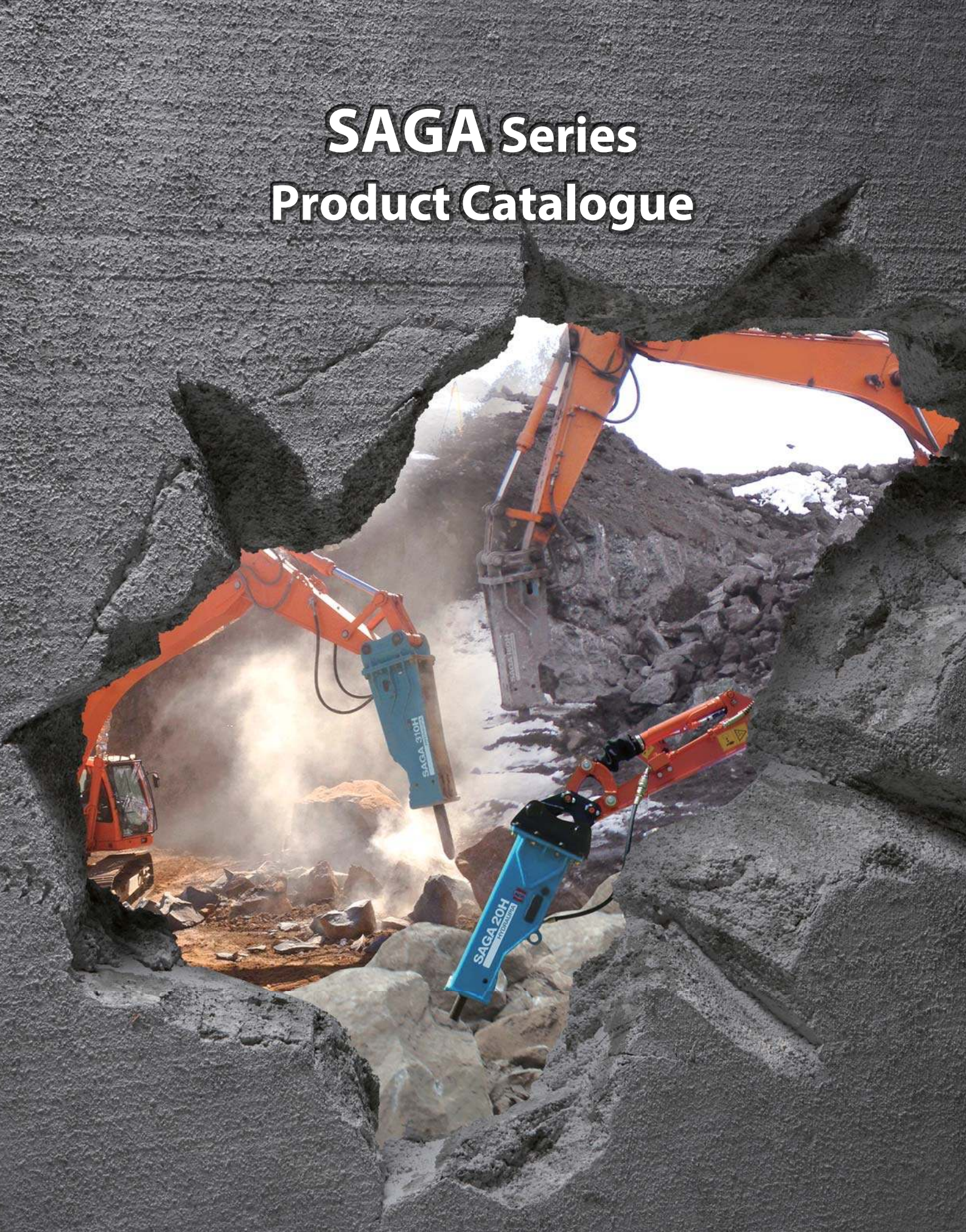
SAGA Series
Product Catalogue



MSB CORPORATION
MASTER OF SUPER BREAKERS

“Master of Super Breakers”

Founded in 1995, MSB is the premium Korean manufacturer that has complete ‘gas firing breaker lineup’ such as SAGA series.

Promise to deliver the best value and enjoy Korean premium!

Smart rock mining : Blast Free

Most common mining method without blasting :

Breaking with hydraulic breakers



Gas Firing System : SAGA Series

SAGA Series : Legendary breaker series that inspires your choice for any breaking task.

Large Sized Breakers : SAGA 310H/400H/510H

The large sized breakers provide us the time saving alternative in tight timeframe. They are available for the toughest demolition tasks such as the biggest demolition jobs, primary excavation in quarrying tasks, tunneling jobs and the underwater jobs with the extra kit installation. It is one of most efficient mining solutions against the blast.

Mid-Sized Breakers : SAGA 120H/180H/220H/250H

The robust structure and the optimized weight ratio of the mid-sized breakers by the dedicated product design are the smart choices for the jobs such as earthworks in non-residential area and secondary demolition in quarrying tasks, demolishing buildings and the underwater jobs with the extra kit installation.
It is a perfect solution for digging narrow deep trenches.

Small Sized Breakers : SAGA 10H/20H/30H/40H/50H/55H/81H/100H

The small breakers are highly productive choices for the jobs such as excavation work, highway and road maintenance, demolitions in urban area and building refurbishment.

SAGA Small Series

SAGA 10H | SAGA 20H | SAGA 30H | SAGA 40H | SAGA 50H | SAGA 55H | SAGA 81H | SAGA 100H

※Open / Box (Soundproof) / Side housing are all available in SAGA Small Sized Series.

Technical Specification

Specification	Unit	SAGA Small Sized Series														
		SAGA 10H		SAGA 20H		SAGA 30H		SAGA 40H		SAGA 50H		SAGA 55H	SAGA 81H		SAGA 100H	
		OPEN	BOX	OPEN	BOX	OPEN	BOX	OPEN	BOX	OPEN	BOX	BACKHOE	OPEN	BOX	OPEN	BOX
Working Weight 1)	kg	64	67	110	120	170	175	200	220	280	295	340	438	430	600	570
	lb	141	148	245	265	375	385	440	485	620	650	750	965	950	1325	1255
Impact Rate	bpm	700 - 1100		700 - 1000		600 - 950		550 - 800		500 - 750		500 - 750	460 - 750		400 - 800	
Operating Pressure	bar	100 - 110		80 - 110		90 - 120		90 - 120		95 - 130		95 - 130	95 - 130		130 - 150	
	psi	1450 - 1600		1160 - 1595		1305 - 1740		1305 - 1740		1377 - 1885		1377 - 1885	1377 - 1885		1885 - 2175	
Relief Pressure	bar	140 - 160		140 - 160		140 - 160		140 - 160		150 - 170		150 - 170	170 - 180		180 - 190	
	psi	2030 - 2320		2030 - 2320		2030 - 2320		2030 - 2320		2175 - 2465		2175 - 2465	2465 - 2610		2610 - 2755	
Oil Flow	l / min	10 - 16		15 - 30		25 - 40		30 - 45		35 - 50		35 - 50	45 - 85		45 - 90	
	gal/min	2.6 - 4.2		4 - 8		7 - 10		8 - 11		9 - 13		9 - 13	11 - 22		11 - 23	
Back Head Pressure	bar	18.5		8		16		8		16		16	16		16	
	psi	116		116		232		116		232		232	232		232	
Tool Diameter	mm	38		45		53		60		68		68	75		85	
	inch	1.5		1.77		2.08		2.36		2.67		2.67	2.95		3.34	
Pressure Line Size [IN] (Hose Connection)	mm	12		12		12		12		12		12	19		19	
	inch	1/2		1/2		1/2		1/2		1/2		1/2	3/4		3/4	
Return Line Size [OUT] (Hose Connection)	mm	12		12		12		12		12		12	19		19	
	inch	1/2		1/2		1/2		1/2		1/2		1/2	3/4		3/4	
Carrier Weight Range 2)	ton	0.8 - 3		0.8 - 3		1.2 - 3.5		2 - 5		4 - 7		4 - 7	6 - 9		7 - 12	
	lb	1800 - 6600		1800 - 6600		2600 - 7700		4400 - 11000		8800 - 15400		8800 - 15400	13200 - 19800		15400 - 26400	

1) Working Weight : Included top bracket, one tool, pin, bush
2) Check the lifting capacity of the main carrier from the carrier manual and the carrier manufacturer.
3) Some numeric figures are calculated with the round off for the easier understanding for the customer preference.

Competitive Feature List : SAGA Series

Series	Size	Model	Underwater Application (UA)	All-in-One Type of Uppder Bushing & Thrust Ring	Soundproof Housing Application (SHA)	Manual Autogrease System I (Powercell)	Automatic Autogrease System II (Side Mounted Refiller)	Easy Pass Valve (Oil Traffic Control)	Energy Regeneration Nitrogen Gas Cushion Chamber (ERNGCC)
SAGA Series	Small	SAGA 10H			●	●		●	●
		SAGA 20H			●	●		●	●
		SAGA 30H	●		●	●		●	●
		SAGA 40H	●		●	●		●	●
		SAGA 50H	●	●	●	●	○	●	●
		SAGA 55H	●	●	●	●	○	●	●
		SAGA 81H	●	●	●	●	○	●	●
		SAGA 100H	●	●	●	●	○	●	●

※Note 1: Some competitive features may not be available, please consult this concern to MSB corporation for the availability.
Note 2: ○ Option.

SAGA Series Section Feature (Small Size : SAGA 10/20/30/40/50/55/81/100H)

1 Energy Regeneration Nitrogen Gas Cushion Chamber (ERNGCC)
Absorbs the piston's upward recoil and conduct energy recycling for the constant blow .

2 Easy-Pass Valve
Side mounted type of 'Easy-Pass Valve (EPV)' as a spool to regulate smooth oil traffic and to control the oil direction for the stable operation and the vibration absorbing .

3 Piston
Most efficient design for maximum energy transfer and recoil reduction as well as ideal match of tool and piston diameters. It transfers highest shock wave into the breaking objects.

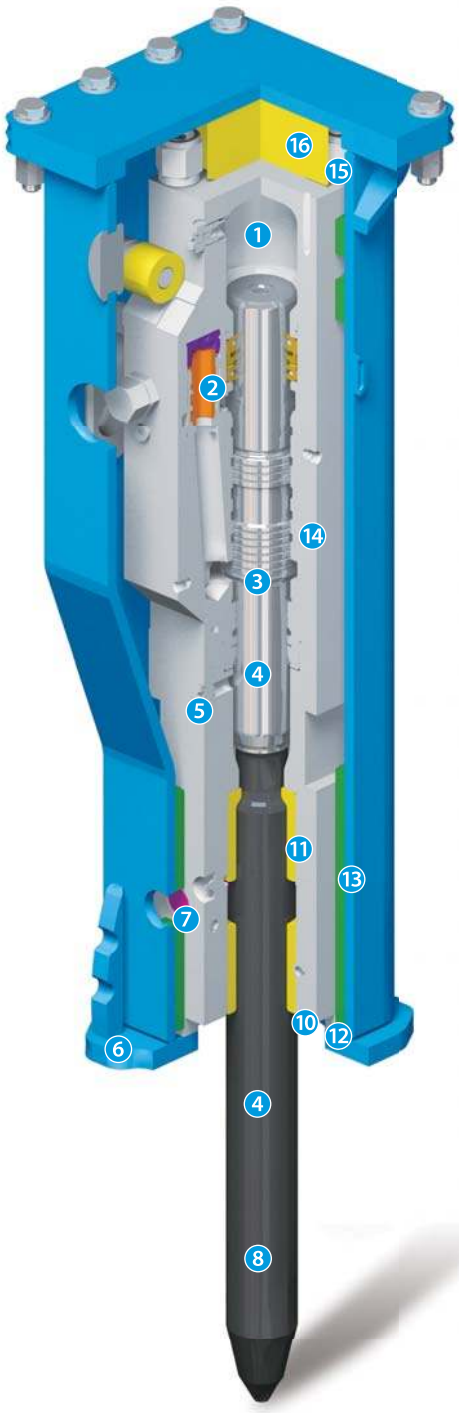
4 Efficient Power Transfer(Piston to tool)
Optimum transfer of blow energy into the material and the reduction of the recoil.

5 Underwater Application(UA)
Air line for underwater use.

6 Housing Bottom Plate
Abrasion-resistant plate delivers breaker protection.

7 Single Tool Retainer Pin
Correct tool alignment and dispersion of tool wear.

8 Working Tool
Heat treated and optimal length for efficient breaking.



16 Top Buffer
Vibration absorber to prevent the impulses between the carrier and the breaker.

15 Side(Tie) Rods
Fully closed side (tie) rods enlarges the durability and the optimal load carrying capacity is designed.

14 Cylinder Design
Square typed cylinder design brings optimum match between back head and front head as well as improves stable operation to increase the product durability and to reduce the unnecessary damages such as scratches.

13 Wearing Plates
Employment of wear resistant plates between cylinder, front head and housing increases the overall product durability.

12 Base Buffer
Vibration absorber and suspension device to protect the powercell.

11 All-in-One Type of Upper Bushing and Thrust Ring Integration
Convenient one set and easier maintenance and serviceability without disassembly of powercell.

9 Auto Grease Refiller
Compact auto grease refiller is equipped as an optional feature. Easy daily refill is serviced and continuous greasing is available as long as the breaker is operated. (Not shown on the illustration)

10 Replaceable Tool Bushing
Convenience for replacement and protect the front head (Not shown on the illustration)

※ Note : some features may be adjusted due to the drawing updates by the manufacturer.

SAGA Mid & Large Series

※Open / Box (Soundproof) / Side housing are all available in SAGA Mid & Large Sized Series.

Technical Specification

Specification	Unit	SAGA Mid-Sized Series								SAGA Large Sized Series					
		SAGA 120H		SAGA 180H		SAGA 220H		SAGA 250H		SAGA 310H		SAGA 400H		SAGA 510H	
		OPEN	BOX	OPEN	BOX	OPEN	BOX	OPEN	BOX	OPEN	BOX	OPEN	BOX	OPEN	BOX
Working Weight 1)	kg	1082	1050	1325	1268	1730	1720	1750	1760	2300	2340	3050	3090	4200	3900
	lb	2385	2315	2920	2795	3813	3790	3858	3880	5070	5158	6724	6810	9260	8600
Impact Rate	bpm	450 - 650		450 - 800		400 - 800		400 - 800		350 - 700		200 - 450		200 - 400	
Operating Pressure	bar	140 - 160		150 - 170		160 - 180		160 - 180		140 - 160		160 - 180		140 - 160	
	psi	2030 - 2320		2175 - 2465		2320 - 2610		2320 - 2610		2320 - 2610		2320 - 2610		2320 - 2610	
Relief Pressure	bar	190 - 200		200 - 210		200 - 210		200 - 210		200 - 210		200 - 210		200 - 210	
	psi	2755 - 2900		2900 - 3045		2900 - 3045		2900 - 3045		2900 - 3045		2900 - 3045		2900 - 3045	
Oil Flow	l / min	80 - 100		90 - 120		125 - 150		125 - 150		140 - 180		190 - 260		250 - 300	
	gal/min	21 - 26		23 - 31		33 - 39		33 - 39		42 - 47		50 - 68		66 - 79	
Accumulator Pressure	bar	60		60		60		60		60		60		60	
	psi	870		870		870		870		870		870		870	
Back Head Pressure	bar	16		6		6		8		6		16		16	
	psi	232		87		87		87		87		232		232	
Tool Diameter	mm	98		120		135		140		150		160		180	
	inch	3.85		4.72		5.31		5.51		5.9		6.29		7.08	
Pressure Line Size [IN] (Hose Connection)	mm	19		25		25		25		25		32		32	
	inch	3/4		1		1		1		1		1 1/4		1 1/4	
Return Line Size [OUT] (Hose Connection)	mm	19		25		25		25		25		32		32	
	inch	3/4		1		1		1		1		1 1/4		1 1/4	
Carrier Weight Range 2)	ton	11 - 16		13 - 20		18 - 28		18 - 28		25 - 35		33~45		40 - 55	
	lb	24200-35200		28600-44100		39600-61750		39600-61750		55100-77200		72700-99200		88100-121200	

1) Working Weight : Included top bracket, one tool, pin, bush
2) Check the lifting capacity of the main carrier from the carrier manual and the carrier manufacturer.
3) Some numeric figures are calculated with the round off for the easier understanding for the customer preference.

Competitive Feature List : SAGA Series

Series	Size	Model	Valve Aduster (Oil Flow Control)	Super Anti Blank Firing (SABF) System	Underwater Application (UA)	Swivel Bar (Swivel Joints)	Double Speed System (DSS)	All-in-One Type of Uppder Bushing & Thrust Ring	Accumulator System	Soundproof Housing Application (SHA)	Manual Autogrease System I (Powercell)	Automatic Autogrease System II (Side Mounted Refiller)	Easy Pass Valve (Oil Traffic Control)	Energy Regeneration Nitrogen Gas Cushion Chamber (ERNGCC)
SAGA Series	Mid	SAGA 120H	●	○	●		●	●	●	●	●	○	●	●
		SAGA 180H	●	○	●		●	●	●	●	●	○	●	●
		SAGA 220H	●	○	●	○	●	●	●	●	●	○	●	●
		SAGA 250H	●	○	●	○	●	●	●	●	●	○	●	●
	Large	SAGA 310H	●	○	●	○	●	●	●	●	●	○	●	●
		SAGA 400H	●	○	●	○	●	●	●	●	●	○	●	●
		SAGA 510H	●	○	●	○	●	●	●	●	●	○	●	●

※Note 1: Some competitive features may not be available, please consult this concern to MSB corporation for the availability.
Note 2: ● Option.

SAGA Series Section Feature (Mid & Large Size : SAGA 120/180/220/250/310/400/510H)

1 Energy Regeneration Nitrogen Gas Cushion Chamber (ERNGCC)
Absorbs the piston's upward recoil and conduct energy recycling for the constant blow .

2 Side Buffer
Side vibration absorber and side suspension device to protect the powercell.

3 Easy-Pass Valve
Side mounted type of 'Easy-Pass Valve (EPV)' as a spool to regulate smooth oil traffic and to control the oil direction for the stable operation and the vibration absorbing .

4 N2 Gas Charged Accumulator
Rechargeable N2 gas accumulator to assist power stroke and to reduce the surge pressure and the spikes from the hydraulic circuit of the excavator.

5 Piston
Most efficient design for maximum energy transfer and recoil reduction as well as ideal match of tool and piston diameters. It transfers highest shock wave into the breaking objects.

6 Efficient Power Transfer(Piston to tool)
Optimum transfer of blow energy into the material and the reduction of the recoil.

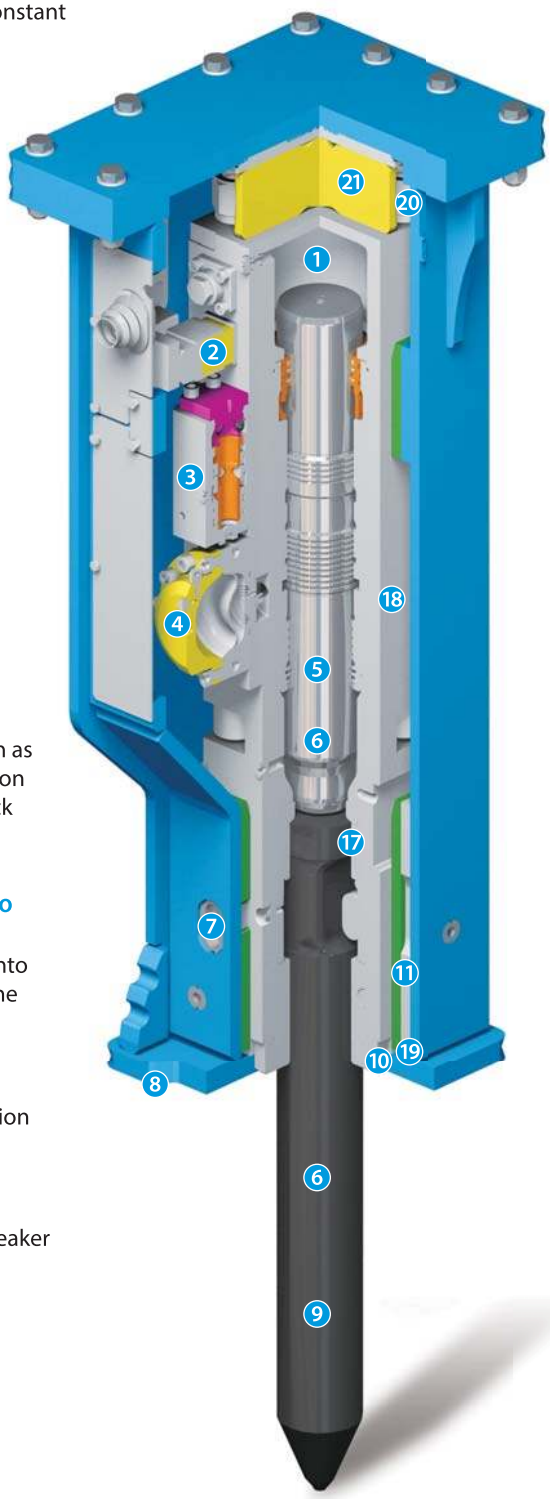
7 Dual Tool Retainer Pins
Correct tool alignment and dispersion of tool wear.

8 Housing Bottom Plate
Abrasion-resistant plate delivers breaker protection.

9 Working Tool
Heat treated and optimal length for efficient breaking.

10 Replaceable Tool Bushing
Convenience for replacement and protect the front head. (Not shown on the illustration)

11 Wearing Plates
Employment of wear resistant plates between cylinder, front head and housing increases the overall product durability.



12 Auto Grease Refiller
Compact auto grease refiller is equipped as an optional feature. Easy daily refill is serviced and continuous greasing is available as long as the breaker is operated. (Not shown on the illustration)

13 Double Speed System (DSS)
As a standard feature (above SAGA120) to change from long stroke to short stroke according to the operator's requirement for the optimal performance.
(Not shown on the illustration)

14 Effective Swivel Bar
High pressure (in) and low pressure (out) swivel bar increase hose lifespan. (Not shown on the illustration)

15 Underwater Application (UA)
Air line for underwater use.
(Not shown on the illustration)

16 Super Anti Blank Firing (SABF) System
SABF increases the lifespan of all components subject to wear and fatigue and reducing stress for the arm of the main carrier and the breaker. (Not shown on the illustration)

17 All-in-One Type of Upper Bushing and Thrust Ring Integration
Convenient one set and easier maintenance and serviceability without disassembly of powercell.

18 Cylinder Design
Square typed cylinder design brings optimum match between back head and front head as well as improves stable operation to increase the product durability and to reduce the unnecessary damages such as scratches.

19 Base Buffer
Vibration absorber and suspension device to protect the powercell.

20 Side(Tie) Rods
Fully closed side (tie) rods enlarges the durability and the optimal load carrying capacity is designed.

21 Top Buffer
Vibration absorber to prevent the impulses between the carrier and the breaker.

※ Note : some features may be adjusted due to the drawing updates by the manufacturer.

SABF + DSS : 4 Stroke Modes

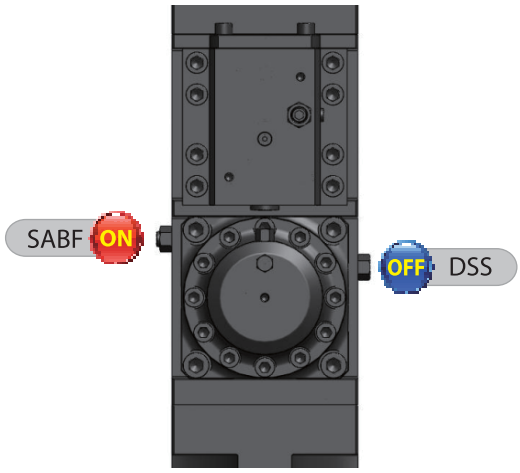
Super Anti Blank Firing (SABF) System + Double Speed Stroke (DSS) System

4 Mode Selections for Efficient Breaking Task

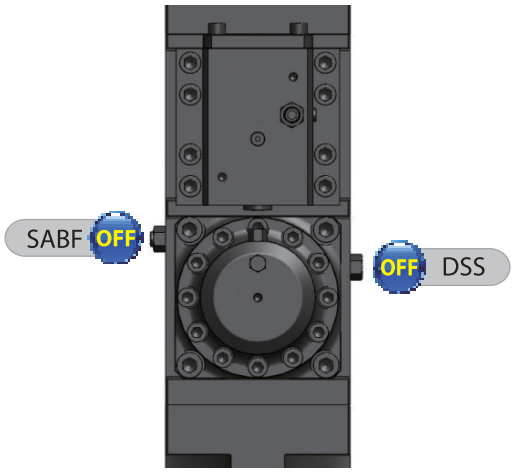
System	Mode Selection	SABF	DSS	Four Modes	Smart Selections
SABF + DSS	Mode 1	On	Off	Anti Blank Firing Mode & Long Stroke Mode	Hard Rock Breaking Powerful Frequency Breaking Anti Blank Firing Condition
	Mode 2	Off	Off	Blank Firing Free Mode & Long Stroke Mode	Hard Rock Breaking Powerful Frequency Breaking Normal Rock Breaking Condition
	Mode 3	On	On	Anti Blank Firing Mode & Short Stroke Mode	Soft Rock Breaking Higher Frequency Breaking Anti Blank Firing Condition
	Mode 4	Off	On	Blank Firing Free Mode & Short Stroke Mode	Soft Rock Breaking Higher Frequency Breaking Normal Rock Breaking Condition

※ The four mode selections for efficient breaking are now available in SAGA 120 / 220 / 250 / 310 / 400 / 510.

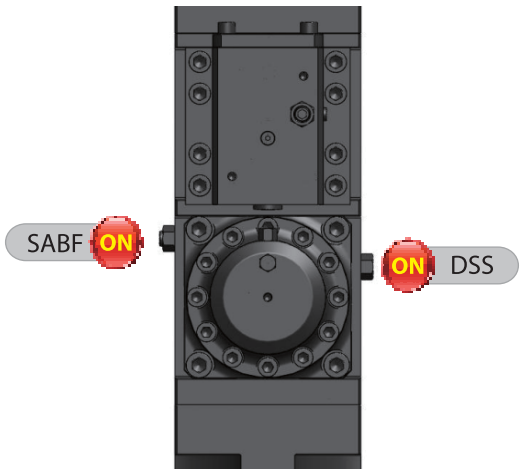
Operational Methods of 4 Stroke Modes



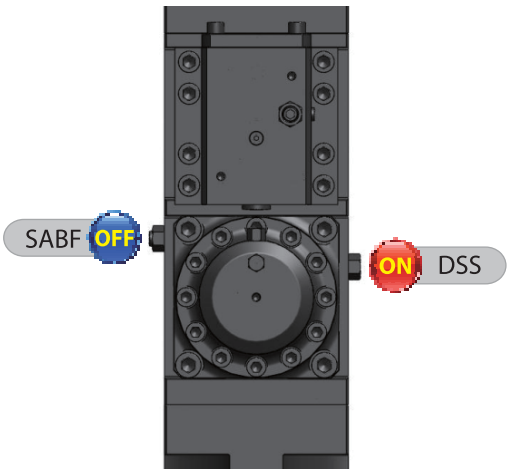
Mode 1



Mode 2

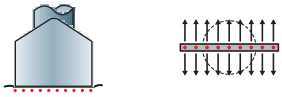
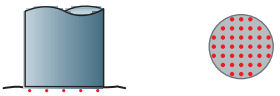
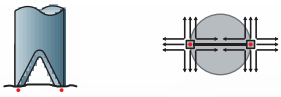


Mode 3



Mode 4

MSB Working Tool Selections

No	Name of Working Tool	Tool Configurations	Recommended Applications
1	Moil		Universal usage Concrete breaking Rock breaking Road construction
2	Moil(Long)		Universal usage Concrete breaking Rock breaking Road construction
3	Cone		Universal usage Soft & nonbrasive work
4	Chisel		Mining Trenching Ground work Slope breaking
5	Dust Chisel		Mining Trenching Ground work Slope breaking
6	Asphalt Cutter		Frozen ground Asphalt cutting
7	Blunt		Mining Block holing Secondary breaking Slag removal
8	Slab Buster		Slab demolishing Lower tool wear application
9	Tank Cutter		Container chopping Special application for two tips' breaking

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