Second quarter 2018



Summary

		First six	months					
SEK millions	2018	2017	%	% *	2018	2017	%	% *
Order intake	12,062	9,629	25	21	22,087	18,430	20	19
Net sales	10,475	8,907	18	14	19,326	17,033	13	13
Adjusted EBITA **	1,698	1,410	20		3,195	2,689	19	
- adjusted EBITA margin (%) **	16.2	15.8			16.5	15.8		
Result after financial items	1,499	733	105		2,968	2,001	48	
Net income for the period	1,117	479	133		2,166	1,255	73	
Earnings per share (SEK)	2.65	1.14	132		5.14	2.98	72	
Cash flow ***	1,377	1,042	32		2,043	1,846	11	
Impact on adjusted EBITA of:								
- foreign exchange effects	-40	96			-5	171		
Impact on result after financial items of:			•				•	
- comparison distortion items	31	-			98	-		

^{*} Excluding currency effects. ** Alternative performance measures. *** From operating activities.

Comment from Tom Erixon, President and CEO

"Order intake during the second quarter was significantly stronger than earlier expected, with contributions from all three divisions. The Marine Division's order intake increased by 37 percent sequentially, mainly driven by an increased contracting within the tanker segment - which lifted the demand for pumping systems - and a significantly increased order intake pace for environmental products. The Energy Division also had a positive development, both sequentially and compared to last year, driven by a strong base business and a number of large orders. The order intake in Food & Water was continued strong, with a substantial increase in the base business. The extensive product launch programme has positively impacted the order intake in the guarter.

Geographically, the second quarter was characterized by sequentially increased demand

in most of Alfa Laval's end markets. Also compared to last year, the development was very good. Asia showed a considerable growth, with an order intake increase of 41 percent. Europe also showed a strong development with a 19 percent increase. In total the order intake in the quarter was SEK 12,062 million, an increase compared to last year by 25 percent and sequentially with 20.

The operating income (adjusted EBITA) increased by 20 percent to SEK 1,698 million in the quarter due to an increased invoicing, while the operating margin was 16.2 percent. The margin was impacted positively by an increased productivity and negatively by a lower aftermarket share and currency effects. The ongoing change work within the production structure, the so-called Footprint programme, and extensive product launches contributed to higher costs in the quarter."

Outlook for the third quarter

"We expect that demand during the third quarter 2018 will be somewhat lower than in the second quarter."

Earlier published outlook (April 23, 2018): "We expect that demand during the second quarter 2018 will be on the same level as in the first quarter.""

The interim report has not been subject to review by the company's auditors.

This information is information that Alfa Laval AB (publ) is obliged to make public pursuant to the EU Market Abuse Regulation and the Securities Markets Act. The information was submitted for publication, through the agency of the contact person set out below, at CET 12.00 on July 16, 2018.

Management's discussion and analysis

Important events during the second quarter

The sale of the Alonte based commercial tubular heat exchanger business in the Greenhouse Division to the BITZER Group was closed on May 1, 2018.

The sale of the heat exchanger systems business

in the Greenhouse Division to the NIBE Group was closed on May 31, 2018.

The divestments have resulted in a gain of SEK 29 million, which is reported as a comparison distortion item.

Large orders (>EUR 5 million) in the second quarter				
Division		Order	Total per Bu	usiness Unit
Business Unit	Delivery	amount	Q2 2018	Q2 2017
Scope of supply	date		SEK millior	าร
Energy				
Welded Heat Exchangers				
Alfa Laval Packinox heat exchangers to a refinery in the US.	2019	85		
Large heat exchangers to a petrochemical plant in China. Heat exchangers for heat recovery and cooling in a petrochemical	2018/2019	120		
plant in the Middle East. *	2019	34	239	295
Gasketed Plate Heat Exchangers Heat exchangers for heat recovery and cooling in a petrochemical plant in the Middle East. *	2019	21	21	90
Food & Water				
Food Systems				
Several process lines for edible oil plants in South East Asia.	2018	55	55	125
Marine				
Boiler & Gas Systems				
Waste heat recovery systems to a power plant in Bangladesh.	2018	70	70	-
Pumping Systems				
Framo pumping systems to an oil platform in the North Sea.	2018	60		
Framo pumping systems to an FPSO** in the North Sea.	2018	65	125	-
Total			510	510

^{*} One order with both welded and gasketed heat exchangers. ** FPSO = Floating Production, Storage and Offloading

Order intake

Orders received was SEK 12,062 (9,629) million in the second quarter and SEK 22,087 (18,430) million in the first six months 2018. The graph

below shows the historical development per quarter.



% = change by quarter compared to corresponding period last year, at constant rates

The change compared with the corresponding periods last year and the previous quarter can be

split into:

Consolidated	Order bridge									
		Change								
	Order intake	Order intake Excluding currency effects After currency effects								
	Prior	Structural	Organic		Currency		Current			
	periods	change 1)	development 2)	Total	effects	Total	periods			
	SEK millions	(%)	(%)	(%)	(%)	(%)	SEK millions			
Q2 2018/Q2 2017	9,629	-0.7	22.2	21.5	3.8	25.3	12,062			
Q2 2018/Q1 2018	10,025	-0.4	15.7	15.3	5.0	20.3	12,062			
YTD 2018/2017	18,430	-0.4	19.3	18.9	0.9	19.8	22,087			

Orders received from the aftermarket Service³ constituted 24.1 (29.9) percent of the Group's total orders received during the second quarter and 26.3 (30.8) percent during the first six months

2018. The change compared with the corresponding periods last year and the previous quarter can be split into:

Consolidated	Ser	vice order intake		
	Change e	xcluding currency effect	s	
	Structural	Organic		
%	change	development	Total	
Q2 2018/Q2 2017	-0.1	-1.3	-1.4	
Q2 2018/Q1 2018	-0.1	-4.2	-4.3	
YTD 2018/2017	0.0	2.8	2.8	

Order backlog



Excluding currency effects and adjusted for divestment of businesses the order backlog was 14.9 percent larger than the order backlog at June 30, 2017 and 15.0 percent larger than the order backlog at the end of 2017.

- Structural change relates to acquisition/divestment of businesses.
- 2. Organic development relates to change excluding acquisition/divestment of businesses.

Net sales

Net invoicing was SEK 10,475 (8,907) million for the second quarter and SEK 19,326 (17,033) million for the first six months 2018. The change compared with the corresponding periods last year and the previous quarter can be split into:

Consolidated			Sales bridge Change								
	Net sales	Excludir	ng currency eff	ects	After current	cy effects	Net sales				
	Prior	Structural	Organic		Currency		Current				
	periods	change	development	Total	effects	Total	periods				
	SEK millions	(%)	(%)	(%)	(%)	(%)	SEK millions				
Q2 2018/Q2 2017	8,907	-0.3	14.6	14.3	3.3	17.6	10,475				
Q2 2018/Q1 2018	8,851	-0.3	14.0	13.7	4.6	18.3	10,475				
YTD 2018/2017	17,033	-0.2	13.1	12.9	0.6	13.5	19,326				

Net invoicing relating to Service constituted 28.1 (31.0) percent of the Group's total net invoicing in the second quarter and 29.0 (31.2) percent in the

first six months 2018. The change compared with the corresponding periods last year and the previous quarter can be split into:

Consolidated		Service sales	
	Change e	xcluding currency effect	ts
	Structural	Organic	
%	change	development	Total
Q2 2018/Q2 2017	-0.1	4.3	4.2
Q2 2018/Q1 2018	-0.1	6.4	6.3
YTD 2018/2017	0.0	5.8	5.8

Income

CONSOLIDATED COMPREHENSIVE IN	NCOME					
	Second	quarter	First six	months	Full year	Last 12
SEK millions	2018	2017	2018	2017	2017	months
Net sales	10,475	8,907	19,326	17,033	35,314	37,607
Cost of goods sold	-7,034	-5,930	-12,752	-11,301	-23,379	-24,830
Gross profit	3,441	2,977	6,574	5,732	11,935	12,777
Sales costs	-1,160	-1,045	-2,216	-2,058	-4,127	-4,285
Administration costs	-487	-490	-986	-930	-1,809	-1,865
Research and development costs	-254	-220	-471	-417	-874	-928
Other operating income	134	175	359	298	588	649
Other operating costs	-220	-258	-500	-478	-1,135	-1,157
Share of result in joint ventures	9	2	13	10	11	14
Operating income	1,463	1,141	2,773	2,157	4,589	5,205
Dividends and other financial income	5	0	11	0	47	58
Interest income and financial exchange rate gains	86	-207	345	161	237	421
Interest expense and financial exchange rate losses	-55	-201	-161	-317	-502	-346
Result after financial items	1,499	733	2,968	2,001	4,371	5,338
Taxes	-382	-254	-802	-746	-1,383	-1,439
Net income for the period	1,117	479	2,166	1,255	2,988	3,899
Other comprehensive income: Items that will subsequently be reclassified to net income						
Cash flow hedges	-229	105	-236	126	257	-105
Market valuation of external shares	0	0	0	0	2	2
Translation difference	751	-774	1,614	-1,069	-1,339	1,344
Deferred tax on other comprehensive income	-26	47	16	115	152	53
Sum	496	-622	1,394	-828	-928	1,294
Items that will subsequently not be reclassified to net income						
Revaluations of defined benefit obligations	10	50	20	100	15	-65
Deferred tax on other comprehensive income	-3	-14	-6	-28	4	26
Sum	7	36	14	72	19	-39
Comprehensive income for the period	1,620	-107	3,574	499	2,079	5,154
Net income attributable to:						
Owners of the parent	1,113	475	2,158	1,248	2,976	3,886
Non-controlling interests	4	4	8	7	12	13
Earnings per share (SEK)	2.65	1.14	5.14	2.98	7.09	9.26
Average number of shares	419,456,315	419,456,315	419,456,315	419,456,315	419,456,315	419,456,315
Comprehensive income attributable to:						
Owners of the parent	1,615	-107	3,559	496	2,069	5,132
Non-controlling interests	5	0	15	3	10	22

The gross profit has been affected positively by a higher sales volume and a better factory result and negatively by an unfavourable mix between capital sales and service and a negative currency effect mainly in the second quarter.

Sales and administration expenses were SEK 1,647 (1,535) million during the second quarter and SEK 3,202 (2,988) million during the first six months 2018. Excluding currency effects

and acquisition/divestment of businesses, sales and administration expenses were 6.9 percent and 6.3 percent respectively higher than the corresponding periods last year. The increase is entirely explained by an increased activity level within marketing and sales. The corresponding figure when comparing the second quarter 2018 with the previous quarter is an increase with 6.3 percent.

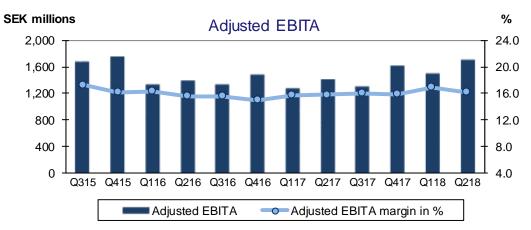
The costs for research and development during the first six months 2018 corresponded to 2.4 (2.4) percent of net sales. Excluding currency effects and acquisition/divestment of businesses, the costs for research and development have increased by 12.4 percent during the second quarter and by 10.7 percent during the first six months 2018 compared to the corresponding

periods last year. The corresponding figure when comparing the second quarter 2018 with the previous quarter is an increase with 14.7 percent.

Earnings per share, excluding amortisation of step-up values and the corresponding tax*, was SEK 6.15 (3.90) for the first six months 2018.

Consolidated	Income analysis					
	Second	quarter	First six	months	Full year	Last 12
SEK millions	2018	2017	2018	2017	2017	months
Net sales	10,475	8,907	19,326	17,033	35,314	37,607
Adjusted gross profit *	3,707	3,246	7,094	6,264	12,956	13,786
- adjusted gross margin (%) *	35.4	36.4	36.7	36.8	36.7	36.7
Expenses **	-1,850	-1,681	-3,585	-3,258	-6,717	-7,044
- in % of net sales	17.7	18.9	18.6	19.1	19.0	18.7
Adjusted EBITDA *	1,857	1,565	3,509	3,006	6,239	6,742
- adjusted EBITDA margin (%) *	17.7	17.6	18.2	17.6	17.7	17.9
Depreciation	-159	-155	-314	-317	-629	-626
Adjusted EBITA *	1,698	1,410	3,195	2,689	5,610	6,116
- adjusted EBITA margin (%) *	16.2	15.8	16.5	15.8	15.9	16.3
Amortisation of step-up values	-266	-269	-520	-532	-1,021	-1,009
Comparison distortion items	31	-	98	-	-	98
Operating income	1,463	1,141	2,773	2,157	4,589	5,205





^{*} Alternative performance measures. ** Excluding comparison distortion items.

Comparison distortion items

Consolidated	Comparison distortion items							
	Second	quarter	Full year	Last 12				
SEK millions	2018	2017	2018	2018 2017		months		
Operational								
Other operating income	103	175	261	298	588	551		
Comparison distortion income	31	-	98	-	-	98		
Total other operating income	134	175	359	298	588	649		

The comparison distortion income during the first six months 2018 is relating to two items.

exchanger systems business have resulted in a total gain of SEK 29 million.

The divestments of the Alonte based commercial tubular heat exchanger business and the heat

The sale of a property in Lima in Peru resulted in a realised gain of SEK 69 million.

Consolidated financial net and taxes

The financial net for the first six months 2018 was SEK -30 (-52) million, excluding realised and unrealised exchange rate losses and gains. The main elements of costs were interest on the debt to the banking syndicate of SEK -2 (-3) million, interest on the bilateral term loans of SEK -21 (-21) million, interest on the commercial papers of SEK 0 (0) million, interest on the corporate bonds of SEK -42 (-39) million and a net of dividends, changes in fair value and other interest income and interest costs of SEK 35 (11) million. The net

of realised and unrealised exchange rate differences was SEK 225 (-104) million.

The tax on the result after financial items was SEK -382 (-254) million in the second quarter and SEK -802 (-746) million in the first six months 2018. The tax cost for the first six months 2017 was affected by a non-recurring item of SEK -113 million concerning additional tax relating to prior years concerning acquired businesses according to a settlement with the former owners.

Key figures

Consolidated	Key figures					
	Jun	December 31				
	2018	2017	2017			
Return on capital employed (%) *	20.8	15.3	17.7			
Return on equity (%) **	18.8	8.9	13.9			
Solidity (%) ***	38.9	36.7	39.0			
Net debt to EBITDA, times *	1.30	1.91	1.31			
Debt ratio, times *	0.39	0.53	0.40			
Number of employees (at the end of the period)	16,698	16,435	16,367			

^{*} Alternative performance measures.

^{**} Net income in relation to average equity, calculated on 12 months' revolving basis, expressed in percent.

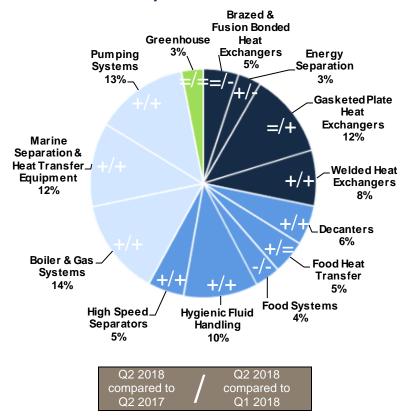
^{***} Equity in relation to total assets at the end of the period, expressed in percent.

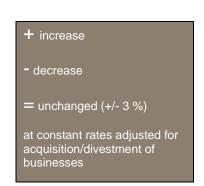
Business Divisions

The development of the order intake for the Divisions and their Business Units and the split

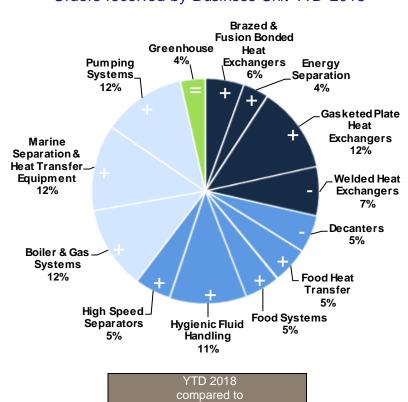
between capital sales and after sales & service appear in the following charts.

Orders received by Business Unit Q2 2018





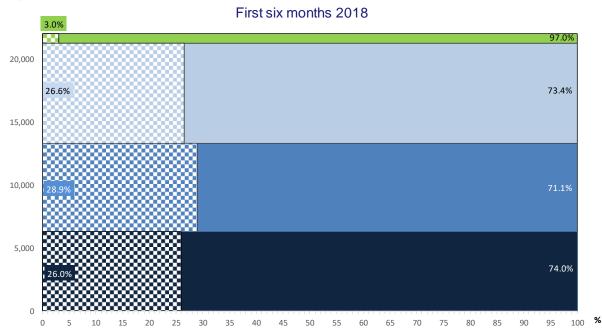
Orders received by Business Unit YTD 2018



YTD 2017







	Energy	Food & Water	Marine	Greenhouse	
Capital sales					
After sales & service	***************************************	0000000	0000000	000000	

Energy Division

Consolidated						
	Second quarter		First six	First six months		Last 12
SEK millions	2018	2017	2018	2017	2017	months
Orders received	3,401	3,136	6,316	5,810	11,175	11,681
Order backlog*	4,836	5,032	4,836	5,032	4,471	4,836
Net sales	3,215	2,861	6,027	5,144	11,001	11,884
Operating income**	490	384	871	639	1,525	1,757
Operating margin***	15.2%	13.4%	14.5%	12.4%	13.9%	14.8%
Depreciation and amortisation	79	76	153	156	317	314
Investments	13	17	22	32	84	74
Assets*	10,920	9,338	10,920	9,338	9,555	10,920
Liabilities*	4,413	3,388	4,413	3,388	3,743	4,413
Number of employees*	3,121	2,972	3,121	2,972	3,016	3,121

^{*} At the end of the period. ** In management accounts. *** Operating income in relation to net sales.

Consolidated		Change excluding currency effects						
		Order intake			Net sales			
	Structural	Organic		Structural	Organic			
%	change	development	Total	change	development	Total		
Q2 2018/Q2 2017	-	5.6	5.6	-	9.5	9.5		
Q2 2018/Q1 2018	-	11.4	11.4	-	9.4	9.4		
YTD 2018/2017	-	8.4	8.4	-	17.0	17.0		

All comments below are excluding currency effects.

Order intake

The Energy Division's overall order volume increased in the second quarter compared to the previous quarter, driven by a good inflow of midsized and large orders. Demand grew among petrochemical customers, resulting in two large orders as well as good base-business* growth. HVAC, which is in peak season, also contributed to the strong development. A further boost came from the refinery sector, with a large order for Alfa Laval Packinox heat exchangers.

Business Unit Welded Heat Exchangers was boosted by the large refinery and petrochemical orders, leading to a very strong development in major markets like the U.S., China and the Middle East. Gasketed Heat Exchangers also grew, partly as a result of the large petrochemical order and partly due to the seasonally positive development among HVAC customers. For Energy Separation, the overall order volumes were slightly lower compared to the previous quarter, as there was slightly less of orders from drilling and mining. Oil processing, however recorded growth. Brazed & Fusion Bonded Heat

Exchangers saw order volumes come down slightly from a high level. However, seasonal growth was noted in important markets like China, the Nordic region and Eastern Europe.

Service reported somewhat lower order intake compared to the previous quarter. The main reason for this was non-repeat parts orders from the oil-related industry in North America.

Operating income

The increase in operating income for the division during the second quarter 2018 compared to the corresponding period last year is explained by higher net sales and good project execution.

^{*} Base business and base orders refer to orders with an order value of less than EUR 0.5 million.

Food & Water Division

Consolidated						
	Second quarter		First six	First six months		Last 12
SEK millions	2018	2017	2018	2017	2017	months
Orders received	3,589	3,385	7,000	6,547	12,388	12,841
Order backlog*	5,096	4,702	5,096	4,702	4,317	5,096
Net sales	3,390	2,923	6,270	5,681	11,824	12,413
Operating income**	507	421	961	853	1,780	1,888
Operating margin***	15.0%	14.4%	15.3%	15.0%	15.1%	15.2%
Depreciation and amortisation	38	37	72	76	142	138
Investments	29	9	53	19	73	107
Assets*	9,824	8,211	9,824	8,211	8,124	9,824
Liabilities*	4,576	3,735	4,576	3,735	3,652	4,576
Number of employees*	4,141	4,061	4,141	4,061	3,997	4,141

^{*} At the end of the period. ** In management accounts. *** Operating income in relation to net sales.

Consolidated		Change excluding currency effects						
		Order intake Net sales						
	Structural	Organic		Structural	Organic			
%	change	development	Total	change	development	Total		
Q2 2018/Q2 2017	-	3.4	3.4	-	13.5	13.5		
Q2 2018/Q1 2018	-	1.1	1.1	-	13.4	13.4		
YTD 2018/2017	-	6.8	6.8	-	10.4	10.4		

All comments below are excluding currency effects.

Order intake

Order intake in the Division was unchanged in the second quarter compared to the previous quarter – a very positive outcome given that the first quarter included a record-large order in Latin America. The development was explained by an unexpectedly strong growth in the base business across most end markets – together with one large edible oil order. While all major end markets developed well, order intake from the brewery sector was clearly lower, as the order mentioned above was not repeated. For the rest, a particularly strong development was seen in edible oil, pharma & biotech as well as ethanol, starch and sugar.

Business Unit **High Speed Separators** reported strong growth compared to the previous quarter, with the pharma and biotech sector being the single most important contributor. **Decanters** also recorded very strong growth, to a large extent

generated from increased demand in the water & waste market. Food Heat Transfer ended up on the same level as in the previous quarter as a decline for general food applications was compensated by growth in ethanol, starch and sugar. Hygienic Fluid Handling reported a good increase in order intake, primarily coming from a strong dairy market, supported by a generally good demand in the broader food markets. Food Systems declined due to the non-repeat of the SEK 300 million brewery order. But excluding this order, an underlying good growth was noted - not least in the base business.

The aftermarket was on the same level as the first quarter.

Operating income

The increase in operating income for Food & Water during the second quarter 2018 compared to the corresponding period last year is explained by higher net sales, partly offset by negative mix effects.

Marine Division

Consolidated						
	Second quarter		First six	First six months		Last 12
SEK millions	2018	2017	2018	2017	2017	months
Orders received	4,685	2,678	7,980	5,234	11,456	14,202
Order backlog*	10,996	8,414	10,996	8,414	9,027	10,996
Net sales	3,486	2,672	6,281	5,330	10,809	11,760
Operating income**	571	408	1,070	810	1,771	2,031
Operating margin***	16.4%	15.3%	17.0%	15.2%	16.4%	17.3%
Depreciation and amortisation	201	192	393	385	772	780
Investments	24	5	36	20	59	75
Assets*	25,799	23,860	25,799	23,860	23,861	25,799
Liabilities*	7,120	5,818	7,120	5,818	5,963	7,120
Number of employees*	2,939	2,903	2,939	2,903	2,914	2,939

^{*} At the end of the period. ** In management accounts. *** Operating income in relation to net sales.

Consolidated		Change excluding currency effects						
		Order intake			Net sales			
	Structural	Organic		Structural	Organic			
%	change	development	Total	change	development	Total		
Q2 2018/Q2 2017	-	68.7	68.7	-	25.8	25.8		
Q2 2018/Q1 2018	-	36.7	36.7	-	19.9	19.9		
YTD 2018/2017	-	50.1	50.1	_	16.4	16.4		

All comments below are excluding currency effects.

Order intake

Order intake for the Marine Division increased significantly in the second quarter compared with the first. The main reason was a substantial growth for PureSOx, as well as a very good development for marine pumping systems.

Business Unit Marine Separation & Heat Transfer Equipment reported a good quarter with increased demand for most product groups, following the growth in ship contracting noted during 2017. PureBallast, however, accounted for the strongest growth. The Boiler & Gas Systems Business Unit also reported an increased order intake in the quarter. While demand for marine boilers was unchanged, the demand for PureSOx increased significantly compared to the first quarter. With a clear perception in the market that

the 2020 regulation will come into force, the oil price development and the market players wish to stay competitive, contributed to drive the demand. The order intake for the **Pumping Systems** Business Unit increased compared to the previous quarter, following a higher level of contracting for chemical tankers. The increase was partly off-set by fewer large offshore orders compared to the last quarter.

The order intake for Service decreased, due to weaker demand for spare parts and repairs.

Operating income

The increase in operating income for Marine during the second quarter 2018 compared to the corresponding period last year is mainly explained by significantly higher net sales. The strong volume impact was partly offset by a smaller service share and negative currency effects.

Greenhouse Division

Consolidated						
	Second	dquarter	First six	k months	Full year	Last 12
SEK millions	2018	2017	2018	2017	2017	months
Orders received	375	430	779	839	1,609	1,549
Order backlog*	523	514	523	514	474	523
Net sales	379	451	743	878	1,680	1,545
Operating income**	22	7	30	8	-12	10
Operating margin***	5.8%	1.6%	4.0%	0.9%	-0.7%	0.6%
Depreciation and amortisation	3	18	9	25	26	10
Investments	4	1	8	4	17	21
Assets*	776	1,093	776	1,093	806	776
Liabilities*	558	464	558	464	593	558
Number of employees*	508	765	508	765	642	508

^{*} At the end of the period. ** In management accounts. *** Operating income in relation to net sales.

Consolidated		Change excluding currency effects					
		Order intake		Net sales			
	Structural	Organic		Structural	Organic		
%	change	development	Total	change	development	Total	
Q2 2018/Q2 2017	-14.6	-2.4	-17.0	-5.2	-14.2	-19.4	
Q2 2018/Q1 2018	-8.9	-2.5	-11.4	-6.2	6.5	0.3	
YTD 2018/2017	-7.5	-1.8	-9.3	-2.7	-14.4	-17.1	

All comments below are excluding currency effects.

Order intake

Overall Greenhouse order intake decreased in the second quarter compared to the first quarter, due to the finalisation of the divestment of two product groups within the quarter. For one of the product groups - Heat Exchanger Systems – this included the transfer of the order backlog to the new owner.

Meanwhile, the remaining and largest product group, Air Heat Exchangers performed very well,

with continuing high demand for industrial cooling applications in the conventional power industry. It also saw a good development across all refrigeration and HVAC applications. The Nordic region and Western Europe did well and North America also made an important contribution.

Operating income

The increase in operating income for Greenhouse during the second quarter 2018 is mainly due to the profitability being higher in the remaining product group Air Heat Exchangers.

Operations and Other

Operations and Other covers procurement, production and logistics as well as corporate over-

head and non-core businesses.

Consolidated						
	Second quarter		First six	months	Full year	Last 12
SEK millions	2018	2017	2018	2017	2017	months
Orders received	12	0	12	0	0	12
Order backlog*	6	0	6	0	0	6
Net sales	5	0	5	0	0	5
Operating income**	-196	-140	-304	-204	-533	-633
Depreciation and amortisation	104	101	207	207	393	393
Investments	264	108	396	198	442	640
Assets*	5,957	4,937	5,957	4,937	5,372	5,957
Liabilities*	2,729	2,321	2,729	2,321	2,591	2,729
Number of employees*	5,989	5,734	5,989	5,734	5,798	5,989

^{*} At the end of the period. ** In management accounts.

The order intake and net sales for Operations and Other is relating to contract manufacturing of shell and tube heat exchangers for BITZER after the sale of the business to BITZER.

The deteriorated operating income in the second quarter 2018 compared to the corresponding period last year is above all explained by increased activities within the manufacturing restructuring program.

Reconciliation between Divisions and Group total

Consolidated						
	Second	d quarter	First six months		Full year	Last 12
SEK millions	2018	2017	2018	2017	2017	months
Operating income						
Total for divisions	1,394	1,080	2,628	2,106	4,531	5,053
Comparison distortion items	31	-	98	-	-	98
Consolidation adjustments *	38	61	47	51	58	54
Total operating income	1,463	1,141	2,773	2,157	4,589	5,205
Financial net	36	-408	195	-156	-218	133
Result after financial items	1,499	733	2,968	2,001	4,371	5,338
Assets **						
Total for divisions	53,276	47,439	53,276	47,439	47,718	53,276
Corporate ***	3,948	4,097	3,948	4,097	4,831	3,948
Group total	57,224	51,536	57,224	51,536	52,549	57,224
Liabilities **						
Total for divisions	19,396	15,726	19,396	15,726	16,542	19,396
Corporate ***	15,551	16,881	15,551	16,881	15,507	15,551
Group total	34,947	32,607	34,947	32,607	32,049	34,947

^{*} Difference between management accounts and IFRS. ** At the end of the period. *** Corporate refers to items in the statement on financial position that are interest bearing or are related to taxes.

Information about products and services

Consolidated	Net sales by product/service *						
	Second	d quarter	First six	months	Full year	Last 12	
SEK millions	2018	2017	2018	2017	2017	months	
Own products within:							
Separation	1,865	1,621	3,439	3,058	6,471	6,852	
Heat transfer	4,596	4,296	8,646	7,986	16,726	17,386	
Fluid handling	2,439	1,872	4,571	3,946	7,678	8,303	
Other	579	265	967	481	1,180	1,666	
Associated products	498	342	824	639	1,448	1,633	
Services	498	511	879	923	1,811	1,767	
Total	10,475	8,907	19,326	17,033	35,314	37,607	

^{*} The split of own products within separation, heat transfer and fluid handling is a reflection of the current three main technologies. Other is own products outside these main technologies. Associated products are

mainly purchased products that complement Alfa Laval's product offering. Services cover all sorts of service, service agreements etc.

New products during the second quarter

During the second quarter Alfa Laval has introduced among others the following new products:

Brew 701 eMotion



Market-leading centrifuge for beer clarification.

The new Brew 701 eMotion is aiming to be a market-leading solution for pre-clarification and polishing of beer. It has unique features such as eMotion™, eDrive™ and Hermetic Design, which secure minimal operating costs, outstanding beer quality, high yield and exceptional efficiency. Brew 701 eMotion™ has up to 70% lower power consumption than a traditional beer centrifuge with comparable throughput. Brew 701 can be operated at low or high flow rates and bowl speeds, allowing to use just one unit for several types of beer without having to make any complicated configuration readjustments. Brew 701 also offers an unmatched degree of flexibility when it comes to solids and yeast concentrations in the feed. That means it can be used for clarifying all types of beer - including high-gravity beer - and still run at high flow rates.

PX 810 Bactofuge



A smaller separator for biotech and bio-based chemicals

The Alfa Laval PX 810 Bactofuge is a centrifugal separator for industrial fermentation and production of microbial cultures. With Alfa Laval's Hermetic Design, PX 810 Bactofuge can secure very gentle acceleration of the broth while simultaneously preventing contact with air inside the separator. By contrast to competing models, in PX810 Bactofuge the product enters the bowl smoothly and accelerates gradually as it passes through the rotating spindle. This ensures that the size of particles and aggregates is always maintained. The unique hermetic Design of the new Bactofuge allows reducing energy consumption by up to 40%.

Alfa Laval MBR system



Trouble-free MBR wastewater treatment.

The new version of Alfa Laval's membrane bioreactor filtration modules features several improvements that increase capacity, cut energy consumption and reduce maintenance costs. Based on tried-and-tested technology used in hundreds of installations for 15 years, Alfa Laval's new MBR membrane guarantees reliable operation at the lowest possible total cost of ownership. Combining the MBR's unique LowResist™, S Aerator™ and QuickSwap™ technologies, Alfa Laval MBR modules offer a range of benefits for MBR processes in terms of excellent effluent quality, low energy consumption and minimal cleaning and maintenance needs. The Alfa Laval membranes, provide an absolute barrier to bacteria, microplastics and several other pollutants, and the treated water meets the requirements for water reuse or environmentally responsible discharge.

Alfa Laval T25-P



The next-generation range of gasketed plate heat exchangers for industrial applications.

The Alfa Laval T25-P offers a durable and flexible heat transfer solution for industrial processes. It is

designed to perform reliably under the toughest while simultaneously boosting efficiency contributing to a lower energy consumption and a sustainable environmental impact. Some examples of applications in which the Alfa Laval T25-P will be a strong alternative are in heat recovery duties such as an amine interchanger, service-intensive duties such as a crude oil heater and duties where reliability is crucial, such as offshore crude dehydration. All Alfa Laval T25 units feature standard settina. next-generation technology for improved efficiency, reliability and serviceability, such as:

- The OmegaPort™ non-circular inlet and outlet decreases pressure drop by up to 25% compared to circular port designs, which reduces pump energy consumption for lower overall operating costs.
- The <u>CurveFlow™</u> distribution area provides superior distribution in a smaller area, leaving more room for the main heat transfer. Higher thermal efficiency per plate enables a smaller plate pack reducing the unit weight and environmental impact – and lowers lifetime maintenance costs.
- The PowerArc™ plate pattern divider increases plate stability, during assembly and in operation, meaning it is possible to operate with thinner plates. This leads to higher thermal efficiency, lower weight and further improved environmental impact.

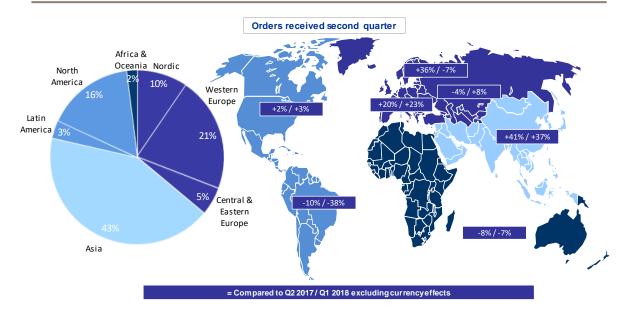
ConditionAlert™

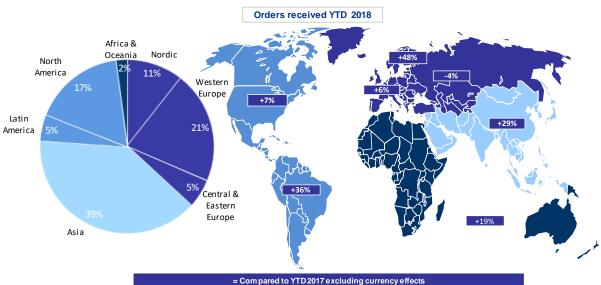


Proactive condition monitoring system for maximum separator uptime.

A new suite of connectivity solutions from Alfa Laval, ConditionAlert™ proactively monitors separator condition and sends immediate alerts if any actions are needed. The system uses an analysis model based on Alfa Laval's extensive experience with separation technology. Sensors installed on the separator measure vibrations 24/7 and send the data for analysis. The results of the analysis are received in the form of condition status updates and alerts - if something requires attention. The system enables improved performance and optimized maintenance planning for the separators.

Information by region





All comments are excluding currency effects.

Western Europe including Nordic

The region as a whole reported strong growth in the second quarter compared to the previous quarter, driven by orders for PureSOx in Marine and by a good order intake across the region for the Food & Water Division. The majority of the PureSOx orders were booked in Adriatic, which contributed to a very strong development and in Nordic, which still could not compensate for the large non-repeat orders for pumping systems booked in the previous quarter.

Central and Eastern Europe

Order intake grew in the second quarter compared to the previous quarter, driven by a good base business* development in all three divisions. Within the region, Russia and Poland were the main drivers for the overall development, with growth in all three divisions.

North America

North America performed well during the second quarter compared to the first, as growth in the U.S. more than compensated for a decline in Canada. An increased volume of larger orders in the Oil & Gas and Food-related industries, together with a continued high level of base business, explained the positive development in the U.S.

Latin America

The region reported a decline during the second quarter compared to the previous quarter, due to the large non-repeat brewery order booked in the first quarter. The base business, however, had a positive development across the region and across divisions. Brazil grew, lifted by Food & Water, which not only booked larger orders from the agro-industrial sector, but also reported a generally good base-business development.

* Base business and base orders refer to orders with an order value of less than EUR 0.5 million.

Asia

The region reported very strong growth across most countries and also across the three divisions in the second quarter compared to the previous quarter. In the Marine Division all areas grew, including service. The strongest performance, however, was seen among PureSOx and pumping systems. In the Energy Division, the growth came from the base business as well as from a number

of large orders booked in the quarter.

Africa and Oceania

The region reported a decline in the second quarter compared to the previous quarter, as growth in Food & Water could not compensate for a decline in the other two divisions.

Consolidated			Net s	ales		
	Second	d quarter	First six	First six months		Last 12
SEK millions	2018	2017	2018	2017	2017	months
To customers in:						
Sweden	234	211	453	418	888	923
Other EU	2,870	2,534	5,264	4,630	9,627	10,261
Other Europe	795	599	1,404	1,221	2,726	2,909
USA	1,641	1,442	3,080	2,818	5,712	5,974
Other North America	231	209	436	367	816	885
Latin America	502	377	903	760	1,614	1,757
Africa	126	83	222	151	396	467
China	1,334	1,197	2,397	2,164	4,309	4,542
South Korea	785	678	1,574	1,444	2,952	3,082
Other Asia	1,808	1,425	3,299	2,809	5,754	6,244
Oceania	149	152	294	251	520	563
Total	10,475	8,907	19,326	17,033	35,314	37,607

Net sales are reported by country on the basis of invoicing address, which is normally the same as

the delivery address.

Consolidated	N	Non-current assets					
	Jui	ne 30	December 31				
SEK millions	2018	2017	2017				
Sweden	1,342	1,481	1,326				
Denmark	4,845	4,607	4,654				
Other EU	3,842	3,588	3,581				
Norway	13,501	12,868	12,495				
Other Europe	140	159	148				
USA	3,970	3,760	3,707				
Other North America	132	130	129				
Latin America	263	297	284				
Africa	8	9	9				
Asia	3,075	2,871	2,919				
Oceania	93	92	90				
Subtotal	31,211	29,862	29,342				
Other long-term securities	49	34	35				
Pension assets	4	4	6				
Deferred tax asset	1,465	1,594	1,589				
Total	32,729	31,494	30,972				

Information about major customers

Alfa Laval does not have any customer that accounts for 10 percent or more of net sales. Tetra Pak within the Tetra Laval Group is Alfa Laval's

single largest customer with a volume representing 3-5 percent of net sales.

Cash flows

CONSOLIDATED CASH FLOWS						
	Second quarter		First six	months	Full year	Last 12
SEK millions	2018 2017		2018	2017	2017	months
Operating activities						
Operating income	1,463	1,141	2,773	2,157	4,589	5,205
Adjustment for depreciation, amortisation and write down	425	424	834	849	1,650	1,635
Adjustment for other non-cash items	6	-30	-85	-58	107	80
	1,894	1,535	3,522	2,948	6,346	6,920
Taxes paid	-414	-408	-892	-1,012	-1,583	-1,463
	1,480	1,127	2,630	1,936	4,763	5,457
Changes in working capital:						
Increase(-)/decrease(+) of receivables	-601	-281	-960	-165	-517	-1,312
Increase(-)/decrease(+) of inventories	-185	-83	-387	-381	-774	-780
Increase(+)/decrease(-) of liabilities	675	270	739	589	1,273	1,423
Increase(+)/decrease(-) of provisions	8	9	21	-133	-282	-128
Increase(-)/decrease(+) in working capital	-103	-85	-587	-90	-300	-797
	1,377	1,042	2,043	1,846	4,463	4,660
Investing activities	,	,	,	,	,	
Investments in fixed assets (Capex)	-334	-140	-515	-273	-675	-917
Divestment of fixed assets	17	2	88	15	23	96
Acquisition of businesses		-58	-	-58	-69	-11
Divestment of businesses	77	-	77	-	-	77
Division of Businesses	-240	-196	-350	-316	-721	-755
Financing activities	2.10	100		0.0		7.00
Received interests and dividends	30	28	72	65	168	175
Paid interests	-37	-35	-61	-79	-214	-196
Realised financial exchange gains	80	10	200	34	77	243
Realised financial exchange losses	-24	-89	-219	-109	-245	-355
Dividends to owners of the parent	-1,783	-1,783	-1,783	-1,783	-1,783	-1,783
Dividends to non-controlling interests	0	-1,705 -5	0	-1,705 -5	-1,703	-1,703 -9
Increase(-) of financial assets	0	248	0	0	-187	-187
Decrease(+) of financial assets	378	83	586	83	0	503
Increase of loans	385	1,063	643	1,063	715	295
Amortisation of loans	-400	-915	-1,738	-976	-1,676	-2,438
	-1,371	-1,395	-2,300	-1,707	-3,159	-3,752
		,	, , , , , , ,	, -	-,	
Cash flow for the period	-234	-549	-607	-177	583	153
Cash and cash equivalents at the beginning of the period	2,804	3,012	3,137	2,619	2,619	2,369
Translation difference in cash and cash equivalents	-1	-94	39	-73	-65	47
Cash and cash equivalents at the end of the period	2,569	2,369	2,569	2,369	3,137	2,569
The same same same at the same same period		_,000	_,000	_,000	5,107	_,000
Free cash flow per share (SEK) *	2.71	2.02	4.04	3.65	8.92	9.31
Capex in relation to net sales	3.2%	1.6%	2.7%	1.6%	1.9%	2.4%
Average number of shares	419,456,315	419,456,315	419,456,315	419,456,315	419,456,315	419,456,315

^{*} Free cash flow is the sum of cash flows from operating and investing activities.

During the first six months 2018 cash flows from operating and investing activities were SEK 1,693 (1,530) million. Depreciation, excluding allocated step-up values, was SEK 314 (317) million during the first six months 2018.

The sale of businesses during the first six months is relating to the sale of heat exchanger systems to NIBE with SEK 40 million and shell and tube heat exchangers to BITZER with SEK 37 million.

Financial position and equity

CONSOLIDATED FINANCIAL POSITION			
	June 30		December 31
SEK millions	2018	2017	2017
ASSETS			
Non-current assets			
Intangible assets	25,931	25,054	24,467
Property, plant and equipment	5,268	4,789	4,851
Other non-current assets	1,530	1,651	1,654
Current assets	32,729	31,494	30,972
Inventories	9,114	8,024	8 424
Assets held for sale	9,114	2	8,424 2
Accounts receivable	6,000		
	6,988	5,924	5,941
Other receivables	4,970	2,646	2,700
Derivative assets	190	121	165
Other current deposits	664	956	1,208
Cash and cash equivalents *	2,569 24,495	2,369 20,042	3,137 21,577
	24,495	20,042	21,577
TOTAL ASSETS	57,224	51,536	52,549
SHAREHOLDERS' EQUITY AND LIABILITIES			
Equity			
Owners of the parent	22,160	18,825	20,398
Non-controlling interests	117	104	102
	22,277	18,929	20,500
Non-current liabilities			
Liabilities to credit institutions etc.	11,808	10,942	11,092
Provisions for pensions and similar commitments	2,410	2,238	2,297
Provision for deferred tax	1,924	2,360	2,100
Other non-current liabilities	692	641	677
	16,834	16,181	16,166
Current liabilities			
Liabilities to credit institutions etc.	168	2,433	1,404
Accounts payable	3,364	2,634	2,964
Advances from customers	5,163	3,422	3,537
Other provisions	2,154	2,186	2,024
Other liabilities	6,885	5,552	5,783
Derivative liabilities	379	199	171
	18,113	16,426	15,883
Total liabilities	34,947	32,607	32,049
TOTAL SHAREHOLDERS' EQUITY & LIABILITIES	57,224	51,536	52,549

^{*} The item cash and cash equivalents is mainly relating to bank deposits and liquid deposits.

Consolidated	Financial asse	Financial assets and liabilities at fair value			
	Valuation hierarchy	June 30		December 31	
SEK millions	level	2018	2017	2017	
Financial assets					
Other non-current securities	1 and 2	5	3	4	
Bonds and other securities	1	323	525	542	
Derivative assets	2	203	140	189	
Financial liabilities					
Derivative liabilities	2	402	209	187	

Valuation hierarchy level 1 is according to quoted prices in active markets for identical assets and liabilities. Valuation hierarchy level 2 is out of directly or indirectly observable market data outside level 1.

Consolidated	Borrowings and net debt		
	June 30 December		
SEK millions	2018	2017	2017
Credit institutions	186	492	142
Swedish Export Credit	2,272	2,118	2,106
European Investment Bank	1,200	2,369	2,411
Commercial papers	-	700	-
Corporate bonds	8,318	7,696	7,837
Capitalised financial leases	43	58	49
Interest-bearing pension liabilities	0	0	0
Total debt	12,019	13,433	12,545
Cash and cash equivalents and current deposits	-3,233	-3,325	-4,345
Net debt *	8,786	10,108	8,200

^{*} Alternative performance measure.

Alfa Laval has a senior credit facility of EUR 400 million and USD 544 million, corresponding to SEK 9,086 million with a banking syndicate. The facility was not utilised at June 30, 2018. The facility matures in June 2019, with two one-year extension options.

The corporate bonds are listed on the Irish stock exchange and consist of one tranche of EUR 300 million that matures in September 2019 and one tranche of EUR 500 million that matures in September 2022.

The bilateral term loans from Swedish Export Credit consist of one loan of EUR 100 million that matures in June 2021 as well as a loan of USD 136 million that matures in June 2020.

The loan from the European Investment Bank of EUR 115 million matures in June 2021. One loan of EUR 130 million that matured was repaid on March 29, 2018.

The commercial paper programme of SEK 2,000 million was not utilised at June 30, 2018.

CHANGES IN CONSOLIDATED EQUITY			
	First six months		Full year
SEK millions	2018	2017	2017
At the beginning of the period*	20,486	20,276	20,276
Changes attributable to:			
Owners of the parent			
Comprehensive income			
Comprehensive income for the period	3,559	496	2,069
Transactions with shareholders			
Increase of ownership in subsidiaries			
with non-controlling interests	-	-47	-47
Dividends	-1,783	-1,783	-1,783
	-1,783	-1,830	-1,830
Subtotal	1,776	-1,334	239
Non-controlling interests			
Comprehensive income			
Comprehensive income for the period	15	3	10
Transactions with shareholders			
Decrease of non-controlling interests	-	-11	-11
Dividends	-	-5	-14
	-	-16	-25
Subtotal	15	-13	-15
At the end of the period	22,277	18,929	20,500

^{*} The opening equity for 2018 has been adjusted with SEK -14 million due to IFRS 15.

Acquisitions and divestments of businesses

The sale of the Alonte based commercial tubular heat exchanger business in the Greenhouse division to the BITZER Group was closed on May 1, 2018.

The sale of the heat exchanger systems business in the Greenhouse division to the NIBE Group was closed on May 31, 2018.

The divestments were both made with a gain, which in total was SEK 29 million and is reported as a comparison distortion item.

Both of these operations were in the first quarter 2018 reported as disposal groups held for sale according to IFRS 5.

Parent company

Alfa Laval AB (publ)

The parent company's result after financial items for the first six months 2018 was SEK 658 (1,086) million, out of which dividends from subsidiaries SEK 668 (1,094) million, net interests SEK -0 (0) million, realised and unrealised exchange rate gains and losses SEK 1 (-0) million, costs related

to the listing SEK -4 (-3) million, fees to the Board SEK -3 (-4) million, cost for annual report and annual general meeting SEK -2 (-2) million and other operating income and operating costs the remaining SEK -2 (1) million.

PARENT COMPANY INCOME *

2017
-14
0
-7
-21
1,094
2
-2
1,073
-251
1,439
2,261
-258
2,003
1 0 8 4 1 1 6 1 7

^{*} The statement over parent company income also constitutes its statement over comprehensive income.

PARENT COMPANY FINANCIAL POSITION

	June 30		December 31
SEK millions	2018	2017	2017
ASSETS			
Non-current assets			
Shares in group companies	4,669	4,669	4,669
	,	,	·
Current assets			
Receivables on group companies	7,507	7,549	8,891
Other receivables	181	94	3
Cash and cash equivalents	_	_	-
	7,688	7,643	8,894
	.,000	.,	3,33 .
TOTAL ASSETS	12,357	12,312	13,563
SHAREHOLDERS' EQUITY AND LIABILITIES			
Equity			
Restricted equity	2,387	2,387	2,387
Unrestricted equity	8,294	8,502	9,417
	10,681	10,889	11,804
Untaxed reserves			
Tax allocation reserves, taxation 2012-2018	1,660	1,409	1,660
	,	,	,
Current liabilities			
Liabilities to group companies	16	14	38
Accounts payable	0	0	0
Tax liabilities	-	-	61
Other liabilities	0	0	-
Salet nasmass	16	14	99
	10	14	33
TOTAL EQUITY AND LIABILITIES	12,357	12,312	13,563
TOTAL EGOTT AND LIABILITIES	12,007	12,012	10,000

Owners and shares

Owners and legal structure

Alfa Laval AB (publ) is the parent company of the Alfa Laval Group. The company had 33,698 (33,705) shareholders on June 30, 2018. The largest owner is Tetra Laval B.V., the Netherlands,

who owns 29.1 (29.1) percent. Next to the largest owner, there are nine institutional investors with ownership in the range of 5.4 to 0.6 percent. These ten largest shareholders owned 48.4 (49.1) percent of the shares.

Risks and other

Material factors of risk and uncertainty

The main factors of risk and uncertainty facing the Group concern the price development of metals, fluctuations in major currencies and the business cycle. It is the company's opinion that the description of risks made in the Annual Report for 2017 is still correct.

Asbestos-related lawsuits

The Alfa Laval Group was as of June 30, 2018 named as a co-defendant in a total of 901 asbestos-related lawsuits with a total of approximately 901 plaintiffs. Alfa Laval strongly believes the claims against the Group are without merit and intends to vigorously contest each lawsuit.

Based on current information and Alfa Laval's understanding of these lawsuits, Alfa Laval continues to believe that these lawsuits will not have a material adverse effect on the Group's financial condition or results of operation.

Accounting principles

The interim report for the second quarter 2018 is prepared in accordance with IAS 34 Interim Financial Reporting and the Swedish Annual Accounts Act. The accounting principles are according to IFRS (International Financial Reporting Standards) as adopted by the European Union. In the report, alternative performance measures are used. See the annual report 2017 for definitions. Alfa Laval follows the Guidelines on Alternative Performance Measures issued by ESMA (European Securities and Markets Authority).

IFRS 9 "Financial Instruments" and IFRS 15 "Revenue from Contracts with Customers" are applied from January 1, 2018. Alfa Laval applies them retrospectively with the cumulative effect of initially applying them recognised as an adjustment to the opening balance of unrestricted equity at January 1, 2018. The opening order backlog has also been adjusted as per January 1, 2018. The retrospective application only applies to financial instruments and risks for credit losses that existed at January 1, 2018 and contracts with customers that were not completed contracts at January 1, 2018. The effect of the initial application was reported in the Annual Report for 2017 and

meant an adjustment of the opening equity of SEK -14 million and an adjustment of the opening order backlog of SEK +74 million.

"Second quarter" refers to the period April 1 to June 30 and "First six months" refers to the period January 1 to June 30. "Full year" refers to the period January 1 to December 31. "Last 12 months" refers to the period July 1, 2017 to June 30, 2018. "The corresponding period last year" refers to the second quarter 2017 or the first six months 2017 depending on the context. "Previous quarter" refers to the first quarter 2018.

Comparison distortion items are reported in the comprehensive income statement on each concerned line, but are specified on page 7.

The accounting and valuation principles of the parent company comply with the Swedish Annual Accounts Act and the recommendation RFR 2 "Accounting for legal entities" issued by the Council for Financial Reporting in Sweden.

Date for the next financial report

Alfa Laval will publish interim reports during 2018 at the following dates:

Interim report for the third quarter October 25

Impact of IFRS 15 during 2018

The impact on the different lines in the financial statements of IFRS 15 compared to the old rules

under IAS 11 and IAS 18 can be summarised as follows:

Consolidated	Effect of IFRS 15
	First six months/June 30
SEK millions	2018
Order backlog	58
Comprehensive income	
Net sales	16
Cost of goods sold	-13
Gross profit	3
Operating income	3
Result after financial items	3
Taxes	-1
Net income for the period	2
Comprehensive income for the period	2
Financial position	
Assets	
Inventories	-58
Other receivables	57
Total	-1
Shareholders' equity and liabilities	
Other liabilities	11
Equity	
Opening equity adjustment	-14
Comprehensive income for the period	2
	-12
Total	-1

The interim report has been issued at CET 12.00 on July 16, 2018 by the Board of Directors and the President and CEO.

The Board of Directors and the President and CEO assure that the report for the first six months gives

a true and fair view of the operations, financial position and results for the company and the consolidated Group and describes material factors of risk and uncertainty facing the company and the companies that are part of the Group.

Lund, July 16, 2018

Anders Narvinger Susanne Jonsson Bror García Lantz Chairman

Henrik Lange Anna Ohlsson-Leijon Henrik Nielsen

Finn Rausing Jörn Rausing Ulf Wiinberg

Margareth Øvrum

Tom Erixon President and CEO