

R-516HD

HYDRAULIC ROTARY RIG



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A new model

The R-516 HD drilling rig mounted on SOILMEC base carrier has been specially designed to perform the following jobs:

- **Bored pile, with dry or bentonite system;**
- **Bored pile, with casing installed by oscillator or rotary crowd system;**
- **C.F.A. (Continuous Flight Auger) piles.**

The main features of R-516 HD are the following:

- Machine class: 50 tons;
- Electronic engine CAT 3126 ATAAC (313 BHP) and meeting the most recent emission regulation;
- New powerful rotary: 180 kNm;
- Completely self-erecting mast able to withstand the max torque over the whole length;
- Casing installation by rotary crowd system;
- Advanced instrumentation;
- High productivity;
- Easy to transport;
- Mechanical and hydraulic pre-arrangement for casing oscillator (available on request).

Large diameter bored pile

Max pile diameter	mm	2000
Max pile depth	m	61
Max casing length (with casing oscill.)	mm	4500 (4000)
Max casing diameter (with casing oscill.)	mm	1500 (1300)

Continuous Flight Auger (C.F.A.)

Max pile depth	m	15+3 (15+6)*
Max pile depth (with auger cleaner without ext.)	m	13,5
Max pile diameter	mm	1000
Extraction force	kN	520

Undercarriage

Overall length	mm	5190
Track shoe width	mm	700 (opt. 800)
Overall width (extended side frames)	mm	3900 (opt. 4100)
Overall width (retracted side frames)	mm	2500 (opt. 2700)
Ground pressure	MPa	0,085 (opt. 0,09)

Diesel engine

Diesel engine	type	CAT 3126 ATAAC HUEI
Installed power rating	kW (HP)	230 (313) @ 2500 rpm

Hydraulic pumps

Main pumps	lt/min	2 x 230
Auxiliary pumps	lt/min	30 + 20
Max working pressure	MPa	32,5

Main winch

Main winch	1 st layer nominal line pull	kN	170
	1 st layer nominal rope speed	m/min	78
	rope diameter	mm	24

Auxiliary winch

Auxiliary winch	1 st layer nominal line pull	kN	75
	1 st layer nominal rope speed	m/min	62
	rope diameter	mm	19

Rotary Table

Maximum nominal torque	kNm	180
Max spin off speed	rpm	137
Maximum drilling speed	rpm	30
Max force pull on kelly	kN	60/122
Pull down stroke (2 mounting positions)	mm	5100

Weights & Dimensions

		LD version	CFA version
Transport width	mm	2500 (opt. 2700)	2500 (opt. 2700)
Transport height	mm	3300	3300
Transport length	mm	13650	14300
Operating weight	ton	50-55	50-53
Minimum transport weight	ton	36-39 ⁽²⁾	46 ⁽¹⁾

* With 355 mm diameter rotary • (1) Rotary and augers removed • (2) Counterweight, rotary and kelly bar removed

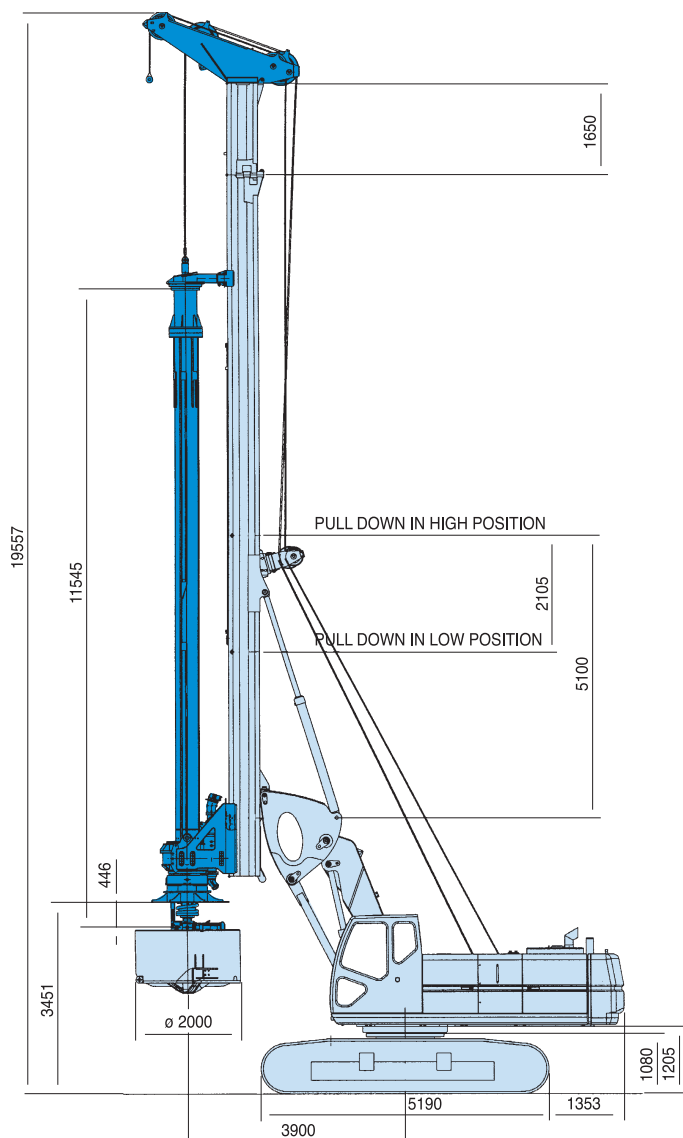
The nominal values are referred to 100% total efficiency • Nonroad diesel exhaust regulations compliance (EU - 97/68/CE; Step 2; U.S.A. - EPA II; California - CARB)

R-516HD

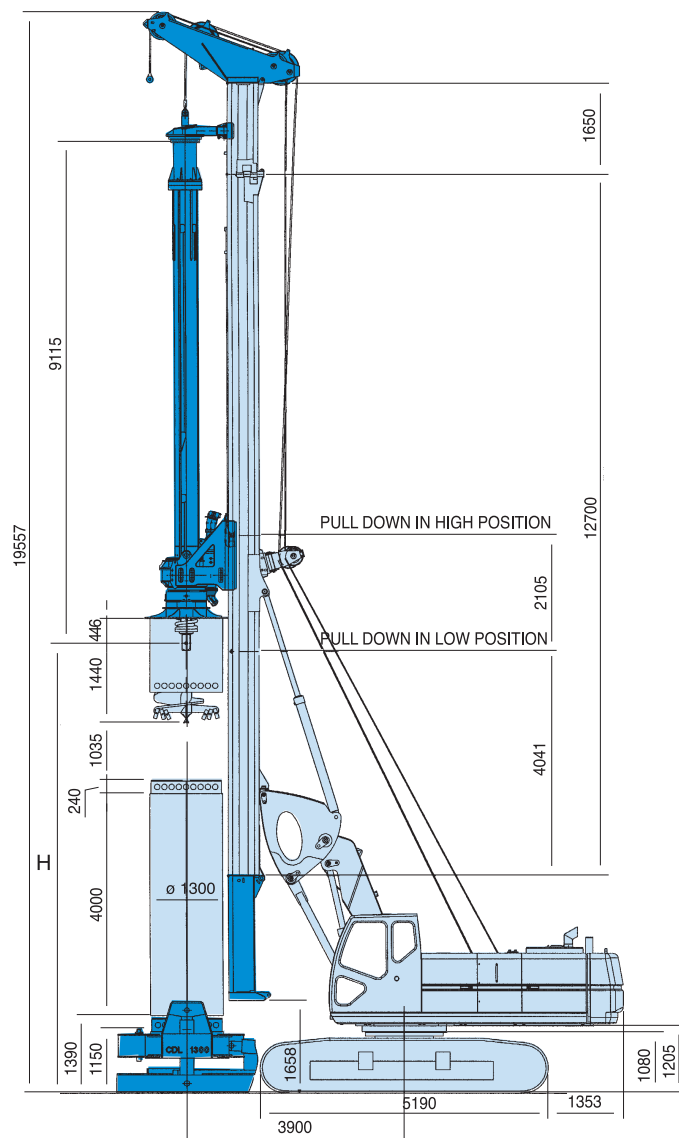
LARGE DIAMETER PILES

Working Condition

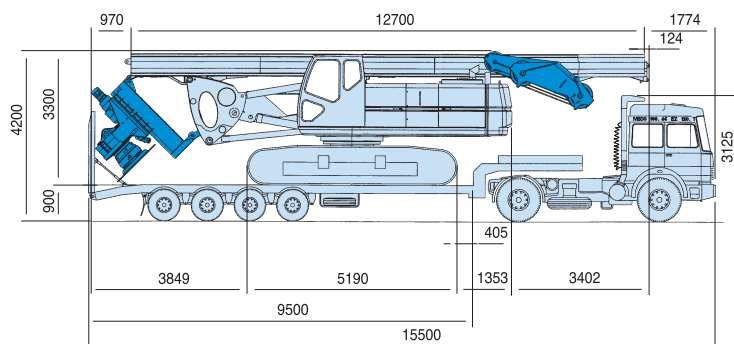
Standard Version



Std. Casing Oscillator



Transport Condition



Kelly Bars

Friction kelly bar – ø 406 mm

elements n°	length m	depth m	weight ton	H height m
5x	9	39,5	5,5	7,6
5x	12	55,0	7,0	4,5
5x	13	61,0	7,5	3,4

Mechanical locking kelly bar – ø 406 mm

elements n°	length m	depth m	weight ton	H height m
4x	8,5	29,5	5,1	8,1 *
4x	9,0	31,8	5,3	7,7
4x	11,0	38,7	6,3	5,8
4x	12,5	45,3	7,0	4,3

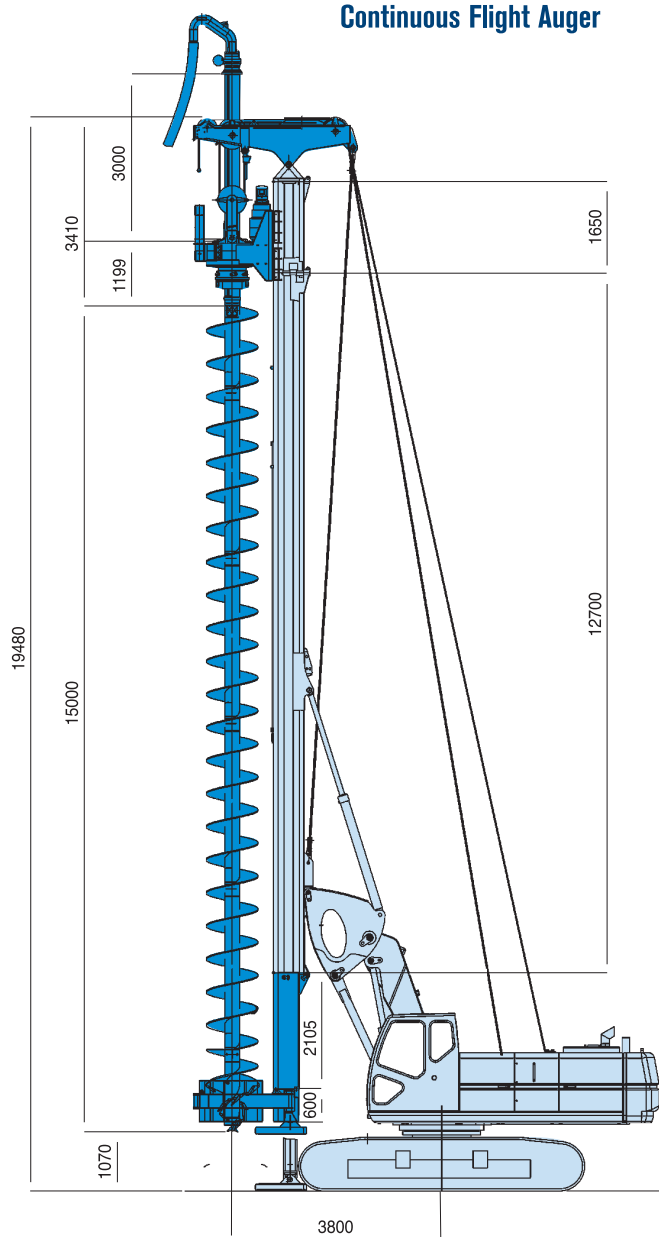
* Height limited to rotary value • H = Tool connection height from ground level • Note: 5 x 8,5 (Max kelly length that can than be assembled on R-516 when using casing oscillator with 4 m long casing)

R-516 HD

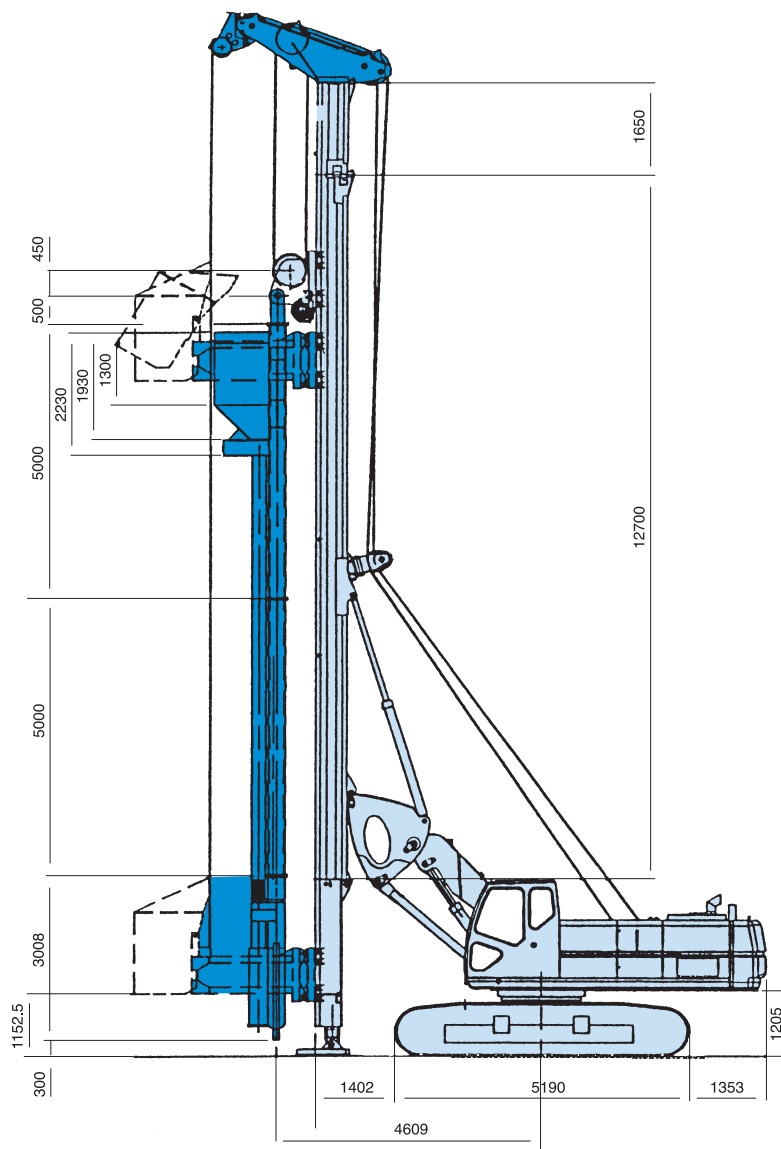
CONTINUOUS FLIGHT AUGER / VIBROFLOATATION

Working Condition

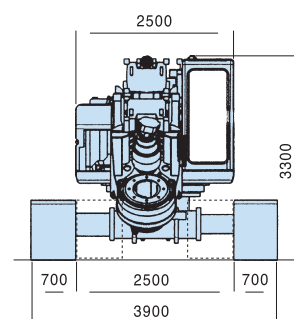
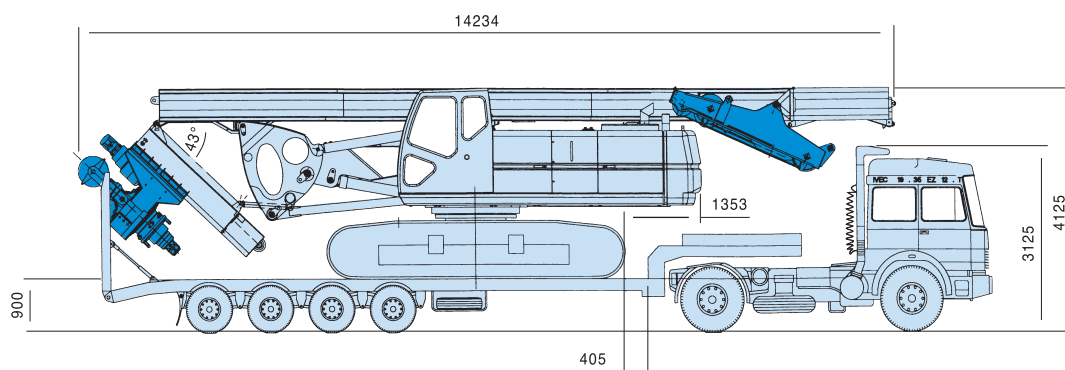
Continuous Flight Auger



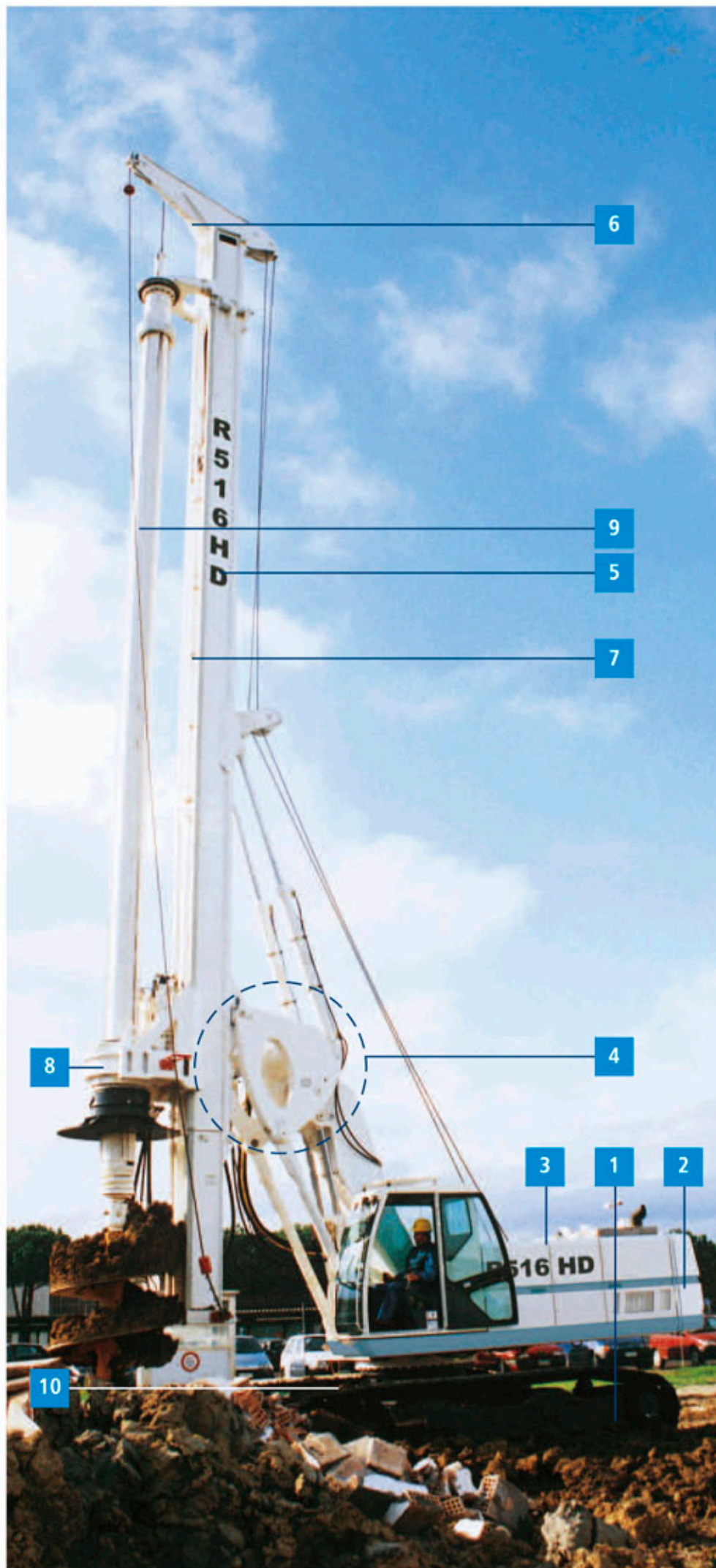
Vibrofloatation



Transport Condition



- 1 - **Undercarriage** with tracks expandable by means of hydraulic cylinder.
- 2 - **Base machine** type SOILMEC, diesel engine CAT 3126 ATAAC HUEI and sound proofed canopy, mounted on a 360° degree slew ring.
- 3 - **Winch assembly.**
- 4 - **Parallelogram system** which allows to vary the working radius and maintains the mast always in vertical position.
- 5 - **Self-erecting mast** which can stand the max torque over the whole length. It is composed by 12,7 m. intermediate element 2,25 m. bottom element and 1,65 m. extension.
- 6 - **Sheave cathead.**
- 7 - **Crowd system** by 5,1 m. hydraulic cylinder.
- 8 - **Rotary head** with 4 drilling speeds.
- 9 - **Telescopic kelly bar** with guide to mast available in friction or mechanical locking version.
- 10- **Mechanical and hydraulic pre-arrangement** for casing oscillator (available on request).







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CERTIFIED QUALITY SYSTEM

In 1990 Soilmec was awarded with the certification of its Quality System complying with ISO 9001/UNI 29001 standards.



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