

# BRUCE<sup>®</sup> EXCAVATOR MOUNTED IMPACT PILE HAMMER

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# BRUCE<sup>®</sup>

PILING EQUIPMENT

## FOUNDATION & CONSTRUCTION MACHINERY

*The ideal design of pile driving work  
for a small sized pile application  
ranging upto 7tons of hammer*



### BRUCE EXCAVATOR MOUNTED IMPACT HAMMERS

The most efficient way of pile driving job with a perfect combination enabling a great stability and transportation.

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# THE BEST PILE DRIVING SOLUTION CAN ONLY BE FOUND BY THE BRUCE EXCAVATOR MOUNTED IMPACT HAMMER

- Most efficient method for pile driving work
- Cost effective outcome for the budget
- Quick and easy replacement and transportation
- Fits for all different piles to a limited area
- Relief block used without a power pack

**BRUCE**<sup>®</sup>  
PILING EQUIPMENT



Hammer



Winches



Winch Block



Control Box



Relief Block



Winch Controller

# OPERATING STRUCTURE OF EXCAVATOR MOUNTED HAMMER

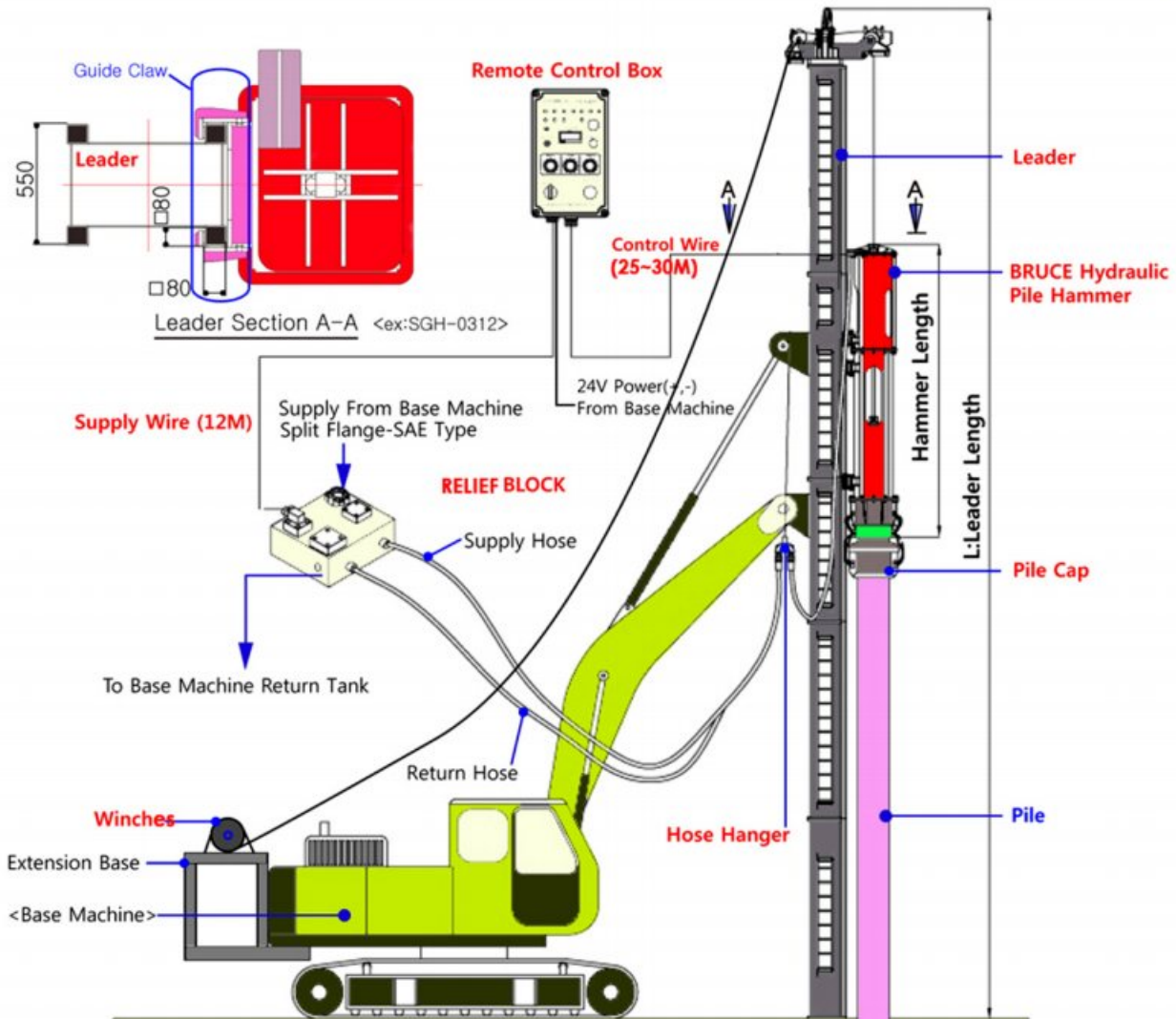


# THE BEST PILE DRIVING SOLUTION CAN ONLY BE FOUND BY THE BRUCE EXCAVATOR MOUNTED IMPACT HAMMER

- Easy installation for an Extension Base
- Multi-functional pilling work available
- High mobility of a Leader with a precise alignment
- Convenient setting up & quick disassembly
- Sophisticated Remote Control Boxes in the cabin
- High versatility for micro or big foundation



# INSTALLATION DRAWING & SUPPLY SCOPE DETAILS



**<Supply Scope>**

- Hydraulic Pile Hammer including Remote Control Box, Supply Wire(12M), Control Wire(25~30M)
- Hose Hanger, Hoses(Supply,Return 13M/15M)
- Relief Block
- Lead Mast with Brackets -Optional
- Lifting Sheave for Hammer -Optional
- Extension Base Kit incl. Winches & Winch Block -Optional



Extension Base Kit



Leader Mast



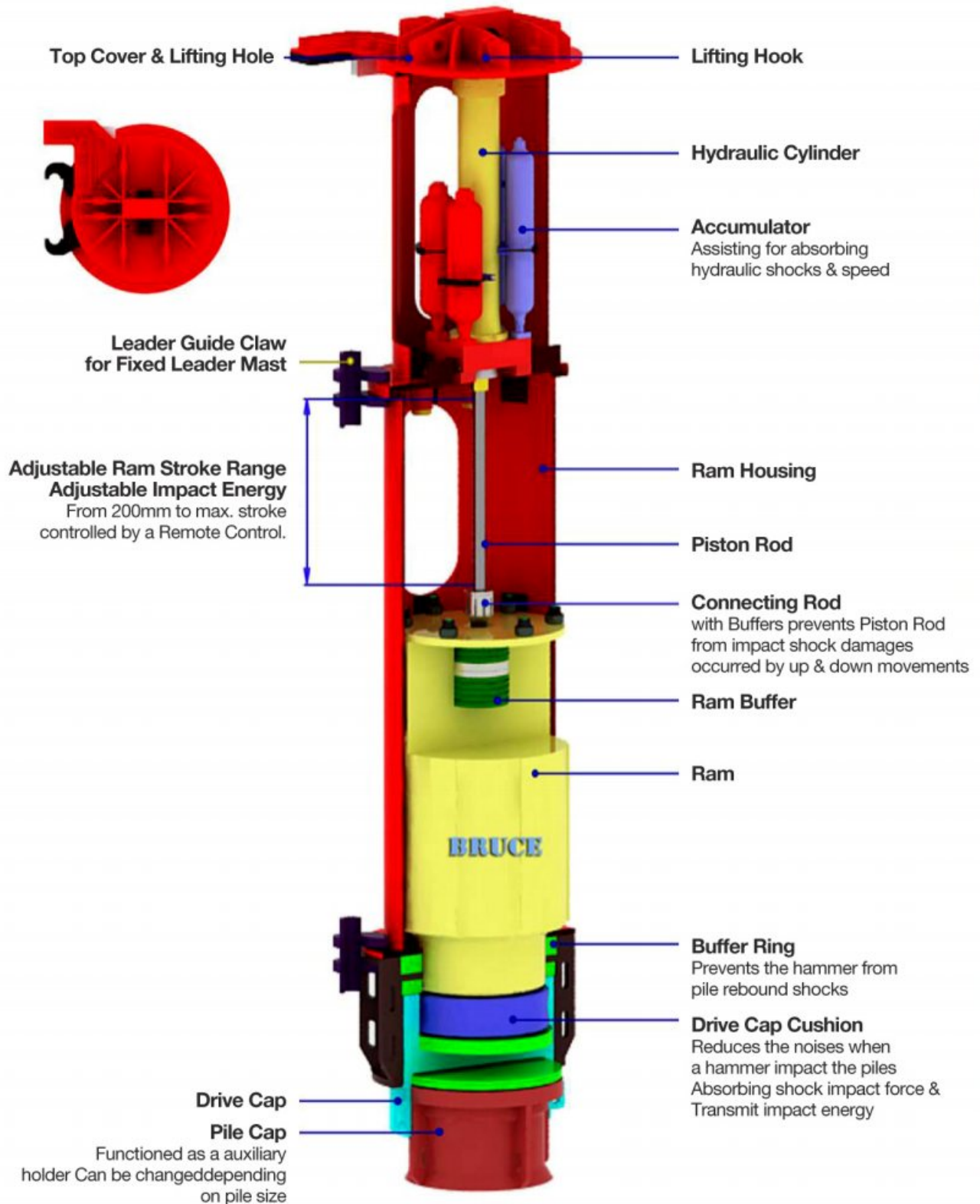
Remote Con. Box



Winch Controller

※ Fabricate and Extension Base for setting on Winches, Winch Distributor and Relief Block .  
Make sure that all these components be safe when an Excavator transportation.

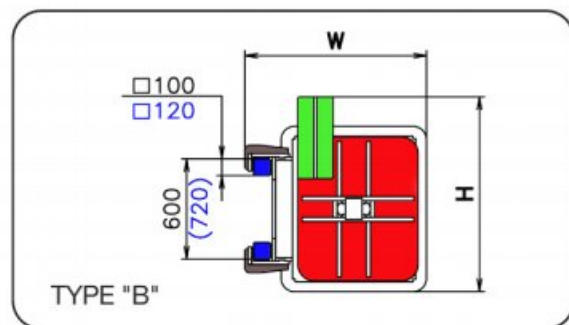
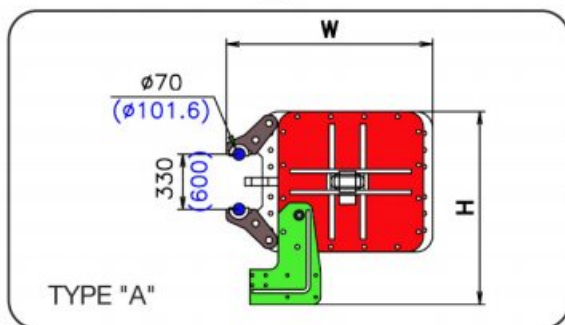
# GENERAL BRUCE HAMMER STRUCTURE FIXED LEADER TYPE



# FIXED LEADER MOUNTING TYPE & DIMENSION



## Fixed Leader Type



TYPE	GUIDE SHAPE	DIMENSION(mm)
TYPE "A"	ROUND	Ø 70 × 330
		Ø 101.6 × 600
TYPE "B"	SQUARE	□ 60 × 500
		□ 80 × 400
		□ 80 × 600
		□ 90 × 515
		□ 70 × 330
		□ 100 × 600
		□ 120 × 720

- Other dimension and type can be modified.
- Long pile skirt & offshore leader for crane suspended are optional.

# EXCAVATOR MOUNTED HAMMER

## ASSEMBLY PROCEDURE **BRUCE** EXCAVATOR MOUNTED HAMMER



1) Dismantle an Excavator



2) Fabricate the Extension Base



3) Connect Hoses & Cables



4) Assembly the Leader



5) Connect it to an Excavator



6) Connect the Winch Wires



7) Set up a Hammer with Sheave



8) Ready for the work



## **BRUCE ELECTRICAL** **REMOTE CONTROL SYSTEM**

*With BRUCE hammer Remote Control system, Users can control piling and failure check in piling rig or long distance of piling area. Abnormalities in each functions are monitored on LED indicators with a highly bright signal so that the electrical diagnosis and possible remedy can be done quickly*



### **MAIN FUNCTION HAMMER OPERATION**

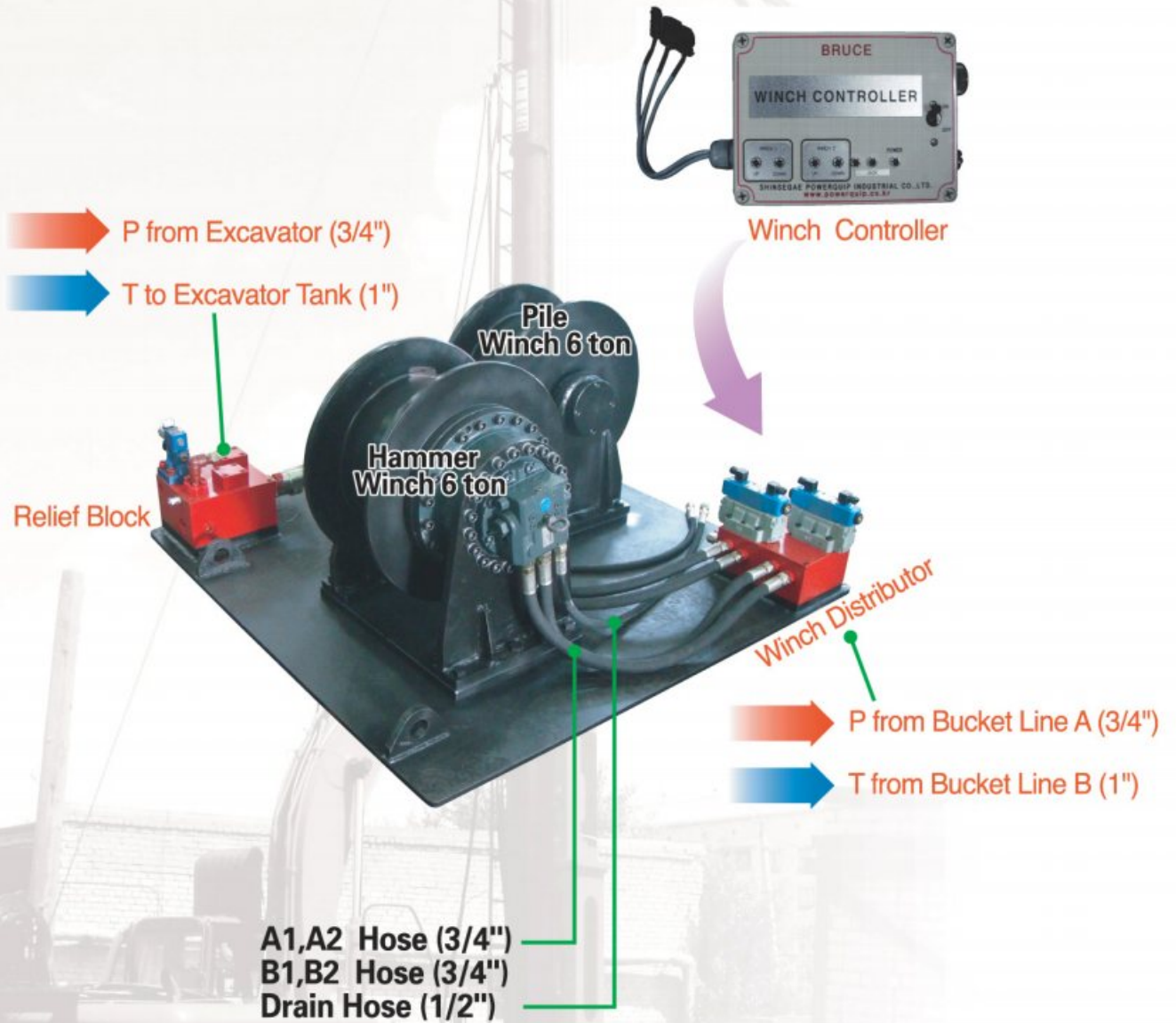
- Dwell control for adjusting ram staying time on pile
- Digital blow counter recorder
- Stroke control for adjusting impact energy value
- Flow controller for adjusting ram speed-Optional
- Operational in both manual and automatic mode
- Automatic cut-off circuit breaker to prevent electric power abnormality or short electrical circuit
- Engine start and stop for BRUCE Power Pack
- Emergency stop button for BRUCE Power Pack

### **ABNORMALITY CHECKING ON LED LAMPS**

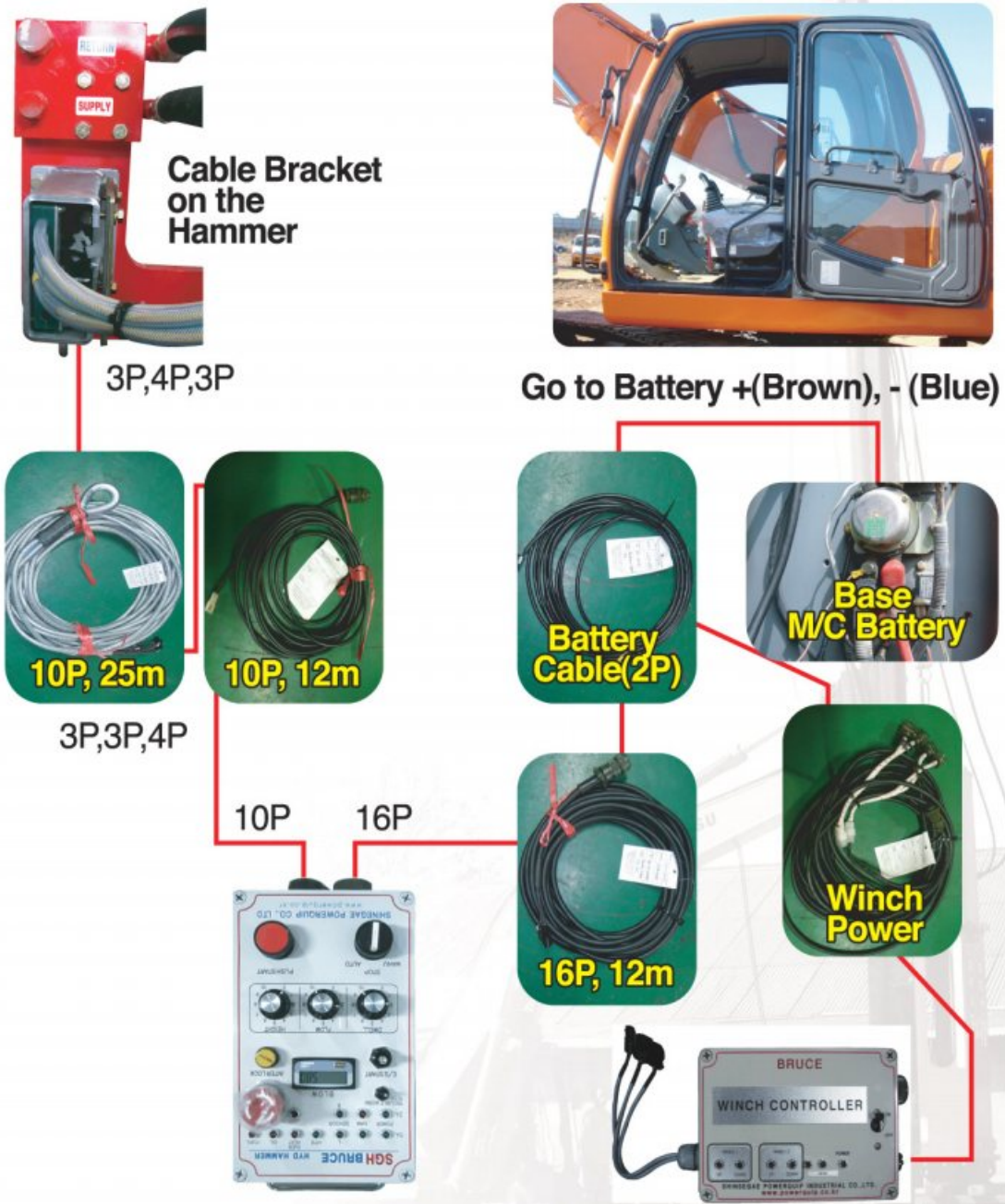
- Coolant temperature for BRUCE Power Pack
- Checking abnormality of engine oil for BRUCE Power Pack
- Short-circuit disconnection of wiring on hammer and solenoid valve wire
- Hydraulic main relief valve checking
- Power supply status on / off on LED indicators for sensors functions and working status
- Battery charge for BRUCE Power Pack

# EXCAVATOR MOUNTED HAMMER

## INSTALLATION OF THE EXTENSION BASE KIT



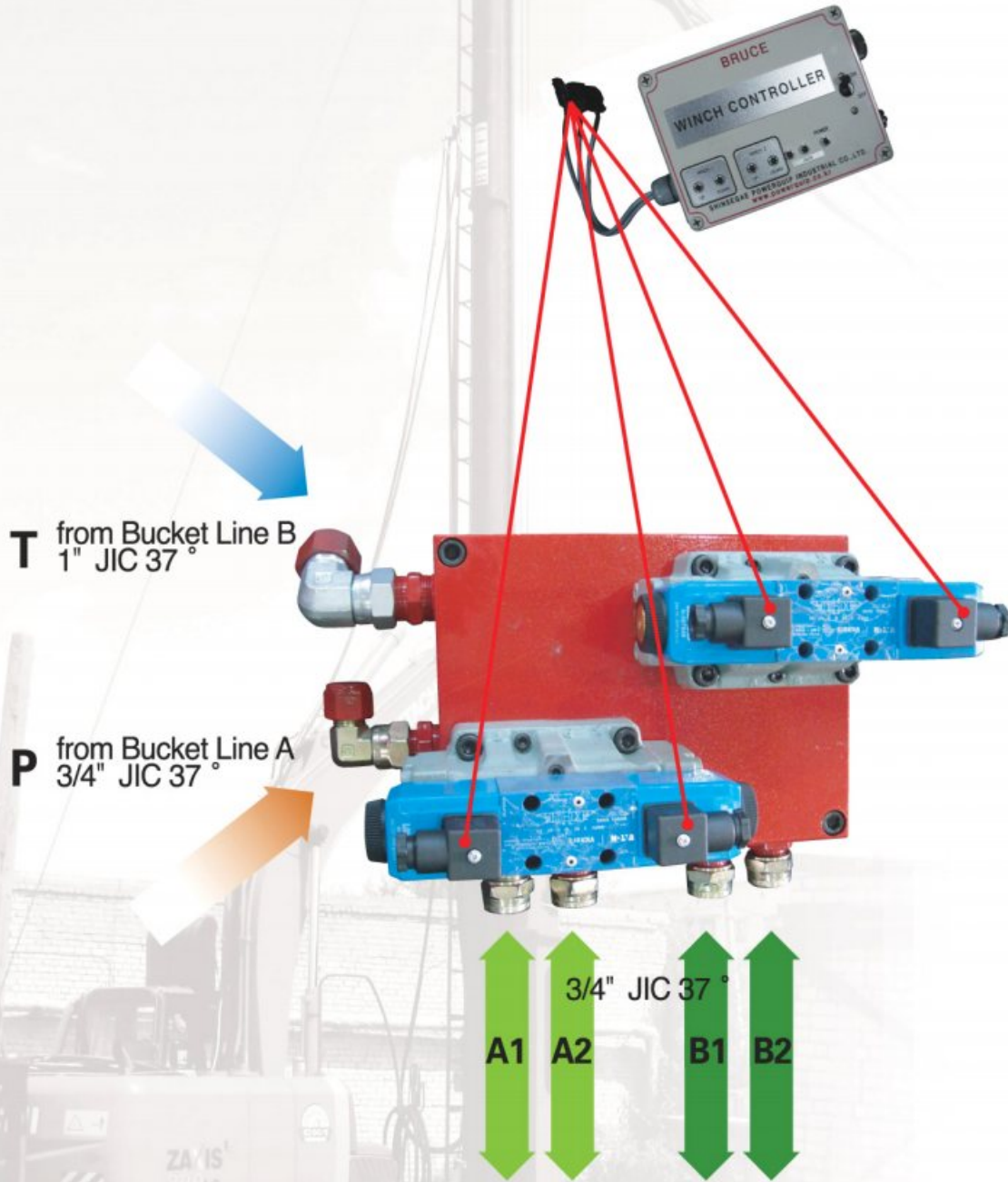
# CABLE CONNECTIONS OF **BRUCE** HAMMER OPERATION



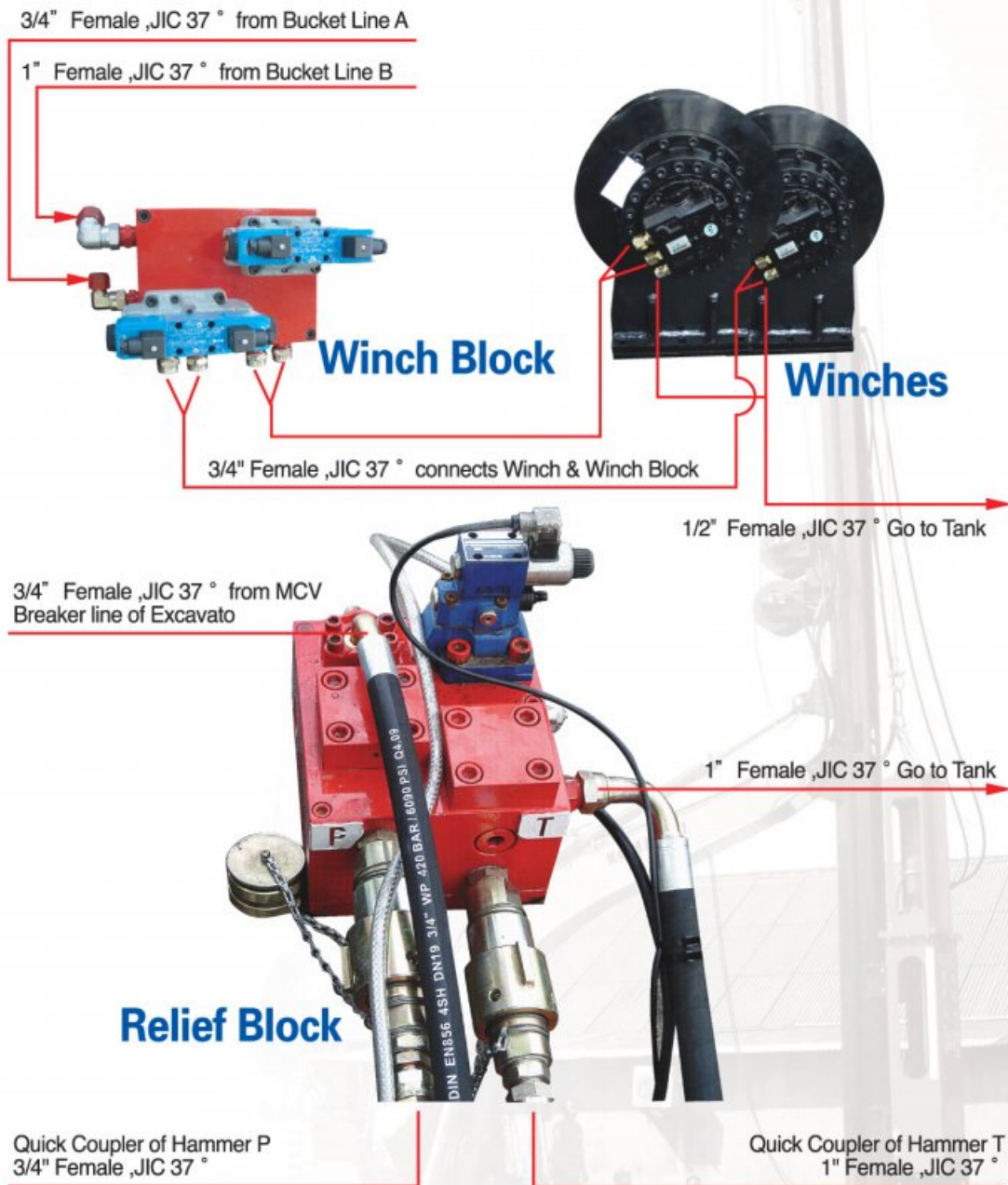
# EXCAVATOR MOUNTED HAMMER

## CONNECTIONS OF A WINCH BLOCK

Shinsegae Powerquip BRUCE EXCAVATOR MOUNTED IMPACT PILE HAMMER



# HOSE CONNECTIONS OF A WINCH BLOCK & RELIEF BLOCK



# EXCAVATOR MOUNTED HAMMER

## COMPONENTS LOCATION OF **BRUCE** HAMMER PRACTICAL OPERATION



Extension Base Kit



Hammer Winch



Pile Winch

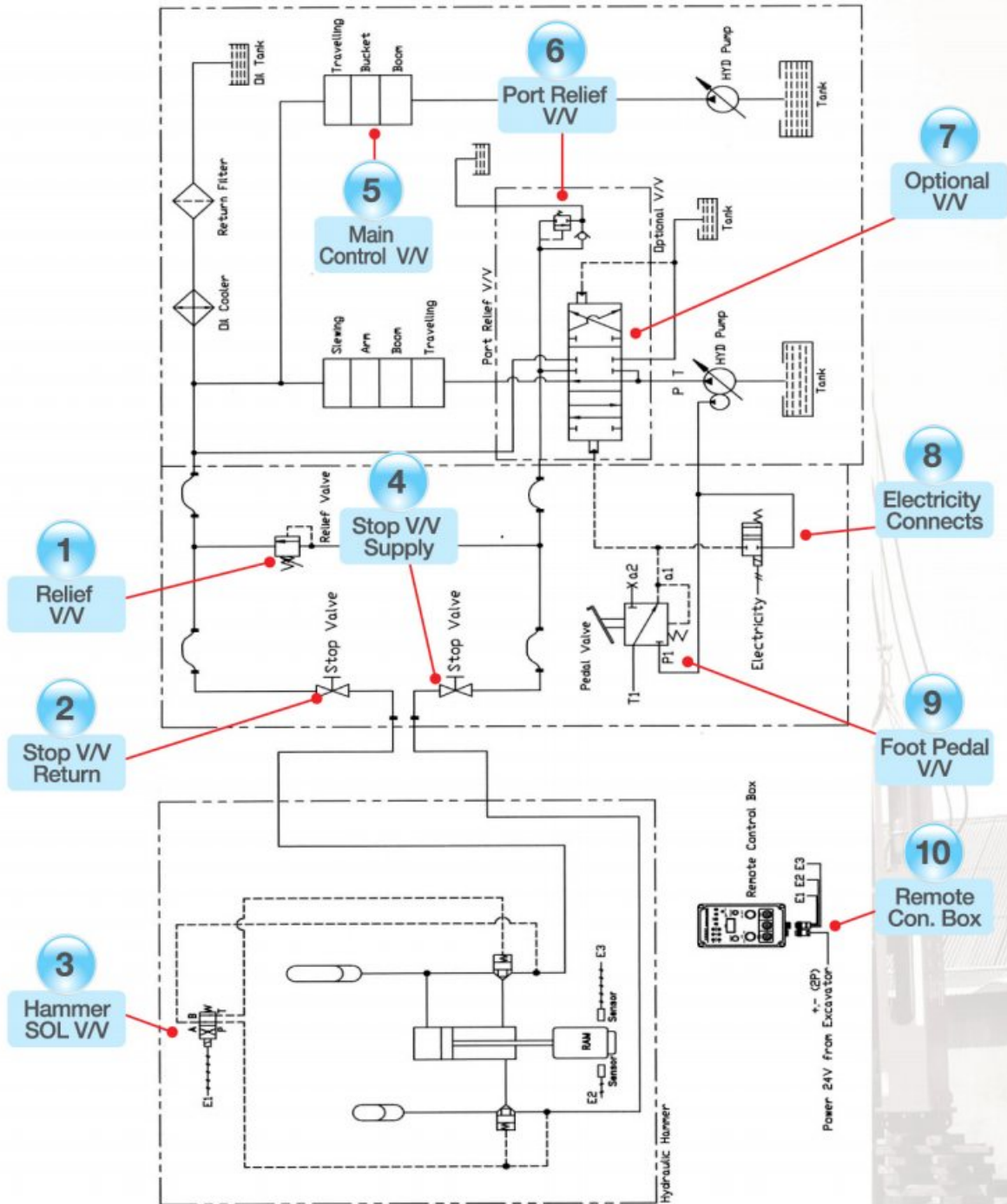


Winch Controller



Remote Control Box

# HYDRAULIC DIAGRAM OF BRUCE EXCAVATOR MOUNTED HAMMER



# SPECIFICATION OF **BRUCE** HAMMER & LEADER ACCESSORIES



HAMMER MODEL		SGH-0212	SGH-0312	SGH-0315	SGH-0412
Ram Weight	(ton)	2	3	3	4
	(lbs)	4409	6614	6614	8819
Min. Stroke	(mm)	200	200	200	200
	(ft)	0.66	0.66	0.66	0.66
Max. Stroke	(mm)	1200	1200	1500	1200
	(ft)	3.94	3.94	4.92	3.94
Max. Potential Energy	(ton.m)	2.4	3.6	4.5	4.8
	(kN.m)	24	35	44	47
Blow Rate at Max & Minimum Stroke	(bpm)	40	40	36	40
	(bpm)	60	60	60	60
Operating Pressure	(bar)	230	230	230	230
	(psi)	3337	3337	3337	3337
Required Flow Rate	(lpm)	100	100	100	123
	(gpm)	27	27	27	33
<b>DIMENSIONS</b>					
Hammer Length excl. Pile Cap	(mm)	4675	5060	5660	5440
	(ft)	15.3	16.6	18.6	17.9
Overall Width, W	(mm)	908	1195	1195	1195
	(ft)	3.0	3.9	3.9	3.9
Overall Height, H	(mm)	1240	1016	1016	1016
	(ft)	4.1	3.3	3.3	3.3
<b>LEAD TYPE OR HAMMER MOUNTING TYPE</b>					
Type & Size *2	(mm)	Fixed Lead □80 × 400mm	Fixed Lead □100 × 600mm	Fixed Lead □100 × 600mm	Fixed Lead □100 × 600mm
Other type, shape & dimension		Upon Request	Upon Request	Upon Request	Upon Request
<b>WEIGHTS</b>					
Hammer Weight	(kg)	4300	5600	5700	7000
	(lbs)	9480	12346	12566	15432
<b>SUITABLE PACK SERIES</b>		PQ-150	PQ-150	PQ-150	PQ-150
<b>EXCAVATOR</b>		24 tons	24 tons	30 tons	36 tons

- Either of pile size & Lead size can be made as rounded or squared type.
- Bruce reserves the right to amend specification without prior notice.



# SPECIFICATION OF BRUCE HAMMER & LEADER ACCESSORIES



HAMMER MODEL		SGH-0415	SGH-0512	SGH-0712	SGH-0715
Ram Weight	(ton)	4	5	7	7
	(lbs)	8819	11023	15432	15432
Min. Stroke	(mm)	200	200	200	200
	(ft)	0.66	0.66	0.66	0.66
Max. Stroke	(mm)	1500	1200	1200	1500
	(ft)	4.92	3.94	3.94	4.92
Max. Potential Energy	(ton.m)	6.0	6.0	8.4	10.5
	(kN.m)	60	59	83	103
Blow Rate at Max & Minimum Stroke	(bpm)	40	40	40	38
	(bpm)	60	60	60	60
Operating Pressure	(bar)	230	230	230	230
	(psi)	3337	3337	3337	3337
Required Flow Rate	(lpm)	153	190	190	230
	(gpm)	34	50	50	61
<b>DIMENSIONS</b>					
Hammer Length excl. Pile Cap	(mm)	6000	5482	5712	6312
	(ft)	19.7	18.0	18.7	20.7
Overall Width, W	(mm)	1195	1307	1307	1307
	(ft)	3.9	4.3	4.3	4.3
Overall Height, H	(mm)	1016	1125	1157	1157
	(ft)	3.3	3.7	3.8	3.8
<b>LEAD TYPE OR HAMMER MOUNTING TYPE</b>					
Type & Size *2	(mm)	Fixed Lead □100 × 600mm	Fixed Lead □100 × 600mm	Fixed Lead □120 × 720mm	Fixed Lead □120 × 720mm
Other type, shape & dimension		Upon Request	Upon Request	Upon Request	Upon Request
<b>WEIGHTS</b>					
Hammer Weight	(kg)	7500	9500	12500	13000
	(lbs)	16535	20944	27558	28660
<b>SUITABLE PACK SERIES</b>		PQ-150	PQ-200	PQ-200	PQ-250
<b>EXCAVATOR</b>		36 tons	36 tons	45tons	45tons

- Either of pile size & Lead size can be made as rounded or squared type.
- Bruce reserves the right to amend specification without prior notice.

# SPECIFICATION OF **BRUCE** HAMMER & LEADER ACCESSORIES

HAMMER MODEL		SGH-0212	SGH-0312 SGH-0315	SGH-0412 SGH-0415	SGH-0512	SGH-0712 SGH-0715
<b>REFERENTIAL DATA</b>						
Required oil flow *1	(lpm) (gpm)	100 27	100 27	123 / 33 153 / 34	190 50	190 / 50 230/ 61
Note *1 If oil flow from base machine is lager volume than required oil flow, the <b>Flow Adjuster</b> is required to install at Supply line at Manifold block - Optional						
Required setting pressure at base machine	(bar) (psi)	280 3983	280 3983	280 3983	280 3983	280 3983
Required power voltage from base machine	(volt)	24 Volt	24 Volt	24 Volt	24 Volt	24 Volt
<b>HOSE SIZE</b>						
Supply from base machine *2, SAE split type at Manifold Block	(inch)	3/4	3/4	3/4	1	1
Note *2 The hoses and necessary fittings from hammer manifold block Supply to base machine valve port are prepared by customer.						
Return to tank to base machine *3, JIC type at Manifold Block	(inch)	1	1	1	1-1/4	1-1/4
Note *3 The hoses and necessary fittings from hammer manifold block Return to base machine tank prepared by customer.						
Hammer Supply hose	(inch)	3/4	3/4	3/4	1	1
Hammer Return hose	(inch)	1	1	1	1-1/4	1-1/4
<b>EXCAVATOR</b>		24 tons	24 tons 30 tons	36 tons	45tons	45tons

- The Supply Hydraulic Oil for hammer operation is recommended from existing Optional Valve for hydraulic attachment such as Hydraulic Breaker

# BRUCE EXCAVATOR MOUNTED IMPACT HAMMERS ON JOB SITES



The most efficient way of pile driving work  
with a perfect combination

**SGH-0212, 0312, 0315, 0412, 0415, 0512, 0712, 0715**

BRUCE Impact Hammer ranges various models, Hammer can all be mounted onto your own Excavator or similar Base machine.

**The ideal design of pile driving work  
for a small sized pile application  
ranging upto 7tons of hammer**

**BRUCE<sup>®</sup> EXCAVATOR MOUNTED IMPACT PILE HAMMER**

**The most efficient way of pile driving job with a perfect  
combination enabling a great stability and transportation.**

**SHINSEGAE  
POWERQUIP**

INDUSTRIAL.CO.,LTD



**SHINSEGAE POWERQUIP**

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