



Atlas Copco's revenues was SEK 25,727 m. for the first nine months. Operating profit decreased 5 percent to SEK 3,070 m. Earnings per share decreased to SEK 8.56, compared to SEK 9.26 the preceding year.

Income Statement

SEK m.	9 months ended		Sept. 1998	12 months ended	
	Sept. 30 1998	Sept. 30 1999		Dec. 1998	Sept. 1999
Revenues	24,895	25,727	33,350	33,740	34,572
Operating expenses	-21,674	-22,657	-29,014	-29,395	-30,378
Operating profit	3,221	3,070	4,336	4,345	4,194
Financial income and expenses	-530	-680	-690	-708	-858
Profit after financial items	2,691	2,390	3,646	3,637	3,336
<i>– as a percentage of revenues</i>	<i>10.8</i>	<i>9.3</i>	<i>10.9</i>	<i>10.8</i>	<i>9.6</i>
Taxes	-972	-803	-1,301	-1,322	-1,153
Minority interest	-20	-17	-30	-32	-29
Net profit	1,699	1,570	2,315	2,283	2,154
<i>Earnings per share, SEK</i>	<i>9.26</i>	<i>8.56</i>	<i>12.61</i>	<i>12.44</i>	<i>11.74</i>
<i>Return on capital employed before tax, %</i>			<i>17.6</i>	<i>17.2</i>	<i>14.7</i>
<i>Return on equity after tax, %</i>			<i>16.9</i>	<i>16.1</i>	<i>14.1</i>
<i>Debt/equity ratio, %</i>			<i>70.6</i>	<i>65.0</i>	<i>146.8</i>
<i>Rate of equity, %</i>			<i>40.3</i>	<i>41.6</i>	<i>30.7</i>
<i>Number of employees at end of period</i>			<i>23,709</i>	<i>23,393</i>	<i>25,926</i>

Balance Sheet

SEK m.	Sept. 30, 1998	Dec. 31, 1998	Sept. 30, 1999
Intangible fixed assets	11,067	11,311	17,635
Other fixed assets	10,305	10,697	18,598
Inventories	5,607	5,383	5,500
Receivables	7,576	7,657	9,122
Cash, bank, and short-term investments	1,653	2,118	1,117
Total assets	36,208	37,166	51,972
Equity	14,400	15,267	15,783
Minority interest	186	198	172
Interest-bearing liabilities and provisions	11,954	12,170	24,546
Non-interest-bearing liabilities and provisions	9,668	9,531	11,471
Total liabilities and equity	36,208	37,166	51,972

Cover

Atlas Copco's corporate positioning program uses head-hand images to symbolize knowledge and experience. Middle picture: The compact dimensions of the 410 joule hydraulic breaker make it ideal for use on light carriers in restricted, urban areas.

Improvement continues in the third quarter

Interim report on the nine months ended September 30, 1999 (unaudited)

The Atlas Copco Group's revenues for the first nine months of 1999 increased 3 percent, to SEK 25,727 m. (24,895), corresponding to a volume decrease of 4 percent for comparable units. The net effect from acquisitions and divestments was an increase of approximately 5 percent. Foreign exchange fluctuations had a positive translation effect of 2 percentage points. Orders received increased 6 percent, to SEK 26,324 m. (24,917), corresponding to a volume decrease of 1 percent for comparable units.

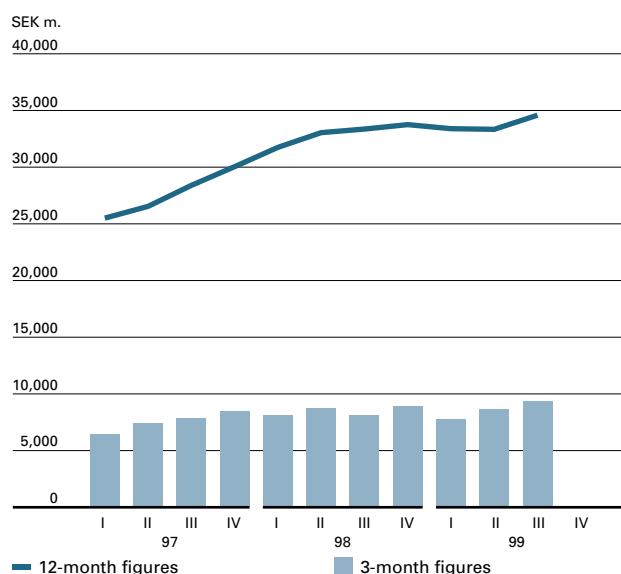
Profit after financial items decreased, to SEK 2,390 m. (2,691). The profit margin was 9.3 percent (10.8). The profit includes net nonrecurring items of SEK 83 m. related to the capital gain on the sale of Atlas Copco Controls and to restructuring provisions by the Industrial Technique business area. Excluding the nonrecurring items, the profit margin was 9.0 percent.

Near-term outlook: In North America, the positive trend is expected to continue. The rental service business is foreseen to keep growing at a faster rate than the economy as a whole because of the outsourcing trend for equipment. Expectations for somewhat better growth in Europe remain. Due to the present low capacity utilization in the manufacturing industry, any increase in demand for capital goods would initially be marginal. Products related to industrial production levels are expected to experience relatively stronger demand. The recovery, from a low level, previously seen in some countries in the Asian region is expected to continue and now also includes India and Japan.

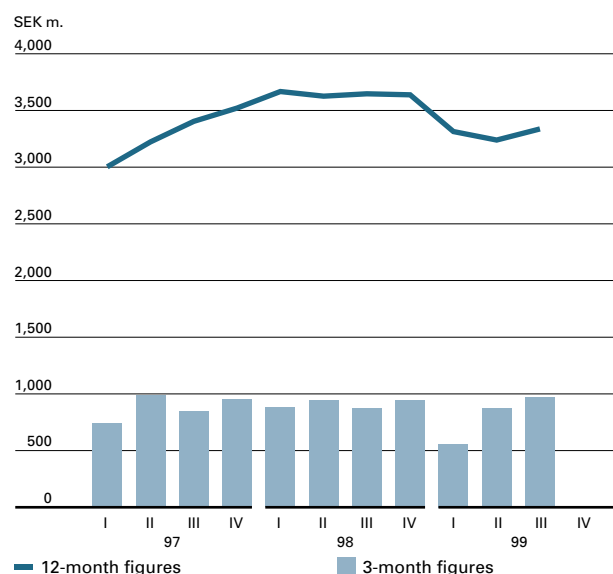
Overall customer demand is expected to improve somewhat in the near term.

SEK m.	January–September		Change %
	1999	1998	
Revenues	25,727	24,895	3
Operating profit	3,070	3,221	-5
– as a percentage of revenues	11.9	12.9	
Profit after financial items	2,390	2,691	-11
– as a percentage of revenues	9.3	10.8	
Earnings per share, SEK	8.56	9.26	-8

Revenues



Profit after Financial Income and Expenses



Market development

Demand in the United States was particularly strong in the construction and motor-vehicle industries. The demand for investment goods by other manufacturing and process industries in the same market improved somewhat but is still lower than in the previous year.

Demand in Europe was mixed during the nine-month period. France and Spain delivered solid growth throughout the period, while demand in Germany and Italy was less consistent and suffered a slower third quarter. In Great Britain, the manufacturing industry showed no clear signs of a higher level of activity, and demand remained sluggish throughout the period. The Nordic countries showed a slight improvement in the third quarter compared to previous quarters.

In Asia, the demand situation improved. Encouraging signs were seen in Japan and India during the third quarter as the negative trend evident in the first part of the year turned around. The strong recovery in South Korea continued throughout the period, while demand in China stayed relatively weak.

Demand was very weak in Latin America during the first nine months of 1999, particularly in the beginning of the year. In the third quarter, mining countries experienced some increased activity, while Brazil, the biggest market in the region, remained at a low level, with demand substantially below the previous year's.

For the full nine-month period, demand in Africa and the Middle East was low compared to the same period last year, although some countries such as South Africa showed stronger development in the third quarter.

Sales development

Orders received were up 6 percent in the nine-month period, at SEK 26,324 m. (24,917). Excluding a positive currency effect of 2 percentage points, orders received were 1 percent lower for comparable units than in the preceding year. Sales volumes gradually improved during the nine months, finally posting a 2-percentage-point gain in the third quarter over the same period in 1999.

Revenues increased 3 percent, to SEK 25,727 m. (24,895), corresponding to a volume drop of 4 percent.

Geographic distribution of orders received (%)

January–September	1999	1998
Europe	38	40
North America	43	36
South America	4	6
Africa/Middle East	5	6
Asia/Australia	10	12

Earnings

Operating profit decreased SEK 151 m., to SEK 3,070 m. (3,221), or 5 percent compared to the same period the preceding year. The profit includes nonrecurring items of SEK 83 m. in the Industrial Technique business area, the net effect of capital gains from the sale of Atlas Copco Controls and a restructuring provision to further consolidate the production structure of the Alliance Tools division. Operating profit excluding those items declined mainly owing to the volume decrease and an unfavorable change in the composition of sales. Changes in exchange rates had a positive effect of about SEK 50 m. The adjustments in the workforce and the overall cost structure that were initiated at the end of 1998 continued throughout the period but at a decreasing rate. These adjustments helped offset part of the negative effects of lower volumes.

Operating margins dropped, to 11.9 percent (12.9). Excluding nonrecurring items and the effect of the Rental Service Corporation acquisition, the margin was about 11.4 percent.

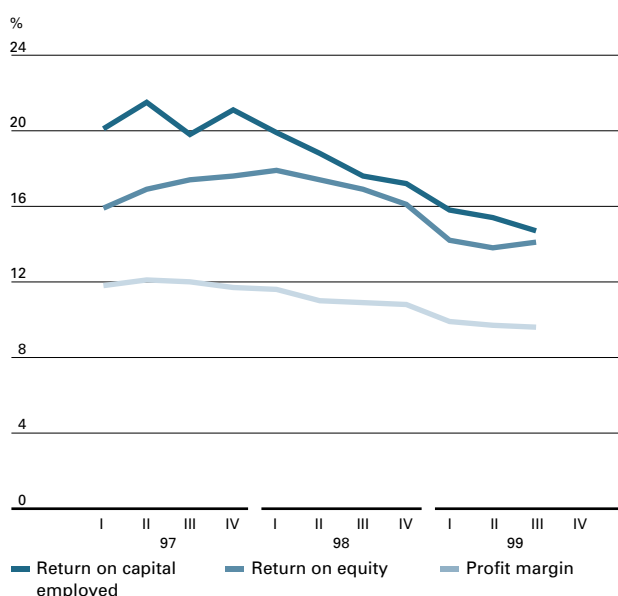
Net financial items amounted to SEK –680 m. (–530), of which net interest items accounted for SEK –671 m. (–513). Interest expense increased as a consequence of the Rental Service acquisition.

Profit after financial items decreased 11 percent, to SEK 2,390 m. (2,691). The profit margin was 9.3 percent (10.8).

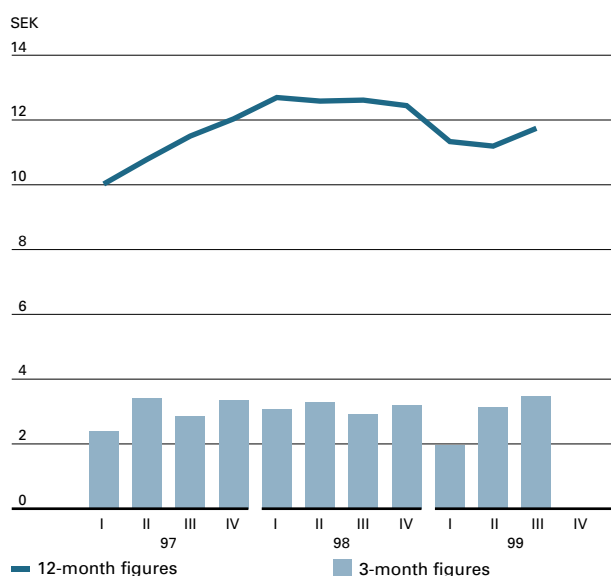
Net profit for the period totaled SEK 1,570 m. (1,699), or SEK 8.56 per share (9.26).

The return on capital employed during the 12 months to

Return and Profit Margin, 12-month figures



Earnings per Share



September 30, 1999, was 15 percent (18), and the return on shareholders' equity 14 percent (17).

Third quarter

Orders received amounted to SEK 9,424 m. (8,004), corresponding to a 2-percentage point gain in volumes for comparable units.

The Atlas Copco Group's revenues for the third quarter of 1999 increased 15 percent, to SEK 9,357 m. from SEK 8,111 m. in 1998. Acquisitions and divestments added 14 percentage points net. Changes in exchange rates produced an increase of 1 percentage point, while comparable volumes were unchanged from the same quarter in 1998.

Operating profit increased 20 percent, to SEK 1,283 m. (1,066), because of the effect of nonrecurring items and the Rental Service Corporation acquisition. The operating margin increased, to 13.7 percent (13.1). Excluding nonrecurring items and the effect of acquisitions, the margin was only slightly lower than last year. Profit after financial items increased 11 percent, to SEK 965 m. (867), and net profit for the third quarter totaled SEK 635 m. (535), corresponding to SEK 3.47 per share (2.92). Changes in exchange rates had a positive effect of about SEK 30 m.

Cash flow and net indebtedness

The operating cash surplus after tax for the first nine months of 1999 reached SEK 2,932 m. (2,886), equal to 11 percent (12) of Group revenues.

Working capital increased SEK 9 m. (258) during the period. Investment in tangible fixed assets was SEK 2,262 m. (1,683). The major part of the increase is related to investments in Rental Service Corporation after the acquisition. The acquisition of RSC itself amounted to approximately SEK 14,000 m. Net cash flow equaled SEK -13,311 m. (-43).

Summary cash-flow analysis

SEK m.	January–September	
	1999	1998
Operating cash surplus after tax	2,932	2,886
<i>of which depreciation added back</i>	1,712	1,380
Change in working capital	-9	-258
Cash flow from operations	2,923	2,628
Investments in tangible fixed assets	-2,262	-1,683
Sale of tangible fixed assets	684	591
Company acquisitions/divestments	-13,825	-797
Cash flow from investments	-15,403	-1,889
Dividends paid	-831	-782
Net cash flow	-13,311	-43
Change in interest bearing liabilities	12,375	64
Cash flow after financing	-936	21
Liquid funds at beginning of year	2,118	1,613
Translation difference	-65	19
Liquid funds at end of period	1,117	1,653

The Group's net indebtedness (defined as the difference between interest-bearing liabilities and liquid assets) amounted to SEK 23,429 m. (10,301). The acquisition of RSC explained the higher net indebtedness. The debt/equity ratio (defined as net indebtedness divided by shareholders' equity) was 147 percent (71).

Liquid assets at the end of the period totaled SEK 1,117 m. (1,653).

Including minority interests, the Atlas Copco Group's

shareholders' equity totaled SEK 15,955 m. (14,586), or SEK 87 per share (79). The equity/assets ratio was 31 percent (40).

Investments

Investments in property and machinery totaled SEK 696 m. (529).

Investments in rental equipment reached SEK 1,566 m. (1,154).

During the period, total depreciation on these two asset groups was SEK 1,370 m. (1,054).

Distribution of shares

Share capital amounted to SEK 918 m. at the end of the period, distributed as follows:

Class of share	Shares outstanding
A shares	122,497,590
B shares	61,018,330
Total	183,515,920

After the end of the period, Atlas Copco AB completed an equity rights issue (1:7) resulting in 17,401,426 new A shares and 8,684,838 new B shares. Net proceeds were approximately SEK 4.1 billion.

Personnel

At September 30, 1999, the number of employees was 25,926 (23,709). For comparable units, the number of employees decreased by 1,100 in the nine-month period.

Year 2000 readiness

In March 1996, Atlas Copco initiated a Group-wide survey of computer systems in use. Every site reported on the present status of its systems and its action plans to handle the year-2000 issue for those systems that were not judged year-2000 compliant. Year-2000 follow-up is on the agenda of the Business Board at each division and site, and status reports are mandatory items at Board Meetings. All costs for modifications to comply with the year 2000 have been charged as operational costs.

Management believes that remaining modifications are very limited and not critical to operations. However, the operations of Atlas Copco's computer systems are vulnerable to third parties', principally suppliers', possible failure to remedy their own year-2000 issues. To the extent that systems by third parties on which Atlas Copco's systems rely are not converted in time, there can be no assurance that such third parties' non-compliance would not have a material effect upon the Group's systems.

Structural changes affecting the reporting period

Effective July 29, Atlas Copco acquired Rental Service Corporation, a company publicly traded on the New York Stock Exchange. Rental Service Corporation had revenues in the last reported 12-month period of approximately SEK 5,520 m. and an operating margin of 17 percent.

Total consideration included approximately SEK 5,990 m. cash paid for all shares in the company and SEK 7,790 m. of assumed debt. The acquisition is expected to have a positive impact on earnings for the first full year. Synergies are expected to yield approximately SEK 160 m. in the first full calendar year, increasing as the business grows.

At the acquisition date, Rental Service Corporation had 3,600 employees, operated more than 270 equipment rental

locations in 29 states, and served a base of more than 50,000 customers.

Rental Service Corporation and Prime Service Inc. are now the two divisions constituting the Rental Service business area, which was created on January 1, 1999. Prime Service constituted a separate division in the Compressor Technique business area throughout 1998.

Effective August 31, 1999, Atlas Copco divested its motion control business, Atlas Copco Controls, which was part of the Industrial Tools and Equipment division. Atlas Copco Controls had 235 employees and revenues of approximately SEK 470 m. in 1998.

Effective July 1, 1999, ABIRD Holding BV, the Netherlands, was acquired by Atlas Copco. ABIRD is a specialty rental company. The company has 25 employees and had annual sales of about SEK 40 m. in 1998. ABIRD is part of the Atlas Copco Portable Air division.

Effective January 1, 1999, Rand-Air Ltd., South Africa, was acquired by Atlas Copco. Rand-Air is a compressor rental company. The company has about 200 employees and annual sales

of roughly SEK 90 m. and is part of the Portable Air division.

Effective November 1998, Atlas Copco acquired JKS Boyles, a Canadian manufacturer of exploration drilling rigs. The company has 79 employees and annual sales of about SEK 115 m. JKS Boyles is part of the Atlas Copco Craelius division.

Effective October 1, 1998, Atlas Copco combined the operations of its U.S. subsidiaries Atlas Copco Rental, Inc., and Prime Service, Inc., to better meet the needs of industrial companies for rental equipment.

During 1998, the Prime Service division acquired three equipment rental companies in the U.S. and Mexico, with aggregate annual revenues of roughly SEK 340 m.

Equity rights issue

To strengthen the Group's capital base and enhance financial flexibility following the acquisition of Rental Service Corporation, the Extraordinary General Meeting held on September 6, 1999, approved the issue of new shares with preferential rights to existing shareholders.

The new shares were issued at a subscription price of SEK 160

Revenues by Business Area

SEK m. (January–September)	1997	1998	1999
Compressor Technique	9,271	10,074	9,681
Construction and Mining Technique	4,758	4,787	4,153
Industrial Technique	6,780	7,380	7,615
Rental Service	768	2,859	4,619
Eliminations*	–	–205	–341
Atlas Copco Group	21,577	24,895	25,727

SEK m. (by quarter)	1998				1999		
	1	2	3	4	1	2	3
Compressor Technique	3,384	3,460	3,230	3,466	2,971	3,422	3,288
Construction and Mining Technique	1,479	1,816	1,492	1,650	1,353	1,477	1,323
Industrial Technique	2,445	2,510	2,425	2,679	2,448	2,645	2,522
Rental Service	878	969	1,012	1,151	1,082	1,202	2,335
Eliminations*	–78	–79	–48	–101	–103	–127	–111
Atlas Copco Group	8,108	8,676	8,111	8,845	7,751	8,619	9,357

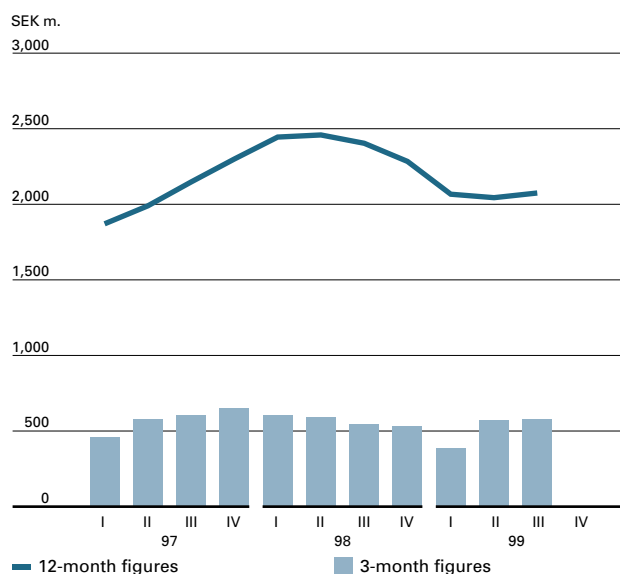
*) Starting in 1999, revenues reported by business area also include intercompany sales to other business areas. Figures for 1998 have been adjusted accordingly.

Earnings by Business Area

SEK m. (January–September)	1997	1998	1999
Compressor Technique	1,646	1,750	1,541
Construction and Mining Technique	307	372	276
Industrial Technique	672	765	761
Rental Service	127	391	588
Corporate items	–54	–57	–96
Operating profit	2,698	3,221	3,070
Financial income and expenses	–133	–530	–680
Profit after financial items	2,565	2,691	2,390

SEK m. (by quarter)	1998				1999		
	1	2	3	4	1	2	3
Compressor Technique	607	595	548	533	390	572	579
Construction and Mining Technique	104	155	113	126	84	104	88
Industrial Technique	260	264	241	281	216	257	288
Rental Service	97	123	171	175	83	146	359
Corporate items	–25	–25	–7	9	–48	–17	–31
Operating profit	1,043	1,112	1,066	1,124	725	1,062	1,283
Financial income and expenses	–162	–169	–199	–178	–168	–194	–318
Profit after financial items	881	943	867	946	557	868	965

Compressor Technique, Operating Profit



per share at a ratio of 1:7. In October 1999, the issue provided the company with net proceeds around SEK 4.1 billion.

Business areas

Starting in 1999, orders and revenues reported by business area also include intercompany sales to other business areas. Figures for 1998 have been adjusted accordingly.

Compressor Technique

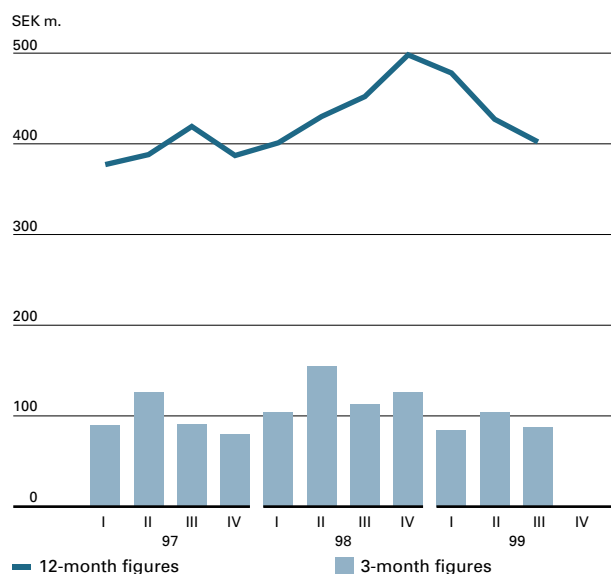
The Compressor Technique business area consists of five divisions in the following product areas: Industrial compressors, Portable compressors, and Gas and process compressors.

Orders received during the period declined 3 percent, to SEK 9,758 m. (10,087), down 4 percent by volume. However, volumes in the third and second quarters were almost level with those of the same quarters in 1998. Sales in Europe were mixed during the nine-month period. Robust growth in some markets, Spain in particular, was offset by negative development in northern and eastern Europe. Big markets like Germany, France, and Italy recorded sales that were largely in line with last year's. Orders in North America were lower than in 1998, despite increased sales to the equipment rental industry. The lower level was primarily owing to continued weak demand for large compressors and expanders for applications in the chemical and petrochemical industries and for air separation. In Brazil and most other Latin American markets, demand throughout the period remained well below the levels of previous years. The market situation in Asia improved during the period. Apart from the sales increase in South Korea already mentioned, China and Japan recorded stronger sales in the third quarter.

Sales of small and medium-sized industrial compressors showed good development. Also, oil-free compressors improved somewhat after 1999's slow start, but sales remained below the level of 1998. Portable compressors and heavy-duty generators continued to enjoy healthy demand.

Revenues decreased 4 percent, to SEK 9,681 m. (10,074). However, in the third quarter revenues were 2 percentage points above the corresponding quarter last year.

Construction and Mining Technique, Operating Profit



Operating profit fell 12 percent, to SEK 1,541 m. (1,750), resulting in an operating margin of 15.9 percent (17.4). The low volumes and unfavorable product and market mix in the first quarter were the main reasons for the drop in profit. The third quarter recorded 6 percent higher operating profit and an improved margin, to 17.6 percent (17.0), as consolidation projects and the better sales volume had a positive effect.

Construction and Mining Technique

The Construction and Mining Technique business area consists of five divisions in the following product areas: Drilling rigs, Rock drilling tools, Construction tools, and Loading equipment.

Orders received during the period were SEK 4,404 m. (4,751), down 7 percent overall and 8 percent in volume. Activity in the mining industry stayed low, primarily affecting sales of underground drilling rigs and loaders. The recent increase in the price of gold and, to a limited extent, base metals such as copper and zinc did not influence the level of investment in the mining industry. Sales of consumables, the rock drilling tools, remained healthy despite market conditions. In Asia, orders for construction projects in Japan improved noticeably at the end of the period, while China remained rather weak. South Korea continued to recover strongly from a low level.

Revenues ended at SEK 4,153 m. (4,787), down 13 percent in total and in volume.

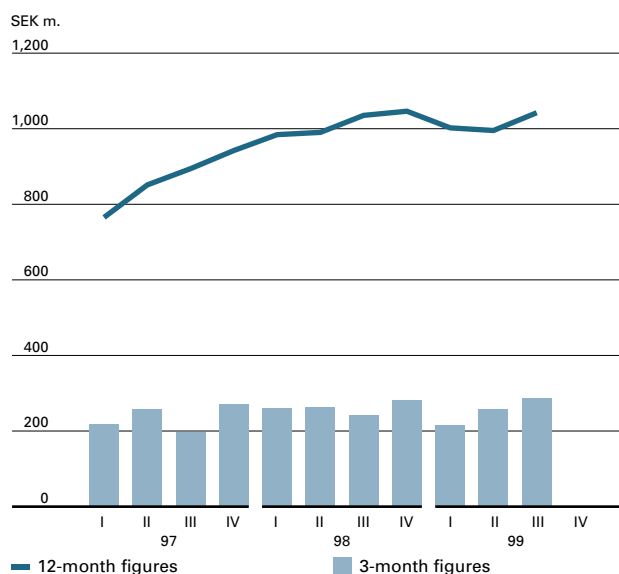
Operating profit decreased SEK 96 m., to SEK 276 m., corresponding to a margin of 6.6 percent (7.8). The large negative effect of substantially lower volumes was partly offset by efficiency gains and positive currency effects.

Industrial Technique

The Industrial Technique business area consists of four divisions in the following product areas: Electric and pneumatic power tools and Assembly systems.

Orders received during the period increased 6 percent, to SEK 7,927 m. (7,451), including a positive currency effect of 3 percent. Healthy volume growth for professional electric tools in North America continued throughout the period. In Germany, the same

Industrial Technique, Operating Profit



type of products showed a gradual improvement after a long period of weakness. Orders from the motor-vehicle industry in Western Europe and North America continued at a high, stable level, while in other regions demand was weak. Sales of innovative industrial tools to the general industry continued to increase while traditional industrial tools suffered from low overall demand. With few exceptions, notably Japan, Asian markets remained weak.

Revenues increased 3 percent, to SEK 7,615 m. (7,380), from the preceding year. That represented a volume gain of 1 percent.

Operating profit was basically unchanged, at SEK 761 m. (765), in spite of a contribution of SEK 83 m. from nonrecurring items, the capital gain from the sale of Atlas Copco Controls and a restructuring provision for consolidation of the production structure in the Alliance Tools division. The operating profit in the electric tool divisions did not keep pace with the increased sales volumes. The profit margin was 10.0 percent (10.4). Excluding the nonrecurring items, the margin was 8.9 percent.

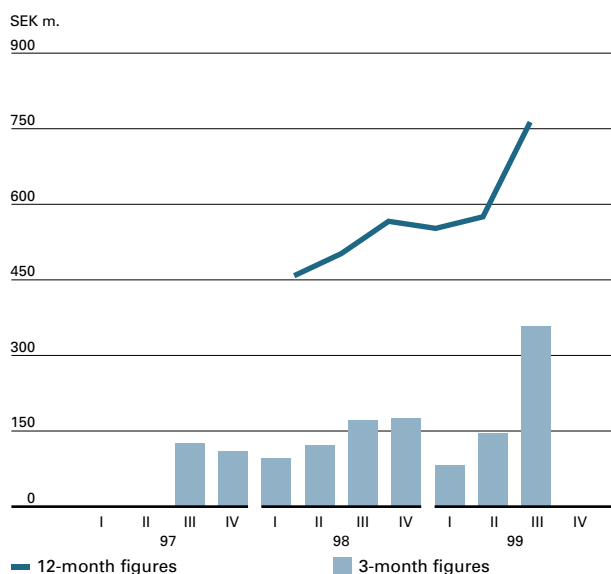
Rental Service

The Rental Service business area consists of two divisions in the equipment rental industry in the United States, providing services to construction and industrial markets.

Revenues during the period rose 62 percent, to SEK 4,619 m. (2,859), including about two months of revenues from the recently acquired Rental Service Corporation (RSC). In the third quarter, the weighted average growth of the two divisions was about 10 percent for comparable units. RSC delivered internal growth of about 15 percent, while Prime grew somewhat slower than the market. Demand was still strong from the construction sector, and some good orders in the quarter were related to increased maintenance activity in the petrochemical industry.

Operating profit, which includes all related goodwill amortization, was SEK 588 m. (391), corresponding to an operating margin of 12.7 percent (13.7). The lower margin primarily reflected a lower fleet utilization rate in Prime and some pressure on rental rates. The latter is noticeable for longer rental contracts and is most apparent in the south. The margin of

Rental Service, Operating Profit



15.4 percent in the third quarter was somewhat lower than in the same period the preceding year but clearly higher than in the first half of 1999. RSC had an operating margin in line with the same period in 1998.

Stockholm, October 26, 1999

Giulio Mazzalupi
President and Chief Executive Officer

The preliminary report on the Atlas Copco Group's operations for 1999 will be published on February 14, 2000.

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Overhead presentations from Atlas Copco

For your convenience, an overhead presentation of the Atlas Copco nine-months report for 1999 will be published on Atlas Copco's Internet site. Please go to www.atlascope.com > Investor Relations > Presentations > Investor Presentations.

More information is available at www.atlascope.com.

Contributing to a better environment

For people working at Atlas Copco, contributing to a better environment has always been part of the company culture. In addition to ISO 14001, product development taking into account environmental concerns has a high priority. After all, a product has greater impact on the environment over its useful life than from its manufacture.



Environmental work in production units

The implementation of the environmental management system ISO 14001 will strengthen the ongoing process of improving environmental conditions at production sites. Through the identification of significant environmental aspects of activities, products, and services, as well as systematic efforts, Atlas Copco strives to decrease the environmental impact from its activities.

Atlas Copco continuously sharpens its production processes to minimize environmental impact. In the production of screw compressors, pre-cast rotor blanks are used to a large extent. The rotors are ground – rather than milled – to their final shape, which creates much less waste metal, uses less energy, and has improved productivity.

Waste from processes is recycled to a great extent. At the Atlas Copco Electric Tools plant in Germany, which was the first production site in the industry to receive ISO 14001 certification, oil is removed from waste metal before the metal is sent away for recycling, which gives a higher scrap value and easier handling. Similarly, when milling gear wheels Milwaukee Electric Tools in the United States uses coolants that do not contain oil. This method saves waste oil and simplifies recycling of metal shavings.

Powder coating has widely replaced conventional painting.

Atlas Copco Tools in Sweden, which produces industrial tools, uses cadmium-free yellow powder coating for painting hand tools. The powder is applied to parts in an electrostatic process before tempering. In a similar way, the Atlas Copco Airpower compressor manufacturing site in Belgium applies the coating to compressor canopies.

In the 1990s, Atlas Copco Wagner Inc., the production unit for loading equipment in Oregon United States, reduced its monthly hazardous waste from 900 kg to 90 kg. By improving the paint process and changing to low solvent, high solids coatings, the company has reduced its hazardous air emissions to such a significant degree that it was able to “lend” some of its permitted emission capacity to the City of Portland. This helped the City to attain regional air quality standards.

Other steps are taken to improve infrastructure. Each time an old building has to be replaced, the soil is sampled before new construction can start. Any clean-up costs are charged to the previous user of the land. New office and factory buildings utilize the latest energy-saving technologies for heating, cooling, and lighting without compromising safety or health requirements. And Atlas Copco Airpower has its



Drilling rig cabins provide safety

Atlas Copco's well-known innovative approach to product development is typified in the design of its award-winning cabins for surface drilling rigs. The cabins improve the working environment by shielding the operator from rock falls and other hazards and protecting him from poor air quality, heat, cold, moisture, noise, and vibration.

The latest generation of vertically adjustable cabins offers improved ergonomics, including better visibility. The heated, air-conditioned cabins sport a number of features that boost productivity as well as comfort. Controls are mounted in the armrest of the operator's ergonomic seat, which has a wide range of positions. The operator can also operate the rig via a control panel while standing.

own wastewater cleaning and pump station where wastewater is cleaned and regularly checked before it is disposed of in the public sewage system.

Atlas Copco Rock Drilling Equipment's new test facility in Sweden for drilling equipment was designed to comply with environmental standards. The tests performed consume large amounts of water and generate high levels of noise. Through various measures, though, the facility can reuse almost all process water, and the sound level can be kept low.

Atlas Copco also regularly tries out new logistic systems. Power Tool Distribution in Belgium, which is responsible for product deliveries to 110 countries, focuses major efforts on full utilization of the load space in trucks and containers. Sophisticated control of the consumption of boxes, cartons, plastic, tape, and filling materials aims at optimizing use of materials. All waste is taken care of in special compactors and sent for recycling.

For the transportation of large goods, rail and seabound transportation are investigated as alternatives to trucks. As traffic congestion increases on the roads of most European countries, time is a factor favoring road transport less often.

Future environmental efforts at Atlas Copco

Atlas Copco will continue to implement environmental management systems at its sites beyond the year 2000, the deadline it has set for certification of major sites. The search will continue for better production methods that consume less energy and raw materials.

Our customer will always remain in focus. Consequently, we will provide new products to satisfy customer demands and



Atlas Copco Airpower, the world's largest compressor manufacturing site, received ISO 14001 certification in 1998.

likewise help the environment by supporting our customers in their environmental efforts.

Petrol driven breaker minimizes vibrations



Atlas Copco's Cobra is the most powerful gasoline-powered breaker on the market today. Ergonomically, it is in a league of its own. The unique design virtually eliminates vibrations, and measured vibration is well below the stringent levels set by the European Union (2.5 m/s²). The engine is lubri-

cated by a new synthetic oil which, apart from being an excellent lubricant, is biodegradable – good news for nature and the operator. The Cobra has been approved by the Environmental Protection Agency (EPA) in Sweden and meets the U.S. EPA requirements.

Once the machine has served its purpose, it is thoroughly prepared for recycling. All parts are marked with the type of material used and how it should be sorted according to international standards. No heavy alloys, cadmium, or lead – the three worst pollutants frequently used in machines – are used in this environment-friendly product.

New grinder doubles material removal rate



Atlas Copco's new turbo engine driven grinder is developed with the needs of heavy industries in mind like foundries and steel works. The grinder has all the characteristics that are important for the operator: high material removal rate, low weight, small dimensions and low vibrations. Compared to similar models by other manufacturers, the grinder provides as much as twice the rate of material removal. The job gets done in a shorter time, a big energy saving. The grinder maintains a high cutting speed even under heavy load. This fact in combination with its low level of vibrations reduces grinding wheel consumption by 20 percent compared to conventional grinders, another factor reducing the effect on the environment.

Ergonomics & environment Development 1950–today

Year	Milestones	Environmental impact
1950s	Development and launch of a drill with an ergonomic grip	Reduced possible harm to joints in the wrist
1960s	Silenced portable compressors and breakers	Minimized noise pollution
	Introduction of the oil-free screw compressor	Eliminated oil vapor in compressed air
1970s	Introduction of dust collectors on rock-drilling crawlers and hand tools	Protected people from inhaling harmful dust
	Design of heat recovery systems for compressors	Lowered the total energy consumption and with that the emission of CO ₂ , eventually contributing to the reduction of the greenhouse effect
	Introduction of hydraulic rock drills	Produced energy savings of more than 50%, eliminated oil mist from rock drills
1980s	Option to run hydraulic rock drills on vegetable oil or water mixtures	Reduced pollution from spill oil and leaks in nature
1990–95	Replacement of solvent-based paint processes with powder coating	Reduced the emission of harmful gases
	Cadmium-free batteries in electric hand tools	Reduced heavy metal waste
	Replacement of freon by less harmful gases as cooling medium in refrigerant air dryers	Contributing to reducing the depletion of the ozone layer
	Oil injected screw compressors with variable speed drive	Energy savings up to 30%, contributing to a reduction of the greenhouse effect
	Oil/water separators for compressor condensate at production sites	Reduced pollution
1997	ISO14001 certification for Atlas Copco Electric Tools, Germany	Sets a precedent as the first electric tool manufacturer in the industry to be approved
1997–98	Labeling of components for easier sorting by material at scrapping	Contributing to materials recycling and reducing the consumption of raw materials
1998	ISO 14001 certification for Atlas Copco Airpower, Belgium	As the world's largest compressor manufacturing site, Atlas Copco Airpower adheres to sound environmental management
	Introduction of environmental factors as parameters in sub-contractor and sub-supplier evaluations	Ensures that sub-suppliers of materials, parts and services participate in the total environmental improvement by the Group
1999	Introduction of a Group standard for black, grey and white lists of substances, which are prohibited, restricted in use, and preferred choices, respectively	Guiding design departments in the selection of environmentally friendly materials

Low-energy compressor is easy on the environment



Traditionally, compressors were placed in a dedicated compressor room. Atlas Copco's latest generation of GA VSD compressors can, thanks to a low noise level, be placed on the production line

itself. The technically advanced drive system relies on an electronic frequency converter that operates at exactly the rate of compressed air required with energy savings of up to 30 percent as a result. These savings have a considerable impact on the life cycle cost of the compressor, and help to make the compressor installation environment-friendly.

Evaluation of power tools



To develop a range of tools with good ergonomics takes time. Every workstation and process is unique, and tool manufacturers need to be familiar with these varied work environments. Atlas Copco has worked with these issues for decades and is proud that its range of tools is state-of-the-art in terms of ergonomics.

“There is no such thing as an ergonomic tool. But a tool design can incorporate good

or bad ergonomics,” says Bo Lindqvist, at the Atlas Copco Industrial Tools and Equipment division. With 40 years of research and testing experience under his belt, and having developed a method to evaluate ergonomic features on power tools, he should know. The evaluation method can be used by designers, in industrial design, by customers, or other groups interested

in comparing different tools from one or several manufacturers.

Lindqvist’s method gives guidance in the ergonomic field. Factors like handle geometry, external load, weight, temperature, shock reaction, vibration, noise, dust, and oil are evaluated in a scoring system, and the results can be studied in a bar diagram giving the ergonomic profile of the tool in question.

Back in the mid-1980s, Atlas Copco published its first book on ergonomic tools: *Ergonomic Tools in Our Time*, by Bo Lindqvist. The second book on the same topic, *Power Tool Ergonomics*, by the same author, was published in 1997.

Circular saw fit for everyday use

Milwaukee’s end users are professional tradesmen who use power tools all day, every day. Every tool is designed with ergonomics in mind, to enhance each user’s productivity, performance, and job satisfaction. In addition to providing power and heavy-duty durability, the tools must be comfortable to use, minimizing physical stress and fatigue. Milwaukee’s new 7 1/4" circular saw is one example of the company’s ergonomic tools. The saw’s exclusive eight-position main handle adjusts to any cutting application, whether the user is reaching to cut paneling, bending to cut flooring, or cutting roof rafters overhead. The saw also has a cushioned front and rear grip handles to increase

comfort and decrease muscle strain. No other circular saw has these features. The saw also has a patented anti-vibration system which decreases the amount of vibration transmitted from the tool to the user by 50 percent, to 1.9 m/s².

