



ISO 14001



# TOP ROCK

## Innovator of Hydraulic Hammer

Research and development of  
new technology to open up a brighter future.



**SHINIL** SNC

[www.hannunkone.fi](http://www.hannunkone.fi)





R&D company with  
continuous efforts toward  
development of  
innovative technology





## **Realizing the dream of human beings** Top-notch business, leading the changes in the 21<sup>st</sup> century and realizing the dreams of mankind

We believe every task relies on each individual person and producing trustworthy up-to-date quality products and systems portray company's reflection. SHINILSNC will continue to expand our product lines and services to meet emerging customer needs by enhancing our technology to develop better materials and systems to expand domestic and International businesses.



# TOP ROCK

## NEW LEADER OF HYDRAULIC HAMMER

### TOP ROCK HAMMERS

- Complete range of hydraulic rock breaker (for 0.5 ~75ton class).
- Ensure state of the art technology and optimum product service by long experience.
- Provide the best performance and protect hydraulic system.
- Superior Power & Efficiencies;
  - Extended Piston stroke power & Positive Alignment
  - Maximized energy transfer to chisel efficiently
- Added Hardox reinforcement at lower end of housing to protect housing and power cell.
- Auto grease system for allow proper greasing procedures and long durability of hammer.
- Side plate locking system keeps bolts from loosening.
- SILENCING sound absorbing elements inside housing lowers noise output, for sound sensitive applications.

#### MINIMIZED MAINTENANCE COSTS

Simple body construction with fewer parts.

Dual retainer pins provides proper alignment & Easy tool replacement

#### RELIABILITY

##### Long life Guarantee :

Protected Thread / Multi Phase Heat Treatment / Test Before shipment

##### Protect excavator :

Excellent Power to weight ration / Reduce Vibration / Unique Suspension / Minimized Oil Flow Interruption

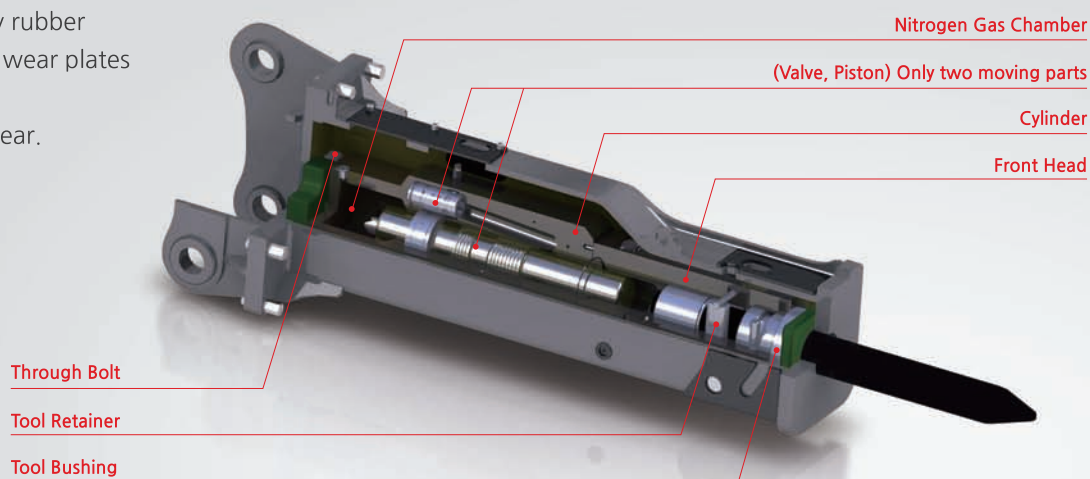




# TRH Series Hammers Features

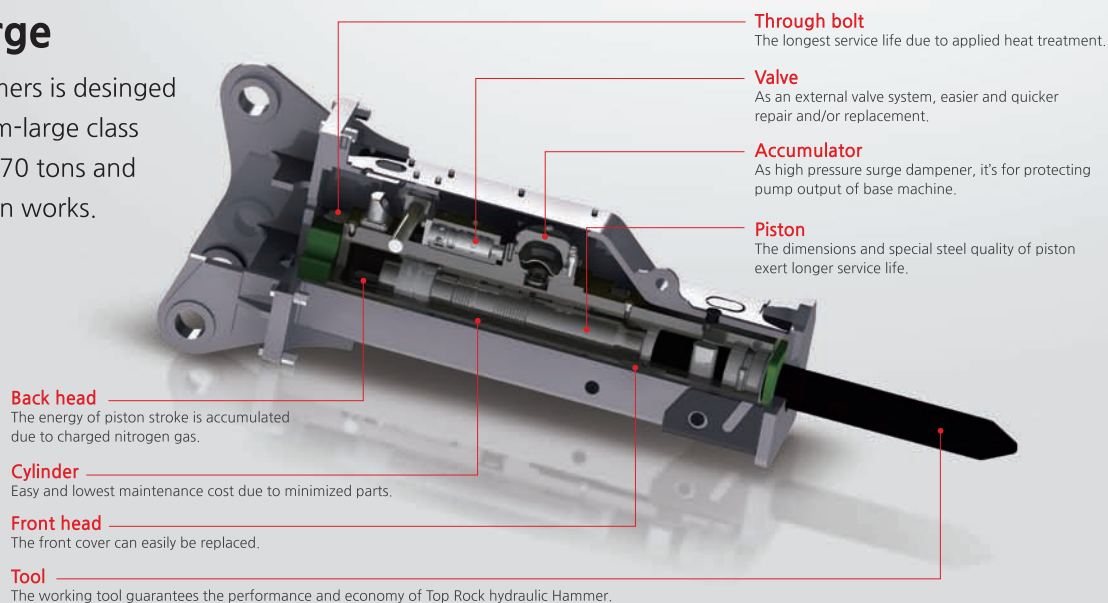
## Small & Compact Range

- Advanced design technology for output energy and efficiency.
- Minimal moving parts-only 2-for less maintenance, better performance and less service.
- Fully enclosed housing for quieter operation and less dirt contamination.
- Added steel reinforcement at lower end of housing to protect housing and powercell.
- Narrow profile for better visibility and close-in trench work.
- Lighter weight allowing choice of smaller carrier.
- Supported powercell by rubber cushions and urethane wear plates to absorb shock and vibration and reduce wear.



## Medium & Large

This range of TRH Hammers is designed for wheel loader, medium-large class crawler excavator up to 70 tons and suitable heavy demolition works.





**TOP ROCK TRH SERIES**

# Small & Compact Range

## TRH IOTR~TRH I20TR

### Top Rock, TRH Silenced Series

Combines high operation efficiency and nitrogen gas energy to achieve powerful breaking force, even in the toughest conditions.

They are suitable for demolition and recycling work, canalisation work, surface construction, excavation and civil engineering work and roadworks, for work in quarries, renovation and cutting, as well as garden and landscaping works.



### Specification

Description		Unit	TRH10TR	TRH20TR	TRH30TR	TRH50TR	TRH60TR	TRH90TR	TRH120TR
Operating Weight (including tool)	With Mount Cap	kg	150	210	270	360	460	600	950
		lbs	331	463	595	794	1,014	1,323	2,094
Overall Height (including tool)	With Mount Cap	mm	1,135	1,350	1,420	1,586	1,729	1,946	2,338
		inch	44.7	53.1	55.9	62.4	68.1	76.6	92.0
	Without Mount Cap	mm	998	1,110	1,220	1,386	1,479	1,726	2,053
		inch	39.3	43.7	48.0	54.6	58.2	68.0	80.8
Operating Pressure		bar	80 ~ 110	80 ~ 110	90 ~ 120	95 ~ 130	100 ~ 130	130 ~ 150	150 ~ 170
		psi	1,160 ~ 1,595	1,160 ~ 1,595	1,305 ~ 1,740	1,378 ~ 1,885	1,450 ~ 1,885	1,885 ~ 2,176	2,176 ~ 2,465
Setting Pressure		bar	150	150	150	170	170	195	210
		psi	2,175	2,175	2,175	2,465	2,465	2,828	3,045
Required oil flow		ℓ/min	15 ~ 30	20 ~ 30	25 ~ 50	30 ~ 50	40~80	45~90	80 ~ 110
		gpm	4 ~ 8	5.3 ~ 8.0	6.6 ~ 13.2	8.0 ~ 13.2	10.5 ~ 21.1	11.9 ~ 23.8	21.1 ~ 29.1
Backhead Pressure		bar	16	16	16	16	16	16	16
		psi	232	232	232	232	232	232	232
Accumulator Pressure		bar	-	-	-	-	-	-	-
		psi	-	-	-	-	-	-	-
Impact Rate		bpm	800 ~ 1,400	600 ~ 1,200	550 ~ 1,000	450 ~ 900	450 ~ 900	400 ~ 800	450 ~ 700
Tool Shank Diameter		mm	40	45	53	68	75	85	100
		inch	1.57	1.77	2.08	2.67	2.95	3.34	3.93
Impact Energy		Joule	399	416	492	849	1,210	1,764	2,443
		ft.lb	294	307	363	626	892	1,301	1,802
Suitable Machine		ton	0.8 ~ 2.5	1.2 ~ 3.0	2.0 ~ 3.5	4 ~ 6	5 ~ 9	7 ~11	11 ~ 16
		lbs	1,764~5,511	2,645~6,614	4,409~7,716	8,818~13,228	11,023~19,841	15,432~24,251	24,251~35,274

\* The above specifications are subject to change without prior notice for the quality enhancement.



# Medium & Large

## TRH I90TR~TRH 750TR

### Top Rock, TRH Silenced Series

Combines high operation efficiency and nitrogen gas energy to achieve powerful breaking force, even in the toughest conditions.

They are suitable for demolition and recycling work, surface construction, excavation and civil engineering work, tunnel work and roadworks. Further potential applications include heavy-duty industrial demolition work, primary and secondary quarry work, foundation works, Road construction, highly reinforced concrete, mining, trenching, bench leveling general construction works.



### Specification

Description		Unit	TRH190TR	TRH220TR	TRH350TR	TRH450TR	TRH550TR	TRH650TR	TRH750TR
Operating Weight (including tool)	With Mount Cap	kg	1,370	1,790	2,380	3,020	4,250	5,330	6,620
		lbs	3,020	3,946	5,247	6,658	9,370	11,751	14,595
Overall Height (including tool)	With Mount Cap	mm	2,480	2,773	3,046	3,281	3,758	4,130	4,443
		inch	97.6	109.2	119.9	129.2	148.0	162.6	174.9
	Without Mount Cap	mm	2,120	2,413	2,686	2,839	3,316	3,520	3,753
		inch	83.5	95.0	105.7	111.8	130.6	138.6	147.8
Operating Pressure		bar	150 ~ 170	160 ~ 180	160 ~ 180	170 ~ 190	170 ~ 190	200 ~ 230	210 ~ 240
		psi	2,176 ~ 2,466	2,320 ~ 2,611	2,320 ~ 2,611	2,466 ~ 2,756	2,466 ~ 2,756	2,901 ~ 3,336	3,046 ~ 3,481
Setting Pressure		bar	210	210	230	230	240	260	270
		psi	3,046	3,046	3,336	3,336	3,481	3,771	3,916
Required oil flow		ℓ/min	90 ~ 120	130 ~ 150	160 ~ 190	190 ~ 210	190 ~ 210	200 ~ 230	210 ~250
		gpm	23.78 ~ 31.70	34.34 ~ 39.63	42.26 ~ 50.19	50.19 ~ 55.47	50.19 ~ 55.47	52.83 ~ 60.76	55.47 ~ 66.04
Backhead Pressure		bar	6	6	6	8	11	17	17
		psi	87	87	87	116	160	247	247
Accumulator Pressure		bar	60	60	60	60	60	60	60
		psi	870	870	870	870	870	870	870
Impact Rate		bpm	400 ~ 900	400 ~ 800	350 ~ 750	300 ~ 500	240 ~ 310	150 ~ 280	150~250
Tool Shank Diameter		mm	120	135	150	160	180	190	210
		inch	4.7	5.3	5.9	6.3	7.1	7.5	8.3
Impact Energy		Joule	4,234	5,717	9,150	9,980	13,125	14,800	17,500
		ft.lb	3,123	4,217	6,749	7,361	9,681	10,916	12,907
Suitable Machine		ton	13 ~ 18	18 ~ 26	28 ~ 35	33 ~45	45 ~ 55	48 ~ 65	55 ~ 75
		lbs	28,660~39,683	39,683~57,320	61,729~77,162	72,753~99,208	99,208~121,254	105,822~143,300	121,254~165,346

\* The above specifications are subject to change without prior notice for the quality enhancement.



# Small & Compact Range

## TRH 10V~TRH 120V

- Easy service and faster Maintenance
- High Impact energy and impact rate
- Low Operation costs costs
- High Efficient design & Appearance

**TRH-Small breakers** are suitable for mounting on tractor back-hoes, mini- excavators and skid steer loaders.

### Application :

For breaking concrete, asphalt, hard or frozen ground and for scaling in mines and tunnels.

They have a high production rate for their size rage and provide a good return on investment to customer.



### Specification

Description		Unit	TRH10V	TRH20V	TRH30V	TRH50V	TRH60V	TRH90V	TRH120V
Operating Weight (including tool)	With Mount Cap	kg	73	130	160	330	420	580	880
		lbs	161	287	353	728	926	1,279	1,940
Overall Height (including tool)	With Mount Cap	mm	1,072	1,113	1,306	1,393	1,678	1,979	2,298
		inch	42.2	43.8	51.4	54.8	66.1	77.9	90.5
	Without Mount Cap	mm	-	-	-	-	1,479	1,794	2,023
		inch	-	-	-	-	58.2	70.6	79.6
Operating Pressure		bar	80 ~ 110	80 ~ 110	90 ~ 120	95 ~ 130	100 ~ 130	130 ~ 150	150 ~ 170
		psi	1,160 ~ 1,595	1,160 ~ 1,595	1,305 ~ 1,740	1,378 ~ 1,885	1,450 ~ 1,885	1,885 ~ 2,176	2176 ~ 2,465
Setting Pressure		bar	150	150	150	170	170	195	210
		psi	2,175	2,175	2,175	2,465	2,465	2,828	3,045
Required oil flow		ℓ/min	15 ~ 30	20 ~ 30	25 ~ 50	30 ~ 50	40 ~ 80	45 ~ 90	80 ~ 110
		gpm	4 ~ 8	5.3 ~ 8.0	6.6 ~ 13.2	8.0 ~ 13.2	10.5 ~ 21.1	11.9 ~ 23.8	21.1 ~ 29.1
Backhead Pressure		bar	16	16	16	16	16	16	16
		psi	232	232	232	232	232	232	232
Accumulator Pressure		bar	-	-	-	-	-	-	-
		psi	-	-	-	-	-	-	-
Impact Rate		bpm	800 ~ 1,400	600 ~ 1,200	550 ~ 1,000	450 ~ 900	450 ~ 900	400 ~ 800	450 ~ 700
Tool Shank Diameter		mm	40	45	53	68	75	85	100
		inch	1.57	1.77	2.08	2.67	2.95	3.34	3.93
Impact Energy		Joule	399	416	492	849	1,210	1,764	2,443
		ft.lb	294	307	363	626	892	1,301	1,802
Suitable Machine		ton	0.8 ~ 2.5	1.2 ~ 3.0	2.0 ~ 3.5	4 ~ 6	5 ~ 9	7 ~ 11	11 ~ 16
		lbs	1,764~5,511	2,645~6,614	4,409~7,716	8,818~13,228	11,023~19,841	15,432~24,251	24,251~35,274

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# Medium & Large Range



## TRH 190V~TRH 750V

- Available from 14tons to 75 tons heavy class excavators
- High impact power and impact rate
- Patented sealing and piston guidance system
- Low Operation costs
- High Efficient design & Appearance
- Tool Bushing engineered for quick & easy replacement

### Application :

Primary and secondary breaking in quarries, Foundation works, Road construction, Demolition works, highly reinforced concrete, mining, Trenching, Bench leveling, General construction works.

### Specification

Description		Unit	TRH190V	TRH220V	TRH350V	TRH450V	TRH550V	TRH650V	TRH750V
Operating Weight (including tool)	With Mount Cap	kg	1,580	1,880	2,480	3,180	4,250	5,470	6,750
		lbs	3,483	4,145	5,467	7,011	9,370	12,059	14,881
Overall Height (including tool)	With Mount Cap	mm	2,480	2,773	3,046	3,281	3,758	4,130	4,443
		inch	97.6	109.2	119.9	129.2	148.0	162.6	174.9
	Without Mount Cap	mm	2,120	2,413	2,686	2,839	3,316	3,520	3,753
		inch	83.5	95.0	105.7	111.8	130.6	138.6	147.8
Operating Pressure		bar	150 ~ 170	160 ~ 180	160 ~ 180	170 ~ 190	170 ~ 190	200 ~ 230	210 ~ 240
		psi	2,176 ~ 2,466	2,320 ~ 2,611	2,320 ~ 2,611	2,466 ~ 2,756	2,466 ~ 2,756	2,901 ~ 3,336	3,046 ~ 3,481
Setting Pressure		bar	210	210	230	230	240	260	270
		psi	3,046	3,046	3,336	3,336	3,481	3,771	3,916
Required oil flow		ℓ/min	90 ~ 120	130 ~ 150	160 ~ 190	190 ~ 210	190 ~ 210	200 ~ 230	210 ~ 250
		gpm	23.78 ~ 31.70	34.34 ~ 39.63	42.26 ~ 50.19	50.19 ~ 55.47	50.19 ~ 55.47	52.83 ~ 60.76	55.47 ~ 66.04
Backhead Pressure		bar	6	6	6	8	11	17	17
		psi	87	87	87	116	160	247	247
Accumulator Pressure		bar	60	60	60	60	60	60	60
		psi	870	870	870	870	870	870	870
Impact Rate		bpm	400 ~ 900	400 ~ 800	350 ~ 750	300 ~ 500	240 ~ 310	150 ~ 280	150~250
Tool Shank Diameter		mm	120	135	150	160	180	190	210
		inch	4.7	5.3	5.9	6.3	7.1	7.5	8.3
Impact Energy		Joule	4,234	5,717	9,150	9,980	13,125	14,800	17,500
		ft.lb	3,123	4,217	6,749	7,361	9,681	10,916	12,907
Suitable Machine		ton	13 ~ 18	18 ~ 26	28 ~ 35	33 ~45	45 ~ 55	48 ~ 65	55 ~ 75
		lbs	28,660~39,683	39,683~57,320	61,729~77,162	72,753~99,208	99,208~121,254	105,822~143,300	121,254~165,346

\* The above specifications are subject to change without prior notice for the quality enhancement.



# Backhoe Loader & Skid Steer Loader



## Backhoe Loader

Top Rock Hydraulic Hammers for backhoe loader designed to accommodate all backhoe loaders with various pin hole arrangements for all customers.

### Specification

Description	Unit	TRH30BL	TRH50BL	TRH60BL
Operating Weight (including tool)	kg	180	382	426
	lbs	397	842	939
Overall Height (including tool)	mm	1,306	1,393	1,678
	inch	51.4	54.8	66.1
Operating Pressure	bar	90 ~ 120	95 ~ 130	100 ~ 130
	psi	1,305 ~ 1,740	1,378 ~ 1,895	1,450 ~ 1,885
Setting Pressure	bar	150	170	170
	psi	2,175.6	2,465.7	2,465.7
Required oil flow	ℓ/min	25 ~ 50	30 ~ 50	40~80
	gpm	6.6 ~ 13.2	8.0 ~ 13.2	10.5 ~ 21.1
Backhead Pressure	bar	16	16	16
	psi	232	232	232
Impact Rate	bpm	550 ~ 1,000	450 ~ 900	450 ~ 900
	mm	53	68	75
Tool Shank Diameter	inch	2.08	2.67	2.95
	Joule	492	849	1,210
Impact Energy	ft.lb	363	626	892
	ton	2.0 ~ 3.5	4 ~ 6	5 ~ 9
Suitable Machine	lbs	4,409 ~ 7,716	8,818 ~ 13,228	11,023 ~ 19,841

\* Above specifications are subject to change without notice.

## Skid Steer Loader

Top Rock Hydraulic Hammers for skid-steer loaders designed to be suitable for all skid-steer loaders model with high quality & mega impact power.

### Specification

Description	Unit	TRH30SL	TRH50SL	TRH60SL
Operating Weight (including tool)	kg	298	414	505
	lbs	657	913	1,113
Overall Height (including tool)	mm	1,306	1,393	1,678
	inch	51.4	54.8	66.1
Operating Pressure	bar	90 ~ 120	95 ~ 130	100 ~ 130
	psi	1,305 ~ 1,740	1,378 ~ 1,895	1,450 ~ 1,885
Setting Pressure	bar	150	170	170
	psi	2,175.6	2,465.7	2,465.7
Required oil flow	ℓ/min	25 ~ 50	30 ~ 50	40 ~ 80
	gpm	6.6 ~ 13.2	8.0 ~ 13.2	10.5 ~ 21.1
Backhead Pressure	bar	16	16	16
	psi	232	232	232
Impact Rate	bpm	550 ~ 1,000	450 ~ 900	450 ~ 900
	mm	53	68	75
Tool Shank Diameter	inch	2.08	2.67	2.95
	Joule	492	849	1,210
Impact Energy	ft.lb	363	626	892
	ton	2.0 ~ 3.5	4 ~ 6	5 ~ 9
Suitable Machine	lbs	4,409 ~ 7,716	8,818 ~ 13,228	11,023 ~ 19,841

\* Above specifications are subject to change without notice.





# Automatic Greasing Line & Pump



MODEL of 11U-500



MODEL of 11D-500

- Advanced internal automatic greasing system
- Long life for tool & tool bushing
- Rechangeable cartridge, economical maintenance costs & Easy mounting pump

## Breaker Tool Right Tool Selection

The right selection of working tool is start of demolition and decide on breaking performance.  
The tool should be selected by breaking material and job condition as well.



### Blunt

Shock wave full over material & creating crack  
Concrete Breaking, Stone Block, Debris, Scaling  
Working for Mine & Tunnel



### Chisel

Penetration high & cracking  
Hard Material, Trenching



### Moil Point

Shock wave concentrated and penetration high  
Reinforced Concrete, Hard Material, General Breaking

  Flat Slide

  Pyramid





## New Leader of Vibro-Ripper

### Vibro-Ripper

Renovation in excavation and demolition works.

The Top Rock Ripper is an excavator attachment with the latest advances in excavation and demolition system in mind.

TVR series are manufactured for the purpose of crushing the rock, concrete and asphalt.

TVR series is low noise device and it is resolved noise that the biggest problem when using traditional breaker. It is also much better than the work efficiency of hydraulic breaker.

TVR series is used for crushing of the rock, concrete and asphalt. It is also possible to underwater work without any damage risk that could not work by hydraulic breaker.



### Advantage Compared to Hydraulic Breaker

- Thanks to it's uncomplicated mechanical design , which has no pricy components.  
The maintenance cost are very economic and down times are ignore.
- Top Rock has designed to operate by max. the centrifugal Force with perfect operation technology design.
- Top Rock Ripper has high working performance by installation with Perfect Motor control system.
- It has installed a good quality of hydraulic motor, roller bearing and gear box.
- Compared with Other Korean brand or Chinese,  
Top Rock has not using rubber damper which has been occur many problem from impact by vibration.
- No required daily lubrication.
- Long life components and materials.
- High working efficiency compared to Hydraulic Breaker.
- Lo noise level(under 90 db)

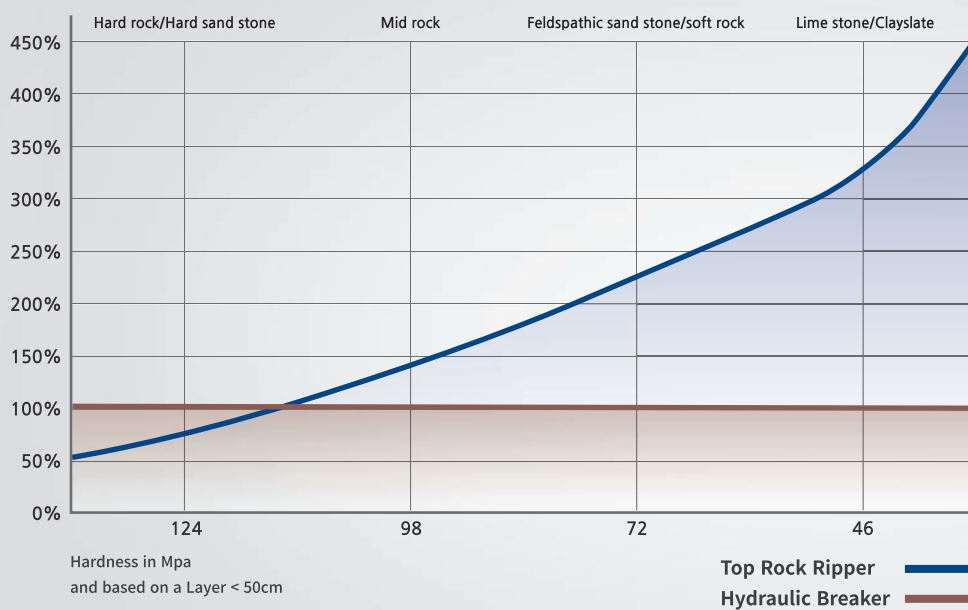




# TOP ROCK Vibro-Ripper

## Comparison with Hydraulic Breaker

TOP ROCK Vibro-Ripper has a 3~4 times higher production efficiency in 80% job application as like limestone, Feldspathic sand stone, Cracked soft rock, veined rock in quarry.



Top Rock Vibro-Ripper has a 3 ~4 times higher production efficiency in 80% job application as like lie stone, Feldspathic sand stone, cracked soft rock, veined rock in quarry.

Available in sizes larger than any current range of hammers and also on demand Giant units can be supplied. In quarries with limited volume of production or where drilling and blasting is not longer permitted for environmental or safety reasons,

The Top Rock Ripper is the only real way to get reasonable production for low costs.

### Application Job site :

Area of public grievance from noise, tunnel working for soft rock on Veined rock, soft sand stone, cracked rock in quarry and mining.





# TOP ROCK Vibro-Ripper

A full range for hydraulic excavators from 12on to 55 ton

- High Production
- High Efficiency
- High Durability

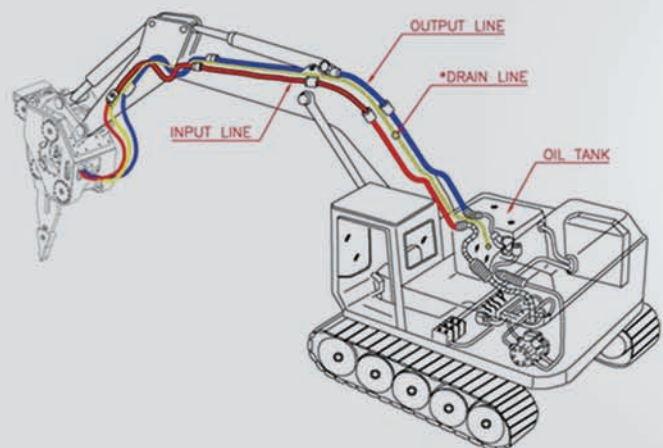
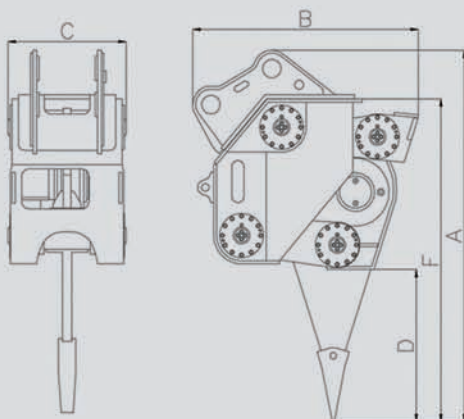


## Specification

Description		Unit	TVR150	TVR200	TVR300	TVR400	TVR500
Operating Weight (Inc. Top Bracket)		kg	1,600	2,500	3,150	4,600	5,600
		lbs	3,527	5,511	6,944	10,141	12,345
Operating Pressure		bar	180 ~ 200	210 ~ 220	240 ~ 250	240 ~ 250	240 ~ 250
		psi	2,610 ~ 2,900	3,045 ~ 3,190	3,480 ~ 3,625	3,480 ~ 3,625	3,480 ~ 3,625
Required oil flow		ℓ/min	100 ~ 120	170 ~ 190	180 ~ 200	200 ~ 220	250 ~ 260
		gpm	26.0 ~ 32.0	45.0 ~ 50.0	48.0 ~ 53.0	53.0 ~ 58.0	66.0 ~ 69.0
Air Bag Pressure		bar	5	6	6	6	6
		psi	72.5	87	87	87	87
Frequency		bpm	1,500	1,500	1,400	1,300	1,200
Dimension	A	mm	1,650	2,420	2,720	3,150	3,300
	B	mm	870	1,480	1,510	1,940	2,010
	C	mm	500	780	840	1,040	1,040
	D	mm	750	990	1,150	1,350	1,490
	F	mm	1,350	2,100	2,400	2,760	2,900
Suitable Machine		ton	12 ~ 17	18 ~ 26	27 ~ 35	32 ~ 45	45 ~ 55
		lbs	26,455 ~ 37,478	39,683 ~ 57,320	59,523 ~ 77,160	70,546 ~ 99,206	99,206 ~ 121,252

\* Above specifications are subject to change without notice.

## [ Piping Line System ]



# TOP ROCK

## Attachments



### Crusher

Top Rock Crusher make use of many kind of jaws with a single base unit with universal application system.

Description	Unit	TRC200 II	TRC300 II	TRC400 II
Operating Weigh with Jaw	kg	1,680	2,630	2,750
	lbs	3,704	5,798	6,063
Overall Height with Jaw	mm	1,942	2,480	2,660
	inch	76.5	97.6	104.7
Operating Pressure	bar	300	320	320
	psi	4,226	4,550	4,550
Required oil flow	ℓ/min	200 ~ 250	250 ~ 300	250 ~ 300
	gpm	52.80 ~ 66.10	66.10 ~ 79.20	66.10 ~ 79.20
Max.Opening width	mm	886	1,163	1,163
	inch	34.90	45.80	45.80
Crushing Force (End Section)	ton	108	171	175
	Degree	360		
Rotation Hydraulic Motor	oil flow(lpm)	36 ~ 40(9.50 ~ 10.50 gpm)		
	ton	18 ~ 26	26~32	33 ~ 45
Suitable Machine	lbs	39,683 ~ 57,320	57,320 ~ 70,546	72,753 ~ 99,208

\* Above specifications are subject to change without notice.

### Pulverizer

Designed with strong power and longer durability by Top Rock's technology

Description	Unit	TRP200 II	TRP300 II	TRP400 II
Operating Weigh with Jaw	kg	1,760	2,800	2,900
	lbs	3,880	6,173	6,393
Overall Height with Jaw	mm	2,024	2,430	2,745
	inch	79.7	95.7	108.1
Operating Pressure	bar	300	320	320
	psi	4,226	4,550	4,550
Required oil flow	ℓ/min	200 ~ 250	250 ~ 300	250 ~ 300
	gpm	52.80 ~ 66.10	66.10 ~ 79.20	66.10 ~ 79.20
Max.Opening width	mm	890	968	968
	inch	35.00	38.10	38.10
Crushing Force (End Section)	ton	108	171	175
	Degree	360		
Rotation Hydraulic Motor	oil flow(lpm)	36 ~ 40(9.50 ~ 10.50 gpm)		
	ton	18 ~ 26	26 ~ 32	33 ~ 45
Suitable Machine	lbs	39,683 ~ 57,320	57,320 ~ 70,546	72,753 ~ 99,208

\* Above specifications are subject to change without notice.



### Shear

It is designed to be more durable, and low maintenance cost with resistance teeth

Description	Unit	TRS200 II	TRS300 II	TRS400 II
Operating Weigh with Jaw	kg	1,760	2,800	2,900
	lbs	3,880	6,173	6,393
Overall Height with Jaw	mm	2,072	2,434	2,750
	inch	81.6	95.8	108.3
Operating Pressure	bar	300	320	320
	psi	4,226	4,550	4,550
Required oil flow	ℓ/min	200 ~ 250	250 ~ 300	250 ~ 300
	gpm	52.80 ~ 66.10	66.10 ~ 79.20	66.10 ~ 79.20
Max.Opening width	mm	522	603	603
	inch	20.60	23.70	23.70
Shearing Force (End Section)	ton	127	197	205
	Degree	360		
Rotation Hydraulic Motor	oil flow(lpm)	36 ~ 40(9.50 ~ 10.50 gpm)		
	ton	18 ~ 26	26 ~ 32	33 ~ 45
Suitable Machine	lbs	39,683 ~ 57,320	57,320 ~ 70,546	72,753 ~ 99,208

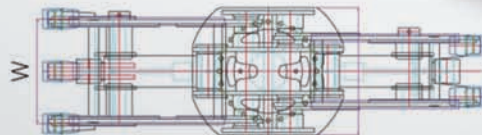
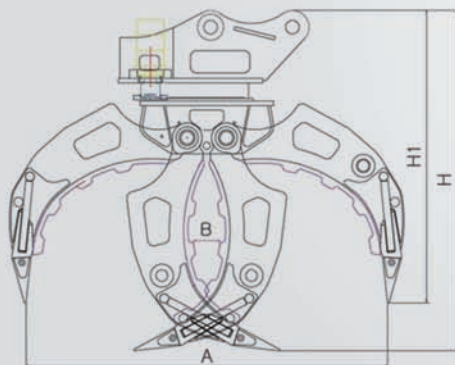
\* Above specifications are subject to change without notice.



# Stone Grapple Rotating Type

## Features

- Excellent Performance in carrying, Loading and unloading of rocks.
- Mighty Power of high-pressure cylinder and equipped with shock absorbing cushion device.
- More long lifetime due to its superior abrasion resistance and excellent hardness.
- Equipped with swing bearing to absorb shock in collision.
- Including safety check valve to prevent the grabbed materials from falling down.



## Specification

Description	Unit	TRSG50R	TRSG140R	TRSG220R	TRSG350R
Operating Weight with Mount cap	kg	365	850	1,960	2,100
	lbs	805	1,874	4,320	4,630
Max.Opening Jaw width(A)	mm	1,280	1,700	2,100	2,345
	inch	50.40	66.93	82.68	92.32
Overall Height with Jaw(H1)	mm	1,190	1,400	1,740	1,870
	inch	46.85	55.12	68.50	73.62
Cylinder Oil Pressure	bar	110 ~ 200	150 ~ 220	160 ~ 240	160 ~ 240
	psi	1,595 ~ 2,900	2,175 ~ 3,190	2,320 ~ 3,480	2,320 ~ 3,480
Required oil flow	ℓ/min	30 ~ 50	90 ~ 120	100 ~ 150	130 ~ 200
	gpm	7.96 ~ 13.21	23.77 ~ 31.70	26.42 ~ 39.63	34.34 ~ 52.84
Cylinder setting pressure	bar	250		260	
	psi	3,625.00		3,770.00	
Max.Torque	daNm	61	160	160	160
Rotating		Hyd.Rotating			
Suitable Machine	ton	4 ~ 7	9 ~ 13	18 ~ 22	28 ~ 32
	lbs	8,818 ~ 15,432	19,841 ~ 28,660	39,682 ~ 48,500	61,728 ~ 70,546

\* The above specifications are subject to change without prior notice for the quality enhancement.

# Hydraulic Compactor & Quick Coupler

## Hydraulic Compactor



### Specification

Description	Unit	TRVC50	TRVC120	TRVC220	TRVC350	TRVC450
Hardening Force	ton	4.50	7.50	15.00	15.00	15.00
Impact rate	bpm	1,800	1,800	2,000	2,000	2,000
Operating Weight with Mount cap	kg	350	644	1,060	1,150	1,580
	lbs	771	1,420	2,337	2,535	3,483
Operating Pressure	bar	100 ~ 170	150 ~ 210	170 ~ 220	170 ~ 220	170 ~ 220
	psi	1,451 ~ 2,466	2,176 ~ 3,047	2,466 ~ 3,192	2,466 ~ 3,192	2,466 ~ 3,192
Required oil flow	ℓ/min	45 ~ 65	80 ~ 110	120 ~ 170	150 ~ 200	150 ~ 200
	gpm	11.88 ~ 17.17	21.11 ~ 29.05	31.70 ~ 44.91	39.62 ~ 52.83	39.62 ~ 52.83
Base Plate Dimension(LxW)	mm	900 x 550	1,160 x 700	1,350 x 900	1,350 x 900	1,400 x 950
	inch	35.43 x 21.65	45.66 x 27.56	53.14 x 35.43	53.14 x 35.43	55.11 x 37.40
Suitable Machine	ton	4 ~ 7	13 ~ 17	18 ~ 26	28 ~ 32	33 ~ 45
	lbs	8,818 ~ 15,431	28,659 ~ 37,478	39,682 ~ 57,319	61,728 ~ 70,546	72,751 ~ 99,206

\* The above specifications are subject to change without prior notice for the quality enhancement.

## Quick Coupler

- Pro-longed lifetime with superior durability
- Double safety device
- Simple hitch & loosing work
- Enough space for safety pin



Description	Unit	TRQ50	TRQ120	TRQ220	TRQ270	TRQ350	TRQ450
Operating Weight	kg	60 ~ 70	170 ~ 190	330 ~ 340	510 ~ 530	630 ~ 640	670 ~ 755
	lbs	110 ~ 154	375 ~ 419	728 ~ 750	1,124 ~ 1,084	1,289 ~ 1,309	1,370 ~ 1,544
Operating Pressure	bar	40 ~ 350					
	psi	563 ~ 4,976					
Flow Rate	ℓ/min	10 ~ 30					
	gpm	2.64 ~ 7.92					
Applicable Limits	mm	255 ~ 290	375 ~ 400	450 ~ 480	487 ~ 540	510 ~ 580	533 ~ 600
	inch	10 ~ 11.41	14.76 ~ 15.74	17.71 ~ 18.89	19.17 ~ 21.25	20.07 ~ 22.83	20.98 ~ 23.62
Type		PUSH TYPE			PULL TYPE		
Adjust available range	mm	45(Plus)			15(Plus)		
	inch	1.77(plus)			0.59(Plus)		
Suitable Machine	ton	5 ~ 6	9 ~ 14	18 ~ 22	23 ~ 30	31 ~ 36	37 ~ 45
	lbs	11,022 ~ 13,227	19,841 ~ 30,864	39,682 ~ 48,500	50,705 ~ 66,137	68,342 ~ 79,365	81,569 ~ 99,206

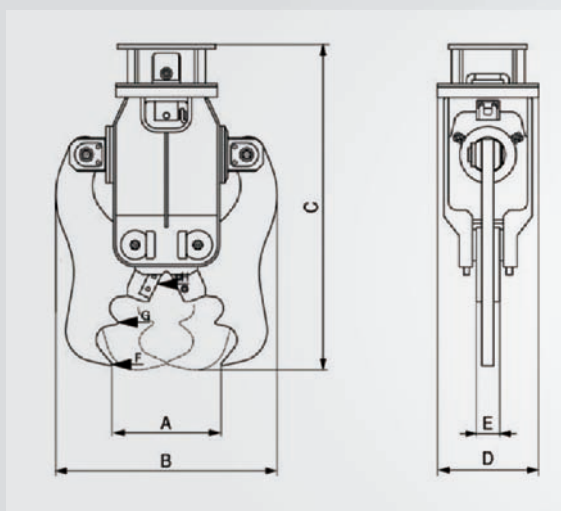
\* The above specifications are subject to change without prior notice for the quality enhancement.



# Mini Crusher

## Features

- Lightweight Design for stability of operating machine
- One Cylinder system for powerful crushing and speed
- High Strength and wear resistance materials for reliability
- Full line-up for Mini excavators



## Specification

Description		Unit	TCR010R	TCR020R	TCR030R	TCR050R	TCR050H
Weight		kg	105	180	330	420	490
Jaw Oper-ating	A	mm	280	360	430	520	520
Total Width	B	mm	568	688	767	844	844
Total Length	C	mm	900	1,110	1,328	1,405	1,460
Total Height	D	mm	260	290	350	400	465
Crushing Force		ton	58	62	84	99	99
Rotating			360 degree Free Rotating				Hyd. Rotating
Excavator		ton	0.7 ~ 2.0	1.5 ~ 3.0	2.5 ~ 5.0	4.5 ~ 8.0	4.5 ~ 8.0

\* The above specifications are subject to change without prior notice for the quality enhancement.

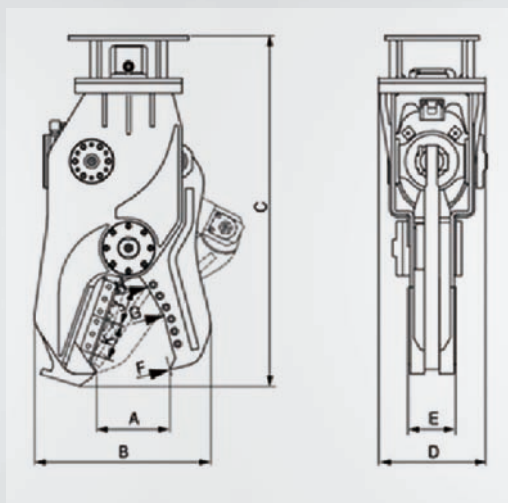




# TOP ROCK Mini Shear

## Features

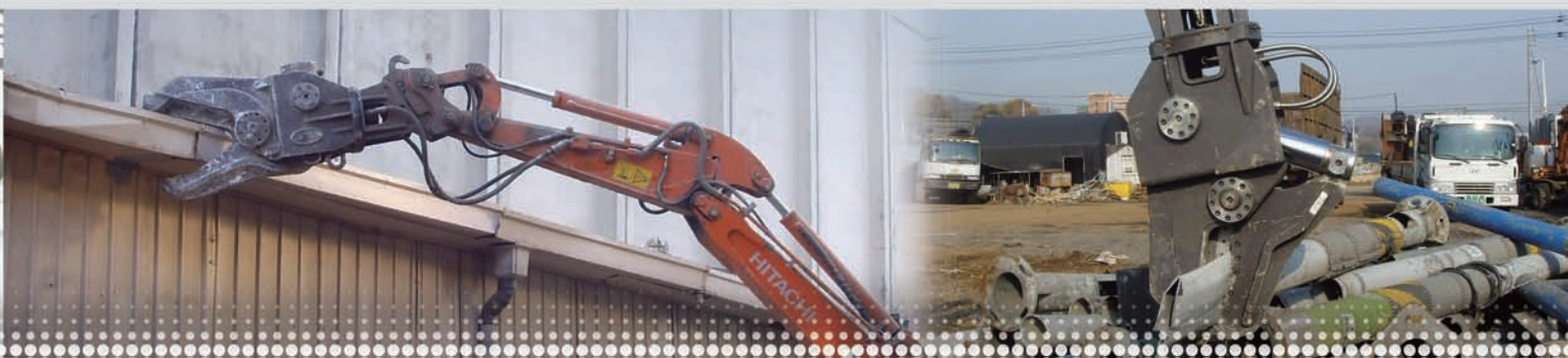
- Lightweight Design for stability of operating machine
- Trunnion mounting Cylinder for compactor design
- High Strength and wear resistance materials for reliability
- Full line-up for Mini excavators



## Specification

Description		Unit	TSH020R	TSH030R	TSH050R	TSH050H
Weight		kg	190	260	430	500
Jaw Operating	A	mm	230	230	290	290
Total Width	B	mm	478	563	720	720
Total Length	C	mm	1,085	1,200	1,410	1,456
Total Height	D	mm	290	350	400	465
Crushing Force		ton	65	111	152	152
Rotating			360 degree Free Rotating			
Excavator		ton	1.5 ~ 3.0	2.5 ~ 3.0	4.5 ~ 8.0	4.5 ~ 8.0

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