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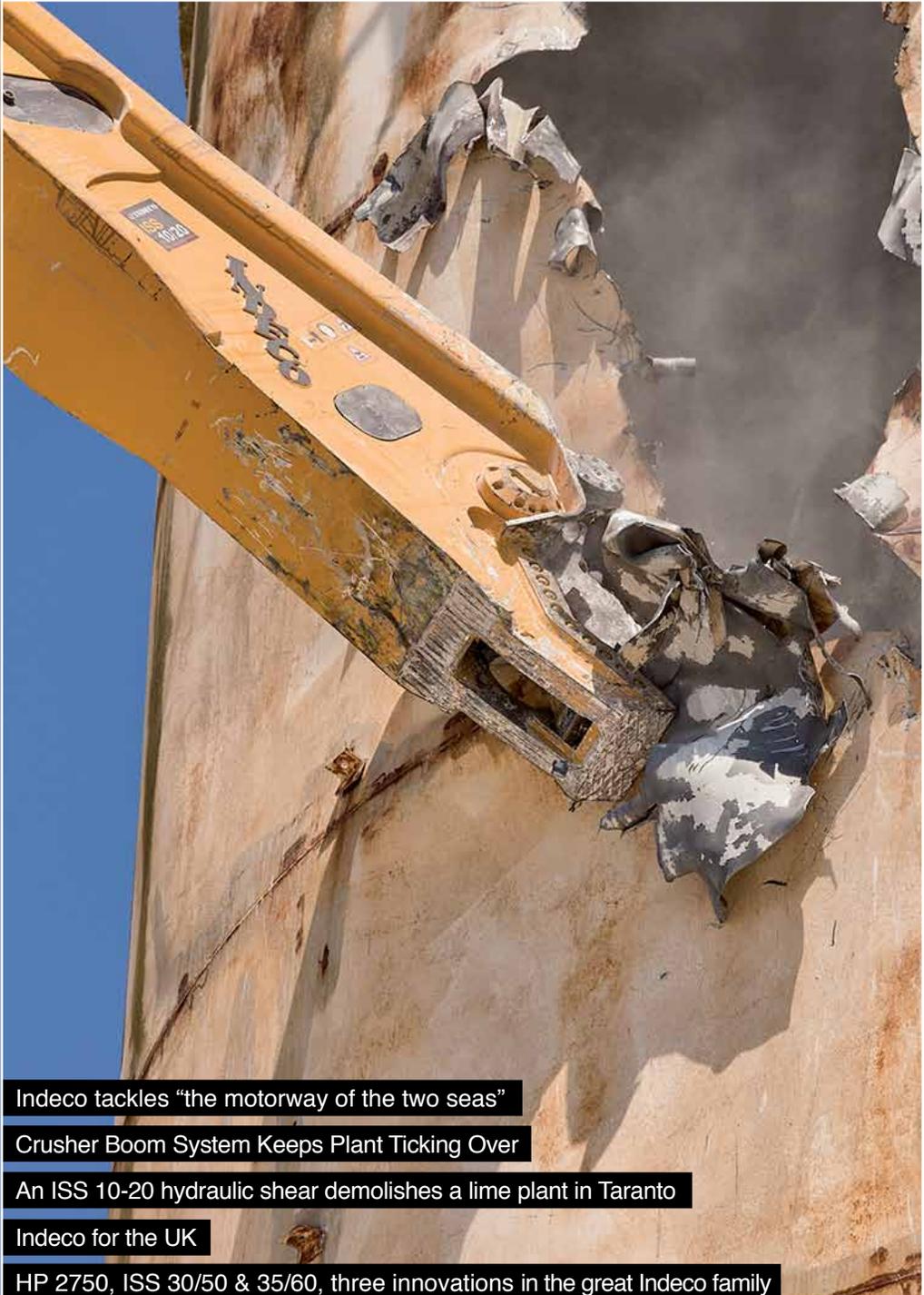
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n.11/2014



Indeco tackles “the motorway of the two seas”

Crusher Boom System Keeps Plant Ticking Over

An ISS 10-20 hydraulic shear demolishes a lime plant in Taranto

Indeco for the UK

HP 2750, ISS 30/50 & 35/60, three innovations in the great Indeco family



editorial

From Italy with love

FRONT COVER
An ISS 10-20 hydraulic shear demolishes a lime plant in Taranto, photo by ART Snc di Antonio e Roberto Tartaglione

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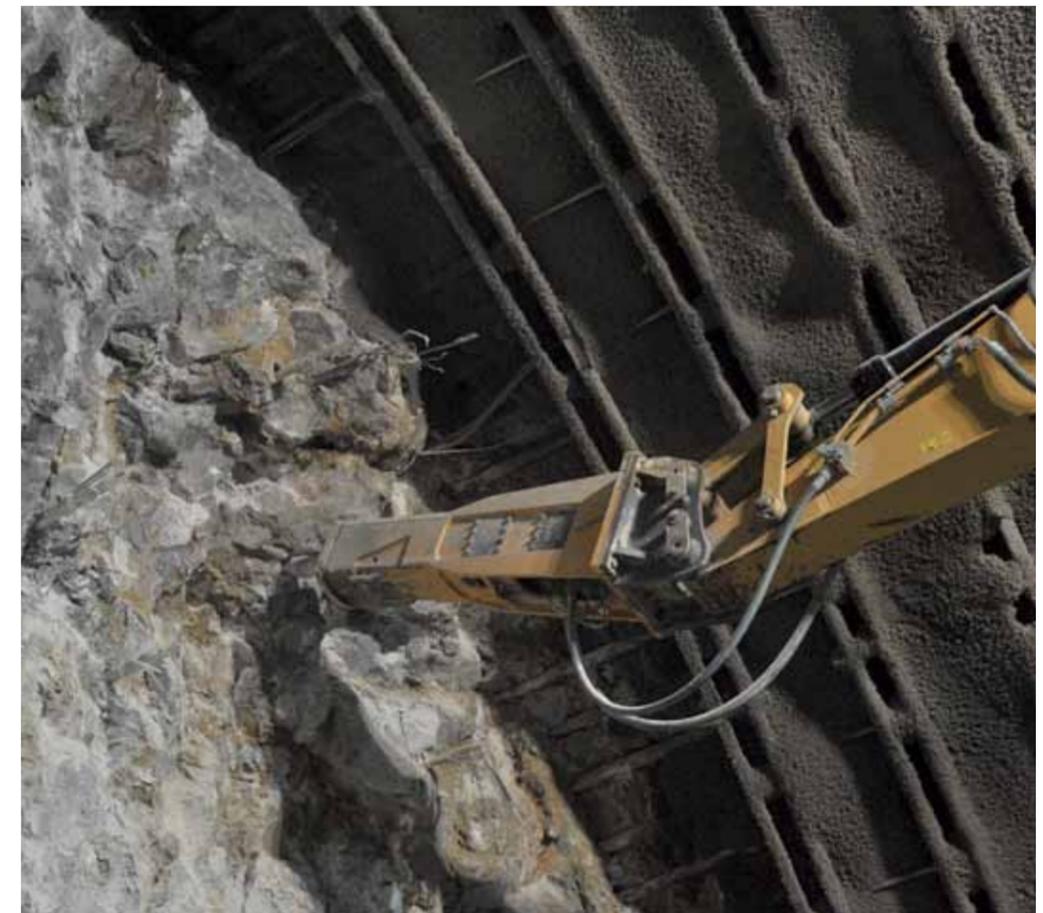
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case history

Indeco tackles "the motorway of the two seas"



An HP 7000 successfully performed the excavation of a short tunnel on the SGC E 78, a main route linking the opposite coasts of Italy. The job presented geological challenges that highlighted the advantages of Indeco technology.

The hydraulic breaker has now established itself as an excavation method that assures good productivity when the rock is characterized by fracturing and limited hardness (usually under 50 Mpa),

making explosives an option failing to guarantee satisfactory output, or that could even trigger problems related to face instability. ▶

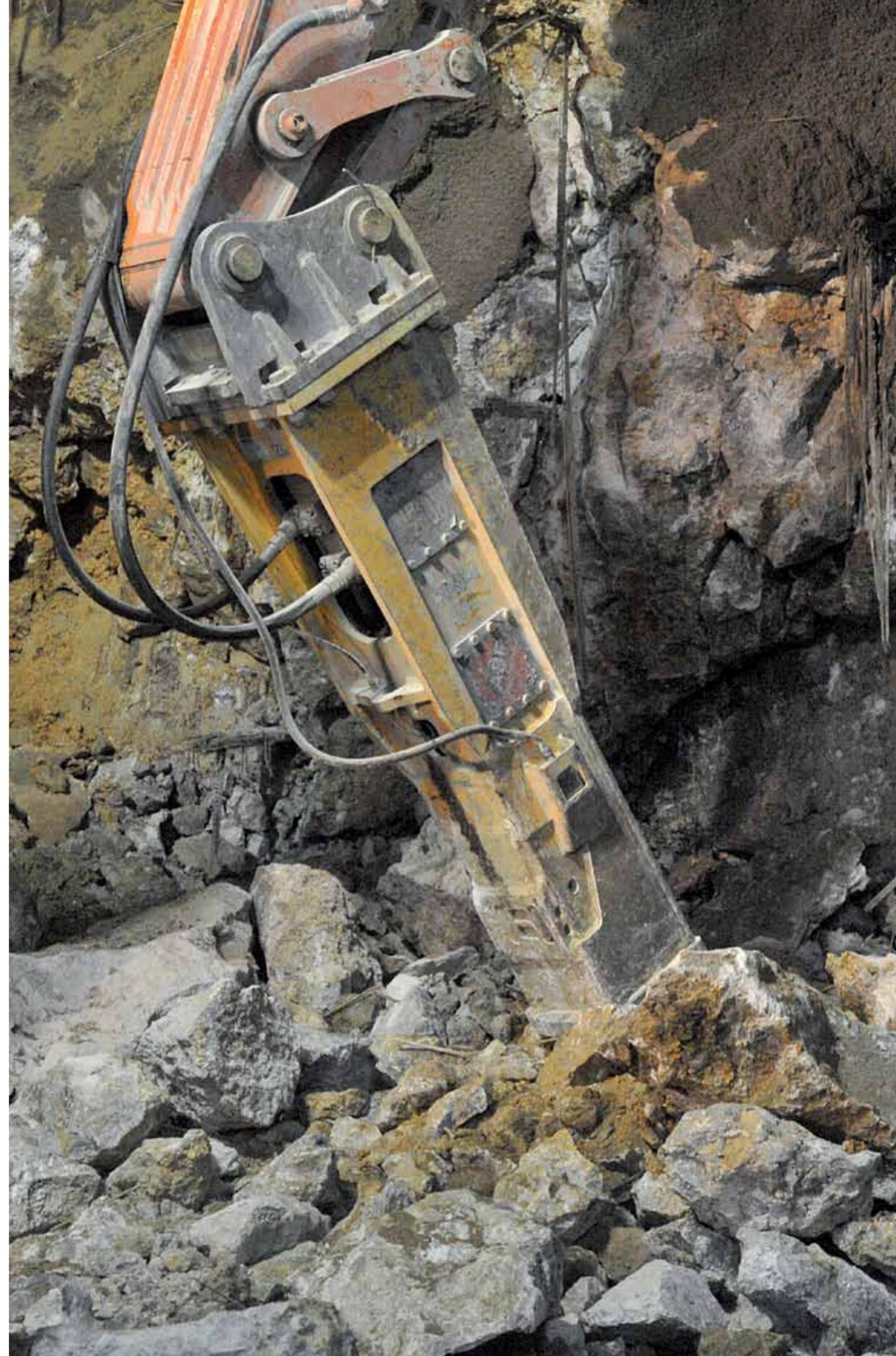
case history



The Greppoli tunnel

Last March, works were completed to excavate the Greppoli tunnel between Grosseto and Siena in the stretch located in correspondence with the town of Paganico on the SGC E 78, otherwise known as “the motorway of the two seas”. This major road connecting the Tyrrhenian Sea and the Adriatic Sea is a Category A motorway. By undergoing an upgrade on an existing section and the seeing the construction of a new one, when completed the road will link Grosseto and Fano on a southwest/northeast axis. The 100-metre long tunnel is one of the many works included in the macro-lot Civitella Paganico (Grosseto)-Monticiano (Siena). Due to its geological characteristics, the short distance end-to-end of the works, and the fact that in that particular section the existing road to be

upgraded ran nearly parallel to the new tunnel, precluded the use of explosives in favour of excavation by hydraulic breaker. Selected to perform the works was an Indeco HP 7000 breaker, and in a few short segments an HP 5000, both operated by Strabag, a participating contractor in the consortium Nuova F.A.R.M.A. Scarl assigned to perform all works of the new section. Also included is another larger tunnel still in the course of completion, it too excavated with Indeco breakers. ▶





Geological profile

Data obtained from various geognostic surveys indicated that the rock mass through which the tunnel cuts was primarily characterized by cavernous limestone with medium-poor mechanical characteristics attributable to the RMR III-IV ratings with short-term face stability but tunnel stability. However, during the stages of excavation there was determined to be a heterogeneous development of the rock from the south entrance where the tunnel face was opened. This featured limestone and compact microcrystalline dolomitic limestone, homogeneous, and resistant to being excavated. The compression strength, evaluated via sclerometer tests (Schmidt type L breaker) in that section was variable between JCS=39÷44 Mpa. Advancing with the excavation from the south entrance and working north, the

rock mass immediately underwent a progressive deterioration in quality and demonstrated an ample presence of more altered portions of the formation, composed of breached limestone including dolomitic clasts with variable granulometry generally coarse-grained with calcareous cementation, from altered to very altered, slightly fractured, and relatively resistant to excavation. The compression strength of this section, evaluated via sclerometer tests (Schmidt type L breaker) was instead variable between JCS=28÷33 Mpa. The discontinuity and significant fracturing of the rock mass prompted engineers to perform short-term consolidation of the face stability using injected fibreglass tubes and sub-horizontal insertions. The consolidation of the face had an impact on project completion time, but was necessary in order to guarantee medium-term stability, which was put at risk due to the characteristics of the rock mass. ▶

The excavation

As pointed out earlier, the tunnel measured 100 meters and according to the section, had an excavation face with a surface that varied between 136 and 143 square meters (two carriageways plus emergency lane). Initially, due to the hardness and compactness of the rock characterized by limestone and compact microcrystalline dolomitic limestone, excavation output was low and chisel wear was higher-than-average. However,

by using “Cobra” chisels and then, once reaching the more fractured material, output stabilized at an average excavation rate of approximately 14 cubic meters per hour corresponding to an average advance rate of two linear meters per day, considering the time required for the pre-shotcrete of the face and for the temporary lining (shotcrete, rib assembly and installation). Again using the breaker, the ribbing was created. Works commenced in early November and were completed in early March. ■



Indeco shears - helping recycle for a cleaner environment



mosquitoes, and posing a health and fire hazard. Theoretically, it's possible to recover the raw materials from tyres, but previously there has been little disposal by this method due to the high cost. Two companies trying to change this trend in Australia are the Delta Group and Sims Tyrecycle.

To help in their recycling process, Sims Tyrecycle is now using an Indeco ISS 10/20 Shear supplied to them through the Delta Group. Helping to speed up their operation and increase productivity, the Indeco ISS Steel Shear has been noted for its extreme durability and technical innovations, now seen as a vital tool working in the Sims recycling business. With a regeneration valve giving a cycle time 25% faster than competition, use of quality materials and HARDOX steel, oversize cylinders designed to withstand over 10,000 psi of pressure and an integrated Dual Guide Pack System of the jaws, the feasibility of recycling tyres is becoming more achievable.

Delta Group began trading as Delta ▶

Industrial ecology is developing as a powerful influence in Australia, helping promote sustainability and resource efficiency through recycling and the reuse of waste materials. Salvage and recycling of some materials is fast becoming standard industry practice with companies striving for innovative products and practices.

It is estimated that around 52.5 million passenger tyres reach the end of their life each year in Australia. Of this, only 13% are currently being recycled, with 57% of all tyres going to landfill which is by far the worst option environmentally. Without sunlight a tyre takes up to 30,000 years to degrade, taking up valuable space, providing havens for vermin and



Demolition in 1974, and has long established itself as an industry leader specialising in small, large and delicate demolition projects. The Group has since expanded to incorporate civil works, excavation, landscaping, asbestos removal, heavy equipment hire, as well as innovative recycling and waste management programs- including a world-leading joint venture with Boral in concrete recycling.

Delta now has recycling plants in Victoria and New South Wales, forming many successful partnerships with construction companies, government departments, municipal councils, developers, and other business partners. With a very strong family-oriented culture, Delta has approximately 650 employees Australia-wide - many of whom have been with the business for more than 20 or 25 years. Sims Tyrecycle started in 1992 as a waste tyre division of a major tyre manufacturer but soon expanded into a national tyre recycler for all types of tyres. They're continually discovering and searching for new applications for scrap

tyres in a quest to decrease the number of tyres entering waste streams and landfill. Their aim is to eventually collect and process over 50% of waste tyres generated in Australia.

After collecting scrap and imperfect tyres from manufacturers, retailers, local councils and other sources, some of the rubber material is turned into high quality crumb, and steel is recycled through the same process. The rubber crumb is widely used in tyre manufacturing, road repairs, soft fall surfacing for playgrounds, horse arenas, brake pads, tile adhesives, insulation purposes and sporting surfaces. The remaining tyres are used mainly for civil engineering projects, fuel for energy recovery systems and drainage aggregates. ■



**around
the world**
australia

Crusher Boom System Keeps Plant Ticking Over

When Quarry and Mining Equipment (QME) needed a Crusher Boom System designed to suit Matthews Quarries' specific needs, they turned to Indeco. QME has been established since 1986 and, from its base in Kangaroo Flat in Bendigo, Victoria, has been supplying a diverse range of equipment to the quarry and mining industries throughout Australia and the world. Matthews Quarries has grown from its inception in the early 1980's to be one of the largest quarries east of Melbourne. Doug Bugar, the Manager of Matthews Quarries' Tyers operation, has nothing but praise for the Indeco Crusher Boom System. Previously, the site had an overhead crane with a hook to remove the boulders that breached the crusher. "The whole process was extremely time consuming and labour intensive" Bugar commented.

"When a breach occurred, everything had to be shut down, the overhead crane brought into place and the workers had to get harnessed to wrestle the boulder from its precarious position."

"This whole process was reversed when the breach was finally removed, taking up valuable production time. The Indeco Crusher Boom System can, in minutes, achieve with a higher level of safety, what has previously taken us hours."

Bugar was also impressed with the professionalism of the Indeco technicians who commissioned the Crusher Boom System on-site.

"They were able to answer all my questions and provided excellent training and advice on the use of the unit.

It even came with a spare chisel!" Indeco's Crusher Boom Systems are designed ▶



**around
the world
australia**



to keep plant running at maximum productivity. Mounted over the mouth of the crusher, a heavy duty Indeco Boom System puts an end to downtime associated with oversized materials. Indeco's hydraulic arms are heavy duty and built to last for years in even the most difficult of conditions. Each unit is custom designed for the crushing plant, giving the flexibility to ensure an operator's investment provides the maximum return. Another innovative design of the Indeco Crusher Boom System is that it can be operated either from the mounting point of the arm or by the mobile radio control, giving an unrestricted view of the crusher jaw.

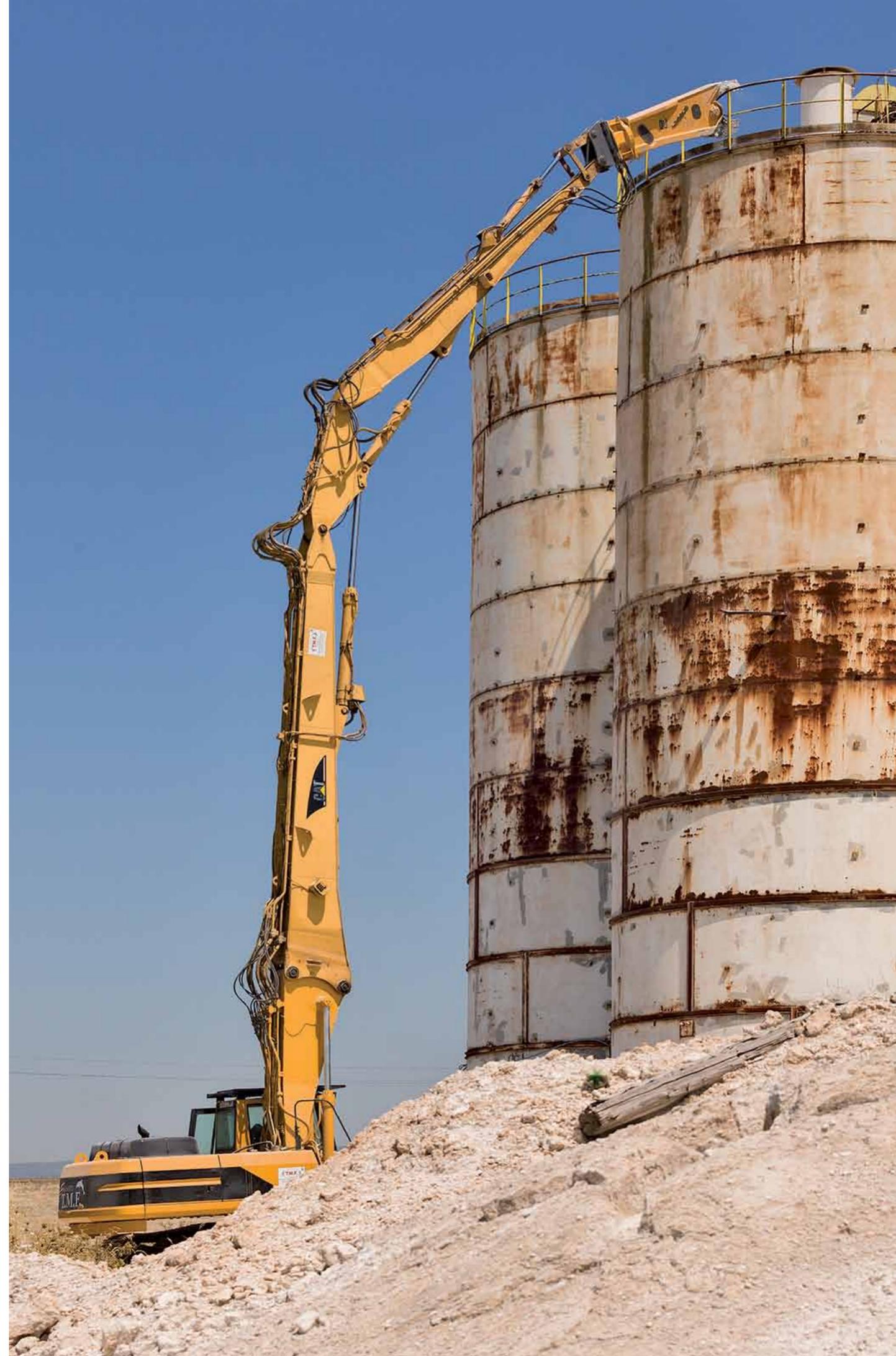
This allows the operator to attend to the blockage from any access point or via cameras viewed from the remote operating cabin. As well as eliminating conventional, hazardous methods of manually unblocking feeders and removing oversized stone from primary crushers, the Indeco system also significantly increases productivity and production. Indeco has been a leading global designer and manufacturer of hydraulic attachments used in the construction, demolition and aggregate industries for more than 35 years. It boasts a comprehensive range of Crusher Boom Systems, rock breakers, steel shears, demolition grabs, pulverisers and compaction plates. ■

**around
the world
italy**

An ISS 10-20 hydraulic shear demolishes a lime plant in Taranto

As it gets to grips with the demolition of an outdated lime production plant near the Southern Italian port of Taranto, an Indeco ISS 10-20 shear shows off all its manoeuvrability. The lime plant is owned by the local company Ital Appalti srl, and was operative here for many decades until the owners decided to open a more modern facility, giving the Taranto firm TMF srl the task of

decommissioning and reclaiming the area. No less than eight storage silos - two of which are 20 metres tall with a 7 metre diameter while the other six measure 15 metres in height with a diameter of 4 metres - will be reduced to smithereens by the smallest Indeco shear mounted on a 21 metre long excavator boom attached to a CAT 330BL. The ISS 10-20 was specifically designed ▶



**around
the world**
italy

and built for extremely delicate jobs at great heights, which require special equipment with an ideal ratio between

power, weight and size, as well as a considerable amount of skill and experience on the part of the operator. ■



**around
the world**
USA

**An ISS 20/30 shear at
work in the heart of
Manhattan**

At Pike Place Manhattan, New York City, beneath the Manhattan Bridge, the ISS 20/30 hydraulic shear is being used on a tough demolition job - knocking down the old 50,000 sq. ft. Pathmark Shopping Centre, to make way for a 70-storey apartment block. This photo shows Toby Romano Jr., president of Breeze Demolition, one of the top demolition specialists in New York. With thanks to Gerry Alessi, Indeco dealer in New York for the report. ■



**focus
UK**

Indeco for the UK

Founded some 30 years ago Indeco UK has firmly established their breaker and attachment market right across the UK with a national specialist dealer network.

With a growing UK economy and construction on the up, Indeco UK's Managing Director John Jackson says that.

"In the UK we have had a particularly good start to 2014 with a very positive attitude on investing in plant. We have seen a growing interest in pulverizers and we are looking to improve market share for specialist attachments including rotary shears and sorting grabs".

Vital to Indeco success in the UK is the dealer network. Built up over the years, they specialise in hydraulic attachments for rental, sales and repairs service and

provide a high level of service for: parts stocking, service engineers, technicians and product expertise and advice.

As the UK machine market has developed so has the Indeco range to fit, with an attachment range suited to more and more varieties of excavators and tool carriers. The Indeco dealerships have developed their expertise with a mixture of rental, sales, service and repair dealerships and become experts in many more industrial sectors including quarrying, demolition, urban regeneration and the wide spectrum of recycling industries.



From left to right: Mark Gee, Product Support Indeco UK; John Jackson, CEO of Indeco UK

Indeco's Dealer network is key to UK success - with national coverage and specialist advice.

RENTAL/HIRE STRENGTH - the UK has Europe's largest rental/hire industry, with by far the majority of construction plant and equipment purchased for rental fleets. Today there are many specialist breaker rental/hire companies meeting the growing demand for bespoke attachments. Indeco UK have many of the best specialists. ▶

focus
UK

MH Equipment, based in Kent has been an Indeco dealer since the start and offers specialist breaker rental services working on major projects in the busy South East.
“As both rental and sales we work closely with customers to recommend and supply the breaker that is fit for purpose. With an extensive fleet we can advise the smallest breaker necessary for the job, according to the material and

required production, so saving on fuel and cost”.
 At a national level, One Call one of the UK’s largest hire firms has the largest Indeco fleet with more than 150 breakers in the fleet. At a regional level Eagle Hire, with more than 22 hire outlets has a focus on small plant hire mainly in the Midlands and the South West of England with a product range up to 10 tonne. ▶



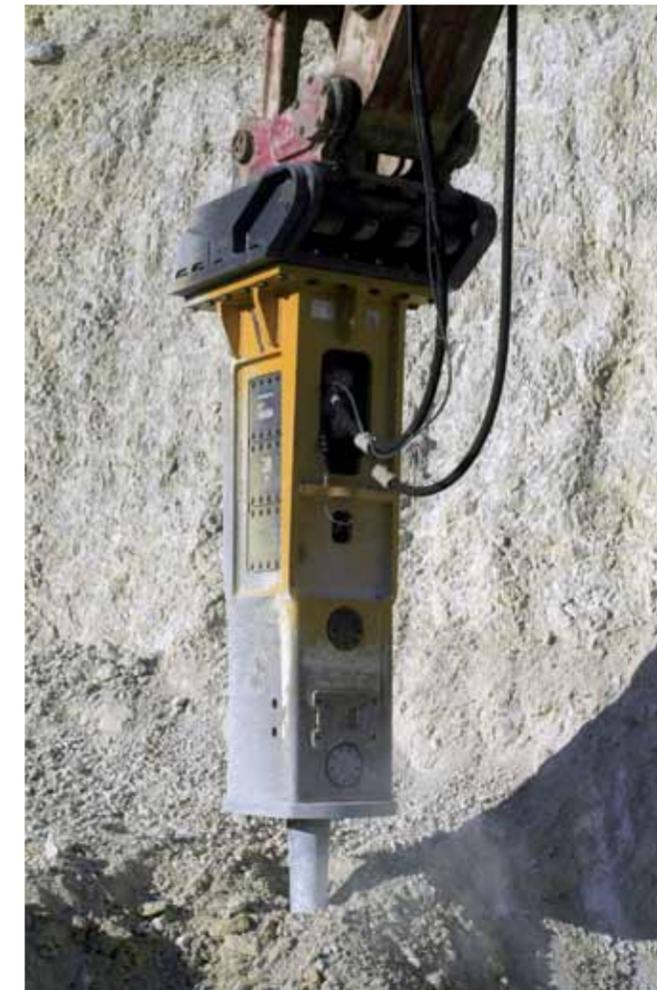
focus
UK



As specialist rental/hire firms the Indeco range has been designed for the rigours of rental - with high utilisation, durability is essential.

With increasing demand for hydraulic specialists many dealers opt to offer both hire and sales. East Midland based Indeco Dealer and excavator attachments hire specialist Derek Fitzgerald Plant Ltd has been one of Indeco’s busiest dealers since 1991. With a broad range of attachments Fitzgerald Plant purchased the first Indeco Steel Shear in the UK, complementing their extensive rental fleet of Indeco attachments. The hire division has become more and more significant with a large fleet supporting specialist industries including demolition, quarrying, recycling and civil engineering. Across the UK Indeco machinery dealers who also have breaker hire include: Caradon of Cornwall, Gordon Bow Plant Hire of Scotland, and KDM Hire in Northern Ireland. The specialism often called for has seen a number of dealers who operate as Attachment Hire Specialists including Genesis of Yorkshire, SGS Equipment Hampshire, and Spartan Plant of South Wales who have been a dealer since 1986.
“With Indeco machines you get a reliable durable product, built for the demands of high utilisation, rental can often be an economical alternative”.

Global Construction Plant based in the Home Counties is a specialist in breaker sales.
“Many customers are focusing greatly on their costs per tonne of production. Indeco breakers focus on increased productivity and payback, reducing total cost of ownership of breaking equipment - reduced operating manpower, breaker efficiency and reduced fuel consumption. The quarrying industry in the UK is particularly keen on whole life costs”. ▶





A breakers working life is critical, and Indeco quality stands out.

Service, support & back-up is the most critical area the UK dealer network offers. Indeco breakers are often working on critical applications where breakdown is not an option. All Indeco dealers offer specialist hydraulics engineers and next day parts back up, supported by Indeco UK's parts warehouse.

An Indeco dealer since 2000, Newcat Plant Service specialize in hydraulics repair and highlights the reliability of Indeco's range.

"For customers making an investment in tools, durability is vital, and Indeco succeeds in good in-built protection and good parts availability.

Features include vibration dampening, extending service periods and operator comfort".

The brand enjoys a reputation for reliability, durability, excellent parts support and technical backup.

INDECO FOR EVERY WEIGHT CLASS
Another reason for UK popularity has been the range; Indeco has one of the biggest ranges with 22 breaker choices with many variants.

"There is something for every weight class with plenty of variants for different applications in each size, so customers have less risk and are more likely to fit the right sized breaker for the application".



**focus
UK**

The UK has one of the largest mini excavator markets worldwide from 1- 6 tonne, and we have seen a growing demand for the lighter range of breakers.

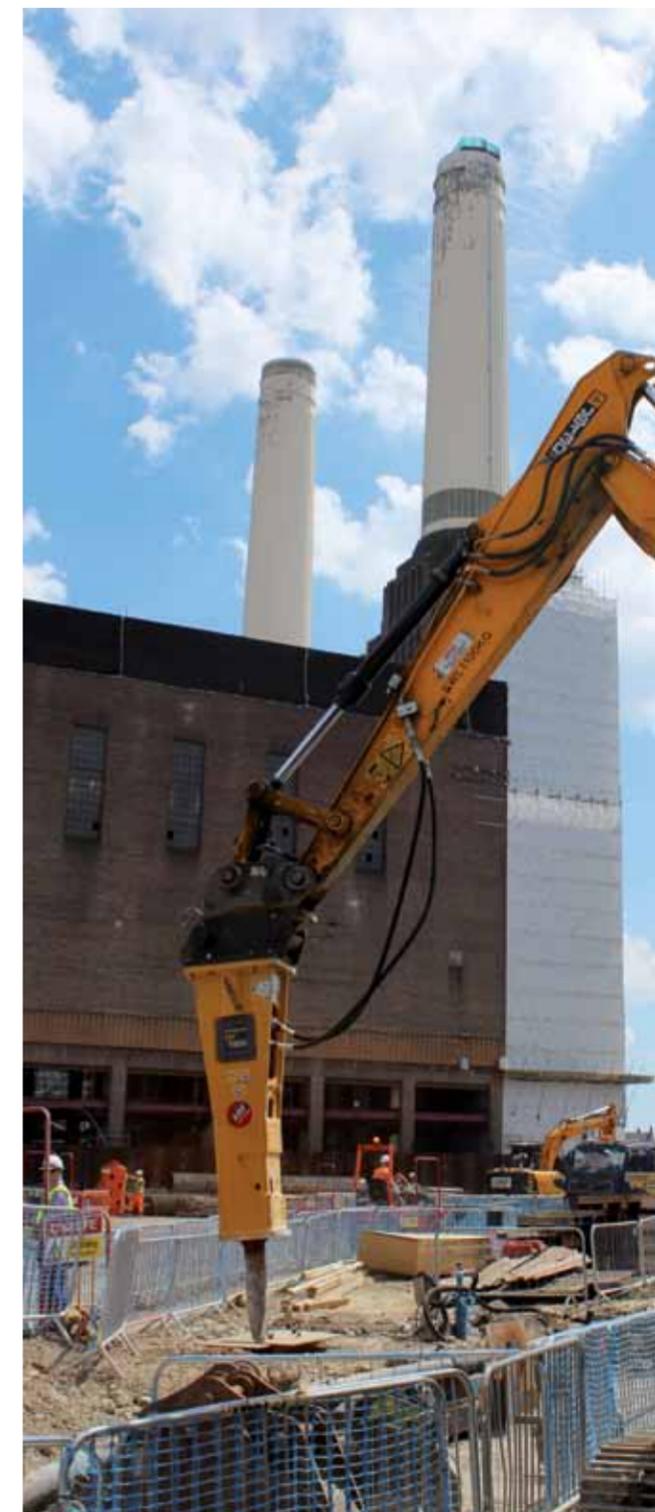
Hire and sales specialist MTK are Manchester's specialist dealers and really get to know how to maximize performance and offer good support and advice. Site visits are often essential to make sure the right machine for the right application.

"The Utilities sector is a key growth area in the UK and the HP150 has become the product of choice for utilities with a small mini excavator, high performance for regular repeat customers is essential. Indeco are considered a high quality breaker in the UK, and a lot of our business is repeat business, Indeco breakers haven't let us down.

Our customers get the fit - the right size of breaker for the excavator flows and the particular task. Sometimes it is all about the power, sometimes it's all about the terrain and material to breakout, sometimes it's to do with access and sometimes just a light breaker is all that's required."

WIDER APPLICATIONS

Another growing factor has been additions to the range, with a range ▶





of attachments including: breakers, compaction plates, pulverisers, shears, sorting grabs and boom assemblies. In the UK with limitations of health and safety especially in urban areas, dust control and noise limitations has seen growing demand for more silent demolition, quieter machines than breakers – pulverisers and rotary shears are often now the product of choice in built-up urban towns and cities. Recent extensions to the range mean there is something for small scale as well as large scale projects, to meet a variety of industrial sectors quarrying, demolition, foundries, and urban regeneration.

Lighter breakers have been developed for smaller sizes of excavator carriers, less fuel and capital investment but with equal productivity. Indeco's product range, means there's an Indeco to fit just about every tool carrier from a micro to 120 tonne excavator.

Indeco has developed its range of breakers for the UK quarrying sector in response to demands for more productivity and cost efficiency, especially for the secondary breaking in UK quarries. Whereas, across mainland Europe Indeco is best known for primary breaking with the larger breaker machines. ■



HP 2750, ISS 30/50 & 35/60, three innovations in the great Indeco family

The latest addition to the range of Indeco hydraulic breakers has been christened the HP 2750. Powerful and flexible, designed and built to target emerging markets, the HP 2750 fits into the gap in the midi range between the HP 2500 and the HP 3000 and can be used on 19-24 ton excavators. Weighing 1690 kg and with a tool diameter of 135 mm, this is the ideal solution for a mid-size tracked excavator (21-22 tons). Indeed, its perfect power-to-weight ratio is one of its main strengths, together with the design and robustness of its casing which protect it even from extreme working stress. This feature means that it can even be used by inexperienced operators and still produce excellent results in terms of efficiency and productivity. More good news from

the Indeco works, with the birth of the latest hydraulic shears: the ISS 30/50 and ISS 35/60, essential tools for all jobs in the scrapmetal and recycling sectors. Designed to maximise capacity and cutting force, the new shears have an exclusive dual-profile piercing tip system, four reversible and interchangeable cutter blades made of special steel, with a dual blade-guide system, a deep jaw and an excellent cutting register adjustment system. The ISS 30/50 complements the existing range of shears, coming immediately after the ISS 25/40. This enables Indeco to provide its customers with a large, high-performance attachment to use on 30 ton excavators as a second member and on 50 ton carriers if fitted as a third member. The ▶

| Technical Data | HP 2750 ABF |
|------------------------------------|-----------------|
| Excavator weight (possible) | 16 ÷ 28 tons |
| Weight of breaker when operated | 1690 kg |
| Steel diameter | 135 mm |
| Pressure adjusted to the excavator | 190 bars |
| Back pressure max | 7 bars |
| Energy class per blow | 3650 joule |
| Striking rate per minute | 400 ÷ 870 n/min |



news

ISS 35/60 is an update to the previous model, the ISS 30/60, which it is going to replace in the ISS product range. The ISS 35/60 applies the latest Indeco jaw geometry and, being more powerful, with a wider max jaw opening and a bit heavier than its predecessor, is the best combination for 35 ton excavators as a second member and for 60 ton carriers fitted as a simple attachment. Just like all

of the other Indeco shears, the ISS 30/50 and ISS 35/60 also come with a variety of great features, such as a special regeneration valve which speeds up no-load movement of the jaw, a pivot group which prevents the jaws from buckling and a large, powerful hydraulic cylinder with long-lasting seals that can withstand up to 700 bars of pressure. ■



| Technical Data | ISS 30/50 | ISS 35/60 |
|---|-----------------|-----------------|
| Excavator weight 2 [^] member | 30 tons | 35 tons |
| Excavator weight 3 [^] member | 50 tons | 60 tons |
| Steel shear weight (excluding mounting bracket) | 5400 kg | 6950 kg |
| Maximum working pressure | 400 bars | 400 bars |
| Maximum oil delivery | 240 ÷ 400 l/min | 300 ÷ 550 l/min |
| Maximum clamping force at tip | 170 tons | 210 tons |
| Clamping force class | 1300 tons | 1400 tons |
| Length | 4040 mm | 4238 mm |
| Jaw width | 680 mm | 730 mm |
| Jaw opening | 810 mm | 890 mm |
| Shear length | 910 mm | 920 mm |
| Closure time (no-load) | 3,5 ÷ 5 sec | 3,5 ÷ 5 sec |
| Opening time (no-load) | 3,6 ÷ 5 sec | 3,6 ÷ 5 sec |

trade fairs



Matexpo 2013 (Kortrijk - Belgium).



Plantworx 2013 (Telford - England).

The next dates for your diary

CTT
Moscow - Russia, June 3-7

HILLHEAD
Buxton - UK, June 24-26

UGOL MINING
Donetsk - Ukraine, September 2-5

ELECTRA MINING
Johannesburg - South Africa,
September 15-19

BAUMA CHINA
Shanghai - China, November 25-28

SIB
Casablanca - Morocco, November 26-30



your photos

An Indeco HP 2500 mounted on a Caterpillar 320L excavator being used to make an underground carpark in St Julians, Malta.

Photo sent by Giuseppe Bonanno from Truck & Machinery, Indeco customer in Malta.