

RCD

Reverse Circulation Drilling Machine

Bored Pile Equipment | 대구경장비

RCD(Reverse Circulation Drilling Machine)

Special features

SAMBO CMC's RCD machines (SPD150~750) are large bored pile equipment of soil foundation job sites as bridges, buildings and subways and used for the vertical excavation work by means of the installed power swivel with rotary bits based on hydraulic system.

- It brings the rapid enhancement of working efficiency according to speedy drilling capacity without noise, vibration and is not influenced by a variety of soil
- Capacity if the vertical drilling work is over 60meters deep hole drilling and almost not influenced by any working environments
- Special treatment
 - Normalizing the whole master leader and Whole Slide Box collar after welding finished in order to relieve the internal welding stress, And maintain equipment a long lifetime, even prevent deformity of equipment.
 - Machining the holes on the Footing of the Master Leader and Base Frame by Boring Machining tool, It might maintain assembly tolerance and keep a long lifetime of Master Leader and Base Frame.
 - Machining the holes on the slide box collar by boring machining tool after normalizing. It might keep assembly tolerance and keep lifetime of Slide Box.

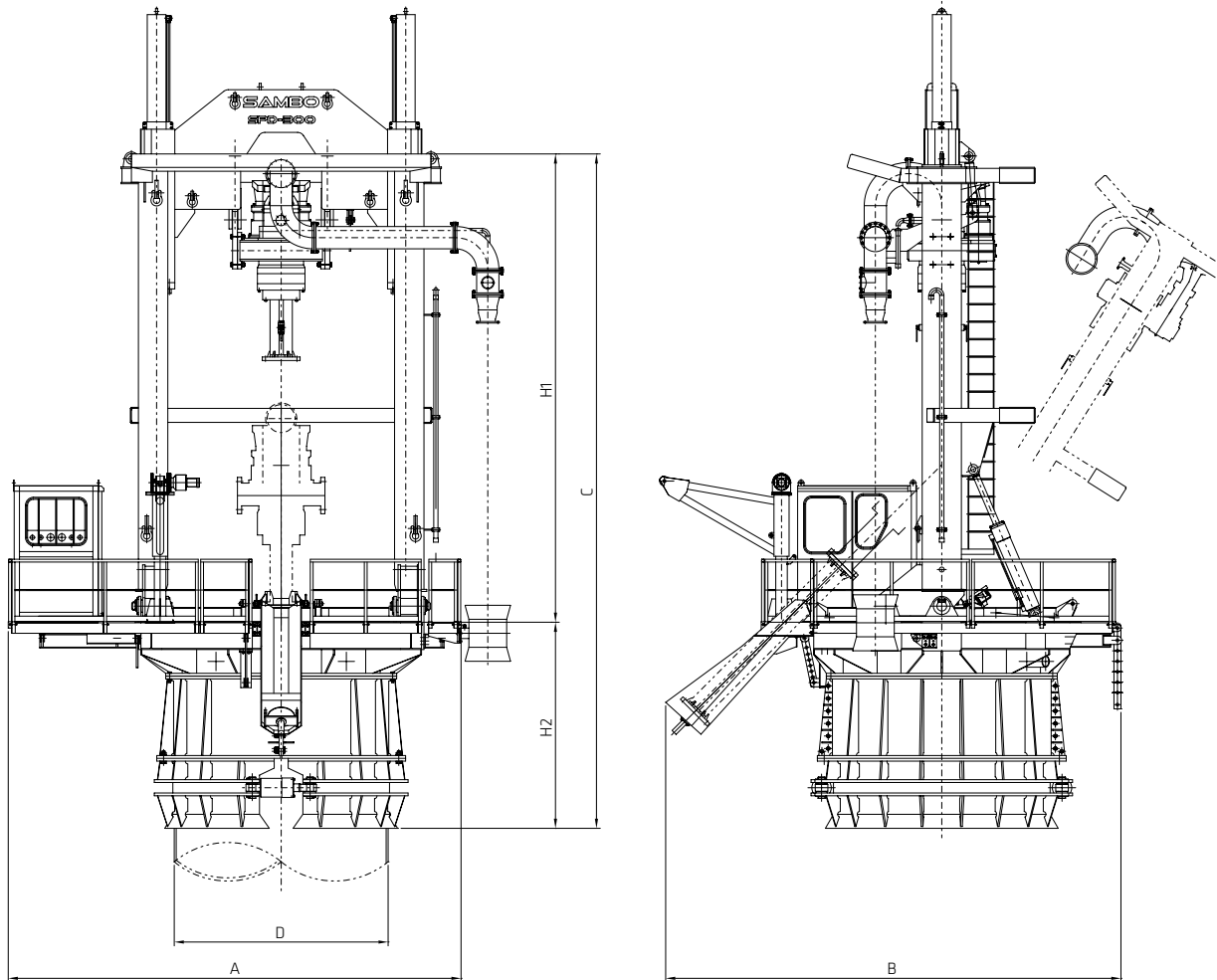
특징

삼보씨엠씨의 RCD 장비는 유압시스템을 이용한 파워 스위벨, 암굴착용 드릴 비트를 장착한 수직, 굴착하는 대구경 암굴착 장비로써 해상교량 및 고층 빌딩, 지하철 시공 기초공사 현장에 사용 된다.

- 빠른 굴착력을 가지고 토질의 상태에 영향을 받지 않아 작업 능력을 향상시킬 수 있음.
- 수직 굴착 작업의 능률이 최소 60m 이상이며, 그 외 외부 작업 환경에 영향을 덜 받는 장점을 가짐.
- 특수제작공정
 - Master leader와 Slide Box 제작 시 용접 작업 후 노말라이징 열처리 공정을 추가 하여, 용접 구조물내 존재 하는 국부 열응력을 제거, 장비 변형 및 장기간 장비 사용 수명을 유지함
 - 대형공작기계를 이용하여 Master Leader의 Footing, Base Frame의 내경을 가공, 공정으로 정밀 조립 공차를 유지 함으로 장비 변형을 방지한다.
 - Slide Box 노말라이징 열처리 후 대형 공작기계를 이용하여 내경을 가공하는 공정을 채택하여 정밀 조립 공차 유지 및 장비 사용 수명을 보존함.

PATENT 10-119199 역순환 굴착 장치(Reverse Circulation Drill Apparatus)
20-0429661 케이싱 내 압입 회전식 굴착기(In-Casing Rotary Drill)





Specifications

Model / Size	SPD150	SPD200	SPD250	SPD300	SPD330	SPD400	SPD500	SPD750
A(Width of machine / 장비폭)mm	4,919	5,294	6,494	6,494	6,794	7,250	8,980	9,229
B(Length of machine / 장비길이)mm	4,503	5,270	6,505	6,505	6,505	9,150	12,200	12,137
C(Height of machine / 장비높이)mm	9,025	9,025	9,672	9,672	9,702	10,800	14,400	11,115
D(Clamping diameter / 클램프구경)mm	1,500	2,000	2,500	3,000	3,300	4,000	5,000	7,500
H1(Height of mast / 마스타높이)mm	6,590	6,590	6,727	6,727	6,757	8,400	11,200	8,220
H2(Height of base frame / 하부베이스높이)mm	2,435	2,435	2,945	2,945	2,945	3,200	3,590	2,895

The above may change during further development. (상기 사양은 보다 나은 개발을 위해 변경될 수 있음.)

Technical Data

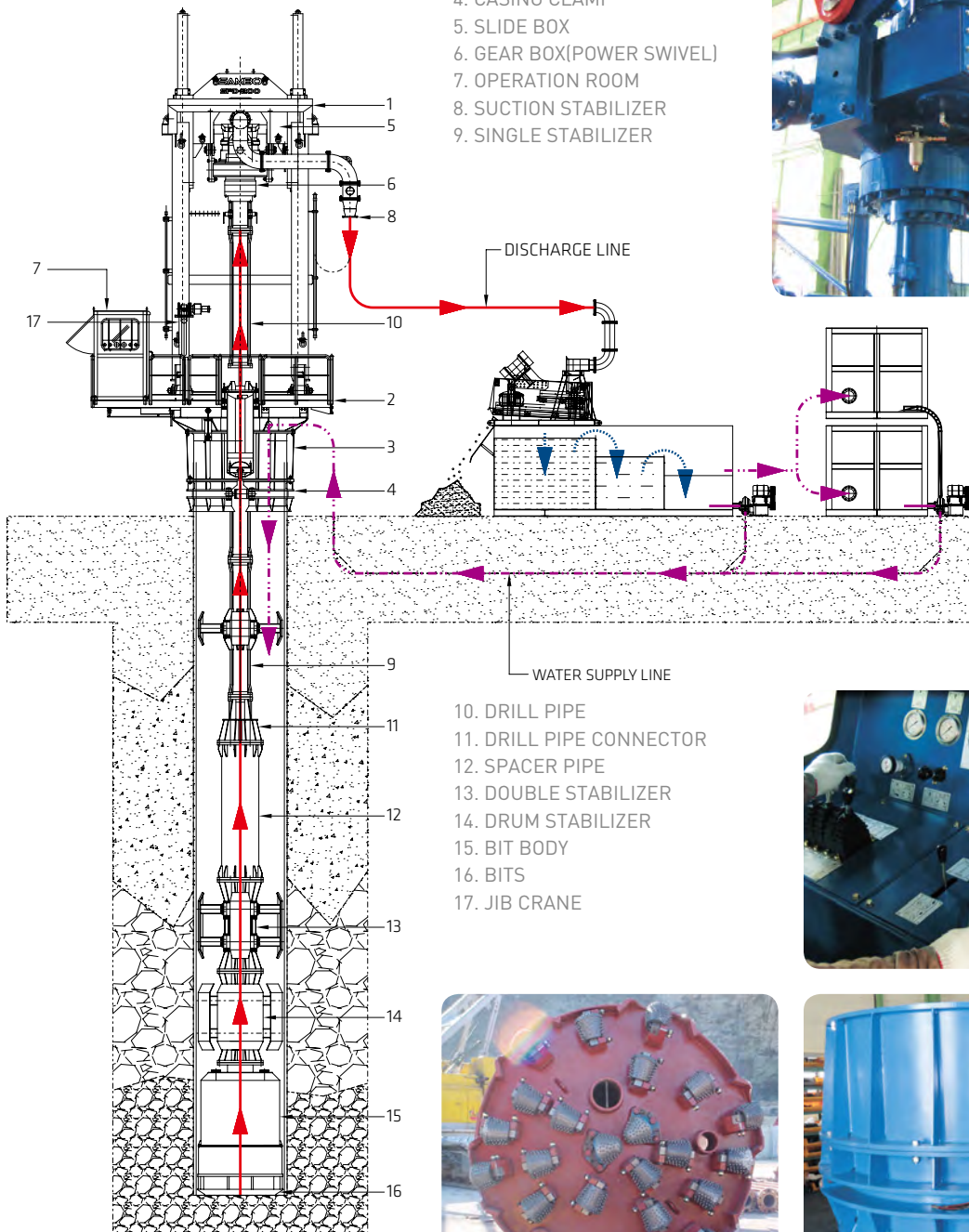
Description		SPD150	SPD200		SPD250	SPD300	SPD350	SPD400	SPD450	SPD500
Max. Drilling diameter (m)		1,500	2,000	2,000	2,500	3,000	3,300	4,000	5,000	7,500
Max. Power swivel torque (kNm)		160	160	200	240	360	360	650	800	1,200
Max. Drilling speed (rpm)		0~11(MAX41)	0~11(MAX41)	0~9(MAX33)	0~11(MAX40)	0~8(MAX20)	0~10(MAX23)	0~8(MAX20)	0~6(MAX20)	3.2
Max. Thrust force (kN)	Up	945	1,110	1,110	1,400	1,840	2,280	2,700	3,600	4,240
	Down	645	680	680	820	1,130	1,420	1,500	2,000	2,350
Stroke of Thrust cylinders (mm)		3,500	3,500	3,500	3,500	3,500	3,500	3,600	3,600	4,100
Max. passage of Retaining device (mm)		1,600	2,020	2,020	2,530	3,030	3,530	4,050	5,050	5,500
Max. vertical load to Retaining device (kN)		1,000	1,000	1,000	1,000	1,000	1,200	1,500	1,500	3,000
Passage for Drill rod pipe (mm)		450	600	600	600	600	600	700	700	1,650
Nominal size of Drill rod pipe (NW)		200	200/300	200/300	300	300	300	350	350	1,200
Line pull of Aux. Jib winch (kN)		10	10	10	10	10	10	20	20	30
Unit weight of Drilling Rig (tons)		15	21	21	31	36	42	50	70	145
Unit weight of Casing adapter and clamp (tons)		3.5	4.2	4.2	5.1	8.1	9	15	25	30
Hydraulic Power Pack	Engine output (hp)	260		360	535	600		760		
	Max. oil flow of hydraulic pumps (L/min)	2X200		2X200+200	2X200+200	2X300+200		3X300		
	Max. pressure (bar)	300		320	320	320		320		
	Oil tank (Liter)	1,200		2,000	2,000	2,000		2,000		
	Fuel tank (Liter)	510		900	900	900		1,100		
	Unit weight (kg)	7,000		11,000	11,000	11,000		17,000		



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Main Structure

1. MAST BOOM
2. WORKING PLATFORM
3. ADAPTER
4. CASING CLAMP
5. SLIDE BOX
6. GEAR BOX(POWER SWIVEL)
7. OPERATION ROOM
8. SUCTION STABILIZER
9. SINGLE STABILIZER



10. DRILL PIPE
11. DRILL PIPE CONNECTOR
12. SPACER PIPE
13. DOUBLE STABILIZER
14. DRUM STABILIZER
15. BIT BODY
16. BITS
17. JIB CRANE



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