

F8L

- High lead: Lead 30
- Origin at non-motor side

Ordering method

F8L

Model	Lead designation	Brake ^{Note 1}	Origin position change	Grease type	Stroke	Cable length ^{Note 2}
	30: 30mm 20: 20mm 10: 10mm 5: 5mm	No entry: No brakes BK: Brakes provided	None: Standard Z: Non-motor side	None: Standard GC: Clean	150 to 1050 (50mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

TSX

Positioner ^{Note 2} TS-X	Driver: Power supply voltage / Power capacity 105: 100V/100W or less 205: 200V/100W or less	LCD monitor No entry: None L: With LCD	I/O selection NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ GW: No I/O board ^{Note 4}	Battery B: With battery (Absolute) N: None (Incremental)
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SR1-X

Controller SR1-X	05 Driver: Power capacity 05: 100W or less	Usable for CE No entry: Standard E: CE marking	I/O selection N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS	Battery B: With battery (Absolute) N: None (Incremental)
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RDV-X

Driver RDV-X	2 Power supply voltage 2: AC200V	05 Driver: Power capacity 05: 100W or less	RBR1 Regenerative unit
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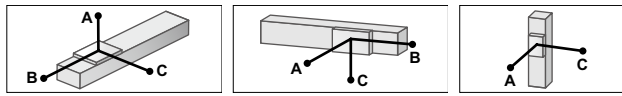
- Note 1. The model with a lead of 30mm cannot select specifications with brake (vertical specifications).
 Note 2. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.510 for details on robot cable.
 Note 3. See P.446 for DIN rail mounting bracket.
 Note 4. Select this selection when using the gateway function. For details, see P.439.

Specifications

AC servo motor output (W)	100
Repeatability ^{Note 1} (mm)	+/-0.01
Deceleration mechanism	Ball screw (Class C7)
Ball screw lead (mm)	30 20 10 5
Maximum speed ^{Note 2} (mm/sec)	1800 1200 600 300
Maximum payload (kg)	Horizontal 7 20 40 50 Vertical - 4 8 16
Rated thrust (N)	56 84 169 339
Stroke (mm)	150 to 1050 (50mm pitch)
Overall length (mm)	Horizontal Stroke+300 Vertical Stroke+322
Maximum dimensions of cross section of main unit (mm)	W80 x H65
Cable length (m)	Standard: 3.5 / Option: 5, 10
Linear guide type	4 rows of circular arc grooves x 1 rail
Position detector	Resolvers ^{Note 3}
Resolution (Pulse/rotation)	16384

- Note 1. Positioning repeatability in one direction.
 Note 2. When the stroke is longer than 650mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table below.
 Note 3. Position detectors (resolvers) are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

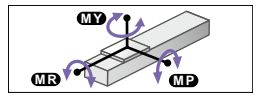
Allowable overhang^{Note}



Installation	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)				
	A	B	C	A	B	C	A	B	C		
Lead 30	5kg	112	80	80	5kg	55	57	77	2kg	236	240
	7kg	78	43	49	7kg	21	19	34	4kg	106	110
	10kg	211	108	147	10kg	119	89	176	2kg	310	311
	15kg	116	45	69	15kg	38	26	69	4kg	141	143
	20kg	76	24	39	20kg	15	7	16	6kg	85	86
Lead 20	10kg	58	14	26	10kg	0	0	0	8kg	57	58
	10kg	251	56	122	10kg	85	39	202	5kg	123	124
	20kg	121	20	46	20kg	7	0	30	10kg	47	48
	30kg	74	8	20	30kg	0	0	0	15kg	22	22
	40kg	35	0	6	40kg	0	0	0	16kg	19	19
Lead 10	20kg	249	23	62	20kg	19	7	140			
	30kg	170	10	29	30kg	0	0	0			
	40kg	138	4	12	40kg	0	0	0			
	50kg	51	0	0	50kg	0	0	0			
	Lead 5				Lead 5						

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

Static loading moment

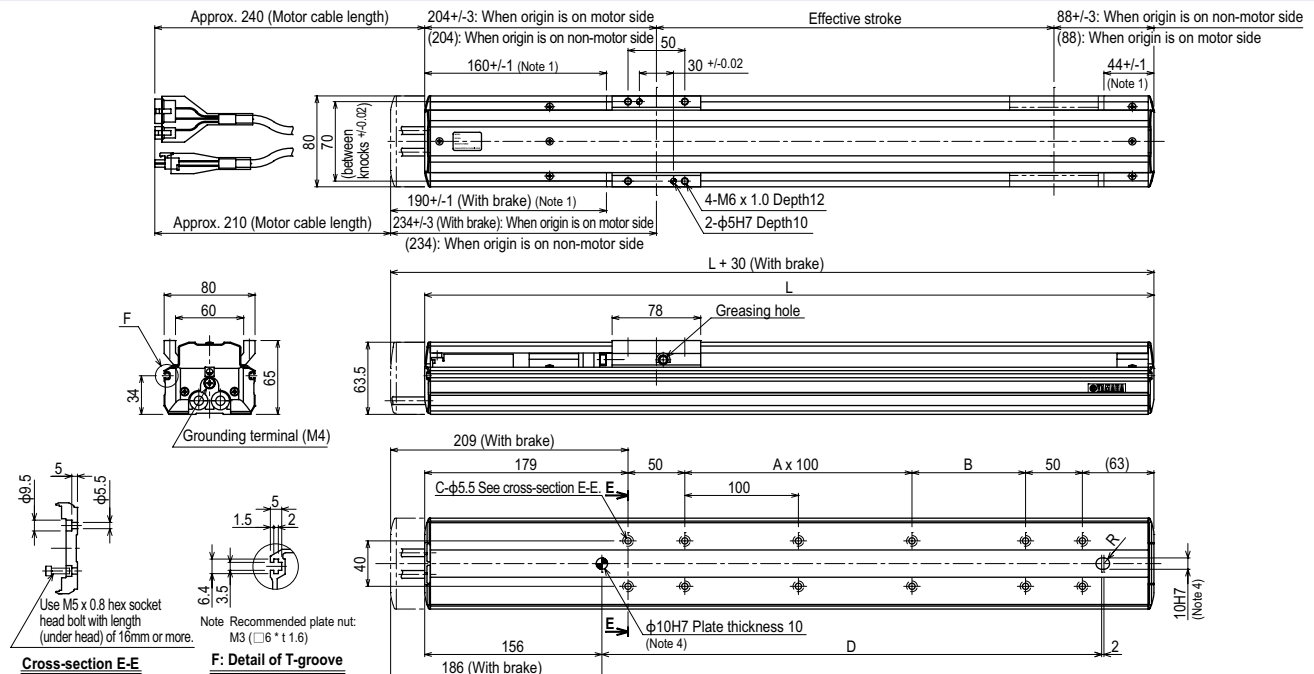


(Unit: N·m)		
MY	MP	MR
70	95	110

Controller

Controller	Operation method
SR1-X05	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RCX221/222	
RCX240/340	
TS-X105	I/O point trace / Remote command
TS-X205	
RDV-X205-RBR1	Pulse train control

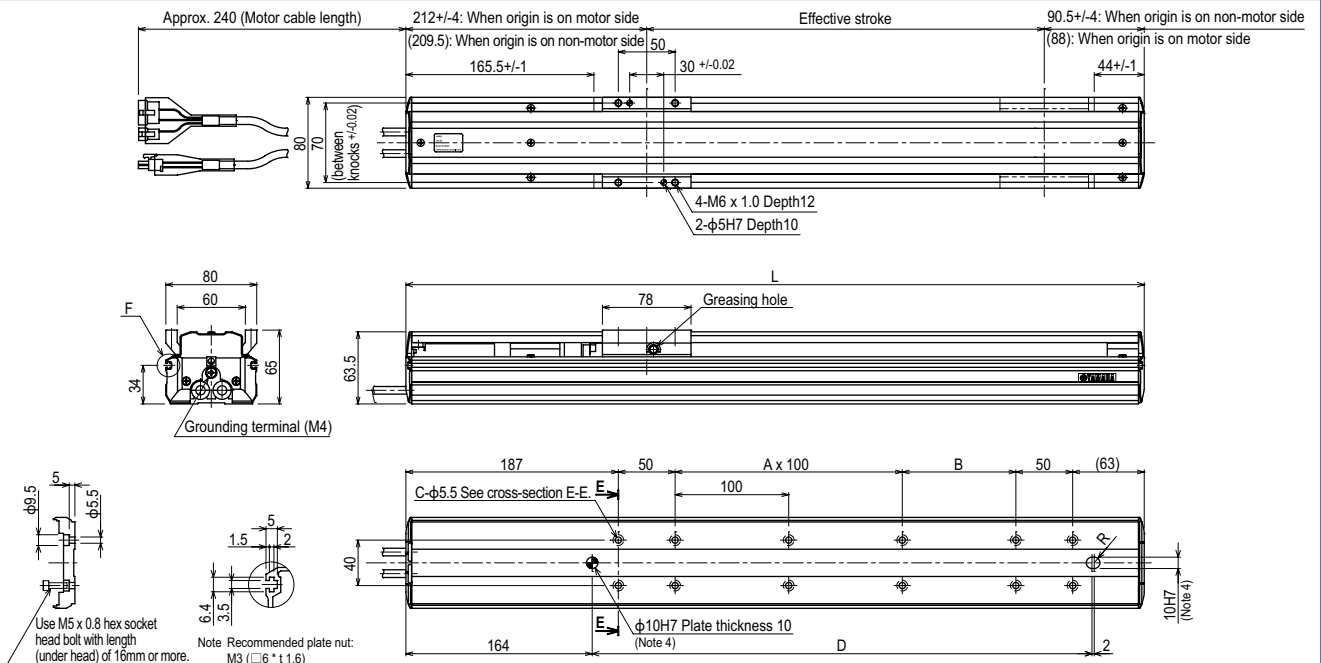
F8L



Effective stroke	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
	L	442	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192	1242	1292
A	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9
B	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100
C	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140
Weight (kg) ^{Note 5}	Lead 20	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.2
	Lead 10												1020	900	780	720	660	600	540
	Lead 5												510	450	390	360	330	300	270
	Speed setting												255	225	195	180	165	150	135
Maximum speed ^{Note 6} (mm/sec)	Lead 20																		
	Lead 10																		
	Lead 5																		
	Speed setting													85%	75%	65%	60%	55%	50%

- Note 1. Distance from both ends to the mechanical stopper.
 Note 2. When installing the robot, do not use washers inside the robot body.
 Note 3. Minimum bend radius of motor cable is R50.
 Note 4. When using this φ10 knock-pin hole to position the robot body, the knock-pin must not protrude more than 10mm inside the robot body.
 Note 5. Weight of models with no brake. The weight of brake-attached models is 0.3 kg heavier than the models with no brake shown in the table.
 Note 6. When the stroke is longer than 650mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table above.

F8L High lead type: Lead 30



Cross-section E-E

F: Detail of T-groove

Effective stroke	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350
A	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9
B	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100	150	100
C	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
D	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140
Weight (kg)	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.2	9.5
Maximum speed ^{Note 5} (mm/sec)	Lead 30 1800											1530	1350	1170	1080	990	900	810	720
Speed setting	-											85%	75%	65%	60%	55%	50%	45%	40%

- Note 1. Distance from both ends to the mechanical stopper.
- Note 2. When installing the robot, do not use washers inside the robot body.
- Note 3. Minimum bend radius of motor cable is R50.
- Note 4. When using this $\phi 10$ knockpin hole to position the robot body, the knockpin must not protrude more than 10mm inside the robot body.

Note 5. When the stroke is longer than 650mm, resonance of the ball screw may occur depending on the operation conditions (critical speed). In this case, reduce the speed setting on the program by referring to the maximum speeds shown in the table above.