



DEALER' S GUIDE TO DEMOLITION ATTACHMENTS

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WELCOME FROM THE AUTHOR



PASQUALE DEPALO
Founder & CEO, REPALO

Dear Dealer,

Over the years I have inspected, traded and analysed hundreds of demolition attachments worldwide.

This guide has been created to share practical knowledge gained through field experience, international networking and continuous observation of the demolition industry.

Whether you are an experienced dealer or entering this sector for the first time, I hope these pages will help you make better business decisions.

Thank you for taking the time to read this guide. I hope it provides valuable insights and helps you make informed decisions in your daily business.

P.S. Any feedback, suggestions or additional insights you would like to share would be greatly appreciated. Please feel free to contact me directly at info@repalo.it



I would love to hear your feedback or suggestions

info@repalo.it

ABOUT THIS GUIDE

Choosing the right demolition attachment requires more than comparing specifications. It requires understanding how tools evolved, how they work and where they perform best.

Over the following pages, you will discover how the main demolition tools work, how they differ from one another and which manufacturers have shaped the industry over the years.

The content has been developed primarily **for dealers and professionals operating in the demolition sector**, with the aim of sharing practical knowledge gained through field experience, international networking and continuous market observation. Whether you are an experienced dealer or approaching this market for the first time, this guide is designed to help you make more informed decisions and better understand today's demolition attachment industry.



PRACTICAL KNOWLEDGE

Based on real
world experience



GLOBAL PERSPECTIVE

Manufactories,
associations and
market trends.



TECHNICAL INSIGHTS

How tools work
and perform



SMARTER DECISIONS

The right tool
for every
application

Created by **REPALO** – Specialists in Used Demolition Attachments

03 MODERN DEMOLITION

3.1 HOW MODERN DEMOLITION BEGAN

Modern demolition attachments originated in Japan in the 1970s, driven by two key factors: the need for safer, more controlled demolition in densely populated urban areas, especially at height, and the widespread use of heavily reinforced earthquake-resistant concrete structures.

As traditional hydraulic breakers proved insufficient, more powerful and precise demolition tools were developed.



"Concrete structures in Japan are considerably stronger and contain much more reinforcement than those commonly found in Europe. As a result, we routinely require heavier and more powerful demolition tools capable of handling these demanding applications."

Mr. Watanabe

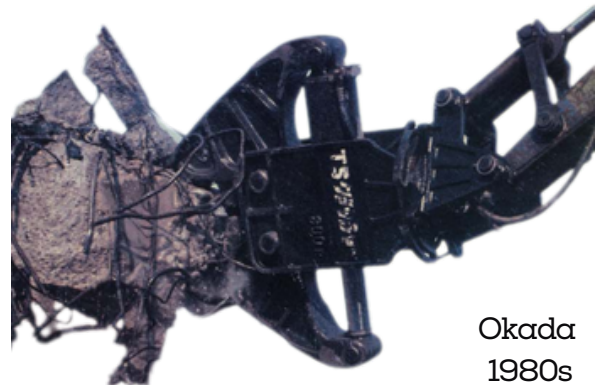
CEO, Watanabe Demolition – Japan



The first Japanese companies to develop demolition shears were OKADA, followed by NPK.



NPK RA -20
from the early 1980s



Okada
1980s

04 DEMOLITION SHEARS

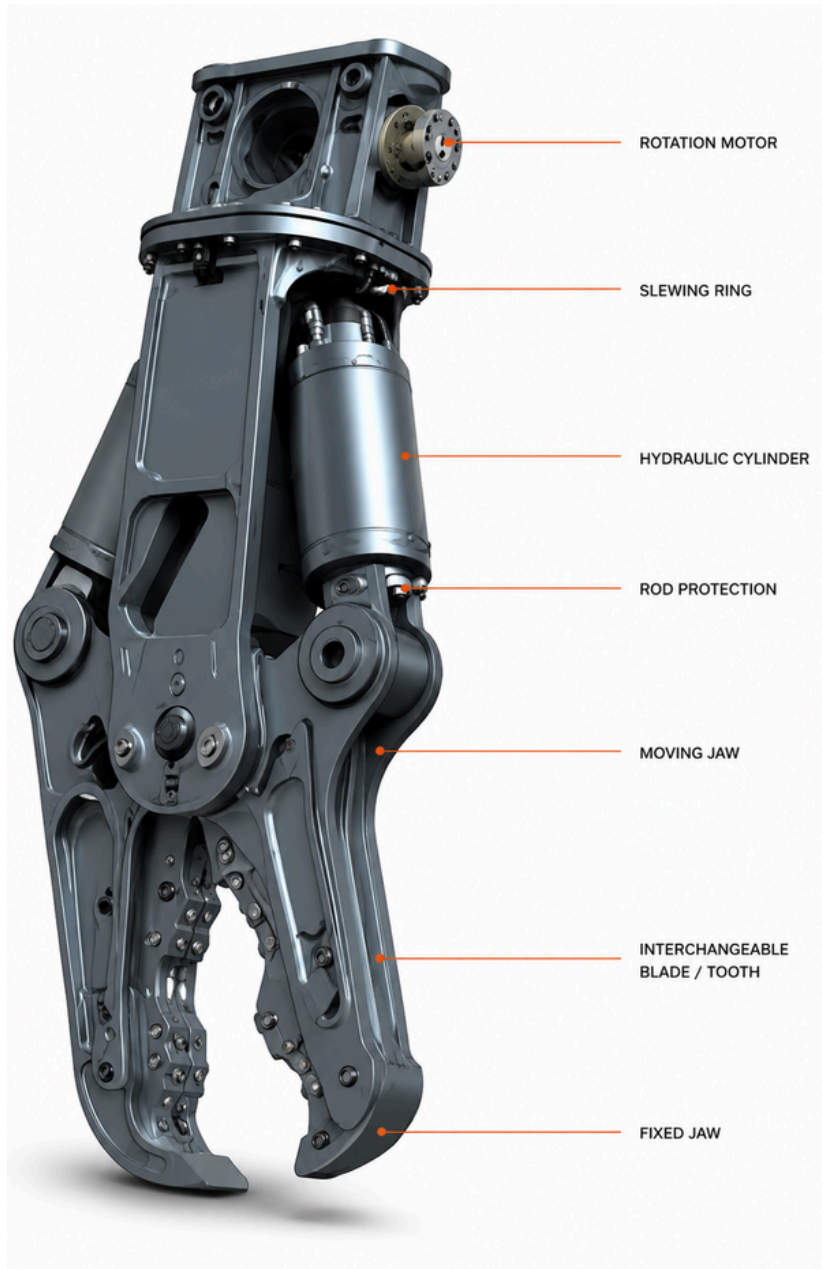
4.1 HOW DEMOLITION SHEARS WORK

Demolition shears consist of the following main components (see diagram) and operate on the hydraulic lever principle, using a fulcrum (pivot pin) and a movable jaw.

Crushing force depends on oil flow, hydraulic pressure, and the distance between the moving and fixed points. As with hydraulic breakers, the excavator provides the power through its oil flow (L/min) and pressure (bar).

Although they may appear simple, demolition shears are built around complex mechanisms, including:

- Hydraulic rotation motor
- Double-acting hydraulic cylinder
- Rotary joint
- Slewing ring
- Pinion
- Interchangeable blades or teeth



A well-designed shear combines power, speed and durability to handle the toughest jobs efficiently.

04 DEMOLITION SHEARS

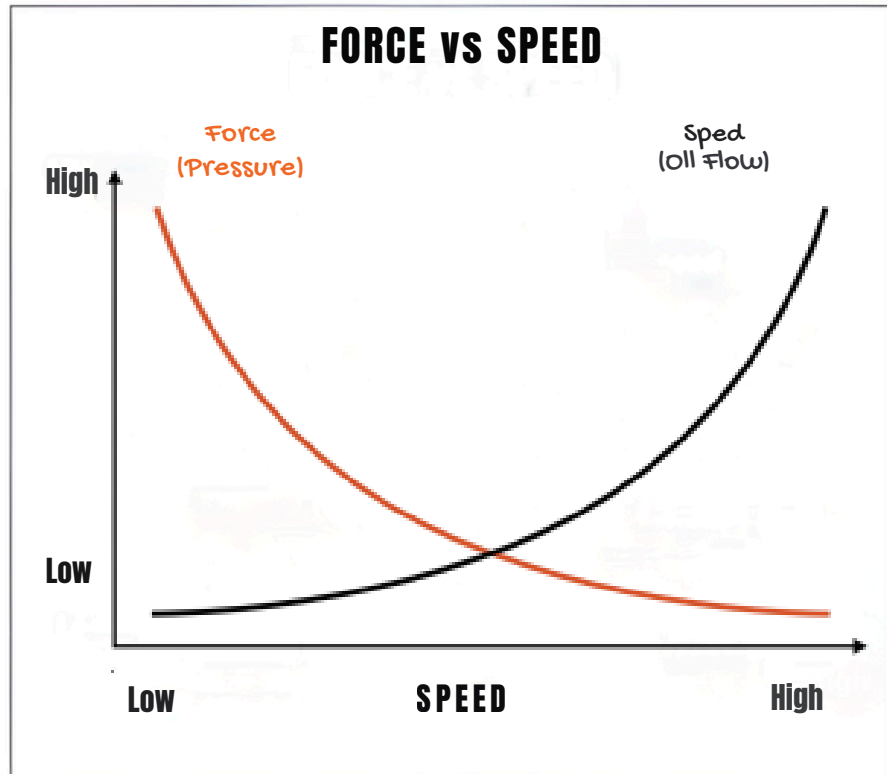
4.2 HYDRAULIC PRINCIPLES & OIL FLOW

A simple way to understand how demolition shears work is to "follow the oil."

Oil flow (L/min) determines the jaw opening and closing speed, while hydraulic pressure (bar) generates the cutting and crushing force.

Since speed and force are inversely proportional, an efficient shear is designed to achieve the best balance between the two.

Systems such as booster valves and regenerative circuits can increase force without reducing speed, but if not properly designed or sized, they may compromise the efficiency, reliability, and service life of the hydraulic cylinder.



2 KEY FACTORS



OIL FLOW (L/min)

Controls the jaw operating speed.



PRESSURE (BAR)

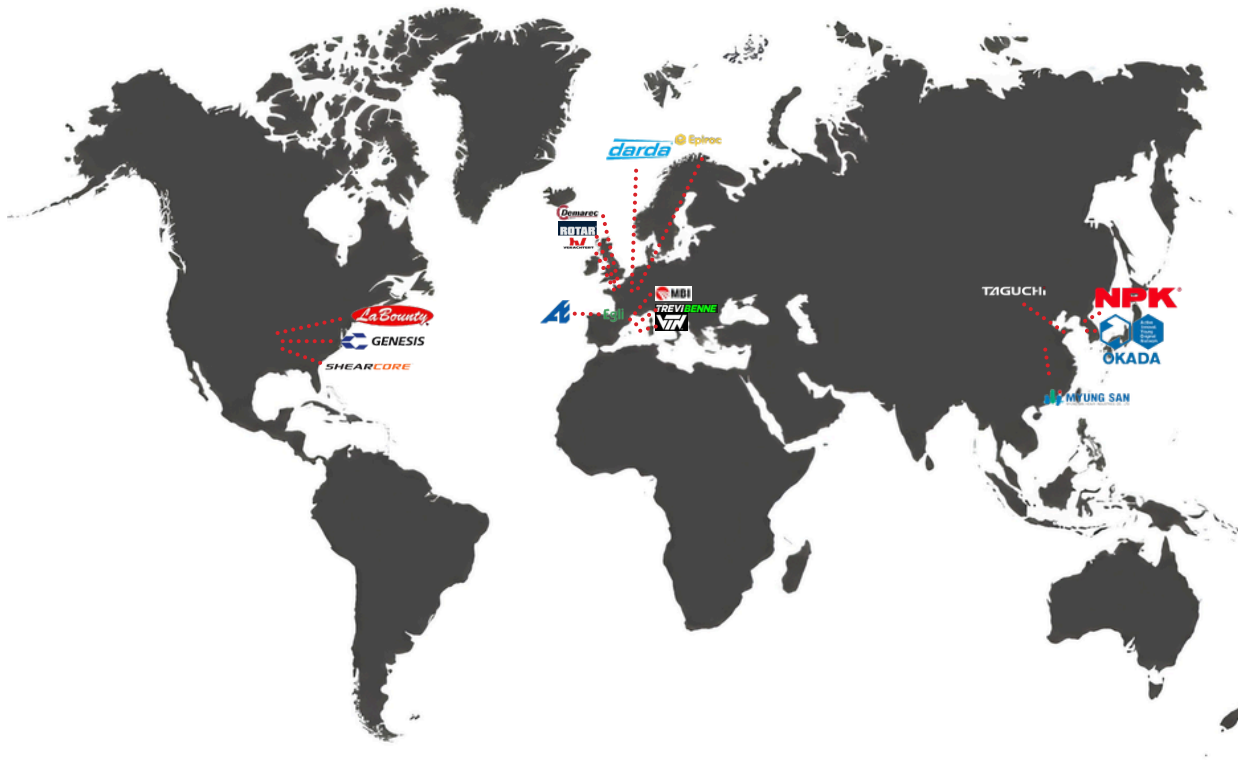
Controls the cutting and crushing force.



The right balance between FLOW and PRESSURE delivers maximum performance.

05 WORLDWIDE MANUFACTURERS & INDUSTRY TRENDS

5.1 GLOBAL MANUFACTURERS



Demolition companies and the leading commercial operators in the demolition industry are represented by national trade associations.



These associations aim to promote and represent the interests of the industry, as well as to foster the exchange of information and working methods related to demolition.

5.2 INDUSTRY ASSOCIATIONS & MARKET TRENDS

DENMARK
DI Dansk Byggeri
www.nedbrydningssektionen.dk

GERMANY
DA DEUTSCHER ABBRUCHVERBAND
deutscher-abbruchverband.de

NETHERLANDS
VERAS
www.sloopaannemers.nl

UK
NFDC
www.demolition-nfdc.com

IRELAND
iADC
 IRELAND ASSOCIATION OF DEMOLITION CONTRACTORS

FRANCE
SEDDR
www.seddre.fr

SPAIN
aeded
www.aeded.org

ITALY

MALTA

SERBIA
DA

GREECE
BRV
www.briv.at

RUSSIA
NA DO National Association of Demolition Organizations
www.souzdemo.ru
www.demolition-nado.ru

FINLAND
FDA
www.byggnadsberedning.se

SWEDEN
BFB
www.byggnadsberedning.se

LITHUANIA
LIETUVOS GRIOVEJŲ ASOCIACIJA

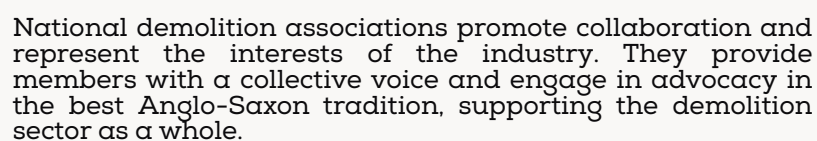
AUSTRIA

NADECO
 INTERNATIONAL ASSOCIATION OF DEMOLITION CONTRACTORS

MEDRA

DA

BRV
www.briv.at



06 HIGH REACH DEMOLITION

Demolition performed using purpose-built, modified, or standard excavators capable of reaching heights over 30 m, allowing the safe demolition of complex structures at significant elevations.



Ultra High Reach (UHD) refers to demolition excavators with a working height above 48 m. Equipped with modified undercarriages, tilting cabs, upgraded counterweights, and enhanced hydraulic systems, some models can reach operating heights exceeding 70 m.



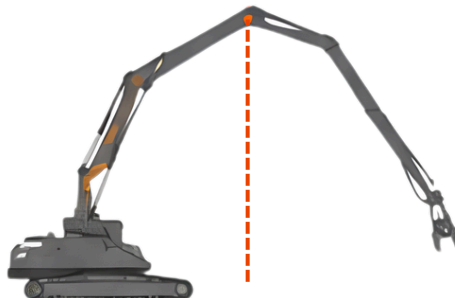
The first long-reach excavators were introduced in the 1970s by Richard Melhuish, founder of Land & Water. Today, only a few specialist manufacturers build or convert Ultra High Reach (UHD) machines.



UHD demolition requires attachments with a wide jaw opening and a compact centre of gravity to minimise outreach and improve stability. Single-cylinder horizontal primary crushers are generally preferred, with continuous development focused on more compact, better-balanced designs for operation at extreme heights.

BARYCENTER

Keeping the barycenter close to the carrier minimises outreach and improves stability at extreme heights.



07 PRIMARY DEMOLITION

7.1 PRIMARY DEMOLITION TOOLS

Primary Demolition refers to the first mechanical stage of dismantling structures, starting from the top.

The equipment used for this type of demolition includes:

1



Pure Primary Shears

2



Jack Hammer
or Multi-service

3



Steel Shears
(in the case of iron's
structures)

4



Crusher or
Pulverisors



A primary crusher is a demolition attachment with two parallel vertical cylinders, a wide jaw opening, and thin jaws designed to cut sections of slabs and beams for further reduction in later demolition stages.

It is used for precise, controlled demolition of load-bearing and elevated structures.

07 PRIMARY DEMOLITION

7.2 MULTI-SERVICE ATTACHMENTS & PRIMARY CRUSHERS

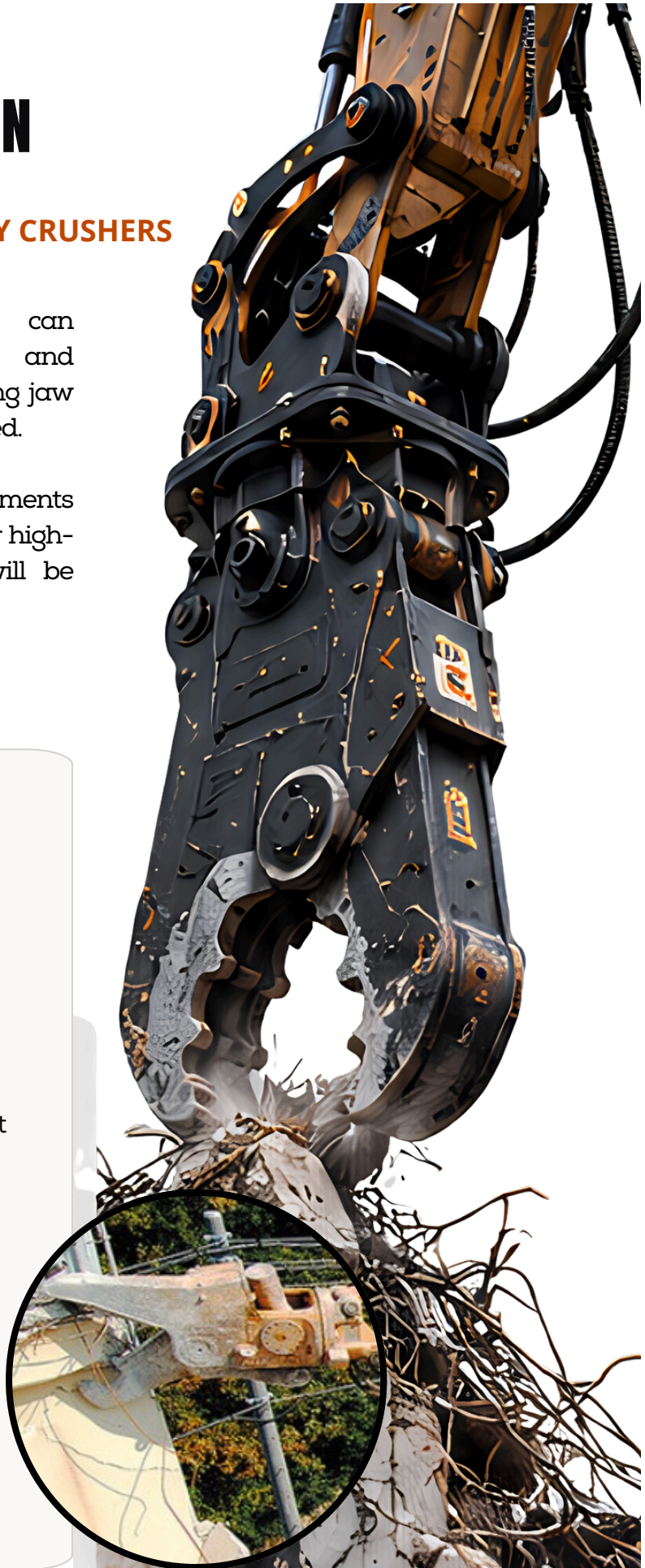
MULTISERVICE attachments can operate as both primary and secondary crushers by changing jaw kits according to the task required.

SHEARS are cutting attachments designed specifically for steel or high-strength steel profiles, and will be explained in more detail later.

PRIMARY CRUSHERS

These are next-generation attachments designed to operate without the need to replace the jaws, making them suitable both for the demolition of reinforced concrete beams and columns and for cutting the steel reinforcement embedded within the structure.

- The main interchangeable elements are the blades, which act as shears, while the teeth are responsible for crushing the external concrete and reinforcement.



08 SECONDARY DEMOLITION TOOLS

Secondary demolition follows the primary phase and involves breaking concrete elements (slabs, beams, pipes) into smaller pieces and separating or pulverising reinforced material. Secondary crushers, also called pulverisers, can be fixed or hydraulically rotating.

Originally simple, these tools have evolved mainly in the design of the teeth. Early models had fixed pointed profiles cut from the jaw plate and required periodic rebuilding by welding, while modern versions use removable and replaceable teeth supplied as spare parts (see NPK photo below).



All crushers feature K100 steel blades on the jaw structure.



Designed to cut reinforced concrete rebar during secondary demolition.



An integrated magnet collects steel during crushing, simplifying recycling and disposal.



09 STEEL SHEARS

9.1 STEEL SHEARS & APPLICATION

While crushers and pulverisers are interchangeable depending on the operation and application, making the distinction largely a matter of preference, certain applications require a specific tool: Steel Shears.

ORIGIN & EVOLUTION

One of the earliest handcrafted shears, this tool gradually evolved into its modern design. It originated in the United States through Roy Labourty, an end user whose name is still well known in the industry.



KEY FEATURES



Used exclusively for cutting steel structures. Can also be mounted in place of the excavator arm.



Narrow cutting width than a crusher but delivers higher cutting force.



Elongated design with the cylinder as perpendicular as possible to the moving jaw for maximum cutting efficiency.



09 STEEL SHEARS

9.2 VARIATIONS & INDUSTRY EVOLUTION

INDUSTRY EVOLUTION



In the demolition of steel structures—such as railway tracks, power plants, frames, engines, gears, and in sectors like automotive dismantling, shipbreaking, and aircraft recycling—shears play a key role.

Their use is expected to increase as modern construction increasingly relies on metal rather than brick, cement, or reinforced concrete.

WHY STEEL SHEARS MATTER



The shear is expected to become increasingly important at the expense of concrete demolition, as modern construction relies more and more on metal and less on brick, cement, and reinforced concrete.

DESIGN & PERFORMANCE



A shear differs from a crusher thanks to its more elongated structure, which accommodates a larger cylinder and a smaller jaw area to concentrate high cutting force on steel,

H-beams, and railway tracks. This design sacrifices jaw opening capacity in favour of cutting performance, while retaining the same core components as crushers and pulverisers.



VARIATIONS OF THE TOOL



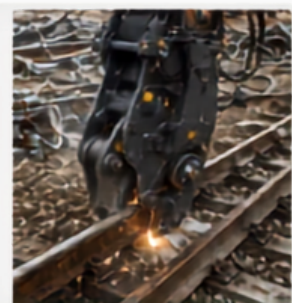
TANK SHEAR

Shears expressly used for cutting iron tanks and cylindrical structures.



TRACK SPLITTER

Tools expressly indicated for cutting large thicknesses and H profiles such as railway tracks.



10 SPECIAL APPLICATIONS & FUTURE TRENDS

Innovation and technology are driving demolition towards safer, smarter and more efficient solutions. Here are two key examples of specialized applications shaping the future of the industry.



FLY SYSTEM

RADIO-CONTROLLED DEMOLITION UNITS

A separate chapter covers special-purpose demolition equipment.

FLY SYSTEM are mobile, radio-controlled units that can be operated remotely and equipped with demolition attachments for high-reach work when properly secured.



DARDA

RADIO-CONTROLLED DEMOLITION UNITS

DARDA, part of the BROKK group, designs lightweight crushers and shears (up to 400 kg), mainly used on BROKK machines—compact, electric, remote-controlled mini excavators for hazardous demolition environments.

These applications include nuclear plants, furnaces, metallurgical facilities, and structures contaminated by toxic or dangerous substances.

As demolition technology evolves, machines and attachments are expected to become increasingly independent from direct human operation.

OUR AVAILABLE ATTACHMENTS

IF WHAT YOU'RE LOOKING FOR ISN'T HERE, JUST ASK US!

EPIROC HB 3100

y2022



EPIROC HB 7000

y2022



DEMAREC DRP30



DEMAREC DRS60

y2021



y2018

EPIROC HB 3600



+393357574116

OUR AVAILABLE ATTACHMENTS

DEMAREC DRS45A

y2020



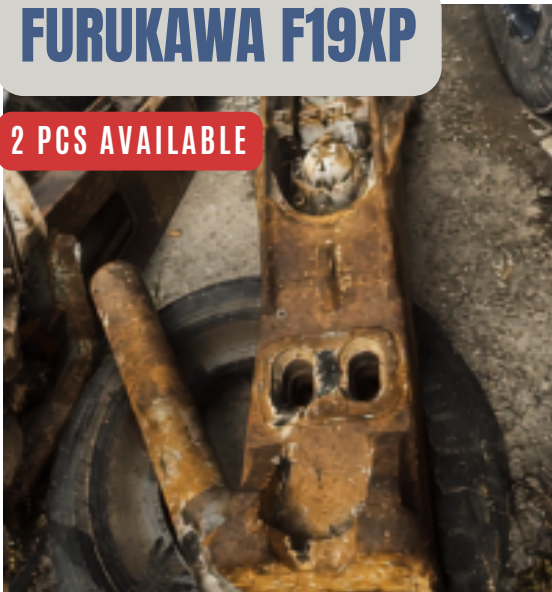
VTN VF19

y2011



FURUKAWA F19XP

2 PCS AVAILABLE



ARDEN AS045R



EPIROC MB 1700



+393357574116

LET'S STAY IN TOUCH

Do you have any questions,
need more information or
looking for a specific tool?

WE ARE HERE TO HELP.

Our team is ready to support you
with the right solution for your
business.



TRUSTED QUALITY

Carefully inspected
used equipment.



WORLDWIDE NETWORK

Reliable solutions,
everywhere.



FAIR DEALS

Competitive prices,
real value.



SUSTAINABLE CHOICE

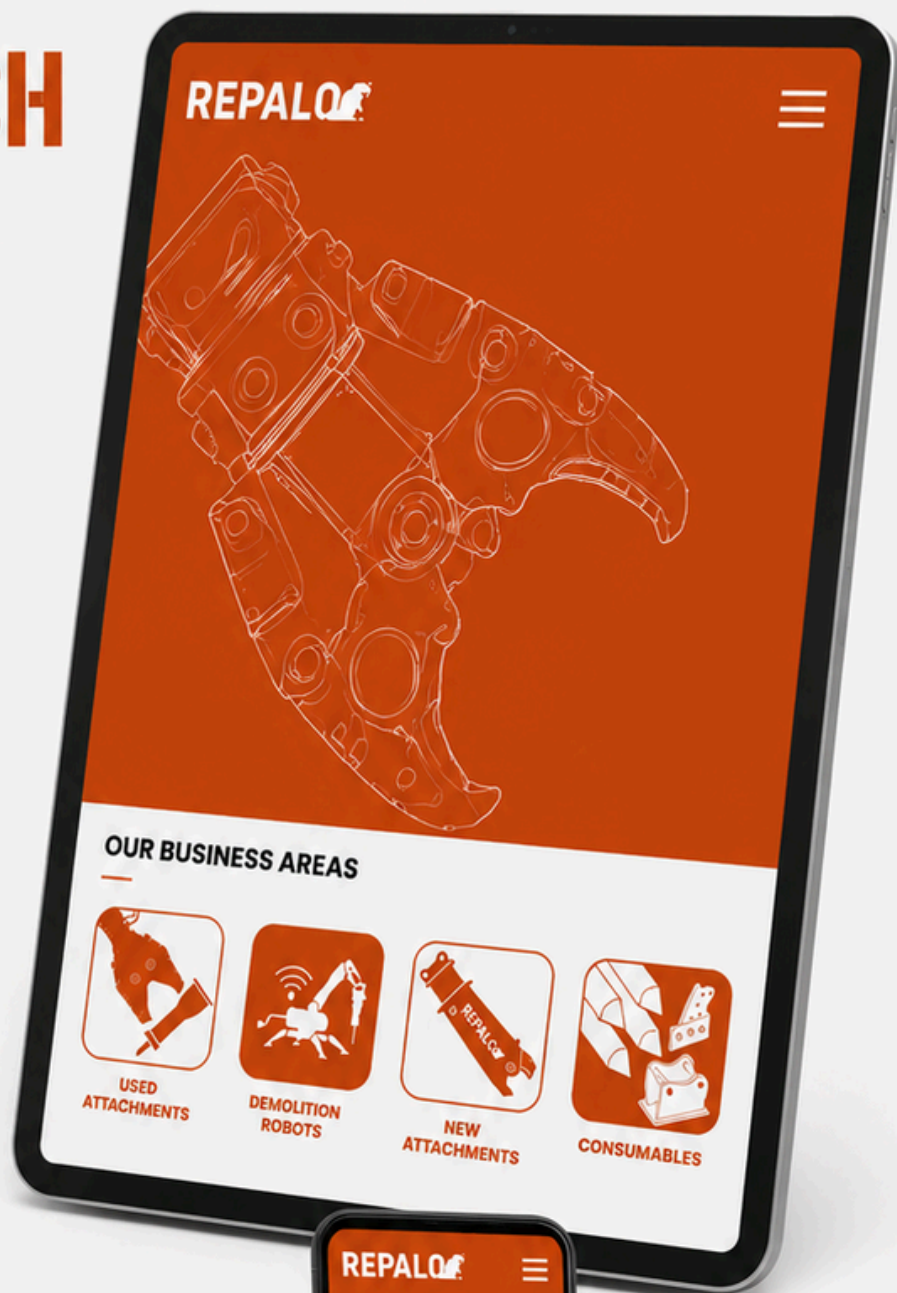
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for a better future.

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