

**Ram  
mer®**

EN



# EXCELLENCE LINE 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 hydraulic hammers that are suitable for carriers in the 0.6 to 120 ton operating weight 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. This ensures 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 40 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.**



## 40 YEARS OF INNOVATION

Manufacturing of Rammer branded hydraulic hammers started in 1978 – ever since it has grown to be a recognized world leader in the supply and support of hammers, and other hydraulic attachments such as demolition tools and breaker booms.

The Rammer brand and its reputation is built on quality: quality of manufacture, proven by its ISO standards, quality of support through the professional, worldwide dealer network and quality of exceptional people delivering the finest attachments in the mining and construction business.

# SAFETY IS THE TOP PRIORITY IN EVERYTHING WE DO

## In the factory

Safety is our primary consideration. We also ask our visitors 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.

## Looking better than ever

All Rammer Excellence Line hammers now have fully red housings featuring reflective stickers for enhanced visibility and safety.

## Environment

Rammer products are manufactured utilizing state-of-the-art, ISO-standard 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 95 percent of the metallic components can be recycled.





REFLECTIVE  
STICKERS

## 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.

# THE EXCELLENCE LINE HITS SMARTER

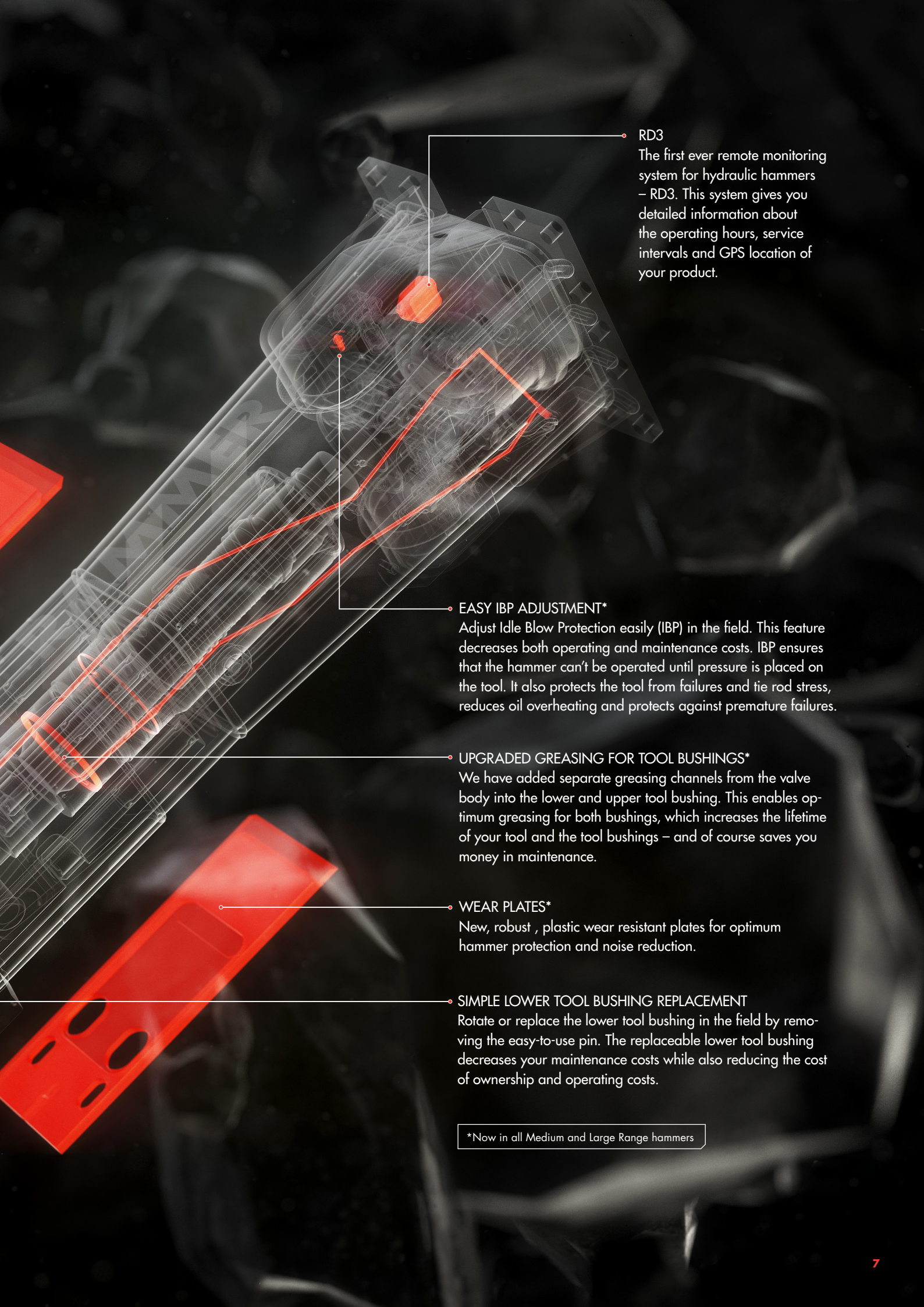
The Excellence Line is Rammer's flagship line of hydraulic hammers, which has been serving customers around the world for four decades. These state-of-the-art hydraulic hammers are ready for all your rock breaking needs and all Excellence Line hammers now include integrated smart technology for easier fleet management and more efficient processes. The renewed Excellence Line continues our tradition of delivering innovative hammers designed to improve profitability, safety and performance.

**ISO 9001**

**ISO 14001**

**OHSAS 18001**

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



**RD3**

The first ever remote monitoring system for hydraulic hammers – RD3. This system gives you detailed information about the operating hours, service intervals and GPS location of your product.

**EASY IBP ADJUSTMENT\***

Adjust Idle Blow Protection easily (IBP) in the field. This feature decreases both operating and maintenance costs. IBP ensures that the hammer can't be operated until pressure is placed on the tool. It also protects the tool from failures and tie rod stress, reduces oil overheating and protects against premature failures.

**UPGRADED GREASING FOR TOOL BUSHINGS\***

We have added separate greasing channels from the valve body into the lower and upper tool bushing. This enables optimum greasing for both bushings, which increases the lifetime of your tool and the tool bushings – and of course saves you money in maintenance.

**WEAR PLATES\***

New, robust, plastic wear resistant plates for optimum hammer protection and noise reduction.

**SIMPLE LOWER TOOL BUSHING REPLACEMENT**

Rotate or replace the lower tool bushing in the field by removing the easy-to-use pin. The replaceable lower tool bushing decreases your maintenance costs while also reducing the cost of ownership and operating costs.

\*Now in all Medium and Large Range hammers

# RD3 SMART FEATURES & MYFLEET PLATFORM

Our Excellence Line hammers are now equipped with the first ever remote monitoring system for hydraulic hammers - RD3. The system gives you data about the operating hours, service intervals and GPS location of the product. Get all the needed data by logging into the MyFleet platform. With this data you'll achieve superior fleet management compared to standard tools, make your processes more efficient and, of course, you will profit more.

## Information

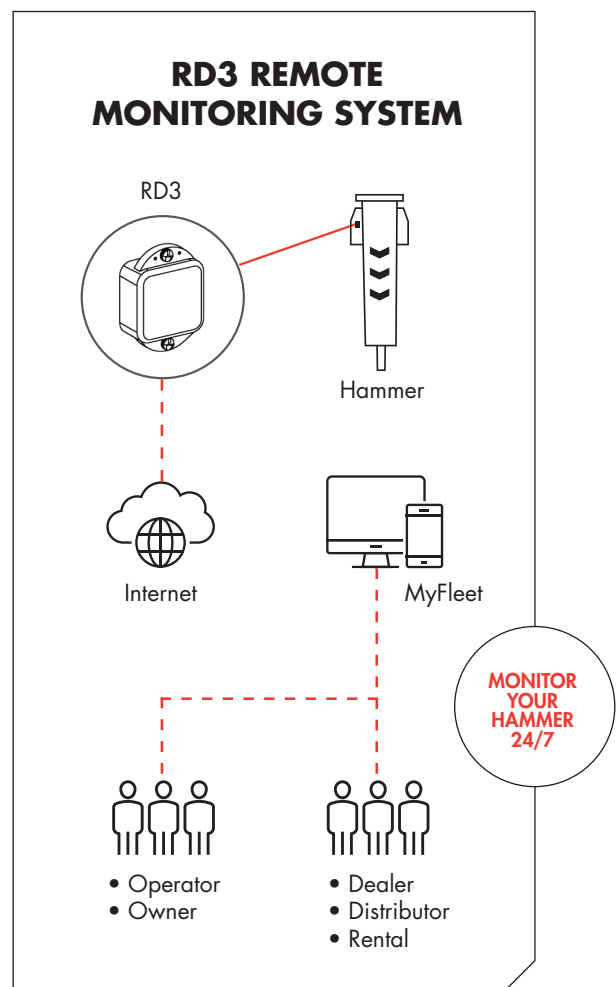
Eliminate guesswork with MyFleet. You can know exactly how your hammer is being utilized and you can have the real data you need to make informed business decisions. It lets you collect and analyze a wide array of information to assist production forecasting. And it helps you ensure the most efficient use of your hammer to maximize the return on your investment.

## Improvement

With detailed machine data on hand you'll be able to optimize day to day operations and monitor, adjust and improve the performance of your hammer. This gives you the information you need to proactively plan your maintenance schedule, and improve parts delivery, service planning and productivity.

## Clarity and availability

With MyFleet, you have secure 24/7 access to your fleet data. The user interface is clear and user-friendly, and you can customize it to display the information which is most important to you in your daily operation, so you can see all the necessary data in one quick overview. You can also use it to view the location of your fleet via the interactive map.







HAMMER

← Back to Overview

Hammer #0035EA  
Model #0035  
Model #0035 #0035002

240 h

Battery

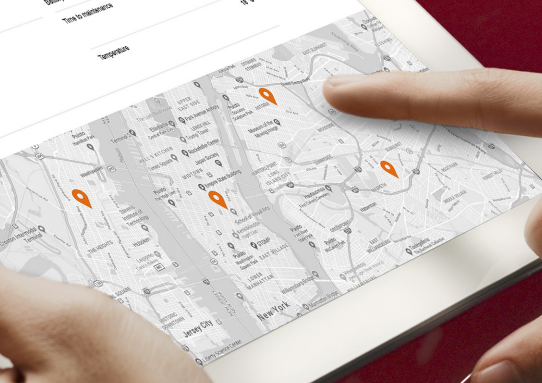
71%

Time to maintenance

48%

Temperature

Location





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999E



# SMALL RANGE

Rammer's Small Range hydraulic hammers are your reliable long life solution for any breaking application for carriers between 0.6 and 15 tons.

Rammer Small Range hammers are built to last. Membrane-type accumulators assist with power strokes, whilst providing protection against hydraulic spikes. The field replaceable lower tool bushing and low-maintenance design ensure optimum hammer uptime, higher availability levels and reduced costs of ownership and operation.



## RD3

The first ever monitoring system for hydraulic hammers – RD3. This system gives you detailed information about the operating hours, service intervals and GPS location of your product.



## CBE (CONSTANT BLOW ENERGY)

A built-in Pressure Adjusting Valve (PAV) maintains hydraulic pressure levels to ensure that every blow delivers the maximum power possible for optimum productivity. CBE operating principle enables wide accepted oil flow range and tolerates hammer against high back pressure allowing a wide range of carrier utilization. (Except 155)



## MEMBRANE TYPE ACCUMULATOR

Membrane type accumulator eliminates nitrogen leakages and removes the need for time consuming recharging.

Tubular membrane type accumulator\* ensures maximum piston acceleration and high impact frequency. (Except 1322E)



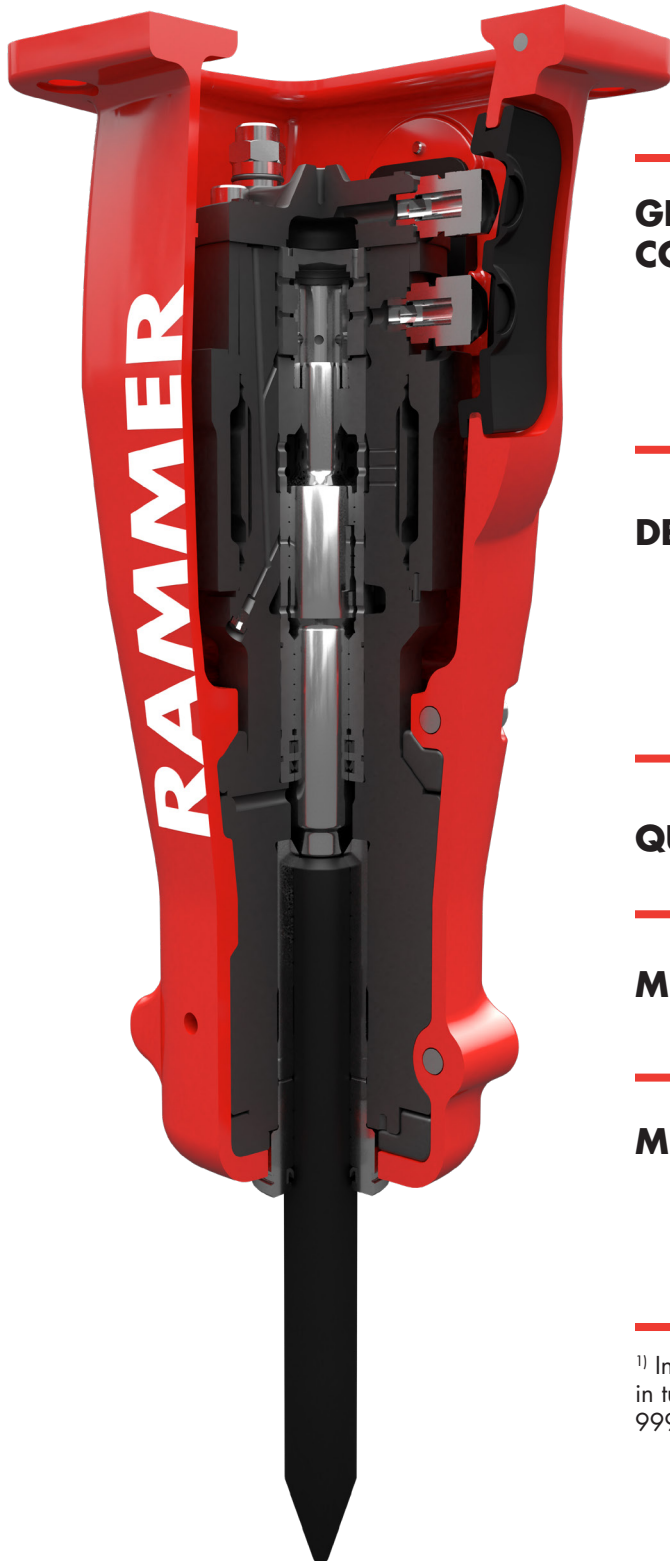
## SINGLE BODY DESIGN WITHOUT TIE RODS

Rammer single body design is simple and robust construction which enables ideal support and alignment for piston and tool as well as fast and easy service. (Except 1322E)



## UPGRADED GREASING BUSHINGS AND THRUST RING

Single part tool bushing with long bearing surface and thrust ring to maximize tool life. Shared retaining pin with simple locking ring allows easy replacement of tool bushing and tool. (Except 1322E)



## GENERAL CONSTRUCTION

Breaking of road surfaces (concrete, asphalt)

Asphalt cutting to shape or area

Breaking of frozen ground

Landscaping

Compacting the ground

## DEMOLITION

Demolition of concrete walls, roofs, floors

Breaking thick brick walls

Demolition of bridges

Breaking of hard ground (not rock)

Separating rebar from concrete (for recycling)

## QUARRYING

Secondary breaking of blasted rock

Breaking oversizes on a crusher or feeder

## MINING

Scaling in tunnel roofs and walls <sup>1)</sup>

Breaking of oversizes on grizzly or feed chute

## METALLURGICAL <sup>1)</sup>

Breaking of oversizes after blasting in the drift

Breaking of slag in casting ladles

Breaking of refractory linings in furnaces

Cleaning of castings

<sup>1)</sup> In metallurgical applications use heat resistant versions and for scaling in tunnel roofs and walls use scaler versions of models 555E, 777E and 999E. Please see more information on [rammer.com](http://rammer.com).

# FOR EVERY APPLICATION

	155E	255E	355E	455E	555E	777E	999E	1322E
	C, AC	C, AC	C, AC	C, AC	C, AC	C, AC	C, AC	C, AC
	AC	AC	AC	AC	AC	AC	AC	AC
	-	C, M	C, M	C, M	C, M	C, M	C	C, M
	C, M	C, M	C, M	C, M	C, M	C, M	C, M	C, M
	-	CP	CP	CP	CP	CP	CP	CP
	C, M, P	C, M, P	C, M, P	C, M, P	C, M	C, M	C, M	C, M
	C, M	C, M	C, M	C, M	C, M	C, M	C, M	C, M
	-	-	-	-	-	-	C, M	C, M
	-	-	-	-	-	C, M	C, M	C, M
	-	-	-	-	C, M	C, M	C, M	C, M, B
	-	-	-	-	-	-	M	B
	-	-	-	M	M	M	M	B
	-	M, C	M, C	M, C	M, C	M, C	M, C	M, C
	-	-	-	-	M	M	M	B
	-	-	-	-	-	-	M	B
	-	-	-	-	C, M	C, M	C, M	C, M
	-	-	-	-	C, M	C, M	C, M	C, M
	-	-	-	-	-	-	C, M	C, M

## RECOMMENDED HAMMER MODEL

Optimal    Suitable

## SYMBOL OF RECOMMENDED TOOLS

Chisel .....> C      Moil point .....> M  
 Asphalt Cutting .....> AC      Pyramid .....> P  
 Compacting plate .....> CP      Blunt .....> B



# SMALL RANGE

## 155E

## 255E

Minimum working weight, flange mounted, kg (lb)	90 (200)	110 (240)
Impact rate, bpm	1000-2600	600-3200
Operating pressure, bar (psi)	80-130 (1160-1885)	95-150 (1380-2175)
Pressure relief, max bar (psi)	220 (3190)	220 (3190)
Oil flow range, l/min (gal/min)	15-33 (4.0-8.7)	15-35 (4.0-9.2)
Back pressure, max bar (psi)	20 (290)	20 (290)
Input power, kW (hp)	7.2 (10)	8.8 (12)
Tool diameter, mm (in)	36 (1.42)	40 (1.57)
Mini-excavator weight, allowed range t (lb)	0.8-1.8 (1800-4000)	1.2-2.5 (2600-5500)
Skid steer, robot weight, allowed range t (lb)	0.6-1.3 (1300-2900)	0.8-1.7 (1800-3700)
Noise level, measured sound power level, LWA dB	115	115
Noise level, guaranteed sound power level, LWA dB	119	119

## 355E

## 455E

Minimum working weight, flange mounted, kg (lb)	150 (330)	230 (510)
Impact rate, bpm	800-3000	700-2600
Operating pressure, bar (psi)	90-150 (1305-2175)	100-170 (1450-2465)
Pressure relief, max bar (psi)	220 (3190)	220 (3190)
Oil flow range, l/min (gal/min)	25-55 (6.6-14.5)	40-70 (10.6-18.5)
Back pressure, max bar (psi)	20 (290)	20 (290)
Input power, kW (hp)	13.8 (19)	19.8 (27)
Tool diameter, mm (in)	48 (1.89)	56 (2.20)
Mini-excavator weight, allowed range t (lb)	1.6-3.6 (3500-7900)	2.7-5.2 (6000-11500)
Skid steer, robot weight, allowed range t (lb)	1.1-2.4 (2400-5300)	1.8-3.5 (4000-7700)
Noise level, measured sound power level, LWA dB	114	115
Noise level, guaranteed sound power level, LWA dB	118	119





# SMALL RANGE

## 555E

## 777E

Minimum working weight, kg (lb)	275 (610)	390 (860)
Impact rate, bpm	600-1800	500-1700
Operating pressure, bar (psi)	90-140 (1305-2030)	90-140 (1305-2030)
Pressure relief, max bar (psi)	220 (3190)	220 (3190)
Oil flow range, l/min (gal/min)	35-90 (9.2-23.8)	40-120 (10.6-31.7)
Back pressure, max bar (psi)	20 (290)	20 (290)
Input power, kW (hp)	21 (28)	28 (38)
Tool diameter, mm (in)	72 (2.83)	80 (3.15)
Mini-excavator weight, allowed range t (lb)	3.2-8.0 (7100-17600)	4.3-9.5 (9500-20900)
Skid steer, robot weight, allowed range t (lb)	1.9-5.3 (4200-11700)	2.6-6.3 (5700-13900)
Noise level, measured sound power level, LWA, dB	118	120
Noise level, guaranteed sound power level, LWA, dB	122	124

## 999E

## 1322E

Minimum working weight, kg (lb)	505 (1110)	850 (1870)
Impact rate, bpm	500-1700	500-1000
Operating pressure, bar (psi)	100-140 (1450-2030)	125-160 (1815-2320)
Pressure relief, max bar (psi)	220 (3190)	220 (3190)
Oil flow range, l/min (gal/min)	50-150 (13.2-39.6)	60-120 (15.9-31.7)
Back pressure, max bar (psi)	20 (290)	20 (290)
Input power, kW (hp)	35 (47)	32 (43)
Tool diameter, mm (in)	90 (3.54)	95 (3.74)
Excavator weight, allowed range t (lb)	5.8-13.0 (12800-28700)	9-15 (19800-33100)
Skid steer, robot weight, allowed range t (lb)	3.9-8.7 (8600-19200)	
Noise level, measured sound power level, LWA, dB	123	136
Noise level, guaranteed sound power level, LWA, dB	127	140



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RAMMER  
2577E

# MEDIUM RANGE

**Rammer's Medium Range hydraulic hammers are designed to get the job done and the fully enclosed housing means no job is too dirty and no conditions are too tough. Rammer's Medium Range hydraulic hammers are your reliable long life solution for any breaking application for carriers between 10 and 32 tons.**

## **RD3**

The first ever monitoring system for hydraulic hammers – RD3. This system gives you detailed information about the operating hours, service intervals and GPS location of your product.

## **SIMPLE LOWER TOOL BUSHING REPLACEMENT**

Rotate or replace the lower tool bushing in the field by removing the easy-to-use pin. The replaceable lower tool bushing decreases your maintenance costs all while reducing the cost of ownership and operating costs. (Except 1533E and 2155E)

## **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.

## **MEMBRANE TYPE ACCUMULATOR**

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

## **EASY IBP ADJUSTMENT**

Adjust Idle Blow Protection easily (IBP) in the field. This feature decreases both operating and maintenance costs. IBP ensures that the hammer can't be operated until pressure is placed on the tool. It also protects the tool from failures and tie rod stress, reduces oil overheating and protects against premature failures

## **VIDAT**

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

## **DOUBLE TOOL RETAINING PIN STRUCTURE**

The new Medium hammers have two tool retaining pins, which support the tool better against tool twisting and to reduce stress on the front head.

## **UPGRADED GREASING FOR TOOL BUSHINGS**

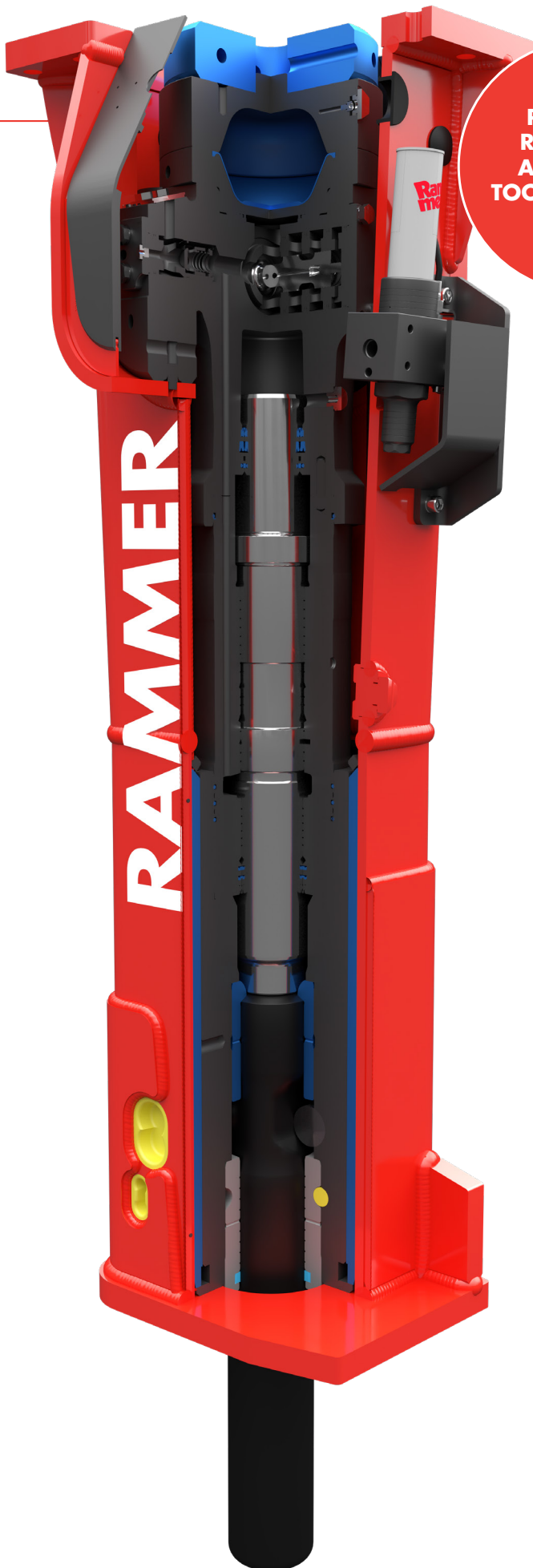
We have added separate greasing channels from the valve body into the lower and upper tool bushing. This enables optimum greasing for both bushings, which increases the lifetime of your tool and the tool bushings – and of course saves you money in maintenance.

## **WEAR PLATES**

New, robust, plastic wear resistant plates for optimum hammer protection and noise reduction.

## **RAMVALVE\***

Ramvalve detects overflow, prevents damage from system overload and protects against premature failure.



**PATENTED  
RAMLUBE II  
AUTOMATIC  
TOOL GREASING  
SYSTEM**

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**GENERAL CONSTRUCTION**

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**DEMOLITION**

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**QUARRYING**

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**MINING**

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**METALLURGICAL<sup>1)</sup>**

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

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

# FOR EVERY APPLICATION

	1655E	2166E	2577E	1533E	2155E
Breaking of road surfaces (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 building foundations	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 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 supplies	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
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
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 chutes	B	B	B	B	B
Breaking of oversizes after blasting in the drift	B	B	B	B	B
Breaking of slag in casting ladles	M	M	-	M	M
Breaking of slag in concenter openings	M	M	M	M	M
Cleaning of castings	M	M	-	M	M
Demolition under water	C, M	C, M, P	C, M, P	C, M, P	C, M, P
Rock breaking under water	-	C	C	-	C

## 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



1655E



2166E



2577E



1533E



2155E

SLIM AND  
LIGHTWEIGHT  
HOUSING  
DESIGN

# MEDIUM RANGE

## 1655E

## 2166E

## 2577E

Minimum working weight, kg (lb)	1100 (2430)	1360 (3000)	1670 (3680)
Impact rate, bpm	500-920	430-790	450-750
Operating pressure, bar (psi)	135-145 (1960-2105)	140-160 (2030-2320)	135-145 (1960-2105)
Pressure relief, min bar (psi)	190 (2755)	210 (3045)	190 (2755)
Pressure relief, max bar (psi)	220 (3190)	230 (3335)	220 (3190)
Oil flow range l/min (gal/min)	90-130 (23.8-34.3)	120-180 (31.7-47.6)	140-200 (37.0-52.8)
Back pressure, max bar (psi)	10 (145)	10 (145)	10 (145)
Input power, kW (hp)	31 (42)	48 (64)	48 (64)
Tool diameter, mm (in)	115 (4.53)	125 (4.92)	135 (5.31)
Carrier weight, allowed range t (lb)	12-20 (26500-44100)	16-26 (35300-57300)	21-32 (46300-70500)
Noise level, measured sound power level, LWA, dB	123	121	120
Noise level, guaranteed sound power level, LWA, dB	127	125	124

## 1533E

## 2155E

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

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**501TE**



# LARGE RANGE

The largest models in Rammer's Excellence Line unite all the key features for which Rammer hammers are renowned in one large, powerful, durable and reliable package.

Rammer's Large Range hydraulic hammers are your reliable long life solution for any breaking application for carriers between 26 and 120 tons.

## RD3

The first ever monitoring system for hydraulic hammers – RD3. This system gives you detailed information about the operating hours, service intervals and GPS location of your product.

## SIMPLE LOWER TOOL BUSHING REPLACEMENT

Rotate or replace the lower tool bushing in the field by removing the easy-to-use pin. The replaceable lower tool bushing decreases your maintenance costs all while reducing the cost of ownership and operating costs. (Except 9033E)

## 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.

## MEMBRANE TYPE ACCUMULATOR

A built-in pressure control valve maintains hydraulic pressure levels to ensure that every blow delivers the maximum power possible for optimum productivity.

## EASY IBP ADJUSTMENT

Adjust Idle Blow Protection easily (IBP) in the field. This feature decreases both operating and maintenance costs. IBP ensures that the hammer can't be operated until pressure is placed on the tool. It also protects the tool from failures and tie rod stress, reduces oil overheating and protects against premature failures

## RAMVALVE\*

Ramvalve detects overflow, prevents damage from system overload and protects against premature failure.

## STROKE SELECTOR

Fitted as standard on all Large range hammers Stroke selector is designed to optimize hammer operating. It allows operator to match hammer to material and application, delivering more frequent, softer blows in softer materials and fewer high impact blows in hard rock.

## VIDAT

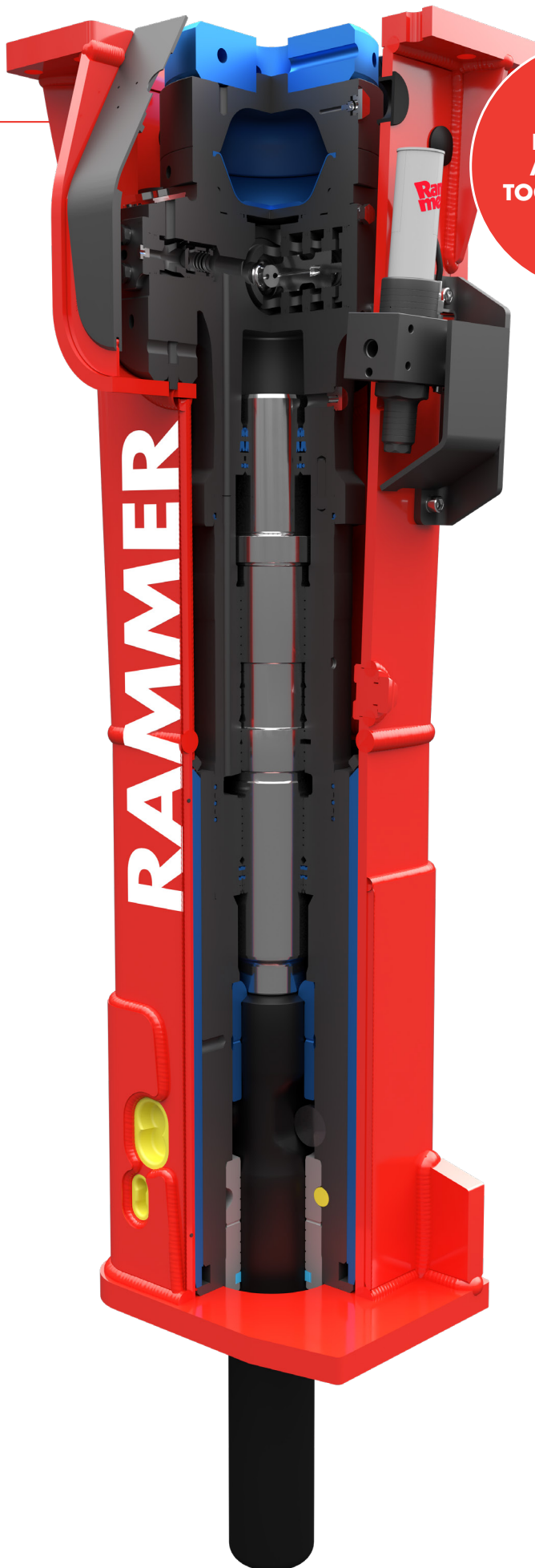
Vibration Dampened Tie Rods, spherical tie rod nuts and damper bushings ensure piston moves freely for longer, more productive working life.

## UPGRADED GREASING FOR TOOL BUSHINGS

Separate greasing channels from the valve body into the lower and upper tool bushing. This enables optimum greasing for both bushings, which increases the lifetime of your tool and the tool bushings – and of course saves you money in maintenance.

## WEAR PLATES

Robust, plastic wear resistant plates for optimum hammer protection and noise reduction.



**PATENTED  
RAMLUBE II  
AUTOMATIC  
TOOL GREASING  
SYSTEM**

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**GENERAL CONSTRUCTION**

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**DEMOLITION**

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**QUARRYING**

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**MINING**

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**METALLURGICAL<sup>1)</sup>**

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

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

# FOR EVERY APPLICATION

	3288E	4099E	5011E	9033E
Breaking of road surfaces (concrete, asphalt)	C, P, LSC	C, P, LSC	C, P, LSC	C, P, LSC
Primary breaking to lay a road	C, LSC	C, LSC	C, LSC	C, LSC
Trenching	C, LSC	C, LSC	C, LSC	C, LSC
Rock excavation for building foundations	C, LSC	C, LSC	C, LSC	C, LSC
Breaking of frozen ground	C, M, P	C, M, P	C, M, P	C, M, P
Demolition of concrete walls, roofs, floors	C, M, P	C, M, P	C, M, P	C, M, P
Breaking thick brick walls	C, M, P	C, M, P	-	-
Breaking heavily reinforced bridge pillars	B, C, P	B, C, P	B, C, P	B, C, P
Breaking massive reinforced concrete foundations	C, M, P	C, M, P	C, M, P	C, M, P
Rock trenches for mains or water supplies	C, LSC	C, LSC	C, LSC	C, LSC
Separating rebar from concrete (for recycling)	B	B	B	B
Secondary breaking of blasted rock	B	B	B	B
Primary breaking of rock	C, LSC, HRC	C, LSC, HRC	C, LSC, HRC	C, LSC, HRC
Breaking oversizes on a crusher or feeder	B	B	-	-
Primary tunneling	C, M, HRC	C, M, HRC	C, M, HRC	C, M, HRC
Trenching in tunnels	C, HRC	C, HRC	C, HRC	C, HRC
Blasting prohibited mining	C, M, LSC, HRC	C, M, LSC, HRC	C, M, LSC, HRC	C, M, LSC, HRC
Breaking of oversizes on grizzly or feed chute	B	B	-	-
Breaking of oversizes after blasting in the drift	B	B	B	B
Breaking of massive steel slag	-	B, C	B, C	B, C
Breaking of aluminium electrolysis slag	-	B, C	B, C	B, C
Breaking of ferrochrome blocks	B, C	B, C	B, C	B, C
Demolition under water	C, M, P	C, M, P	C, M, P	C, M, P
Rock breaking under water	C	C	C	C

## 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



# LARGE RANGE

## 3288E

## 4099E

Minimum working weight, kg (lb)	2350-2450 (5180-5400)	3380-3540 (7450-7800)
Impact rate, Long Stroke, bpm	370-630	400-560
Impact rate, Short Stroke, bpm	460-740	520-700
Operating pressure, bar (psi)	150-160 (2175-2320)	150-160 (2175 - 2320)
Pressure relief, min bar (psi)	220 (3190)	210 (3045)
Pressure relief, max bar (psi)	240 (3480)	230 (3335)
Oil flow range, l/min (gal/min)	160-250 (42.3-66.0)	250-350 (66.0-92.5)
Back pressure, max bar (psi)	10 (145)	12 (175)
Input power, kW (hp)	67 (90)	93 (125)
Tool diameter, mm (in)	142 (5.59)	166 (6.54)
Carrier weight, allowed range, t (lb)	26-42 (57300-92600)	36-55 (79400-121300)
Noise level, measured sound power level, LWA, dB	124	126
Noise level, guaranteed sound power level, LWA, dB	128	130

## 5011E

## 9033E

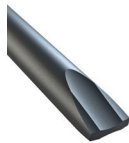
Minimum working weight, kg (lb)	4750-5200 (10470-11460)	7400 (16310)
Impact rate, Long Stroke, bpm	370-530	300-520
Impact rate, Short Stroke, bpm	450-620	355-645
Operating pressure, bar (psi)	160-170 (2320-2465)	170-180 (2465-2610)
Pressure relief, min bar (psi)	220 (3190)	230 (3335)
Pressure relief, max bar (psi)	230 (3335)	240 (3480)
Oil flow range, l/min (gal/min)	280-380 (74.0-100.4)	360-460 (95.1-121.5)
Back pressure, max bar (psi)	10 (145)	10 (145)
Input power, kW (hp)	108 (145)	138 (185)
Tool diameter, mm (in)	190 (7.48)	215 (8.46)
Carrier weight, allowed range, t (lb)	43-80 (94800-176400)	65-120 (143300-264600)
Noise level, measured sound power level, LWA, dB	122	127
Noise level, guaranteed sound power level, LWA, dB	126	131

# TOOL SELECTION

## PRIMARY BREAKING

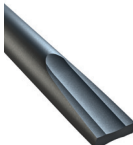
### Standard chisel tool

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



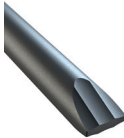
### Hard rock chisel

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



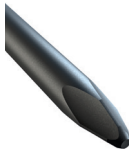
### Limestone and concrete chisel

- 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

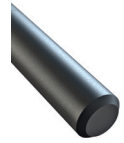
- Where chisels have excessive retaining pin groove wear
- Soft and nonabrasive rock
- General demolition of concrete



## SECONDARY BREAKING AND BOOM APPLICATION

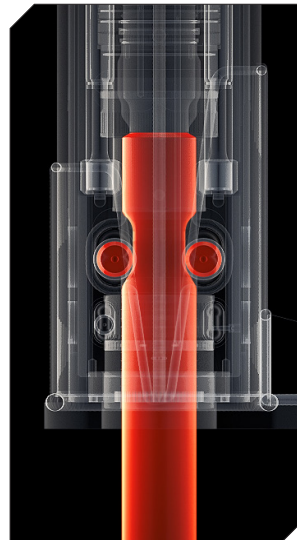
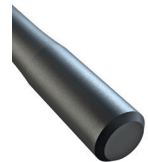
### Blunt tool

- 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



### NEW TOOL LOCKING

We have upgraded the tool locking of our Medium Range hammers. The new tools have two tool retaining pins, which support the tool to prevent it twisting and to reduce stress on the front head.

PLEASE NOTE: the new Medium Range Excellence Line tools are not interchangeable with old models.



### RAMMER TOOL GREASE

Tool grease is essential when using most hydraulic hammers. It needs to withstand high temperatures and pressure. Our special tool grease has been specially formulated to be used with our products.



## 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.

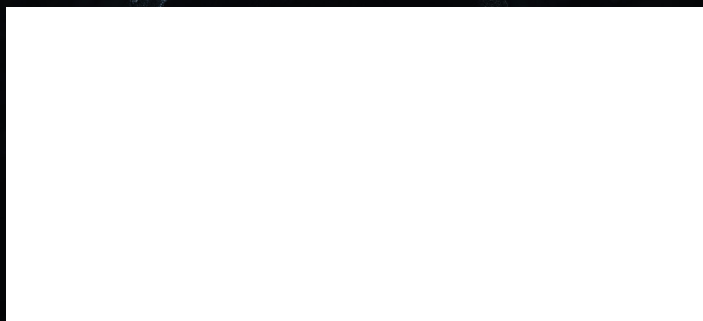
We offer a wide range of tools designed for various applications and materials.



### **GLOBAL DEALER NETWORK**

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

### **YOUR LOCAL RAMMER DEALER**



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