



**Ram  
mer®**

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# **MEDIUM RANGE HAMMERS**

## EVERY HIT COUNTS

The world's best-known and most-respected brand of hydraulic hammers, Rammer offers a comprehensive range of powerful, productive and durable attachments that are suitable for carriers in the 0.6 to 100 tons operating weight class.

The Rammer Medium range is unsurpassed in its innovation and reliability and offers class-leading power-to-weight characteristics that mark them as the best in their class.

Rammer's product selection is supported by a dedicated global dealer network with ready access to Genuine Rammer parts and a wealth of operational knowledge and experience to ensure that your Rammer hammer continues to contribute to your company's profitability for its entire working life.

**SANDVIK IS THE WORLD'S LEADING MANUFACTURER OF HYDRAULIC HAMMERS AND ATTACHMENTS. OVER THE PAST 35 YEARS, SANDVIK-OWNED RAMMER HAMMERS HAVE BEEN DEVELOPED IN CONJUNCTION WITH OUR CUSTOMERS ACROSS THE WORLD. AS A RESULT, THEY ARE TOUGH, DURABLE, RELIABLE AND OFFER THE MOST ECONOMICAL OWNING AND OPERATING COSTS WHILE DELIVERING MAXIMUM PRODUCTION.**



**Rammer®**





**ISO 9001**

**ISO 18001**

**ISO 14001**

**ALL RAMMER HAMMERS COME FULLY  
CE COMPLIANT, SUPPLIED BY  
SANDVIK, LAHTI, FINLAND. THEY ARE  
MANUFACTURED IN ACCORDANCE  
WITH ISO STANDARDS.**

## **SAFETY IS A TOP PRIORITY IN EVERYTHING WE DO**

### **In the factory**

Safety is the primary consideration. Visitors are to consider and improve safety to help us achieve our aim of zero accidents.

### **Products**

Safety is the driving force behind the development of all our products. Our aim is to set the safety standard by making products that are safe to operate and maintain. Rammer operator and service training packages reinforce that message to ensure the safety of your entire workforce.

### **Process**

Rammer products also improve the safety of the working site and its processes. For example when breaking oversize material, it reduces loading and hauling and prevents blockages and bridging during the crushing process.

### **Safety – Your Advantage**

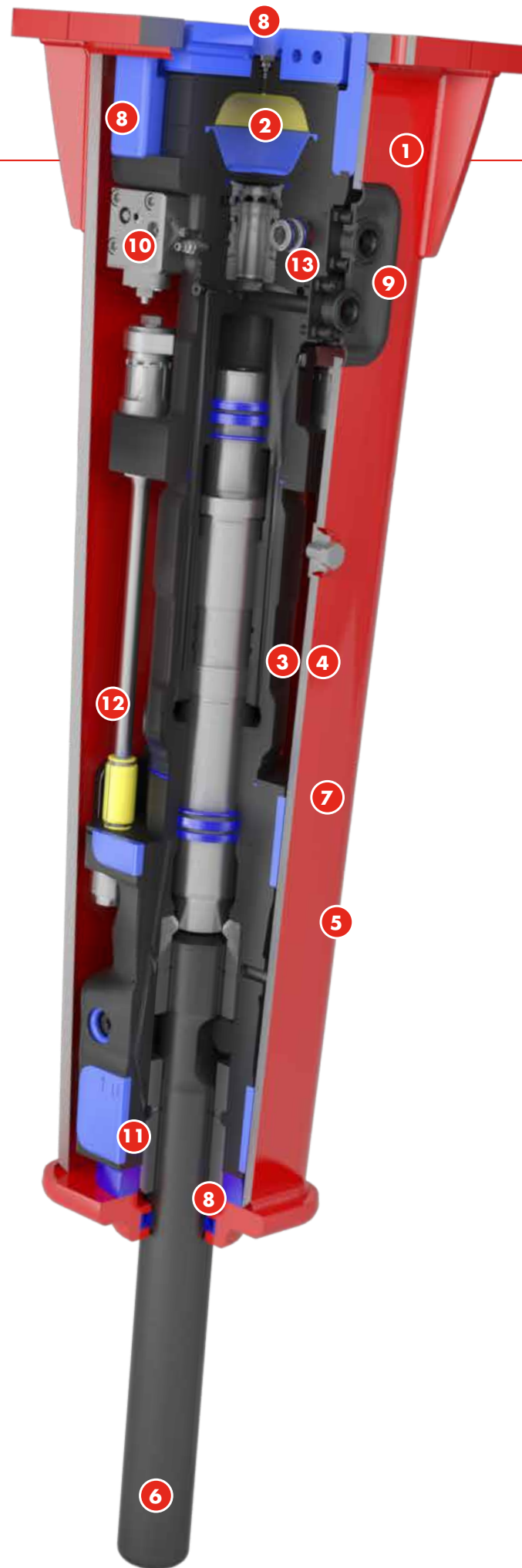
Injuries can impact upon an entire workforce and resulting in lost working days and a loss of production. A safe site is a productive site.

### **Environment**

Rammer products are manufactured utilizing state-of-the-art, ISO standards technology that consumes the minimum electricity, and recycles cutting fluids and metal chips. Furthermore, when Rammer breakers reach the end of their useful working life, more than 90 percent of the metallic components can be recycled.







## Rammer hammers 1533 and 2155

# OUR FEATURES – YOUR BENEFITS

### INCREASE YOUR PRODUCTIVITY

- 1 FBE (Fixed Blow Energy)**  
A built-in pressure control valve maintains hydraulic pressure levels to ensure that every blow delivers the maximum power possible for optimum productivity.
- 2 Membrane type accumulator**  
Membrane type accumulator eliminates nitrogen leakages, ensuring maximum piston acceleration and removing the need for time consuming recharging.
- 3 IBP (Idle Blow Protector)**  
IBP ensures the hammer cannot be operated until pressure is placed on tool. This eliminates tie rod stress, reduces oil overheating and protects against premature failures.
- 4 SBS (Soft Blow Sensor)**  
SBS slows down the breaker and reduces power to minimize blank firing damage, making hammer ideal for secondary breaking. Note: SBS, IBP or normal continuous working are options on all Medium Range hammers.
- 5 Slim and lightweight housing design**  
Rammer 1533 and 2155 hammers have been designed to get into places where other hammers of their size can't, featuring a slim housing made entirely of wear resistant steel and a replaceable bottom plate.

- 6 Wide tool selection**

### PROTECT YOUR WORKING ENVIRONMENT

- 7 Durable housing**  
Fitted as standard, durable housing feature a slim, conical design with, minimum number of holes and plastic wear plates for optimum hammer protection and noise reduction.
- 8 Top and bottom buffers**  
The unique Rammer vibration absorption system consists of three top buffers and bottom buffer – that prevent the transmission of vibration to protect both the breaker and the carrier's boom, stick and swing gears and to isolate the operator.

### MINIMIZE YOUR MAINTENANCE COSTS

- 9 Integrated HD hose assembly**  
HD hose assembly ensures durable mounting of hoses to the hammer and enable easy fitting for hammer hoses.

- 10 Ramlube (Different options)**

Rammer offers three types of automatic tool greasing systems for 1533 and 2155 hammers:

**Ramlube I** - Machine-mounted

**Ramlube II** - Hammer-mounted

**Ramlube III** - Inside housing-mounted

All Ramlube devices provide correct greasing level to protect the tool and tool bushings and reduces owning and operating costs.

- 2 Membrane type accumulator**

Membrane type accumulator eliminates nitrogen leakages, ensuring maximum piston acceleration and removing the need for time consuming recharging.

- 11 TS (Tool Saver) bushing**

Rammer Medium hammers can be equipped as a retrofit with a field replaceable insert that increases service life of tool and tool bushing.

### RELIABLE PARTNER

#### Heavy duty set (image on page 15)

The replaceable heavy duty set is made of wear resistant material to increase housing life time in abrasive applications.

- 12 VIDAT**

Vibration Dampened Tie Rods, spherical tie rod nuts and damper bushings ensure piston moves freely for longer, more productive working life.

- 13 Safety valve**

Safety valve detects overpressure and prevents damage from system overload and protects against premature failure.

- 8 Top and bottom buffers**

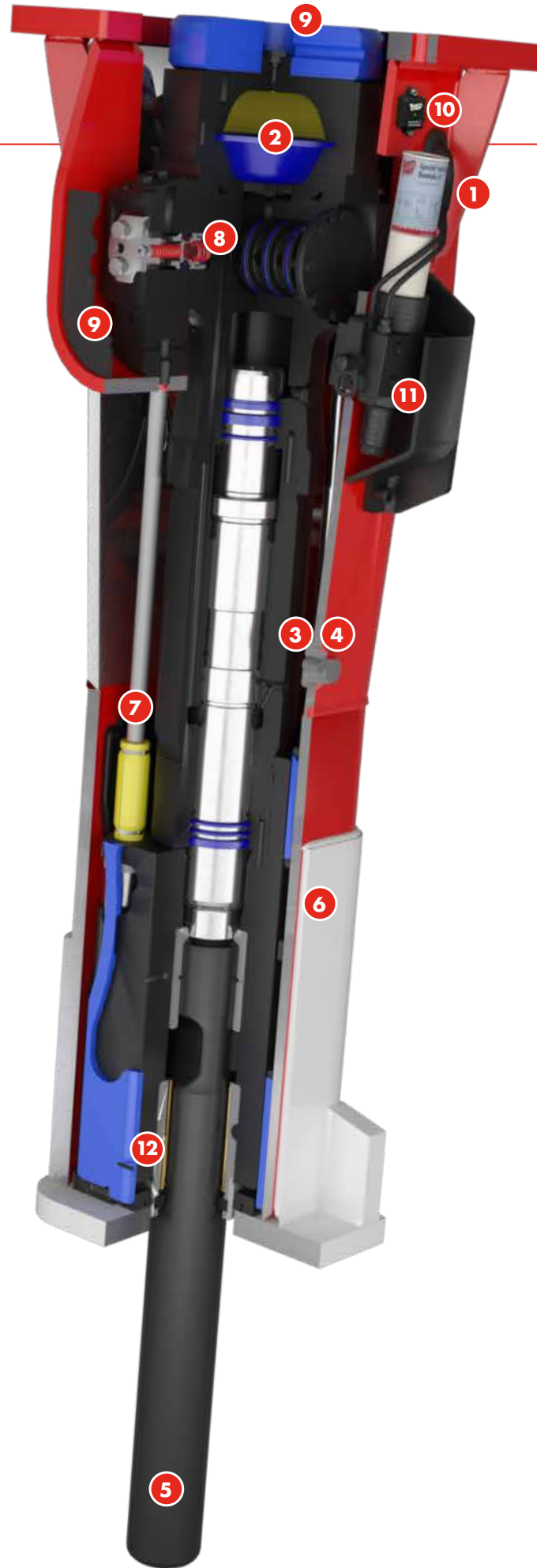
The unique Rammer vibration absorption system consists of three top buffers and bottom buffer – that prevent the transmission of vibration to protect both the breaker and the carrier's boom, stick and swing gears and to isolate the operator.

- 3 IBP (Idle Blow Protector)**

IBP ensures the hammer cannot be operated until pressure is placed on tool. This eliminates tie rod stress, reduces oil overheating and protects against premature failures.

- 4 SBS (Soft Blow Sensor)**

SBS slows down the breaker and reduces power to minimize blank firing damage, making hammer ideal for secondary breaking. Note: SBS, IBP or normal continuous working are options on all Medium Range hammers.



## Rammer hammers 1655, 2166 and 2577

# OUR FEATURES – YOUR BENEFITS

### INCREASE YOUR PRODUCTIVITY

- 1 FBE (Fixed Blow Energy)**  
A built-in pressure control valve maintains hydraulic pressure levels to ensure that every blow delivers the maximum power possible for optimum productivity.
- 2 Membrane type accumulator**  
Membrane type accumulator eliminates nitrogen leakages, ensuring maximum piston acceleration and removing the need for time consuming recharging.
- 3 IBP (Idle Blow Protector)**  
IBP ensures the hammer cannot be operated until pressure is placed on tool. This eliminates tie rod stress, reduces oil overheating and protects against premature failures.
- 4 SBS (Soft Blow Sensor)**  
SBS slows down the breaker and reduces power to minimize blank firing damage, making hammer ideal for secondary breaking. SBS, IBP or normal continuous working are options on all Medium range hammers.
- 5 Wide tool selection**

### RELIABLE PARTNER

- 6 Heavy duty housing**  
Fitted as standard, heavy duty housings feature a robust structure, minimum number of holes and plastic wear plates for optimum hammer protection and noise reduction.
- 7 VIDAT**  
Vibration Dampened Tie Rods, spherical tie rod nuts and damper bushings ensures piston moves freely for longer, more productive working life.
- 8 Ramvalve**  
More efficient than relief/check valves, Ramvalve detects overflow, prevents damage from system overload and protects against premature failure.
- 9 Top buffer and side pads**  
The unique Rammer vibration absorption system consists of three buffers - one top buffer and two side pads – that prevent the transmission of vibration to protect both the breaker and the carrier's boom, stick and swing gears and to isolate the operator.
- 3 IBP (Idle Blow Protector)**  
IBP ensures the hammer cannot be operated until pressure is placed on tool. This eliminates tie rod stress, reduces oil overheating and protects against premature failures.

- 4 SBS (Soft Blow Sensor)**  
SBS slows down the breaker and reduces power to minimize blank firing damage, making hammer ideal for secondary breaking. Note: SBS, IBP or normal continuous working are options on all Medium range hammers.

### MINIMIZE YOUR MAINTENANCE COSTS

- 10 Ramdata II**  
The Ramdata II service indicator is designed to help hammer operators and service personnel get information about the service interval status, service history and accumulated working history of the hammer.
- 11 Ramlube (Different options)**  
Rammer offers two types of automatic tool greasing systems for its 1655, 2166 and 2577 hammers:  
**Ramlube I** - Machine-mounted  
**Ramlube II** - Hammer-mounted  
Both Ramlube devices provide correct greasing level to protect the tool and tool bushings and reduce owning and operating costs.
- 2 Membrane type accumulator**  
Membrane type accumulator eliminates nitrogen leakages, ensuring maximum piston acceleration and removing the need for time consuming recharging.
- 12 TS (Tool Saver) bushing**  
All Rammer Medium range hammers can be equipped as a retrofit with a field replaceable insert that increases service life of the tool and tool bushing.

### PROTECT YOUR WORKING ENVIRONMENT

- 6 Heavy duty housing**  
Fitted as standard, heavy duty housings feature a robust structure, minimum number of holes and plastic wear plates for optimum hammer protection and noise reduction.
- 9 Top buffer and side pads**  
The unique Rammer vibration absorption system consists of three buffers - one top buffer and two side pads – that prevent the transmission of vibration to protect both the breaker and the carrier's boom, stick and swing gears and to isolate the operator.





## FOR EVERY APPLICATION

### GENERAL CONSTRUCTION

	1655	2166	2577	1533	2155
Breaking of road surface (concrete, asphalt)	C, M, P	C, M, P	C, M, P	C, M	C, M, P
Breaking uneven bedrock to lay a road	C, M	C, M	C, M, LSC	C, M	C, LSC
Trenching	C	C	C, LSC	C	C, LSC
Rock excavation for base of housing	C, LSC	C, LSC	C, LSC	C	C, LSC
Breaking of frozen ground	C, M, P	C, M, P	C, M, P	C, M	C, M, P
Landscaping	C, M, P	C, M, P	C, M, P	C, M	C, M, P

### DEMOLITION

Demolition of concrete walls, roofs, floors	C, M, P	C, M, P	C, M, P	C, M	C, M, P
Breaking thick brick walls	C, M, P	C, M, P	C, M, P	C, M	C, M, P
Demolition of bridges	C, M, P	C, M, P	C, M, P	C, M	C, M, P
Rock trenches for mains or water supply	C, LSC	C, LSC	C, LSC	C	C, LSC
Breaking of hard ground (not rock)	C, M	C, M	LSC	C, M	C, M
Separating rebar from concrete (for recycling)	B	B	B	B	B

### QUARRYING

Secondary breaking of blasted rock	B	B	B	B	B
Primary breaking of rock	-	C, LSC	LSC, HRC	-	C, LSC
Breaking oversizes on a crusher or feeder	B	B	B	B	B

### MINING

Primary tunneling	-	C, M	C, M, HRC	-	C, M
Trenching in tunnels	-	C	C	-	C
Blasting prohibited mining	-	C, M, LSC	C, M, LSC, HRC	-	C, M, LSC
Breaking of oversizes on grizzly or feed chute	B	B	B	B	B
Breaking of oversizes after blasting in the drift	B	B	B	B	B

### METALLURGICAL

Breaking of slag in casting ladles	M	M	-	M	M
Breaking of slag in concentrator openings	M	M	M	M	M
Cleaning of castings	M	M	-	M	M

### UNDER WATER<sup>1)</sup>

Demolition under water	C, M	C, M, P	C, M, P	C, M, P	C, M, P
Rock breaking under water	-	C	C	-	C

1) Working under water needs special precautions, contact your dealer for details

#### RECOMMENDED HAMMER MODEL

Optimal Suitable

#### SYMBOL OF RECOMMENDED TOOLS

Chisel	→ C	Pyramid	→ P
Hard Rock Chisel	→ HRC	Blunt	→ B
Limestone Chisel	→ LSC	Super Blunt	→ SB
Moil point	→ M	Compacting plate	→ CP

MEDIUM HAMMERS



1655

Minimum working weight, kg (lb)	1080 (2380)
Impact rate, bpm	500-920
Operating pressure, bar (psi)	135-145 (1960-2105)
Pressure relief, min bar (psi)	190 (2755)
Pressure relief, max bar (psi)	240 (3480)
Oil flow range l/min (gal/min)	90-130 (23.8-34.3)
Back pressure, max bar (psi)	10 (145)
Input power, kW (hp)	31 (42)
Tool diameter, mm (in)	115 (4.53)
Carrier weight, allowed range t (lb)	12-20 (26500-44100)
Noise level, measured sound power level, LWA, dB	123
Noise level, guaranteed sound power level, LWA, dB	127



2166

Minimum working weight, kg (lb)	1400 (3090)	1760 (3880)
Impact rate, bpm	430-790	450-750
Operating pressure, bar (psi)	140-160 (2030-2320)	135-145 (1960-2105)
Pressure relief, min bar (psi)	210 (3045)	190 (2755)
Pressure relief, max bar (psi)	240 (3480)	240 (3480)
Oil flow range l/min (gal/min)	120-180 (31.7-47.6)	140-200 (37.0-52.8)
Back pressure, max bar (psi)	10 (145)	10 (145)
Input power, kW (hp)	48 (64)	48 (64)
Tool diameter, mm (in)	125 (4.92)	135 (5.31)
Carrier weight, allowed range t (lb)	16-26 (35300-57300)	21-32 (46300-70500)
Noise level, measured sound power level, LWA, dB	121	120
Noise level, guaranteed sound power level, LWA, dB	125	124



2577



MEDIUM HAMMERS



	1533	2155
Minimum working weight, kg (lb)	870-900 (1920-1980)	1240-1280 (2730-2820)
Impact rate, bpm	550-950	490-780
Operating pressure, bar (psi)	140-160 (2030-2320)	140-160 (2030-2320)
Pressure relief, min bar (psi)	220 (3190)	220 (3190)
Pressure relief, max bar (psi)	240 (3480)	240 (3480)
Oil flow range l/min (gal/min)	80-140 (21.1-37.0)	120-180 (31.7-47.6)
Back pressure, max bar (psi)	10 (145)	10 (145)
Input power, kW (hp)	37 (50)	48 (64)
Tool diameter, mm (in)	105 (4.13)	118 (4.65)
Carrier weight, allowed range t (lb)	10-19 (22000-41900)	14-26 (30900-57300)
Noise level, measured sound power level, LWA, dB	120	124
Noise level, guaranteed sound power level, LWA, dB	124	128







## ACCESSORIES

Rammer accessories for hydraulic hammers range from simple, practical auxiliary kits to advanced automatic Ramlube lubrication systems and effective AGW Unit. All the accessories will secure higher productivity, greater reliability and reduced owning and operating costs, with minimal environmental impact.



### Ramlube I

Ramlube I can be used for lubricating the hammer tool and tool bushings. It can be fitted to all Rammer hammers with the pump unit housed within the carrier's engine compartment and is powered electrically. We recommend you to use only genuine Rammer tool grease for tool lubrication. Tool lubricant must have properties to withstand high temperature and extreme pressure, Rammer tool lubricants and automatic tool lubrication systems are especially designed to work with Rammer products.



### Ramlube II

The Ramlube II greasing device can be installed to all Medium Range hammers. Mounted on the hammer housing, the lubrication system features no external electric cables or hydraulic hoses for optimum wear and impact protection, Ramlube II contains a replaceable 500-gram grease cartridge. The greasing device is operated by the hydraulic pressure from the hammer's pressure fitting. Ramlube II is ideally suited to applications in which the hammer is required to work with more than one carrier.



### Ramdata II

The Ramdata II service indicator is designed to help hammer operators and service personnel to get information about the service interval status, service history and accumulated working history of the hammer. Ramdata II is a standard feature to Rammer 1655, 2166 and 2577 hammers.



### AGW Unit

The AGW (Air, Grease and Water) Unit comprises the proven Ramair air flush system that prevents potentially harmful dust ingress, the Ramlube I automatic lubrication system to ensure consistent and throughout greasing, and Water jet dust suppression package which minimizes the creation of dust during breaking. Hydraulically actuated AGW Unit is especially designed to protect the hammer from the demands of extreme applications such as tunneling and heavy demolition and it keeps your Rammer hammer protected and productive throughout its working life.



# FIRST CLASS SERVICE AND SUPPORT

## Hammer installation

Installation inspection is an essential part of commissioning a new hammer, checking the compatibility of the hammer and carrier and ensuring that flows and pressures are adjusted correctly. Installation inspection together with correct operating methods guarantees reliable hammer operation.

## Trained service personnel

Rammer products are renowned for quality, performance and reliability but when your hammer shows signs of natural wear, or the unexpected happens, our professional dealer service personnel are highly-trained, qualified and experienced which ensures that customers are never more than a phone call away from a Rammer hammer expert.

## Genuine parts and tools

The Rammer global dealer network is the only place to access dedicated and experienced aftersales support. Genuine Rammer parts and tools availability is the best in class which keeps your hammer running at peak performance, ensuring downtime is reduced and enabling you to lower your operating and running costs.

We offer a wide range of tools designed for various applications and materials.



CHECKOUT  
MORE FROM  
OUR PARTS  
AND TOOLS  
BROCHURE.

## Primary breaking

### Standard chisel tool

- Non-abrasive but tough rock or concrete
- For material which has low or medium penetration rate



### Hard rock chisel

- Hard and abrasive rock with fractures
- For applications where drilling and blasting cannot be used
- Materials with low penetration rate



### Limestone and concrete chisel

- Very soft and easily breaking, non-abrasive rock or concrete
- For rock which has high penetration rate



### Pyramid point tool

- Soft, non-abrasive and tough rock and especially concrete
- Materials requiring high penetration rate
- Where chisels have excessive retaining pin groove wear



### Moil point tool

- Where chisels have excessive retaining pin groove wear
- Soft and nonabrasive rock
- General demolition of concrete



## Secondary breaking and boom application

### Blunt tool

- Hard rock with low or medium abrasive content
- Boulder breaking or concrete demolition
- Application where tool wear rate is low



### Super blunt tool

- Hard and abrasive rock
- Only for boulder breaking
- 1.5...3 Times more wear life than standard blunt in very abrasive applications
- In non-abrasive applications life maybe shorter than standard blunt







## GLOBAL DEALER NETWORK

Sandvik sells and supports its Rammer-branded products through a global dealer network that operates in 130 countries around the world.

## YOUR LOCAL RAMMER DEALER



Sandvik Mining and Construction Oy  
Taivalkatu 8, P.O.Box 165  
FI-15101 Lahti, Finland  
Phone Int. +358 205 44 151  
[www.rammer.com](http://www.rammer.com)