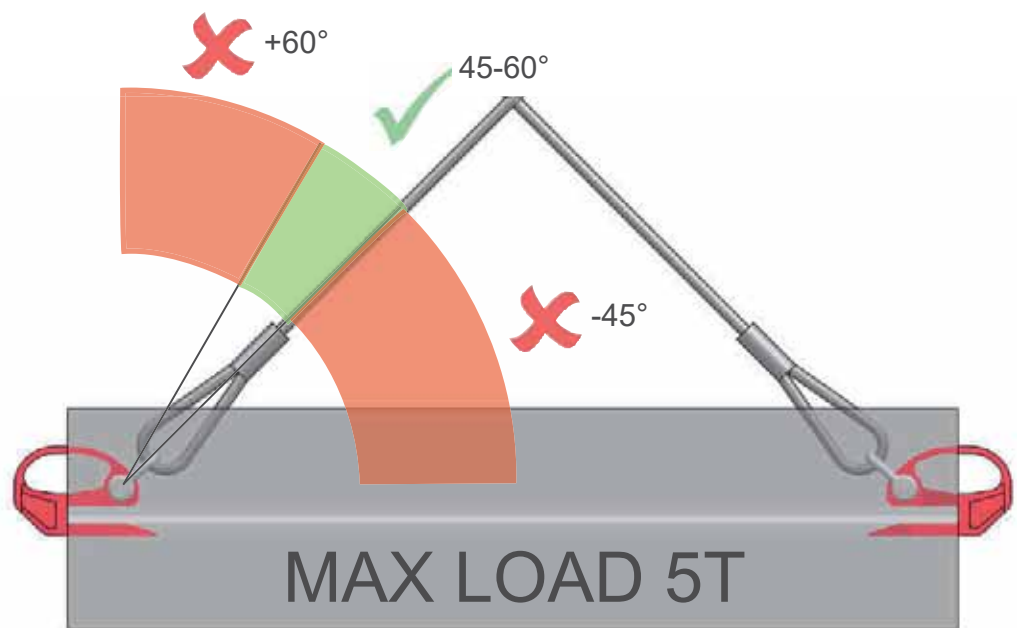
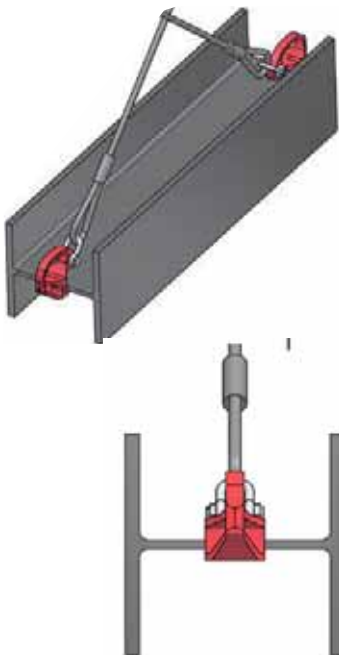
Each shackle is proof tested to 2 times SWL

Hydraulic pin release.





Lifting Angle Range 45-60°
Sling legs must be of equal length.
Angles less than 45° could result in an over loading of the equipment.



steel handling shoe



SWL 2.5 tonnes

For safe handling of steel sections and splitting from stacks.

The DCP Lifting Shoe is purpose designed for handling structural sections of steel in workshops, stockyards and on construction sites.

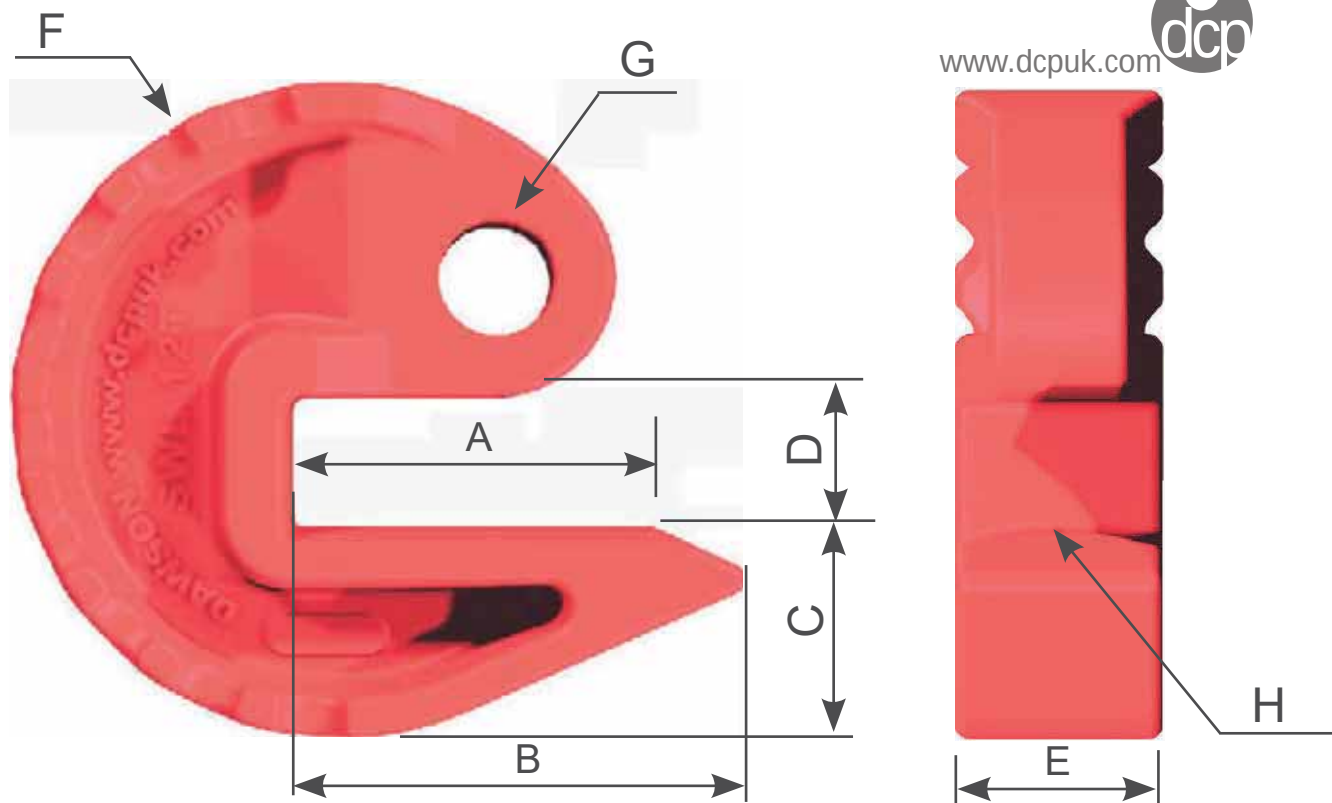
Shoes should be used in pairs on steel wire rope or chain slings or on a spreader beam.

QUALITY ASSURANCE

Body - high quality alloy steel casting.

Inspection procedures:

- 20% batch x-ray
- 100% ultrasonic inspection
- 100% MPI

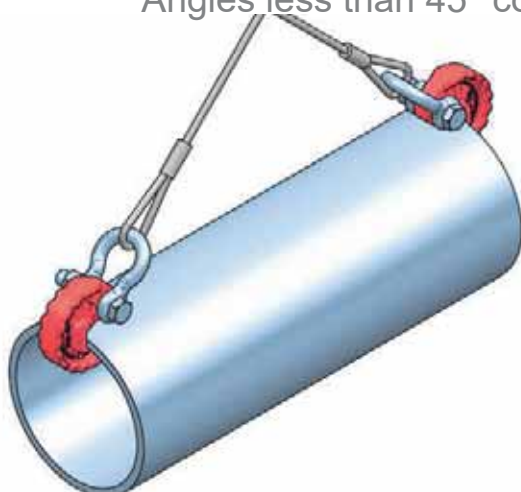


Model	Dimensions							
	A	B	C	D	E	F	G	H
12 tonne	140	175	80	50	80	R125	Ø45	R124
16 tonne	164	190	88	60	100	R143	Ø54	R305
24 tonne	235	260	122	80	120	187	Ø62	R305

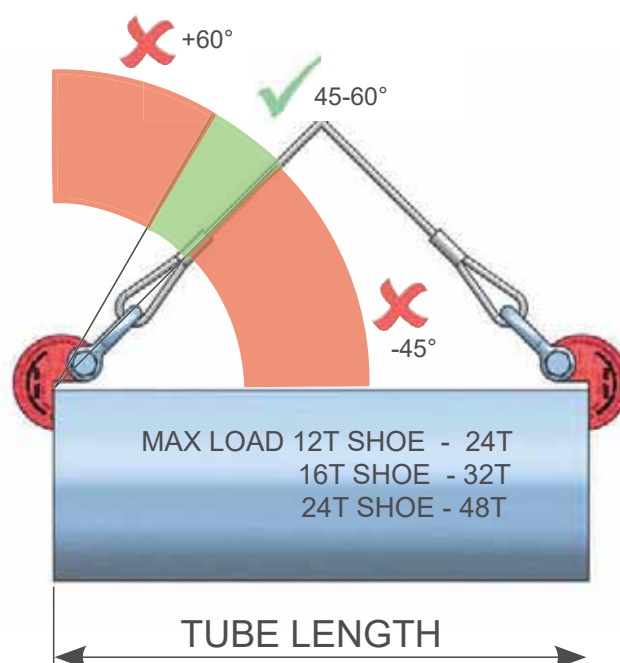
Lifting Angle Range 45-60°

Sling legs must be of equal length.

Angles less than 45° could result in an over loading of the equipment.

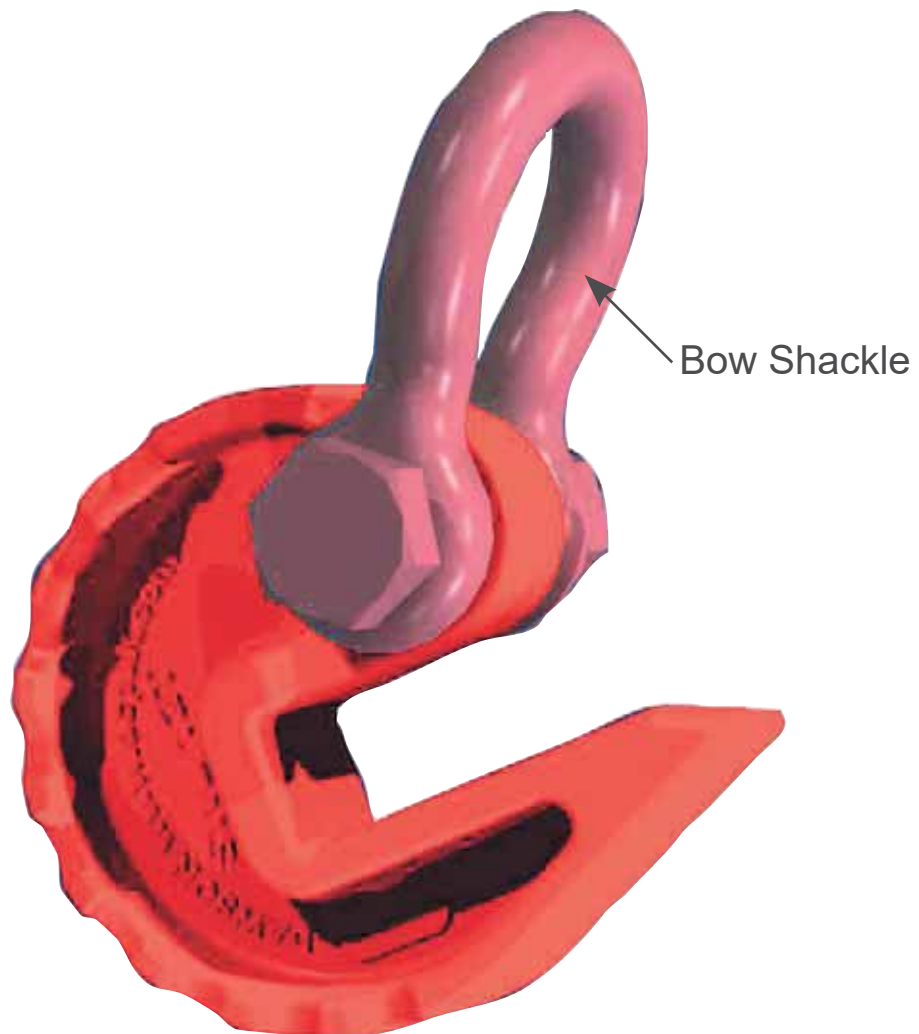


TUBE LENGTH	MIN. SLING LEG LENGTH
5M	3.5M
10M	7M
20M	14M
30M	21M



$$1/2 \text{ TUBE LENGTH} \times 1.414 = \text{MIN SLING LEG LENGTH}$$

pipe lifting shoe

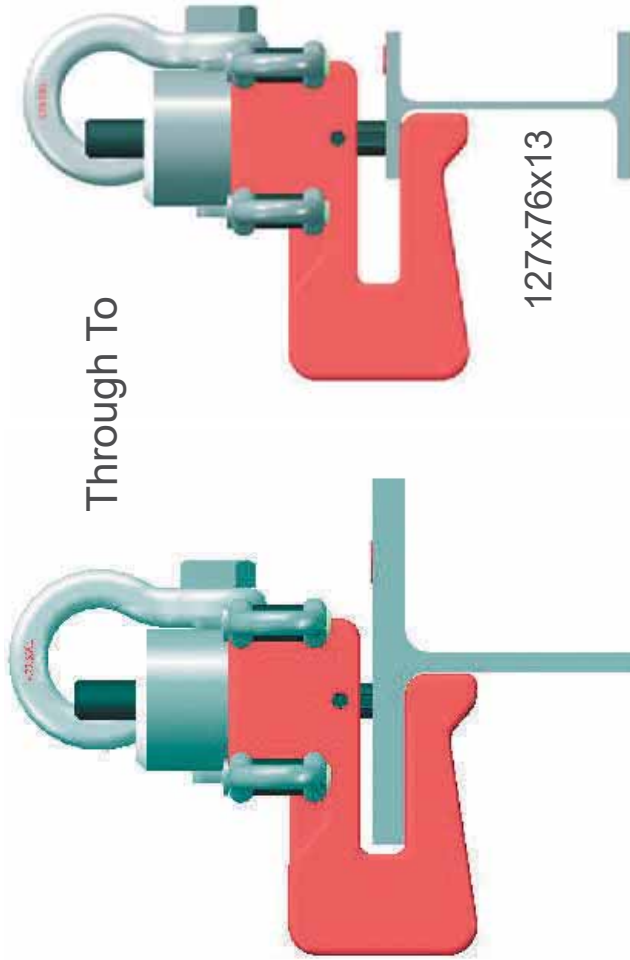


12 / 16 / 24 tonne

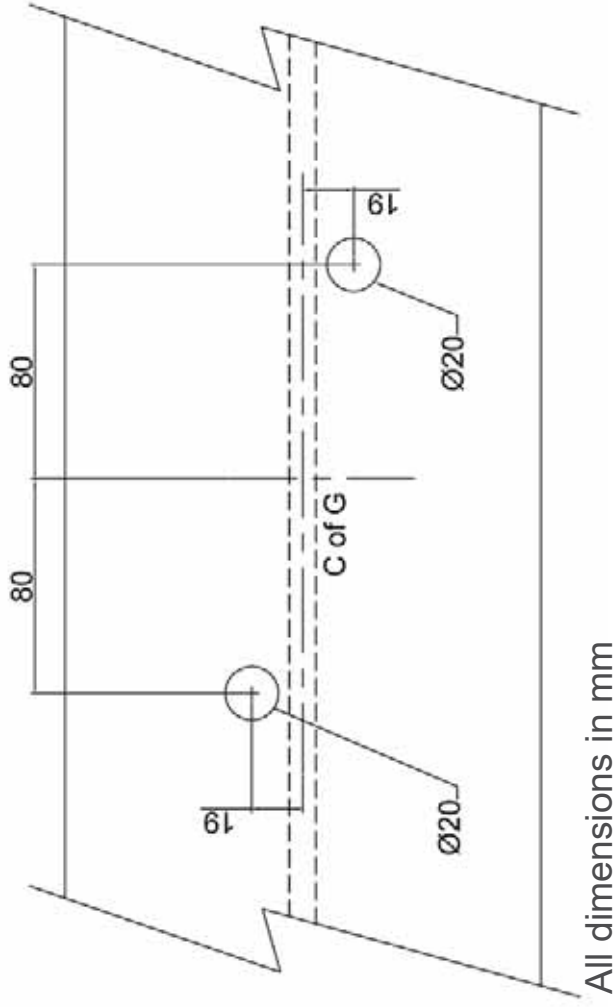
The 12 / 16 / 24 tonne pipe lifting shoes are made from a high grade cast steel allowing weight reduction to be made in the design. New features include a radial profile engagement face and all round grip handling ridges.

	12 tonne	16 tonne	24 tonne
Part Number	908	909	910
Total Weight of shoe & shackle	25 kg	38.5 kg	67.5 kg
Weight of Shoe	17.25 kg	25 kg	47.5 kg
SWL per pair	24 tonne	32 tonne	48 tonne
SWL Bow Shackle	17 tonne	25 tonne	35 tonne

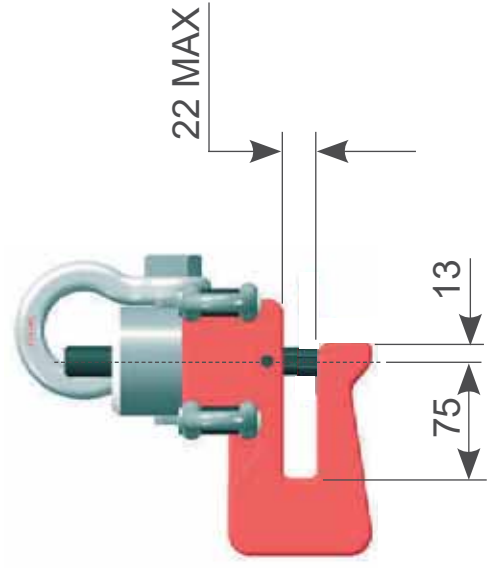
One hole of $\varnothing 20$ mm in the flange, positional in either of the places shown is all that's required



Through To



What Beam Size?



euro ratchet beam shackle



SWL 3.0 tonnes

The Ratchet Release Beam Shackle is designed to enable steel beams to be lifted into position, and for the shackle to be disconnected safely and efficiently from a remote position. Achieving this result makes the work, faster, more economical and safer.



universal sheet pile threader

The Dawson Universal Sheet Pile Threader has been developed to enable a safe, easy and productive method of pitching sheet piles. The need for a “top man” is eliminated as all operations can be performed at ground or top frame level. The Universal Sheet Pile Threader can be set up for virtually all Larssen and Z section sheet piles, and once set correctly will quickly interlock the piles with one simple movement. Care should be taken during the set-up procedure to ensure that each adjustment is accurately set, extra time spent here will be saved tenfold during operation.

Within one pile section there may be several variations. On a “Z” section interlocks are usually different at each end. The leading can also be left or right hand.

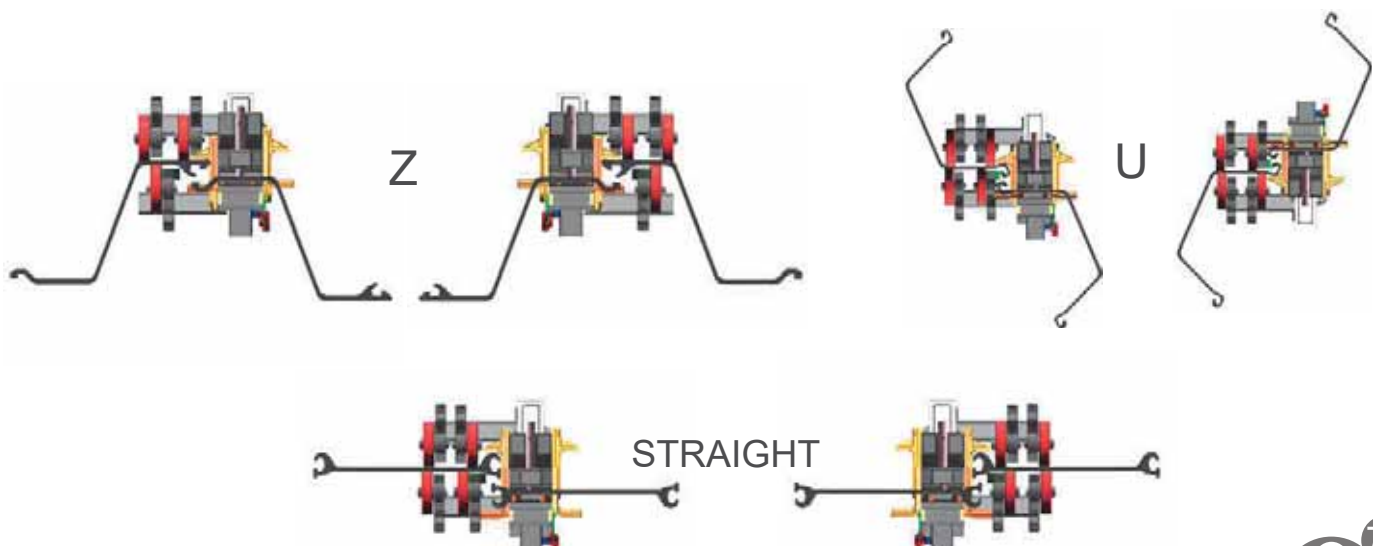
The Universal Sheet Pile Threader can accommodate these variations with the simple adjustment of roller positions.

This can be accomplished on site by offering the Sheet Pile Threader up to a pile and adjusting the rollers to the correct position. They are now set for a left or right hand threading.



USPT Weights & Dimensions

Part Number	Complete Assembly	Complete Assembly in Aluminium Case	Roller Assembly	Threading Head Assembly	Dimensions of Aluminium Case
T00-00-02A	51 kg	64 kg	27 kg	24 kg	780x580x400



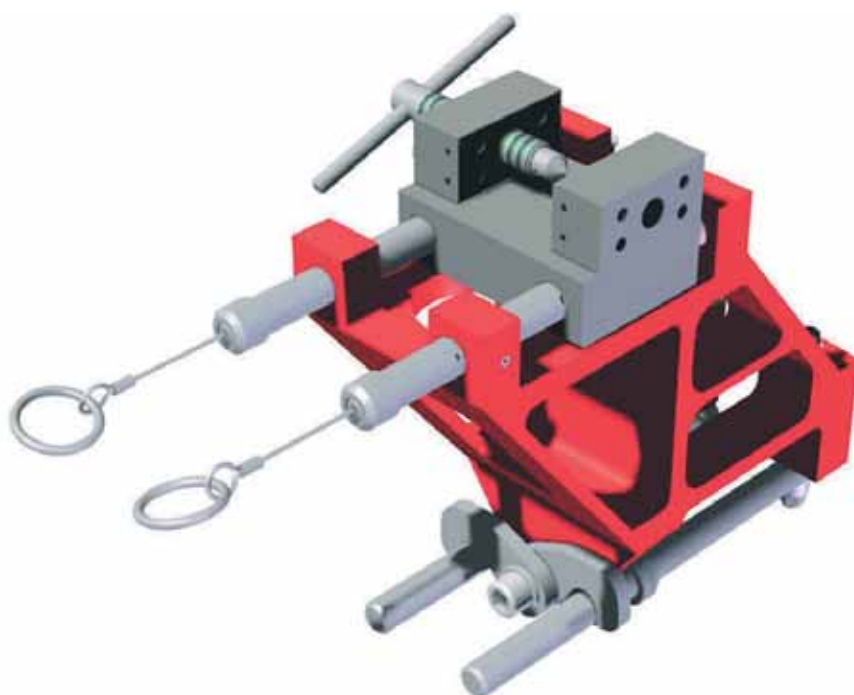
sheet pile threader

Sheet Pile Threaders offer a complete 'feet on the ground' approach to steel sheet piling when used in conjunction with remote Release Shackles. Improve productivity and working safety.

The one basic guide frame is standard for ALL "Z" section piles, ALL straight web piles and "U" piles of size 2 and upwards. Below this size may require modifications to the main frame, but the principal of operation remains the same.

The different sections are accommodated simply by inserting appropriate rollers onto the lower spindles which form part of the lower clamp. These rollers fit the pile profile to give positive and accurate location. Different stop plates are attached to the top grip to suit different pile sections.

SPT Model	Weight	Part Number
Standard Aluminium Body	21 kg	T050A
Heavy Duty Steel Body	40 kg	T051



pile extraction clamp

Finish the extraction of steel piles safely and productively. Once extracted the piles can be laid down precisely where required, avoiding the pitfalls of releasing piles from the jaws of a vibrator

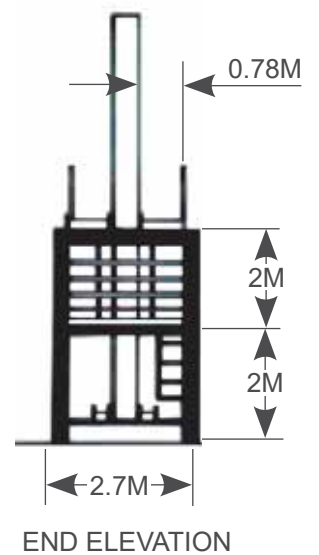
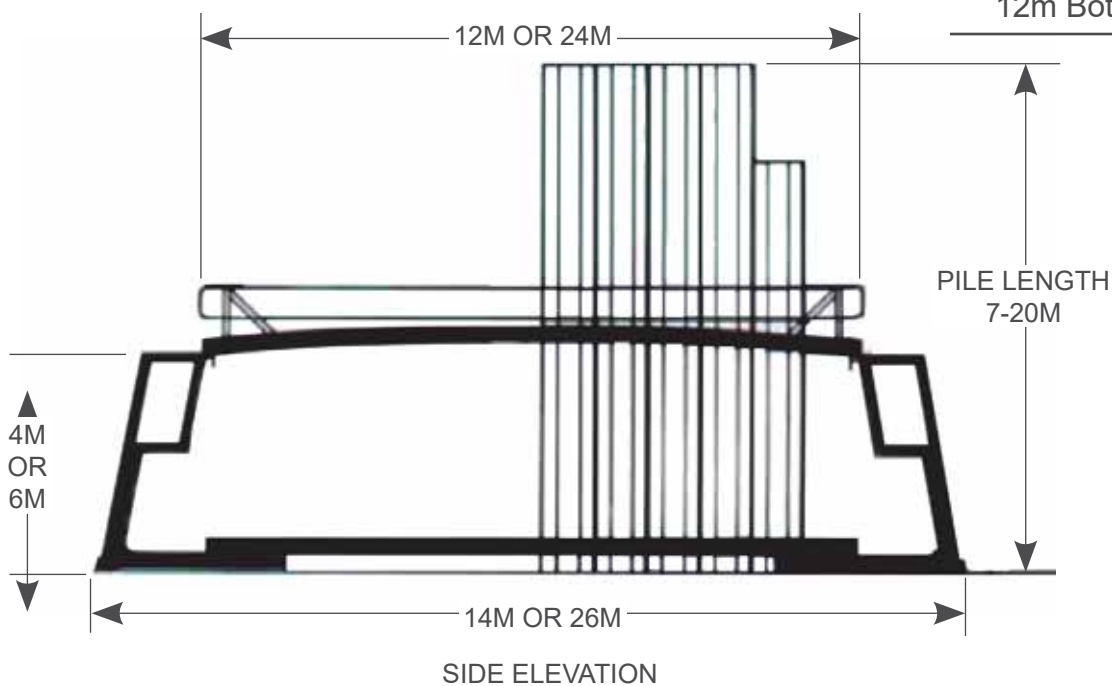
Pile Extraction Clamp Weights & Dimensions

Model	Maximum Extracting Force	SWL	Weight of Clamp	Part Number	Lifting Hole in Pile
20T	20 tonne	2.5 tonne	305 kg	PEC 20T	Min Ø40 mm 150 mm From Pile Top
40T	40 tonne	2.5 tonne	500 kg	PEC 40T	Min Ø35 mm 150 mm From Pile Top

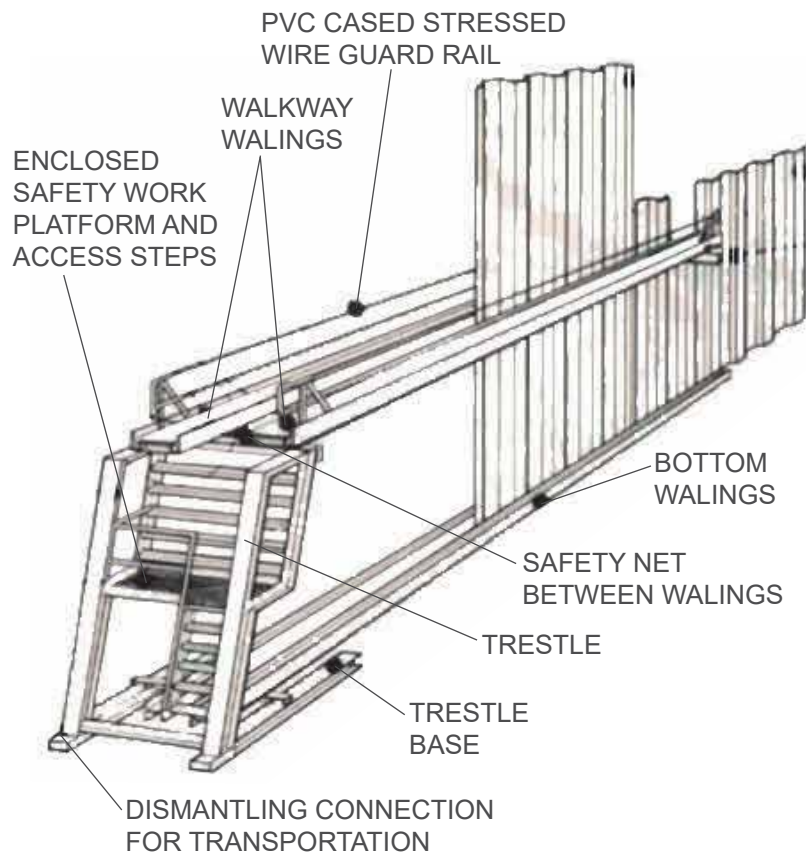




	Weight
4m Trestle	2.5T
6m Trestle	3.0T
12m Walkway Waling	2.8T
24m Walkway Waling	6.2T
12m Bottom Waling	1.8T



sheet pile guide frames



A complete temporary guide frame system to hold and support a panel of steel piles whilst they are installed. Guide walings are incorporated at two levels to provide precise guidance and support.

Upper walings are designed as personnel walkways in accordance with current regulations, end trestles provide safe personnel access and full structural support. The system readily transports as one load and can be quickly assembled on site using proprietary connectors. Working panel lengths of either 12 or 24 m (40' or 80') can be accommodated with upper walings at either 4 or 6 m (13' or 20').



pile points & splicers

A range of products are available that enhance the performance and productivity of driven piling. Pile Points help to protect the leading edge of the driven pile thus maintaining its chosen mechanical properties. These are available to suit: pipe piles; sheet piles; timber and H-piles. Piles Splicers speed-up the alignment and butt-welding of piles being joined end to end. They are available for pipe as either drive on or weld on items, and for H piles as weld on only.

Key Features

- . Reinforce the pile toe, increasing the piles resistance to buckling, maintaining the profiles shape
- . Reduce skin friction in certain ground conditions minimising installation forces
- . Improve the end bearing for load bearing piles
- . Cast-in “cutting teeth” help to break debris and boulders then cut into rock for full bearing, even on inclined strata
- . May permit the use of lighter piling sections in some applications e.g. pipe piles
- . Can help to reduce surface damage to coated piles during installation
- . Points available to suit: pipe, sheet, timber and H-piles



soil characteristics

The following table shows the density in relation to penetrometer and pressuremeter-test results for **non-cohesive** soils:

Standard penetration test - dynamic SPT N_{30}	Cone penetration test - static CPT q_s MN/m ²	Pressuremeter Test		Density
		pl MN/m ²	E MN/m ²	
< 4	2.5	< 0.2	1.5	very loose
4 to 10	2.5 to 7.5	0.2 to 0.5	1.5 to 5.0	loose
10 to 30	7.5 to 15	0.5 to 1.5	5.0 to 15	medium dense
30 to 50	15 to 25	1.5 to 2.5	15 to 25	dense
> 50	> 25	> 2.5	> 25	very dense

The consistency of **cohesive** soils in relation to SPT, CPT and pressuremeter-test results is as follows:

SPT # N_{30}	CPT q_s MN/m ²	Pressuremeter Test		Consistency	Undrained shear strength kN/m ²
		pl MN/m ²	E_M MN/m ²		
< 2	< 0.25	< 0.15	1.5	very soft	< 20
2 to 4	0.25 to 0.5	0.15 to 0.35	1.50 to 5.25	soft soft to firm	20 to 40 40 to 50
4 to 8	0.5 to 1.0	0.35 to 0.55	5.25 to 8.25	firm firm to stiff	50 to 75 75 to 100
8 to 15	1.0 to 2.0	0.55 to 1.0	8.25 to 20	stiff	100 to 150
15 to 30	2.0 to 4.0	1.0 to 2.0	20 to 40	very stiff	150 to 200
> 30	> 4.0	> 2.0	> 40	hard	> 200

The correlations between the different methods of soil tests are not based on any standards. Each methods gives its own specific classification of the subsoil. The tables serve only as an aid to the user to complement his or her own experience.

SPT values are not normally used for evaluating clay layers. NOTE: 1 MN/m² = 10 bar

driving system characteristics

Different types of soil present varying driving characteristics dependent upon the driving system to be adopted.

Driving in **non-cohesive** or principally cohesionless ground

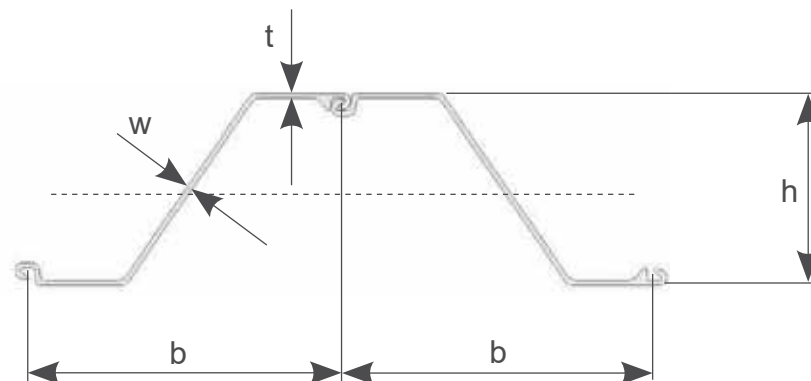
Driving Method			
SPT value	Vibrodrive	Impact drive	Pressing in singles
0 - 10	Very easy	Runaway problem - use vibro method to grip pile	Stability problem & insufficient reaction
10 - 20	Easy	Easy	Suitable
21 - 30	Suitable	Suitable	Suitable
31 - 40	Suitable	Suitable	Consider pre-auger
41 - 50	Very difficult	Suitable - consider high yield steel	Pre- auger
50+	Not Recommended	Suitable - consider high yield steel	Very Difficult

The selection of a suitable pile section for driving into cohesive strata is a complex process and the section choice is usually based on previous experience. However it is possible to assess the driving resistance using the surface area of the piling profile and the characteristics of the cohesive strata. The following table may be used for preliminary assessment.

Driving in **cohesive** strata

Driving Method			
SPT value	Vibrodrive	Impact drive	Pressing in singles
0 - 15	Easy	Runaway problem - use vibro method to grip pile	Possible stability problem & insufficient reaction
16 - 25	Suitable	Easy	Easy
26 - 50	Suitable - becoming less effective with depth	Suitable	Easy
51 - 75	Very difficult	Suitable	Suitable
76 - 100	Not Recommended	Suitable	Suitable
100+	Not Recommended	Suitable	Difficult

PILE SECTIONS - Z



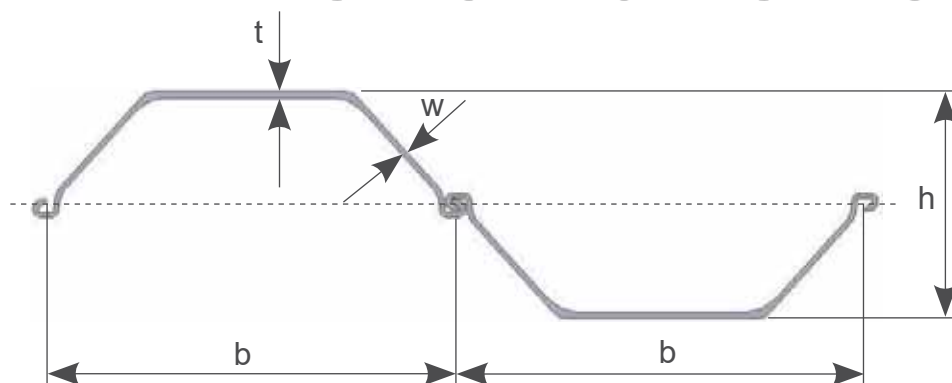
	Z Section	Width b (mm)	Height h (mm)	Thickness		Mass		Elastic section Modulus (cm ³ /m)	Moment of Inertia (cm ⁴ /m)
				Flange t (mm)	Web w (mm)	Pile (kg/m)	Wall per m ² (kg/m ²)		
Chaparral	PZC 12	708	318	8.5	8.5	69.1	97.6	1200	19080
	PZC 13	708	319	9.5	9.5	75.1	106	1300	20755
	PZC 14	708	320	10.7	10.7	81.8	115.5	1400	22445
	PZC 17	635	386	8.5	8.5	69.1	108.8	1670	32235
	PZC 18	635	387	9.5	9.5	75.1	118.2	1800	34890
	PZC 19	635	388	10.7	10.7	81.8	128.8	1945	37780
	PZC 25	708	449	14.2	12.3	103.3	145.9	2455	55190
	PZC 26	708	450	15.2	13.3	110	155.4	2600	58460
	PZC 28	708	451	16.4	14.5	117.6	166.1	2755	62145
	PZC 34	630	505	15.7	14.3	115.4	183.2	3430	86685
	PZC 36	630	506	16.6	15.2	121.7	193.2	3600	91140
	PZC 38	630	507	17.7	16.3	129.2	205.1	3800	96450
	PZ 22	559	235	9.5	9.5	110.6	-	990	11620
	PZ 27	457	307	9.5	9.5	135.1	-	1660	25580
	PZ 35	575	384	15.4	12.7	170.8	-	2635	50455
	PZ 40	500	417	15.2	12.7	195.2	-	3300	68645



Note - Information shown for guidance only.
Please refer to manufacturer for latest information.

	Z Section	Width b (mm)	Height h (mm)	Thickness		Mass		Elastic section Modulus (cm ³ /m)	Moment of Inertia (cm ⁴ /m)
				Flange t (mm)	Web w (mm)	Pile (kg/m)	Wall per m ² (kg/m ²)		
ArcelorMittal	AZ 12-770	770	344	8.5	8.5	72.6	94.3	1245	21430
	AZ 13-770	770	344	9.0	9.0	76.1	98.8	1300	22360
	AZ 14-770	770	345	9.5	9.5	79.5	103.2	1355	23300
	AZ 12-700R	700	314	8.5	8.5	67.7	96.7	1205	18880
	AZ 13-700R	700	315	9.5	9.5	74.0	105.7	1305	20540
	AZ 14-700R	700	316	10.5	10.5	80.3	114.7	1405	22190
	AZ 17-700	700	420	8.5	8.5	73.1	104.4	1730	36230
	AZ 18-700	700	420	9.0	9.0	76.5	109.3	1800	37800
	AZ 19-700	700	421	9.5	9.5	80.0	114.3	1870	39380
	AZ 20-700	700	421	10.0	10.0	83.5	119.3	1945	40960
	AZ 24-700	700	459	11.2	11.2	95.7	136.7	2430	55820
	AZ 26-700	700	460	12.2	12.2	102.9	146.9	2600	59720
	AZ 28-700	700	461	13.2	13.2	110.0	157.2	2760	63620
	AZ 36-700N	700	499	15.0	11.2	118.6	169.5	3590	89610
	AZ 38-700N	700	500	16.0	12.2	126.4	180.6	3795	94840
	AZ 40-700N	700	501	17.0	13.2	134.2	191.7	3995	100080
	AZ 17	630	379	8.5	8.5	68.4	109	1665	31580
	AZ 18	630	380	9.5	9.5	74.4	118	1800	34200
	AZ 18	800	449	8.5	8.5	80.7	100.9	1840	41320
	AZ 19	630	381	10.5	10.5	81.0	129	1940	36980
	AZ 20	800	450	9.5	9.5	88.6	110.7	2000	45050
	AZ 22	800	451	10.5	10.5	96.4	120.5	2165	48790
	AZ 23	800	474	11.5	9.0	94.6	118.2	2330	55260
	AZ 25	630	426	12.0	11.2	91.5	145	2455	52250
	AZ 25	800	475	12.5	10.0	102.6	128.2	2500	59410
	AZ 26	630	427	13.0	12.2	97.8	155	2600	55510
	AZ 27	800	476	13.5	11.0	110.5	138.1	2670	63570
	AZ 28	630	428	14.0	13.2	104.4	166	2755	58940
	AZ 28	750	509	12.0	10.0	100.8	134.4	2810	71540
	AZ 30	750	510	13.0	11.0	108.8	145	3005	76670
	AZ 32	750	511	14.0	12.0	116.7	155.6	3200	81800
	AZ 46	580	481	18.0	14.0	132.6	229	4595	110450
	AZ 48	580	482	19.0	15.0	139.6	241	4800	115670
	AZ 50	580	483	20.0	16.0	146.7	253	5015	121060

PILE SECTIONS - U



	U Section	Width b (mm)	Height h (mm)	Thickness		Mass		Elastic section Modulus (cm ³ /m)	Moment of Inertia (cm ⁴ /m)
				Flange t (mm)	Web w (mm)	Pile (kg/m)	Wall per m ² (kg/m ²)		
Hoesch	L 755	750	450	11.7	10.0	95.6	127.5	2000	45000
	L 703	700	400	9.5	8.0	67.5	96.4	1210	24200
	L 703 K	700	400	10.0	9.0	72.1	103	1300	25950
	L 704	700	440	10.2	9.5	80.5	115	1600	35200
	L 600	600	150	9.5	9.5	56.4	94	510	3840
	L 600 K	600	150	10.0	10.0	59.4	99	540	4050
	L 601	600	310	7.5	6.4	46.3	77.2	745	11520
	L 602	600	310	8.2	8.0	53.4	89	830	12870
	L 603	600	310	9.7	8.2	64.8	108	1200	18600
	L 603 K	600	310	10.0	9.0	68.1	113.5	1240	19220
	L 604	600	380	10.5	9.0	74.5	124.2	1620	30710
	L 605	600	420	12.5	9.0	83.5	139.2	2020	42370
	L 605 K	600	420	12.2	10.0	86.7	144.5	2030	42550
	L 606 n	600	435	14.4	9.2	94.2	157	2500	54375
	L 607 n	600	452	19.0	10.6	114	190	3200	72320
	L 23	500	420	11.5	10.0	77.5	155	2000	42000
	L 24	500	420	15.6	10.0	87.5	175	2500	52500
	L 24/12	500	420	15.6	12.0	92.7	185.4	2550	53610
	L25	500	420	20.0	11.5	103	206	3040	63840
	L 43	500	420	12.0	12.0	83	166	1660	34900

	U Section	Width b (mm)	Height h (mm)	Thickness		Mass		Elastic section Modulus (cm ³ /m)	Moment of Inertia (cm ⁴ /m)
				Flange t (mm)	Web w (mm)	Pile (kg/m)	Wall per m ² (kg/m ²)		
ArcelorMittal	AU 14	750	408	10.0	8.3	77.9	104	1410	28710
	AU 16	750	411	11.5	9.3	86.3	115	1600	32850
	AU 18	750	441	10.5	9.1	88.5	118	1780	39300
	AU 20	750	444	12.0	10.0	96.9	129	2000	44440
	AU 23	750	447	13.0	9.5	102.1	136	2270	50700
	AU 25	750	450	14.5	10.2	110.4	147	2500	56240
	PU 12	600	360	9.8	9.0	66.1	110	1200	21600
	PU 18	600	430	11.2	9.0	76.9	128	1800	38650
	PU 22	600	450	12.1	9.5	86.1	144	2200	49460
	PU 28	600	454	15.2	10.1	101.8	170	2840	64460
	PU 32	600	452	19.5	11.0	114.1	190.2	3200	72320
	GU 6N	600	309	6.0	6.0	41.9	69.9	625	9670
	GU 7N	600	310	6.5	6.4	44.1	73.5	675	10450
	GU 8N	600	312	7.5	7.1	48.5	80.9	770	12010
	GU 13N	600	418	9.0	7.4	59.9	99.8	1270	26590
	GU 14N	600	420	10.0	8.0	64.3	107.1	1400	29410
	GU 15N	600	422	11.0	8.6	68.7	114.5	1530	32260
	GU 16N	600	430	10.2	8.4	72.6	121.0	1670	35950
	GU 18N	600	430	11.2	9.0	76.9	128.5	1800	38650
	GU 20N	600	430	12.2	9.5	81.1	135.2	1920	41320
	GU 21N	600	450	11.1	9.0	81.9	136.5	2060	46380
	GU 27N	600	452	14.2	9.7	97.4	162.3	2680	60580
	GU 31N	600	452	18.5	10.6	109.9	183.2	3065	69210
	GU16-400	400	290	12.7	9.4	62	154.9	1560	22580



Note - Information shown for guidance only.
Please refer to manufacturer for latest information.

useful information

Linear Measure

1 inch	= 25.4 mm	1 mm	= 0.03937 inch
1 foot	= 0.3048 m	1 cm	= 0.3937 inch
1 yard	= 0.9144 m	1 m	= 3.2809 feet or 1.0936 yds
1 mile	= 1.6093 km	1 km	= 0.6214 mile

Square Measure

1 sq inch	= 645.16 mm ²	1 cm ²	= 0.155 sq in
1 sq foot	= 0.0928 m ²	1 m ²	= 10.7639 sq ft or 1.196 sq yds
1 sq yard	= 0.8361 m ²	1 hectare	= 2.4711 acres
1 acre	= 0.4047 hectare		
1 sq mile	= 259 hectares	1 km ²	= 247.105 acres
1 hectare	= 10,000 m ²		

Cubic Measurement

1 cubic inch	= 16.387 cm ³	1 mm ³	= 0.000061 cubic in
1 cubic foot	= 0.0283 m ³	1 m ³	= 35.3147 cubic ft or 1.308 cubic yds
1 cubic yard	= 0.7646 m ³		

Weight

1 oz	= 28.35 kg	1 g	= 0.0353 oz
1 pound	= 0.4536 kg	1 kg	= 2.2046 lb
1 ton	= 1.016 tonnes or 1016 Kg	1 tonnes	= 0.9842 ton

Velocity

1 ft/min	= 5.08 mm/sec	1 mm/sec	= 0.19685 ft/min
1 mile/hour	= 1.609334 km/hr	1 km/hour	= 0.621371 miles/hr

Stress

1 lbf/in ²	= 0.006895 N/m ²	1 N/m ²	= 145.038 lbf/in ²
1 tonf/in ²	= 15.444 N/m ²	1 N/mm ²	= 0.6350 tonf/in ²

Density

1 lb/ft ³	= 16.085 kg/m ³	1 kg/m ³	= 0.062428 lb/ft ³
1 lb/gallon	= 0.099766 g/cm ³	1 g/cm ³	= 10.0224 lb/gallon

Pressure

1 in H₂O = 1.868mm Hg

1 bar = 0.9869 atm

1 lbf/ft² = 47.88N/m²

1 bar = 14.5 psi

1 mm Hg = 0.5352 in H₂O

1 atm = 1.013 bar

1 N/m² = 0.02089 lbf/ft²

1 psi = 0.0689655 Bar

Flow rates

1 gall/min = 0.2728 m³/hour

1 ft³/min = 0.4719 litres/min

1m³/hour = 3.666 gallons/min

1 litre/sec = 2.119 ft³/minute

Torque

1 lbf in = 0.1130Nm

1 lbf ft = 0.1383kg f m

1Nm = 8.851 lb ft

1kgf m = 7.233lb ft

Typical Density of Materials

Concrete = 2400 kg/m³

Ally = 2700 kg/m³

Steel = 7850 kg/m³

Water = 1000 kg/m³

notes



D.C.P. RESERVES THE RIGHT TO DISCONTINUE EQUIPMENT AT ANY TIME, OR CHANGE SPECIFICATIONS OR DESIGNS WITHOUT NOTICE OR INCURRING OBLIGATIONS

INNOVATIVE PILING EQUIPMENT

HYDRAULIC PILING HAMMERS

EXCAVATOR MOUNTED VIBRATORS

EXCAVATOR MOUNTED DRILLS

QUIET, VIBRATIONLESS PUSH-PULL PILING

PILE EXTRACTION

SHEET PILE GUIDE FRAMES

SHEET PILE CAPPING SYSTEMS

CFA CLEANERS

PILE POINTS & SPLICERS

SAFETY HANDLING / LIFTING EQUIPMENT

SHEET PILE THREADERS

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CHESNEY WOLD,
BLEAK HALL
MILTON KEYNES
MK6 1NE, ENGLAND
TEL: +44 (0) 1908 240300
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