BALL VALVES
AL 37 – AL 38

Description

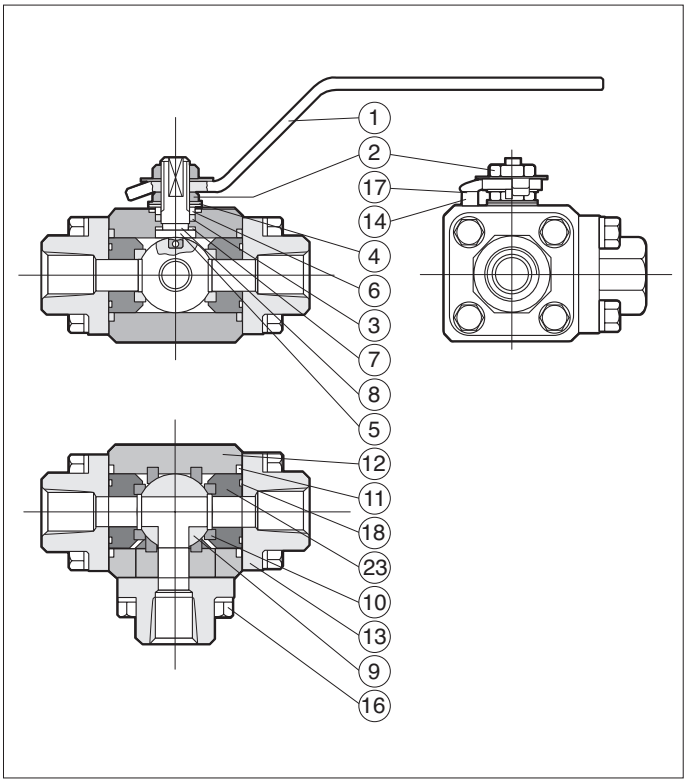
AL 37 and AL 38 are forged 3 way and 4 way three-piece ball valve, which ensures a high level of quality. Available in stainless steel and carbon steel. Spindeln har en utblåsningssäker konstruktion och är försedd med antistatisk funktion. The valve has an antistatic, blowout-proof stem. The stem has a primary and a secondary seal. The primary seal is constituted by two seals, reinforced PTFE packing and Viton O-ring. The secondary seal is a graphite packning. Three packings in the stem gland obtaines a very reliable sealing system. The free floating ball is made of stainless steel and is provided with a hole in the top for pressure equalization between the body and the ball. Seat seal in standard version is PTFE + carbon 20% + graphite 5% but other seal material on request. Also the sealing system between the house and end caps are constructed with a primary seal and a secondary seal which is in standard PTFE or graphite. These two sealing system makes this valve to a very reliable part of the process system. AL 37 in standard version is "Firesafe"-approved. Mounting plate for actuator according to ISO 5211. AL 37 in DN 8-65 full bore and DN 15-80 reduced bore, pressure class PN 100 with thread and weld connection, PN 16-40 flange connection. CE marked in accordance with PED 97/23/EC Category III module H.

Manufacturer: Starline, Italy

Material specification

No	Qty	Part	Body - Carbon steel	Body - Stainless steel
1	1	Handle	Galvanized and plastic coated carbon steel	Galvanized and plastic coated carbon steel
2**	1+1	Handle nut (A) Lock nut (B)	Cadmium-plated carbon steel	Stainless steel A 194-Gr.8
3*	1	Packing ring	Graphite	Graphite
4**	2	Spring washer	Stainless steel	Stainless steel
5**	1	Antistatic stem	Stainless steel ASTM A182 F316	Stainless steel ASTM A182 F316
6	1	Gland packing	Stainless steel ASTM A182 F316	Stainless steel ASTM A182 F316
7*	1	Thrust washer	PTFE	PTFE
8*	1	O-ring stem	Viton	Viton
9**	1	Ball	Stainless steel A182 F316	Stainless steel A182 F316
10*	4	Seats	PTFE + Carbon 20 % + Graphite 5 %	PTFE + Carbon 20 % + Graphite 5 %
11*	3	Body seal	PTFE	Graphite
12	1	Body	Carbon steel A105	Stainless steel A182 F316
13	4	End connections	Carbon steel A105	Stainless steel A182 F316
14	1	Stop pin	Carbon steel	Stainless steel
17**	1	Stop washer	Stainless steel ASTM A182 F316	Stainless steel ASTM A182 F316
18*	3-4	Retainer seal	Viton	Viton
23	3-4	Seat retainer	Carbon steel A05	Stainless steel A182 F316

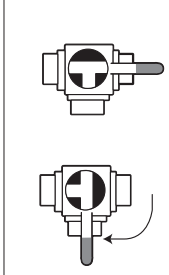
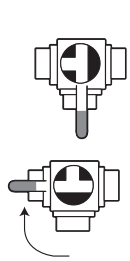
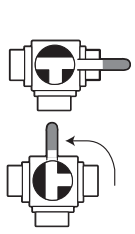
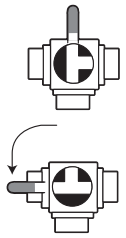
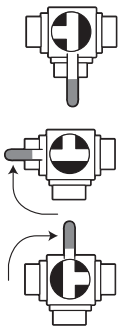
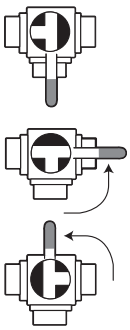
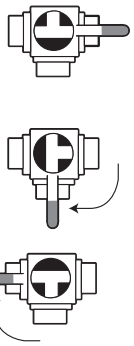
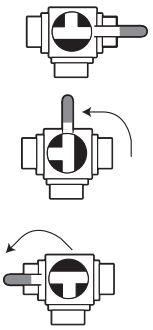
* Recommended spare parts after 2 years of service
** Recommended spare parts after 5 years of service



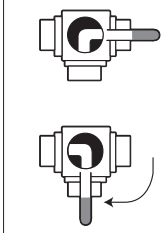
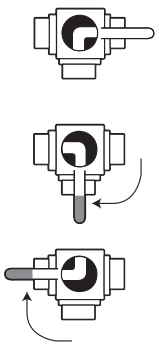
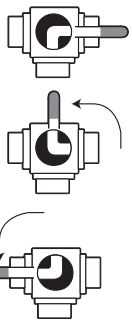
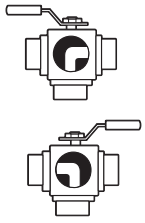
BALL VALVES
AL 37 – AL 38

Configurations

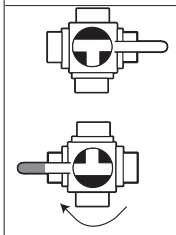
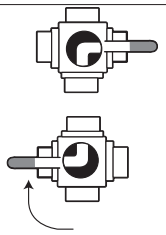
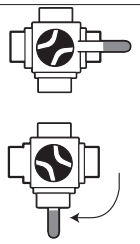
AL 37 - 3 way T-ball

Standard	Configurations on request						
T5 - 90°	T4 - 90°	T3 - 90°	T6 - 90°	T1 - 180°	T2 - 180°	T9 - 180°	T7 - 180°
							

AL 37 - 3 way L-ball

Standard	Configurations on request		Vertical
L2 - 90°	L1 - 180°	L3 - 180°	L4 - 180°
			

AL 38 - 4 way

T-port	L-port	X-port
T8 - 180°	L7 - 180°	X - 90°
		

Ordering key

Port	Bore	Type	Body/Ball	Seat material S = Standard	Stem packing G = Standard	Primary body seal T = Standard, kolstål	Seal of seat retainer V = Standard
T1, T2, T3, T4, T5, T6, T7, T8, L1, L2, L3, L4, L7, X1	1 = Full 2 = Reduc	8 = 3 way 9 = 4 way	1 = A105/F6 2 = A105/Monel 3 = A105/F316 4 = LF2/F6 5 = LF2/316 6 = F316/F316 7 = F316/F316L 8 = Monel/Monel 0 = Other material	R = PTFE + Glass fiber 15% S = PTFE + Carbon 20% + Graphite 5% T = PTFE 100 % D = DELRIN E = VESPEL	G = Graphite 100 % R = PTFE + Graphite 15 % S = PTFE + Carbon 20% + Graphite 5 % T = PTFE 100 %	G = Graphite 100 % R = PTFE + Glass fiber 15 % T = PTFE 100 % S = PTFE + Carbon 20 % + Graphite 5 %	G = Graphite 100 % T = PTFE 100 % V = O-ring Viton S = PTFE + Kol 20 % + Grafit 5 %

Ordering example

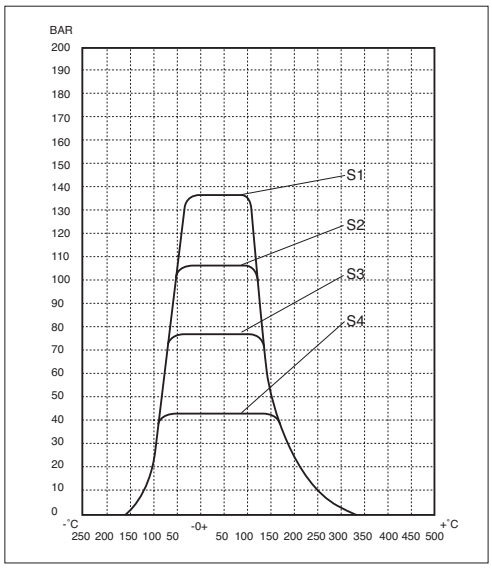
Exempel AL 37: 25 L2 1 8 3 S G S V - Thread

Dimension
Port
Bore
Type
Body/Ball
Connection
Seal of seat retainer
Primary body seal
Stem packing
Seat material

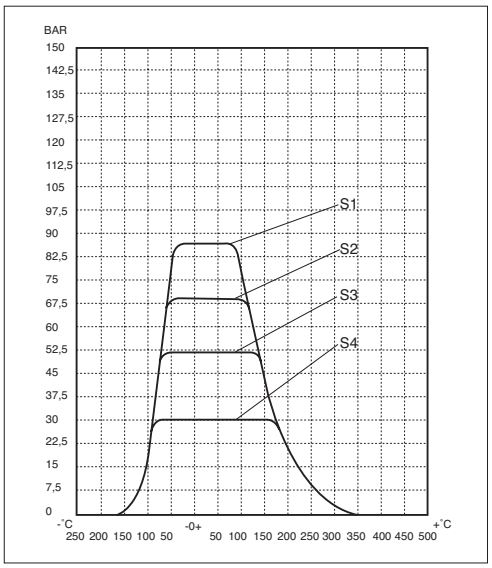
BALL VALVES
AL 37 – AL 38

Pressure / Temperature

3 way and 4 way - T-ball och L-ball nr. 8-9



4 way - X-ball



Seat material standard

S = PTFE + carbon 20% + graphite 5%

	DN Fullt	DN Reduc.
S1	8 - 15	15 - 20
S2	20 - 25	25 - 32
S3	32 - 40	40 - 50
S4	50 - 65	65 - 80

Seat material standard

S = PTFE + carbon 20 % + graphite 5 %

	DN Full	DN Reduc.
S1	8 - 15	15 - 20
S2	20 - 25	25 - 32
S3	32 - 40	40 - 50
S4	50	65

Seat material on request:

R = PTFE + Glass fiber 15 %
Reinforced PTFE with 15% glass fibre fill for higher pressures and temperatures than pure PTFE. Temp. range: -60 °C to +230 °C.

T = PTFE 100 %
Excellent resistance to chemicals. Minimizes the torque. Used in the food industry and for vacuum. Temp. range: -200 °C to +200 °C.

Kv factor

(Kv = Water flow in m^3/h at a pressure drop of 1 bar and a temperature of 20°C)

3 way type L2, L4, T5, T6

DN Full	DN Reduc.	Kv
8	-	4,8
10	15	4,8
15	20	9,0
20	25	20,5
25	32	34,5
32	40	51,5
40	50	75,0
50	65	150,0
65	80	192,0

4 way type X, T8, L7

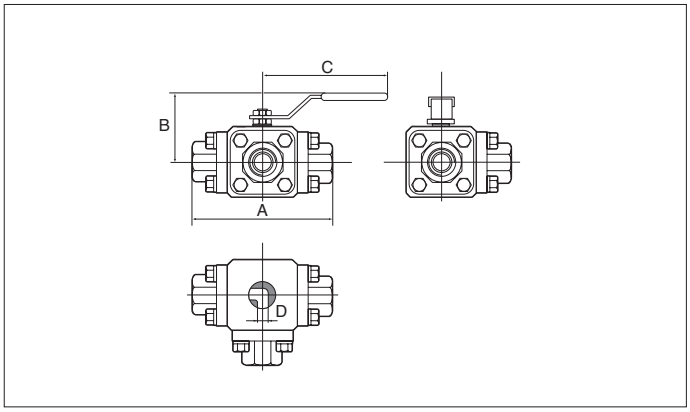
DN Full	Kv
8	2,4
10	2,4
15	2,4
20	8,0
25	18,7
32	30,0
40	51,0
50	76,0
65	140,0
80	178,0

BALL VALVES
AL 37 – AL 38

Dimensions - Thread / Weld

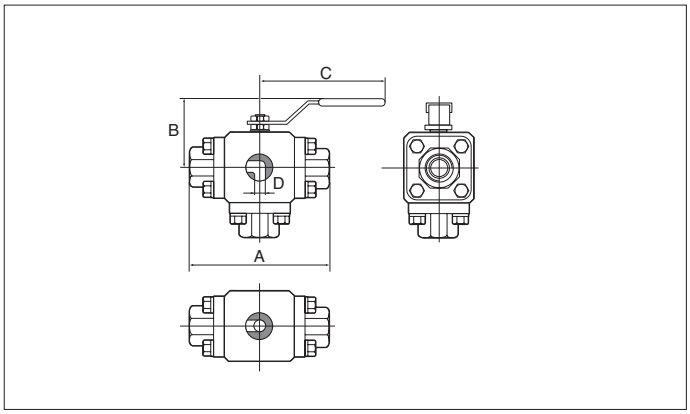
3 way T-ball and L-ball. PN 160.
Configurations: T1 - T2 - T3 - T4 - T5 - T6 - T7 - L1 - L2 - L3

DN Full	DN Reduc.	A Thread	A Weld	B	C	D	Weight
8	-	113	113	70	152	11,1	2,3
10	15	113	113	70	152	11,1	2,3
15	20	119	119	75	193	14,2	3,0
20	25	150	150	86	193	21,0	5,0
25	32	158	158	98	225	25,4	7,0
32	40	182	182	113	225	31,7	10,0
40	50	201	201	118	225	38,0	13,5
50	65	262	302	135	350	49,0	55,0
65	80	423	423	165	500	63,5	65,0



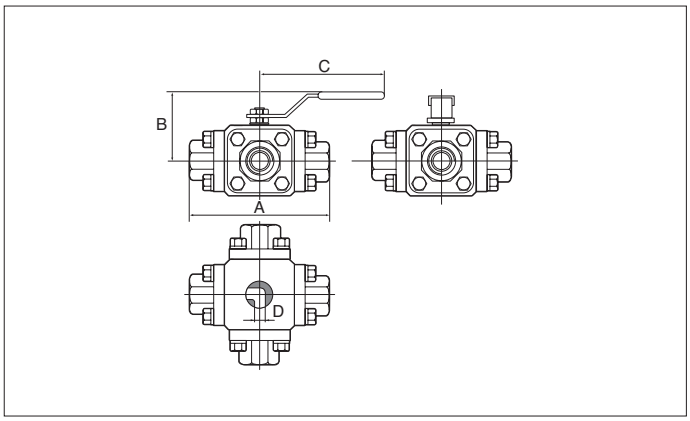
3-vägs vertical L-ball. PN 160.
Configurations: L4

DN Full	DN Reduc.	A Thread	A Weld	B	C	D	Weight
8	-	113	113	70	152	11,1	2,3
10	15	113	113	70	152	11,1	2,3
15	20	119	119	75	193	14,2	3,0
20	25	150	150	86	193	21,0	5,0
25	32	158	158	98	225	25,4	7,0
32	40	182	182	113	225	31,7	10,0
40	50	201	201	118	225	38,0	13,5
50	65	262	302	135	350	49,0	55,0
65	80	423	423	165	350	63,5	65,0



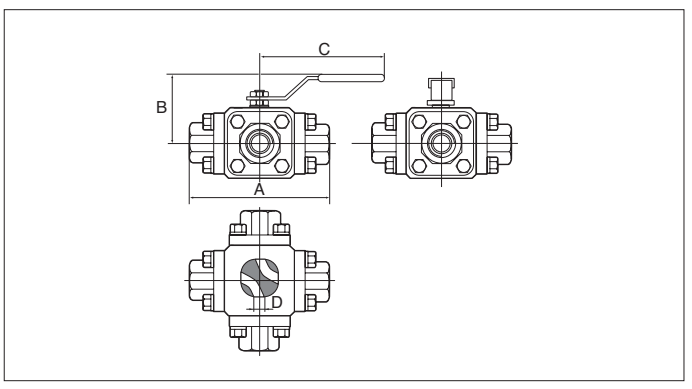
4 way T- and L-ball. PN 160.
Configurations: T8 - L7

DN Full	DN Reduc.	A Thread	A Weld	B	C	D	Weight
8	-	113	113	70	152	11,1	2,3
10	15	113	113	70	152	11,1	2,3
15	20	119	119	75	193	14,2	3,0
20	25	150	150	86	193	21,0	5,0
25	32	158	158	98	225	25,4	7,0
32	40	182	182	113	225	31,7	10,0
40	50	201	201	118	225	38,0	13,5
50	65	262	302	135	350	49,0	55,0
65	80	423	423	165	350	63,5	65,0



4 way X-ball. PN 160.
Configurations: X

DN Full	DN Reduc.	A Thread	A Weld	B	C	D	Weight
8	-	119	119	75	193	6,5	7,5
10	15	119	119	75	193	6,5	7,5
15	20	150	150	86	193	12	12,0
20	25	158	158	98	225	18	17,0
25	32	182	182	113	225	21	23,5
32	40	201	201	118	225	28	32,0
40	50	262	302	135	350	34	125,0
50	65	423	423	165	350	42	150,5

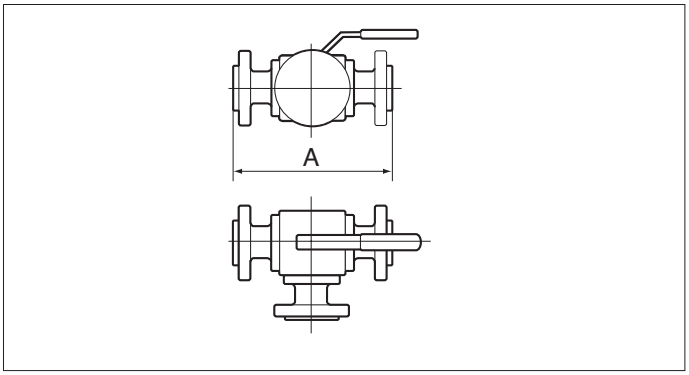


BALL VALVES
AL 37 – AL 38

Dimensions - Flange

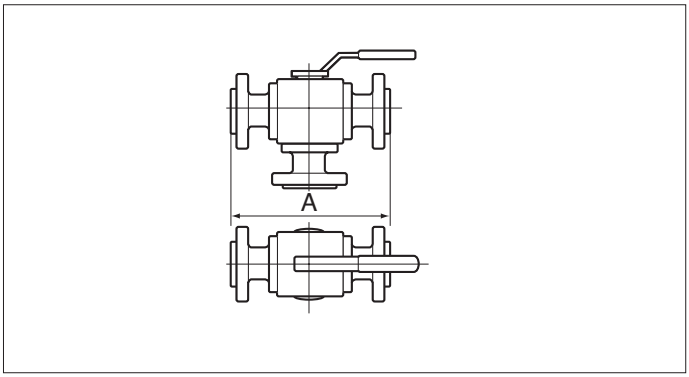
3 way T- and L-ball. PN 16-40.
Configurations: T1 - T2 - T3 - T4 - T5 - T6 - T7 - L1 - L2 - L3

DN Reduced	A	DN Full	A
15	168	15	169
20	189	20	200
25	210	25	208
32	230	32	242
40	264	40	261
50	291	50	334
65	394	65	408
80	430	-	-



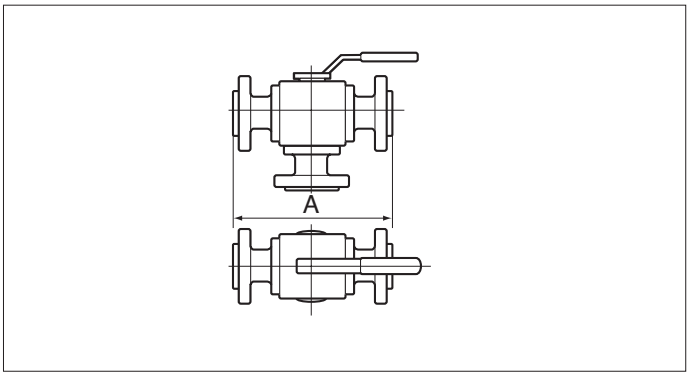
3 way vertical L-ball. PN 16-40.
Configurations: L4

DN Reduced	A	DN Full	A
15	168	15	169
20	189	20	200
25	210	25	208
32	230	32	242
40	264	40	261
50	291	50	334
65	394	65	408
80	430	-	-



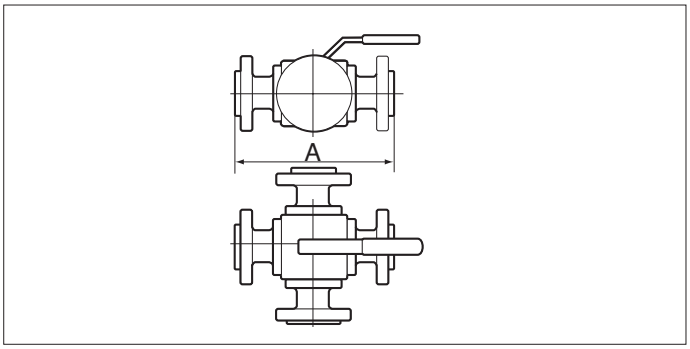
4 way T- and L-ball. PN 16-40.
Configurations: T8 - L7

DN Reduced	A	DN Full	A
15	168	15	169
20	189	20	200
25	210	25	208
32	230	32	242
40	264	40	261
50	291	50	334
65	394	65	408
80	430	-	-



4 way X-ball. PN 16-40.
Configurations: X

DN Reduced	A	DN Full	A
15	189	15	200
20	210	20	208
25	230	25	242
32	264	32	261
40	291	40	334
50	394	50	408
65	430	-	-



BALL VALVES
AL 37 – AL 38

Options

Versions for low temperatures, extended stem, lockable design, ANSI flanges, etc.

Approvals

Approveded according to SA, API and TÜV Sudwest.

Actuator - Rating

The information concerning pneumatic actuators is based on an air pressure of 5.5 bar with a safety factor of 30%. For control, choose an actuator with a margin of safety of at least 50%. Max. working pressure: 10 bar. Ambient temperature: -30 °C to +80 °C

Installation / Maintenance

See separate user manual.

Ball valve AL 37-38			Double-acting AL 77-200		Double-acting AL 79		Spring return AL 77-200			Spring return AL 79			Electric AL 78	
Fullt bore	Reduced bore	Opening torque Nm	Type	Nm	Type	Nm	Type	Nm towards 90°	Nm towards 0°	Type	Nm towards 90°	Nm towards 0°	Type	Nm
DN 8	–	15	210-DA	34	101-DA	29,1	220-SR	40	23	201-SR	41,4	20,3	002	20
DN 10	DN 15	15	210-DA	34	101-DA	29,1	220-SR	40	23	201-SR	41,4	20,3	002	20
DN 15	DN 20	24	210-DA	34	201-DA	61,7	230-SR	75	42	251-SR	63,9	30,0	005	47
DN 20	DN 25	35	220-DA	70	201-DA	61,7	230-SR	75	42	301-SR	98,0	48,6	005	47
DN 25	DN 32	40	220-DA	70	201-DA	61,7	240-SR	150	85	301-SR	156,0	60,0	006	58
DN 32	DN 40	50	220-DA	70	251-DA	93,7	240-SR	150	85	351-SR	156,0	98,4	009	88
DN 40	DN 50	60	230-DA	130	301-DA	93,7	240-SR	150	85	401-SR	156,0	98,4	009	88
DN 50	DN 65	90	230-DA	130	301-DA	146,0	250-SR	250	130	401-SR	213,0	104,0	015	147
DN 65	DN 80	110	230-DA	130	401-DA	146,0	250-SR	250	130	501-SR	415,0	209,0	015	147

AXEL LARSSON
www.axel-larsson.se

Head Office Axel Larsson Maskinaffär AB, Truckvägen 12, P.O. Box 805, SE-194 28 Upplands Väsby (Stockholm), Sweden.
Telephone: +46 8 555 247 00 Fax: +46 8 555 247 90 E-mail: info@axel-larsson.se