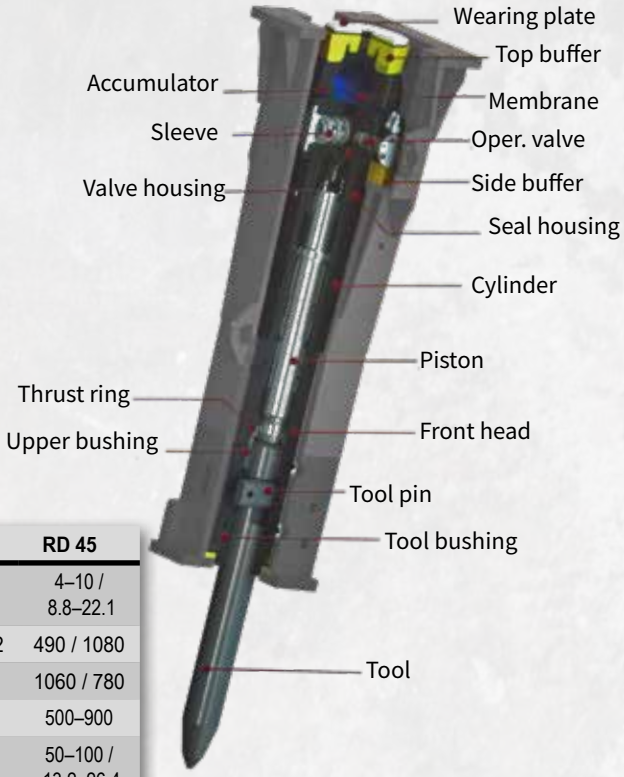
RD LINE

HYDRAULIC BREAKERS

RD Line hydraulic breakers from GAT Attachments have been designed to perform all types of demanding tasks that the end user might face. GAT Attachments breakers are used at the open and close mine and quarry applications. Also typical applications are excavation assistance, demolition, tunnel construction, underwater application etc.

- RD Line hydraulic breakers for GAT Attachments Oy have been designed to perform all types of demanding tasks that the end user might face.
- The membrane type big breakers are fully hydraulically operated and this gurantees reliable operation when productivity matters
- They can operate in all possible positions due to long and light piston and a large number of seals.
- All breakers include in a tool box
- Models RD 65 - RD 700 have automatic greasing as option
- The breakers are designed to have an option for underwater operations.
- The range consists of twentyone (21) models for 0.75 to 100 tonne excavators.
- Long / short stroke adjustment from models RD 125 and up.

Model	RD 09	RD 01	RD 05	RD 01
Carrier weight (t. / 1000 lb)	0.75–1.5 / 1.65–3.3	1–2.5 / 2.2–5.5	1–3 / 2.2–6.7	2.5–6 / 5.5–13.2
Weight (kg / lb)	80 / 176	120 / 364	165 / 363	210 / 460
Impact energy (Joule / ft.lb)	120 / 87	200 / 145	230 / 170	450 / 330
Frequency (bpm)	780-1440	1140-1365	600–1150	600–1140
Excavator oil flow (l/min / gpm)	15–30 / 7–7.9	20–35 / 5.3–9.2	20–35 / 5.3–9.2	30–60 / 7.9–15.9
Working pressure (bar / psi)	120 / 1740	120 / 1740	85–150 / 1232–2175	120 / 1740
Tool diameter (mm / Inch)	38 / 1.5	45 / 2.1	50 / 2.0	68 / 2.68
Noise level (LwA (db))	125	122	122	124
Action	Gas	Gas	Gas	Gas



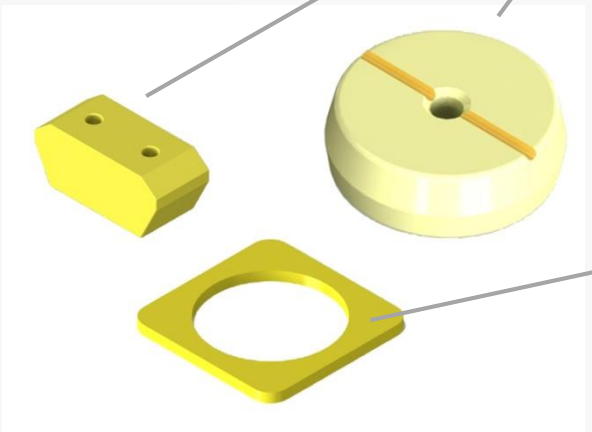
Model	RD 25	RD 30	RD 36	RD 38	RD 40	RD 45
Carrier weight (t. / 1000 lb)	2.5–6 / 5.5–13.2	3–8 / 6.7–17.9	3–8 / 6.6–17.9	3–8 / 6.6–17.9	4–10 / 8.8–22.1	4–10 / 8.8–22.1
Weight (kg / lb)	320 / 706	300 / 660	410 / 904	410 / 904	460 / 1012	490 / 1080
Impact energy (Joule / ft.lb)	470 / 347	840 / 620	900 / 665	900 / 665	980 / 723	1060 / 780
Frequency (bpm)	500–950	390–1000	520–1000	520–1000	450–1000	500–900
Excavator oil flow (l/min / gpm)	30–60 / 7.9–15.9	30–65 / 7.9–17.1	50–100 / 13.2–26.4	50–100 / 13.2–26.4	45–100 / 11.9–26.4	50–100 / 13.2–26.4
Working pressure (bar / psi)	120 / 1740	105–155 / 1523–2248	120 / 1740	120 /1740	100-140 / 1450-2030	120 / 1740
Tool diameter (mm / Inch)	70 / 2.76	70 / 2.76	75 / 2.95	80 / 3.15	80 / 3.15	85 / 3.35
Noise level (LwA (db))	125	125	127	127	127	127
Action	Hydraulic	Gas	Hydraulic	Hydraulic	Gas	Hydraulic

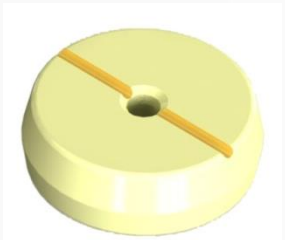
Model	RD 65	RD 95	RD 125	RD 155	RD 175	RD 215
Carrier weight (t. / 1000 lb)	7–13 / 15.4–28.7	9–15 / 19.8–33	14 -20 / 24.3–39.7	18 -26 / 39.7–57.3	22-29 / 48.5–61.7	25-32 / 55.1–70.5
Weight (kg / lb)	750 / 1650	950 / 2095	1200 / 2646	1600 / 3528	1870 / 4123	2200 / 4851
Impact energy (Joule / ft.lb)	1450 / 1070	1760 / 1298	1880 / 1385	2800 / 2063	3300 / 2431	4500 / 3320
Frequency (bpm)	350-700	400-700	390-700	360-650	350-550	350-550
Excavator oil flow (l/min / gpm)	60–120 / 15.8–31.7	70–130 / 18.5–34.4	70–130 / 18.5–34.4	100–180 / 26.4–47.6	120–180 / 31.7–46.6	160–230 / 42.3–60.8
Working pressure (bar / psi)	125 / 1815	125 / 1815	135 / 2000	135 / 2000	135 / 2000	140 / 2035
Tool diameter (mm / Inch)	95 / 3.74	100 / 3.93	115 / 4.52	125 / 4.92	135 / 5.31	145 / 5.7
Noise level (LwA (db))	128	128	127	130	129	135
Action	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic

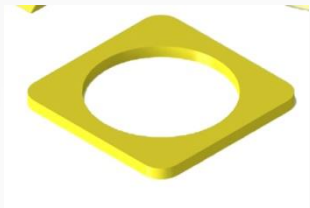
Model	RD 255	RD 285	RD 365	RD 505	RD 700
Carrier weight (t. / 1000 lb)	29-40 / 61.8–88.2	33-50 / 77–110	40–65 / 88.2–143	45–70 / 99.2–154.4	60–100 / 132.3–220.5
Weight (kg / lb)	2520 / 5556	2950 / 6505	3750 / 8269	4750 / 14474	6900 / 15215
Impact energy (Joule / ft.lb)	5610 / 4138	6000 /4427	8000 / 5902	9800 / 7230	13000 / 9588
Frequency (bpm)	330-525	320-520	320-510	300-420	285-400
Excavator oil flow (l/min / gpm)	180–250 / 47.6–66	170–280 / 44.9–73.9	180–280 / 47.5–73.9	220–300 / 58.1–79.2	250–350 / 66–94.4
Working pressure (bar / psi)	140 / 2035	140 / 2035	140 / 2035	140 / 2035	150 / 2180
Tool diameter (mm / Inch)	150 / 5.9	160 / 6.30	175 / 6.89	190 / 7.48	210 / 8.27
Noise level (LwA (db))	132	130	129	130	128
Action	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic

BUFFER SYSTEM

The buffer system (side, top and bottom buffers) that is used in RD breakers, has a special impact and vibration absorbing properties. This protects the breaker and excavator.





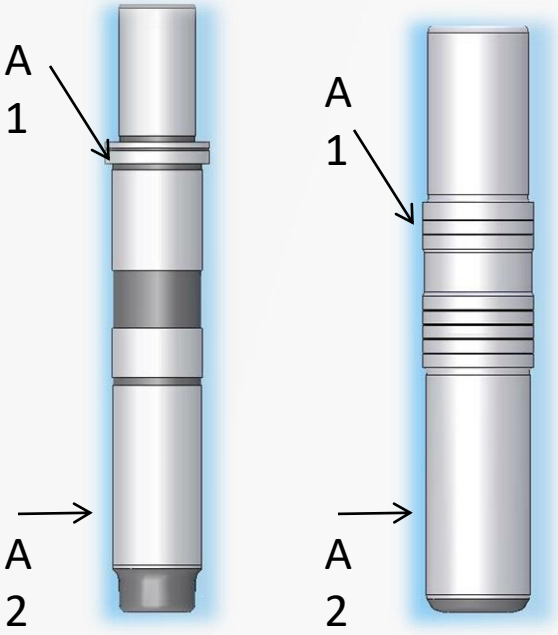


ACCUMULATOR

- The hydraulic accumulators do not need N2 gas charging in the working area.
- Normally, RD accumulators can be used for 2 years or longer without charging.
- On the other gas type breakers, top gas chamber also supports to accumulator for generating the total power. But in some working conditions, gas leakage reduces the power of breaker. Therefore, gas must be charged consistently. However if you charge gas pressure insufficient, breaker's power will be decreased; if you charge gas excessively, breaker does not work. For this reason nitrogen pressure must be checked consistently, gas must be charged by skilled workmanship and always kept gas charging equipments on place that the breaker works.

- Also, RD accumulators have 3 times bigger volume compared to other breakers.
- It has the advantage of less vibration and generate more power.

POWER



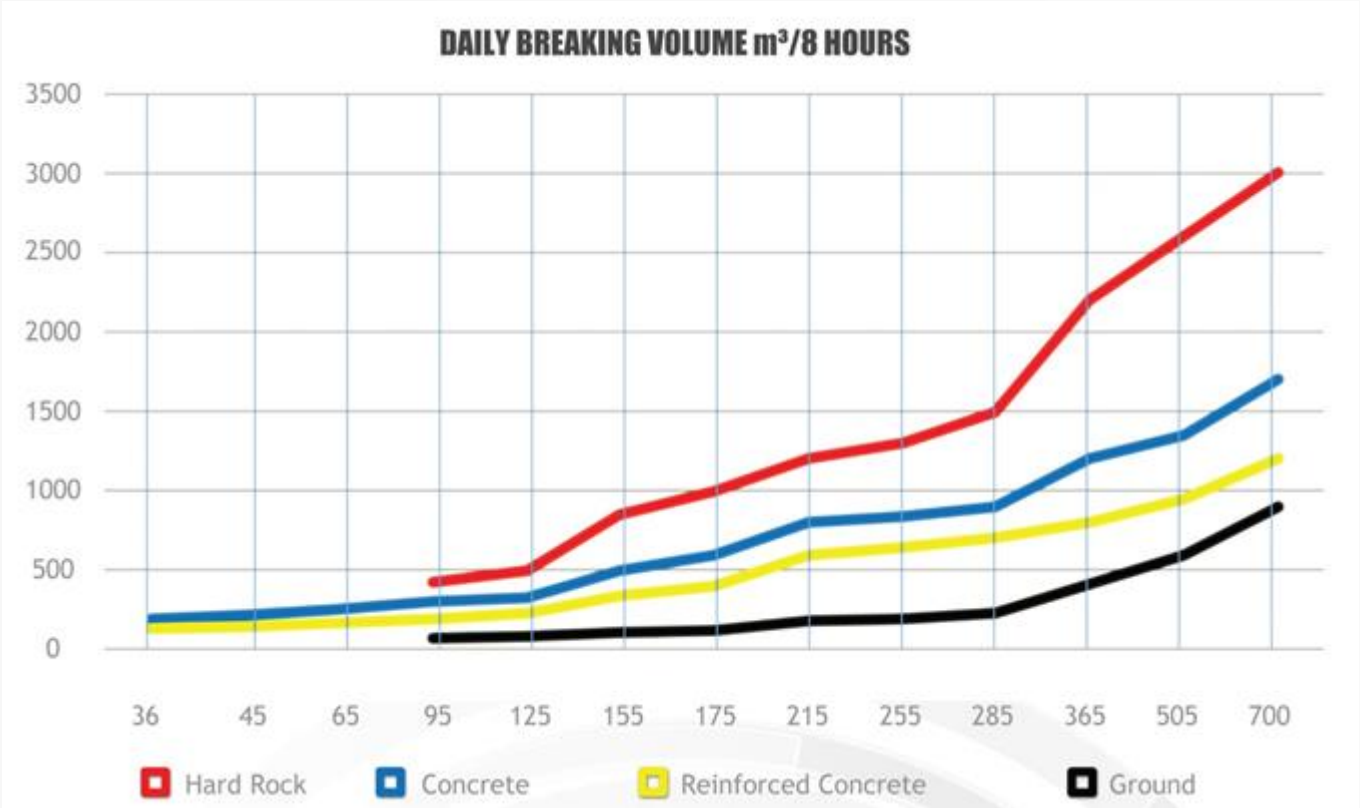
- Needs less power
- Excellent piston design (A1/A2 ratio is higher.)
- Produces more power
- More efficiency

Ratios	A1/A2
RD 175	**= 9,7**
Rammer 2577	= 5,3
Atlas Copco MB 1700	= 1,3
Furukawa F27	= 1,6
Soosan SB100	= 1,22

Although, RD breakers need lower power from the excavator, RD impact energies are higher than many other breakers. This comes from the design of the RD pistons. Upper section, that hydraulic oil effects is big. A1/A2 ratio is high in RD's, so that the power and efficiency is high.

Impact Energy = (Working Pressure)x(Piston Area)x(Piston Stroke)

HIGH BREAKING VOLUME



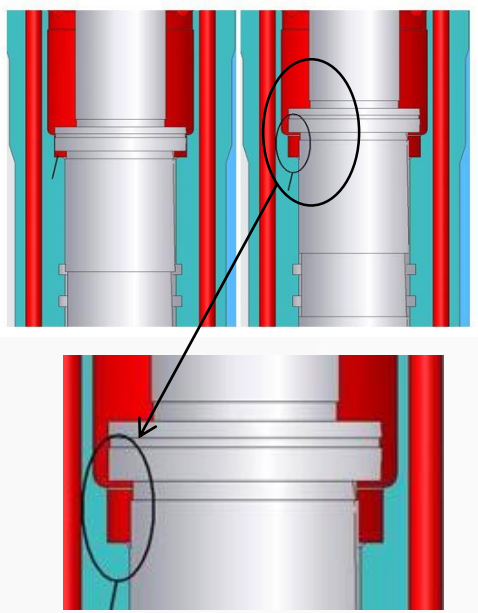
There is given daily breaking volume on the table. These data vary substantially, depending on the place of usage, the hardness and type of the material to be broken, the mounting base machine, the operator's skill and etc.

HYDRAULIC SUSPENSION

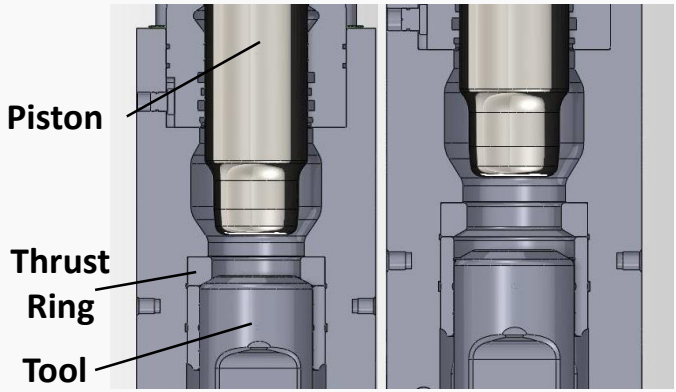
(BLANK FIRING / IDLE STROKE PROTECTION)

RD breakers work without touching the piston to cylinder (steel to steel) on **blank firing** time. Our breakers have bigger volume oil cushion chamber than other brands. It makes strong hydraulic suspension. Thus, RD breaker can be operated without interruption.
Other brands use stop function or variable strok control. “Stop function” works by relief control. Relief valve works continuously by opening and closing, thus hydraulic oil heats over and warmed oil cause problem with breaker and excavator hydraulic components.
“Variable stroke function” is designed by complicated valves on the breaker.
Complicated parts always cause problems with breaker. “RD Hydraulic Suspension function” is simple solution and simple design is the best for breaker.

“Best design is simple design for breaker. Simple solution is the best solution”



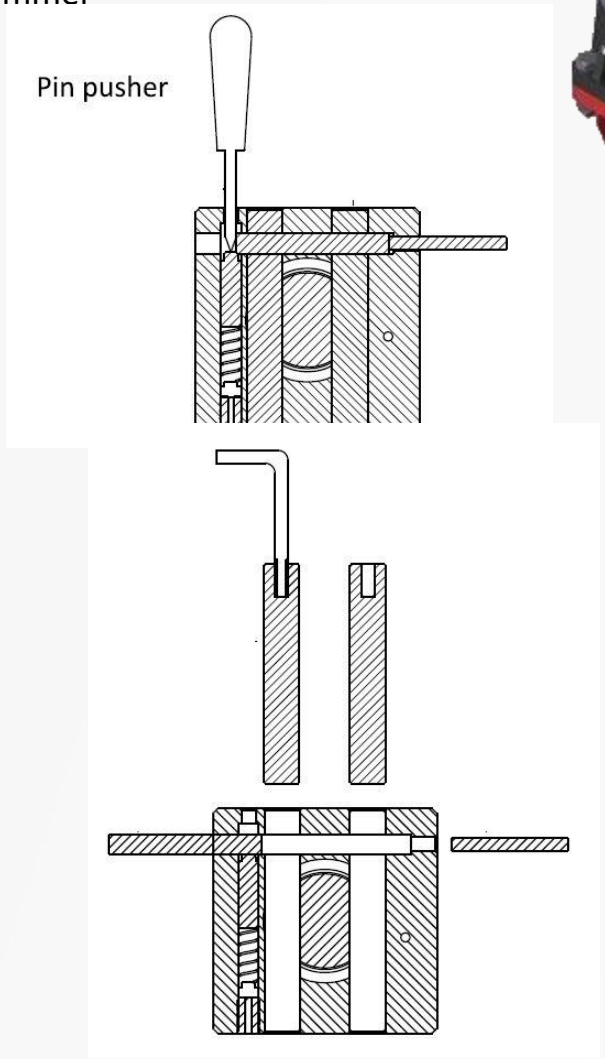
HYDRAULIC SUSPENSION AREA

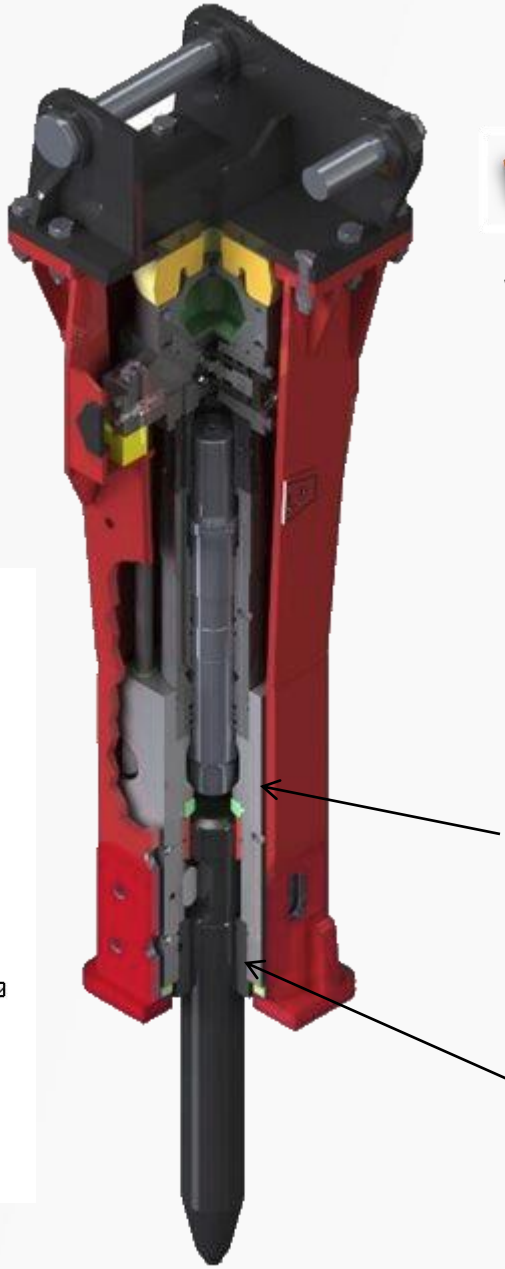


Regular Impact **Blank Firing (Idle Stroke)**

REPLACING TOOL

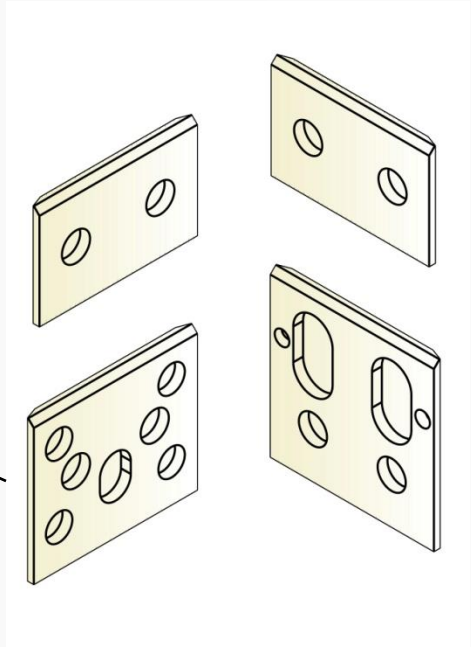
It’s easy to change tool without using hammer



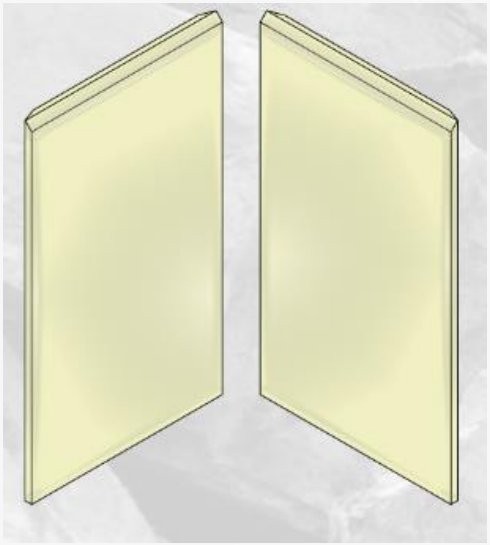


WEARING PLATES

Wearing plates are assembled between front head and housing. Thus, wearing plates don’t let the front head touching the housing and prevent worn-out of front head



Red SILENT



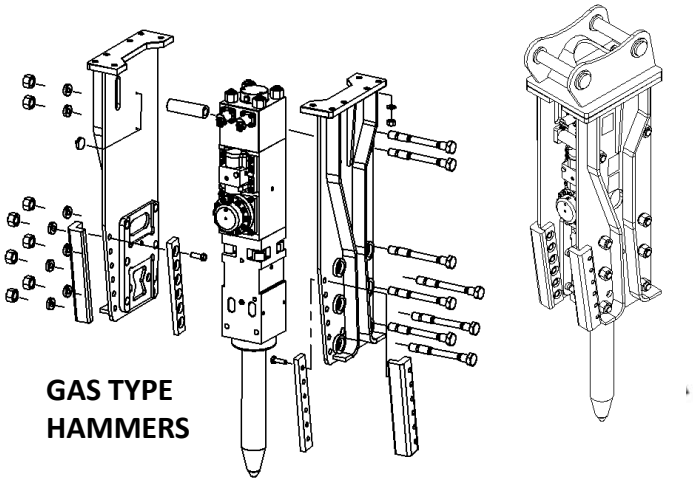
The breaker inner parts do not directly touch to the housing. There are noise isolation sheets and plastic covers reduce the noise of breaker. Polyethilen and polyurethane buffers used in the housing, prevents metal to metal working.

Reduced noise level with noise isolation for cities

MODEL	STANDARD dB	SILENT dB
RD 11-CB	120	119
RD 15-CB	123	117
RD 21-CB	122	121
RD 25-CB	125	124
RD 30-CB	126	124
RD 36-CB	127	124
RD 40-CB	127	125
RD 45-CB	128	126
RD 65	128	126
RD 95	128	126
RD 125	127	125
RD 155	130	121
RD 175	129	127
RD 215	135	133
RD 255	132	129
RD 285	130	124
RD 365	129	127
RD 505	130	126
RD 700	128	126

STRONG HOUSING

Housing material is a special bending type material, so that it is stronger. Also the welds on housing are reduced and no housing bolts are used. This makes the housing more rigid and stronger.



GAS TYPE HAMMERS

Open type housing plates are assembled to body with 6-8 side bolts. During operation of breaker, vibration causes loosening of side bolts. If they aren't tighten regularly and periodically, side bolts will be broken from th thread and they must be replaced with new bolts.

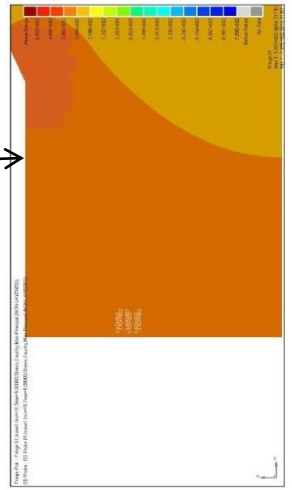
STRONG EDGES

It has high wearing resistance and protects from abrasive rock materials.

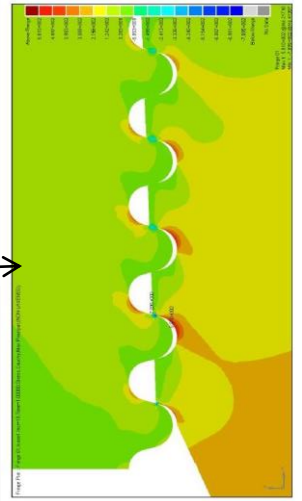
LONG LIFE SIDE ROD

Side rods are covered with the polyurethane to reduce stress and vibration on the thread. The side rod design is flexible, thus there is less vibration forces on the thread.

Absorb the vibration



Reduced stress on thread



MODEL VARIATY

There are 21 kinds of RD models from 100 kg to 7 ton for each job condition and carrier machine weight class (concrete breaking, mines, tunnel, quarry, demolition, underwater, underground and etc.).

There are **21 various RD models** according to weight class

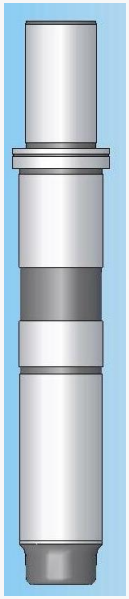
- Atlas Copco 17 models
- Furukawa 15 models
- Rammer 13 models

1.	RD 11	100 kg
2.	RD 15	150 kg
3.	RD 21	210 kg
4.	RD 25	310 kg
5.	RD 30	300 kg
6.	RD 35	400 kg
7.	RD 38	400 kg
8.	RD 36	400 kg
9.	RD 40	430 kg
10.	RD 45	480 kg
11.	RD 65	650 kg
12.	RD 95	950 kg
13.	RD 125	1200 kg
14.	RD 155	1600 kg
15.	RD 175	1800 kg
16.	RD 215	2200 kg
17.	RD 255	2520 kg
18.	RD 285	2950 kg
19.	RD 365	3750 kg
20.	RD 505	4750 kg
21.	RD 705	7000 kg

USABLE VARIOUS POSITIONS

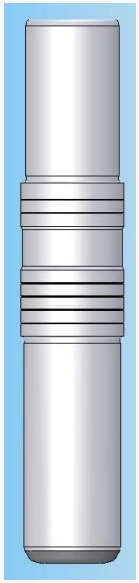
RD breaker can be operated in vertical, horizontal and various positions. Because RD piston is lighter and longer than the other breakers. In addition to this, RD piston is supported with stronger and more seals

L=882 mm



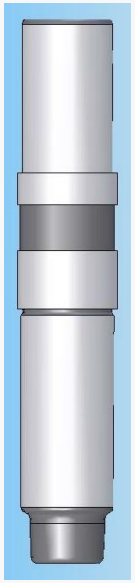
RD 175
75 kg

L=815 mm



F27
105 kg

L=822 mm

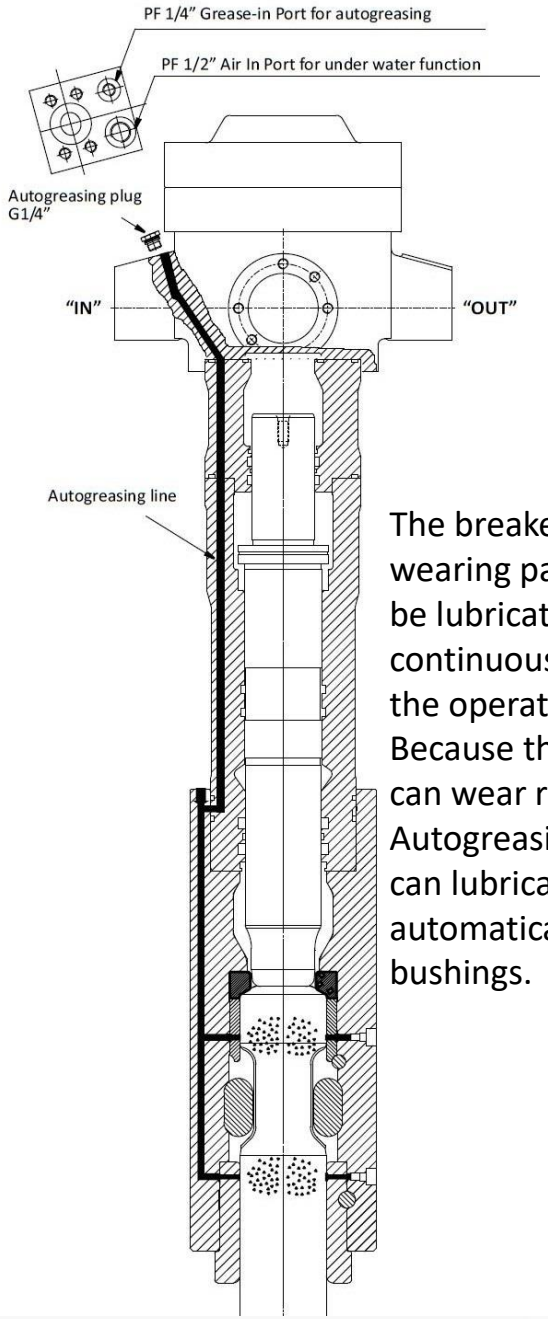


MB1700
96 kg

AUTOGREASING OPTION

It’s available for continuous lubrication during operation

- It’s a vibration driven lubrication pump, there is no hydraulic connection
- Lubricates continuously during the operation of the hammer
- Exchangeable 600 gr cartridges with visual level control.
- It’s a compact unit and mounted on the housing
- Has adjustable flow rate control to give more control on significant needs.



The breakers wearing parts must be lubricated continuously during the operation. Because these parts can wear rapidly. Autogreasing pump can lubricate automatically the bushings.

Red luBe Lubrication Pump

Red luBe): There is only grease connectionj of the grease pump.
Installation: Only remove the "autogreasing plug" (2) and connect the autogreasing hose of grease pump (1).

Rechargeable cartridge

Grease Pump

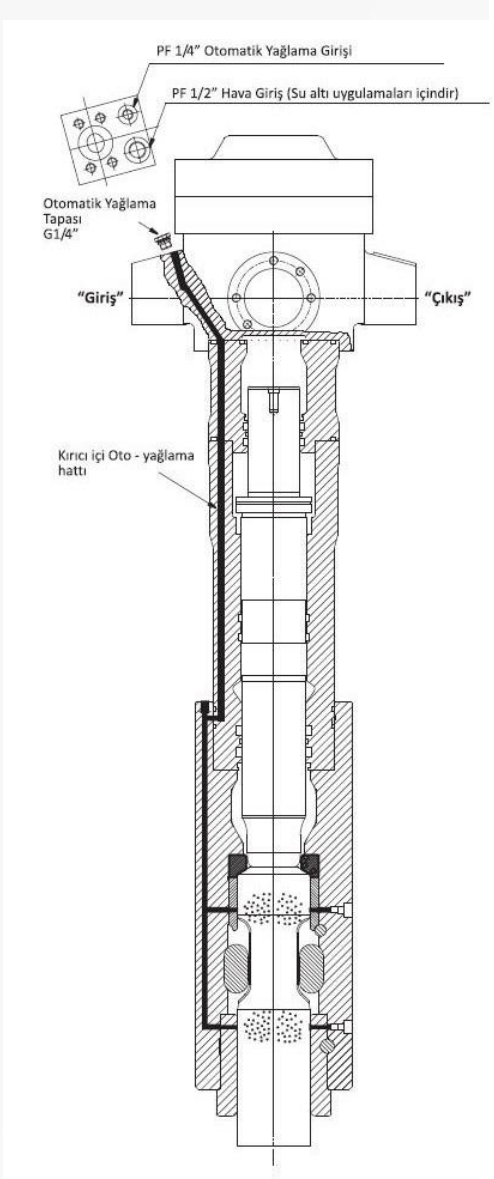
Rechargeable Grease Pump

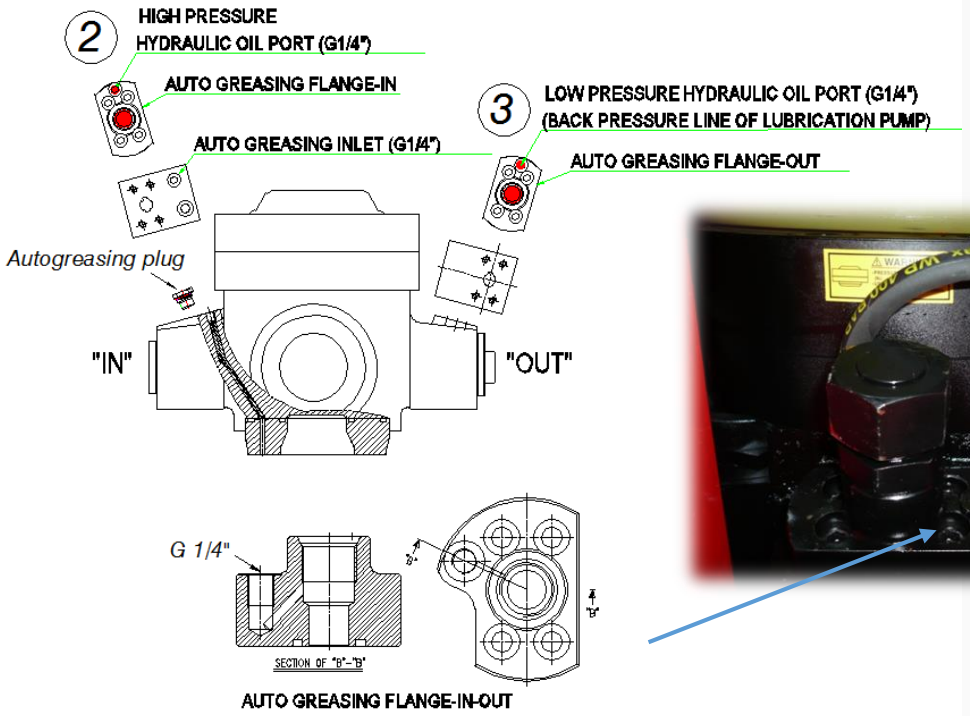
Consumable Cartridge

Grease Pump

Standard Grease Pump

Other Brand Grease Pumps (Lincoln, Bekamax, SKF)





Other Grease Pumps: This is hydraulic driven lubrication pump and has grease outlet and one oil pressure inlet.

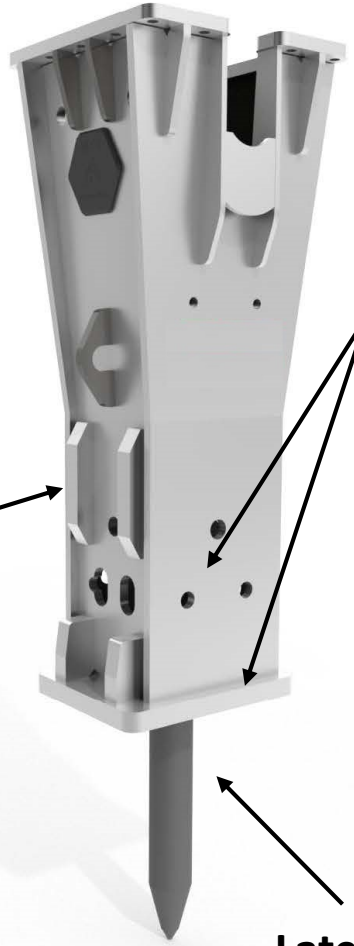
Installation:

- Remove flange-IN and install "Auto greasing flange"
- Connect the oil pressure hose of the pump to hydraulic oil port of "Auto greasing flange"
- Connect the grease hose to Auto greasing inlet of valve housing.

C - TYPE HOUSING

Ripper

The breakers can be used sometimes like a “ripper”. This application is never recommended. Otherwise, housing will be damaged. RD suggests to avoid to use hammer like a ripper, but for this kind of application, RD has developed the “C-Type” housing design if it doesn’t avoid. “C-Type” housing has long life and high quality for marble and heavy duty jobs.



Front, side and top plates are made by wearing resistance material

The front, back, side and bottom of housing are exposed to wearing. Thus, wearing resistance material is used for these area to extend wearing life and strength life.

Complete sheet steel plate

If the breaker is used like ripper at the marble job site, the housing is exposed to lateral forces. Lateral forces increases the stress concentration on the welding and causes cracks. To prevent the lateral forces effects on the welding, the side plate of housing is “complete sheet steel plate” without welding.

Lateral Forces