HYDRAULIC ROCK AND CONCRETE SPLITTERS

Splitters

INVENTOR OF

ORIGINAL

HYDR. SPLITTER

**darda**®

DEMOLITION TECHNOLOGY

ROCK AND CONCRETE SPLITTERS

Handheld splitting

Hydraulic Rock and Concrete Splitters replace blasting and conventional demolition methods. They break down concrete or rock without pressure waves, without vibrations and with very little noise and dust. They have also gained a firm foothold in block extraction in the natural stone industry. Since the invention and worldwide patenting by Helmut Darda in 1967, Darda Rock and Concrete Splitters have been used successfully in over 80 countries around the world. The superior quality, high performance and very long service life of Darda Rock and Concrete Splitters is unsurpassed.

Functional principle: Conventional mechanical methods destroy the structure of the material by external forces. However, rock and concrete can withstand very high compressive forces from the outside. By comparison, resistance towards forces acting from inside towards outside is relatively small. The development of the Darda Rock and Concrete Splitting Equipment was born from this fact.

They work according to the safe wedge principle: First, a hole is drilled with the appropriate depth and diameter, into which the wedge set of the splitting cylinder is then inserted and aligned to determine the splitting direction. Hydraulic pressure then pushes the wedge between the two counter wedges and presses them apart. The effective splitting force of up to 413 tons or 4048 kN destroys the structure of concrete and rock from the inside. A crack is formed in seconds. Smaller types of rebar in reinforced concrete break off.
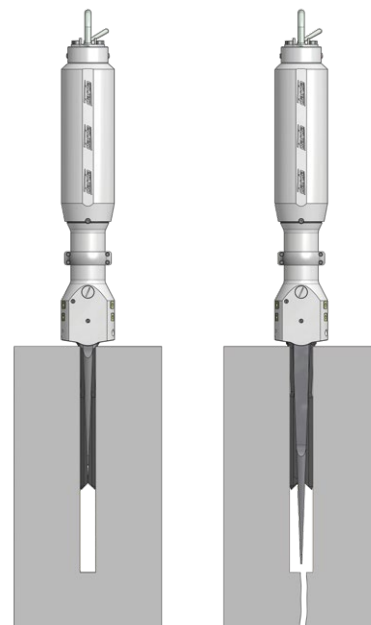
Specifications | Rock and Concrete Splitters

Type	Wedge set	Required drill hole diameter[1]		Minimum drill depth		Splitting distance		Splitting force, theoretical		Splitting force, effective		Weight [3]		Length Splitting Cylinder		Length wedge set	
		mm	in	mm	in	mm	in	kN/t	lbs	kN/t	lbs	kg	lbs	mm	in	mm	in
C2S	N	31 - 32	1.22-1.26	270	10.6	9	0.35	3490/355	783000	1913/195	430000	17	37	745	29	140	5.5
C4E	N	35 - 36	1.38-1.42	430	16.9	10	0.39	4524/461	1017000	2256/230	507000	21	46	995	39	250	9.8
C4E	WL	35 - 38	1.38-1.5	540	21.3	14	0.55	3267/333	734000	1864/190	419000	22	49	1145	45	400	15.7
C9	N	45 - 48	1.77-1.89	410	16.1	18-53 [2]	0.7-2.1 [2]	2995/305	672000	1962/200	441000	22	49	1020	40	230	9.1
C9	L	48 - 50	1.89-1.97	580	22.8	18-53 [2]	0.7-2.1 [2]	2995/305	672000	1962/200	441000	23	51	1190	47	400	15.7
C10S	N	41 - 43	1.61-1.69	630	24.8	18	0.7	4945/504	1111000	2550/260	573000	33	73	1400	55	230	9.1
C10S	Jura	41 - 43	1.61-1.69	560	22	18	0.7	4052/413	911000	2158/220	485000	32	71	1340	53	380	15
C12	N	45 - 48	1.77-1.89	610	24	19-60 [2]	0.75-2.4 [2]	6061/618	1363000	3507/358	789000	31	68	1290	51	380	15
C12	L	45 - 48	1.77-1.89	680	26.8	15-44 [2]	0.6-1.7 [2]	8082/824	1817000	4048/413	911000	32	71	1360	54	450	17.7
C12	W	45 - 48	1.77-1.89	550	21.7	24-80 [2]	0.9-3.1 [2]	4849/494	1089000	3150/321	708000	31	68	1250	49	340	13.4

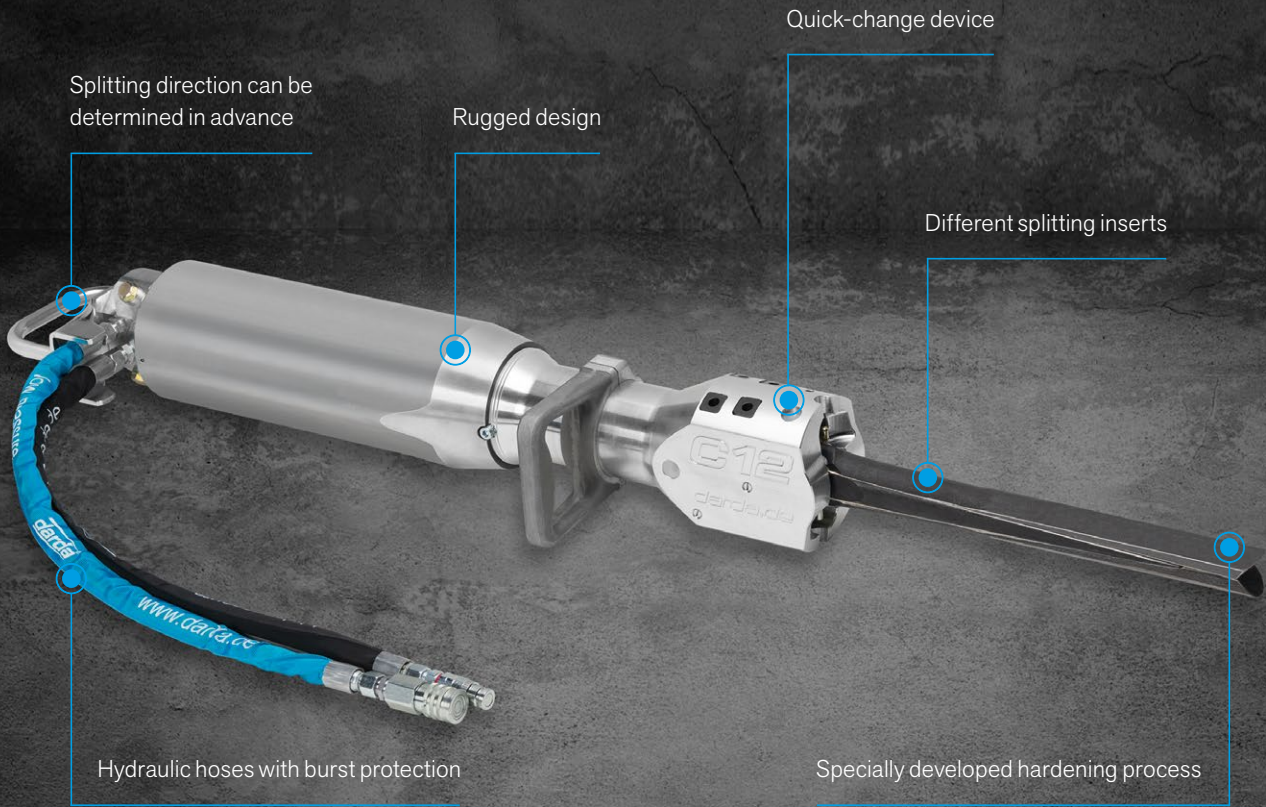[1] Smallest diameter is most effectiv   [2] With one enlarging counter wedge and one special enlarging counter wedge   [3] Without hydraulic hoses

Facts

· Enormous splitting force up to 413 t (4048 kN)
· Nearly noise free
· Low dust and low vibration
· Splitting direction can be set
· Ideal for confined spaces
· Easy to use
· Easy to transport
· Splits in seconds
· Controlled demolition
· Can be used under water

Darda – the inventor of the Hydraulic Rock and Concrete Splitter.

HYDR. SPLITTER
ORIGINAL
MADE IN GERMANY

Splitting direction can be determined in advance

Rugged design

Quick-change device

Different splitting inserts

Hydraulic hoses with burst protection

Specially developed hardening process

THE PERFECT SOLUTION FOR EVERY OPERATING CONDITION

C2S

C4E

C9

C10S

C12

Possibilities of use

Different splitter models are available for a wide range of applications:

Splitter models	C2S	C4E	C9	C10S	C12
Demolition of concrete and reinforced concrete					
Splitting unreinforced and lightly reinforced concrete			●	○	●
Splitting reinforced concrete			○		●
Splitting in closed rooms and poorly accessible places			●		○
Splitting in confined spaces			●		○
Splitting walls and masonry			●		●
Splitting piles heads			○		●
Chimney demolition			●		○
Secondary splitting of large concrete pieces (pre-splitting for recycling plants)			●		○
Underwater demolition			●	○	○
Demolition of rock and natural stone					
Rock splitting (e.g. in trench work)			○	○	●
Secondary splitting of boulders	○	●	●	○	●
Tunnel-driving work		●	●	○	●
Expansion work in underground mining	○	●	●	○	●
Secondary splitting	○	●	○	○	○
Press pipe jacking	●	●	●		
Block quarrying in the natural stone industry					
Marble		●		●	
Granite	○	●		●	●
Sandstone			●	●	

● Highly suitable   ○ Suitable

Application fields

Demolition of concrete and reinforced concrete

Demolition of rock and natural stone

Block quarrying in the natural stone industry

Tunneling

Application films

Darda – 05

ROCK SPLITTERS C20

Carrier-operated splitting

The Hydraulic Rock Splitters convince with their high productivity and safety in operation. With a high splitting force that is independent of the input pressure and a slim yet rugged design, they are designed for a wide range of rock demolition applications. The Rock Splitters are also ideal for use in confined conditions, such as tunnel, trench or foundation work.

Depending on type and composition of the rock, there are two possible lengths of wedge set to choose from. For horizontal and vertical use with diverse and special splitting requirements. And best of all: Due to the automatic lubrication system, no manual greasing of the wedge set is necessary. For carriers from 5 - 7 tons.

Dimensions and weight	Vertical		Horizontal	
	C20 C		C20 J	
Length [1] x Width x Height	1720 x 305 x 394 mm	68 x 12 x 16 in	2153 x 450 x 420 mm	85 x 18 x 17 in
Weight with N-wedge set [2]	300 kg	660 lb	390 kg	860 lb
Carriers				
Recommended carrier weight [3]	5 - 7 t		11000 - 15400 lb	
Recommended Brokk machines	Brokk 300 / 500 / 520D			
Hydraulic connection				
Connection pressure, min.	17,5 MPa		2540 psi	
Connection pressure, max.	22 MPa		3190 psi	
Oil flow, min. - max.	25 - 80 l/min		7 - 21 gal/min	
Rotary drive connection pressure, max.	22 MPa		3190 psi	
Rotary drive oil flow, max.	30 l/min		8 gal/min	
Operating pressure	50 MPa		7250 psi	
Wedge set				
Wedge set length N / L	640 / 840 mm		25.2 / 33.1 in	
Drillhole diameter	76 mm		3 in	
Drillhole depth N / L, min.	750 / 950 mm		29.5 / 37.4 in	
Splitting distance N / L	22 / 25 mm		0.9 / 1 in	
Theoretical splitting force N / L	1500 / 1800 t		3307000 - 3968000 lbf	
Consumables				
Darda Special Lubricant				

[1] Without wedge set   [2] Without mounting plate   [3] Depending on carrier lifting capacity

Facts

· Easy replacement of wear parts
· Rotatable and very maneuverable
· Automatic wedge lubrication
· Multiple mounting options
· Lowest power-to-weight ratio on the market
· Use even under water
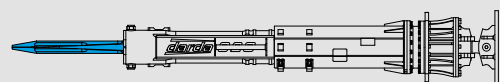
Typical applications | Possibilities of use

Application films

C20 C

C20 J

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DEMOLITION TECHNOLOGY