

Brokk NEWS

Brokk News no 4 | December 2008 | Subscribe at info@brokk.com or visit www.brokk.com for more information.

In this issue

Merry Christmas!

The new Brokk 400

Case, Walden Riv Service

Case, Demolition in Singapore

*Case, Brokk in the high-tech
cement industry*

*Customer meeting in Stockholm,
Gothenburg & Skellefteå*

*Coming
exhibitions*



03

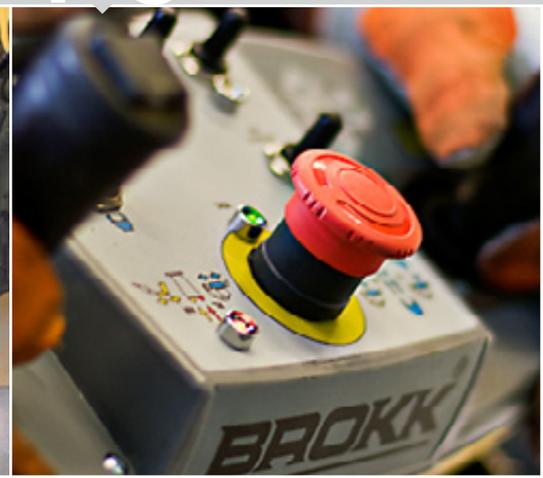
Brokk 400
released

07

Tough demolition
job in Stockholm

10

Brokk clears the
way in Singapore



*Merry Christmas
and happy New Year*



BROKK

www.brokk.com

Brokk AB, world leading manufacturers of remote-controlled demolition machines, steps up its product development activity and launches the Brokk 400, a new powerful demolition robot, bigger in size and capacity than any other model in the Brokk range. The unmatched power of this heavy-duty piece of equipment combined with its ability to carry heavy tools totally redefines the industry's concept of productivity. The Brokk 400 will be introduced to the international market at the World of Concrete in Las Vegas, USA, in January 2009.

Brokk introduces a new powerful demolition robot

Continues on page 4 »»»

Responding to customer preferences, Brokk AB set out to develop a bigger model than the Brokk 330 some 18 months ago. Among the preferred design features were: greater hitting power, strength to carry heavier tools, quicker positioning, and extended reach. – We are extremely satisfied with the result of our efforts. The power, agility, and optimized technical solutions incorporated in the new machine will no doubt appeal to the market, says Per Waldemarson, Managing Director of Brokk AB.

Owners of the new, bigger demolition robot will be able to take on contracts for heavy concrete demolition in environments where weight on floor decks is an issue. Brokk 400 has a weight of only 4800 kg, a remarkably low weight in relation to its productivity. Fitted with the

new Atlas Copco hammer SB 552, the Brokk 400 has a hitting power of no less than 1048 Joule. To maximise the utilisation and profitability of the machine it can be used with other demolition tools as well, such as concrete crusher, steel shears, scabbler, driller, and different types of buckets and grapples. The new, innovative quick-hitch system ensures quick and easy change of tools.

Every design detail has been reviewed

- We have used our vast know-how and experience in the design of every detail of the machine and in selecting components. It is our well-known rugged and reliable technology taken a step further with regard to efficiency and productivity while optimizing service and maintenance aspects, says Brokk's technical manager Gunnar Bystedt.

Powerful arm. The Brokk 400 has a horizontal reach of almost 7 meter and a vertical reach of close to 7.5 meter



The Brokk 400 produces an exceptional punching force, yet is quick and easy to manoeuvre and position. Its higher chassis set-up enables it to climb rubble piles and overcome other obstacles. The strong, three-part arm system is of box weld design with well protected cylinders and hoses. The machine has a horizontal reach of almost 7 meter and a vertical reach of close to 7.5 meter, thus enabling cleaning and stripping of bigger ladles and furnaces in processing industries. For these often hot environments the Brokk 400 can be equipped with heat resistant hoses, extra cylinder protection, special caterpillar tracks, steel outrigger pads, heavy-duty arm section No. 3, and air cooling system.

Safety comes first also for the new Brokk 400

For our customers, the concept of safety has a very specific implication. It means that the operator can control the machine from a safe distance using the portable, lightweight and comfortable remote control device. The wireless, digital radio control ensures that the operator runs no risk of being injured by falling debris or exposed to vibration injuries.

Comparison between Brokk 400 and Brokk 330

During the design process, all components have been

Continues on page 5 »»»



Operator oriented. The Brokk 400 remote control allows for easy and precise maneuvering in confined spaces.

thoroughly tested in order to ascertain a high and even quality throughout the design. As the Brokk 400 will replace the well-known Brokk 330, up to now the biggest in the Brokk range of demolition robots, one of the tests involved running the Brokk 400 equipped with an SB 552 hammer against a Brokk 330 with SB 450 hammer. 15 minutes into the race, the progress of the Brokk 400 was far beyond that of the Brokk 330; in fact the Brokk 400 proved to be no less than 50% stronger than the Brokk 330.

- Our machines are designed and built for use in tough environments and our biggest and most productive model is normally used for very heavy demolition jobs. It is therefore important to simulate all sorts of operations and situations before introducing a new model to the market. The comprehensive test procedures that we have carried out proves that we have met and surpassed our goal, says Gunnar Bystedt.

Customers' testimonials

The launch of the Brokk 400 has been preceded by a three month test period with two different demolition contractors in Sweden.

- The power and punching force of the new Brokk 400 is just incredible. We were able to complete a planned demolition job 2-3 days ahead of schedule. There is no equipment on the market today that can match this machine, says Conny Walden, owner of the company Walden Riv Service.

The Brokk 400 has also been tested by the company Rivners AB, where Kent Winborg is equally impressed:

- The power of the machine fitted with the new hydraulic hammer SB 552 is incredible, it is such a package of muscles. In certain projects space can be very limited which rules out some other demolition methods. But the Brokk 400 can enter narrow passages and has a low weight in relation to its capacity.

Delivery times

Serial production of the Brokk 400 has already started and the first few units are available for sale. Judging from the interest shown by demolition contractors the Brokk 400 is off to a flying start.

Continues on page 6 »»»

50

90

180

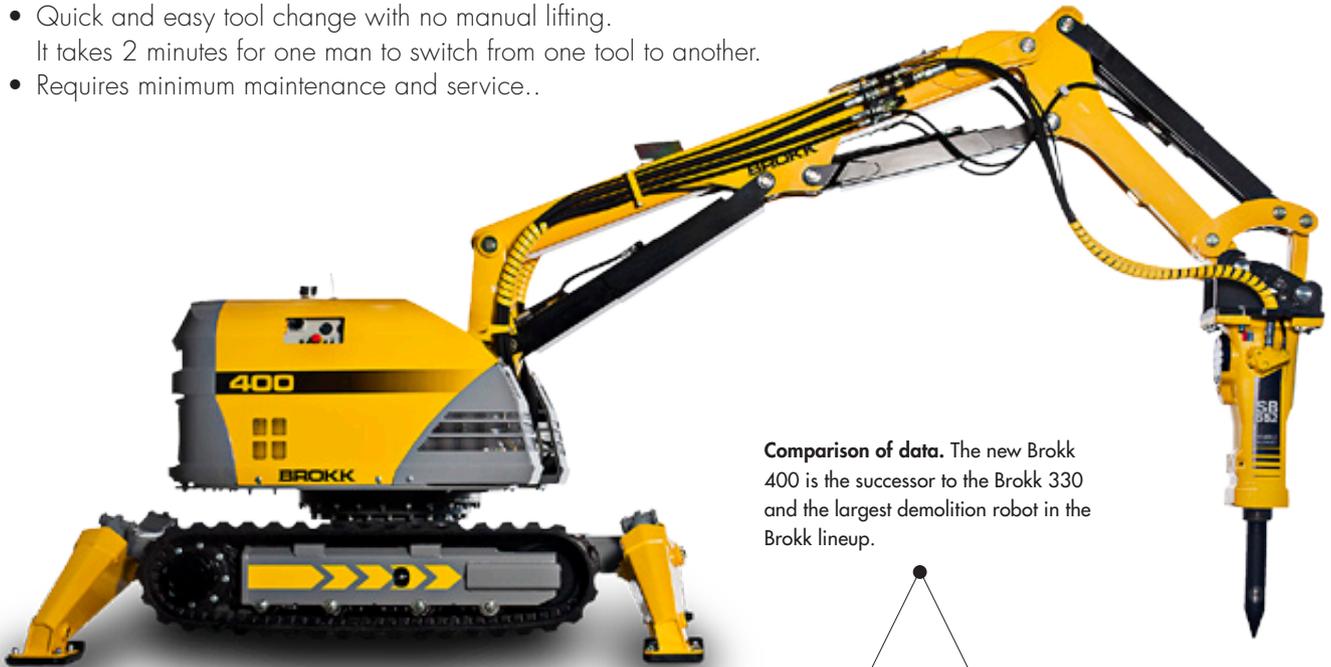
400



The Brokk-family

Brokk 400 benefits

- A strong, compact machine with high capacity fitted with Atlas Copco's hammer SB 552.
- Powerful electric motor of 30 kW.
- Efficient arm system – rapid, precise and strong.
- New, optimized hydraulic hammer with 1048 J hitting power.
- Rapid movements, positioning and operation.
- 7 meter reach when fitted with the SB hammer.
- Quick and easy tool change with no manual lifting.
It takes 2 minutes for one man to switch from one tool to another.
- Requires minimum maintenance and service..



Comparison of data. The new Brokk 400 is the successor to the Brokk 330 and the largest demolition robot in the Brokk lineup.

Modell Facts	50	90	180	400	330
Weight, kg (lb)	475 (1047)	980 (2160)	1900 (4190)	4800 (10 580)	4400 (9 700)
Width min. mm (in)	590 (23,2)	780 (30,7)	800 (31,4)	1500 (58,5)	1500 (59,1)
Height min. mm (in)	940 (37)	1210 (47,6)	1392 (54,8)	1722 (67,8)	1650 (65)
Motor output, kW	5,5	11	18,5	30	30
Recommend./max. weight attachment, kg (lb)	70 (154)	140 (308)	230 (507)	600 (1323)	550 (1213)
Hitting power, hammer SB 552/SB 450				1048 J	760 J

Walden Riv Service use the new Brokk 400 for tough demolition job in Stockholm

//Walden Riv Service is a relatively small demolition contractor based in central Sweden. The company employs about 10 people and owns several bobcats and floor sawing equipment. The company was founded by and is owned by Conny Walden. Normally, Walden Riv Service rent equipment that is suitable for the job since the company wants a flexible solution, but after having tried the most recent edition to the Brokk product range, the Brokk 400, Walden Riv Service is considering a change in strategy. //



Continues on page 8 »»»»

Walden recently won a major contract for demolishing elevator shafts, pillars and walls in the basement of a large building in Stockholm that is being totally demolished. The walls are all at least 400mm thick and are filled with hard concrete and plenty of reinforcement. Walden Riv Service does not yet own any Brokk equipment and when Brokk got in contact with Walden it was obvious that the current demolition project was perfect for the newly developed Brokk 400. Brokk 400 is a 4.8 tonne demolition machine with a 30kW electric motor that can carry an attachment which can weight up to 600 kg. It has been designed to maximize the hitting power and still be a relatively light machine with precise movements.

The powerful Brokk 400 equipped with a SB552 Atlas Copco breaker, and optimized machine design made a great impact on the efficiency of the project.

Walden has been very satisfied with the results and the productivity increase was enormous which translates into very big time savings and increased profitability. "At first we considered renting a 15-20 tonne excavator for this job, but now I have been able to experience the power and the output that you get from a Brokk machine which weighs less than 5 tonnes I really see the full benefits of Brokk, says Conny Walden." "With the new Brokk 400 we were able to do this project much quicker than was originally anticipated. I would guess that we more than doubled the productivity in many areas. Since our contract with the main contractor is a flat rate, this translates into profit for my company, Mr. Walden continues"

If Walden had chosen another method other than Brokk, the project would have taken significantly longer time to complete. Both the owner, Conny Walden, and his



operators were surprised by the time savings that a Brokk 400 gave them. "When using our other methods we would probably spend 2 days or more just to break down one of the walls but with the Brokk 400 we can manage to get the job done in a few hours, claims Conny Walden."

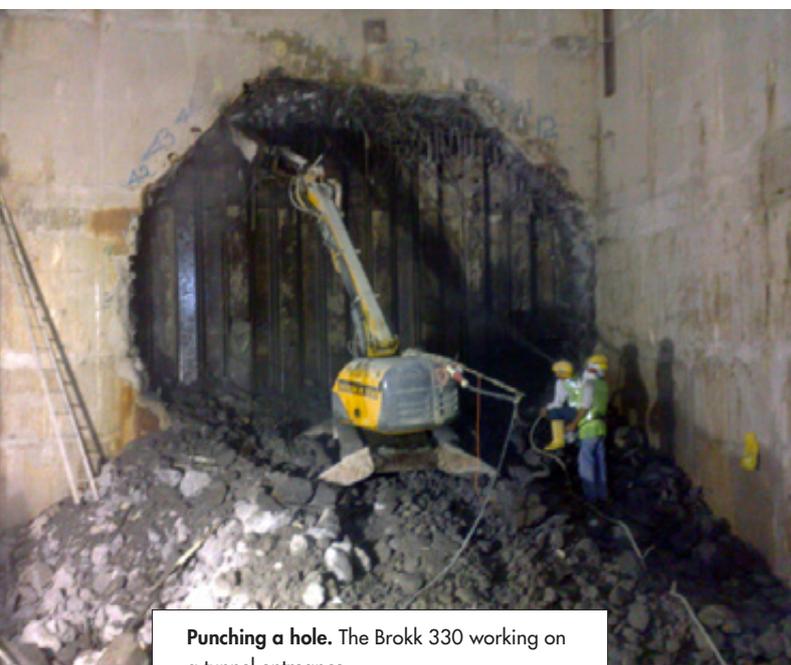
"It is amazing what kind of hitting power you get with the Brokk 400. I do not know how big an excavator you would need to bring down here to get comparable hitting power, but I think it would need to be a 3-4 times heavier machine to get the same result. An excavator cannot really compare with Brokk since it does not

have all the benefits in movement and accessibility as the Brokk 400 has, says one operator at Walden Riv Service."

Conny Walden has traditionally been bidding mainly for smaller sawing and cutting projects, but his new experience with the Brokk 400 has made him more confident that his company will be able to start looking also for larger demolition projects. "With a specialised demolition robot like the Brokk 400, I can target larger projects which are something I have been wanting to do for some time now. This has been somewhat of an eye-opener to me, says Conny Walden."

Brokk Demolition Robot clears the way for TBM in Singapore

//Singapore is always improving on its public transport network to provide greater convenience for citizens to commute around. One such major project is the construction of the Circle Line which involves constructing an orbital line that links all Mass Rapid Transit (MRT) lines running into the city. The project involves building six interchange stations in the outskirts of the city to link the existing MRT lines.//



Punching a hole. The Brokk 330 working on a tunnel entrance.



One of the challenges faced during the linkup at one of the interchange stations (Harbourfront) was to create a more than 6.0 meter diameter opening in an existing wall of reinforced concrete. The MRT tunnels are excavated using a Tunnel Boring Machine (TBM) and the opening would allow it to pass through. The wall was 1.5 meter thick with sheet piles behind it so it was a tough job in itself. But underground station was required to be operational during the whole process and to make things worse there were also access problem and time constraints. Thus, **CHOON CONSTRUCTION PTE LTD**, which has more than 5 years of experience using Brokk machine, was then engaged to provide a solution to the problem.

Choon Construction's Executive Director, Mr. E.H. Phua proposed to use a Brokk 330 radio controlled demolition robot to get the job done. He estimated that the whole process would not take more than one and a half weeks

running at around the clock. The customer accepted the proposal and Choon Construction started the work.

One of the problems that Choon Construction faced is that the reach of the Brokk 330 machine is about 6.5m, but the required height of the opening is greater than that. To overcome this problem, the machine climbed on top of the debris that it had created to provide the extra reach to the required height.

The other problem is existence of huge quantity of reinforcement bars within the concrete wall which makes it very hard to break. To counteract this issue, Choon Construction did some coring at the edges of the wall to loosen the tension. True enough, Choon Construction completed the job within 1 week using Brokk 330 machine.

The customer is extremely happy as the amount of time saved will greatly contribute to the final completion of the Circle Line in Year 2010.

High-tech cement industry used high-tech Brokk 180 for retrofitting of cooler

//The benefits of the Brokk 180 really coincided when Grasim Cement Rawan in India completed the retrofitting of a new balancing tower and cooler at their unit Raipur, Chhatisgarh. Its compact size, the possibility to work at a safe distance and its versatility were some of the appreciated factors during the project. "This was the first time we used our Brokk 180 for cooler debricking, the performance was quite satisfactory", informs T Biswas, vice president of Grasim Cement Rawan.//

"We appreciate the fact that no operator has to stand in the close proximity of the working area"

The Grasim Cement Plant is a fairly new plant, in operation by 1995. Since then it has been upgraded several times and the capacity has risen from 1 MTPA to 2.1 MTPA. The plant is one of the few in India to produce more than eight varieties of cement, including low heat alkali resistant cement especially for dams, hydel power, etc. The unit is certified according to ISO 9001 and 14001 and IQRS L-5. It is very well equipped for production of high quality cement with e.g. Asia's first gamma ray belt analyser for online control.

Of course this makes it crucial to minimize any shut-down and this was certainly the case when breaking the horse shoe castable in the cooler when retrofitting the balancing tower and cooler. And the Brokk 180, regularly used for kiln debricking at the cement plant, came in very handy this time.

Control over the working area

"The where several reasons for choosing Brokk for this task," says T Biswas. "We appreciate the fact that no operator has to stand in the close proximity of the working area.

This also makes the working area easier to control and no banksman is required. The safety aspects are also very important. The operator can work at a safe distance from e. g. falling debris. The procedure is virtually vibration free. I am also pleased with Brokk's compact size and the manoeuvrability, it can cope with all terrains on its tracks." The alternative to Brokk in this project was manual labour to remove the entire castable of cooler first grate for retrofitting of the cooler. This would have caused several issues and also it also would have been much more time-consuming. The total saving of shut down time was in this case four days. T Biswas is in all very impressed with the Brokks performance.

Ideal for hard conditions

"In using the latest technology, the Brokk robotic demolition machines are ideal for working in environments where point loadings, noise, access and toxic fumes are a problem. Having a Brokk machinery, powered by electricity and robotically controlled, making it the unique controlled demolition tool."



Brokk customer event Stockholm



The launching of the new machine took place at three different locations in Sweden; Gothenburg, Stockholm and Skellefteå. The event in Stockholm was housed at our service partner SIBSAB. We had the pleasure of meeting a lot of our faithful customers who enjoyed to see the new member of Brokk family.

Continues on page 12 »»»

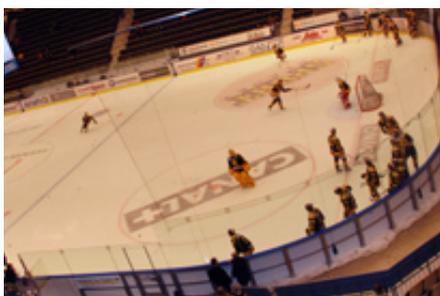
Brokk customer event Gothenburg



The event in Gothenburg was a great success thanks to our customers. The event was housed at our servicepartner SGS Alternativ Service.

Continues on page 13 »»»

Brokk customer event Skellefteå



The hometown of Brokk. The customer event took place in the afternoon at the factory and in the evening we enjoyed an exciting ishockey match at the new Skellefteå Kraft Arena.

Brokk Simulator

Professional training for Brokk-operators



Product information

The simulator training package consists of four different levels of knowledge where the operator can learn how to manoeuvre the machine in different applications such as: demolishing a brick wall, change attachments etc.

Good reasons for using the Brokk simulator to train your operator:

- Increase time efficiency
- New operators will start to work with a better knowledge
- Reduce machine downtime
- Reduce machine wear
- New operators will learn how to avoid accidents and be better aware of risks

The Brokk simulator training package:

- Simulator controlbox (connect the simulator by USB)
- Software (install the software on your PC)
- We recommend at least a 42 inch TV or a projector.

Visit brokk.com or your local dealer for more information!

Coming exhibitions 2009

Visit us at...

Byggmaskiner	January 20 - 23, Gothenburg, Sweden
World of Concrete	February 3 - 6, Las Vegas, USA
Intermat	April 20 - 25, Paris, France

BROKK[®]

Brokk AB | P.O. Box 730 | SE-931 27 Skellefteå, Sweden
Tel +46 910 711 800 | Fax +46 910 711 811
info@brokk.com | www.brokk.com