

Ordering method

AGXS16

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	40: 40 mm 20: 20 mm 10: 10 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 1450 (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 800 mm (50 mm pitch).

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

Note 4. When the actuator is used vertically, the regenerative unit is needed. When the actuator is used horizontally and the stroke of lead 20 is 400 to 850 mm or the stroke of lead 40 is 600 to 950 mm, 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	750 W
Repeatability ^{Note 1}	+/-0.005 mm
Deceleration mechanism	Ground ball screw ϕ 20 (C5 class)
Stroke	100 mm to 1450 mm (50 mm pitch)
Maximum speed ^{Note 2}	2400 mm/sec 1200 mm/sec 600 mm/sec
Ball screw lead	40 mm 20 mm 10 mm
Maximum payload	Horizontal: 45 kg Vertical: 12 kg
Rated thrust	320 N 640 N 1280 N
Maximum dimensions of cross section of main unit	W 160 mm × H 130 mm
Overall length	Straight: ST + 344.8 mm Bending: ST + 294.5 mm
Degree of cleanliness ^{Note 3}	ISO CLASS 3 (ISO14644-1) or equivalent
Intake air ^{Note 4}	30 N ₂ /min to 90 N ₂ /min
Position detector	Absolute encoder Battery-less absolute encoder
Resolution	23 bits
Using ambient temperature and humidity	0 to 40 °C, 35 to 80 %RH (non-condensing)

Note 1. Positioning repeatability in one direction.

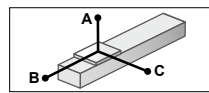
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 800 mm, the ball screw may resonate. (Critical speed)
At this time, make the adjustment to decrease the speed while referring to the maximum speed shown in the table.

Note 3. 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.130 for acceleration/deceleration.

Allowable overhang



AGXS16-40

Horizontal installation	Unit: mm	A	B	C
15kg		2876	1866	1253
30kg		2385	997	776
45kg		2339	720	604

AGXS16-20

Horizontal installation	Unit: mm	A	B	C
30kg		3862	1255	1106
50kg		2568	733	652
80kg		1798	440	394
95kg		1579	362	325

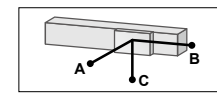
AGXS16-10

Horizontal installation	Unit: mm	A	B	C
50kg		6253	1026	1024
80kg		4447	623	624
100kg		3957	489	490
130kg		3786	365	367

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.

Static loading moment



AGXS16-40

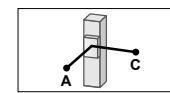
Wall installation	Unit: mm	A	B	C
15kg		1273	1802	2797
30kg		782	935	2263
45kg		598	658	2174

AGXS16-20

Wall installation	Unit: mm	A	B	C
30kg		1102	1192	3742
50kg		630	671	2422
80kg		360	377	1612
95kg		288	300	1373

AGXS16-10

Wall installation	Unit: mm	A	B	C
50kg		980	964	6089
80kg		573	561	4240
100kg		437	426	3706
130kg		312	302	3422



AGXS16-40

Vertical installation	Unit: mm	A	C
3kg		6605	6605
6kg		3699	3699
12kg		2827	2827

AGXS16-20

Vertical installation	Unit: mm	A	C
10kg		3404	3404
20kg		1740	1740
28kg		1504	1504

AGXS16-10

Vertical installation	Unit: mm	A	C
15kg		3434	3434
30kg		1684	1684
55kg		889	889

Controller

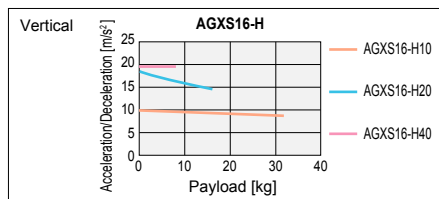
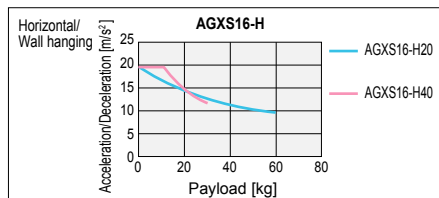
Controller	Operation method
EP-01	I/O point trace/ Remote command

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

Specifications

Stroke	100 mm to 800 mm (50 mm pitch)
Ball screw lead	40 mm 20 mm 10 mm
Maximum payload	Horizontal: 30 kg Vertical: 8 kg
Maximum acceleration	Horizontal: 19.62 m/s ² (2 G) Vertical: 19.62 m/s ² (2 G)
Maximum payload	Horizontal: 60 kg Vertical: 16 kg
Maximum acceleration	Horizontal: 19.84 m/s ² (2 G) Vertical: 18.43 m/s ² (1.9 G)
Maximum payload	Horizontal: - Vertical: 32 kg
Maximum acceleration	Horizontal: - Vertical: 11.17 m/s ² (1.1 G)

Payload - Acceleration / Deceleration Graph (Estimate)



Allowable overhang

AGXS16-H40	Unit: mm	A	B	C
10kg		1271	1669	836
20kg		725	803	429
30kg		534	514	287

AGXS16-H20	Unit: mm	A	B	C
20kg		1722	1123	875
40kg		952	535	428
60kg		682	339	276

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.

AGXS16-H10	Unit: mm	A	B	C
10kg		816	1585	1240
20kg		404	725	683
30kg		259	441	480

AGXS16-H20	Unit: mm	A	B	C
20kg		842	1056	1679
40kg		388	470	895
60kg		232	275	611

AGXS16-H10	Unit: mm	A	C
10kg		2951	2951
20kg		1438	1438
32kg		870	870

Effective stroke and maximum speed during high acceleration or deceleration

Effective stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Maximum speed (mm/sec)	Lead 40														
	Lead 20														
	Lead 10														

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 800 (50 mm pitch).

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

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.)

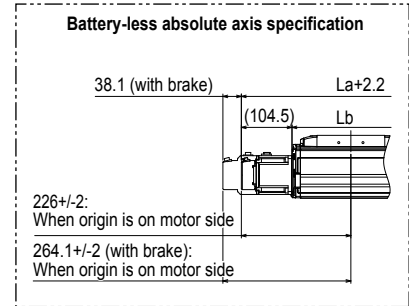
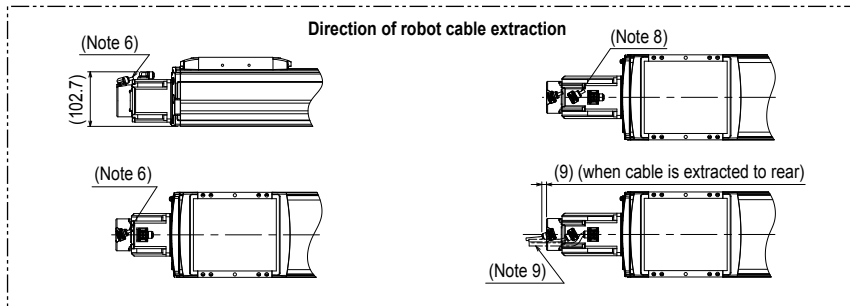
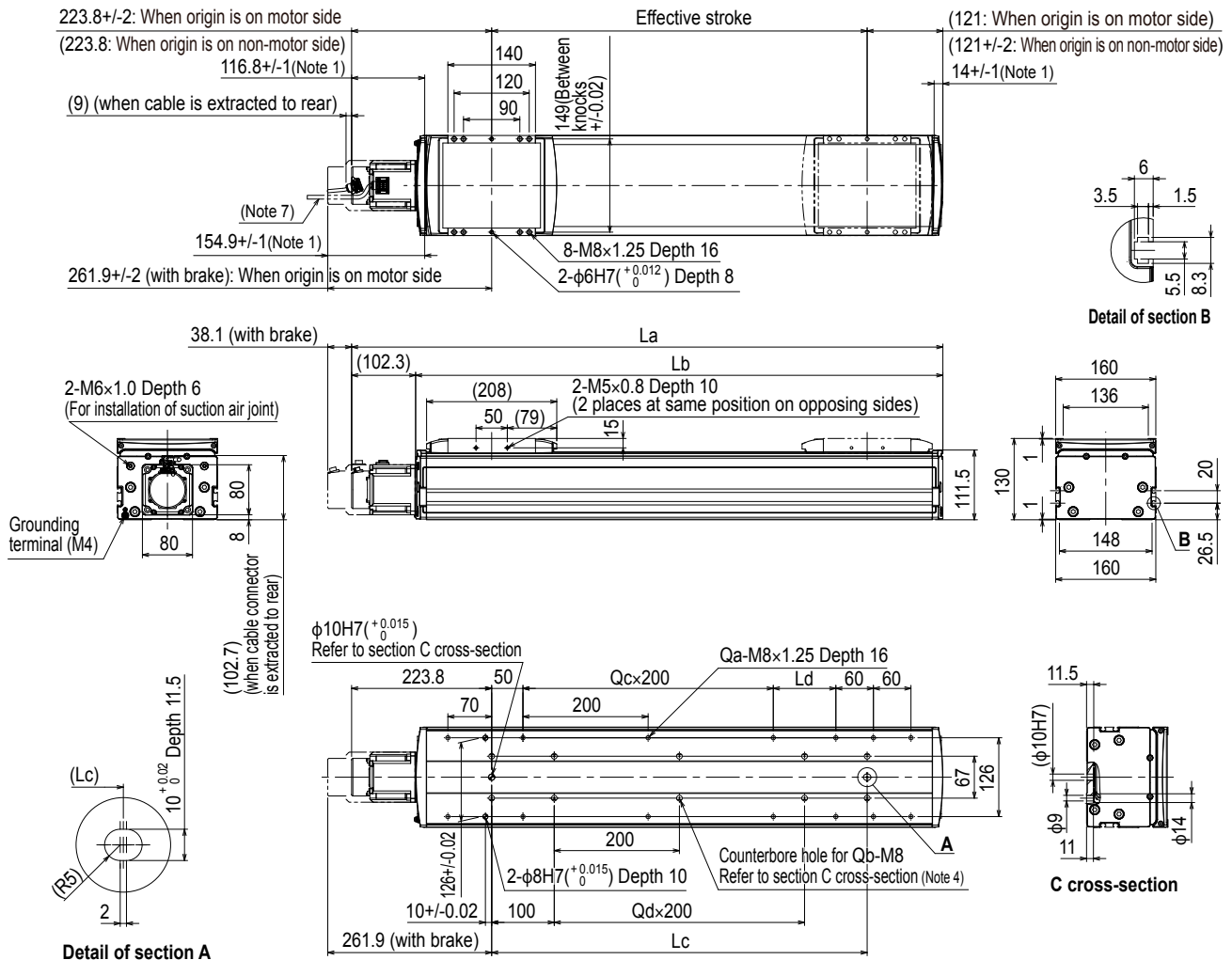
Note. See P.132 for acceleration/deceleration.

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.

AGXS16 Straight type (S)



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 <M8 × 1.25> used to mount the body with the mounting counterbore holes (section C cross-section) must be <<25 mm or more>>. The recommended length under head of the hex socket head bolts <M8 × 1.25> used to mount the body with the mounting tap hole specifications is <<frame thickness + 15 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 0.9 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.

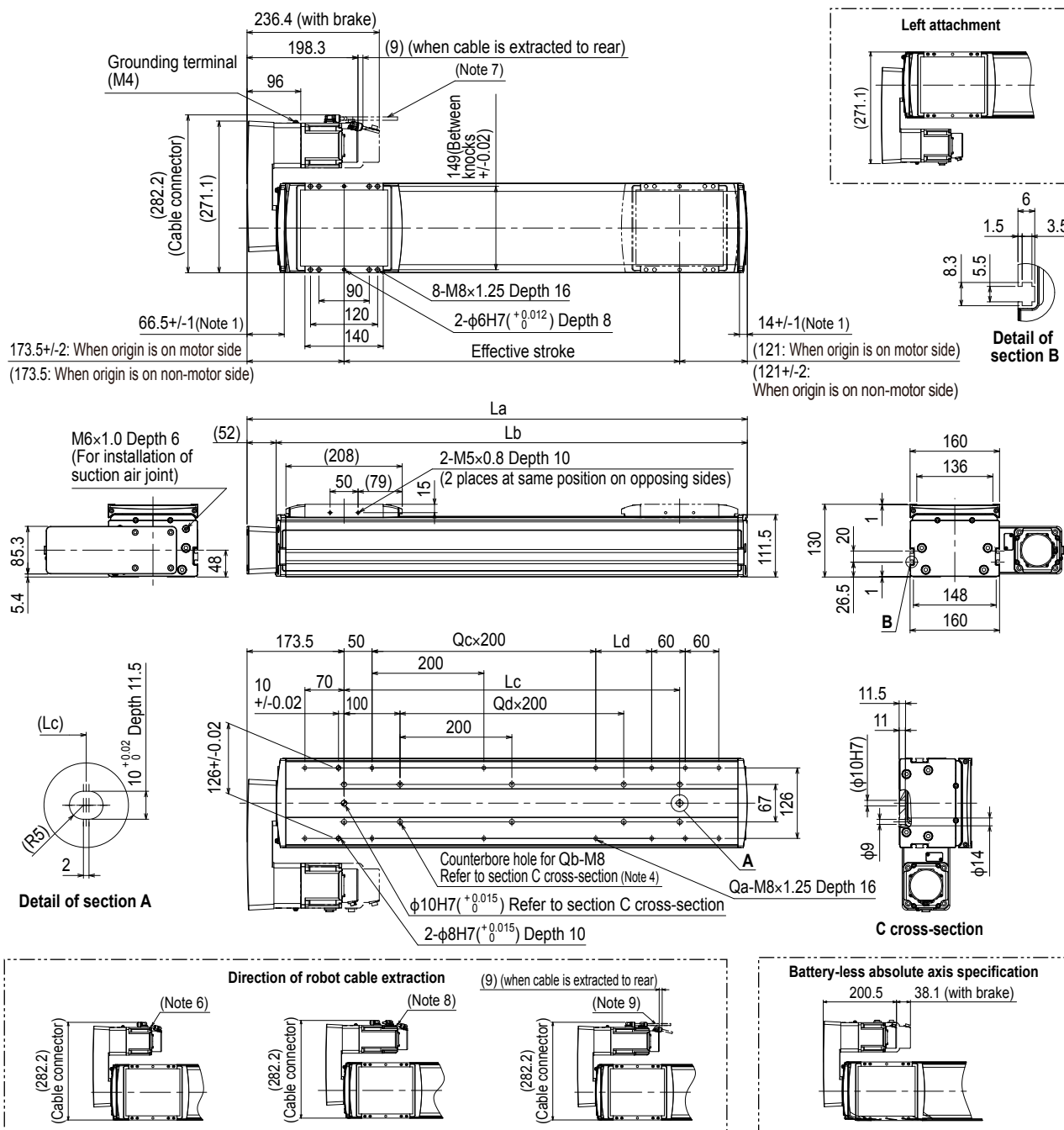
Note 9. The robot cable (with brake) is extracted from the rear.

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	1300	1350	1400	1450
La	444.8	494.8	544.8	594.8	644.8	694.8	744.8	794.8	844.8	894.8	944.8	994.8	1044.8	1094.8	1144.8	1194.8	1244.8	1294.8	1344.8	1394.8	1444.8	1494.8	1544.8	1594.8	1644.8	1694.8	1744.8	1794.8
Lb	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5	1192.5	1242.5	1292.5	1342.5	1392.5	1442.5	1492.5	1542.5	1592.5	1642.5	1692.5
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	1300	1350	1400	1450
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	1200	1250	1300	1350
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	20	22	22	22
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	16	18	18	18
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	5	6	6	6
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	5	6	6	6
Weight (kg)	13.6	14.6	15.6	16.6	17.6	18.5	19.5	20.5	21.5	22.5	23.4	24.4	25.4	26.4	27.4	28.4	29.3	30.3	31.3	32.3	33.3	34.3	35.2	36.2	37.2	38.2	39.2	40.1
Lead 40	2400															2160	1920	1680	1440	1320	1200	1080	960	840	720	600	480	360
Lead 20	1200															1080	960	840	720	660	600	540	480	420	360	300	240	180
Lead 10	600															540	480	420	360	330	300	270	240	210	180	150	120	90
Speed setting	-															90%	80%	70%	60%	55%	50%	45%	40%	35%	30%	25%	20%	15%

AGXS16 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 $\leq M8 \times 1.25$ used to mount the body with the mounting counterbore holes (section C cross-section) must be ≤ 25 mm or more. The recommended length under head of the hex socket head bolts $\leq M8 \times 1.25$ used to mount the body with the mounting tap hole specifications is $\leq$ frame thickness + 15 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 0.9 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 shape 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	1300	1350	1400	1450
La	394.5	444.5	494.5	544.5	594.5	644.5	694.5	744.5	794.5	844.5	894.5	944.5	994.5	1044.5	1094.5	1144.5	1194.5	1244.5	1294.5	1344.5	1394.5	1444.5	1494.5	1544.5	1594.5	1644.5	1694.5	1744.5
Lb	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5	1192.5	1242.5	1292.5	1342.5	1392.5	1442.5	1492.5	1542.5	1592.5	1642.5	1692.5
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	1300	1350	1400	1450
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	1200	1250	1300	1350
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	20	22	22	22
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	16	18	18	18
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	5	6	6	6
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	5	6	6	6
Weight (kg) Note 5	16.3	17.3	18.3	19.3	20.3	21.2	22.2	23.2	24.2	25.2	26.1	27.1	28.1	29.1	30.1	31.1	32.0	33.0	34.0	35.0	36.0	37.0	37.9	38.9	39.9	40.9	41.9	42.8
Maximum speed (mm/sec)	Lead 40	2400										2160										960	840	720	600	480	360	600
Speed setting	Lead 20	1200										1080										480	420	360	300	240	180	300
	Lead 10	600										540										270	240	210	180	150	150	150
	Speed setting	-										90%										40%	40%	35%	30%	25%	25%	25%