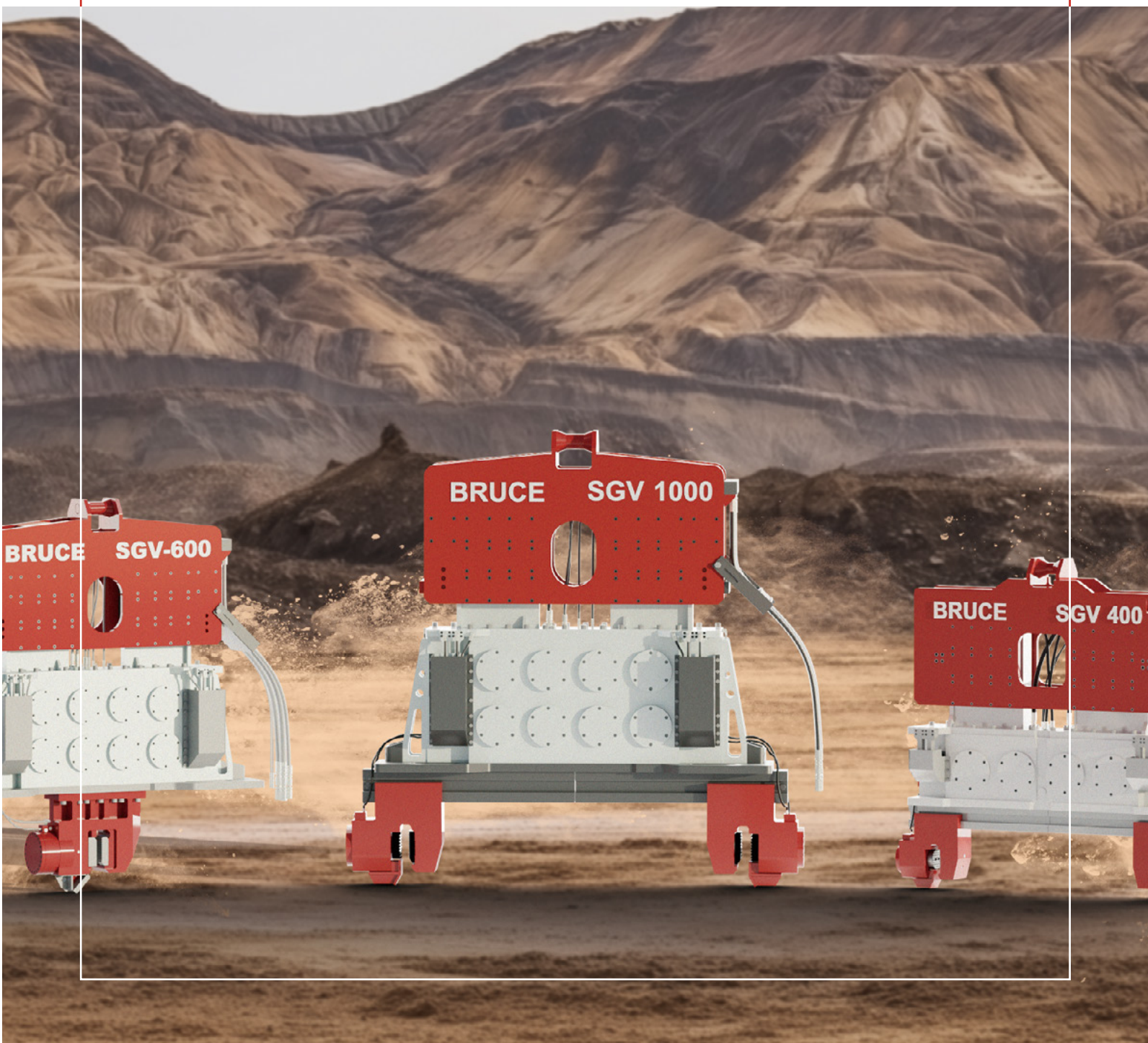
BRUCE®
PILING EQUIPMENT

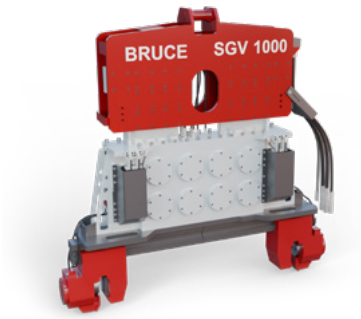
BRUCE VIBRO HAMMER

PILE DRIVING & EXTRACTING

CRANE SUSPENDED TYPE



01 VIBRATORY HAMMER INTRODUCTION



Hydraulic vibro hammers are a highly versatile tool for driving and extracting various types of piles. They are well-suited for both onshore and offshore applications, with the capacity to operate at considerable depths.

BRUCE PILING EQUIPMENT, a globally reputable manufacturer and supplier of vibro hammers, has introduced a wide range of vibro hammers, including suitable power packs.

These power packs are economically advantageous, ensuring high performance and efficient vibratory hammering.

BRUCE PILING EQUIPMENT has a wide range of applications in driving and extracting sheet piles, steel pipes, casing piles, H-beam piles and other profiles. These features include adjustable vibro frequency, reduced vibrating effect on the crane and noise reduction, along with hydraulic systems to perform piledriving work. The equipment is available with a wide selection of clamps, elastomer rubbers and other accessories.

02 OUTSTANDING FEATURES OF BRUCE VIBRATORY HAMMERS

VARIETY RANGE OF VIBRO HAMMERS

BRUCE Vibro hammers have wide range capacity models with Eccentric Moments from 11.5 kgm to 220 kgm, Centrifugal Forces from 510 kN to 4610 kN can be selected for a customer needs.

BRUCE Vibratory hammers are equipped with most quality and efficient hydraulic motors, bearings and reliable Eccentrics and elastomer rubbers and others component. Standard Frequency of BRUCE vibratory hammers are 1500 vpm to 2000 vpm depending on model and other sized vibratory hammers are also available on request.

Excavator Mounted Vibro hammers are also available on request!! The model range of Excavator Mounted Vibro hammers are prepared to suit for mounting on Excavators ranging from 20-50 tons.

BALANCED DOUBLE SIDE ECCENTRIC WEIGHTS

Ensuring Long Life Time of Gears and Bearings; The use of eccentric weights on both sides ensures durability and reliability by maintaining a balance of vibrating power on BRUCE vibro hammer and vibratory hammer.

Equipped world top quality brand bearings are also ensuring long life time of beraings and gears.

PROOF ECCENTRIC CONCEPT OF A GEAR BOX

The Eccentrics are made of high quality steel and accurately machined to guarantee equal centrifugal Force to each eccentric. The Eccentrics that are connected with gears to maintain a proper synchronization, vibration proof, qualified gear and eccentric to gear fasteners guaranteeing a trouble-free and effective pile driving works.
Computer 3D modular design for Gear Box components are perfectly feasible for a perfect center of gravity

03 PILE DRIVING & EXTRACTING VIBRATORY HAMMER

MAIN FEATURES

BRUCE VIBRO MANAGES THE SOIL CONDITION

The BRUCE Vibro Hammers are well known its elaborated and fine machined components consisting of core parts inside the Gear Box and related hydraulic connection system. Hence The Vibros matched the Centrifugal force and Amplitude optimally to the soil condition with a Flow Adjust volume dial on a Remote Control Pendant to adjust pump flow control for adjusting centrifugal force depends on soil condition at every job sites.

A HANDHELD REMOTE CONTROL PENDANT

A portable and a handheld BRUCE Remote Control Pendant will help you get the Vibro job done in a set of operating to be more comfortable and accurate ways. The vibrating speed can be adjusted depends on driving condition by the Volume switch on it.

OPTIMUM MATCH TO THE VIBRO PROJECT

The BRUCE Vibro hammers are an efficient hydraulic vibratory hammer that produces vertical vibrations to drive or extract a wide variety of profiles that will help you finished the job done in planned project schedule.

ROBUST DURABLE CLAMPS & WIDE RANGE OF MODELS

BRUCE Vibro hammers have both universal and casing clamps. Robust structure and powerful cylinder of a clamp in handling a pile safety and convenient work can be done. Heavy duty and reliable clamp cylinder equipped with a check valve to keep cylinder pressurized in case of hose damage and alloy steel ensures the long-life.

QUALIFIED ELASTOMERS

BRUCE Vibro hammers are equipped with high quality elastomer rubbers which guarantee good shock absorbing and a long service life. Elastomers design makes the Vibro hammers to change elastomers easy and safely.

BRUCE Vibratory Hammer
SGV 200

BRUCE Vibratory Hammer
SGV 200


BRUCE Vibratory Hammer
SGV 1000

04

MAIN FEATURES BRUCE VIBRO HAMMER

PROUD OF DRIVEABILITY

BRUCE offers the most powerful, reliable & efficient Vibro hammers with simple design for operating ease and efficiency. Adjustable Vibro drive frequency and speed for easy work means a low speed and hard work means high speed by a Remote Control Pendant.

QUALIFIED ELASTOMER RUBBERS

The Suppressor contains Elastomer rubbers to isolate the vibrations from the vibration case to the crane or pile driving rig. Mechanical stops prevent Elastomer rubbers which take a role as a shock absorber from stretching during operation. Elastomers provide a minimal of vibration isolation for equipment and personal safety.

APPLY FOR A VARIETY OF AREAS

Compact design of Vibro hammers can be applied many construction areas such as Infrastructure projects detailing bridges, metro, building and trench projects. It is also adaptable for foundation piling working sites.

LOW COST CONSUMABLE PARTS

As BRUCE Vibro hammers choose the qualified suppliers of consumable parts with a long lasting and durable consumable parts are guaranteed. Thus you can save extra valuable money for the parts.

SOLIDITY IN SUSPENSION PART

The suspension part of the Vibro hammers which is coupled to the lifting crane. It is connected to the dynamic part using elastomer rubbers allow a traction during extraction benefited less damage to the crane.

MAXIMUM EFFICIENCY & QUIET OPERATION

High efficiency & quality motors by the gear box consisting of other components like eccentrics, gears, shafts, and bearings deliver power energies to the pile through durability test results in fast and productive driving at the sites.

SIMPLICITY IN DESIGN

The adoption of simple design principle allows easy maintenance and prompt troubleshooting both on control and mechanical side. Together easy operation can be obtained user friendly design of a Remote Control Pendant.

POWERFUL DYNAMIC PARTS

The dynamic part where the eccentric weights are assembled, and clamps if the Vibro hammer is used for pile driving and extraction, these are used for transmitting the motion to the eccentric weights.

CREATE MORE AMPLITUDE

Precision cast high density eccentric moment combined with a low mass transmission provides the maximum possible pile amplitude. It shows exceptional performances both temporary and fixed constructions. Amplitude is designed for most efficient performance.

PROOF OF GEAR BOX ASSEMBLY

The eccentric weights rotate in a vertical plane to create vibration in a gear box. It is gear connected to maintain proper synchronization, vibration proof, qualified gear and eccentric to gear fasteners are guaranteed to never fail. Extremely low vibration created environmentally friendly low noise and localized directional vibration.

MAIN PARAMETERS OF BRUCE VIBRO

MOMENT corresponds to the distance between the rotation axis and the eccentric center of gravity.

FREQUENCY corresponds to the number of turns per minutes of the eccentric weights.

AMPLITUDE defines as the vertical run of the dynamic part unit determined by its overall weight and the eccentric moment.

EXTRACTING is the maximum pull that can be applied in the suspension. The Vibro has an end-stop plate which stops the operator from having an excessive traction

Sheet Pile - SGV 400

05 BRUCE VIBRO HAMMER **FEATURES**

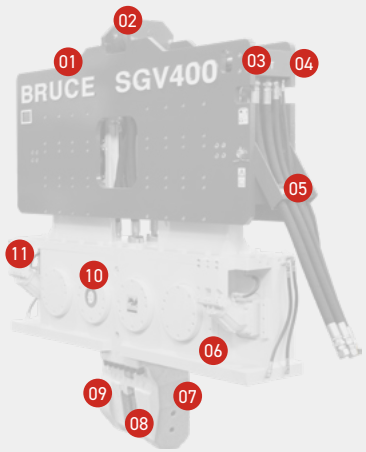
Casing Pile - SGV 300


Sheet Pile - SGV 200

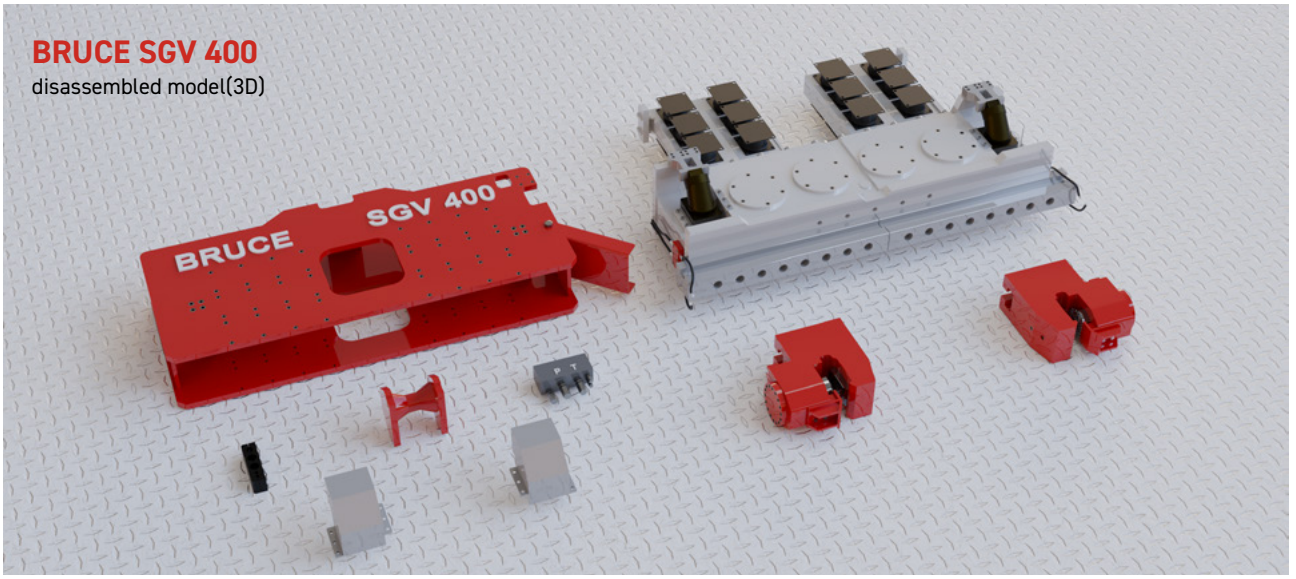
Sheet Pile - SGV 400

06 COMPONENT **OVERVIEW**

01 SUPPRESSOR
02 HEAVY DUTY LIFTING SECTION
03 DISTRIBUTION MANIFOLD
04 ANTI CAVITATION BLOCK
05 HOSE COVER
06 GEAR BOX
07 CLAMP
08 JAWS
09 CYLINDER
10 ECCENTRICS AND GEARS
11 COVERS



BRUCE PILING EQUIPMENT - VIBRATORY HAMMER



BRUCE SGV 400
disassembled model(3D)

06 COMPONENT OVERVIEW

Bruce Vibratory Hammer is built with high-precision components that work together to ensure reliable performance in various foundation construction applications. Each part plays a critical role in vibration, clamping, lifting, and power transmission, enabling efficient and stable pile driving operations.

This section provides a detailed look at the key components of Bruce Vibratory Hammer, including their placement, function, and contribution to the overall system.

01

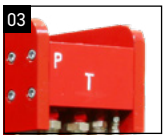
SUPPRESSOR

Acting as the interface with the gear box, it can be easily disassembled to simplify maintenance procedures.

02

HEAVY DUTY LIFTING SECTION

Engineered to support Shackles and Pins, this reinforced structure ensures safe and stable lifting.



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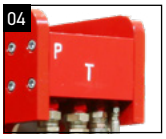
DISTRIBUTION MANIFOLD

Provides a centralized and clean layout for effective hose connection and flow control.



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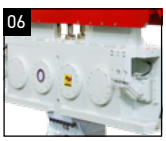
ANTI - CAVITATION BLOCK

Anti-Cavitation Block prevents motor from failure.

05

HOSE COVER

Guides hydraulic hoses in an organized path toward the Power Pack, ensuring protection and clean routing.



06

GEAR BOX

Vibration proof, qualified gears and eccentrics create a massive driving force.

07

CLAMP

structure is machined from solid alloy cast steel to eliminate troublesome.

08

JAWS

Hardened and high strength alloy steel jaws for durability

09

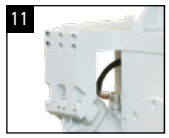
CYLINDER

The Cylinder needs no Guards and all hoses are tucked out of the damage.

10

ECCENTRICS AND GEARS

The Eccentrics and Gears filled with "heavy and alloy steel" produce more amplitude and thus produce powerful driving force and longer life.



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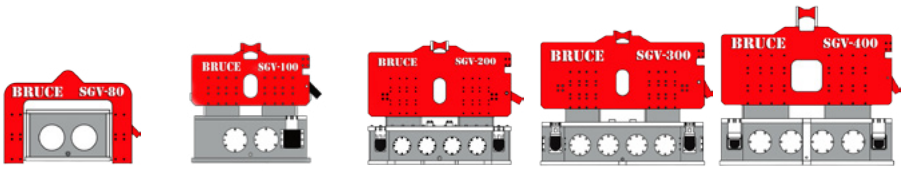
COVERS

The covers are installed to protect the motor from damages while operating.

07
PILE DRIVING & EXTRACTING
VIBRATORY HAMMER

BRUCE VIBRO HAMMER MODEL



BRUCE VIBRO HAMMER MODEL		SGV-80	SGV-100	SGV-200	SGV-300	SGV-400
Eccentric moment	kg-m in-lbs Nm	11.5 998 113	17.3 1,502 170	26 2,257 255	34 2,951 333	48 4,166 471
Centrifugal force	tons kN	51 510	62 620	84 840	112 1,120	158 1,545
Max. frequency	vpm	2,000	1,800	1,730	1,730	1,710
Amplitude incl sheet pile clamp	mm inch	22 0.875	22 0.875	19 0.75	19 0.75	19 0.75
Max. line pull for extraction	tons kN	25 250	30 300	40 400	40 400	70 687
Max. hydraulic power	kW HP	91 121	144 193	191 256	191 256	297 398
Max. operating pressure	bar psi	320 4,641	320 4,641	320 4,641	320 4,641	320 4,641
Max. oil flow	lpm gpm	170 45	230 60.1	360 95.1	360 95.1	560 148
Overall length	mm inch	1,618 63.7	1830 72.1	2,401 94.5	2,620 103.2	2,695 106.1
Overall width	mm inch	700 27.6	609 24	480 18.9	480 18.9	634 25
Overall height with sheet pile clamp	mm inch	1,755 69.1	2,415 95.1	2,675 105.3	2,850 112.2	3,220 126.8
Weight with sheet pile clamp	kg lbs	2,400 4,410	3,060 6,746	4,526 9,978	5,370 11,839	7,150 15,763

Clamping Head

	MODEL		60U	80U	100U	130U	160U
Sheet pile clamp	Force	tons kN	60 600	80 800	100 1,000	130 1,300	160 1,600
	Weight	kg lbs	250 551	500 1,102	500 1,102	640 1,411	1,190 2,624
	MODEL		**2x40D**	**2x40D**	**2x80D**	**2x80D**	**2x80D**
Double clamp (Casing pile clamp)	Force	tons kN	80 800	80 800	160 1,600	160 1,600	160 1,600
	Weight with Beam	kg lbs	900 1,984	900 1,984	1,408 3,104	1,408 3,104	1,484 3,272
Suitable Power Pack Series			**PQ-200V**	**PQ-250V**	**PQ-350V**	**PQ-350V**	**PQ-500V**

* Subject to modifications without prior notice.

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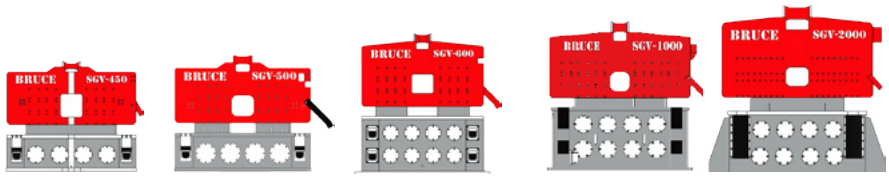
PILE DRIVING & EXTRACTING
VIBRATORY HAMMER

BRUCE VIBRO HAMMER MODEL



BRUCE VIBRO HAMMER MODEL		SGV-450	SGV-500	SGV-600	SGV-1000	SGV-2000
Eccentric moment	kg-m in-lbs Nm	55 4,774 539	56 4,861 549	79 6,857 775	110 10,078 1,078	220 17,159 2,157
Centrifugal force	tons kN	185 1,812	188 1,845	255 2,502	310 3,045	461 4,610
Max. frequency	vpm	1,730	1,730	1,700	1,590	1,380
Amplitude incl sheet pile clamp	mm inch	20 0.8	20 0.8	22 0.87	20 0.79	20 0.79
Max. line pull for extraction	tons kN	90 883	90 883	110 1,078	130 1,275	180 1,800
Max. hydraulic power	kW HP	318 427	318 427	397 532	581 780	900 1,207
Max. operating pressure	bar psi	320 4,641	320 4,641	320 4,641	320 4,641	320 4,641
Max. oil flow	lpm gpm	600 159	600 159	745 197	1,100 291	1,689 446
Overall length	mm inch	3,080 121.3	3,080 121.3	2,850 112.2	3,286 129.4	3,700 145.7
Overall width	mm inch	570 22.4	570 22.4	713 28.1	615 24.2	1,730 68.1
Overall height with sheet pile clamp	mm inch	3,100 122	3,100 122	3,916 154	4,100 161.4	4,253 167.4
Weight with sheet pile clamp	kg lbs	7,600 16,755	7,680 16,932	11,000 24,251	14,800 32,328	29,000 63,934

Clamping Head

	MODEL		180U	180U	240U	320U	2x240U
Sheet pile clamp	Force	tons kN	180 1,800	180 1,800	240 2,400	320 3,200	480 4,800
	Weight	kg lbs	1,200 2,646	1,200 2,646	1,800 3,968	2,500 5,516	4,000 8,818
	MODEL		**2x120D**	**2x120D**	**2x140D**	**2x160D**	**4x160D**
Double clamp (Casing pile clamp)	Force	tons kN	240 2,400	240 2,400	280 2,800	320 3,200	640 6,400
	Weight with Beam	kg lbs	2,480 5,468	2,480 5,468	2,760 6,085	3,000 6,614	7,000 15,432
Suitable Power Pack Series			**PQ-600V**	**PQ-600V**	**PQ-800V**	**PQ-1000V**	**PQ-1600V**

* Quad clamp with cross beam for larger casing pile diameter is available as optional on request.

* Subject to modifications without prior notice.

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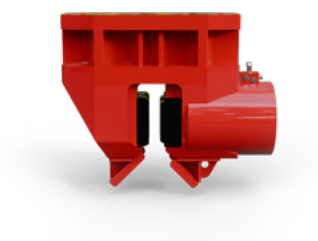
PILE DRIVING & EXTRACTING VIBRATORY HAMMER
BRUCE UNIVERSAL & SHEET PILE CLAMP



The BRUCE Universal & Sheet Pile Clamp comes with a standard sheet pile clamp attachment. The clamp contains two gripping jaws. One is "fixed" and the other is "moveable". A large cylinder operates the moveable jaw depends on clamp pump relief pressure.

The jaws open and close by turning a switch on the remote control pendant, or may be operated by turning the switch at the main control panel mounted on power pack. The pressure hole at cylinder cover can be tested for a proper pressure 300 to 350 bars.

The BRUCE standard pile clamp can be fitted with jaws to fit many different types of piles including sheet piles, H-Beams, steel plates, and pipe piles.
(Contact BRUCE for more information on clamp attachments for special pile types.)

OVERVIEW

01 Safety Check Valve ensuring clamp work or hose failure

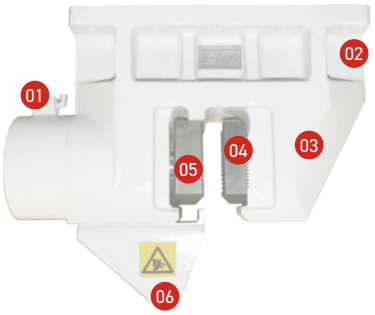
02 Clamp Bolts attaches to bottom of Gear Box

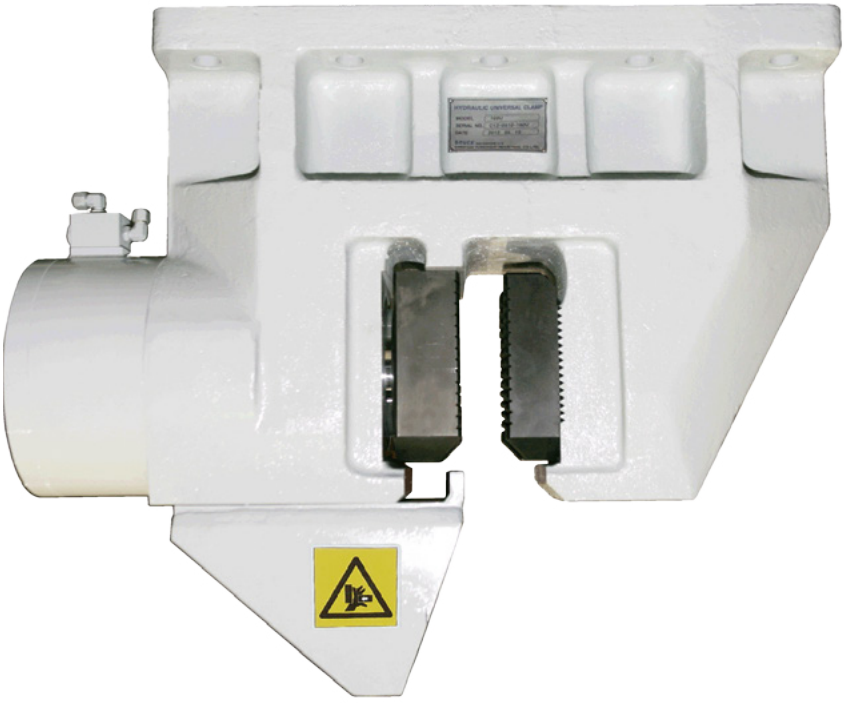
03 High strength ALLOY cast machined body

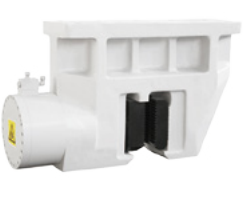
04 Fixed jaw

05 Moveable jaw

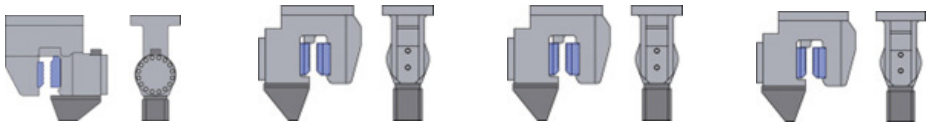
06 Guide for moving piles comforts



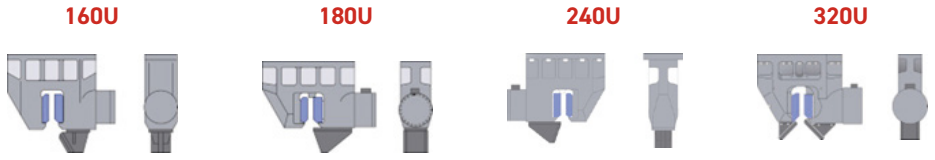




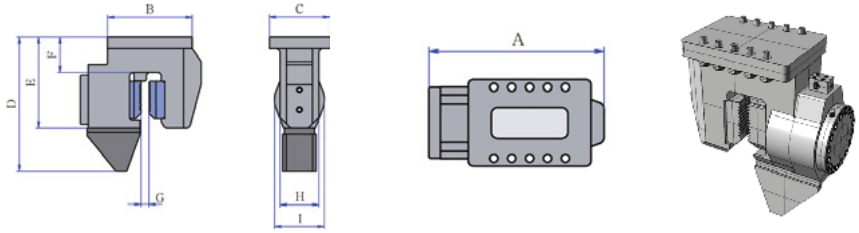
09 SELECTION OF UNIVERSAL & SHEET PILE CLAMP



Clamp type		Universal & sheet pile			
Clamping force	ton/kN	60/600	80/800	100/1000	130/1300
Working pressure	bar/psi	300/4351	300/4351	300/4351	300/4351
Weight	kg/lbs	250/551	500/1102	500/1102	630/1389
L x W x H	mm	590 X 300 X 380	685 X 340 X 705	685 X 340 X 705	730 X 340 X 750



Clamp type		Universal & sheet pile			
Clamping force	ton/kN	160/1600	180/1800	240/2400	320/3200
Working pressure	bar/psi	300/4351	300/4351	300/4351	300/4351
Weight	kg/lbs	1190/2624	1200/2646	2000/4409	2500/5516
L x W x H	mm	1140 X 350 X 1045	1140 X 350 X 1045	1160 X 350 X 1045	1100 X 460 X 1097



Clamp model	Clamping force	Operating pressure	Weight	A	B	C	D	E	F	G	H	I
60U	60 ton	320 bar	250 kg	590	470	310	380	388	150	0~40	310	300
80U	80 ton	320 bar	500 kg	685	480	340	705	515	200	0~45	310	340
100U	100 ton	320 bar	500 kg	685	480	340	705	515	200	0~45	310	340
130U	130 ton	320 bar	630 kg	730	480	340	705	580	215	0~45	340	340
160U	160 ton	320 bar	1,190 kg	1140	935	305	1045	668	319	0~50	305	350
180U	180 ton	320 bar	1,200 kg	1140	935	305	1045	668	319	0~50	305	350
240U	240 ton	320 bar	2,000 kg	1160	940	305	1045	790	420	0~60	305	350
320U	320 ton	320 bar	2,500 kg	1172	1100	460	1097	870	415	0~62	400	460

* Subject to modifications without prior notice.

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PILE DRIVING & EXTRACTING VIBRATORY HAMMER
BRUCE CASING PILE CLAMP WITH AUTO LOCKING SYSTEM

All the Bruce vibro hammers are designed for Casing Pile Clamps to be able to quick mounted on the bottom of the gearbox of Vibro hammers with a conjunction hydraulic Auto Locking system so that it can be applicable at all times for a quick change according to different pile size or maintenance piling works in case of casing piles.

The BRUCE Casing pile clamp can simply adjust the clamping span that is thought to be hassle and burdensome for most of foremen on site with the help of hydraulic auto locking system adopted on both sides of beams based on casing pile size. It can be adjusted either by narrowing or expanding the both clamps whenever needed for fitting in. BRUCE Casing pile clamp will give you plenty of time saving for the job resulting in super profitability.

01 Casing Clamps

02 Beams

03 Auto Locking

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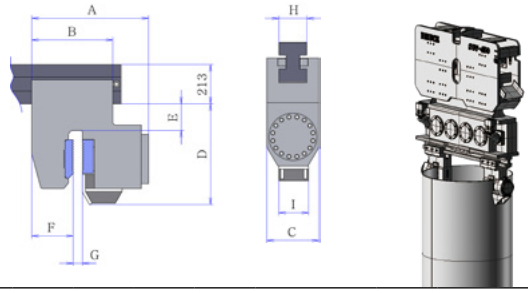
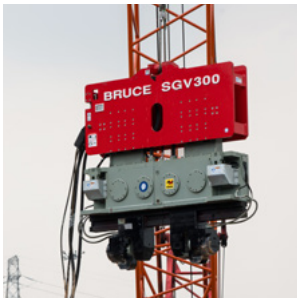
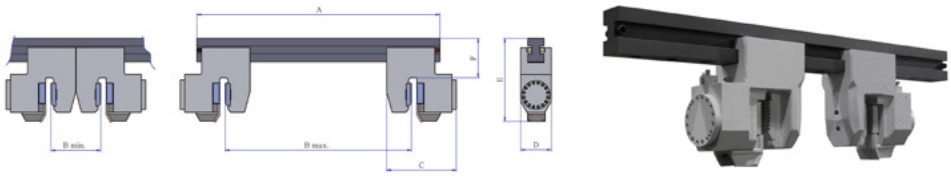
PILE DRIVING & EXTRACTING VIBRATORY HAMMER
BRUCE CASING PILE CLAMP WITH BEAMS



Clamp model	Clamping force	Operating pressure	Weight	A	B	C	D	E	F	G	H	I
40D	40 ton	320 bar	310 kg	520	400	250	510	105	160	0-30	130	160
80D	80 ton	320 bar	480 kg	635	440	280	535	145	225	0-50	150	160
120D	120 ton	320 bar	955 kg	700	569	340	651	150	272	0-55	150	190
140D	140 ton	320 bar	1100 kg	825	630	340	700	185	295	0-55	160	210
160D	160 ton	320 bar	1250 kg	895	695	375	720	195	345	0-55	160	230





Clamp model	A	Bmin	Bmax	C	D	E	F	Weight
2x80D	1520	450	1070	635	280	670	274	1220 kg
	2216	450	1696	635	280	670	274	1408 kg
	2400	450	1840	635	280	670	274	1420 kg
	2660	450	2140	635	280	670	274	1562 kg
	3400	450	2950	635	280	670	274	2810 kg
2x120D	2700	545	1747	630	290	803	285	1606 kg
	3000	545	2055	630	290	803	285	2550 kg
2X140D	2800	590	2130	825	300	883	335	2800 kg
	3400	700	2700	825	300	883	335	3000 kg
2X160D	3400	700	2700	885	330	972	445	3000 kg
	3800	700	2700	885	330	972	445	3500 kg

* Subject to modifications without prior notice.

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BRUCE
HYDRAULIC POWER PACK

BRUCE Power Pack
PQ 350V

The BRUCE power packs have designed and manufactured to optimize the hydraulic system for a constant stability of piling performance with high efficiency of BRUCE Vibro operations.

A sound proofed frame style with heavy steel enclosure and enough space of inside layout enables to obtain an easy access for quick maintenance and ensures durability of power pack.

Maximum efficiency and reliability ensured by BRUCE efficient open-loop hydraulic system equipped with reputable quality hydraulic pump and motor.

High cooling capacity of hydraulic system provides a stable high efficiency of hydraulic systems together with larger sized radiator, cooler and hydraulic tank ensures no overheat problems.

Full Line Up: Horse power ranging from 100PS to 1600PS for a wide selection of BRUCE Vibro hammer range and required capacity from small sized to large sized power packs

BRUCE power pack is adoptable Environmentally friendly non-toxic & biodegradable hydraulic oil.

BRUCE Power Pack
PQ 800V

BRUCE Power Pack
PQ 1000V

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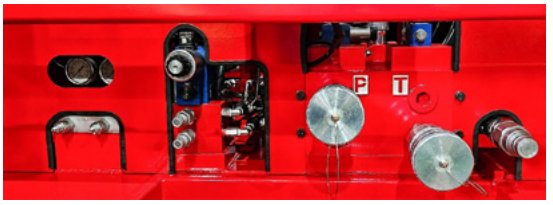
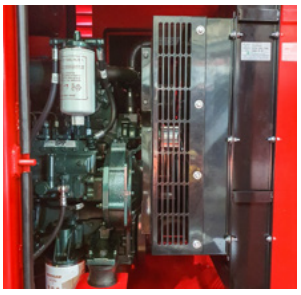
BRUCE HYDRAULIC POWER PACK





TURBOCHARGED HIGH POWER DIESEL ENGINE

Bruce power pack powered by Hyundai as standard or Volvo & Cummins turbocharged diesel engine ensures greater production by having higher horse power and torque ratings. The engine has functioning of electronic & computer controls reduce fuel consumption and optimizing the engine power.

HIGH PERFORMANCE SWASH PLATE TYPE PISTON PUMP

Adopted with axial piston type pump and quality brand pump.
Flows are controlled electrically.

HIGH COOLING CAPACITY & WIDE INTERNAL SPACE

Applied with high cooling capacity with larger sized radiator, oil cooler and hydraulic tank, Bruce power pack can be used under high atmospheric temperature up to 40°C or little higher and cold regional area up to -30°C and even lower temperature.

BIODEGRADABLE HYDRAULIC OIL ADAPTABLE

All hydraulic components are 100% applicable to biodegradable oil in order to meet environmental concern.

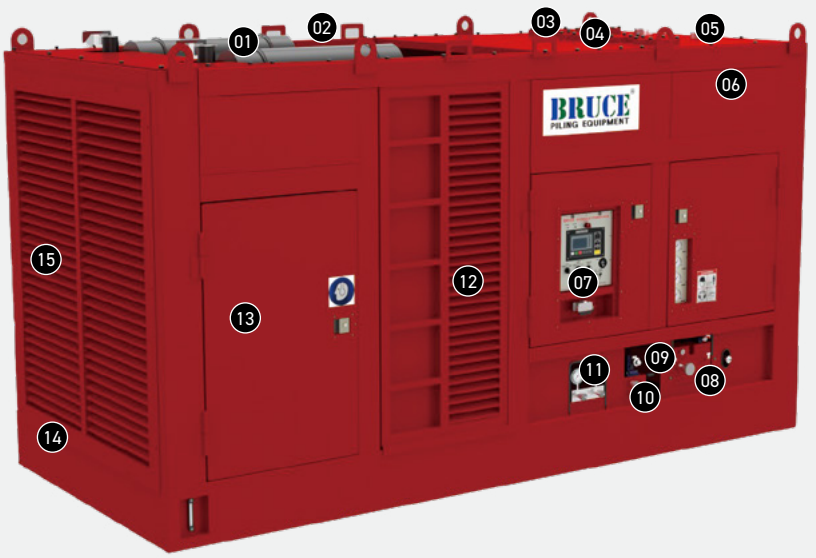
RELIABLE & GOOD FILTRATION

Equipped with high capacity filters and quality brand filters prevent hydraulic oil contamination and ensure filtration system for hydraulic and engine fuel system.

HYDRAULIC COMPACT & CONTROL SYSTEM BLOCK

Most of valve system and components are equipped and built-in Manifold block which is beneficial for easy to check, control the system and supply accurate system flow and pressure to the machine.

01 Muffler
02 Air Cleaner & Air Suction
03 Suction Filter
04 Return Filter
05 Air Breather
06 Hydraulic Oil Tank
07 Control Panel
08 Motor Drain Hose
09 Relief Block
10 Supply & Return Hose
11 Clamp Hose
12 Engine Room
13 Oil Cooler & Radiator Room
14 Fuel Tank
15 Air Intake Cover & Grill



13 REMOTE CONTROL PENDANT

With a BRUCE Remote Control Pendant, the operators can have it operating the Vibro operation in a long way even from a distance. It comes with functioning of emergency stop, clamp operation, Vibrating operation and engine frequency adjustment depends on soil conditions.

Main Function

- Start and stop vibration in a few seconds
- Clamp and unclamp from piles.
- Accomplishment of vibration in forward direction
- Emergency stop button for an urgent situation
- Frequency Adjust
- Easy cable connections adopted
- Very light and easy portability
- Built and designed for customized size
- LED lamp for clamping indication
- Simplicity design for easy control with less faulty

14 POWER PACK CONTROL PANEL

With a BRUCE Control Panel, the operators can have it operating the Vibro operation at Control Panel without Remote Control Pendant. It comes with functioning of emergency stop, clamp operation, Vibrating operation and engine frequency adjustment depends on soil conditions.

SIMPLICITY DESIGN OF CONTROL PANEL

- Electronic engine control unit
- Electronic engine governor
- Battery recharge & coolant temperature indicate
- Engine start & stop
- Main electric power ON/OFF switch
- Engine oil pressure indicate
- VIBRO/CLAMP operational switch
- Vibrator frequency adjust
- Circuit breaker for protection from short circuit and fault of electric system
- Engine speed lever for change the engine speed
- Pressure gauge for vibro, clamp, motor drain
- LED lamp for clamping indication
- LED lamp for MAIN POWER
- Engine speed indicate
- Operating hour indicate
- Fuel gauge
- Emergency stop button
- Engine temperature indicate

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PILE DRIVING & EXTRACTING VIBRATORY HAMMER
SPECIFICATION OF BRUCE POWER PACK

OPERATING DATA

Power Pack Model		PQ-200V	PQ-250V	PQ-350V	PQ-500V	PQ-600V	PQ-800V	PQ-1000V	PQ-1600V
Engine power	(HP)	180	230	320	475	525	650	1,000	1,600
	(kW)	132	172	239	354	392	485	746	1,193
Engine speed	(rpm)	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Setting pressure	(bar)	320	320	320	320	320	320	320	320
	(psi)	4,641	4,641	4,641	4,641	4,641	4,641	4,641	4,641
Max. flow rate	(lpm)	190	280	400	600	630	764	1,100	1,700
	(gpm)	50	74	106	159	166	202	291	449
Hydraulic tank capacity	(liter)	350	600	700	800	1,000	1,200	2,400	2,400
	(gal)	93	159	185	211	264	317	634	634
Fuel tank capacity	(liter)	300	500	520	600	800	900	960	2,000
	(gal)	79	132	137	159	211	238	254	528

* Hyundai engine is as standard and Volvo & Cummins engine are as optional.

DIMENSION

Overall length	(mm)	2,500	2,900	3,300	3,500	3,500	3,800	3,800	5,500
	(ft)	8.2	9.5	10.8	11.5	11.5	12.6	12.6	18
Overall width	(mm)	1,300	1,600	1,600	1,800	1,800	2,000	2,200	2,500
	(ft)	4.3	5.3	5.3	5.9	5.9	6.7	7.2	8.2
Overall height	(mm)	1,850	2,100	2,100	2,100	2,200	2,200	2,200	2,700
	(ft)	6.1	6.9	6.9	6.9	7.2	7.2	7.2	8.9

WEIGHT

Dry	(kg)	3,700	4,000	4,300	4,700	4,900	6,200	8,000	14,000
	(lbs)	8,157	8,819	9,480	10,362	10,803	13,669	17,637	30,865
Operating	(kg)	4,100	4,400	5,400	5,800	6,600	8,200	10,000	17,000
	(lbs)	9,039	9,700	11,905	12,787	14,551	18,078	22,046	37,479
Suitable Bruce vibro model		SGV-80	SGV-100	SGV-200 SGV-300	SGV-400	SGV-450 SGV-500	SGV-600	SGV-1000	SGV-2000

* Others power pack size can be supplied on request.
* We reserve the right to make modifications without prior notice.

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BRUCE VIBRO TECHNOLOGY

BRUCE vibratory hammer is a specialized piece of equipment that uses vibration to change the soil formations so that the vibratory hammer can drive in the pile using its own weight.

BRUCE vibratory hammer makes quick work of hammering into heavy or hard piles, and allows for an increase of efficiency on the worksite. Vibratory hammers are used to drive in piles as well remove them.

There are two components to a vibratory hammer, the gear box and the suppressor. The gear box contains eccentric weights that rotate around the case, creating a vibration. The eccentric weights are set in motion and maintain their synchronicity with a hydraulic motor attached to the gear box. A clamp attached to the bottom of the gear box transports the vibration into the pile.

BRUCE vibratory hammer is placed over the pile with the help of a piece of large equipment, such as a crane or excavator. The vibratory hammer is then attached to the pile through a series of clamps. A separate trailer containing hydraulic fluid is attached to the hammer. If the vibratory hammer is put in place with an excavator, the hammer can run off the excavator's power source.

Vibratory hammers are effective in a variety of different types of soil, including clay, sand, and granular. Vibratory hammers can also be modified for use underwater. Vibratory hammers are very large and used in the industrial setting. They are commonly used to drive and extract piles for such projects as ports, building, highway construction and others huge application of sheet pile or casing pile driving and extracting.

There are many benefits to the use of vibratory hammers. A vibratory hammer requires less force to drive a pile. Compared to other hammers that would be used in the same situation, vibratory hammers are relatively quiet. Vibratory hammers are often chosen when piling & construction works are conducted in an urban area where the noise of a traditional pile hammer would be a problem. Vibratory hammers also make a good choice when the pile is located in an area without sufficient clearance to accommodate a traditional pile driver.

Simply the Bruce vibratory hammers consist of several major parts in the gear box, each eccentric pair turns at the same angular velocity but in opposite directions, producing a vertical vibration. Both eccentrics generate centrifugal forces fc. The horizontal components fh are offset at the same time that the vertical components fv are added, resulting in centrifugal force Fc. A yoke is located above the gearbox and prevents the transmission of vibrations through elastomer rubber.

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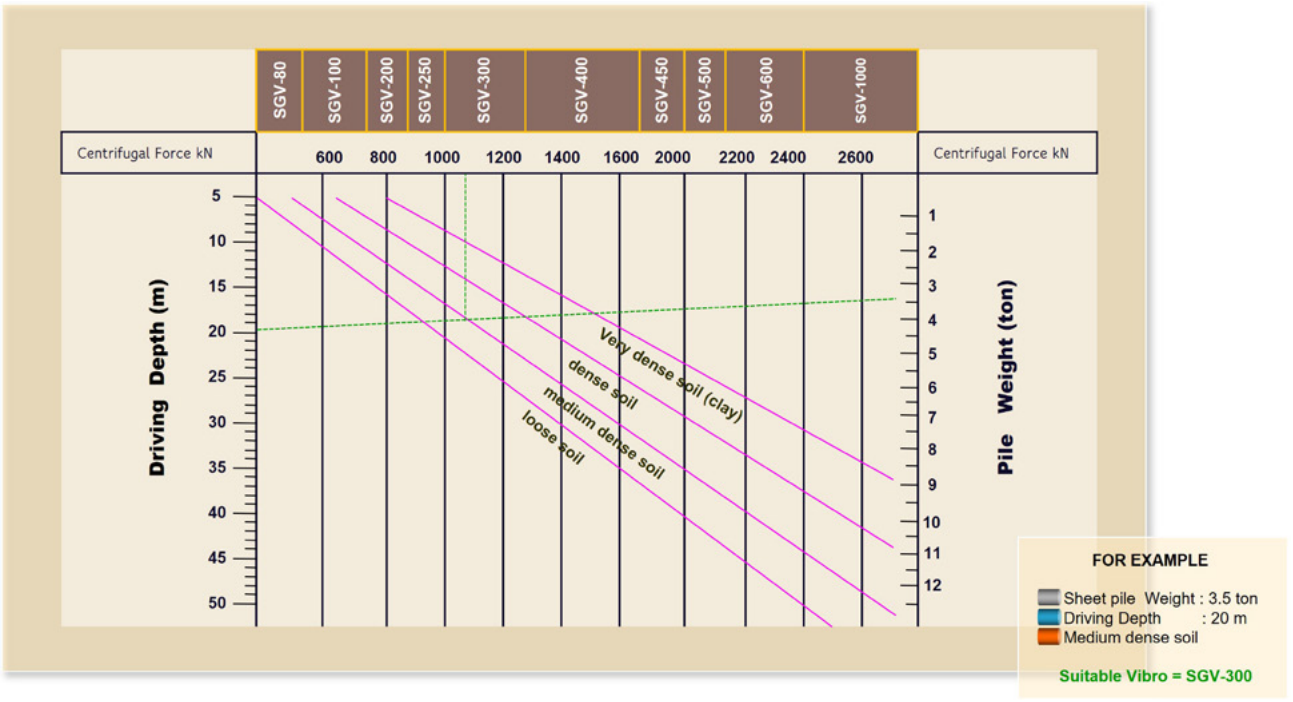
PILE DRIVING & EXTRACTING VIBRATORY HAMMER

SELECTING THE OPTIMUM BRUCE VIBRO HAMMERS WITH SELECTION CHART



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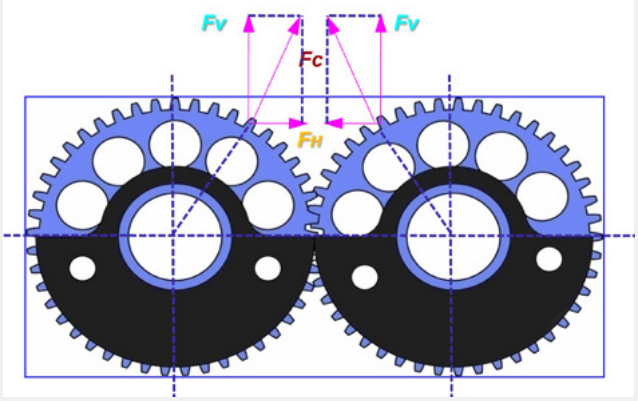
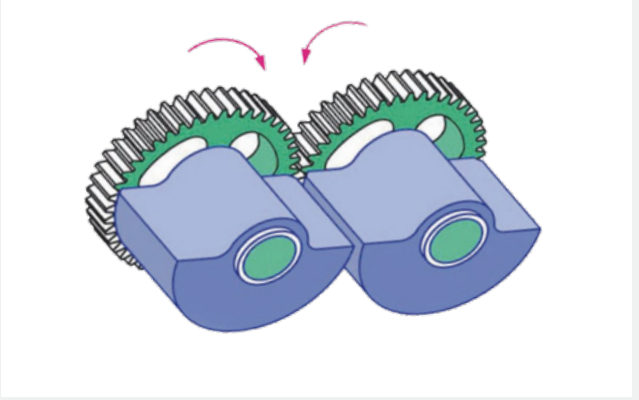
PILE DRIVING & EXTRACTING VIBRATORY MACHINERY

HOW DOES VIBRO HAMMER WORK?

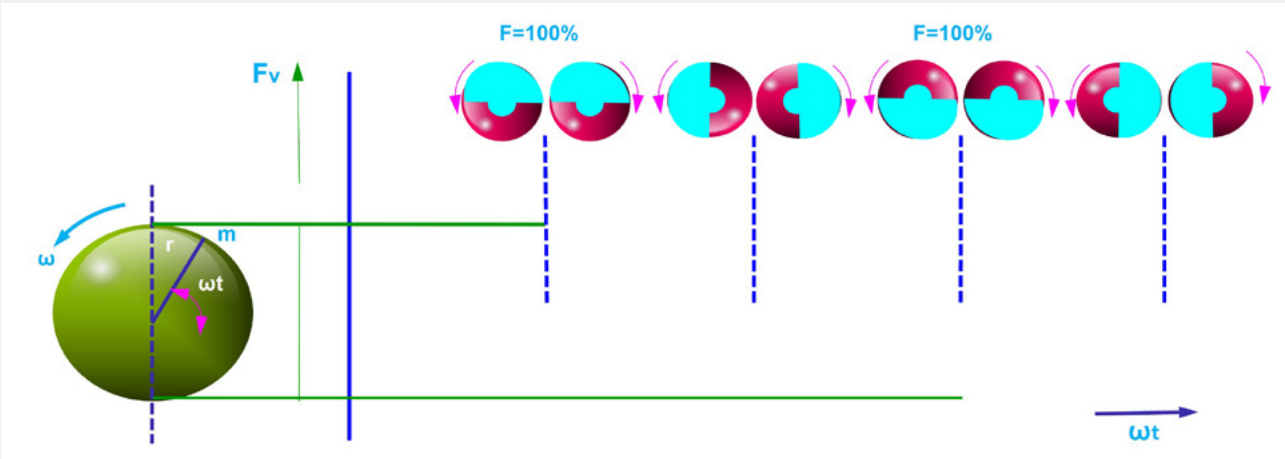
The Principle Of Vibration Start-Up Through Centrifugal Force Adjustment With Swivelling Of The Eccentrics.





Fc = Centrifugal Force Fv = Vertical Force ω = Angular frequency F_H = Horizontal Force

IT VIBRATES PILES TO BE DRIVEN OR EXTRACTED



- Fv = Vertical Force
- Co = Angular frequency
- ωt = Angular frequency in m rad's
- r = Rotations per minute
- m = Horizontal Force

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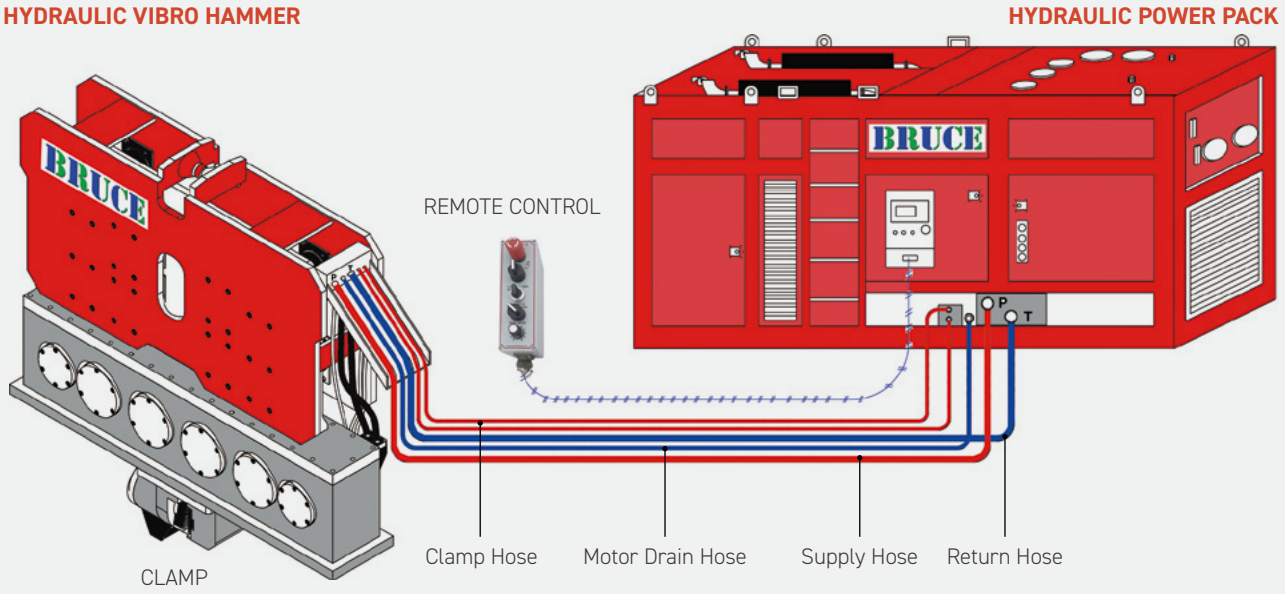
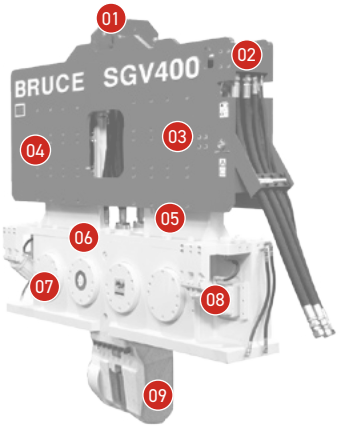
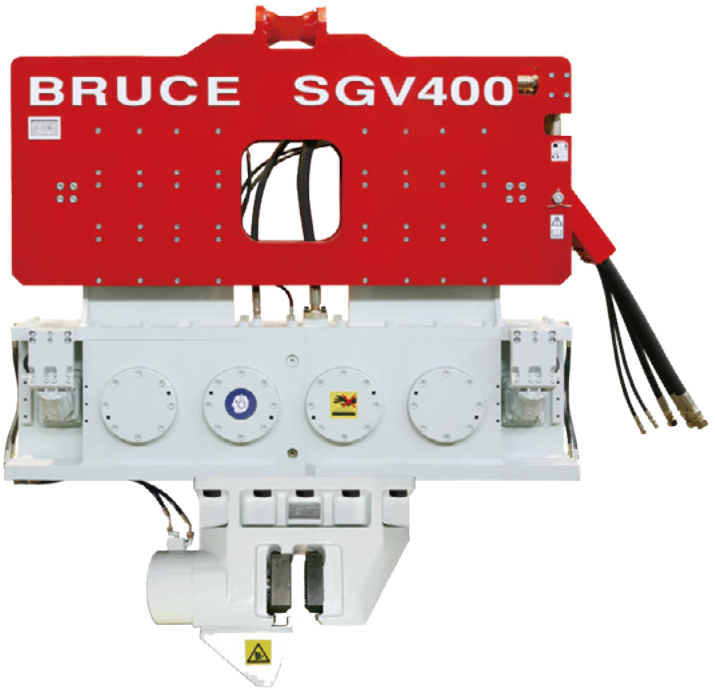
OPERATING STRUCTURE OF CRANE SUSPENDED VIBRATORY HAMMER

OPERATING STRUCTURE OF CRANE SUSPENDED TYPE



01 Lifting Hook
02 Distribution Manifold
03 Elastomer
04 Vibration Suppressor
05 Elastomer Bracket
06 Gear Box
07 Gear & Eccentric
08 Motor
09 Clamp Assembly





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BRUCE HYDRAULIC VIBRO HAMMER SERIES

PILE DRIVING & EXTRACTING VIBRATORY HAMMER

BRUCE Vibratory Hammer
SGV 300

BRUCE Vibratory Hammer & Power Pack

BRUCE Vibratory Hammer
SGV 400

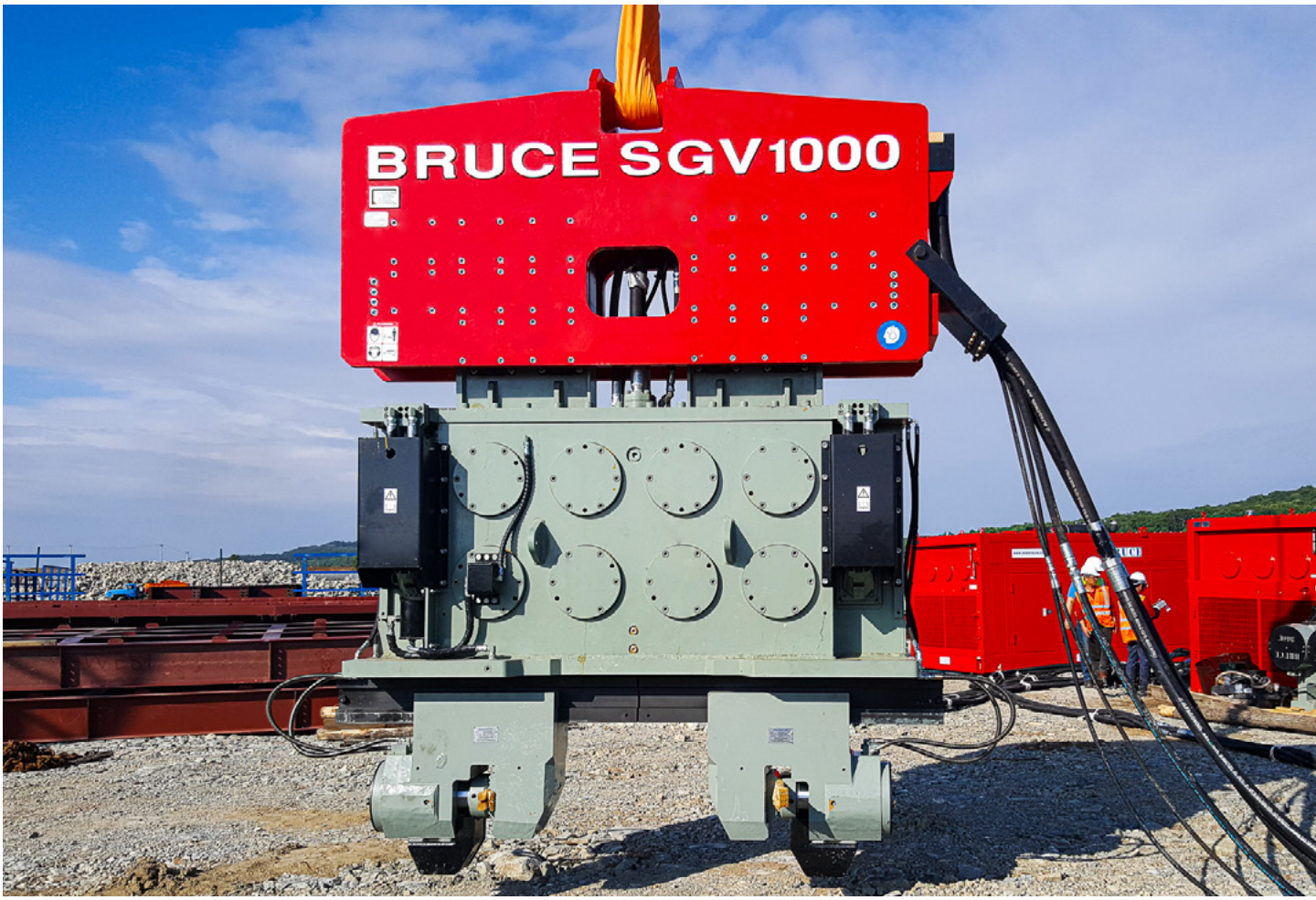
BRUCE Vibratory Hammer
SGV 1000

BRUCE Vibratory Hammer
SGV 600

BRUCE Vibratory Hammer
SGV 400

BRUCE Vibratory Hammer
SGV 200

BRUCE Vibratory Hammer
SGV 450, SGV 1000



BRUCE®
PILING EQUIPMENT

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