

# HYDRAULIC CRUSHERS & GRABS



WHERE **EXPERIENCE COUNTS**

# FURUKAWA ROCK DRILL



## TRADITION AND HIGH-TECH FROM ONE COUNTRY

Japan, country of old traditions, has proven its high technical performances in many different ways. Already many years ago Japanese electronic equipment contributed highly to the possibility to reach the moon and other planets. In almost every computer, telephone or any other kind of electronic equipment we can find some Japanese components. In the car industry Japanese engineers have achieved high performances in order to produce cars more efficient and economical. Car tests in different countries have often concluded that Japanese cars are the most reliable and with a minimum of maintenance cost. Also Furukawa is one of those traditional concerns, that could show continuous growth through their on going product improvement and development.

Everything started in 1875, when Furukawa opened their Kusakura Copper Mine. The mining job always required new and specific solutions to improve our production. For this reason Furukawa started in 1900 to produce their own mining equipment, which led to higher production levels of the mine. With this step Furukawa unintentionally created the base for a new, high technology concern. The better results with their custom made machinery soon created a demand for similar machines in other mines. To be able to fulfill these requirements, Furukawa started to separate their activities in different divisions.

In 1918 Furukawa Mining Co. Ltd was found and in 1920 Furukawa Electric Co. Ltd. Later in 1961 the start of Furukawa Rock Drill Co. Ltd was an answer to the demand to be able to sell worldwide, the machines, that initially were meant only for their own use.

In 1971 Furukawa established a new factory in Yoshii for the production of crawler drills and demolition equipment. The demand for those products was so large, that in 1976 a second production unit was established in Takasaki. Since then from these two factories more than 150.000 hydraulic breakers were delivered all over the world. In the meantime Furukawa Rock Drill division has built an international sales and service network, which secures an optimum after sales service for all equipment. Our slogan **WHERE EXPERIENCE COUNTS** we take as serious as other Japanese traditions and we hope you will approach us with your specific demands. We and our Distributor network are ready to help you.





# VXB - VXS SERIES

## FRD PRIMARY CUTTER/CRUSHER VXB - VXS SERIES

The VXB and VXS models are designed for excavators from 1,5 to 30 ton operating weight. Compact design, large jaw opening and high crushing power are just three outstanding features of this serie. The VXB crushers have an integrated booster system, which allows smaller excavators, with limited operating pressure, to achieve extremely high crushing force.

With the VXS Crushers FRD is offering a machine with interchangeable blades, synchronic jaw-moving system and a optimal power/weight ratio. All models are fitted with the well known FRD hydraulic rotation system for precise positioning. As in the entire FRD crusher range, all models are made of Hardox.



VXB SERIES



VXS SERIES



		VXS2ER	VXB6ER	VXB7ER	VXB10ER	VXS20ER	VXS26ER	VXS30ER
Length	mm	892	1127	1290	1510	1896	2165	2345
Cutter length	mm	85	85	85	150	150	200	200
Jaw opening	mm	276	350	485	550	752	836	980
Width	mm	665	745	910	1075	1258	1428	1535
Oil flow rotation	l/min	8-15	5-8	5-8	5-8	5-8	10-15	10-15
Operating pressure rotation	MPa	18-22	12	12	12	12	12	12
Oil flow opening/closing	l/min	20-25	50	70	90	160	180	200
Operating pressure opening/closing	MPa	22	20	20	20	35	35	35
Crushing force tip	kN	200	300	350	500	550	590	700
Round material ø	mm	15	15	15	15	20	25	30
Weight	kg	185	300	440	740	1120	1727	2226
Excavator size	t	1,5-3	2-5	4-8	7-13	13-20	18-25	22-30

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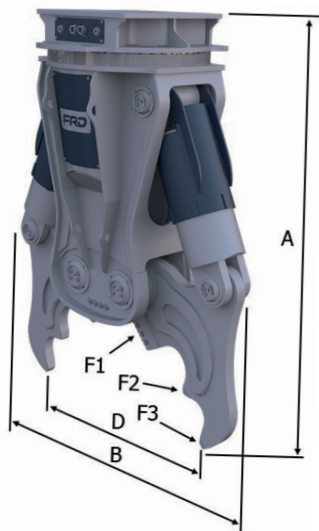
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# VX SERIES

## FRD PRIMARY - VX SERIE -

The FRD Crusher is a primary demolition tool for cutting concrete structures and for cutting through reinforcing steel. The design of the double cylinder allows a large jaw opening for this weight class. In conjunction with the low-wear Hardox crushing jaws the maximum power is combined with a minimum of wear.

- Extremely stable housing with low weight
- Rod protection
- Feed opening with optimized shape for easy collecting and loading of reinforcing steel
- Optimal tooth geometry ensures that large concrete parts do not slip away from the crushed material.



		VX35ER	VX50ER	VX80ER	VX100ER	VX130ER
A	mm	2250	2319	2750	3085	3620
B	mm	1470	1795	2100	2640	2680
D	mm	1130	1203	1550	1850	2100
F1	kN	3200	3300	5300	7400	8100
F2	kN	1900	2000	2300	3200	3600
F3	kN	1250	1300	1350	1900	2350
Round material	mm	35	40	45	55	70
Cutter length	mm	252	300	310	310	310
Oil flow (rotation)	l/min	50	50-60	40-50	100	100
Operating pressure (rotation)	MPa	19	19	12	16	16
Oil flow	l/min	250 - 300	300 - 350	350 - 500	450 - 700	600 - 1000
Operating pressure	MPa	35	35	35	35	35
Operating weight	kg	2700	3400	4850	7700	11000
Base machine weight	t	27 - 35	33 - 50	45 - 70	70 - 100	80 - 150

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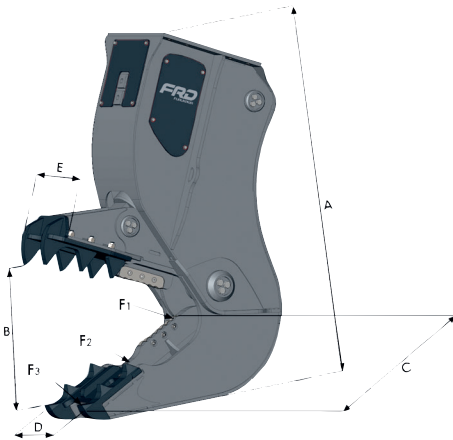
# VS SERIES

## FRD SECONDARY CRUSHER - VS SERIE -

Because of the angled shape the FRD crusher is ideal for secondary demolition and crushing reinforced concrete elements. The wide shaped jaw makes it easier to grab demolition material that has fallen on the ground. A clean separation of reinforcement steel and concrete as well as subsequent crushing of the concrete elements for crushing plants or just for filling appropriate particle size is guaranteed. With the steel cutter blade it is easy to cut the reinforcement bars to the desired length.

### DESIGN FOR TASK

- Extremely stable housing with low weight
- Speed valve for quick and efficient work
- Feed opening with optimized shape for easy collecting and loading of reinforcing steel
- Optimal tooth geometry ensures that large concrete parts do not slip away from the crushed material.
- Replaceable wear parts
- Replaceable tooth plates and cutting blades



		VS9E	VS15E	VS22E	VS30E	VS40E	VS50E
A	mm	1935	2290	2410	2705	2810	3250
B	mm	710	840	905	1025	1200	1300
C	mm	850	980	1060	1200	1260	1380
D	mm	404	454	490	490	530	730
E	mm	260	290	314	314	354	470
F1	kN	1750	2000	2470	2950	3550	4500
F2	kN	1000	1300	1500	1600	1750	2400
F3	kN	650	800	900	1100	1200	1500
Round material	mm	30	40	40	40	45	45
Cutter length	mm	200	300	300	300	300	300
Oil flow	l/min	140 - 200	200 - 250	200 - 300	300 - 400	350 - 450	450-600
Operating pressure	MPa	35	35	35	35	35	35
Operating weight	kg	1300	1800	2150	2580	3360	4750
Base machine weight	t	11 - 16	16 - 22	20 - 28	24 - 35	35 - 50	45 - 70

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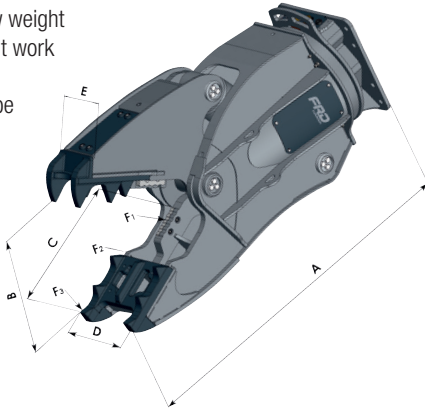
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# VM SERIES

## FRD MULTI-PURPOSE - VM SERIE -

These are the tools for cutting concrete structures, steel profile cutting and separating reinforcing steel. The models are equipped with hydraulic rotation and can therefore be used in primary as well as in secondary demolition.

- Extremely stable housing with low weight
- Speed valve for quick and efficient work
- Replaceable wear parts
- Feed opening with optimized shape for easy collecting and loading of reinforcing steel
- Optimal tooth geometry ensures that large concrete parts do not slip away from the crushed material



		VM10ER	VM13ER	VM16ER	VM19ER	VM25ER	VM32ER	VM42ER	VM60ER	VM80ER
A	mm	1525	1880	2035	2225	2575	2734	3080	3415	3780
B	mm	550	635	680	786	930	1010	1165	1285	1520
C	mm	510	670	720	840	940	1040	1140	1280	1380
D	mm	300	404	404	454	454	490	490	540	635
E	mm	200	260	260	290	290	314	314	350	540
F1	kN	1350	1800	1950	2340	2600	3500	4200	5000	5900
F2	kN	630	1050	910	1000	1380	2750	3410	4100	4800
F3	kN	400	550	650	800	1050	1200	1460	1750	2050
Round Material	mm	20	30	30	35	40	40	45	45	50
Cutter length	mm	85	150	200	200	200	200	200	300	350
Oil flow (rotation)	l/min	8	30	30	30	30	50	50	50	100
Operating pressure (rotation)	MPa	12	12	12	12	12	12	12	12	12
Oil flow	l/min	70 - 110	110 - 160	140 - 200	180 - 230	250 - 300	300 - 350	350 - 400	400 - 500	500 - 700
Operating pressure	MPa	35	35	35	35	35	35	35	35	35
Operating weight	kg	630	1290	1630	1970	2560	3330	4400	5800	8700
Base machine weight	t	6 - 13	13 - 16	15 - 22	18 - 26	25 - 33	32 - 40	38 - 50	50 - 90	70 - 110

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WHERE EXPERIENCE COUNTS



# V SERIES

## FRD MULTIPLE USE CUTTER/CRUSHER - V SYSTEMS -

The FRD Multiple use cutter/crusher is the primary tool for every job. The design of the double cylinder allows a large jaw opening for this weight class. In conjunction with the low-wear Hardox crushing jaws the maximum power is combined with a minimum of wear. The base can be connected with different kind of jaws which depends on the work requirement. Thanks to the quick and easy interchangeability of the jaws it is ideal to use on construction sites where you might use more than one attachment for the demolition.



		V4-P	V6-P	V11-P	V17-P	V22-P	V26-P	V34-P	V44-P	V50-P
A	mm	1174	1385	1594	1887	2075	2260	2521	2716	2902
B	mm	770	755	910	1110	1200	1500	1700	1740	2020
D	mm	374	545	670	754	862	1130	1248	1308	1547
F1	kN	620	1000	1750	2000	2500	3350	3600	3900	4200
F2	kN	320	750	1050	1250	1500	2050	2180	2450	2650
F3	kN	250	500	700	800	1000	1300	1400	1550	1700
Cutter length	mm	84	150	150	150	200	200	300	300	300
Round material	mm	15	20	25	30	35	40	45	50	50
Oil flow (rotation)	l/min	8	8	8	30	30	30	50	50	50
Operating pressure (rotation)	MPa	12	12	12	12	12	12	12	12	12
Oil flow	l/min	30-50	70-110	90-140	150-200	170-210	250-300	300-350	350-450	400-500
Operating pressure	MPa	22	22-35	35	35	35	35	35	35	35
Operating weight	kg	370	645	1025	1505	1996	2548	3316	4718	5517
Base machine weight	t	3 - 6	5 - 11	10 - 15	15 - 22	21 - 28	25 - 35	33 - 50	44 - 60	50 - 70

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WHERE EXPERIENCE COUNTS

# V SERIES JAWS

## Jaw set S

- Secondary Jaw



Jaw set S		V4-S	V6-S	V11-S	V17-S	V22-S	V26-S	V34-S	V44-S	V50-S
D (Opening width)	mm		437	544	604	664	911	1042	1064	1123
Cutter length	mm		84	84	150	150	150	150	200	200
Round material	mm		20	25	30	35	40	45	50	50
F3	kN		540	740	880	1110	1400	1450	1650	2030
Operating weight	kg		657	1057	1593	2071	2693	3553	5068	5917

## Jaw set M

- Combi cutter/  
crusher Jaw



Jaw set M		V4-M	V6-M	V11-M	V17-M	V22-M	V26-M	V34-M	V44-M	V50-M
D (Opening width)	mm		530	640	750	860	1100	1230	1300	1380
Round material	mm		20	25	30	35	40	45	50	50
IPE-Profile	mm		100	110	150	250	300	330	400	550
H-Profile	mm		50	70	120	180	220	240	260	280
F3	kN		500	700	810	1000	1300	1400	1550	1700
Operating weight	kg		654	1059	1590	2059	2606	3465	5160	6007

## Jaw set C

- Steel Cutter Jaw



Jaw set C		V4-C	V6-C	V11-C	V17-C	V22-C	V26-C	V34-C	V44-C	V50-C
D (Opening width)	mm	170	215	300	340	400	550	580	630	730
Round material	mm	30	30	35	40	50	60	65	70	80
IPE-Profile	mm		120	130	180	250	320	360	450	600
H-Profile	mm		70	100	140	200	240	260	300	320
F3	kN	290	620	850	950	1150	1500	1650	1800	2100
Operating weight	kg	375	642	1026	1549	2000	2526	3350	4864	5804

## Jaw set T

- Tank Jaw



Jaw set T		V4-T	V6-T	V11-T	V17-T	V22-T	V26-T	V34-T	V44-T	V50-T
D (Opening width)	mm				240	275	340	360	410	450
Thickness	mm				10	15	20	25	30	35
F3	kN				950	1200	1600	1800	2050	2300
Operating weight	kg				1562	1905	2418	3011	4788	5222

## Jaw set W

- Wood-Jaw



Jaw set W		V4-W	V6-W	V11-W	V17-W	V22-W	V26-W	V34-W	V44-W	V50-W
Opening width	mm	476	562	708	754					
Jaw depth	mm	436	436	641	641					
Round material	mm	450	550	700	750					
F3	kN	500	700	800	1000					
Operating weight	kg	661	1014	1598	2013					

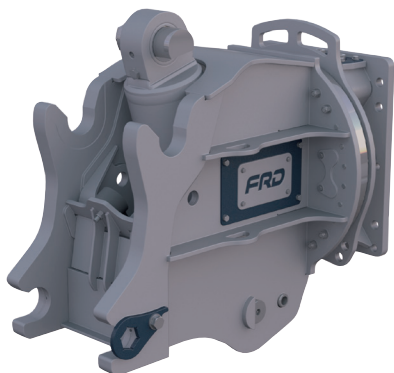


# VMX SERIES

## FRD MULTIPLE USE CUTTER/CRUSHER - VMX SERIES -

The VMX is a multi-purpose crusher suitable for 7t up to 50t excavators and can be used for primary, secondary and selected demolition thanks to the quick jaw-change system. The VMX is the right tool for any application. Crushing has never been so easy thanks to the possibilities of the VMX.

- International patented
- Changing jaws in less than 5 minutes
- 5 Interchangeable type of jaws for any kind of job
- Complete structure in Hardox 400



Base body		VMX10ER	VMX13ER	VMX17ER	VMX25ER	VMX30ER	VMX35ER
Body weight	kg	485	655	905	1224	1555	2090
Oil flow (rotation)	l/min	5 - 8	20 - 30	20 - 30	20 - 30	20 - 30	40 - 50
Working pressure (rotation)	MPa	12	12	12	12	12	12
Oil flow	l/min	70 - 90	90 - 140	110 - 160	170 - 210	200 - 250	300 - 400
Working pressure	MPa	23 - 35	23 - 35	35	35	35	35
Excavator weight	t	7 - 13	10 - 16	13 - 21	18 - 27	26 - 38	35 - 50

Specifications subject to change without notice.

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# VMX SERIES



P Jaw		VMX10-P	VMX13-P	VMX17-P	VMX25-P	VMX30-P	VMX35-P
Total length	mm	1595	1785	1994	2074	2356	2555
Jaw opening	mm	520	610	717	780	865	957
Jaw depth	mm	500	580	700	760	810	910
Width upper jaw	mm	50	60	70	70	80	90
Width lower jaw	mm	190	240	240	240	270	300
Crushing force jaw	kN	450	530	650	800	1050	1200
Round Material	mm	20	25	30	35	40	50
Flat material	mm						
IPE-Profil	mm						
H-Profil	mm						
Cutter length	mm	200	200	200	200	200	200
Weight Jaw	kg	225	475	599	842	1095	1525
Operating weight	kg	710	1130	1504	2066	2650	3615

C Jaw		VMX10-C	VMX13-C	VMX17-C	VMX25-C	VMX30-C	VMX35-C
Total length	mm	1475	1610	1826	1853	2134	2350
Jaw opening	mm	265	335	392	392	490	555
Jaw depth	mm	335	340	493	493	600	560
Width upper jaw	mm	90	90	105	105	120	120
Width lower jaw	mm	260	260	280	300	380	415
Crushing force jaw	kN	650	700	900	1150	1400	1600
Round Material	mm	30	35	40	50	60	70
Flat material	mm	6	8	10	12	15	20
IPE-Profil	mm	120	140	180	270	330	360
H-Profil	mm			140	200	240	260
Cutter length	mm						
Weight Jaw	kg	245	430	597	803	1085	1520
Operating weight	kg	730	1085	1502	2027	2640	3610

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# VMX SERIES



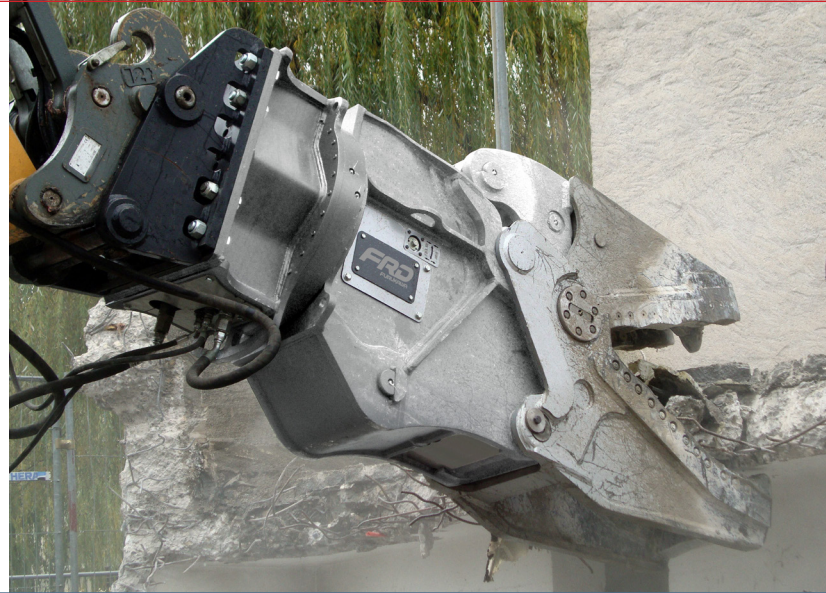
M Jaw		VMX10-M	VMX13-M	VMX17-M	VMX25-M	VMX30-M	VMX35-M
Total length	mm	1595	1785	1994	2070	2460	2555
Jaw opening	mm	530	610	717	780	861	957
Jaw depth	mm	480	580	700	760	810	910
Width upper jaw	mm	60	60	70	70	90	110
Width lower jaw	mm	230	230	260	260	340	370
Crushing force jaw	kN	450	530	650	800	1050	1200
Round Material	mm	25	30	30	35	40	50
Flat material	mm						
IPE-Profil	mm	100	120	180	240	270	330
H-Profil	mm			120	180	200	240
Cutter length	mm	280	320	340	340	430	430
Weight Jaw	kg	282	505	665	889	1217	1700
Operating weight	kg	767	1160	1570	2113	2772	3770



S Jaw		VMX10-S	VMX13-S	VMX17-S	VMX25-S	VMX30-S	VMX35-S
Total length	mm	1620	1780	1995	2088	2378	2585
Jaw opening	mm	535	630	720	780	890	980
Jaw depth	mm	525	630	730	780	880	930
Width upper jaw	mm	170	190	260	260	300	340
Width lower jaw	mm	290	320	380	380	420	470
Crushing force jaw	kN	450	530	650	800	1050	1200
Round Material	mm	20	25	30	35	40	50
Flat material	mm						
IPE-Profil	mm						
H-Profil	mm						
Cutter length	mm	85	150	150	200	200	200
Weight Jaw	kg	281	485	645	887	1190	1670
Operating weight	kg	766	1140	1550	2111	2745	3760

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# VMX SERIES



SW Jaw		VMX10-SW	VMX13-SW	VMX17-SW	VMX25-SW	VMX30-SW	VMX35-SW
Total length	mm	1575	1730	1954	2063	2365	2590
Jaw opening	mm	350	425	620	755	843	935
Jaw depth	mm	430	510	630	677	795	870
Width upper jaw	mm	195	205	260	262	292	320
Width lower jaw	mm	300	330	350	390	440	490
Crushing force jaw	kN	600	650	750	850	1100	1200
Round Material	mm	25	25	30	35	40	50
Flat material	mm						
IPE-Profil	mm						
H-Profil	mm						
Cutter length	mm						
Weight Jaw	kg	287	495	696	956	1307	1820
Operating weight	kg	772	1135	1601	2180	2862	3910

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# VR-ER SERIES

## SCRAP SHEAR - VR-ER SERIE -

FRD scrap shears are used for demolition of complete steel constructions as well as for reducing on the ground in foundries, garbage dumps and waste recycling. These Hardox 400 machines are manufactured in FRD quality, which means that safety and reliability is promised in even in the toughest applications.

- Extremely stable housing with low weight
- Speed valve for quick and efficient work
- Blade with trapezoidal profile improves the cutting line
- Innovative adjuster on the jaw
- Replaceable wear parts



		VR4ER	VR7ER	VR15ER	VR18ER-2	VR30ER-3	VR-40ER3	VR50ER-3	VR68ER-3	VR80ER-3
Total length	mm	1855	2080	2277	2666	3227	3726	3690	4338	4450
Jaw depth	mm	348	348	481	510	606	710	720	852	1200
Jaw opening	mm	350	415	450	480	575	670	740	830	870
Cutting force back	kN	1250	2100	2750	4000	6200	7300	8900	10000	12000
Cutting force front	kN	320	600	610	950	1460	1650	1950	2200	2400
Round material	mm	30	40	45	55	65	70	75	85	100
Square material	mm	25	30	35	40	50	55	60	70	85
Flat material	mm	6	8	10	15	20	22	25	30	35
IPE-Profile	mm	100	120	200	300	400	450	500	550	600
H-Profile	mm	70	80	140	200	260	280	320	360	400
Oil flow (rotation)	l/min	5 - 8	5 - 8	20 - 30	20 - 30	20 - 30	20 - 30	40 - 50	40 - 50	40 - 50
Operating pressure (rotation)	MPa	12	12	12	12	12	12	12	12	12
Rotation		360°	360°	360°	360°	360°	360°	360°	360°	360°
Oil flow	l/min	70 - 110	90 - 140	150 - 250	200 - 300	280 - 350	300 - 450	350 - 500	400 - 600	500 - 800
Operating pressure	MPa	20 - 25	28 - 32	35	35	35	35	35	35	35
Operating weight	kg	435	770	1190	2120	3260	4200	5000	6820	8100
Excavator (boom top)	t	2 - 6	5 - 8	8 - 14	14 - 20	20 - 30	25 - 40	30 - 50	40 - 60	50 - 80
Excavator (stick)	t	5 - 8	8 - 14	13 - 20	19 - 28	27 - 39	32 - 45	38 - 55	50 - 70	70 - 110

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WHERE EXPERIENCE COUNTS



# VR-ER SERIES

		VR100ER-3	VR150ER-3	VR200ER-3
Total length	mm	5360	6200	7100
Jaw depth	mm	1320	1600	1700
Jaw opening	mm	1004	1145	1225
Cutting force back	kN	13200	16000	17000
Cutting force front	kN	2800	3550	4600
Round material	mm	110	140	165
Square material	mm	90	120	140
Flat material	mm	40	45	50
IPE-Profile	mm	750	950	1100
H-Profile	mm	550	600	750
Oil flow (rotation)	l/min	80 - 100	80 - 100	80 - 100
Operating pressure (rotation)	MPa	12	12	15
Rotation		360°	360°	360°
Oil flow	l/min	700 - 1000	900 - 1200	1000 - 1500
Operating pressure	MPa	35	35	35
Operating weight	kg	10200	15100	20900
Excavator (boom top)	t	60 +	80 +	110 +
Excavator (stick)	t	85 +	120 +	170 +



	VR15ER	VR18ER-2	VR30ER-3	VR40ER-3	VR50ER-3	VR68ER-3	VR80ER-3	VR100ER-3	VR150ER-3
150	4,1/1,6								
200	3,1/1,2	2,8/2,8							
250	2,4/1,0	2,2/2,2	3,0/4,9						
300		1,8/1,8	2,5/4,1	3,1/5,1					
350			2,1/3,5	2,7/4,3	3,9/5,5				
400				2,3/3,8	3,4/4,8	4,4/6,1			
450				2,1/3,4	3,0/4,3	3,9/5,5			
500					2,7/3,8	3,5/4,9	3,9/6,0		
600						2,9/4,1	3,3/5,0		
700							2,8/4,2	3,6/5,6	
800							2,4/3,7	3,2/4,9	
900								2,8/4,3	4,4/6,0
1000								2,5/3,9	4,0/5,4
1100									3,6/4,9
1200									3,3/4,5

Specifications subject to change without notice.

# RC22ER SERIES

## RAIL CUTTER - RC22ER -

The European railway covers approximately 350.00 km. The construction and maintenance of railway tracks is an important market. To respond to the ever growing demand for cutting railroad tracks, FRD presents their first rail cutter model.

The RC22ER is designed for use on excavators from 21 to 35 ton operating weight. The RC22ER is used to cut high tensile bars.

Extreme long service and maintenance intervals have been achieved. The complete body of the RC22ER is made of Hardox and has undergone a special heat treatment so that the body is produced entirely free of tension. A higher mechanical strength is ensured.



		RC22ER	RC44ER
Length	mm	2320	2320
Cutter length	mm	170	170
Jaw opening	mm	225	240
Width	mm	540	600
Oil flow rotation	l/min	25 - 35	25 - 35
Operating pressure rotation	MPa	19	19
Oil flow opening/closing	l/min	200 - 300	300 - 450
Operating pressure opening/closing	MPa	35	35
Weight	kg	2480	3900
Excavator size	t	21 - 35	35 - 50

Specifications subject to change without notice.

WHERE EXPERIENCE COUNTS



# HYDRAULIC GRABS





# FDG SERIES -SMALL-

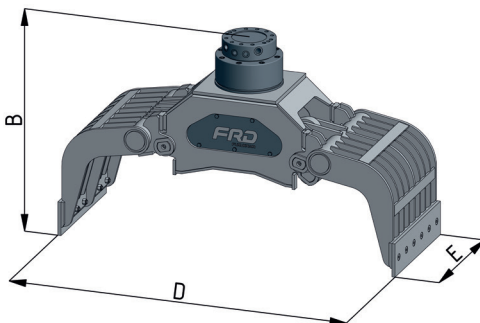
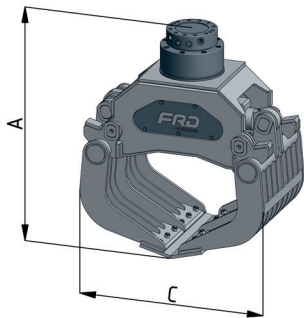
## FRD DEMOLITION- AND SORTING GRAB

Demolition- and sorting grab for variable use and handling of different materials, as for example:

- Demolition and sorting
- Sorting and handling of construction waste
- Sorting and handling of recycling material

## DESIGN FEATURES

- Hydraulic rotator unit with heavy duty axial and radial bearings with compact rotator
- Flat compact design. Hydraulic cylinders and ganging guidance cpl. protected inside the frame
- FDG20-PL and FDG30-PL cylinders with limit damping
- FDG10-PL, FDG20-PL and FDG30-PL with load holding valve at the cylinders. It prevent the unintentional opening of the grab
- Integrated mechanical opening and closing stoppers
- Shells complete of high strength fine-grain steel ( 400 HB )
- Bolt-on exchangeable cutting edges of high strength fine-grain steel ( 400 HB )
- Grab design for free oscillating use available



		FDG05-PL	FDG10-PL	FDG15-PL	FDG20-PL	FDG30-PL
Operating weight <sup>1)</sup>	kg	140	220	380	510	940
Capacity	l	45	80	130	200	370
Sustainability max.	t	1	1	1,5	2	4
Sust. - Rotary Engine max.	t	5	5	5	10	15
Dimension A	mm	700	820	930	1075	1205
Dimension B	mm	760	720	775	950	1070
Dimension C	mm	640	660	825	940	1170
Dimension D	mm	1000	1105	1390	1630	1925
Width E	mm	360	400	500	600	800
Closing max.	kN	19	17	23	33	51
Operating pressure max.	MPa	25	25	32	30	30
Oil flow max.	l/min	22	22	32	40	60
Oper. - pressure rotator max.	MPa	25	25	25	25	25
Oil flow rotator max.	l/min	20	20	20	28	48
Base machine weight	t	1 - 2	3 - 5	4 - 7	5 - 9	9 - 15

Specifications subject to change without notice. <sup>1)</sup> Operating Weight basic unit without turning unit and mounting plate.

WHERE EXPERIENCE COUNTS

# FDG SERIES -LARGE-

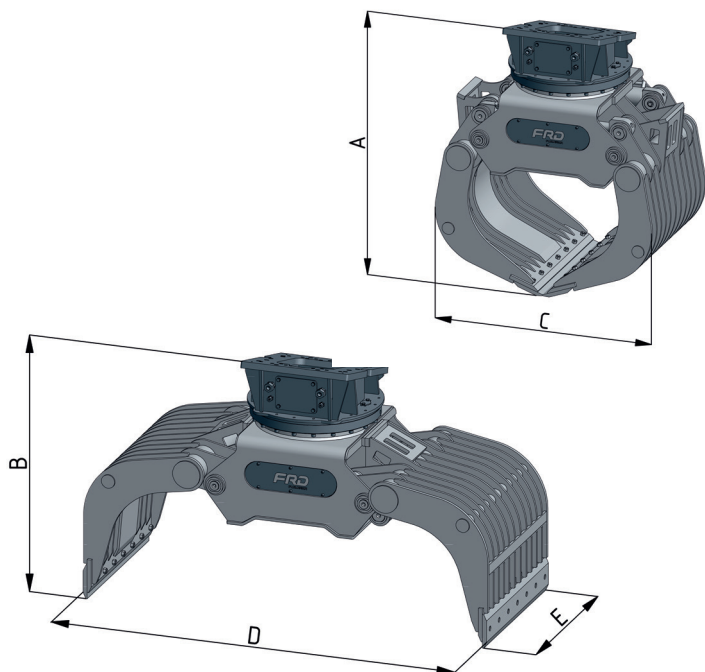
## FRD DEMOLITION- AND SORTING GRAB

Demolition- and sorting grab for variable use and handling of different materials, as for example:

- Demolition and sorting
- Sorting and handling of construction waste
- Sorting and handling of recycling material

## DESIGN FEATURES

- Hydraulic rotator unit with heavy duty axial and radial bearings with rotating annulus rotator
- Flat compact design. Hydraulic cylinders and ganging guidance completely protected inside the frame with limit damping
- Load holding valve at the cylinders prevent the unintentional opening of the grab
- Integrated mechanical opening and closing stoppers
- Shells complete of high strength fine-grain steel (400 HB)
- Bolt-on exchangeable cutting edges of high strength fine-grain steel (400 HB)
- Grab design for free oscillating use available



		FDG35-PL	FDG40-PL	FDG50-PL	FDG60-PL
Operating weight <sup>1)</sup>	kg	1080	1590	1840	2330
Capacity	l	370	650	760	925
Sustainability max.	t	4	6	6	8
Sust. - Rotary Engine max.	t	15	20	20	30
Dimension A	mm	1420	1595	1765	1800
Dimension B	mm	1285	1445	1490	1600
Dimension C	mm	1175	1415	1450	1530
Dimension D	mm	1925	2250	2450	2500
Width E	mm	800	900	1000	1230
Closing max.	kN	51	76	103	125
Operating pressure max.	Mpa	30	35	35	35
Oil flow max.	l/min	60	62	90	112
Oper. - pressure rotator max.	Mpa	14	14	14	14
Oil flow rotator max.	l/min	30	30	30	30
Base machine weight	t	15 - 20	20 - 25	25 - 30	29 - 40

Specifications subject to change without notice. <sup>1)</sup> Operating Weight basic unit without turning unit and mounting plate..

WHERE EXPERIENCE COUNTS

# FMP SERIES -SMALL-

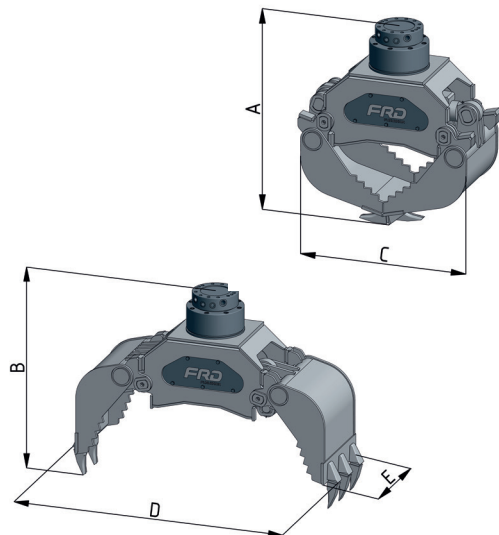
## FRD MULTI-PURPOSE GRAB SMALL

Multi-purpose grab for variable use and handling of different materials, as for example:

- Stone laying
- Sorting and handling of construction waste
- Sorting and handling of recycling material
- Excavation and loading of rough bulk material
- Loading of horticulture waste

## DESIGN FEATURES

- Hydraulic rotator unit with heavy duty axial and radial bearings with compact rotator
- Flat compact design. Hydraulic cylinders and ganging guidance completely protected inside the frame
- FMP20-PL and FMP30-PL cylinders with limit damping
- FMP10, FMP20-PL and FMP30-PL with load holding valve at the cylinders. It prevent the unintentional opening of the grab
- Integrated mechanical opening and closing stoppers
- Wear-resistant bottom teeth and side plates of high strength fine-grain steel ( 400 HB )
- FMP05-PL and FMP10-PL with bolt-on exchangeable teeth / FMP20-PL and FMP30-PL with ESCO-plug-in exchangeable teeth
- Grab design for free oscillating use available



		FMP05-PL	FMP10-PL	FMP15-PL	FMP20-PL	FMP30-PL
Operating weight <sup>1)</sup>	kg	152	195	320	450	830
Capacity	l	37	50	90	120	270
Sustainability max.	t	1	1	1,5	2	4
Sust. - Rot. max.	t	5	5	5	10	15
Dimension A	mm	670	705	890	1025	1210
Dimension B	mm	725	730	905	1085	1235
Dimension C	mm	610	610	800	905	1145
Dimension D	mm	900	970	1325	1530	1935
Width E	mm	360	400	450	500	660
Number of teeth	Qty	3	3	3	5	5
Closing max.	kN	19	19	28	34	56
Oper. pressure max.	Mpa	25	25	32	30	30
Oil flow max.	l/min	22	22	32	40	60
Oper. pressure max.	Mpa	25	25	25	25	25
Oil flow rotator max.	l/min	20	20	20	28	48
Base machine weight	t	1 - 2	2 - 5	4 - 7	5 - 9	9 - 15

Specifications subject to change without notice. <sup>1)</sup> Operating Weight basic unit without turning unit and mounting plate.

WHERE EXPERIENCE COUNTS



# FMP SERIES -LARGE-

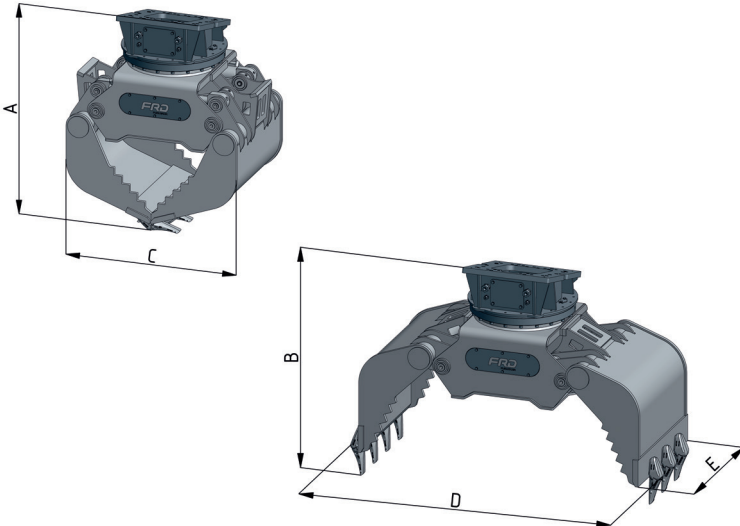
## FRD MULTI-PURPOSE GRAB LARGE - FMP SERIE -

Multi-purpose grab for variable use and handling of different materials, as for example:

- Stone laying
- Sorting and handling of construction waste
- Sorting and handling of recycling material
- Excavation and loading of rough bulk material
- Loading of horticulture waste

## DESIGN FEATURES

- Hydraulic rotator unit with heavy duty axial and radial bearings with rotating annulus rotator
- Flat compact design. Hydraulic cylinders and ganging guidance cpl. protected inside the frame
- Cylinders with limit damping
- Load holding valve at the cylinders prevent the unintentional opening of the grab
- Integrated mechanical opening and closing stoppers
- Wear resistant bottom teeth and side plates of high strength fine-grain steel ( 400 HB )
- With ESCO-plug-in exchangeable teeth
- Grab design for free oscillating use available



		FMP35-PL	FMP40-PL	FMP50-PL	FMP60-PL
Operating weight <sup>1)</sup>	kg	970	1665	1770	2200
Capacity	l	270	610	670	1025
Sustainability max.	t	4	6	6	8
Sust.- Rotary Engine max.	t	15	20	20	30
Dimension A	mm	1425	1630	1630	1940
Dimension B	mm	1450	1640	1640	1870
Dimension C	mm	1145	1330	1330	1500
Dimension D	mm	1935	2270	2270	2690
Width E	mm	660	940	1000	1030
Number of teeth	Stck.	5	7	7	7
Closing max.	kN	56	82	128	121
Operating pressure max.	Mpa	30	35	35	35
Oil flow max.	l/min	60	62	90	112
Operating pressure max.	Mpa	14	14	14	14
Oil flow rotator max.	l/min	30	30	30	30
Base machine weight	t	15 -20	16 - 22	23 - 30	29 - 40

Specifications subject to change without notice. <sup>1)</sup> Operating Weight basic unit without turning unit and mounting plate.

WHERE EXPERIENCE COUNTS

# DEALER NETWORK

## LOCAL SERVICE AND SUPPORT

FRD seeks firstly to supply a product of undoubted integrity. Then back this up with a support network of dedicated Distributors to ensure whatever support, wherever and whenever needed. The FRD-Distributor combination has been made unbeatable.

FRD Distributors have been selected for their professional competence, their market coverage, their dedication to quality and their willingness to work. They receive intense training on all machines and systems and every support that a committed manufacturer can give them. They actively exchange experience between each other to ensure their clients get the latest lessons from the market. They are a skilled and fast team of professionals.

## VALUE FOR MONEY

Buying FRD products is a smart investment. Top quality for a reasonable price, with long lifetime, with low maintenance and less break-down-time. In the long term this choice makes financially better results.

Next steps? FRD Europe and its Distributors have a vast resource of information beyond what can be mentioned here. Do not hesitate to get in touch for more detail and an unbeatable quote.



WHERE EXPERIENCE COUNTS

**Authorized distributor:**

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PROMAHI Sur 2005, s.l.  
Parque Empresarial Santa Cruz  
C/La Ilíada, 31  
29004 - Málaga - ESPAÑA

Tel. + 34 952 962 567  
[www.promahi.com](http://www.promahi.com)  
[info@promahi.com](mailto:info@promahi.com)



**Furukawa Rock Drill Europe BV**

Proostwetering 29, 3543 AB Utrecht, The Netherlands  
Phone +31-(0)30-2412277 - [frd@frd.eu](mailto:frd@frd.eu) / [www.frd.eu](http://www.frd.eu)



WHERE **EXPERIENCE COUNTS**