

## HYDRAULIC BREAKERS & ACCESSORIES

# PRODUCTRANGE

Furukawa Rock Drill is synonymous with premium products that you can rely on. This delivery program is intended to give you an overview of our hydraulic breakers.



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PROMPT, SAFE, ON SITE

## Our service for you

The tools from FRD represent premium equipment that our customers enjoy working with. The products have been developed to cover a wide range of applications, carrier devices and materials. A wide network of selected dealers is at your disposal to ensure the best possible support. They will provide you with reliable support for all aspects of our product lines and ensure that you will find the right machines to suit your needs. In line

with our quality standards, we are always ready to offer you our technical expertise if you have any special requests. By working closely together, we are able to establish all the prerequisites for you to always work professionally. Take advantage of our extensive knowledge and our intelligent machine range featuring premium quality. Do not hesitate to contact us if you have any questions.

WE STAND FOR THIS



HIGH  
QUALITY



RELIABLE  
PRODUCTS



TOP  
CUSTOMER SERVICE

## THE DESIRE FOR PERFECTION

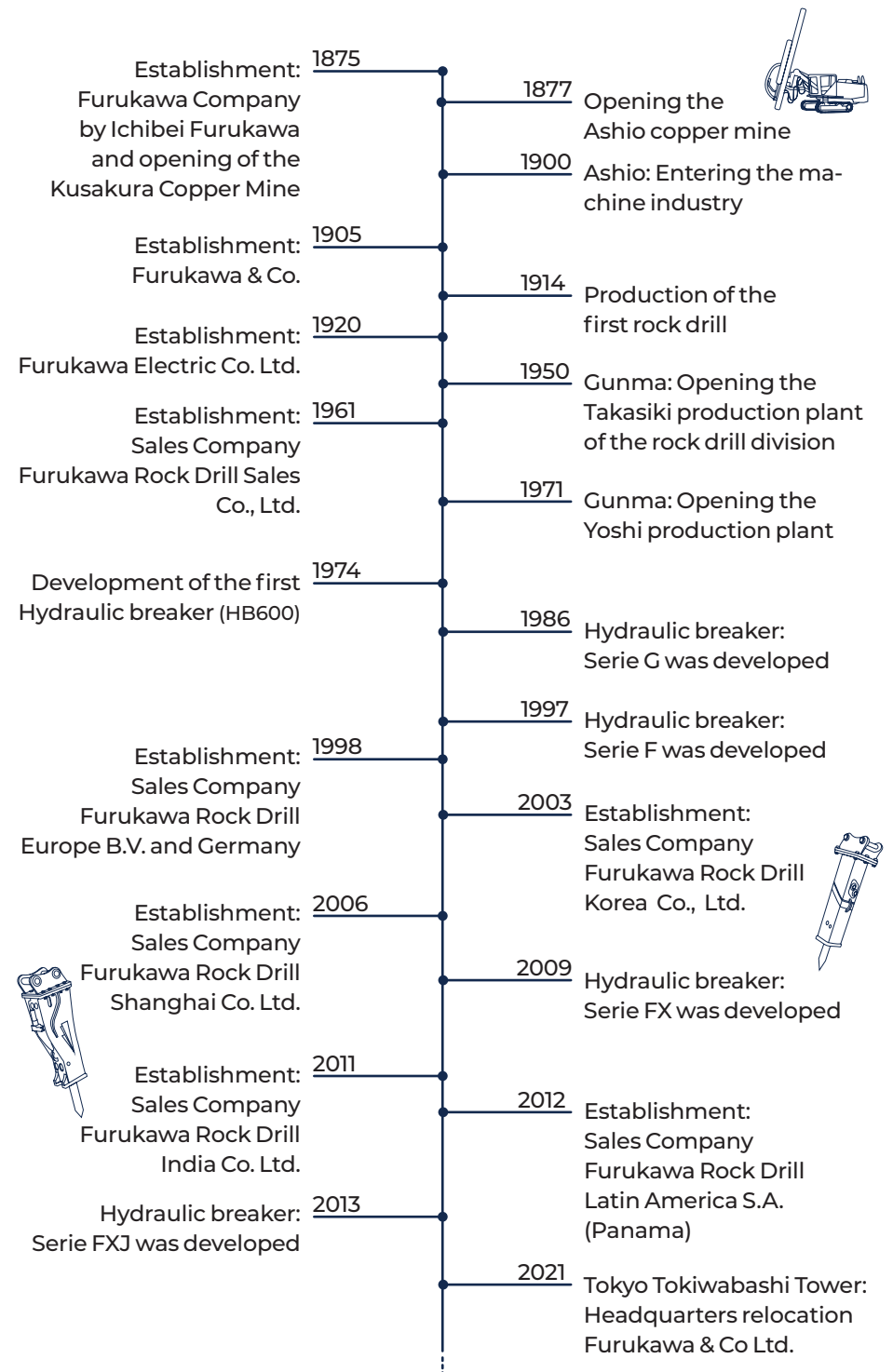
### FRD – FURUKAWA ROCK DRILL

few countries in the world exemplify precision work and innovative technology as much as Japan.

The Japanese art of manufacturing with its aspiration to perfection is deeply rooted in the country's tradition and is something that has been fostered for centuries. All Furukawa Rock Drill (FRD) products reflect this philosophy. The company was established by its namesake Ichibei Furukawa, who started a copper mining venture in 1875. He repaired and serviced the imported rock drills he used in the Ashio copper mine himself. He designed his first machines in 1914 so that he could use them for extracting rock that met his requirements. They also needed to be perfectly tailored to suit the build of the Japanese machine operators. These high-performance and extremely robust tools laid the foundation for the success of his company a few years later.

The Furukawa Group today is made up of a total of 8 corporate groups, where in-depth knowledge of metal processing as well as the design and construction of first-class machines play a significant role. The hydraulic breakers, surface drilling machines, excavation machines and hydraulic demolition equipments from FRD are now in use all over the world. The premium machines break, drill, grab and crush a wide variety of materials and provide you with reliable support in

various applications: in infrastructure construction, demolition, in recycling, in quarries, surface mining, underground mining as well as in natural stone quarries. To this end, FRD has branches in Europe, the United States, Latin America, Korea and China to provide you with reliable support. The desire for perfection continues to drive us. This is why the Innovations Lab of the Furukawa Group is continuously conducting research into technical innovations for even more powerful, durable and maintenance-friendly machines that you can count on.





A TOP-CLASS EQUIPMENT

## The hydraulic breakers



The hydraulic breakers manufactured by FRD represent premium products, developed for a wide range of applications and materials.

Our series give you low-maintenance, high-performance tools that are engineered to meet your specific requirements. Our hydraulic breakers reflect over 50 years of engineering expertise, comprehensive steel know-how and extensive practical experience gained with efficient impact systems

for demolition work. Our three high-quality FRD series provide hydraulic demolition breakers suitable for every carrier and every task – from professionals for professionals. For maximum productivity and pleasant work. See for yourself.



## Impact that lasts

With the FX-2, we have taken our successful model and tailored it even more precisely to your needs.

The latest generation of the FRD small breaker series for mini-excavators from 0.5-7 tonnes impresses with its low-maintenance monoblock design and first-class materials for particularly durable premium hydraulic breakers with the customary high efficiency. The FX-2 series features five models and three housing types for you to choose from. The three housing types FT, S, XS come with a user-friendly flange connection. This means that connection brackets can be used for all kinds of quick-change systems. The

user-friendly housing types S and XS are also characterised by particularly low noise and vibration levels. The new design makes the S and XS housing types up to ten decibels quieter than the standard FT housing.

The XS housing type and the corresponding patented design of the FRD insertion tools also offer you the highest noise reduction level currently feasible for small hydraulic breakers. This makes the FRD hydraulic breakers even more user-friendly to work with.



### Highlights of the *monoblock construction*



Low maintenance



Extremely durable



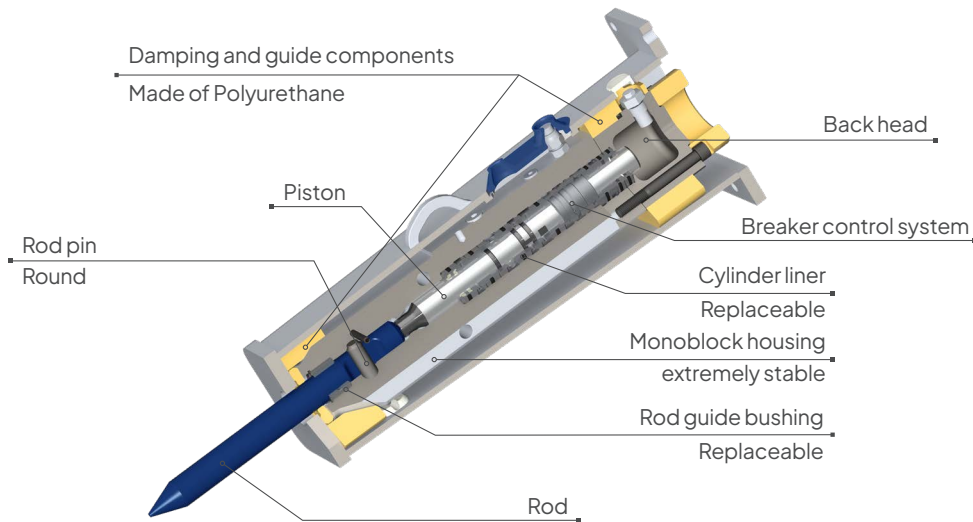
Suitable for many types of rods

### Areas of use and application

- Road construction
- Garden & landscaping
- Trench construction
- Secondary demolition work
- Cleaning of crucibles and converters in casting plants



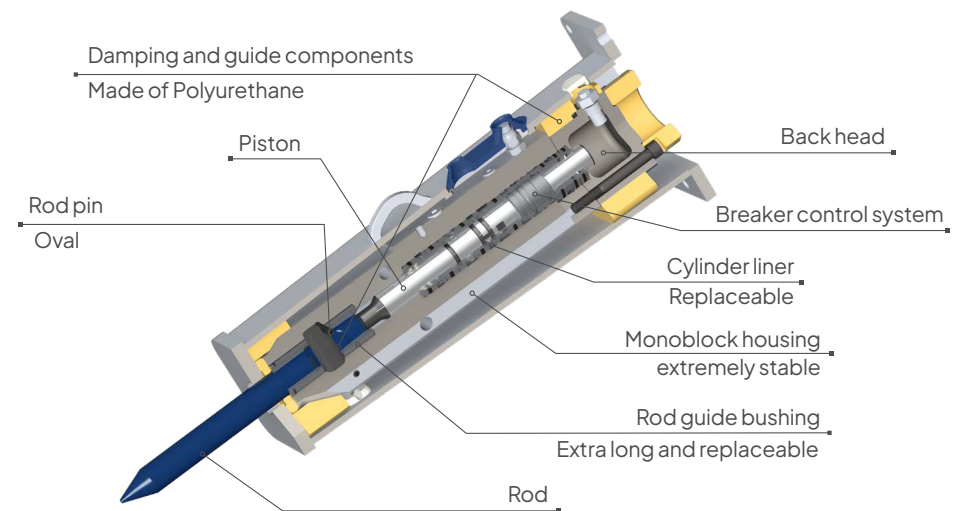
## Technical Drawing FX15 – FX35



### Features and benefits especially for FX15 to FX35

- Reduced maintenance costs thanks to monoblock design with only two moving parts
- No Through Bolts to maintain
- No diaphragm to replace
- Replaceable rod guide bushing keeps the rod in peak performance
- Wide range of oil pick up for fast, hard-hitting performance and wide carrier options
- A variety of mounting options to suit any carrier and application
- A wide range of rods
- Includes two-year warranty with registration

## Technical Drawing FX45 – FX55



### Features and benefits especially for FX45 to FX55

- Reduced maintenance costs thanks to monoblock design with only two moving parts
- Replaceable Cylinder liner
- Extra long and replaceable rod guide bushing keeps the rod in alignment for maximum service life
- Oval rod pin for increased strength and contact surface.
- No diaphragm to replace
- Wide range of oil pick up for fast, hard-hitting performance and wide carrier options
- A variety of mounting options to suit any carrier and application
- A wide range of rods
- Includes two-year warranty with registration

## Differences and characteristics

### FX15-2

The FX15-2 is practically a featherweight thanks to its service weight of just 69 kilograms. The small FRD hydraulic breaker for 0.5-1.5 tonnes carriers impresses with its design, high-quality construction and high impact speed. High performance guaranteed. Six different FRD rods are available for the FX15-2. This leaves you with a wide range of applications. The FX15-2 comes with the FT housing type.



FT

### FX25-2

The FX25-2 supports carriers of 1-2.5 tonnes in countless applications: It breaks masonry as well as asphalt or stones. It is extremely robust and high-performance thanks to its high-quality structure. The FX25-2 can be combined with six FRD rods. The three housing types FT, S and XS are also available for this version. When combined, all these guarantees perfect interaction for any application and any location.



FT

S

XS

### FX35-2

The FX35-2 has been designed to broaden your working range, since this extremely robust hydraulic breaker is suitable for carriers of 1.5-4 tonnes. There are also six FRD rods and the three housing types FT, X and XS available - to suit your needs. As a result, the FX35-2 is a high-performance, long-lasting premium breaker that can be used in multiple applications and locations.



FT

S

XS

### FX45-2

Unbeatable: The FX45-2 has been specifically designed for carriers from 2.5-5.5 tonnes. This version for mini excavators is extremely productive and reliable. It achieves significantly more per hour in comparison to all similar models on the market - thanks to a faster impact rate and a greater tool penetration. Six FRD rods are available for the FX45-2 hydraulic breaker, as well as the three housing types: FT, S and XS.



FT

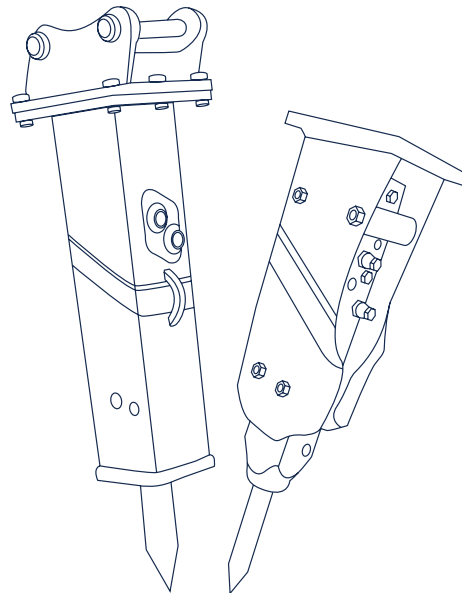
S

XS

## Differences and characteristics

### FX55-2

This premium hydraulic breaker is designed for carriers from 4-7 tonnes. Its innovative design requires fewer moving parts than the previous model. We were able to make the FX55-2 even lighter in combination with the particularly high-quality materials, and this without any loss of performance. Six FRD rods are available for this hydraulic breaker. It also comes in the three housing types FT, S and XS.





THE SERIES FX-2

Technical data

MODEL	CASETYPE	BASE MACHINE WEIGHT 1)	OPERATING WEIGHT 2)	HEIGHT WITH ROD	ROD DIAMETER $\varnothing$	EFFECTIVE	LENGTH ROD	MAX. HYDRAULIC INPUT POWER	OIL FLOW	OPERATING PRESSURE	IMPACT RATE	NOISE LEVEL (GUARANTEED)	HOSE INNER DIA. $\varnothing$ (HD/ND)
		T	KG	MM	MM	MM	KW	L/MIN	MPA	1/MIN	DB(A)	MM	
FX15-2	FT	0,5 - 1,5	69	816	36	234	6,5	10 - 28	10 - 14	600 - 1500	116	9	
FX25-2	FT	1,5 - 2,5	101	939	45	293	8,2	18 - 35	10 - 14	600 - 1500	118	12	
FX25-2	S	1,5 - 2,5	112	961	45	293	8,2	18 - 35	10 - 14	600 - 1500	112	12	
	XS			1051							110		
FX35-2	FT	1,5 - 4,0	146	1060	52	322	13,9	24 - 52	12 - 16	600 - 1300	124	12	
FX35-2	S	1,5 - 4,0	157	1062	52	322	13,9	24 - 52	12 - 16	600 - 1300	119	12	
	XS			1116							117		
FX45-2	FT	2,5 - 5,5	187	1167	60	355	16,0	30 - 60	12 - 16	600 - 1100	126	12	
FX45-2	S	2,5 - 5,5	208	1173	60	355	16,0	30 - 60	12 - 16	600 - 1100	120	12	
	XS			1227							117		
FX55-2	FT	4,0 - 7,0	245	1264	68	378	22,7	40 - 84	12 - 16	500 - 1100	126	12	
FX55-2	S	4,0 - 7,0	280	1276	68	378	22,7	40 - 84	12 - 16	500 - 1100	119	12	
	XS			1330							116		

1) Weights apply only to Std. carrier units. Any deviations must be agreed with FRD or the manufacturer of the carrier unit before attachment.

2) Weight including insertion tool, hose set, medium size attachment plate. (According to CE guidelines)

Info:

Subject to technical changes without prior notice by the manufacturer.

## THE SERIES F

### Simply unsurpassed robustness

The F Series has been specially developed for midi-excavators and backhoe loaders.

The hydraulic breakers of the F series work flawlessly in conjunction with carriers of 5-12 tonnes. It remains one of our most successful flagship products to this day. There is a good reason for that, because the F Series

is extremely robust, efficient and reliable. The premium product is available in four versions to suit a variety of carriers and locations: F6BHL, F6FT, F6LN and F9LN.



#### Areas of use and application

- Road construction
- Garden & landscaping
- Trench construction
- Secondary demolition work
- Cleaning of crucibles and converters in casting plants

#### Highlights of the Series F



Extremely robust and durable



Extremely durable



Excellent construction

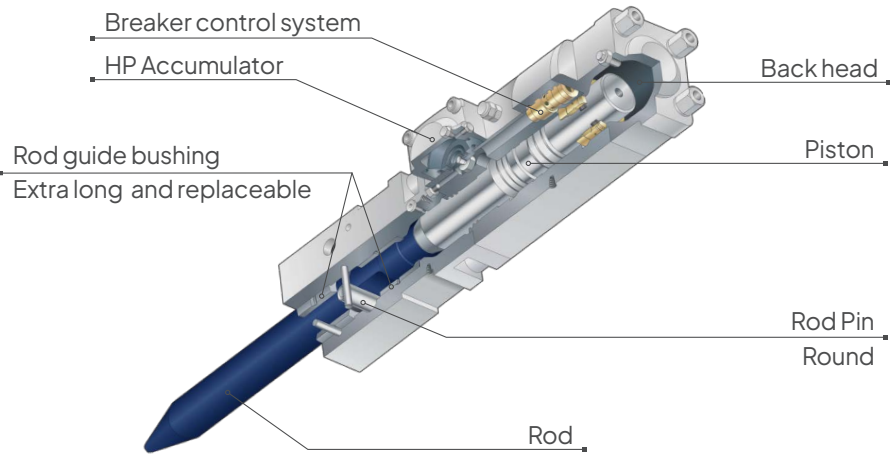


Medium hydraulic breakers



SCHEMATIC VIEW

# Technical drawing F6 and F9



## Features and benefits of the Series F

- Extremely robust and durable
- Large piston for maximum impact energy
- Replaceable rod guide bushings keeps the rod in proper alignment for maximum durability
- Two rod pins for increased steel contact and double service life
- Wide range of oil pick up for fast, hard-hitting performance and wide carrier options
- A variety of mounting options to suit any carrier and application
- A wide range of rods
- Includes two-year warranty with registration



## Differences and characteristics

### F6

The F6BHL is equipped with a special housing for backhoe loaders. It is perfectly suited for carriers from 3.5-10 tonnes. The premium hydraulic breaker can be optimally placed in the transport position of the backhoe loader with this housing. This ensures that it can be used on the road. The F6BHL boasts exceptionally high impact power for its performance group and also has a very robust design. Five FRD rods are available for the model.



BHL

### F6

The F6FT premium hydraulic breaker is perfect for carriers from 5-9 tonnes. It offers particularly high performance and breaks natural stone, asphalt and concrete with ease. The hydraulic breaker comes with the housing type FT, the flange connection. This design, being the classic connection, also represents the most favourable solution for attaching various quick-change systems to a hydraulic breaker flexibly and quickly. Five FRD rods are available for the F6FT



FT

### F6

Carriers from 5-9 tonnes are suitable for the F6LN. It has a housing that is low in noise and vibration. This makes this version a convincing choice thanks to its high impact power at low noise levels. The F6LN is therefore perfect in all situations where minimising noise is essential. The LN housing ensures that the FRD hydraulic breaker of the F series operates up to 4 dB (A) quieter than the standard FT housing. There are five FRD rods for the F6LN.



LN

### F9

This F series model is designed to work with 6-12 tonnes carriers. The F9LN comes with the noise-reducing LN housing. Meaning: The hydraulic breaker works exceptionally well, but particularly quietly. It is therefore suitable for use wherever the noise level has to be kept low while at the same time ensuring high performance. Five FRD rods are available for the F9LN.



LN



# THE SERIES F

## Technical data

MODEL	CASETYPE	BASE MACHINE WEIGHT 1)	OPERATING WEIGHT 2)	HEIGHT WITH ROD	ROD DIAMETER ø	EFFECTIVE	LENGTH ROD	MAX. HYDRAULIC INPUT POWER	OIL FLOW	OPERATING PRESSURE	IMPACT RATE	NOISE LEVEL (GUARANTEED)	HOSE INNER DIA ø (HD/ND)
		T	KG	MM	MM	MM	KW	L/MIN	MPA	1/MIN	DB(A)	MM	
F6	BHL	3,5 - 10	365	1450	75	450	21,0	50 - 90	10 - 14	650 - 1050	129	12	
F6	FT	5 - 9	365	1450	75	450	21,0	50 - 90	10 - 14	650 - 1050	129	12	
F6	LN	5 - 9	350	1400	75	450	21,0	50 - 90	10 - 14	650 - 1050	125	12	
F9	LN	6 - 12	535	1595	90	500	27,5	65 - 110	12 - 17	550 - 900	125	19	

1) Weights apply only to Std. carrier units. Any deviations must be agreed with FRD or the manufacturer of the carrier unit before attachment.

2) Weight including insertion tool, hose set, medium size attachment plate. (According to CE guidelines)

Info:

Subject to technical changes without prior notice by the manufacturer.

## Uniquely hard-hitting and progressive

We have succeeded in systematically advancing a new generation of premium hydraulic breakers with the FXJ series.

We have designed a low-maintenance impact mechanism in slim design for the FXJ series in order to extend the service life of the high-performance tool even further: The monoblock design does away with a separate cylinder, front head and through bolts. The square-edged design also makes the FXJ series even more sturdy, lightweight and productive. Through

bolts have been completely omitted up to the FXJ475. The new valve design reduces hydraulic oil temperatures and boosts performance, and we have also allowed for a greater range of oil intake. This has allowed us to engineer a breaker series that delivers faster impact speeds and ? . The incredibly efficient premium hydraulic breakers of the FXJ series are

unique on the market with these design features. The FXJ series features eight models, including four medium-sized (FXJ125-FXJ275) and four large hydraulic breakers(FXJ375-FXJ1070). Several FRD rods are available. Our heavyweights FXJ770 and FXJ1070 continue to be built with the proven design because of the size; but now also with some new, perfor-

mance-enhancing features, such as the vibration-dampened Heavy Duty through bolts with a larger diameter, the replaceable cylinder liner, new valve design and greater back head gas pressure. Both hydraulic breakers are cutting-edge tools on the market.

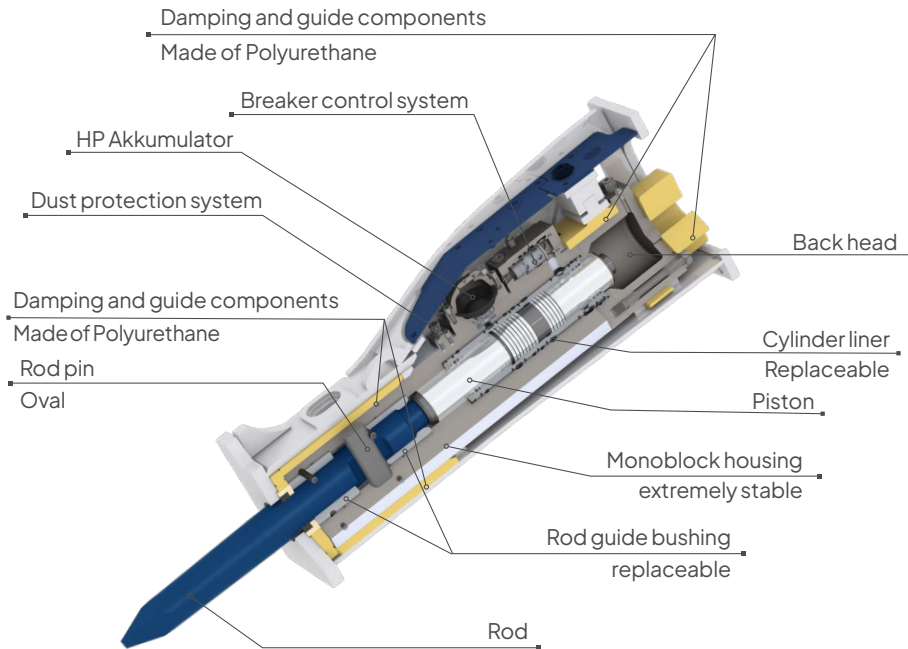


### The series FXJ at a glance



SCHEMATIC VIEW

## Technical drawing FXJ125 – FXJ475

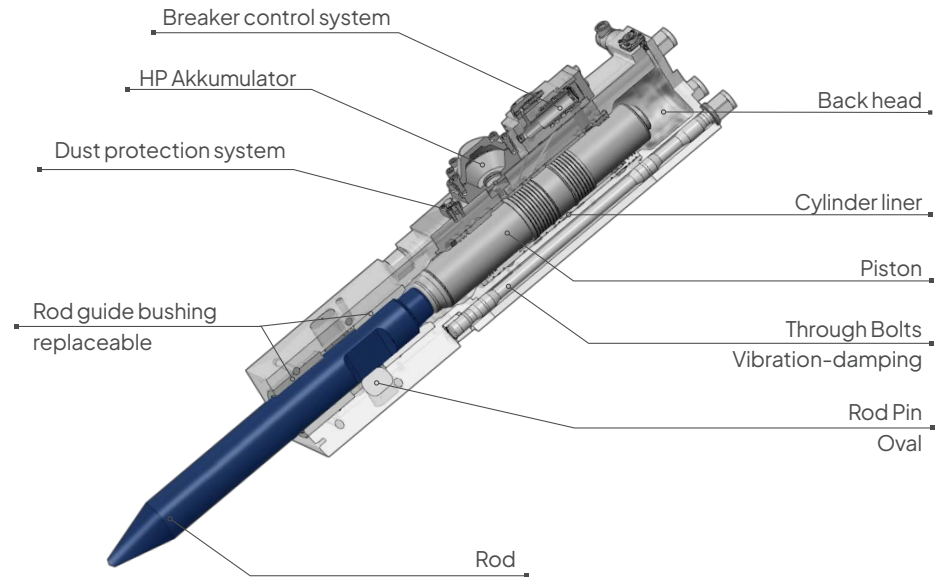


### Features and benefits especially for FXJ125 to FXJ475

- Reduced maintenance costs due to monoblock design
- Square monoblock design promises highest strength
- No separate cylinder and front cylinder, and through bolts thanks to Monoblock design

SCHEMATIC VIEW

## Technical drawing FXJ770 – FXJ1070



### Features and benefits especially for FXJ770 to FXJ1070

- Square front cylinder and cylinder construction for highest strength
- The newly designed piston increases surface contact with the rod
- Vibration-damping through bolts with larger diameter for longer service life
- Increased back head pressure for more impact power

Info: **Without** through bolts construction from FXJ125 - 475 | **With** through bolts construction from FXJ770 - 1070

## Highlights of the Series FXJ



Reduced  
operating costs



High  
durable



Dampingsystem for  
low sound and vibration

### Features and benefits of the Series FXJ

- Replaceable cylinder liner with concentric ports keeps piston aligned for maximum impact and reduces overall maintenance costs
- Increased performance due to improved valve design reduces the temperature of the hydraulic fluid
- An active check valve ventilates the impact area during the upward movement of the piston, minimizing the ingress of abrasive dust and expelling dust-contaminated lubricant from the rod guide system (excluding FXJ 125)
- Increased hydraulic flow range for use on a larger number of carriers
- Minimizes internal contamination through three-point dust prevention
- Increase of surface contact to the rod due to newly designed impact piston
- The increased surface area of the rod guide bushings keeps the rod optimally aligned for greater impact force
- SV housing (system for sound and vibration damping), the system isolates the percussion unit and the housing by damping and guiding elements made of polyurethane and the sealing of the hydraulic hammer openings reduces the noise and vibration levels
- Increased and improved lubrication for wear components
- Two oval long rod pins with a simple but reliable locking system for quick rod change and increased durability



### Areas of use and application

- Demolition work
- Foundation work
- Trench construction
- Direct extraction from the quarry
- Bouldering work
- Excavation work
- Cleaning & dismantling of brick linings



## Differences and characteristics

### FXJ125

Extremely efficient and versatile: The FXJ125 mid-range breaker has been specially developed for midi, mobile excavators and boom systems. Carriers weighing 9- 16 tonnes are suitable for the premium tool. The monoblock design of the hydraulic breaker ensures maximum efficiency with a long service life. The elimination of through bolts has also been shown to significantly reduce downtimes. The result: simply powerful.



SV

### FXJ175

The FXJ175 mid-range breaker for carriers weighing 12- 21 tonnes reflects its design and is an extremely powerful hydraulic breaker with a long service life. The premium working tool is fitted with integrated piston stroke adjustment as standard, optimising overall performance. The FXJ175 has been prepared for automatic lubrication systems at the factory and can be connected directly to our SenciLube lubrication system.



SV

### FXJ225

Premium crushing force: The FXJ225 hydraulic breaker is optimised for carriers weighing 16 -26 tonnes. The extremely robust FRD impact mechanism with monoblock design also supports you during challenging work - for example in demolition projects or as a production machine in the quarry and reliably at all times. The advanced and well thought-out design of the premium tool also ensures a particularly long service life.



SV

### FXJ275

The FXJ275 is a particularly high-performance and reliable all-rounder from the premium segment: It has been designed for a wide range of carriers weighing between 21-30 tonnes. The low-maintenance FRD hydraulic breaker comes with all the award-winning features of the FXJ series and delivers a unique, high-performance tool thanks to its monoblock design, dust protection system, new valve design for lowering hydraulic oil temperatures and redesigned percussion piston.



SV

## Differences and characteristics

### FXJ375

The FXJ375 model has been designed for excavators in the 25-42 tonnes class. The very robust hydraulic breaker is suitable for a wide range of applications. The advanced monoblock design and new structural concept have allowed us to significantly increase the performance of the model. Fitted with a piston stroke adjustment mechanism, the FXJ375's piston stroke length regulates the power and speed characteristics during ongoing operation, thus optimising overall performance.



SV

### FXJ475

Excavators in the 33-55 tonnes class make the perfect carriers for this FRD premium hydraulic breaker. The monoblock design, back head gas pressure and new percussion piston ensure that you can rely on a high-performance, robust and low-noise tool. It breaks, for example, blue granite in Scandinavia as well as oversized boulders in Spain. The FXJ475 is prepared for automatic lubrication systems at the factory.



SV

### FXJ770

It is perfectly suited for heavy weights from 44-75 tonnes. The extra-large breaker features a replaceable cylinder liner, higher back head gas pressure, increased surface area of the rod guide bushings and newly designed vibration-dampened large-diameter Heavy Duty through bolts. It is intended for blasting-free primary rock excavation and secondary breaking on construction sites and in quarries, in surface and underground mining, as well as for demolishing massive reinforced concrete structures.



SV

### FXJ1070

The FXJ1070 is the biggest breaker in the series. It is suited for carriers from 65-110 tonnes. The premium model is ideally tailored for massive demolition work, direct quarrying or bouldering operations in quarries, ground levelling or channel deepening. The FXJ1070 is exceedingly robust and high-performance. This is achieved thanks to the higher back head gas pressure, newly designed percussion piston shape and the vibration-dampened Heavy Duty through bolts with a larger diameter.



SV

THE SERIES FXJ  
**Technical data**

MODEL	CASETYPE	BASE MACHINE WEIGHT 1)	OPERATING WEIGHT 2)	HEIGHT WITH ROD	ROD DIAMETER <sup>ø</sup>	EFFECTIVE	LENGTH ROD	MAX. HYDRAULIC INPUT POWER	OIL FLOW	OPERATING PRESSURE	IMPACT RATE	NOISE LEVEL (GUARANTEED)	HOSE INNER DIA. <sup>ø</sup> (HD/ND)
MEDIUM HYDRAULIC BREAKERS		T	KG	MM	MM	MM	KW	L/MIN	MPA	1/MIN	DB(A)	MM	
FXJ125	SV	9 - 16	800	2005	110	640	36,0	70 - 120	16 -18	400 - 1000	129	19	
FXJ175	SV	12 - 21	1000	2043	120	620	48,0	100 - 160	16 -18	450 - 900	120	19	
FXJ225	SV	16 - 25	1600	2411	135	650	57,0	125 - 190	16 -18	350 - 850	121	25	
FXJ275	SV	21 - 30	1800	2468	140	680	66,0	145 - 220	16 -18	350 - 620	122	25	
LARGE HYDRAULIC BREAKERS													
FXJ375	SV	25 - 42	2600	2715	155	715	78,0	170 -260	16 -18	300 - 550	123	25	
FXJ475	SV	33 - 55	3200	2892	170	720	90,0	200 - 300	16 -18	250 - 450	124	32	
FXJ770	SV	44 - 75	4800	3390	190	860	102,0	250 - 340	16 -18	250 - 420	124	32	
FXJ1070	SV	65 - 110	6600	3800	210	980	126,0	280 - 420	16 -18	200 - 375	128	32	

1) Weights apply only to Std. carrier units. Any deviations must be agreed with FRD or the manufacturer of the carrier unit before attachment.

2) Weight including insertion tool, hose set, medium size attachment plate. (According to CE guidelines)

Info:

Subject to technical changes without prior notice by the manufacturer.

## Rods for FRD hydraulic breakers

FRD rods reflect extensive expertise involving steel, steel processing and design.

This allows us to offer our customers reliable support in the most versatile areas of application. Whether in road construction, during demolition work, trench excavation, quarrying work, tunnel advancement or mining. Several rod types in premium quality are available for the FRD hydraulic breaker series.

### Highlights of the FRD Rods



High performance



Premium quality



Endurance

### 3D - Overview of all Rods

#### Serie FX-2 und F



#### Serie FXJ



## Differences and features

### Cone-Rod

The cone point is perfectly suited for general work thanks to its excellent penetration capability and good wedging action in all directions. No torsional effect is present in the cone point. Its point facilitates optimal positioning and is particularly effective with small-diameter rods, such as the FX series.

This rod type is suitable for very different areas of application: It breaks concrete, sedimentary rock as well as limestone, sandstone, greywacke and chalky sediment.

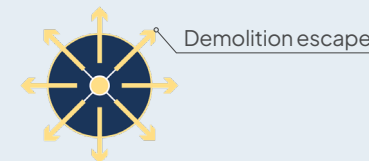
### 3D - Representation



### Sketches - illustration



### Pressure distribution view



### Moil-Rod

The moil point rod represents a further development of the cone point, it features a good wedging effect in four directions and the torsional effect is low. Its pyramid shape ensures optimal positioning, it is most suitable for large diameter rods such as used with the F and FXJ series.

This rod type is suitable for very different areas of application: It breaks concrete, sedimentary rock as well as limestone, sandstone, greywacke and chalky sediment.

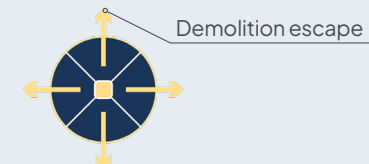
### 3D - Representation



### Sketches - illustration



### Pressure distribution view



## Wedge-Rod

The wedge rod delivers outstanding wedging action in two directions. The force transmitted by the breaker is distributed over a larger area in line with its wider, flat cutting edge. It breaks reinforced concrete extremely well and is ideal in the primary fracture range for crushing rock with severe fracturing. Other areas of application include excavating trenches and pits as well as operating on slopes with ground gradients.

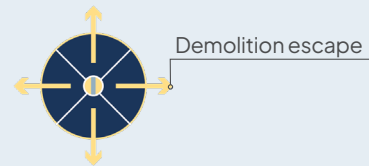
### 3D - Representation



### Sketches - illustration



### Pressure distribution view



## Wide chisels & asphalt spades

Wide chisels and asphalt spades feature a straight blade edge and possess significantly wider cutting edges than a wedge rod. Meaning: The force distribution and area output is greater. They vary in design and are therefore suitable for different areas of application. As the name already implies, the asphalt spade is optimised for asphalt work. The asphalt spade finds its place of service wherever asphalt or soft material needs to be cut. The wide chisel is designed for breaking up asphalt surfaces, but it can also be used to crack open pouring ladles and suitable for breaking (reinforced) concrete.

### 3D - Representation



### Sketches - illustration



### Pressure distribution view



## Flat-Rod

The flat rod optimally transfers the full impact force of the breakers to the material it is intended to crush. This does not penetrate the material. This rod type is the tool of choice when it comes to secondary demolition in quarries and bouldering, for example, and is suitable for concrete demolition or slag bears. It is perfect for separating concrete and reinforcements in the recycling sector. It is very good at breaking oversized stones in secondary crushing operations. When it comes to primary fracturing work, its areas of application include volcanic rock, diabase, gabbro, granite with slight cracking.

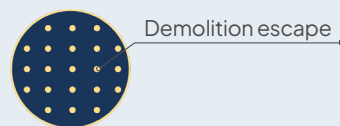
### 3D - Representation



### Sketches - illustration



### Pressure distribution view



## Core-Rod

The core rod features a hard steel core made of tungsten carbide, which ensures that the tip of the rod always remains sharp. It has a sound wedging effect in four directions and the torsional effect is low. Its pyramid shape facilitates optimal positioning. The core rod is used for breaking off metal ores and quartzite, although it is also suitable for other highly abrasive materials.

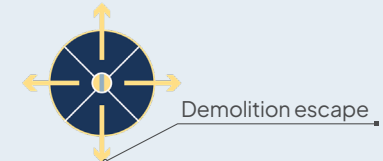
### 3D - Representation



### Sketches - illustration



### Pressure distribution view





## THE FRD RODS FOR SERIES FX AND F

### Technical data

FX15-2FT & S	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 36 MM)	MM	MM	KG
CONE	370	234	2,8
MOIL	-	-	-
WEDGE	370	234	2,8
FLAT	370	234	2,8
WIDE	440	115	3,7
ASPHALT SPADES	440	125	3,7
CORE	-	-	-

FX25-2FT & S	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 45 MM)	MM	MM	KG
CONE	460	293	5
MOIL	-	-	-
WEDGE	440	293	5
FLAT	460	293	5
WIDE	440	120	5
ASPHALT SPADES	450	100	5
CORE	460	293	5

FX45-2XS	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 60 MM)	MM	MM	KG
CONE	615	355	12,1
MOIL	-	-	-
WEDGE	615	355	12,1
FLAT	615	355	12,1
WIDE	AUF ANFRAGE		
ASPHALT SPADES	AUF ANFRAGE		
CORE	560	355	11

FX55-2FT & S	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 68 MM)	MM	MM	KG
CONE	600	378	15
MOIL	-	-	-
WEDGE	600	378	15
FLAT	600	378	15
WIDE	560	150	16,5
ASPHALT SPADES	590	150	16,5
CORE	600	378	15

FX25-2XS	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 45 MM)	MM	MM	KG
CONE	515	293	5,8
MOIL	-	-	-
WEDGE	515	293	5,8
FLAT	515	293	5,8
WIDE	AUF ANFRAGE		
ASPHALT SPADES	AUF ANFRAGE		
CORE	460	293	5

FX35-2FT & S	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 52 MM)	MM	MM	KG
CONE	510	322	8
MOIL	-	-	-
WEDGE	510	322	8
FLAT	510	322	8
WIDE	500	140	8,5
ASPHALT SPADES	510	115	8,5
CORE	510	322	8

FX55-2XS	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 68 MM)	MM	MM	KG
CONE	655	378	16,4
MOIL	-	-	-
WEDGE	655	378	16,4
FLAT	655	378	16,4
WIDE	AUF ANFRAGE		
ASPHALT SPADES	AUF ANFRAGE		
CORE	600	378	15

FX35-2XS	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 52 MM)	MM	MM	KG
CONE	565	322	8,5
MOIL	-	-	-
WEDGE	565	322	8,5
FLAT	565	322	8,5
WIDE	AUF ANFRAGE		
ASPHALT SPADES	AUF ANFRAGE		
CORE	510	322	8

FX45-2FT & S	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 60 MM)	MM	MM	KG
CONE	560	355	11
MOIL	-	-	-
WEDGE	560	355	11
FLAT	560	355	11
WIDE	500	150	9
ASPHALT SPADES	520	130	9
CORE	560	355	11

F6	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 75 MM)	MM	MM	KG
CONE	-	-	-
MOIL	730	450	21,5
WEDGE	730	450	21,5
FLAT	730	450	21,5
WIDE	670	150	20
ASPHALT SPADES	700	150	20
CORE	730	450	21,5

F9	LENGTH	USE LENGTH	WEIGHT
ROD (∅ 90 MM)	MM	MM	KG
CONE	-	-	-
MOIL	840	500	35,5
WEDGE	840	500	35,5
FLAT	840	500	35,5
WIDE	740	180	33
ASPHALT SPADES	780	200	33
CORE	840	500	35,5



## THE FRD RODS FOR SERIES FXJ

### Technical data

FXJ25	LENGTH	USE LENGTH	WEIGHT
ROD (ø110 MM)	MM	MM	KG
CONE	-	-	-
MOIL	1070	680	69
WEDGE	1070	680	69
FLAT	1070	680	69
WIDE	-	-	-
ASPHALT SPADES	-	-	-
CORE	1070	680	69

FXJ75	LENGTH	USE LENGTH	WEIGHT
ROD (ø120 MM)	MM	MM	KG
CONE	-	-	-
MOIL	1110	695	76
WEDGE	1110	695	76
FLAT	1110	695	76
WIDE	-	-	-
ASPHALT SPADES	-	-	-
CORE	1110	695	76

FXJ770	LENGTH	USE LENGTH	WEIGHT
ROD (ø190 MM)	MM	MM	KG
CONE	-	-	-
MOIL	1735	860	315
WEDGE	1735	860	315
FLAT	1735	860	315
WIDE	-	-	-
ASPHALT SPADES	-	-	-
CORE	1735	860	315

FXJ1070	LENGTH	USE LENGTH	WEIGHT
ROD (ø210 MM)	MM	MM	KG
CONE	-	-	-
MOIL	1940	980	434
WEDGE	1940	980	434
FLAT	1940	980	434
WIDE	-	-	-
ASPHALT SPADES	-	-	-
CORE	-	-	-

FXJ225	LENGTH	USE LENGTH	WEIGHT
ROD (ø135 MM)	MM	MM	KG
CONE	-	-	-
MOIL	1250	737	120
WEDGE	1250	737	120
FLAT	1250	737	120
WIDE	-	-	-
ASPHALT SPADES	-	-	-
CORE	1250	737	120

FXJ275	LENGTH	USE LENGTH	WEIGHT
ROD (ø140 MM)	MM	MM	KG
CONE	-	-	-
MOIL	1310	770	135
WEDGE	1310	770	135
FLAT	1310	770	135
WIDE	-	-	-
ASPHALT SPADES	-	-	-
CORE	1310	770	135

FXJ375	LENGTH	USE LENGTH	WEIGHT
ROD (ø155 MM)	MM	MM	KG
CONE	-	-	-
MOIL	1405	810	172
WEDGE	1405	810	172
FLAT	1405	810	172
WIDE	-	-	-
ASPHALT SPADES	-	-	-
CORE	1405	810	172

FXJ475	LENGTH	USE LENGTH	WEIGHT
ROD (ø170 MM)	MM	MM	KG
CONE	-	-	-
MOIL	1510	830	221
WEDGE	1510	830	221
FLAT	1510	830	221
WIDE	-	-	-
ASPHALT SPADES	-	-	-
CORE	1510	830	221





## DELIVERY SCOPE

### The Toolcases

Always well equipped, thanks to the FRD Toolcases!  
The special tool which brings your collection to a new level!

All hydraulic breakers are supplied with a tool bag or tool box. For the FX-2 series, one tool bag is included in the scope of delivery. For the F and FXJ series, two different tool bags are included. Tool boxes are provided. They contain the most important special tools, e.g. to enable quick replacement of the rod.

Toolbox of Series FX



Toolbox of Series F



Toolbox of Series FXJ



Manual grease gun



Sencio White





## The Armour Plates

The FRD armor plate is the optimal additional protection against wear. In trenches, during canal work or when working in quarries, the Hardox armor plate provides maximum protection

for your hydraulic breaker. Subsequent upgrading is possible by simply welding it to the hydraulic breaker housing.

### Highlights of the Armour Plates

1

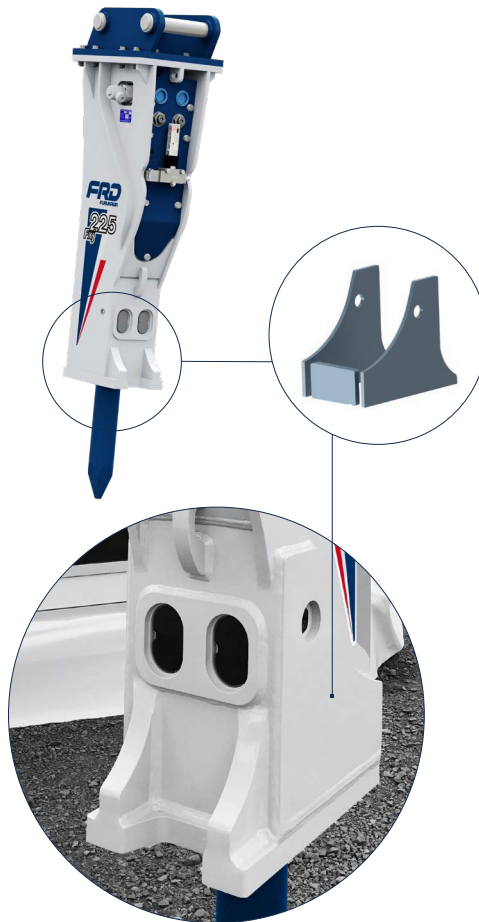
Robust wear protection

2

Extremely durable

3

Direct mounting



## The Swivel Adapter

No more annoying incidents! Thanks to the FRD's swivel adapter. This prevents twisting or distortion of the hydraulic hoses and facilitates optimum connection.

Rapid benefits thanks to uncomplicated assembly on the breaker body. The wearing parts, such as seals, can be replaced without any problems.

### Highlights of the Swivel Adapter

1

Reduces work absences

2

Extremely durable

3

Simple retrofit



EFFICIENT, DEMAND-ORIENTED, UNCOMPLICATED

## Our lubrication system: SenciLube

The FRD SenciLube lubrication system ensures optimum lubrication of the rod guide bushings at all times and completely automatically. The uncomplicated system is mounted directly on the breaker housing. It facilitates continuously adjustable lubrication of

the tool area and consequently ensures optimum lubricant supply. The filling level of the cartridges is also easy to monitor from the excavator cab thanks to its transparent cartridges. Equally uncomplicated: Changing the cartridge.

### Highlights of the SenciLube



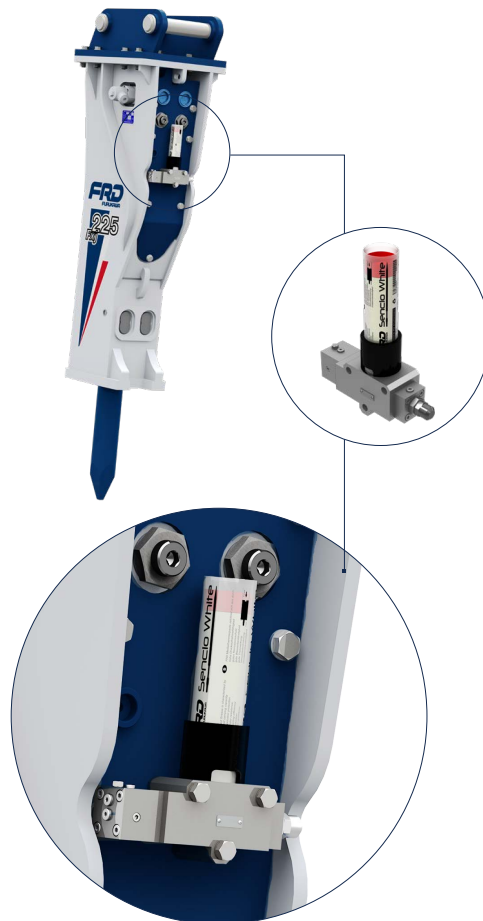
Optimal lubricant supply



Reduced maintenance



Direct Hammer housing assembly



OUR SENCIO ROD GREASE

## Differences and features

### Sencio Blue

Sencio Blue rod grease has been specially developed to provide optimum lubrication for the wear bushings of hydraulic breakers, helping to prevent both wear and tool breakage. The Sencio Blue tool paste from FRD is produced from lithium complex soap greases based on mineral oil. It contains a solid lubricant combination consisting of copper/graphite and molybdenum disulphide (MoS<sub>2</sub>). This grease composition ensures a reliable separating effect and wear reduction at high surface pressures and temperatures up to 1100 °C. (P/N FGC-06713-1)



### Sencio White

The **BIO Sencio White rod grease** has been approved by the European Commission for use in ecologically sensitive applications for the construction and mining industries. The special formula is made up of selected synthetic esters which, after lithium saponification, produce an extremely robust lubricating grease which is also rapidly biodegradable. Adding selected white solid lubricants resulted in a high VKA value and high pressure absorption. (P/N FGC-06625)



EU ECOLABEL DE / 027 / 089



Authorized distributor:

01/2023- EN BREAKER



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