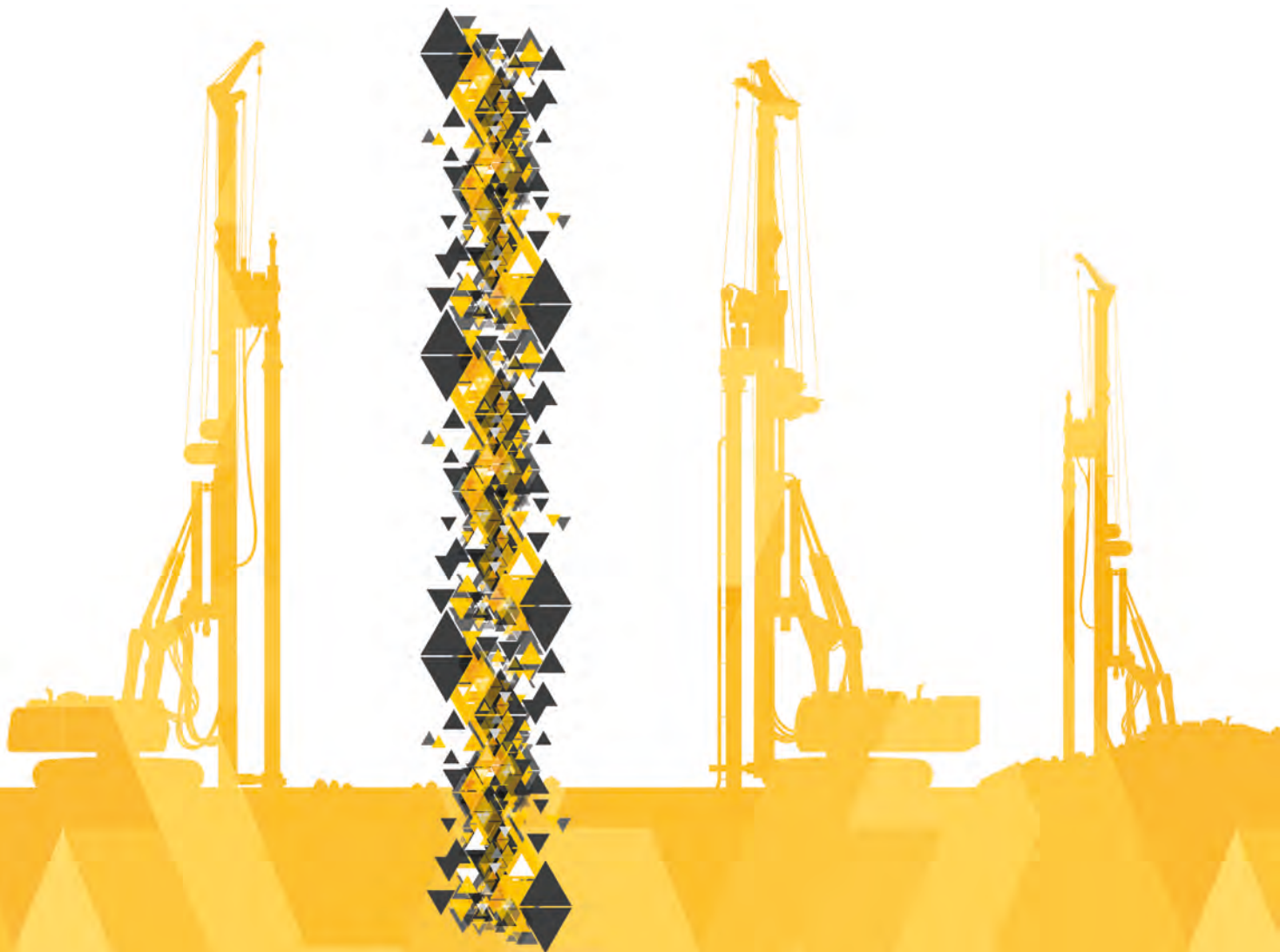




# ***Hydraulische Hilfswerkzeuge*** ***Hydraulic Auxillary Tools***



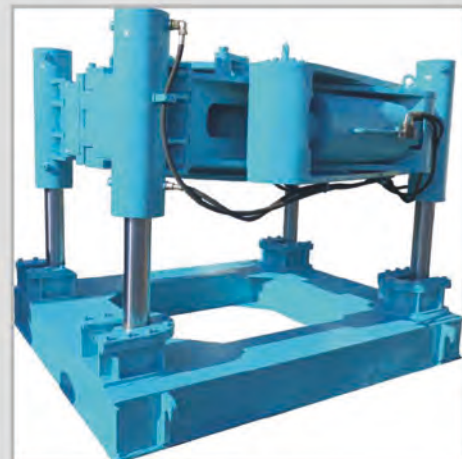
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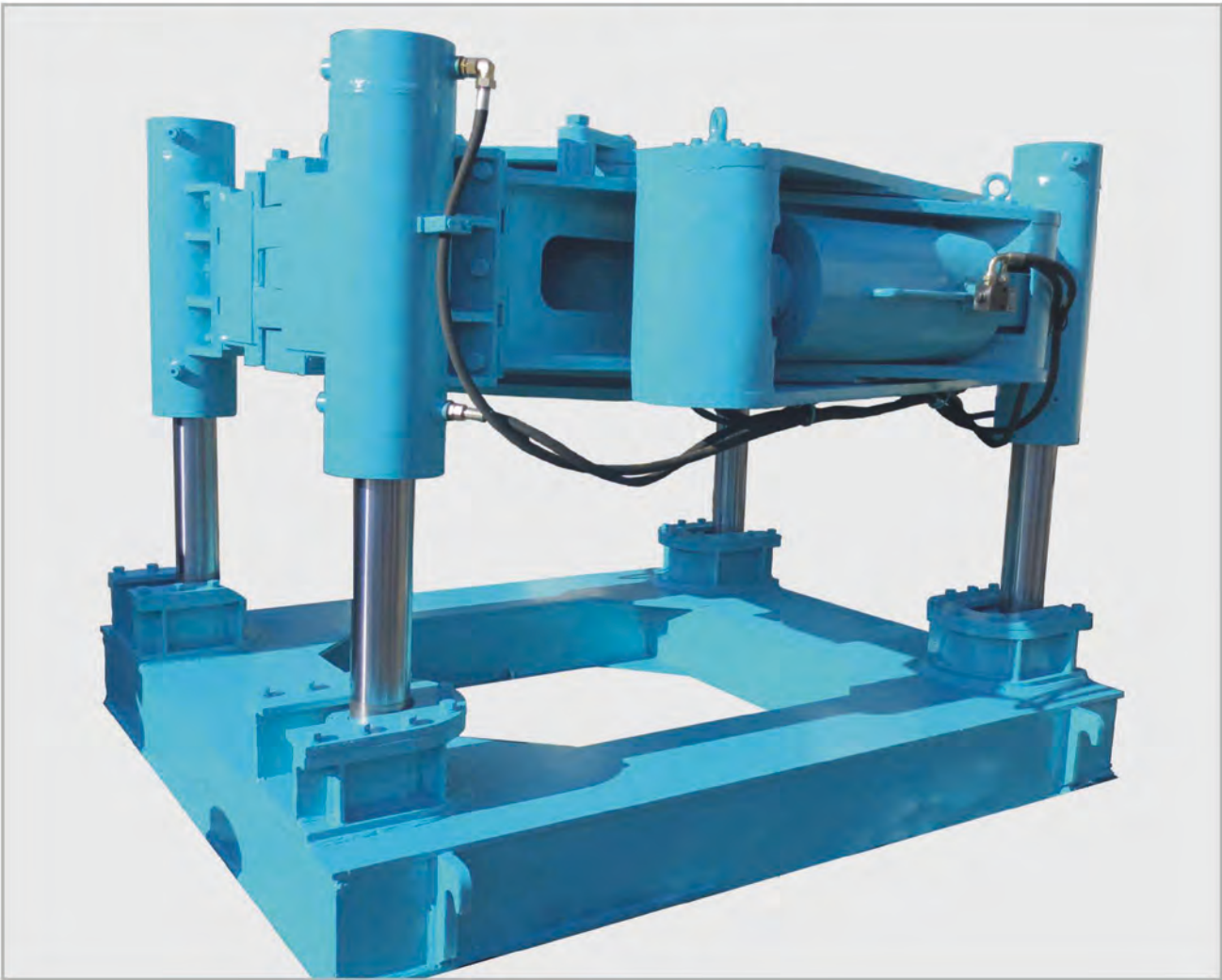
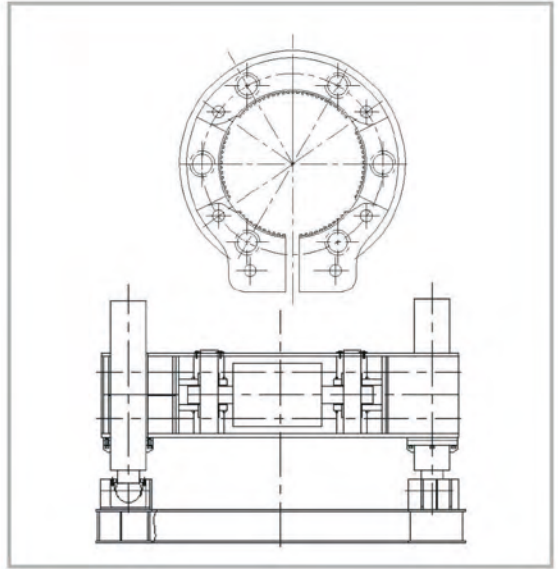
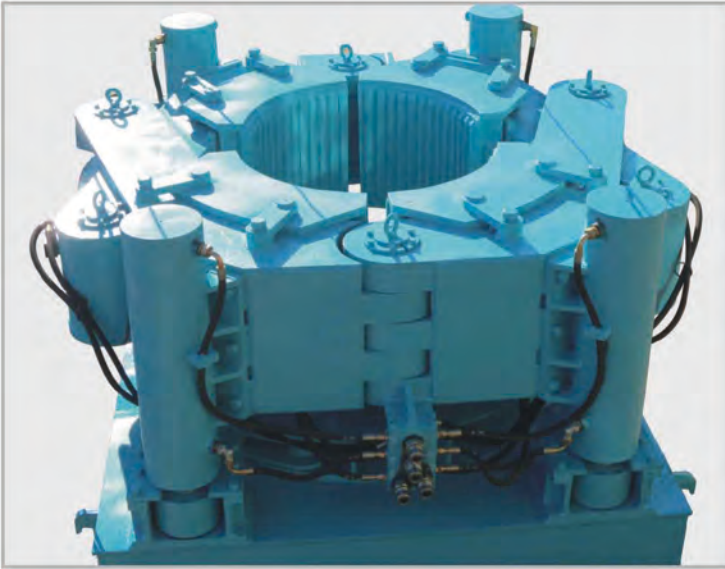
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## Casing Oscillator





# Power Pack

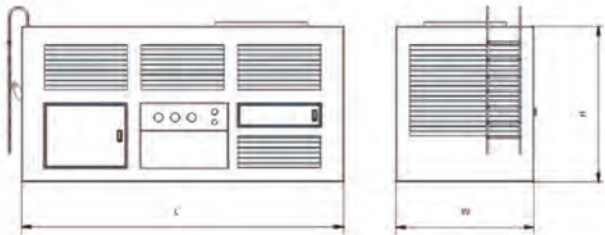


## Product Introduction

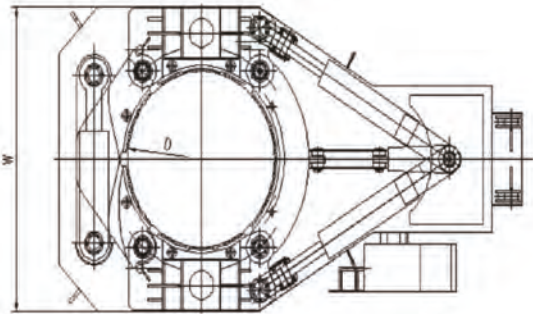
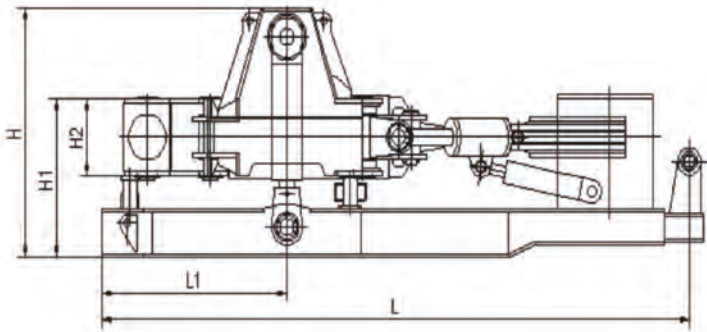
The two types of power engines BVV offers are:

- Motor engines
- Diesel engines

Both are produced on demand, with customizable features.



	FGJ1000 ~ FGJ2000	FGJ2200 ~ FGJ3000
Engine	Cummins QSB6.7-C240	Cummins QSB8.9-C325
Power	179kw/240hp	239kw/320hp
Rotation Speed	2200rpm	2200rpm
Main Pump flow	2*200L/min	2*200L/min
Working pressure	207bar	207bar
Diesel / Hydraulic oil tank capacity	1300L/400L	2200L/460L
Dimensions	3500*1700*2000mm	4000*2000*2000mm
Weight	5400kg	6500kg



## Casing Oscillator (long) Spec, metric system

			FGJ 1300L	FGJ 1500L	FGJ 2000L	FGJ 2200L	FGJ 2500L	FGJ 2800L	FGJ 3000L
<b>D</b>	Max. casing diameter	mm	1300	1500	2000	2200	2500	2800	3000
<b>W</b>	Machine width	mm	2350	2850	3200	3400	4000	4300	4500
<b>L</b>	Machine length	mm	6500	6500	7500	7500	8800	9100	9150
<b>L1</b>	Distance from machine center to front end	mm	1200	1300	1600	1730	2230	2400	2600
<b>H</b>	Machine height	mm	1800	1850	1950	2050	2580	2580	2610
	Operating pressure	Mpa	31.5	31.5	31.5	31.5	31.5	31.5	31.5
	Torque	KN.m	1750	3280	4070	4450	7310	8230	8610
	Stroke	mm	500	500	500	500	500	500	500
	Lifting force	KN	1550	2150	2800	2800	5050	7420	7420
	Clamping force	KN	1370	1750	2250	2250	3710	4680	4680
	Rotation angle	degree	25°	25°	25°	25°	25°	25°	25°
	Casing rotation	mm	285	330	440	485	550	540	545
	Weight	Kg	12,000	16,500	23,500	26,000	37,650	47,060	50,000

## Casing Oscillator (long) Spec, imperial system

			FGJ 1300/C	FGJ 1500/C	FGJ 2000/C	FGJ 2200/C	FGJ 2500/C	FGJ 2800/C	FGJ 3000/C
<b>D</b>	Max. casing diameter	in	51.18	59.06	78.74	86.61	98.43	110.24	118.11
<b>W</b>	Machine width	in	92.52	112.2	125.98	133.86	157.48	169.29	177.17
<b>L</b>	Machine length	in	255.91	255.91	295.28	295.28	346.46	358.27	360.24
<b>L1</b>	Distance from machine center to front end	in	47.24	51.18	62.99	68.11	87.8	94.49	102.36
<b>H</b>	Machine height	in	70.87	72.83	76.77	80.71	101.57	101.57	102.76
	Operating pressure	psi	4567.5	4567.5	4567.5	4567.5	4567.5	4567.5	4567.5
	Torque	Ft-lb	1,290,800	2,419,328	3,002,032	3,282,320	5,391,856	6,070,448	6,350,736
	Stroke	in	19.69	19.69	19.69	19.69	19.69	19.69	19.69
	Lifting force	Lbf	348,440	483,320	629,440	629,440	1,135,240	1,668,016	1,668,016
	Clamping force	Lbf	307,976	393,400	505,800	505,800	834,008	1,052,064	1,052,064
	Rotation angle	degree	25°	25°	25°	25°	25°	25°	25°
	Casing rotation	in	11.22	12.99	17.32	19.09	21.65	21.26	21.46
	Weight	Lb	26,455	36,376	51,809	57,320	83,004	103,749	110,231



## Casing Oscillator (short) Spec, metric system

			FGJ1000S	FGJ1300S	FGJ1500S	FGJ2000S
<b>D</b>	Max. casing diameter	mm	1000	1300	1500	2000
<b>W</b>	Machine width	mm	1850	2250	2500	3200
<b>L</b>	Machine length	mm	2700	3870	4070	4800
<b>L1</b>	Distance from machine center to front end	mm	950	1200	1450	1700
<b>H</b>	Machine height	mm	1250	1600	1600	1600
	Operating pressure	mm	31.5	31.5	31.5	31.5
	Torque	Mpa	650	1750	2000	2520
	Stroke	mm	350	450	450	450
	Lifting force	KN	800	1800	1800	2000
	Clamping force	KN	530	1650	2100	2510
	Rotation angle	dgree	22°	22°	22°	22°
	Casing rotation	mm	185	245	290	340
	Weight	Kg	7500	11,200	15,000	17,600

## Casing Oscillator (short) Spec, imperial system

			FGJ1000S	FGJ1300S	FGJ1500S	FGJ2000S
<b>D</b>	Max. casing diameter	in	39.37	51.18	59.06	78.74
<b>W</b>	Machine width	in	72.83	88.58	98.43	125.98
<b>L</b>	Machine length	in	106.3	152.36	160.24	188.98
<b>L1</b>	Distance from machine center to front end	in	37.4	47.24	57.09	66.93
<b>H</b>	Machine height	in	49.21	62.99	62.99	62.99
	Operating pressure	psi	4567.5	4567.5	4567.5	4567.5
	Torque	Ft-Lb	479,440	1,290,800	1,475,200	1,858,752
	Stroke	in	13.78	17.72	17.72	17.72
	Lifting force	Lbf	179,847	404,656	404,656	449,618
	Clamping force	Lbf	119,149	370,935	472,099	564,271
	Rotation angle	dgree	22°	22°	22°	22°
	Casing rotation	in	13.39	9.65	11.42	7.28
	Weight	Lb	16,535	24,692	33,069	38,801



# PILE BREAKER





## Technical Parameter of FP315A (13 Modules combination)

Pile diameter range	Φ960~Φ1050mm
Max rod pressure force	280KN
Max hydraulic cylinder stroke	135mm
Max hydraulic cylinder pressure force	30MPa
Max working flow / single cylinder	20L/min
Quantity / 8h	60/8h
Max. height of single cut	≤300mm
Completed machinery tonnage	≥20t
Single Module weight	100kg
Single Module measurement	645×444×316mm
Operation measurement	2098×4840mm
Total Weight	1.7t

## Construction Parameter of FP315A Pile Breaker

Qty of Modules	Pile diameter range	Platform weight	Total weight	Height of Single cutting
6	300~350	≥12	1000	≤300
7	300~450	≥12	1100	≤300
8	450~550	≥16	1200	≤300
9	550~650	≥16	1300	≤300
10	650~760	≥20	1400	≤300
11	760~860	≥20	1500	≤300
12	860~960	≥20	1600	≤300
13	960~1050	≥20	1700	≤300

**Note:** chain sling is prone to damage/breakage if maximum height of a single cut is exceeded.

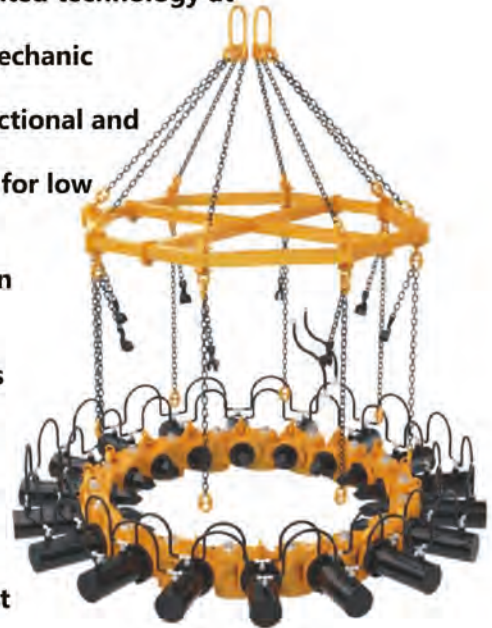
### Product highlights:

1. Global leader in hydraulic pile breaking operations, high operating efficiency, low noise production.
2. Building-block design allows for easy assembling and shape/diameter adjustment.
3. High performance function with European quality standards; competitive operating cost.
4. Easily operated without professional expertise, designed for safety.
5. Complementary usage and easy connectivity with many machines, including excavators, cranes, telescopic booms, etc.

## Pile Breaker

### FP380A product features

1. Leading hydraulic pile breaker equipment. The five sets of patented technology at BVV helps to increase efficiency in pile cap removal constructions.
2. Building-block design can be added or taken out to meet the mechanic requirements of many different projects.
3. Easily connected and compatible with many machines, multifunctional and economic.
4. Easy operating process with simplified operating system allows for low labour costs.
5. Energy conservation for pile cap removal processes.
6. Extendable linkage design can be used across many construction jobsites.
7. Fully hydraulic engine allows for reduced noise.
8. Convenient assembling allows for easy transportation, increases construction efficiency.
9. New material and new technological design increase machine functionality, while lowering maintenance costs.
10. Easy assembling and building-block design allows for general usage in many areas of construction, speedy maintenance, and prolonging useful life of machine
11. Designed to lower machine depreciation, bringing you the best product yield.



### Technical parameter of FP380A

Pile diameter range	Φ600~Φ1800mm
Max rod pressure force	600KN
Max hydraulic cylinder stroke	180mm
Max hydraulic cylinder pressure force	30MPa
Max working flow / single cylinder	30L/min
Quantity / 8h	48/8h
Max height of a single cut	≤300mm
Completed machinery tonnage	≥35t
Quantity of Modules	18
Single Module weight	230kg
Single Module measurement	696×566×350mm
Operation measurement	3316×4000mm
Total Weight	4.5t



## Construction Parameter of FP380A Pile Breaker

Qty of Modules	Pile diameter range	Platform weight	Total weight	Height of Single cutting
8	600	$\geq 20$	2200	$\leq 300$
9	700	$\geq 20$	2430	$\leq 300$
10	800~900	$\geq 25$	2660	$\leq 300$
11	1000	$\geq 25$	2890	$\leq 300$
12	1100	$\geq 25$	3120	$\leq 300$
13	1200	$\geq 28$	3350	$\leq 300$
14	1300~1400	$\geq 28$	3580	$\leq 300$
15	1050	$\geq 30$	3810	$\leq 300$
16	1600	$\geq 30$	4040	$\leq 300$
17	1700	$\geq 35$	4270	$\leq 300$
18	1800	$\geq 35$	4500	$\leq 300$

Note: The chain sling may be broken if single cutting height exceeds the max value.

## FP400S/FP450S product features

1. Leading hydraulic pile breaker equipment. The five sets of patented technology at BVV helps to increase efficiency in pile cap removal constructions.
2. Building-block design can be added or taken out to meet the mechanic requirements of many different projects.
3. Easily connected and compatible with many machines, multifunctional and economic.
4. Easy operating process with simplified operating system allows for low labour costs.
5. Energy conservation for pile cap removal processes.
6. Extendable linkage design can be used across many construction jobsites.
7. Fully hydraulic engine allows for reduced noise.
8. Convenient assembling allows for easy transportation, increases construction efficiency.
9. New material and new technological design increase machine functionality, while lowering maintenance costs.
10. Easy assembling and building-block design allows for general usage in many areas of construction, speedy maintenance, and prolonging useful life of machine
11. Designed to lower machine depreciation, bringing you the best product yield.



## Technical parameter

Pile crusher type	FP400S	FP450S
Pile range	250~400mm	350~450mm
Max rod pressure force	280KN	280KN
Max hydraulic cylinder stroke	135mm	135mm
Max hydraulic cylinder pressure force	30MPa	30MPa
Max working flow / single cylinder	20L/min	20L/min
Quantity / 8h	160/8h	180/8h
Max Single cutting height	≤300	≤300
Completed machinery tonnage	≥7t	≥8t
Operation measurement	1440×1440×1500mm	1490×1490×1500mm
Total Weight	0.6t	0.65t

## FP500S product features

1. Leading hydraulic pile breaker equipment. The five sets of patented technology at BVV helps to increase efficiency in pile cap removal constructions.
2. Building-block design can be added or taken out to meet the mechanic requirements of many different projects.
3. Easily connected and compatible with many machines, multifunctional and economic.
4. Easy operating process with simplified operating system allows for low labour costs.
5. Energy conservation for pile cap removal processes.
6. Extendable linkage design can be used across many construction jobsites.
7. Fully hydraulic engine allows for reduced noise.
8. Convenient assembling allows for easy transportation, increases construction efficiency.
9. New material and new technological design increase machine functionality, while lowering maintenance costs.
10. Easy assembling and building-block design allows for general usage in many areas of construction, speedy maintenance, and prolonging useful life of machine
11. Designed to lower machine depreciation, bringing you the best product yield.







## Introduction of FCR200 Casing Rotator



### Product introduction

The FCR200 casing rotator is a new type of eco-friendly and highly efficient foundation drilling equipment incorporating mechanical, hydraulic, and electric controls. Its primary usage includes the subway constructions, deep foundation secant piles, and removals of underground obstacles (i.e. abandoned piles). The primary components of the FCR200 is the working unit, the hydraulic power pack, and the control panel. It is typically used in accordance with auxiliary equipment, such as hydraulic crawler cranes, claws, impact drills auger drills, hammer grabs, etc. With maximum rotation torque of 3000kN.m and rotation speed between 0.9 to 2.5 rpm, its casing installation capacity can be reached up to 2 meters in diameter.



## Main product features

### 1. Wedge-shaped clamp

The wedge-shaped clamp structure allows the casing rotator to transfer power to the casing efficiently and reliably. With pull-up resistance increasing, the clamping force increases accordingly, delivering reliable casing extraction. The clamp is designed with sufficient force to secure the casing reliably while limiting damage to thin casing and steel piles.

### 2. Auxiliary clamping device

While the wedge-shaped clamp is released and moved in an upwards motion for the casing extraction process, the auxiliary clamp complements the procedure by holding casing down to prevent slipping.

### 3. Leveling adjustment

The casing rotator can be levelled either manually by moving the four handles that regulate leg pistons, or automatically with the Auto Switch – a faster and more convenient alternative.

### 4. Breakout force for emergency rotation and pull-up

To eliminate the risk of dysfunctional casing (cannot be rotated or pulled up), the machine is equipped with a breakout button. When activated, an instantaneous output of strengthened rotation and pull-up force (typically 15% higher than rated force) is released. The breakout force overcomes friction in its surroundings and help to rotate and pull up the casing.

### 5. Load control mechanism for cutting shoes

The scales in the load controller alleviate the heavy load on cutting teeth, with pull-up pistons hauled up slightly to maintain load limit. This control helps to avoid overloading damage to cutting teeth.

### 6. Operation options

\*Computerized control – with monitored construction process

\*Remote control – by cable-connected portal control panel

\*Manual control – in the event of emergencies

## Main Parameter

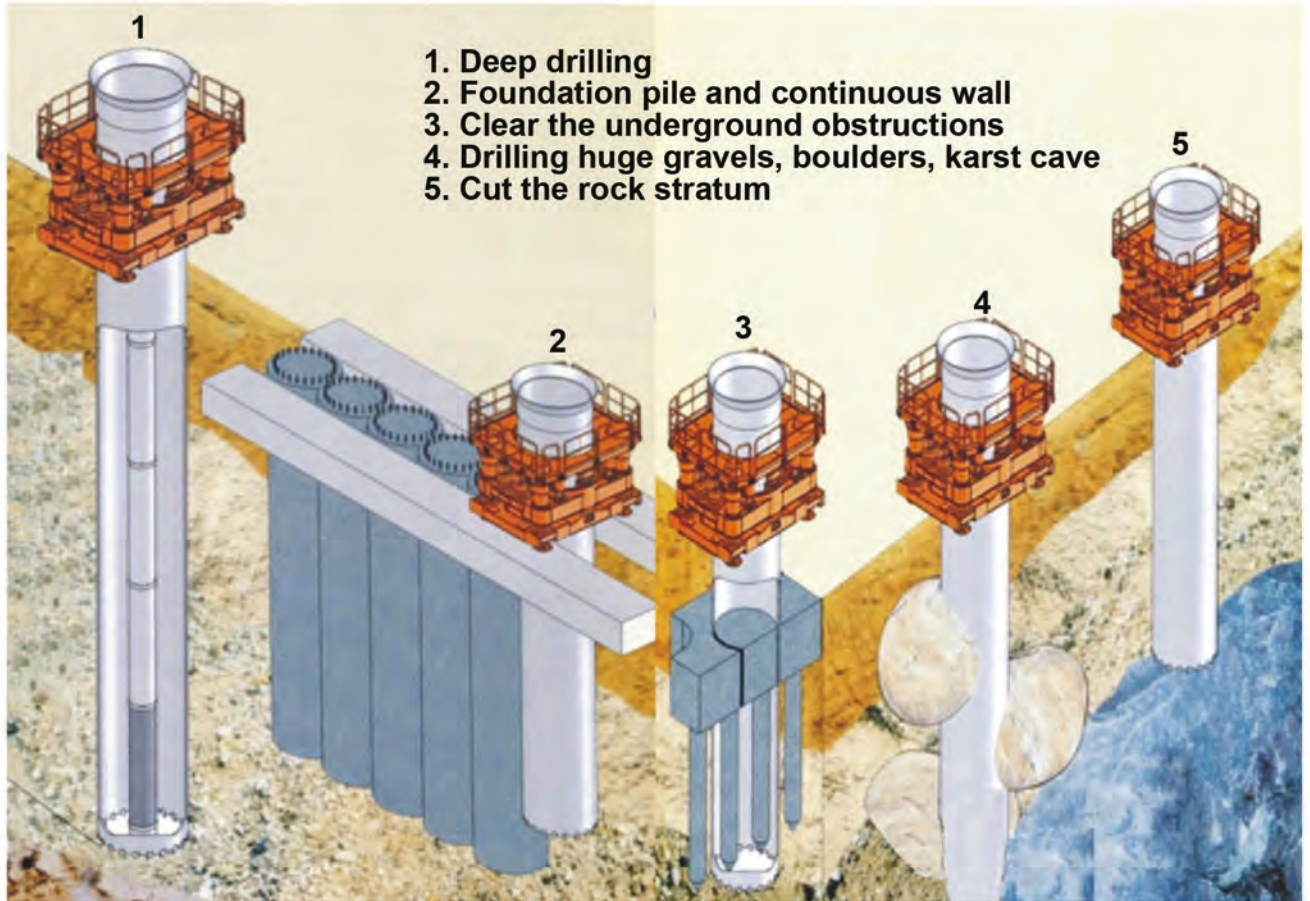
NO	Name	Parameter
1	Engine	Cummins QSM 11-335 280kw/2100rpm
2	Dia of casing	1000mm~2000mm
3	Speed of rotation	0.9r/min;1.5r/min;2.5r/min
4	Pull force	3500kN
5	Pull force in a short time	4030kN
6	Push force	600kN+280kN
7	Stroke	750 mm
8	Rotate torque	3000kN.m; 1750kN.m; 1020kN.m
9	Breakout Torque of Rotation	3150kN.m
10	Base Machine Dimension, LxWxH	4992X2860X3160mm
11	Power pack Dimension, LxWxH	4800X2100X2100mm
12	Base Machine Weight	40t

# Casing Rotator

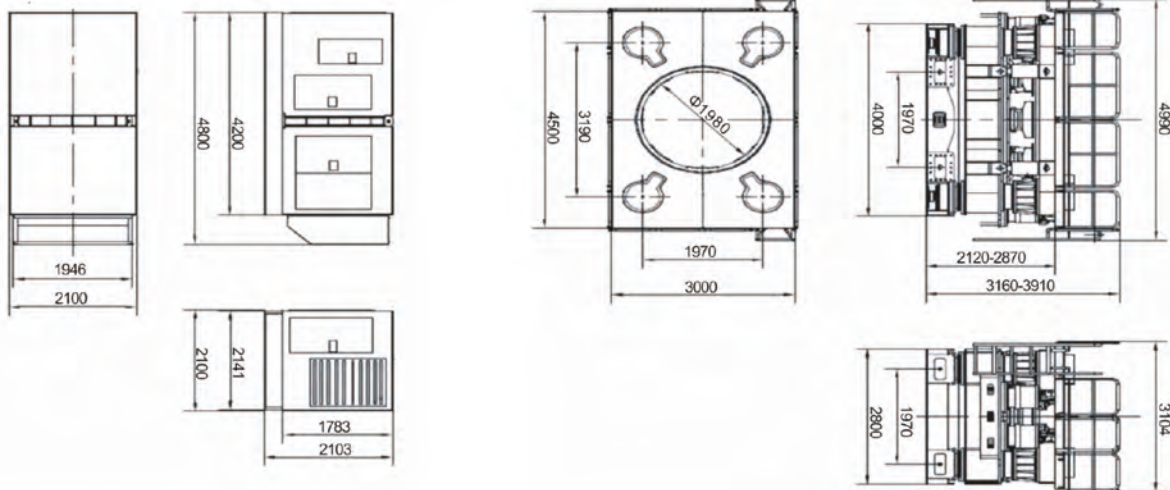
## Construction method

Casing rotator method also named as Benoto Method and “omnipotent method”, because it can work in almost all kinds of ground, especially in construction of hard rock ground and gravel that are difficult to rotary drilling rigs.

## Construction method of casing rotator



## Dimension of FCR200 casing rotator









**BVV Spezialtiefbautechnik Vertriebs GmbH**

Heßstr. 48 B - 80798 München

Tel.: +49 89 66 51 93 0

Fax: +49 89 61 31 748

info@bvv.by  
www.bvv.by

