

# AGFS14L/AGFS14LH

Advanced model

Single-axis robots

Long-stroke type

## Ordering method

Model	Lead	Shape	Motor specification	OP1	Stroke	Stroke	Cable length	Cable entry location	Robot positioner	Driver: Power capacity	Regenerative unit	I/O	Battery
AGFS14L	30: 30mm	S: Straight	S: Standard/With no brake	No entry: Standard	750 to 2000 (50mm pitch)		R3: 3m	R: From rear of motor	EP-01	A10: 200W or less 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
AGFS14LH	20: 20mm 10: 10mm 5: 5mm	R: Right attachment L: Left attachment	BK Standard/With brake BL: Battery-less absolute/With no brake BKL: Battery-less absolute/With brake	M: Centerized lubrication			R5: 5m R10: 10m	F: From front of motor					

Note 1. The robot cable is flexible and resists bending.

Note 2. [For AGFS14L]

When the actuator is used vertically, lead 10 is selected, the regenerative unit is needed.

When the actuator is used horizontally, lead 20 is selected, and the stroke is 950mm or more, the regenerative unit is needed.

[For AGFS14LH]

When the actuator is used vertically, all lead and stroke, the regenerative unit is needed.

Note 3. When the motor specification is the standard (S, BK), whether to use the battery needs to be selected.

Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

## AGFS14L(200W)

### Specifications

AC servo motor output	200 W		
Repeatability <sup>Note 1</sup>	±0.01 mm		
Deceleration mechanism	Rolled ball screw φ 15 (C7 class)		
Stroke	750 to 2000 (50 mm pitch)		
Maximum speed <sup>Note 2</sup>	1800 mm/sec	1200 mm/sec	600 mm/sec
Ball screw lead	30 mm	20 mm	10 mm
Maximum payload	Horizontal 30 kg	Vertical 45 kg	90 kg
Rated Thrust	113 N	170 N	341 N
Maximum dimensions of cross section of main unit	W 140 mm × H 91.5 mm		
Overall length	Straight	ST + 537.5 mm	
	Bending	ST + 507.5 mm	
Degree of cleanliness <sup>Note 3</sup>	Equivalent to ISO Class 3 (ISO 14644-1)		
Intake air <sup>Note 4</sup>	90 Nl/min to 100 Nl/min		
Position detector	Absolute Encoder Batteryless Absolute Encoder		
Resolution	23 bits		
Using ambient temperature and humidity <sup>Note 5</sup>	0 to 40 °C, 35 to 80 %RH (no condensation)		

Note 1. Positioning repeatability in one direction.

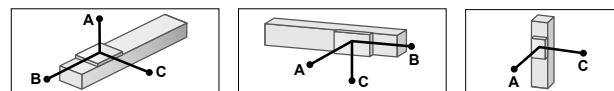
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed.

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 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

### Allowable overhang <sup>Note</sup>



AGFS14L-30			
Horizontal installation (Unit: mm)	Wall installation (Unit: mm)		
	A	B	C
5kg	5829	3006	3007
15kg	2669	983	1061
30kg	1764	477	538

AGFS14L-20			
Horizontal installation (Unit: mm)	Wall installation (Unit: mm)		
	A	B	C
15kg	3873	1258	1526
30kg	2484	615	770
45kg	1964	400	509

AGFS14L-10			
Horizontal installation (Unit: mm)	Wall installation (Unit: mm)		
	A	B	C
30kg	4980	855	1193
60kg	3127	413	581
90kg	2446	266	375

AGFS14L-5			
Horizontal installation (Unit: mm)	Wall installation (Unit: mm)		
	A	B	C
40kg	9198	681	988
80kg	5743	326	474
120kg	4484	208	302

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 1,000 mm stroke models. Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.

## AGFS14LH (400W)

### Specifications

AC servo motor output	400 W		
Repeatability <sup>Note 1</sup>	±0.01 mm		
Deceleration mechanism	Rolled ball screw φ 15 (C7 class)		
Stroke	750 to 2000 (50 mm pitch)		
Maximum speed <sup>Note 2</sup>	1800 mm/sec	1200 mm/sec	600 mm/sec
Ball screw lead	30 mm	20 mm	10 mm
Maximum payload	Horizontal 50 kg	Vertical 70 kg	140 kg
Rated Thrust	225 N	339 N	678 N
Maximum dimensions of cross section of main unit	W 140 mm × H 91.5 mm		
Overall length	Straight	ST + 553.5 mm	
	Bending	ST + 507.5 mm	
Degree of cleanliness <sup>Note 3</sup>	Equivalent to ISO Class 3 (ISO 14644-1)		
Intake air <sup>Note 4</sup>	90 Nl/min to 100 Nl/min		
Position detector	Absolute Encoder Batteryless Absolute Encoder		
Resolution	23 bits		
Using ambient temperature and humidity <sup>Note 5</sup>	0 to 40 °C, 35 to 80 %RH (no condensation)		

Note 1. Positioning repeatability in one direction.

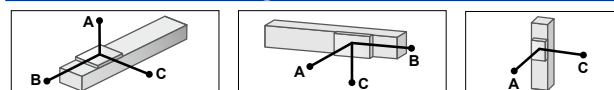
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed.

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 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

### Allowable overhang <sup>Note</sup>



AGFS14LH-30			
Horizontal installation (Unit: mm)	Wall installation (Unit: mm)		
	A	B	C
15kg	2295	982	1028
30kg	1570	477	529
50kg	1409	297	353

AGFS14LH-20			
Horizontal installation (Unit: mm)	Wall installation (Unit: mm)		
	A	B	C
15kg	3281	1258	1481
30kg	2126	615	756
70kg	1328	247	316

AGFS14LH-10			
Horizontal installation (Unit: mm)	Wall installation (Unit: mm)		
	A	B	C
30kg	4441	855	1186
50kg	3270	502	702
110kg	2140	212	300

AGFS14LH-5			
Horizontal installation (Unit: mm)	Wall installation (Unit: mm)		
	A	B	C
50kg	6053	539	781
100kg	4089	255	371
140kg	3429	174	253

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 1,000 mm stroke models. Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.



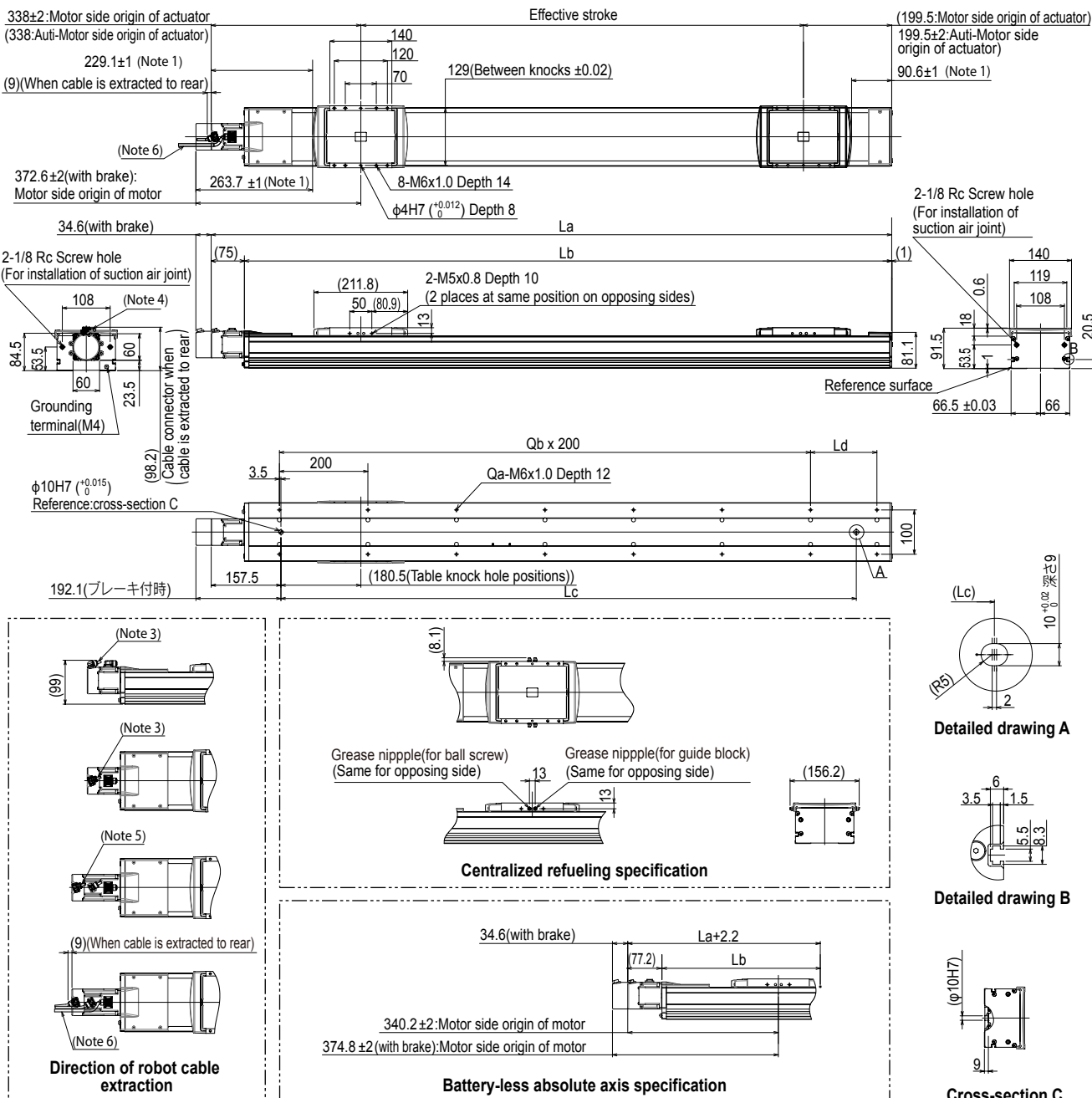
► The cycle time simulation and service life calculation can be performed easily from our member site.

Controller

EP-01 ▶ 582

Linear conveyor modules  
LCMR200  
Single-axis robots  
GX  
Linear conveyor modules  
LCMT100  
SCARA robots  
YK-X  
Single-axis robots  
Robonity  
Single-axis robots  
PHASER  
Single-axis robots  
FLIP-X  
Compact single-axis robots  
TRANSERO  
Cartesian robots  
XX-X  
Pick & place robots  
YP-X  
CLEAN  
CONTROLLER  
INFORMATION  
LBFS  
LBAS  
LGXS  
LGBS  
LGBS  
ABFS  
ABAS  
AGXS  
AGBS  
AGFS  
Option

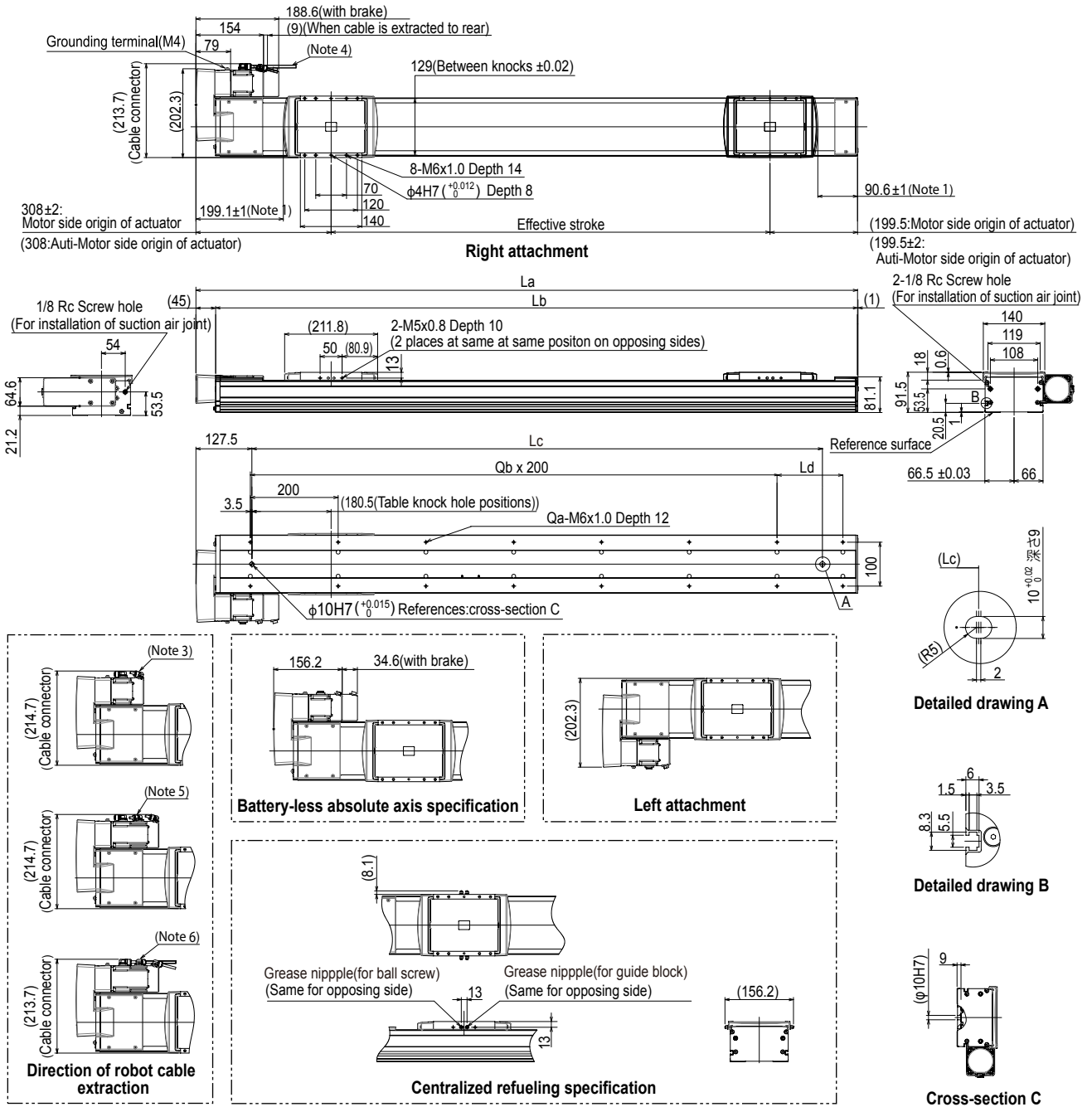
## AGFS14L Straight type (S)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.  
 Note 2. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.  
 Note 3. The robot cable is extracted from the front.  
 Note 4. The robot cable is extracted from the rear.  
 Note 5. The robot cable (with brake) is extracted from the front.  
 Note 6. The robot cable (with brake) is extracted from the rear.  
 Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)  
 Note. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M6x1.0> used to install the main unit.  
 Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

Effective stroke	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000
La	1287.5	1337.5	1387.5	1437.5	1487.5	1537.5	1587.5	1637.5	1687.5	1737.5	1787.5	1837.5	1887.5	1937.5	1987.5	2037.5	2087.5	2137.5	2187.5	2237.5	2287.5	2337.5	2387.5	2437.5	2487.5	2537.5
Lb	1212.5	1262.5	1312.5	1362.5	1412.5	1462.5	1512.5	1562.5	1612.5	1662.5	1712.5	1762.5	1812.5	1862.5	1912.5	1962.5	2012.5	2062.5	2112.5	2162.5	2212.5	2262.5	2312.5	2362.5	2412.5	2462.5
Lc	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300
Ld	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
Qa	14	14	14	16	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26
Qb	5	5	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11
Weight (kg) <sup>Note 2</sup>	19.4	20	20.6	21.1	21.7	22.3	22.9	23.4	24	24.6	25.1	25.7	26.3	26.9	27.4	28	28.6	29.2	29.7	30.3	30.9	31.4	32	32.6	33.2	33.7
Maximum speed (mm/sec)	Lead 30	1800																								
	Lead 20	1200																								
	Lead 10	600																								
	Lead 5	300																								
Speed setting	-																									
Stroke restriction	Horizontal · Vertical	No stroke restrictions																								
	Wall hanging	To 1800st																								
	Ceiling-mounted	To 1200st																								

AGFS14L Bending type (R/L)



Note 1. Stop positions are determined by the mechanical stoppers at both ends.  
 Note 2. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.  
 Note 3. The robot cable is extracted from the front.  
 Note 4. The robot cable is extracted from the rear.  
 Note 5. The robot cable (with brake) is extracted from the front.  
 Note 6. The robot cable (with brake) is extracted from the rear.  
 Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)  
 Note. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M6×1.0> used to install the main unit.  
 Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

Effective stroke	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000
<b>La</b>	1257.5	1307.5	1357.5	1407.5	1457.5	1507.5	1557.5	1607.5	1657.5	1707.5	1757.5	1807.5	1857.5	1907.5	1957.5	2007.5	2057.5	2107.5	2157.5	2207.5	2257.5	2307.5	2357.5	2407.5	2457.5	2507.5
<b>Lb</b>	1212.5	1262.5	1312.5	1362.5	1412.5	1462.5	1512.5	1562.5	1612.5	1662.5	1712.5	1762.5	1812.5	1862.5	1912.5	1962.5	2012.5	2062.5	2112.5	2162.5	2212.5	2262.5	2312.5	2362.5	2412.5	2462.5
<b>Lc</b>	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300
<b>Ld</b>	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
<b>Qa</b>	14	14	14	16	16	16	16	18	18	18	18	20	20	20	22	22	22	22	24	24	24	24	24	26	26	26
<b>Qb</b>	5	5	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	10	10	10	10	10	11	11	11
<b>Weight (kg)</b> <sup>Note 2</sup>	20.6	21.2	21.8	22.3	22.9	23.5	24.1	24.6	25.2	25.8	26.3	26.9	27.5	28.1	28.6	29.2	29.8	30.4	30.9	31.5	32.1	32.6	33.2	33.8	34.4	34.9
<b>Maximum speed (mm/sec)</b>	<b>Lead 30</b>	1800																								
	<b>Lead 20</b>	1200																								
	<b>Lead 10</b>	600																								
	<b>Lead 5</b>	300																								
<b>Speed setting</b>	-																									
<b>Stroke restriction</b>	Horizontal · Vertical	No stroke restrictions																								
	Wall hanging	To 1800st																								
	Ceiling-mounted	To 1200st																								