Shears and Rail Cutters

ISS and IRC Series

INDECO

A TOOL FOR EVERY JOB

ISS shears

Vital tools for anyone working in the scrap metal or recycling sectors, Indeco ISS Steel Shears stand out for their cutting-edge design, for their extreme robustness and for their technical innovations which substantially increase their efficiency.
Rapid, efficient and surprisingly powerful, Indeco ISS shears are the ideal choice for demolishing any type of metal structure.
Indeco's tried and tested continuous rotation hydraulic system, found on all of our other rotating products, enables the shear to work in the best possible position, while its large jaw opening and fast cycle times and its incredible cutting power, make all demolition operations fast and effective.
Special extra-strength HARDOX® alloy steel make ISS shears outstandingly resistant and reliable.
Each of the main knives and guide-blades was designed with four cutting surfaces and so can be rotated three times before replacement; promising more consistency, uptime, and production in your operation.

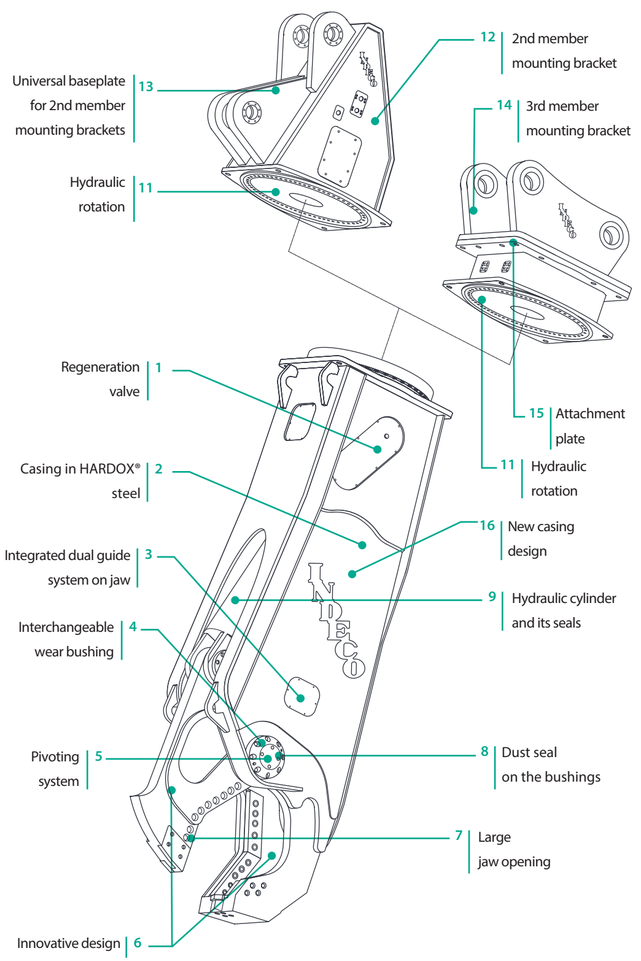
IRC Rail Cutter

New addition to the range of Indeco products dedicated to the recycling of ferrous materials, the IRC Rail-Cutting Shears are hydraulic tools specifically designed for cutting railway tracks, tramway rails, and underground rails, made with heat-treated steel to withstand the enormous forces. The special design of their jaws, combined with the efficiency of the hydraulic system, and the sturdiness of the structure in special HARDOX® steel, lets you cut rails up to 75 kg of mass per metre, with hardness up to 300 Brinell. Indeco IRC rail cutter shears are designed to operate at best on the different standards of rails found in the EU, the USA and Asian countries.

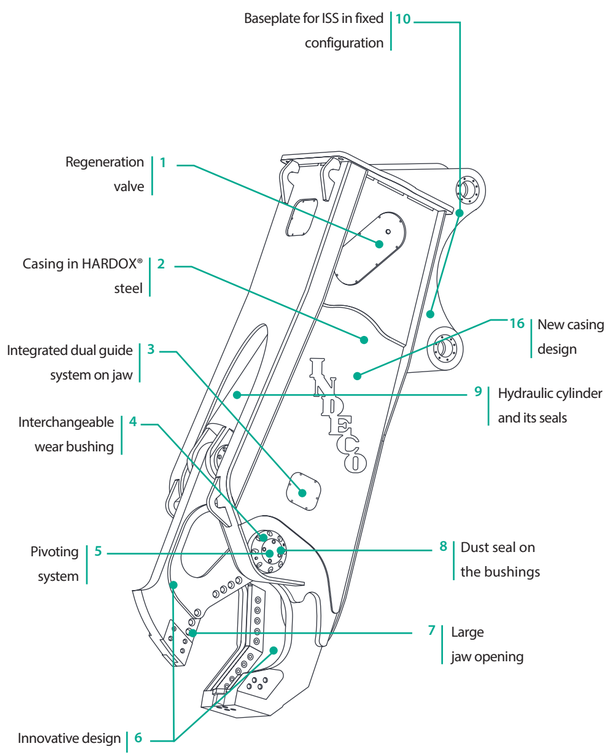
Features of Indeco hydraulic shears

The regeneration valve |1| speeds up no-load movement of the jaw, which opens and closes more quickly, thus reducing cycle times and increasing productivity.
The chassis |2|, made from extra-strength HARDOX® alloy steel, eliminates any flexing of the shear body.
The unique integrated dual guide system |3| can be used to adjust the alignment tolerance of the jaw and prevents it from buckling during the cutting stroke.
The interchangeable "quick change" wear bushings |4| ensure that the knives are always optimally aligned.
The heavy-duty pivot group |5| provides long-term cutting efficiency, keeps jaws aligned and prevents buckling.
The innovative design |6| improves cutting efficiency compared to similar products.
The large jaw opening |7| provides greater flexibility for numerous applications.
The special insert bushings |8| are made from an anti-friction material with a dust seal.
The large, powerful hydraulic cylinder |9| is an exclusive Indeco design, and provides enough force to deal with any type of working conditions.
Its long-lasting seals are able to withstand up to 700 bars of pressure.
The baseplate for the ISS in fixed configuration |10| makes the attachment much lighter and less bulky, which means that a larger shear can be used on the excavator.
The shears have full high-speed 360° hydraulic rotation |11| for better positioning and optimal cutting in any working position.
The mounting bracket for the 2nd-member configuration |12| is used to mount the ISS straight onto the excavator boom. In this configuration, ideal for recycling ferrous material, a large attachment can be mounted even on a relatively light carrier.
The universal baseplate for 2nd member mounting brackets |13| is compatible with all carriers.
The 3rd member mounting bracket |14| is used to mount the ISS on the carrier stick (bucket-mounted), ideal for demolition jobs.
The attachment plate |15| is compatible with the plate for Indeco breakers of similar weight.
In the latest design |16|, the shear is more compact with a thicker casing, thus improving its manoeuvrability and balance, as well as increasing its overall robustness.

2nd and 3rd member configuration

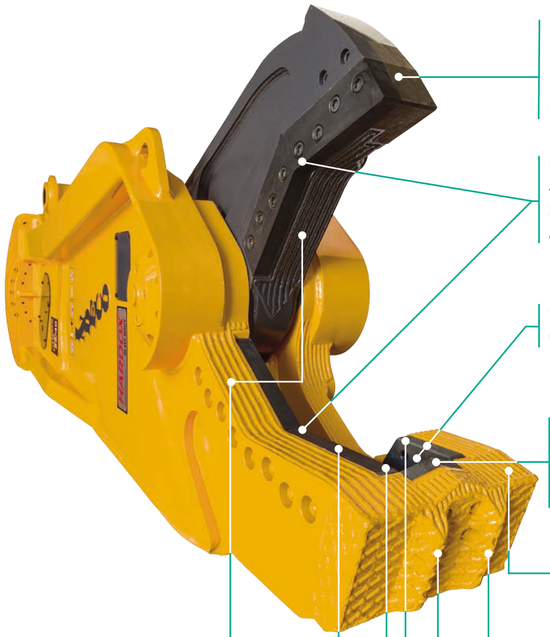


Fixed configuration



Cutting capacity

The Indeco ISS shears have exceptional capacity and cutting force, due to the following specific design features:



Exclusive dual-profile piercing tip system with both upper and lower blades, for a clean gradual cut as the shear penetrates the material

Four special steel blades, all the same size, fully reversible and interchangeable, so that all of the cutting edges can be used

Dual blade-guide system for maximum precision cutting

Exclusive dual-profile razor system with both upper and lower blades, for a clean gradual cut as the shear penetrates the material

Wear-resistant high-strength welding, standard

Anti-shock, wear-resistant front protections

Wear-resistant high-strength welding, standard

Guide blade with exclusive design which makes it easier to dismantle

Cutting register adjustment system provides efficient working action at all times

Threaded screws on guide blade, to make it easier to remove the blade if there is a blockage

Technical Data	ISS 5/7	ISS 8/13	ISS 10/20
Type of carrier	1 2 3	1 2 3	4 5
Min. excavator weight in fixed version (boom-mounted) configuration	4 ton	6 ton	8 ton
Min. excavator weight in 2nd member (boom-mounted) configuration	5 ton	8 ton	10 ton
Min. excavator weight in 3rd member (bucket-mounted) configuration	7 ton	13 ton	20 ton
Attachment operating weight fixed version	480 Kg	1050 Kg	2000 Kg
Attachment operating weight 2nd member	570 Kg	1300 Kg	2400 Kg
Attachment operating weight 3rd member	570 Kg	1250 Kg	2400 Kg
Maximum working pressure	300 bar / 220 bar*	350 bar	350 bar
Oil delivery	50 ÷ 120 l/min	90 ÷ 180 l/min	100 ÷ 200 l/min
Maximum rotation oil flow	10 l/min	15 l/min	20 l/min
Maximum rotation pressure	110 bar	110 bar	110 bar
Maximum clamping force at tip	45 ton	80 ton	120 ton
Clamping force class	150 ton	300 ton	600 ton
Length	1700 mm	2100 mm	2724 mm
Jaw width	340 mm	400 mm	450 mm
Jaw opening	350 mm	470 mm	550 mm
Max jaw depth	320 mm	450 mm	570 mm
Closure time	2 ÷ 3 s	2,9 ÷ 5 s	2,4 ÷ 4,6 s
Opening time	1 ÷ 1,6 s	1,5 ÷ 3 s	2,2 ÷ 4,2 s
Compatibility of attachment plate with breaker	HP 900	HP 2000 - HP 2500	HP 3000 ÷ HP 4000

*low pressure version

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Carrier key

Compact excavator | Miniloader | Backhoe loader | Wheeled excavator | Tracked excavator

ISS Fixed

ISS 2nd member

ISS 3rd member

Common configurations on the following models: ISS 5/7 - ISS 8/13 - ISS 10/20 - ISS 20/30 - ISS 25/40 - ISS 30/50 - ISS 35/60 - ISS 45/90

Technical Data	ISS 20/30	ISS 25/40	ISS 30/50
Type of carrier	5	5	5
Min. excavator weight in fixed version (boom-mounted) configuration	18 ton	23 ton	27 ton
Min. excavator weight in 2nd member (boom-mounted) configuration	20 ton	25 ton	30 ton
Min. excavator weight in 3rd member (bucket-mounted) configuration	30 ton	40 ton	50 ton
Attachment operating weight fixed version	3250 Kg	4500 Kg	5600 Kg
Attachment operating weight 2nd member	3600 Kg	5000 Kg	6300 Kg
Attachment operating weight 3rd member	3650 Kg	4800 Kg	6100 Kg
Maximum working pressure	350 bar	350 bar	350 bar
Oil delivery	200 ÷ 300 l/min	220 ÷ 360 l/min	240 ÷ 400 l/min
Maximum rotation oil flow	30 l/min	40 l/min	50 l/min
Maximum rotation pressure	110 bar	110 bar	130 bar
Maximum clamping force at tip	140 ton	195 ton	210 ton
Clamping force class	800 ton	1100 ton	1300 ton
Length	3400 mm	3500 mm	4040 mm
Jaw width	560 mm	670 mm	680 mm
Jaw opening	660 mm	760 mm	850 mm
Max jaw depth	680 mm	770 mm	860 mm
Closure time	2,8 ÷ 4 s	3,2 ÷ 5 s	3,6 ÷ 5,8 s
Opening time	2,6 ÷ 3,8 s	2,8 ÷ 4,8 s	3,4 ÷ 5,6 s
Compatibility of attachment plate with breaker	HP 7000 - HP 9000	HP 7000 - HP 9000	HP 7000 - HP 9000

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Technical Data	ISS 35/60	ISS 45/90
Type of carrier	5	5
Min. excavator weight in fixed version (boom-mounted) configuration	33 ton	42 ton
Min. excavator weight in 2nd member (boom-mounted) configuration	35 ton	45 ton
Min. excavator weight in 3rd member (bucket-mounted) configuration	60 ton	90 ton
Attachment operating weight fixed version	6800 Kg	9700 Kg
Attachment operating weight 2nd member	7500 Kg	11000 Kg
Attachment operating weight 3rd member	7600 Kg	10400 Kg
Maximum working pressure	350 bar	350 bar
Oil delivery	300 ÷ 550 l/min	360 ÷ 700 l/min
Maximum rotation oil flow	50 l/min	60 l/min
Maximum rotation pressure	130 bar	130 bar
Maximum clamping force at tip	240 ton	275 ton
Clamping force class	1500 ton	2500 ton
Length	4100 mm	4840 mm
Jaw width	760 mm	815 mm
Jaw opening	950 mm	1100 mm
Max jaw depth	970 mm	1120 mm
Closure time	3,6 ÷ 6,4 s	3,8 ÷ 7,2 s
Opening time	3,2 ÷ 5,6 s	3,6 ÷ 7 s
Compatibility of attachment plate with breaker	HP 12000 - HP 18000	HP 12000 - HP 18000

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Carrier key

Compact excavator | Miniloader | Backhoe loader | Wheeled excavator | Tracked excavator

ISS Fixed

ISS 2nd member

ISS 3rd member

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Appetite guide

Indeco shears are designed to cut and reduce the size of the most common materials used in demolitions in the mechanical, naval and construction sectors. The figures set out below refer to cutting capacity under normal working conditions. Results may vary according to such factors as how robust the material to be cut is, what condition the shear blades are in, the characteristics of the carrier and the operator's ability. Appropriate maintenance of the shear is crucial for maximum productivity of cutting operations.

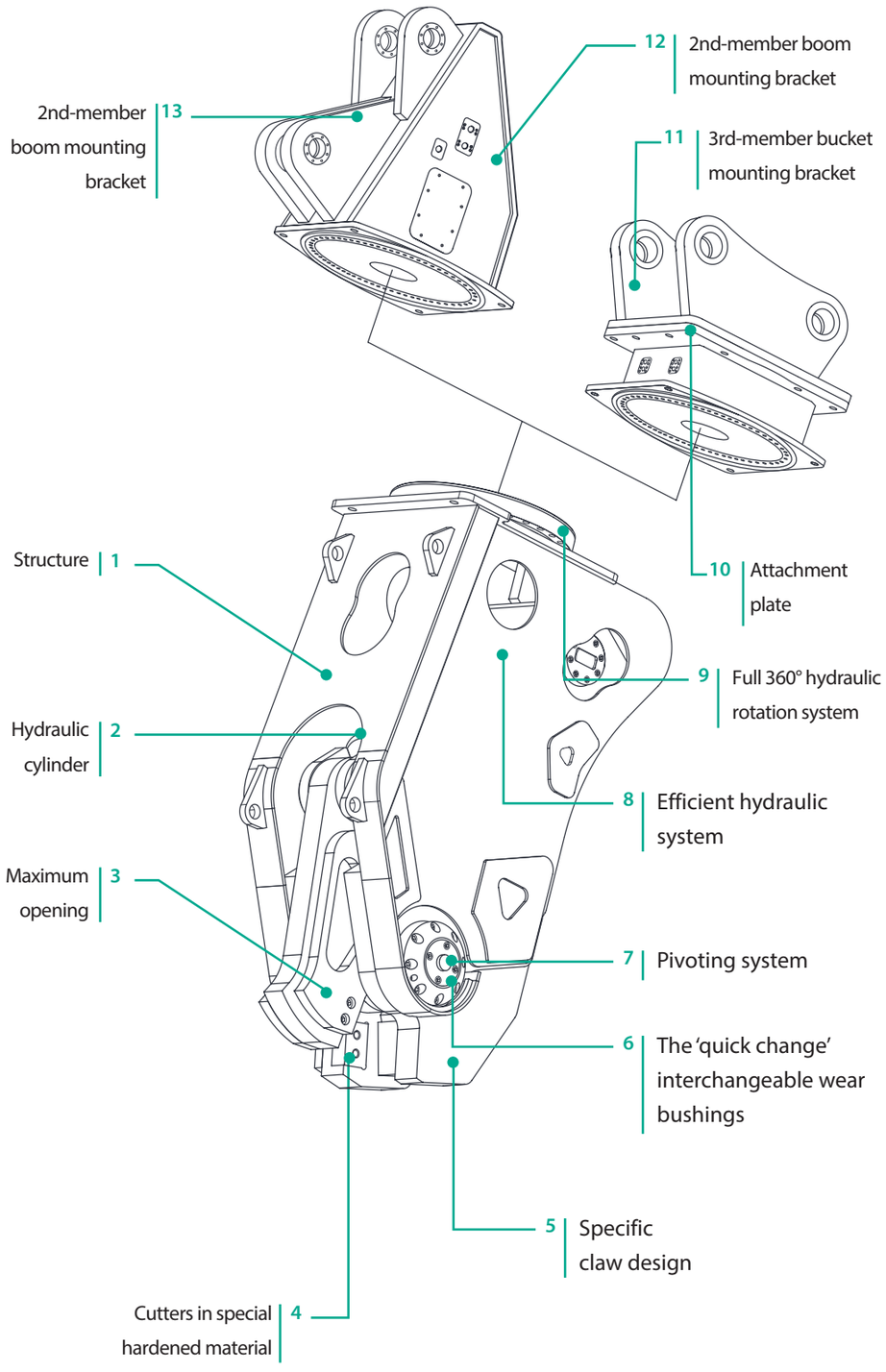
	ISS 5/7	ISS 8/13	ISS 10/20	ISS 20/30	ISS 25/40	ISS 30/50	ISS 35/60	ISS 45/90
●	20 mm	35 mm	50 mm	70 mm	90 mm	105 mm	116 mm	145 mm
◎	60x3 mm*	220x6 mm*	265x9 mm*	320x9,5 mm*	440x9,5 mm*	500x9,5 mm*	570x9,5 mm*	713x9,5 mm*
■	20 mm	40 mm	55 mm	65 mm	85 mm	96 mm	110 mm	137 mm
▬	6 mm**	10 mm**	13 mm**	16 mm**	20 mm**	22 mm**	25 mm**	31 mm**
I	120 IPE***	240 IPE***	330 IPE***	400 IPE***	450 IPE***	500 IPE***	550 IPE***	600 IPE***
I	100 HEA	200 HEA	260 HEA	300 HEA	340 HEA	360 HEA	400 HEA	450 HEA
I	150 I BEAM (W)	250 I BEAM (W)	330 I BEAM (W)	410 I BEAM (W)	460 I BEAM (W)	560 I BEAM (W)	660 I BEAM (W)	790 I BEAM (W)
I	100x100x17	200x200x50	250x250x72	300x300x93	400x300x105	450x300x121	500x300x125	600x300x133
JIS G3192								

*Refers to mild steel tubing and not to other materials such as stainless steel, cast steel etc.
**The shear tip will take longer to cut into thicker sheet metal
***These figures may vary for beams of different shapes, thicknesses and material

Characteristics of Indeco's rail cutters

Structure **|1|** with an extremely robust design, entirely made of HARDOX® 450 to withstand the strong stresses of very heavy-duty work, and particularly compact to facilitate coupling with machines with a wider weight range.
Large hydraulic cylinder **|2|**, to provide greater power and to respond to the heaviest stresses, equipped with metal alloy sliding components to ensure maximum reliability.
Wider maximum opening **|3|** than competitors, for greater flexibility, being able to 'process' rails with the most diverse profiles and dimensions on the global market.
The cutters **|4|** in special hardened material, interchangeable and rotatable, can be used up to 4 times in order to always have efficient cutting angles.
The specific design of the claws **|5|** and of the cutter profiles enables the cutting of rails up to 75 kg mass per meter and up to 300 Brinell hardness.
The 'quick change' interchangeable wear bushings **|6|** make it so that the cutters are always aligned optimally.
The exceptionally robust pivoting system **|7|** ensures long-lasting cutting efficiency and keeps the jaws aligned, preventing twisting.
Efficient and easily accessible hydraulic system **|8|**.
Full 360° hydraulic rotation system **|9|** for greater flexibility and speed.
Equipped with relief valves for flow and pressure, it guarantees greater reliability, durability, and positioning precision.
The attachment plate **|10|** is compatible with that of Indeco hammers of the same weight.
The 3rd-member mounting bracket **|11|** lets you mount the IRC on the carrier stick (bucket-mounted) of the excavator.
The 2nd-member mounting bracket **|12|** lets you mount the IRC directly onto the excavator boom. In this configuration, large equipment can be mounted even on a low weight machine.
The universal attachment plate for 2nd-member mounting brackets **|13|** is compatible with all excavators.

2nd and 3rd member configuration



Technical Data	IRC 30
Type of carrier	5
Min. excavator weight in 2nd member (boom-mounted) configuration	20 ton
Min. excavator weight in 3rd member (bucket-mounted) configuration	30 ton
Attachment operating weight 2nd member	4300 Kg
Attachment operating weight 3rd member	4200 Kg
Maximum working pressure	350 bar
Oil delivery	250 ÷ 400 l/min
Maximum rotation oil flow	30 l/min
Maximum rotation pressure	110 bar
Maximum clamping force at tip	550 ton
Clamping force class	1000 ton
Length	2650 mm
Jaw width	740 mm
Jaw opening	220 mm
Max jaw depth	230 mm
Closure time	3 ÷ 5 s
Opening time	2 ÷ 3 s
Rail (<300HB)	75 Kg/m
Compatibility of attachment plate with breaker	HP 5000

Carrier key

Compact excavator | Miniloader | Backhoe loader | Wheeled excavator | Tracked excavator

IRC 3rd member

Accessories

1 | Indeconnect system

New remote monitoring system, based on the principles of the Internet of Things, to prevent equipment obsolescence and keep high performance.

The **'Indeconnect'** system consists of a **device** equipped with 4G technology for a wireless connection to the network, to be mounted on the equipment, and a cloud-based **web platform** you can access from mobile devices (with an app) or from PC, that lets you view the data transmitted in real time by each installed device: working hours, working position in space, hydraulic oil temperature, ambient temperature, GPS position, and more.

Through Indeconnect you can:

- **Monitor productivity**, making sure each Indeco tool is working as intended
- **Check operations**, verifying in real time the various internal and external parameters of the equipment to make sure that it is used in optimal conditions and correctly
- **Increase security,** by remotely checking the position of the equipment through GPS
- **Plan maintenance**, monitoring the health of each Indeco tool in real time, also through the automatic alert and messaging system that lets you order spare parts and reduce machine downtime to a minimum
- **Optimise rental,** by supervising and monitoring the management of rented equipment.

2 | Connecting hoses

We recommend using original Indeco high- and low-pressure hoses to connect various tools to the hydraulic system on the carrier.

1 |

2 |

3 |

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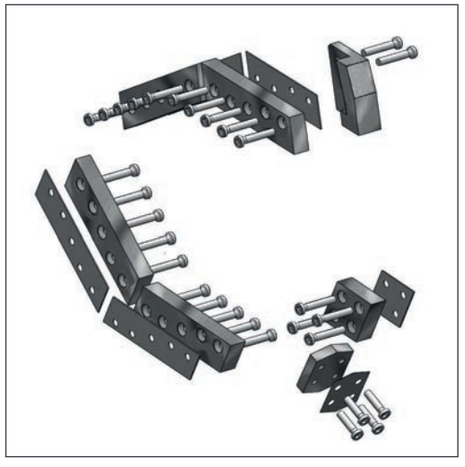
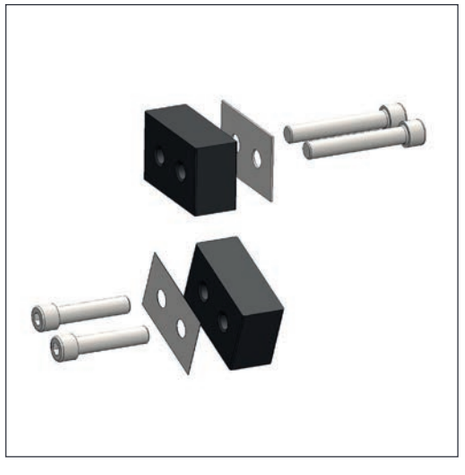


6 |



3 | Special 2nd member universal mounting bracket

Indeco have designed our second-member mounting system to be flexible, extremely strong and long-lasting, and it can be used on a variety of different carriers. Digital machined-true surfaces ensure perfect alignment of the rotating components, and all service items are easily accessed via the four access panels.

4 | Mounting bracket for 3rd member configuration

Indeco have designed our 3rd member mounting brackets to give the operator the best flexibility in terms of range of reach and positioning. And they're designed identical to OEM bucket dimensions with pre-installed pins; allowing for quick change as needed and the use of quick-coupler systems if desired.

5 | ISS blades

Made with special heat-treated steels, using an exclusive Indeco technology which optimizes their performance and durability.

6 | IRC blades

Specially designed and heat-treated to cut rails of any size. Interchangeable and reversible, they can be used on all four sides.

Application areas

			ISS			IRC	
			F	II	III	II	III
Demolition & renovation	**Light Demolition**	• Demolition of masonry structures					
		• Brickwork					
		• Natural stone					
		• Renovation of interiors					
		• Autoclaved aerated concrete					
	Demolition of non-reinforced concrete structures	• Primary demolition of lightweight and standard concrete					
		• Primary demolition of heavyweight concrete					
		• Wall elements					
		• Secondary demolition					
	Composite steel & concrete structure demolition	• Primary demolition of lightweight and standard reinforced concrete					
		• Primary demolition of heavyweight steel - reinforced concrete					
		• Secondary demolition floors, slabs and beams					
		• Separating rebars from pillars and struts					
		• Fiber-reinforced concrete					
		• Cutting rebars and steel reinforcements					
	Demolition of metallic buildings and structures	• Demolition of refineries		○	○		
		• Cutting of metal and steel structures		○	○		
		• Cutting steel girders/beams	○	○	○		
		• Cutting reinforcements		○	○		
	Sorting and Loading	• Sorting					
		• Loading					
		• Waste handling					
		• Site clean-up					
	Pavement demolition	• Asphalt					
		• Concrete					
		• Composite surfaces					
Recycling	**Processing**	• Scrap material processing	○	○	○		
		• Cutting tyres	○	○	○		
		• Processing rail cars	○	○	○		
		• Processing cars, trucks and general automotive	○	○	○		
		• Cutting tanks	○	○	○		
		• Cutting of railway tracks, tramway rails, and underground rails				○	○
	Handling and sorting	• Scrap material handling		○	○		
		• Scrap material sorting		○	○		
		• Urban waste					
		• Industrial waste					
		• Wood and tyres					
	Downsizing and sorting	• Material downsizing and sorting in recycling quarries					
	Recycling of ferrous material	• Recycling of ferrous material	○	○	○	○	○
	Car dismantling	• Material handling and sorting					

F| Fixed configuration II| Second-member configuration III| Third-member configuration

The complete range of Indeco products

Products	Weight/Length
HP Hydraulic hammers	from 59 to 11050 Kg
IFP fixed pulverisers	from 750 to 4550 Kg
IRP rotating pulverisers	from 570 to 4500 Kg
IDC Primary Demolition Crusher	from 900 to 7200 Kg
IMP Multiprocessor	from 1500 to 4900 Kg
IMP Mutiprocessor Car Dismantler	1500 Kg
IHC fixed compactors	from 200 to 1280 Kg
IHC R rotating compactors	from 425 to 1520 Kg
IMG S-D-H-L-T Multi Grabs	from 285 to 2990 Kg
ISS Shears	from 480 to 11000 Kg
IRC rail cutters	from 4200 to 4300 Kg
IMH Mulching Heads	from 385 to 1930 Kg
IBS boom systems	from 3,3 to 14,3 m*

*Lengths can be customised on the basis of the customer's needs.

EN

Quality Management
System Certification
UNI EN ISO 9001:2015

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