HYDRAULIC BREAKERS

WHERE EXPERIENCE COUNTS

TRADITION AND HIGH-TECH FROM ONE COUNTRY

Japan, a country of old traditions, has proven its technical performances in many different ways. Already many years ago Japanese electronic equipment contributed greatly 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 more efficient and economical cars. 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 ongoing product improvement and development.

Everything started in 1875, when Furukawa opened the Kusakura Copper Mine. The mining always required new and specific solutions to improve the production. For this reason Furukawa started in 1900 to produce their own mining equipment, which led to higher production levels at 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 fulfil these requirements, Furukawa started to separate their activities into different divisions.

In 1918 Furukawa Mining Co. Ltd was founded 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 l arge, that in 1976 a second production unitwas established in Takasaki. Since then, from these two factories, more than 150.000 hydraulic breakers have been delivered all over the world.In the meantime the Furukawa Rock Drill division has built an international sales and service network, which secures an optimum after sales service for all the equipment.

We take our slogan “WHERE EXPERIENCE COUNTS” as serious as other Japanese traditions and hope you will approach us with your specific demands.


FRD
FRD
FRD
FRD


FRD
FURUKAWA
375
FXJ

Contents

FX SERIES

ITS THE SMALL THINGS IN LIFE THAT COUNT

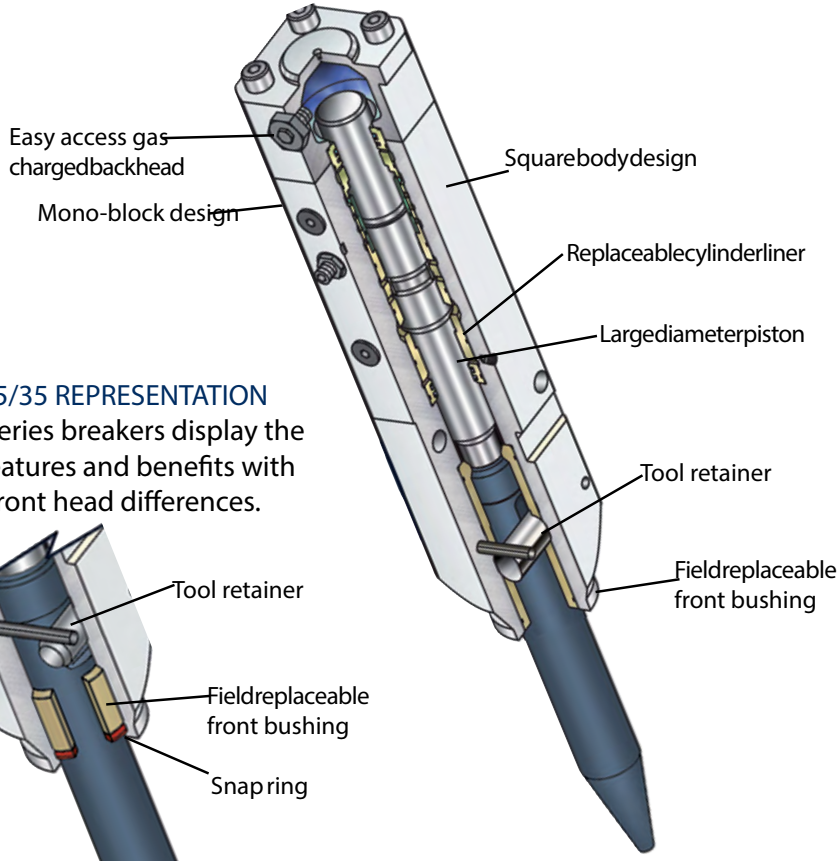
	Job	Specification	
Construction	Gardening & landscaping	Fencing, ground excavation, rock breaking	●
	Earthworks	Trenching, Pit building, Ground excavation	●
	Dredging	Canal deepening & extension Dock deepening & extension	●
	Tunnelling	Tunnel driving, Roof, face & rib scaling Floor levelling	●
Demolition & renovation	Masonry structures	Brickwork, Natural stone Autoclaved aerated concrete	●
	Concrete structures	Lightweight concrete Standard concrete	●
	Pavements	Asphalt, Concrete, Composite surfaces	●
	Composite steel & concrete structures	Steel-reinforced concrete, pre-stressed concrete, Fibre-reinforced concrete	●
Mining & quarrying	Preliminary works	Overburden removal, Bench, road & ramp levelling, Roof, face & rib scaling	●
	Secondary breaking	Boulder reduction in rock pile, Removing blockages at crushing systems	●
Metallurgical industry	Cleaning & de-bricking	Ladles, Converter mouths, Kilns	●
	Slag recycling	Boulder reduction in slag heap, Removing blockages at crushing systems	●

● Optimal ● Suitable

FX- THE REVOLUTION IN MINI EXCAVATORS

FEATURES & BENENFITS

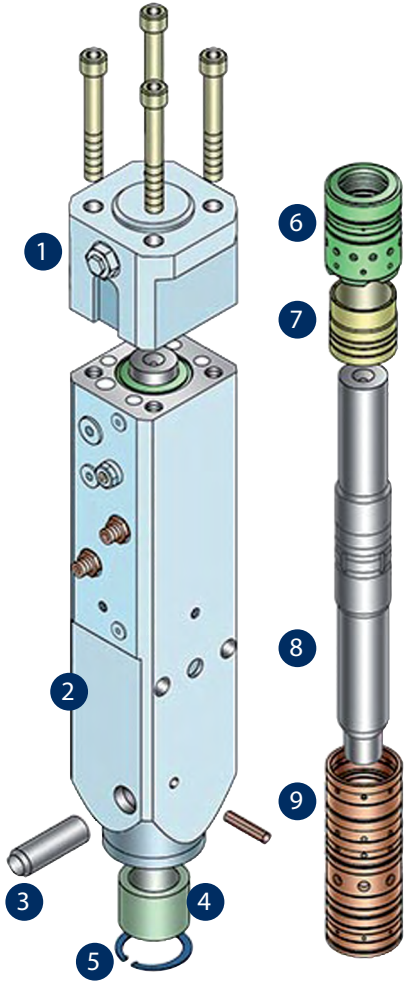
- Mono-block design
- No through bolts
- Designed with replaceable cylinder liners for saving maintenance cost and downtime
- No diaphragm
- Field replaceable front wear bushing keeps tools in peak performance
- Extended front head bushing for maximum service life (Fx45/55)
- Wide oil flow range for fast, hard-hitting performance and more carrier options
- A wide variety of working steels
- Oval retaining pin for increased steel contact and double service life (Fx45/55)
- Two strategically located warehouse facilities with extensive tool inventories assuring on-time deliveries



FX15/25/35 REPRESENTATION

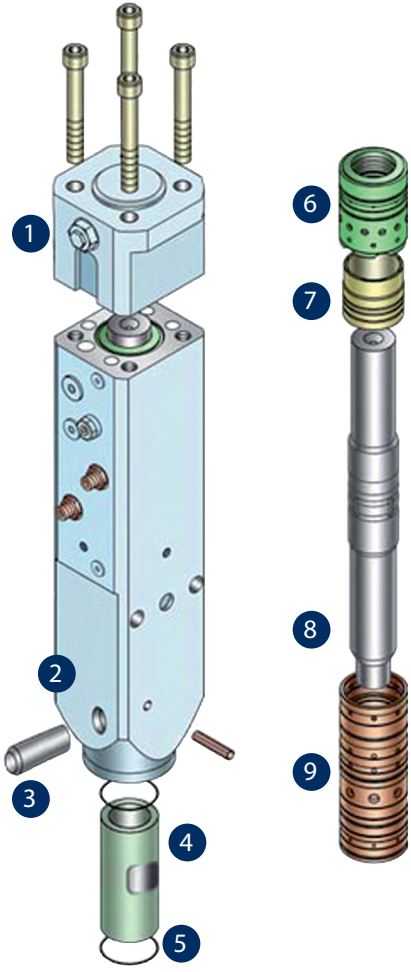
All FX Series breakers display the same features and benefits with minor front head differences.

FX15/25/35



1. Back Head
2. Mono-Block Cylinder
3. Retainer Pin
4. Front Bushing
5. Snap Ring
6. Seal Retainer
7. Valve
8. Piston
9. Cylinder Liner

FX45/55



1. Back Head
2. Mono-Block Cylinder
3. Oval Retainer Pin
4. Front Bushing
5. Top & Bottom O-Rings
6. Seal Retainer
7. Valve
8. Piston
9. Cylinder Liner

PIN AND BUSH

The easiest way to fix a hydraulic breaker on an excavator. Order the appropriate pin & bushing set and you can fix your hydraulic breaker on an excavator arm.

FLAT TOP

The cheapest solution is to attach the hydraulic breaker with different systems. With the FT frame, you can attach the breaker using base mounting plates for quick-change systems of all kinds.

SILENCE

Noise reduction is required in the workplace and you have the beginning of the Silence part of our offered possibilities. The frame is up to 6 Db(A) quieter than the standard frame.

XTRA SILENCE

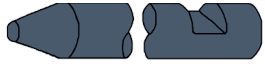
With the Xtra frame we currently offer the maximum in noise reduction. The optimal management of the hammer in the frame inconjunction with the patented design of the FRD rod gives up to 4 Db(A) noise reduction than the Silence version.

FLAT ROD

Secondary breaking in quarries, boulder breaking, concrete breaking and slab breaking.

CONE ROD

Multipurpose applications, including breaking of extra hard rock, hard rock, hard stone, reinforced concrete and excavation of bedrock.



WEDGE POINT ROD

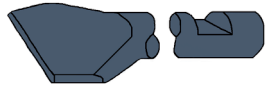
Concrete breaking, excavation of bedrock, operation on the face of slopes and excavation of ditches.

BALL POINT ROD

Breaking metal ores, as well as quartzite and other highly abrasive objects.

ASPHALT/SPADE ROD

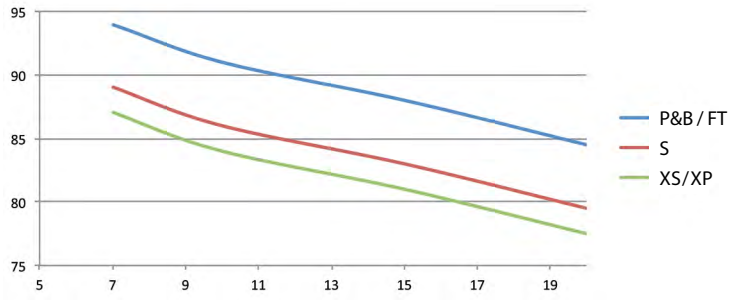
Cutting of asphalt or soft material and breaking of asphalt in road building, knocking out of ladles, demolition of concrete or reinforced concrete.



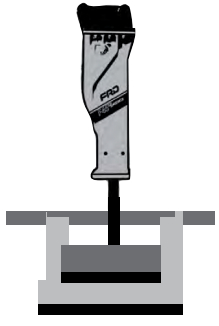
TYPE OF RODS

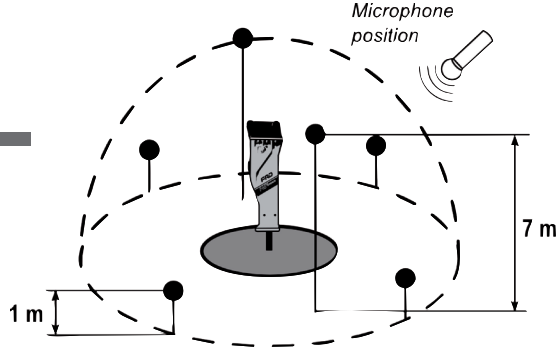
SOUND POWER & SOUND PRESSURE

These are two distinct and commonly confused characteristics of sound. Sound power is the acoustical energy emitted by the sound source, and is an absolute value. It is not affected by the environment. Sound pressure levels quantify in decibels the intensity of given sound sources. Sound pressure levels vary substantially with distance from the source, and also diminish as a result of intervening obstacles and barriers, air absorption, wind and other factors. Sound pressure is what our ears hear and what sound pressure level meters (SPL meters) measure.



Sound level	FX15	FX25	FX35	FX45	FX55
PIN & BUSH (PB)	L_{WA} 116 dB	L_{WA} 118 dB	L_{WA} 124 dB	L_{WA} 126 dB	L_{WA} 126 dB
FLATTOP (FT)	L_{WA} 116 dB	L_{WA} 118 dB	L_{WA} 124 dB	L_{WA} 126 dB	L_{WA} 126 dB
SILENCE (S)	-	L_{WA} 112 dB	L_{WA} 119 dB	L_{WA} 120 dB	L_{WA} 119 dB
XTRASILENCE(XS)	-	L_{WA} 110 dB	L_{WA} 117 dB	L_{WA} 117 dB	L_{WA} 116 dB





Half sphere measurement radius r = 10 m

$$L_{wA,g} = L_{p'} - k_1 - k_2 + 10*\log(s/s_0) + K$$

- $L_{wA,g}$: Garantied Sound Power level
- $L_{p'}$: Measured Sound Pressure
- k_1: Correction Excavator Noise
- k_2: Correction Sound reflextion surroundings
- $10*\log(s/s_0)$: Conversion of measure distance
- K: Surcharge Measure assurance

			FX15
Operating weight, pin and bush[1)]		kg	69
Operating weight, FT[1)]		kg	69
Height with rod, pin and bush		mm	924
Height with rod, FT		mm	816
Height with rod, S		mm	
Height with rod, XS		mm	
Operating pressure	min	MPa	10
	max		14
Oil flow	min	l/ min	10
	max		22
Impact rate (frequency)	min	bpm	600
	max		1500
Rod diameter Ø		mm	36
Effective rod length		mm	234
Weight rod (standard)		kg	2,6
Hose inner dia Ø Press, Return		mm	9
Base machine weight		ton	0,5 - 1,5

[1)] Operating weight with top bracket.

Specifications subject to change without notice

P&B

FT

FX15

EXCAVATOR SIZE 0,5-1,5^{T}

			FX25
Operating weight, pin and bush [1]		kg	101
Operating weight, [1] S and XS [2]		kg	112
Height with rod, pin and bush		mm	1030
Height with rod, FT		mm	939
Height with rod, S		mm	961
Height with rod, XS		mm	1015
Operating pressure	min	MPa	10
	max		14
Oil flow	min	l/min	18
	max		32
Impact rate (frequency)	min	bpm	600
	max		1500
Rod diameter Ø		mm	45
Effective rod length		mm	293
Weight rod (standard)		kg	5
Hose inner dia Ø Press. Return		mm	12
Base machine weight		ton	1,0 - 2,5

[1] Operating weight with top bracket. [2] S and XS Silent Version = Sound and vibration damping

Specifications subject to change without notice

P&B FT S XS

FX25

EXCAVATOR SIZE 1,0-2,5T

			FX35
Operating weight, pin and bush[1)]		kg	146
Operating weight, [1)] S and XS [2)]		kg	157
Height with rod, pin and bush		mm	1172
Height with rod, FT		mm	1060
Height with rod, S		mm	1062
Height with rod, XS		mm	1116
Operating pressure	min	MPa	12
			16
Oil flow	min	l/min	24
			52
Impact rate (frequency)	min	bpm	600
			1300
Rod diameter Ø		mm	52
Effective rod length		mm	322
Weight rod (standard)		kg	8
Hose inner dia Ø Press. Return		mm	12
Base machine weight		ton	1,5 - 4,0

[1)] Operating weight with top bracket. [2)] S and XS Silent Version = Sound and vibration damping

Specifications subject to change without notice

FX35

EXCAVATOR SIZE 1,5-4,0^{T}

			FX45
Operating weight, pin and bush[1)]		kg	187
Operating weight, [1)] S and XS [2)]		kg	208
Height with rod, pin and bush		mm	1285
Height with rod, FT		mm	1167
Height with rod, S		mm	1173
Height with rod, XS		mm	1227
Operating pressure	min	MPa	12
	max		16
Oil flow	min	l/ min	30
	max		56
Impact rate (frequency)	min		600
	max		1100
Rod diameter Ø		mm	60
Effective rod length		mm	355
Weight rod (standard)		kg	11
Hose inner dia Ø Press. Return		mm	12
Base machine weight		ton	2,5 - 5,5

[1)] Operating weight with top bracket. [2)] S and XS Silent Version = Sound and vibration damping

Specifications subject to change without notice

P&B FT S XS

FX45

EXCAVATOR SIZE 2,5-5,5T

			FX55
Operating weight, pin and bush[1)]		kg	245
Operating weight, [1)] S and XS [2)]		kg	280
Height with rod, pin and bush		mm	1388
Height with rod, FT		mm	1264
Height with rod, S		mm	1276
Height with rod, XS		mm	1330
Operating pressure	min	MPa	12
	max		16
Oil flow	min	l/min	40
	max		72
Impact rate (frequency)	min	bpm	500
	max		1000
Rod diameter Ø		mm	68
Effective rod length		mm	378
Weight rod (standard)		kg	15
Hose inner dia Ø Press. Return		mm	12
Base machine weight		ton	4,0 - 7,0

[1)] Operating weight with top bracket. [2)] S and XS Silent Version = Sound and vibration damping

Specifications subject to change without notice

FX55

EXCAVATOR SIZE 4,0-7,0^{T}

			FX15	FX25	FX35	FX45	FX55
Operating weight, pin and bush and FT[1)]	A, B	kg	69	101	146	187	245
Operating weight, [1)] S and XS [2)]	C, D	kg		112	157	208	280
Height with rod, pin and bush	A	mm	924	1030	1172	1285	1388
Height with rod, FT	B	mm	816	939	1060	1167	1264
Height with rod, S	C	mm		961	1062	1173	1276
Height with rod, XS	D	mm		1015	1116	1227	1330
Operating pressure	min	Mpa	10	10	12	12	12
	max		14	14	16	16	16
Oil flow	min	l/min	10	18	24	30	40
	max		22	32	42	56	72
Impact rate 1/min	min	bpm	600	600	600	600	500
	max		1500	1500	1300	1100	1100
Rod diameter Ø		mm	36	45	52	60	68
Effective length Rod		mm	234	293	322	355	378
Weight Rod		kg	2,6	5	8	11	15
Hose inner dia Ø HD, ND		mm	9	12	12	12	12
Noise level guaranteed	FT	dB(A)	116	118	124	126	126
	S	dB(A)		112	119	120	119
	XS	dB(A)		110	117	117	116
Base machine weight		t	0,5 - 1,5	1,0 - 2,5	1,5 - 4,0	2,5 - 5,5	4,0 - 7,0

[1)] Operating weight with top bracket. [2)] S and XS Silent Version = Sound and vibration damping

Specifications subject to change without notice

F6 / F9

	Job	Specification	
Construction	Gardening & landscaping	Fencing, ground excavation, rock breaking	●
	Earthworks	Trenching, Pit building, Ground excavation	●
	Dredging	Canal deepening & extension Dock deepening & extension	●
	Tunnelling	Tunnel driving, Roof, face & rib scaling Floor levelling	●
	Foundation works	Ground levelling	●
	Foundation	Foundation pile driving	●
Demolition & renovation	Masonry structures	Brickwork, Natural stone Autoclaved aerated concrete	●
	Concrete structures	Lightweight concrete Standard concrete	●
	Pavements	Asphalt, Concrete, Composite surfaces	●
	Composite steel & concrete structures	Steel-reinforced concrete, pre-stressed concrete, Fibre-reinforced concrete	●
Mining & quarrying	Preliminary works	Overburden removal, Bench, road & ramp levelling, Roof, face & rib scaling	●
	Secondary breaking	Boulder reduction in rock pile, Removing blockages at crushing systems	●
Metallurgical industry	Cleaning & de-bricking	Ladles, Converter mouths, Kilns	●
	Slag recycling	Boulder reduction in slag heap, Removing blockages at crushing systems	●

● Optimal ● Suitable

MEDIUM SIZE BREAKERS

THE BEST FRAME FOR YOUR REQUEST

BHL

The easiest way to fix a hydraulic breaker on a backhoe loader. FRD has for each backhoe the right setting.

FLAT TOP

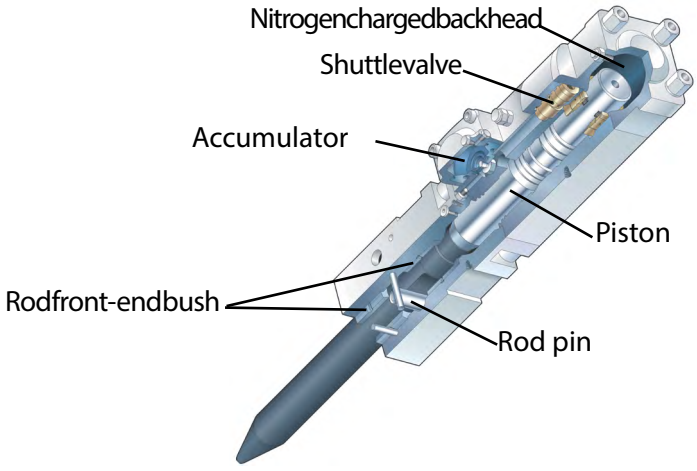
The cheapest solution is to attach the breaker with different systems. With the FT framework easy to grow, you have the base mounting plates for quick-change systems of all kinds.

SILENCE

Noise reduction is required in the workplace; you have the beginning of the Silence part of our offered possibilities. The frame is up to 6 DbA quieter than the standard frame.

SILENCE

The F9 is only in a LN Frame. The standard or special housing can be made on request.



Features and Benefits:

- Nitrogen charged back head for superior energy transfer
- Large diameter piston for increase in impact energy
- CD designed threads on through-bolt provide even load distribution and greater surface contact between the nut and bolt
- New front head design includes replaceable thrust bushing for added service life

MOIL POINT ROD

Multipurpose applications, including breaking of extra hard rock, hard rock, hard stone, reinforced concrete and excavation of bedrock.

FLAT ROD

Secondary breaking in quarries, boulder breaking, concrete breaking and slab breaking.

WEDGE POINT ROD

Breaking metal ores, as well as quartzite and other highly abrasive objects.

BALL POINT ROD

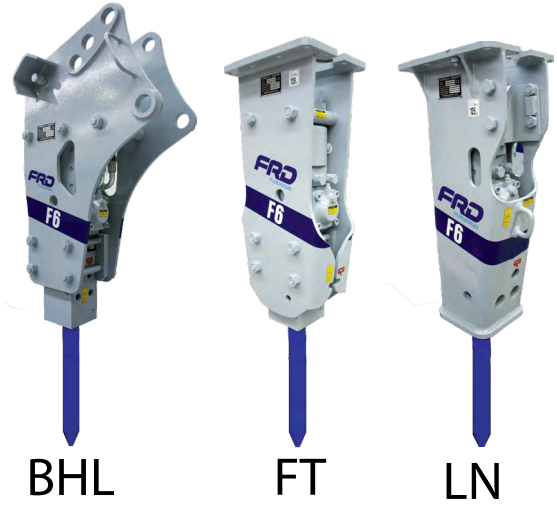
Concrete breaking, excavation of bedrock, operation on the face of slopes and excavation of ditches.

TYPE OF RODS

			F6BHL	F6LN	F6FT
Operating weight, pin and bush[1)]		kg	365		
Operating weight, LN [2)]		kg			365
Operating weight, FT		kg		350	
Height with rod, pin and bush		mm	1450		
Height with rod, LN		mm		1400	
Height with rod, FT		mm			1450
Operating pressure	min	MPa	10	10	10
	max		16	16	16
Oil flow	min	l/min	50	50	50
	max		150	150	150
Impact rate (frequency)	min	bpm	650	650	650
	max		1600	1600	1600
Impact energy	max		884	884	884
Rod diameter Ø		mm	75	75	75
Effective rod length		mm	450	450	450
Weight rod (standard)		kg	21,5	21,5	21,5
Hose inner dia Ø Press. Return		mm	12	12	12
Base machine weight		ton	3,5 - 10	5,0-9,0	5,0-9,0

[1)] Operating weight with top bracket. [2)] LN Silent Version = Sound and vibration damping

Specifications subject to change without notice



			F9
Operating weight, FT[1)]		kg	
Operating weight, [1)] LN[2)]		kg	535
Height with rod, FT		mm	
Height with rod, LN		mm	1595
Operating pressure	min	MPa	12
	max		17
Oil flow	min	l/ min	45
	max		150
Impact rate	min	bpm	400
	max		1400
Impact energy	max		1305
Rod diameter Ø		mm	90
Effective length rod		mm	500
Weight rod		kg	35,5
Hose inner dia Ø Press. Return		mm	19
Base machine weight		ton	6 - 12

[1)] Operating weight with top bracket. [2)] LN Silent Version = Sound and vibration damping

Specifications subject to change without notice.

LN

F9LN

EXCAVATOR SIZE 6,0-12,0


Merz


FRD
FX55
SILENCE

FXJ SERIES

Optimal ● Suitable	Job	Specification	
Construction	Gardening & Landscaping	Fencing, Ground excavation, Rock breaking	●
	Earthworks	Grabenaushub, Baugruben, Erdaushub	●
	Nassgrabung	Vertiefung und Erweiterung von Kanälen und von Hafenbecken	●
	Dredging	Canal deepening & extension Dock deepening & extension	●
	Foundation	Foundation pile driving	●
	Tunnelling	Tunnel driving, Roof, face & rib scaling Floor levelling	●
Demolition & Renovation	Masonry structures	Brickwork, Natural stone Autoclaved aerated concrete	●
	Concrete structures	Lightweight concrete, Standard concrete Heavyweight concrete	●
	Pavements	Asphalt, Concrete, Composite surfaces	●
	Composite steel & concrete structures	Steel-reinforced concrete, Prestressed concrete, Fibre-reinforced concrete	●
Mining & Quarrying	Preliminary works	Overburden removal, Bench, road & ramp levelling, Roof, face & rib scaling	●
	Secondary breaking	Boulder reduction in rock pile, Removing blockages at crushing systems	●
	Primary rock breaking	Selective rock breaking, Blast-free mining	●
Metallurgical industry	Cleaning & debricking	Ladles, Converter mouths, Kilns	●
	Slag recycling	Boulder reduction in slag heap, Removing blockages at crushing systems	●

LARGE SIZE BREAKERS

FXJ SERIES

The next generation

FRD's newest line of hydraulic breakers for excavators represents the latest in design technology.
With multiple patented enhancements, the FXJ series improves day-to-day performance, offering less maintenence and downtime, smoother operation, superior strength and the highest level of reliabillity. A wider hydraulic flow range allows for use on a broad range of carriers reducing inventory while increasing utilization.

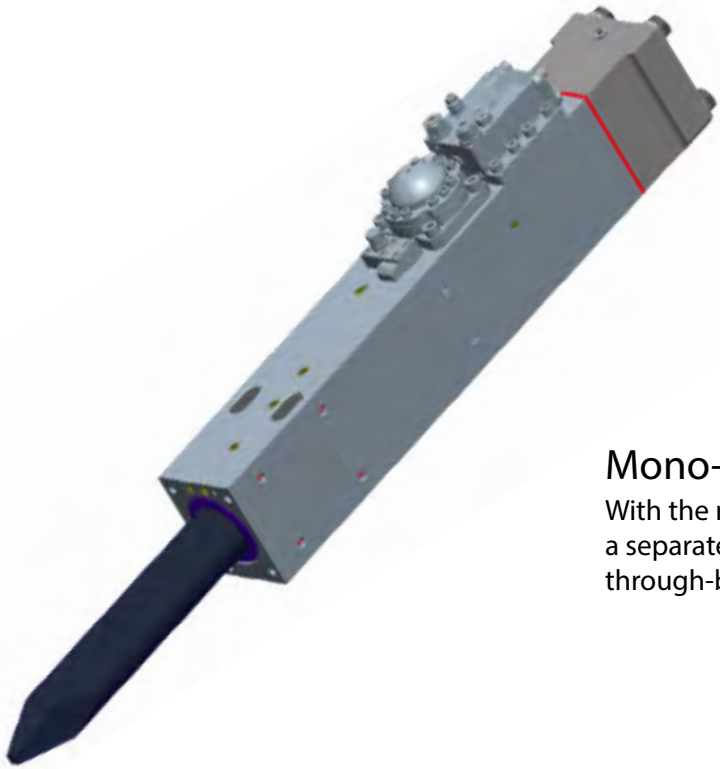
DURABLE & RELIABLE


FRD
FURUKAWA
375
FXJ


FRD
FURUKAWA
275
FXJ

Innovative thinking

The introduction of the newly designed FRD hydraulic breaker is a world premiere. The FXJ is one of a kind in the market, thanks to the new mono-block design. With this new design there are no through bolts needed and it ensures more power and resistance.

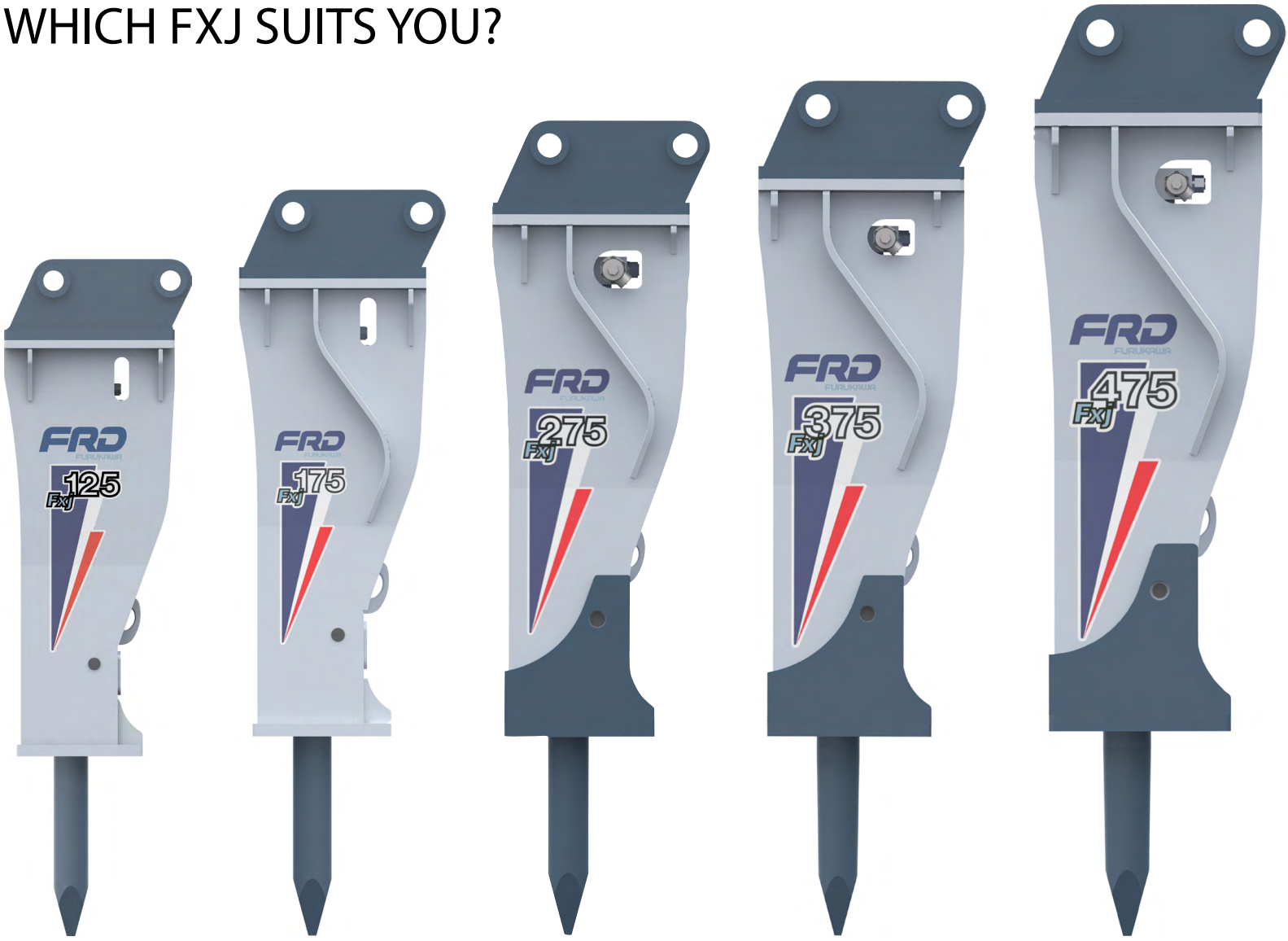


Mono-block design

With the new design it eliminates a separate cylinder, fronthead and through-bolts.

NEW DESIGN

WHICH FXJ SUITS YOU?



FXJ SERIES

The exclusivity you need

GREAT BREAKING POWER

The use of high quality materials and the highest quality production process results in a breaker body with less weight and higher output/performance. The impact energy is higher than ever.

OPERATOR FRIENDLY

With the new slim design the FXJ has a better accesability in demolition and quarry. It provides high effiency in trench work. In addition to its slim design, there is a newly designed top damper which reduces the noise and vibration.

IMPROVED DURABILITY

The use of the best quality materials and the highest quality standard in production creates a product that will work longer and is more efficient. The new floating rod seal, minimizes dust intake and result in an extended life time.

EASY SERVICE

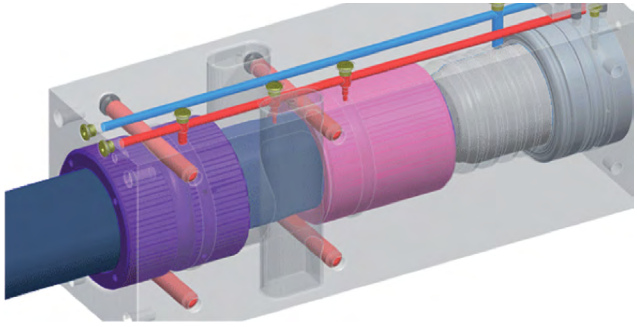
To ease the service FRD developed the mono-block cylinder which reduced the parts. With this unique construction, there are no through bolts needed. With the new rod pin design and other improvements of the parts, the lifetime is longer and are easy to replace.

LOWEST LIFETIME COST

High quality materials give a longer lifetime to each part, which drastically reduces the total maintenance cost. Over long periods the advantages of less downtime and fewer parts to replace results in a cost per year, which are the lowest in the market.

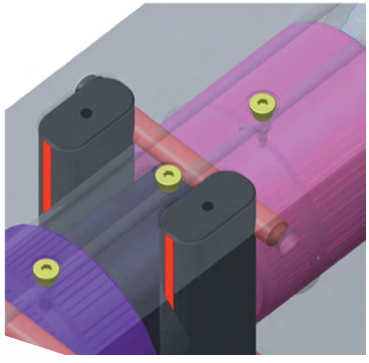

FRD
575

Technology that makes a difference



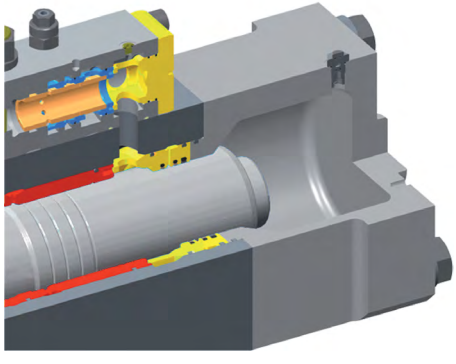
New greasing system

Advanced greasing system that evenly distributes grease to front holder, front bushing and rod pins



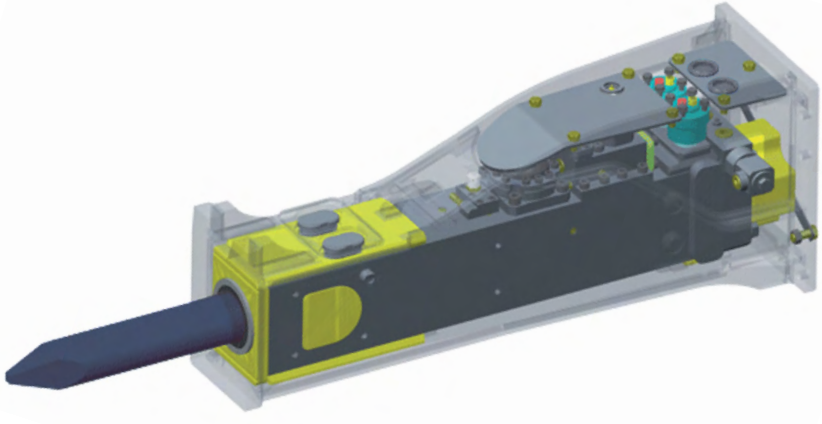
Newly developed rod-pin

Load is decreased by the long rod-pin, which enlarge the supporting area



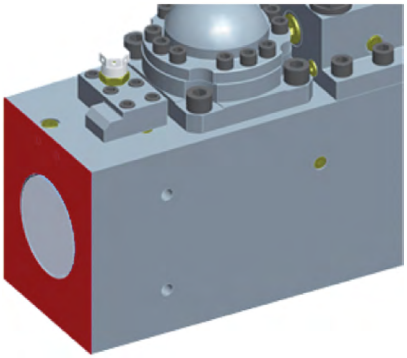
New valve design

Low resistance reduces hydraulic fluid temperatures which increases the efficiency



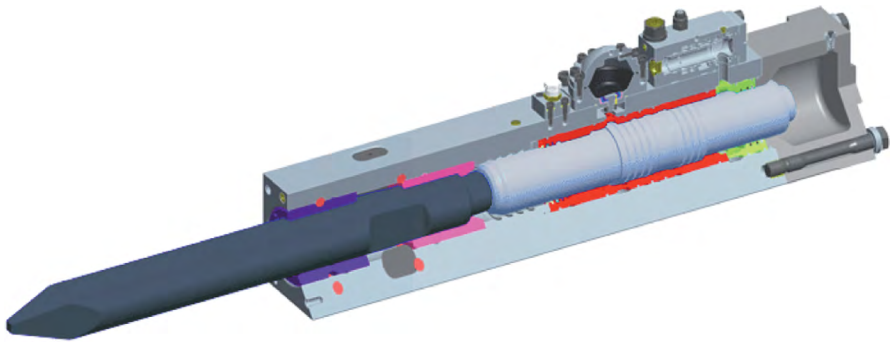
Newly Developed damper

Large volume top damper absorbs vertical movements and reduces the noise level



Slim body design

Rectangular body design for superior strength

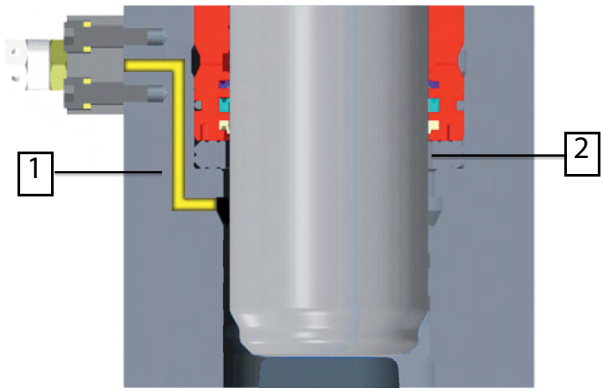


No through bolts

The removal of through bolts reduces maintenence and failure. It also ensures an increased power/weight ratio.

Redesigned piston

Increased contact area to the impact surface of the rod



Dust control system

2-Point Patent dust intake prevention system.

1. Clean air intake system
2. Replaceable Dust Wall

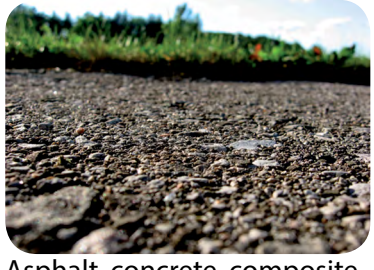
Ready for the thoughest jobs

Overburden removal, bench, road & ramp levelling

Boulder reduction in rock piles

Lightweight concrete, standard concrete

Steel-reinforced concrete, pre-stressed concrete, fibre-reinforced concrete



Asphalt, concrete, composite surfaces

Trenching, pit building, ground excavation

Tunnel driving, roof, face & rib scaling, floor levelling

Boulder reduction in slag heaps

Only with FRD special equipment

Roof clearing

Bench levelling

Removing encrustations

Breaking out ladles and molds

Underwater demolition, deepening shipping channels

More than just a breaker

The FXJ125 is the entry model in the FXJ series. A mid-range hammer designed for use on mini excavators, excavators and boom systems. The drivers are all impressed by the performance of the device. Standard integrated piston stroke adjustment prolongs or shortens the stroke and allows to customize the impact energy to the material to break. The monoblock design reduces components, wear and maintenance.

Specifications			FXJ125
Operating weight, [1] FXJ		kg	850
Height with rod,		mm	2005
Operating pressure	min	MPa	16
			18
Oil flow	min	l/min	70
			120
Impact rate	min	bpm	400
			1000
Impact energy (Joules)			2320
Rod diameter Ø		mm	110
Rod effective length		mm	640
Rod weight		kg	69
Hose inner dia Ø Press/Return		mm	19
Base machine weight		ton	9 - 16

[1] Operating weight with top bracket. FXJ Silent Version = Sound and vibration damping

Specifications subject to change without notice

EXCAVATOR SIZE 9-16^{T}

One thousand kilograms of energy

The FXJ175 is a mid-size hammer designed for use on excavators and pedestal booms. Operators appreciate performance features such as a stroke control, which lengthens or shortens the stroke and adapts the impact energy to the material being broken. Internal maintenance is greatly reduced due to the mono-block cylinder and less parts. All FXJ models are also designed to accommodate automatic grease systems for quick daily maintenance.

Specifications			FXJ175
Operating weight, [1] FXJ		kg	1015
Height with rod,		mm	2043
Operating pressure	min	MPa	16
			18
Oil flow	min	l/min	100
			160
Impact rate	min	bpm	450
			900
Impact energy (Joules)			3610
Rod diameter Ø		mm	120
Rod effective length		mm	620
Rod weight		kg	81
Hose inner dia Ø Press/Return		mm	19
Base machine weight		ton	12 - 21

[1] Operating weight with top bracket. FXJ Silent Version = Sound and vibration damping

Specifications subject to change without notice

EXCAVATOR SIZE 12-21^{T}

Where two become one

Why need two if you can have one?

The FXJ275 will cover a wide range of excavators and leaves it's competitors behind. With the slim body design there will be no job that is too demanding. The FXJ is at home, performing with reliable ease on a daily basis. All the features of the FXJ series are present in this breaker; Mono-block design, dust control system, newly developed rod-pin, redesigned piston and a new valve

design resistance.

FXJ275

Specifications			FXJ275
Operating weight, [1] FXJ		kg	1775
Height with rod,		mm	2468
Operating pressure	min	MPa	16
			18
Oil flow	min	l/min	145
			220
Impact rate	min	bpm	350
			620
Impact energy (Joules)			5120
Rod diameter Ø		mm	140
Rod effective length		mm	680
Rod weight		kg	143
Hose inner dia Ø Press/Return		mm	25
Base machine weight		ton	18 - 30

[1] Operating weight with top bracket. FXJ Silent Version = Sound and vibration damping

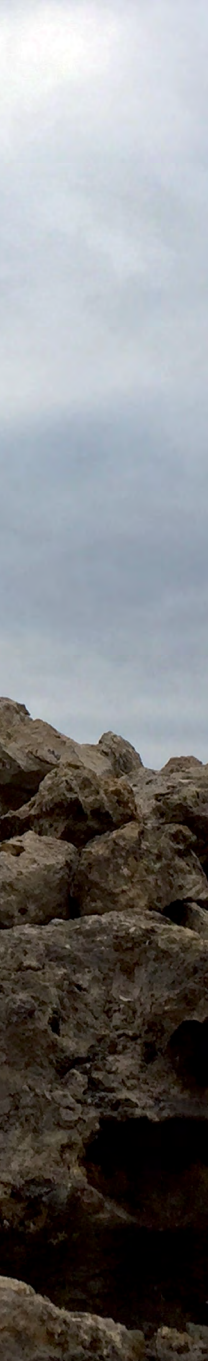
Specifications subject to change without notice

EXCAVATOR SIZE 18-30^{T}

In the center of attention

Designed for excavators in the 25 to 42 ton range, the FXJ375 is a hard hitting breaker that has no rivals. With years of research behind each hammer, it's no surprice the FXJ outperforms the competition. It starts from the inside out with a patented mono-block cylinder. We don't stop there, a larger piston diameter and increased back head pressure improves the breaker impact performance. An optional hi-lo speed control actuated from the cab matches the breaker and excavator to the application.

FXJ375



Specifications			FXJ375
Operating weight, [1] FXJ		kg	2525
Height with rod,		mm	2715
Operating pressure	min	MPa	16
			18
Oil flow	min	l/min	170
			260
Impact rate	min	bpm	350
			550
Impact energy (Joules)			7310
Rod diameter Ø		mm	155
Rod effective length		mm	715
Rod weight		kg	167
Hose inner dia Ø Press/Return		mm	25
Base machine weight		ton	25 - 42

[1] Operating weight with top bracket. FXJ Silent Version = Sound and vibration damping

Specifications subject to change without notice

EXCAVATOR SIZE 25-42T

A piece of high-tech elegance

Excavators in the 33-55 ton class are the perfect match for this demolition machine. Whether you`re breaking blue granite in Scandinavia or reducing oversize bolders in Spain, the FXJ475 performs its job quietly and with ease. The unique one-piece enclosure and damper system reduces noise levels for use in noise sensitive environments. A higher back head pressure and larger piston diameter increases impact performance. Greasing has been made easy with a unique lubrication system for the front section and front bushings which improves the service and lifetime of the rod.

FXJ475

Specifications			FXJ475
Operating weight, [1] FXJ		kg	3205
Height with rod,		mm	2892
Operating pressure	min	MPa	16
			18
Oil flow	min	l/min	200
			300
Impact rate	min	bpm	250
			450
Impact energy (Joules)			9620
Rod diameter Ø		mm	170
Rod effective length		mm	720
Rod weight		kg	229
Hose inner dia Ø Press/Return		mm	32
Base machine weight		ton	33 - 55

[1] Operating weight with top bracket. FXJ Silent Version = Sound and vibration damping

Specifications subject to change without notice

EXCAVATOR SIZE 33-55T

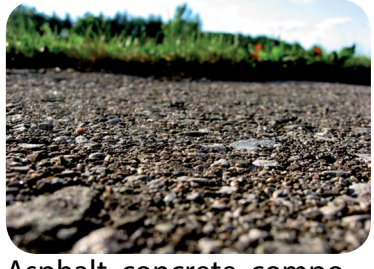
Ready for the toughest jobs

Primary rock breaking

Secondary breaking

Tunnel driving, Roof, Face & Rib scaling, Floor levelling

Steel-reinforced concrete, pre-stressed concrete, fibre-reinforced concrete



Asphalt, concrete, compo-site surfaces

Trenching, pit building, ground excavation

FXJ375

Canal deepening & extension

Ground levelling

Dock deepening & extension

Foundation pile driving

FXJ475


FRD
FURUKAWA
275
FXJ

It‘s the size that matters

Specifications		FXJ125	FXJ175	FXJ275	FXJ375	FXJ475
Operating weight, [1] FXJ	kg	850	1015	1775	2525	3205
Height with rod,	mm	2005	2043	2468	2715	2892
Operating pressure	MPa	16	16	16	16	16
		18	18	18	18	18
Oil flow	l/ min	70	100	145	170	200
		120	160	220	260	300
Impact rate	bpm	400	450	350	350	250
		650	900	620	450/550	450
Impact energy (Joules)		2320	3610	5120	7310	9620
Rod diameter Ø	mm	110	120	140	155	170
Rod effective length	mm	640	620	680	715	720
Rod weight	kg	69	81	143	167	229
Hose inner dia Ø Press/Return	mm	19	19	25	25	32
Base machine weight	ton	9 - 16	12 - 21	18 - 30	25 - 42	33 - 55

[1] Operating weight with top bracket. FXJ Silent Version = Sound and vibration damping

Specifications subject to change without notice

COMPARISON

XP- SERIES

As good as it gets

One of the largest of the F-Series, the F70XP is truly designed for use on excavators in the 45-70 ton class. Our patented dust intake prevention system keeps the internal parts of the breaker clean for improved service life. A unique greasing system lubricates both the front head and front bushings for improved service life. Considered the "quiet giant", the F70XP's one-piece enclosure reduces noise levels making this breaker a perfect choice for use in noise sensitive environments.

Specifications			F70XP
Operating weight, [1] XP		kg	4315
Height with rod,		mm	3235
Operating pressure	min	MPa	16
	max		18
Oil flow	min	l/min	250
	max		340
Impact rate	min	bpm	250
	max		500
Impact energy	max	joules	13667
Rod diameter Ø		mm	180
Effective length rod		mm	860
Weight rod		kg	270
Hose inner dia Ø Press. Return		mm	32
Base machine weight		ton	45 - 70

[1] Operating weight with top bracket. XP Silent Version = Sound and vibration damping

Specifications subject to change without notice

F70XP

EXCAVATOR SIZE 45-70^{T}


ZAXIS
850LC
FRD

Moving mountains

When you need to move mountains, you can count on the F100XP. This hammer is the largest in the F Series built for use on excavators in the 65 – 100 ton class. As large as this hammer is, we still build in the quiet technology you have become accustomed to. Our blow frequency adjuster tailors the carrier and breaker to your workload improving overall efficiency. Upper and lower seal retainers protect against cylinder failure due to contamination. Retainer pins are reversible to double their life and reduce parts maintenance.

Specifications			F100XP
Operating weight, [1] XP		kg	6500
Height with rod,		mm	3800
Operating pressure	min	MPa	16
	max		18
Oil flow	min	l/min	280
	max		390
Impact rate	min	bpm	200
	max		350
Impact energy	max	joules	15690
Rod diameter Ø		mm	210
Effective length rod		mm	990
Weight rod		kg	480
Hose inner dia Ø Press. Return		mm	32
Base machine weight		ton	65 - 100

[1] Operating weight with top bracket. XP Silent Version = Sound and vibration damping

Specifications subject to change without notice

F100XP

EXCAVATOR SIZE 65-100T

Make your breaker complete

Senci Lube

- One unit design.(Additional piping unnecessary)
- One greasing per one operation. Single-shot type
- Greasing amount is adjustable.
- Only two hoses required. One pressurized oil from the valve housing and another for greasing.
- Easy installation.

Sencio-Rodgrease is characterized by:

- High load carrying capacity
- Good corrosion protection
- Good water resistance
- Good separation efficiency
- Wear reduction
- Oxidation resistance

Sencio Blue

Sencio Blue–Rod grease is a lithium-complex soap grease based on mineral oil. It contains a solid lubricant combination of copper / graphite and molybdenum disulphide (MoS2). It has good separation efficiency and reduces wear at high surface loads and temperatures up to 1100 °C

DE/027/089

EU Ecolabel
www.ecolabel.eu

Sencio White

Sencio White -BIO-Rod grease based on selected, rapidly biodegradable, synthetic esters, which give a very stable lithium saponified grease. By the addition of selected white solid lubricants, a high value and a high VKA four ball wear load, a high load carrying capacity was achieved. Sencio-BIO-Rod grease has been awarded the European Ecolabel, registration no. DE/027/089.

OPTIONS

Armour Plates

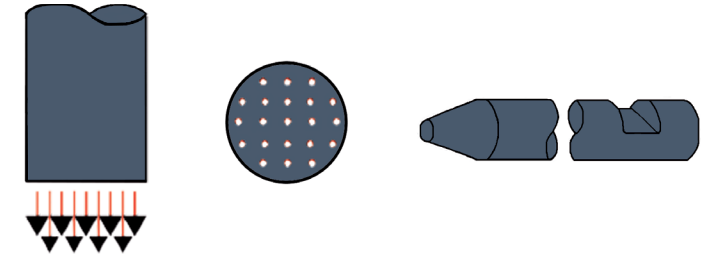
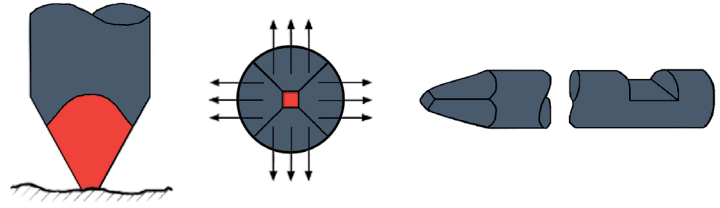
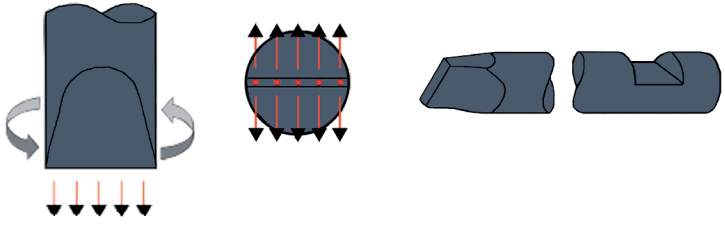
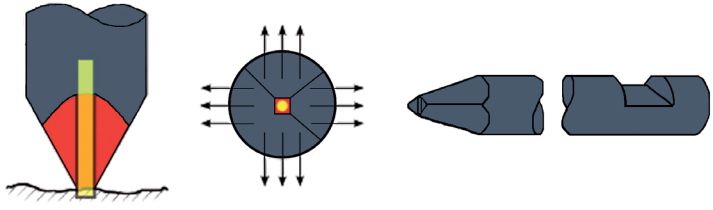
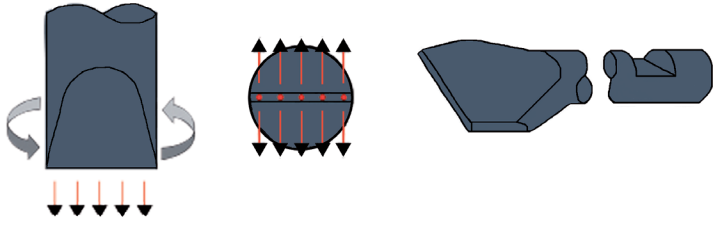
Extra protection against wear in trenching and quarry works

Swivels

Extending the life of the hoses

Toolbox

All breakers have a toolbox with the necessary tools included.

Type of rods	Shape	Major applications
Flat rod		Secondary breaking in quarries, boulder breaking, concrete breaking, and slab breaking
Moil point		Multipurpose applications, including breaking of extra hard rock, hard rock, hard stone, and reinforced concrete, as well as excavation of bedrock
Wedge point		Concrete breaking, excavation of bedrock, operations on the face of slopes, excavation of ditches, etc.
Core rod (Ball Point Rod)		Breaking metal ores, as well as quartzite and other highly abrasive objects
Asphalt cutter / Spade rod		Asphalt cutter: Cutting of asphalt or soft material Spade rod: Breaking of asphalt in road building, knocking out of ladles

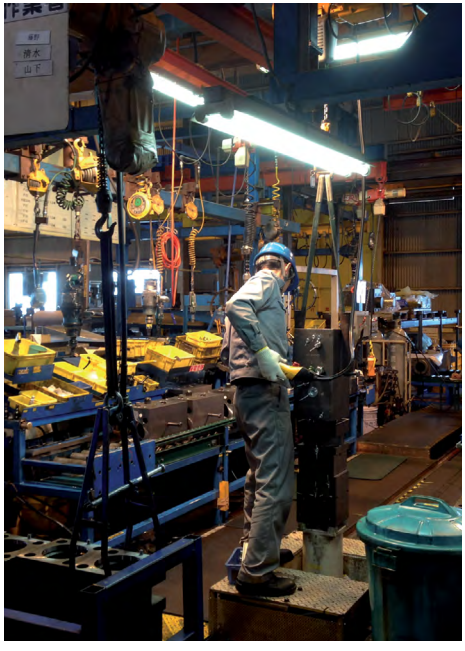
Material	Occurrence	Specification	Rod
Asphalt	Parking, Roads	soft structures	Wedge point / spade rod
Concrete	Thin floors, walls	Reinforced	Wedge point
		not reinforced	Moil point
	Thick floors, walls	Reinforced	Wedge point
		not reinforced	Moil point
	Foundations	Reinforced	Wedge point
		not reinforced	Moil point
	Recycling		Flat rod
Sedimentary rock (limestone, sandstone, grey wacke, calcareous sediment)	Trenching, foundation work, primary quarry breaking	heavily fissured	Wedge point
		lightly fissured	Moil point
		monolithic	Moil point
	Breaking oversized		Wedge point
Crystalline rock (magma, greenstone, gabbro, granite etc.)	Trenching, foundation work, primary quarry breaking	heavily fissured	Wedge point
		lightly fissured	Flat rod
		monolithic	Flat rod
	Breaking oversized		Flat rod

TYPE OF RODS

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.

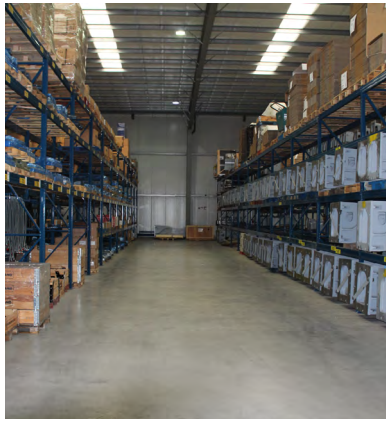
FRD Distributors have been selected for their professional competence, their market coverage, their dedication to quality and their willingness to work. They receive intense training on all machines and systems and every support that a committed manufacturer can give them. They actively exchange experience 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. A reasonable price for top quality, long lifetime, low maintenance and low breakdown time products in the long term makes financially good sense.

Next steps? FRD Europe and its Distributors have a vast resource of information beyond what can be mentioned here.



WHERE EXPERIENCE COUNTS

Authorized Distributor:

Furukawa Rock Drill Europe B.V.
Proostwetering 29
3543AB Utrecht
Tel.: +31-(0)30-2412277
Fax.: +31-(0)30-2412305
frd@frd.eu
www.frd.eu

WHERE EXPERIENCE COUNTS