

Ordering method

AGXS12

Model	Acceleration/deceleration specifications	Lead	Shape	Motor specification	Stroke	Cable length	Cable entry location	Robot positioner	Driver: Power capacity	Regenerative unit	I/O	Battery
	No entry: Standard H: High agility	30: 30 mm 20: 20 mm 10: 10 mm 5: 5 mm	S: Straight R: Right bending L: Left bending	S: Standard/With no brake BK: Standard/With brake BL: Battery-less absolute/With no brake BKBL: Battery-less absolute/With brake	100 to 1250 (50mm pitch)	R3: 3 m R5: 5 m R10: 10 m	R: From rear of motor F: From front of motor	EP-01	A30: 400W/750W	No entry: None R: With EP-RU	EP: EtherNet/IP™ PT: PROFINET ES: EtherCAT NS: NPN CC: CC-Link	B: With battery N: None

Note 1. When the shape is bending (R, L), the high acceleration/deceleration specifications cannot be selected.

Note 2. For the high acceleration/deceleration specifications, the stroke is 100 to 650 mm (50 mm pitch).

Note 3. The robot cable is flexible and resists bending.

Note 4. When the actuator is used vertically or horizontally and the stroke is 400 mm or more, the regenerative unit is needed.

Note 5. When the motor specification is the standard (S, BK), whether to use the battery needs to be selected.

Specifications

AC servo motor output	400 W
Repeatability Note 1	+/-0.005 mm
Deceleration mechanism	Ground ball screw ϕ 15 (C5 class)
Stroke	100 mm to 1250 mm (50 mm pitch)
Maximum speed Note 2	1800 mm/sec 1200 mm/sec 600 mm/sec 300 mm/sec
Ball screw lead	30 mm 20 mm 10 mm 5 mm
Maximum payload	Horizontal: 35 kg, 50 kg, 95 kg, 115 kg Vertical: 8 kg, 15 kg, 25 kg, 45 kg
Rated thrust	225 N, 339 N, 678 N, 1360 N
Maximum dimensions of cross section of main unit	W 125 mm $\times$ H 101 mm
Overall length	Straight: ST + 302.5 mm Bending: ST + 256.5 mm
Degree of cleanliness Note 3	ISO CLASS 3 (ISO14644-1) or equivalent
Intake air Note 4	30 N ℓ /min to 90 N ℓ /min
Position detector	Absolute encoder Battery-less absolute encoder
Resolution	23 bits
Using ambient temperature and humidity	0 to 40 $^{\circ}$ C, 35 to 80 %RH (non-condensing)

Note 1. Positioning repeatability in one direction.

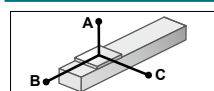
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 700 mm, the ball screw may resonate. (Critical speed)

Note 3. At this time, make the adjustment to decrease the speed while referring to the maximum speed shown in the table. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 1000 mm/sec or less.

Note 4. The required suction amount will vary according to the operating conditions and operating environment.

Note. See P.126 for acceleration/deceleration.

Allowable overhang



AGXS12-30 Horizontal installation (Unit: mm)	A	B	C
10kg	1796	1074	637
20kg	1300	531	332
35kg	1341	334	227

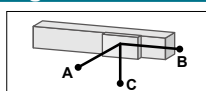
AGXS12-20 Horizontal installation (Unit: mm)	A	B	C
15kg	2231	904	613
30kg	1290	428	293
50kg	882	237	164

AGXS12-10 Horizontal installation (Unit: mm)	A	B	C
30kg	3109	607	456
50kg	2421	345	260
80kg	2417	198	150
95kg	2559	159	121

AGXS12-5 Horizontal installation (Unit: mm)	A	B	C
30kg	11079	653	504
50kg	7434	373	288
80kg	5458	215	166
115kg	4364	136	105

Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

Note. Service life is calculated for 600 mm stroke models.

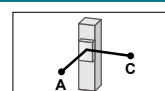


AGXS12-30 Wall installation (Unit: mm)	A	B	C
10kg	631	1009	1720
20kg	316	466	1171
35kg	197	269	1130

AGXS12-20 Wall installation (Unit: mm)	A	B	C
15kg	591	839	2141
30kg	260	363	1167
50kg	126	172	710

AGXS12-10 Wall installation (Unit: mm)	A	B	C
30kg	413	542	2978
50kg	215	280	2208
80kg	103	133	1927
95kg	73	95	1830

AGXS12-5 Wall installation (Unit: mm)	A	B	C
30kg	456	588	10692
50kg	239	308	6935
80kg	117	150	4713
115kg	55	71	3221



AGXS12-30 Vertical installation (Unit: mm)	A	C
3kg	2642	2642
6kg	1289	1289
8kg	951	951

AGXS12-20 Vertical installation (Unit: mm)	A	C
5kg	2424	2424
10kg	1207	1207
15kg	803	803

AGXS12-10 Vertical installation (Unit: mm)	A	C
10kg	1862	1862
15kg	1221	1221
25kg	708	708

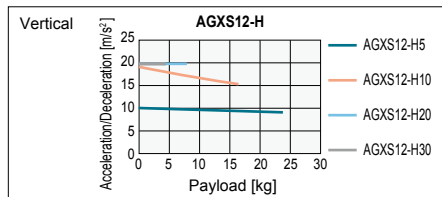
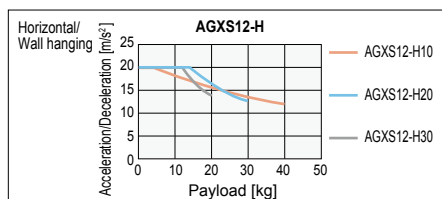
AGXS12-5 Vertical installation (Unit: mm)	A	C
15kg	1332	1332
30kg	634	634
45kg	402	402

When used with high acceleration or deceleration (High agility mode)

Specifications

Stroke	100 mm to 650 mm (50 mm pitch)
Ball screw lead	30 mm, 20 mm, 10 mm, 5 mm
Maximum payload	Horizontal: 20 kg, 30 kg, 40 kg, - Vertical: 4 kg, 8 kg, 16 kg, 24 kg
Maximum acceleration	Horizontal: 19.62 m/s ² (2 G), 19.62 m/s ² (2 G), 19.62 m/s ² (2 G), - Vertical: 19.62 m/s ² (2 G), 19.62 m/s ² (2 G), 19.62 m/s ² (2 G), 9.85 m/s ² (1 G)

Payload - Acceleration / Deceleration Graph (Estimate)



Allowable overhang

AGXS12-H30 Horizontal installation (Unit: mm)	A	B	C
5kg	1216	1297	669
12kg	461	506	252
20kg	316	280	147

AGXS12-H20 Horizontal installation (Unit: mm)	A	B	C
10kg	999	807	489
20kg	521	378	231
30kg	382	234	146

AGXS12-H10 Horizontal installation (Unit: mm)	A	B	C
15kg	1668	737	535
25kg	1060	423	308
40kg	709	246	180

Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

Note. Service life is calculated for 600 mm stroke models.

AGXS12-H30 Wall installation (Unit: mm)	A	B	C
5kg	648	1224	1183
12kg	226	436	427
20kg	117	213	266

AGXS12-H20 Wall installation (Unit: mm)	A	B	C
10kg	458	740	966
20kg	196	311	479
30kg	109	168	325

AGXS12-H10 Wall installation (Unit: mm)	A	B	C
15kg	491	672	1628
25kg	263	358	1012
40kg	134	181	644

AGXS12-H30 Vertical installation (Unit: mm)	A	C
2kg	1984	1984
4kg	960	960

AGXS12-H20 Vertical installation (Unit: mm)	A	C
3kg	2031	2031
5kg	1193	1193
8kg	722	722

AGXS12-H10 Vertical installation (Unit: mm)	A	C
5kg	2071	2071
10kg	1011	1011
16kg	612	612

AGXS12-H5 Vertical installation (Unit: mm)	A	C
8kg	1487	1487
16kg	712	712
24kg	454	454

Effective stroke and maximum speed during high acceleration or deceleration

Effective stroke	100	150	200	250	300	350	400	450	500	550	600	650
Maximum speed (mm/sec)	Lead 30						1800					
	Lead 20						1200					
	Lead 10						600					
	Lead 5						300					

Note. The bending unit cannot be used for the high agility mode.

Note. The high agility mode is used in an effective stroke range of 100 to 650 (50 mm pitch).

Note. There is no critical speed setting. The maximum speed can be set for a selectable stroke.

Note. The speed may not reach the maximum speed if the movement distance is short or depending on the operating conditions.

Note. When the actuator is used with the high acceleration/deceleration specifications, the operation duty and motor load factor need to be considered. (See P.93.)

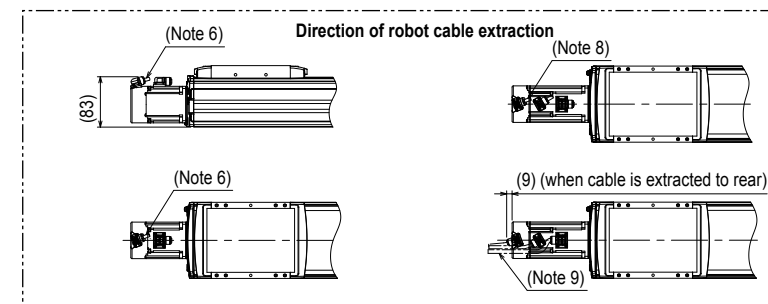
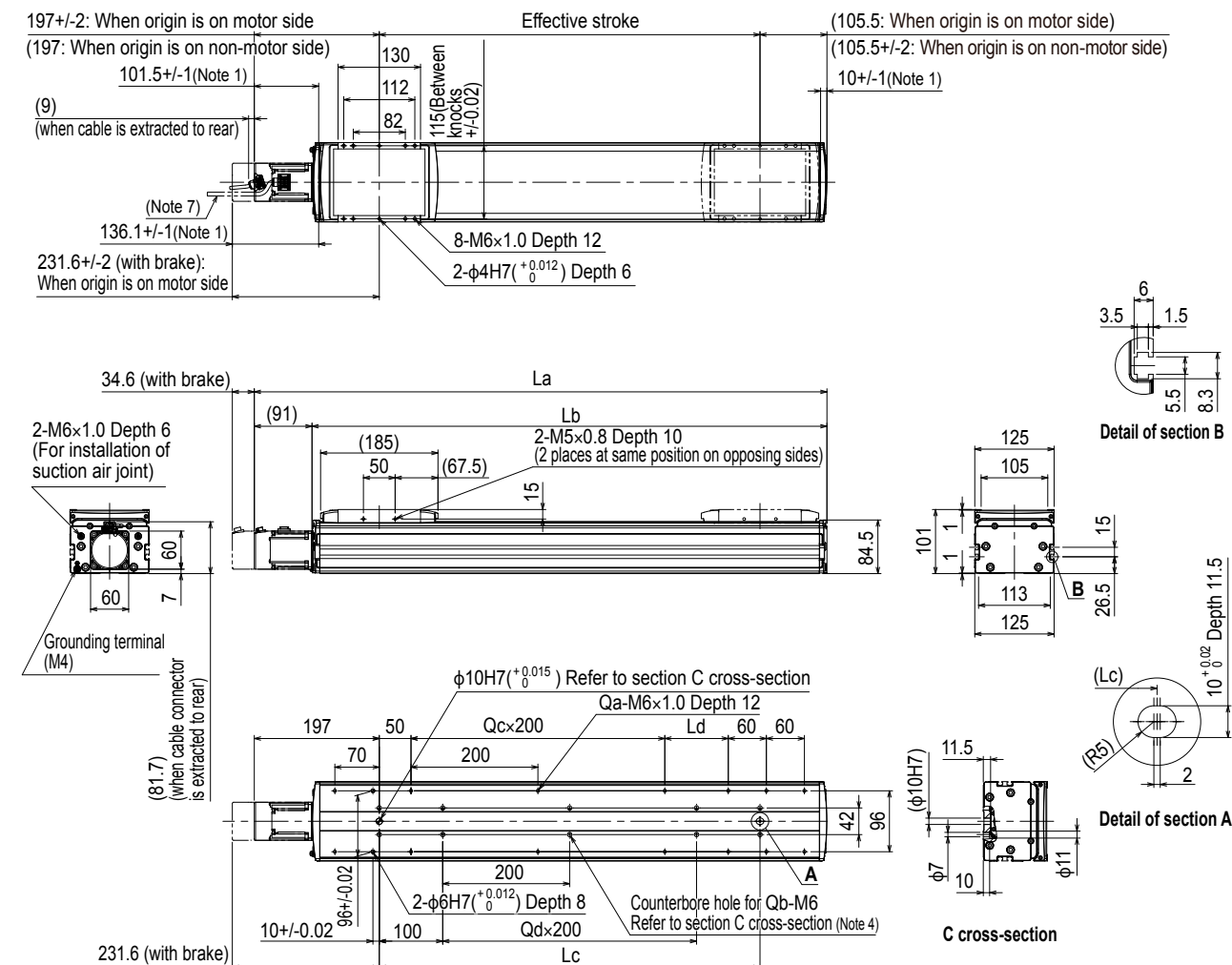
Note. See P.128 for acceleration/deceleration.

Access the website below.

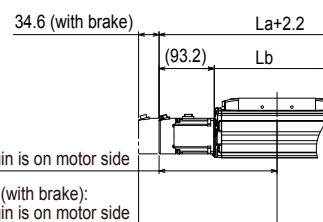


► The cycle time simulation and service life calculation can be performed easily from our member site. For details, see P.12.

AGXS12 Straight type (S)



Battery-less absolute axis specification



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. When changing the return-to-origin direction, the parameter needs to be changed. (The standard is that the origin is located on the motor side.)

Note 3. The length under head of the hex socket head bolts $<M6 \times 1.0>$ used to mount the body with the mounting counterbore holes (section C cross-section) must be $<<20$ mm or more $>>$. The recommended length under head of the hex socket head bolts $<M6 \times 1.0>$ used to mount the body with the mounting tap hole specifications is $<<frame thickness + 10$ mm or less $>>$.

Note 4. When using the mounting counterbore holes (section C cross-section) to mount the body, remove the seal, and then fix.

Note 5. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.

Note 6. The robot cable is extracted from the front.

Note 7. The robot cable is extracted from the rear.

Note 8. The robot cable (with brake) is extracted from the front.

Note 9. The robot cable (with brake) is extracted from the rear.

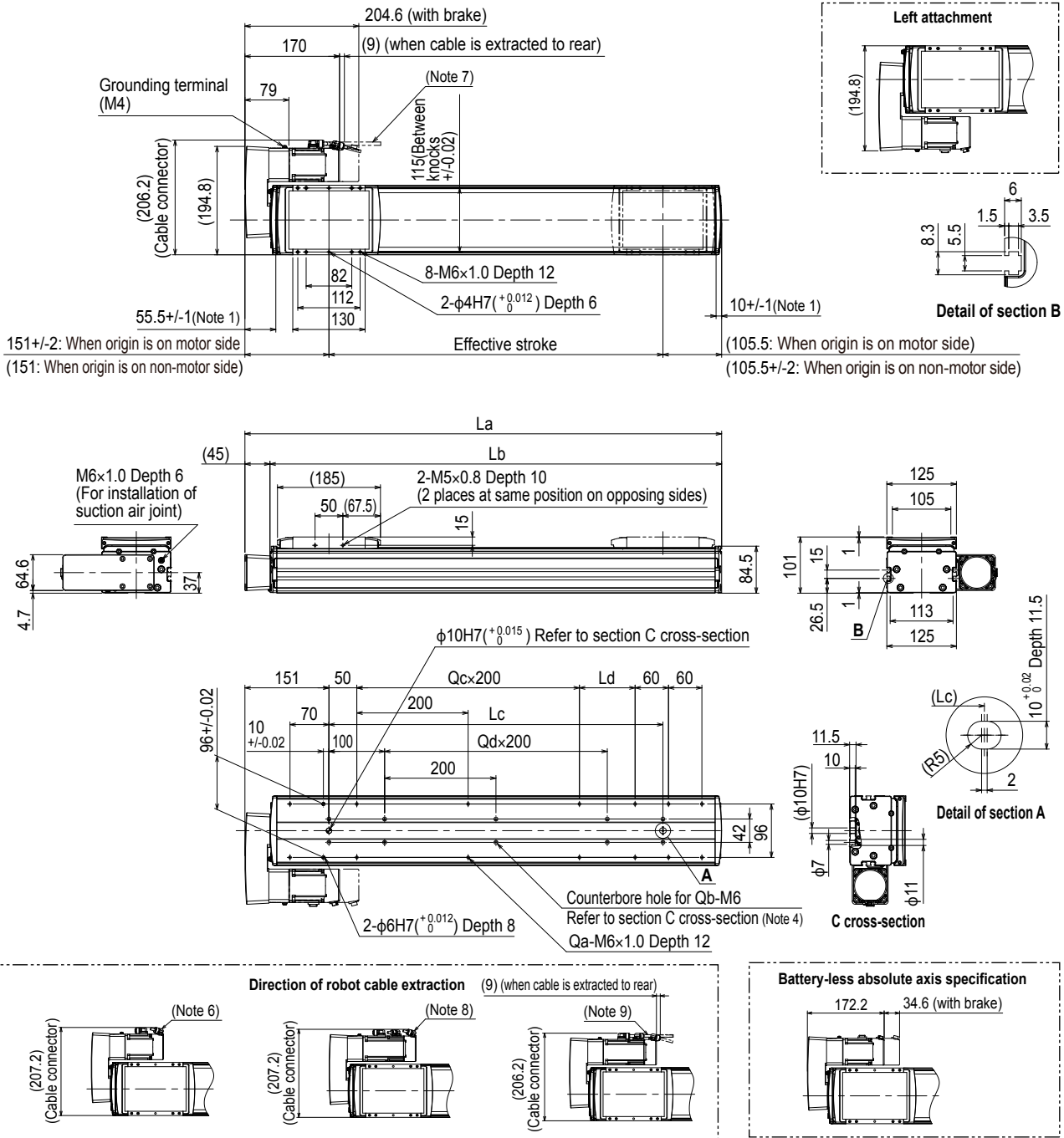
Note 10. The fixed minimum bending radius of the robot cable is R30.

When using the robot cable as a flexible cable, use it with a minimum bending radius of R50 or more.

Note 11. Grease gun nozzle (recommended) (see P.143 for detail)

Effective stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
La	402.5	452.5	502.5	552.5	602.5	652.5	702.5	752.5	802.5	852.5	902.5	952.5	1002.5	1052.5	1102.5	1152.5	1202.5	1252.5	1302.5	1352.5	1402.5	1452.5	1502.5	1552.5
Lb	311.5	361.5	411.5	461.5	511.5	561.5	611.5	661.5	711.5	761.5	811.5	861.5	911.5	961.5	1011.5	1061.5	1111.5	1161.5	1211.5	1261.5	1311.5	1361.5	1411.5	1461.5
Lc	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
Ld	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150
Qa	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20
Qb	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
Qc	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
Qd	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
Weight (kg) Note 5	7.6	8.2	8.9	9.6	10.2	10.9	11.6	12.3	12.9	13.6	14.3	15.0	15.6	16.3	17.0	17.6	18.3	19.0	19.7	20.3	21.0	21.7	22.4	23.0
Maximum speed (mm/sec)	Lead 30	1800												1530	1350	1170	990	900	810	720	630	540	450	
	Lead 20	1200												1020	900	780	660	600	540	480	420	360	300	
	Lead 10	600												510	450	390	330	300	270	240	210	180	150	
	Lead 5	300												255	225	195	165	150	135	120	105	90	75	
Speed setting		-												85%	75%	65%	55%	50%	45%	40%	35%	30%	25%	

AGXS12 Bending type (R/L)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. When changing the return-to-origin direction, the parameter needs to be changed. (The standard is that the origin is located on the motor side.)

Note 3. The length under head of the hex socket head bolts <M6 × 1.0> used to mount the body with the mounting counterbore holes (section C cross-section) must be <<20 mm or more>>. The recommended length under head of the hex socket head bolts <M6 × 1.0> used to mount the body with the mounting tap hole specifications is <<frame thickness + 10 mm or less>>.

Note 4. When using the mounting counterbore holes (section C cross-section) to mount the body, remove the seal, and then fix.

Note 5. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.

Note 6. The robot cable is extracted from the front.

Note 7. The robot cable is extracted from the rear.

Note 8. The robot cable (with brake) is extracted from the front.

Note 9. The robot cable (with brake) is extracted from the rear.

Note 10. The fixed minimum bending radius of the robot cable is R30.

When using the robot cable as a flexible cable, use it with a minimum bending radius of R50 or more.

Note 11. When the robot is bending (R, L), the high acceleration/deceleration specifications cannot be selected.

Note 12. Grease gun nozzle (recommended) (see P.143 for detail)

Effective stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
La	356.5	406.5	456.5	506.5	556.5	606.5	656.5	706.5	756.5	806.5	856.5	906.5	956.5	1006.5	1056.5	1106.5	1156.5	1206.5	1256.5	1306.5	1356.5	1406.5	1456.5	1506.5
Lb	311.5	361.5	411.5	461.5	511.5	561.5	611.5	661.5	711.5	761.5	811.5	861.5	911.5	961.5	1011.5	1061.5	1111.5	1161.5	1211.5	1261.5	1311.5	1361.5	1411.5	1461.5
Lc	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
Ld	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150
Qa	8	10	10	10	10	12	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	20	20	20
Qb	4	6	6	6	6	8	8	8	8	10	10	10	10	10	12	12	12	12	14	14	14	16	16	16
Qc	0	0	0	0	0	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	5	5	5
Qd	0	0	0	0	0	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	5	5	5
Weight (kg) Note 5	8.8	9.4	10.1	10.8	11.4	12.1	12.8	13.5	14.1	14.8	15.5	16.2	16.8	17.5	18.2	18.8	19.5	20.2	20.9	21.5	22.2	22.9	23.6	24.2
Maximum speed (mm/sec)	1530	1350	1170	990	900	810	720	630	540	450	360	270	240	210	180	150	120	105	90	75	60	45	30	15
Speed setting	85%	75%	65%	55%	50%	45%	40%	35%	30%	25%	20%	15%	10%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%