DAWSON
OFFSHORE HAMMERS

contents


DAWSON
HPH10000
HPH10000

Principal Advantages:

> Patented drive system

> Unrivalled production rates – rapid blow rates save time and money, shortening product duration

> Rapid blow rates – 'chisel' through compacted sands, out-driving heavier, slower hammers

> High energy transfer efficiency to the pile – smaller hammer outperforms older, more cumbersome equipment

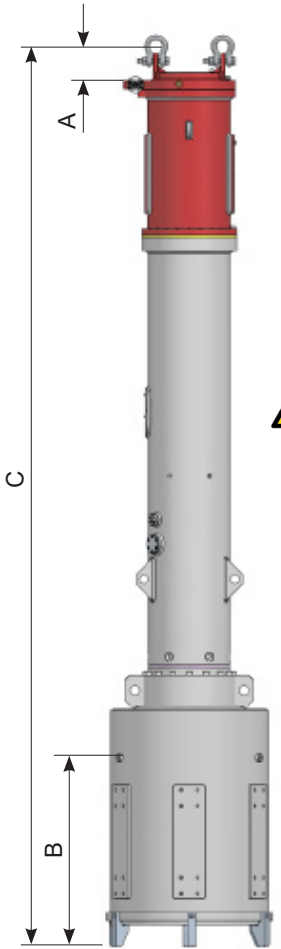
> Variable energy output – stepless adjustment between limits at the touch of a button, with single or automatic blow regulation, these hammers offer complete control of the driving process

> 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 freely-suspended or leader mounted

> All Dawson hammers can operate underwater in excess of 100 metres depth



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

SPECIFICATION			UNITS	HAMMER MODEL	
		HAMMER		CRH5000	CRH10000
RAM WEIGHT			kg	4,068	8,000
			lbs	8,968	17,650
IMPACT VELOCITY			m/s	5.00	5.00
			ft/s	16.36	16.40
MAXIMUM IMPACT ENERGY			kNm	50	100
			ft lb	36,878	73,750
MAXIMUM MOMENTUM			kg.m/s	20,340	40,000
			lbs ft/s	147,120	289,460
BLOW RATE			bpm	80-120	60-120
WEIGHT - WITH GUIDE SLEEVE	Ø914		kg	10,700	21,000
			lbs	-	46,300
	Ø1220		kg	-	22,300
			lbs	-	49,160
	Ø1450		kg	-	24,000
			lbs	-	52,900
	Ø1530		kg	-	-
			lbs	-	-
GUIDE SLEEVE TO SUIT MAX. TUBE DIA. (mm)	Ø914 Ø1220 Ø1450 Ø1530		B	- - - -	6800 6861 6800 -
	Ø914 Ø1220 Ø1450 Ø1530		C	- - - -	1373 1375 1310 -
		TUBE GUIDES	A	128	120

CRH10000

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

The Bearing Capacities tabulated 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 x 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.

Dawson Offshore Heritage

Dawson Offshore Heritage

technical specifications

	CRH5000/10000
Pack Type	DCP270
Engine	Caterpilar Diesel Tier 4f / Stage 5
Max. power	186 kW
Max. operating pressure	270 bar
Max. oil flow	270 l/min
Diesel oil	490 l
Hydraulic oil	540 l
Weight (estimate)	4250 kg
Dimensions (LxWxH)	3375 x 1550 x 1970 mm

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 any water contamination.

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:

> Hard driving with pile recoiling
> Soft driving with a running pile
> Cold hydraulic oil on start up
> Raking piles

INTERFACE SCREEN MOUNTED ON POWER PACK

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 power pack 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.

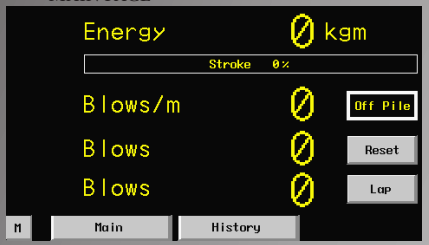
The main screen displays bar graphs showing hammer stroke & hydraulic oil temperature.

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.

MAIN PAGE



HISTORY PAGE

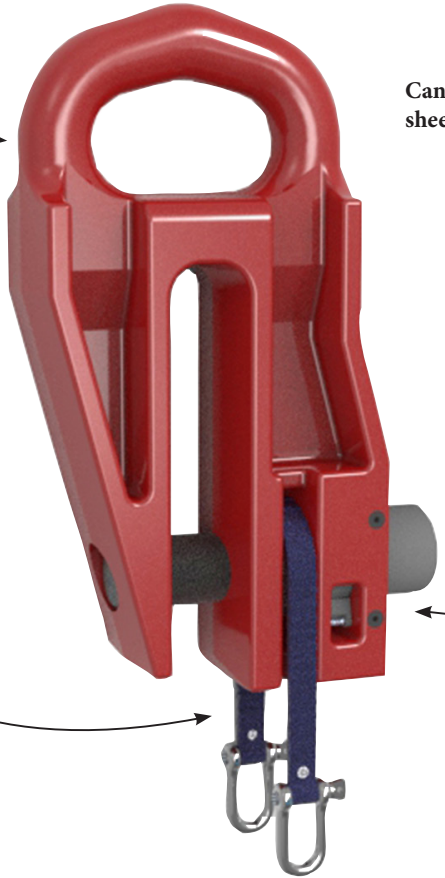
TYPICAL SCREEN SHOTS

pile logger app

Available from Google Play and App Store for both Android and Apple. A new Dawson Pile logger app can be download to your mobile device.
Pile driving information can be viewed and stored such as:

- > blows
- > blows per minute
- > last blow energy
- > average energy
- > penetration

40t remote release shackles

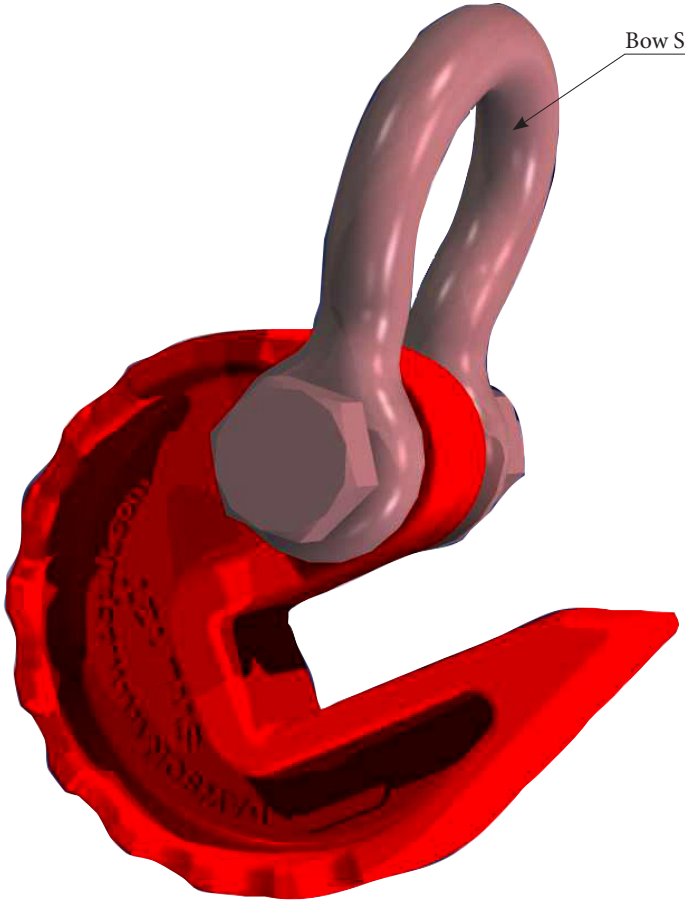


Robust high strength cast steel body.
Proof loaded to twice the SWL.
Designed to five times the SWL.

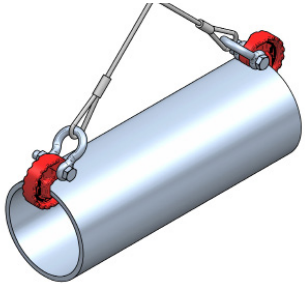
Can be used for lifting columns, pipe piles, sheet piles & steel fabrications.

'Feet on the ground' approach
Ratchet Belt for ease of use release once the pile is in position.

Simple repair & upkeep
Parts are easily maintained and serviceable.



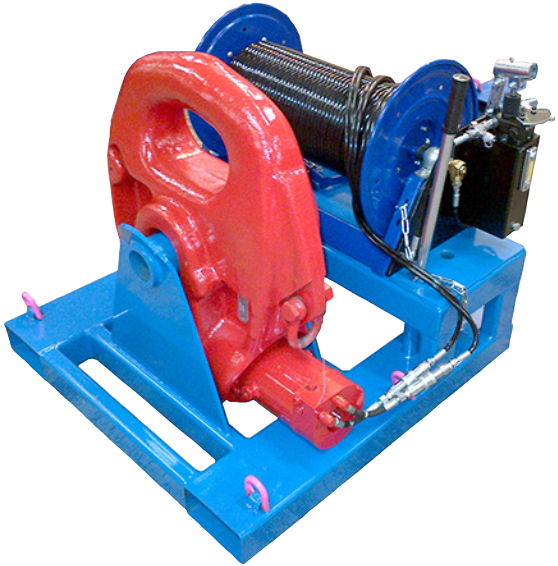
pipe handling shoes



12 / 16 / 24 tonne

The 12 / 16 / 24 tonne pipe handling 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.

100t hydraulic release shackle



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

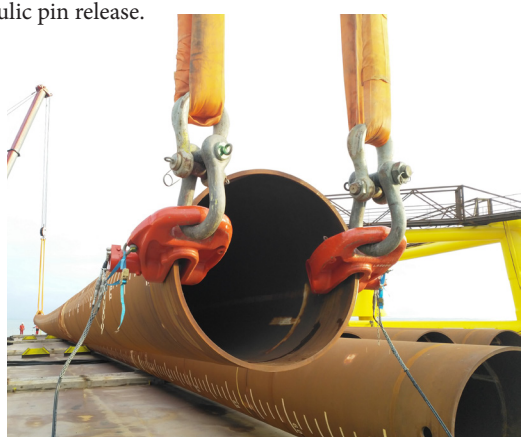
The pin size is 130mm diameter and is retracted and engaged hydraulically with a hand pump mounted on the ground complete with spooler to keep the hose under control.

The hose length is 60m 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.
> Hydraulic pin release.

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Alt 12.93
DAWSON
CONSTRUCTION PLANT
subsea rov shackle

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