

F8

● High lead: Lead 20

● Origin on the non-motor side is selectable



Ordering method

F8						
Model	Lead designation	Brake ^{Note 1}	Origin position change	Grease type	Stroke	Cable length ^{Note 2}
	20: 20mm 12: 12mm 6: 6mm	No entry: No brakes BK: Brakes provided	None: Standard Z: Non-motor side	None: Standard GC: Clean	150 to 800 (50mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

TSX				
Positioner ^{Note 3}	Driver: Power-supply voltage / Power capacity	LCD monitor	I/O selection	Battery
TSX: TS-X	105: 100V/100W or less 205: 200V/100W or less	No entry: None L: With LCD	NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board ^{Note 4}	B: With battery (Absolute) N: None (Incremental)
SR1-X	05			
Controller	Driver: Power capacity	Usable for CE	I/O selection	Battery
	05: 100W or less	No entry: Standard E: CE marking	N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS	B: With battery (Absolute) N: None (Incremental)
RDV-X	2	05	RBR1	
Driver	Power-supply voltage	Driver: Power capacity	Regenerative unit	
	2: AC200V	05: 100W or less		

Note 1. The model with a lead of 20mm 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.692 for details on robot cable.
 Note 3. See P.600 for DIN rail mounting bracket.
 Note 4. Select this selection when using the gateway function.

Specifications

AC servo motor output (W)	100
Repeatability ^{Note 1} (mm)	+/-0.02
Deceleration mechanism	Ball screw ϕ 12
Ball screw lead (mm)	20 12 6
Maximum speed ^{Note 2} (mm/sec)	1200 720 360
Maximum payload (kg)	Horizontal 12 20 40 Vertical - 4 8
Rated thrust (N)	84 141 283
Stroke (mm)	150 to 800 (50mm pitch)
Overall length (mm)	Horizontal Stroke+286 Vertical Stroke+316
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 550mm, 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.
 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

Lead	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)					
	A	B	C	A	B	C	A	C				
Lead 20	5kg	197	76	120	5kg	104	67	174	1kg	447	448	
	10kg	100	32	54	10kg	37	23	72	2kg	214	216	
	12kg	85	25	43	12kg	27	15	55	3kg	137	138	
Lead 12	5kg	364	89	188	5kg	171	81	340	4kg	98	99	
	10kg	203	39	87	10kg	10k	69	32	172	2kg	244	245
	15kg	139	22	51	15kg	33	15	100	4kg	113	113	
Lead 6	20kg	103	14	33	20kg	15	6	55	6kg	69	69	
	10kg	403	43	113	10kg	94	36	369	8kg	46	46	
	20kg	214	16	43	20kg	25	9	157				
Lead 6	30kg	140	6	20	30kg	0	0	14				
	40kg	113	0	8	40kg	0	0	0				

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

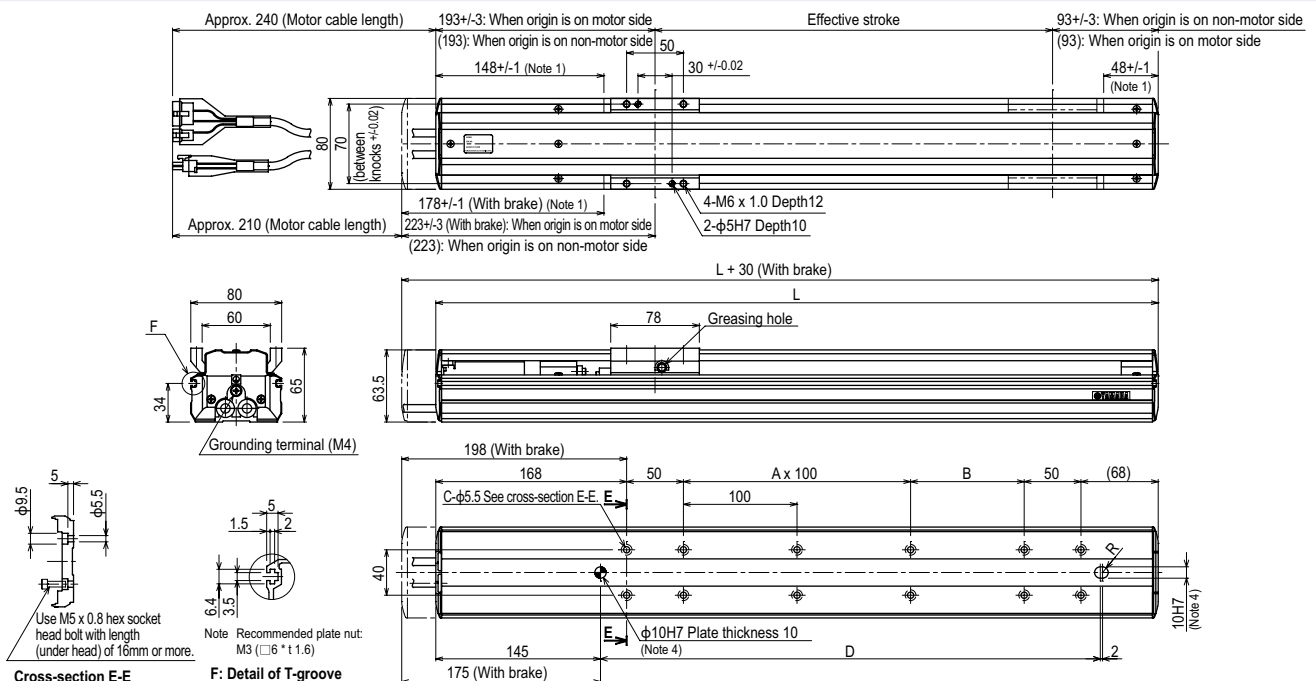
Static loading moment

(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
RX320	
RX340	
TS-X105	I/O point trace / Remote command
TS-X205	
RDV-X205-RBR1	Pulse train control

F8



Effective stroke	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	436	486	536	586	636	686	736	786	836	886	936	986	1036	1086
A	0	0	1	1	2	2	3	3	4	4	5	5	6	6
B	100	150	100	150	100	150	100	150	100	150	100	150	100	150
C	8	8	10	10	12	12	14	14	16	16	18	18	20	20
D	240	290	340	390	440	490	540	590	640	690	740	790	840	890
Weight (kg) ^{Note 5}	3.6	3.9	4.2	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.4	6.7	7.0	7.3
Maximum speed ^{Note 6} (mm/sec)	Lead 20	1200												
	Lead 12	720												
	Lead 6	360												
	Speed setting	90% 75% 65% 60% 50%												

Note 6. When the stroke is longer than 550mm, 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: Lead 30

● Origin on the non-motor side is selectable

Ordering method

F8L

Model	Lead designation	Brake	Origin position change	Grease type	Stroke	Cable length
	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	Driver: Power supply voltage / Power capacity	LCD monitor	I/O selection	Battery
TSX: TS-X	105: 100V/100W or less 205: 200V/100W or less	No entry: None L: With LCD	NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board	B: With battery (Absolute) N: None (Incremental)

SR1-X

05

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

RDV-X

2

05

RBR1

Driver	Power supply voltage	Driver: Power capacity	Regenerative unit
2: AC200V		05: 100W or less	

- 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.692 for details on robot cable.
 Note 3. See P.600 for DIN rail mounting bracket.
 Note 4. Select this selection when using the gateway function.

Specifications

AC servo motor output (W)	100		
Repeatability (mm)	±0.01		
Deceleration mechanism	Ball screw φ15		
Ball screw lead (mm)	30	20	10
Maximum speed (mm/sec)	1800	1200	600
Maximum payload (kg)	Horizontal	Vertical	
	7	20	40
	-	4	8
Rated thrust (N)	56	84	169
Stroke (mm)	150 to 1050 (50mm pitch)		
Overall length (mm)	Horizontal	Stroke +300	Stroke+292
	Vertical	-	Stroke+322
Maximum dimensions of cross section of main unit (mm)	W80 × H65		
Cable length (m)	Standard: 3.5 / Option: 5, 10		
Linear guide type	4 rows of circular arc grooves × 1 rail		
Position detector	Resolvers		
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

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	
Lead 20	7kg: 78	43	49	7kg: 21	19	34	4kg: 106	110	
	5kg: 211	108	147	5kg: 119	89	176	2kg: 310	311	
Lead 10	10kg: 116	45	69	10kg: 38	26	69	4kg: 141	143	
	15kg: 76	24	39	15kg: 7	0	16	6kg: 85	86	
Lead 5	20kg: 58	14	26	20kg: 0	0	0	8kg: 57	58	
	10kg: 251	56	122	10kg: 85	39	202	5kg: 123	124	
Lead 10	20kg: 121	20	46	20kg: 7	0	30	10kg: 47	48	
	30kg: 74	8	20	30kg: 0	0	0	15kg: 22	22	
Lead 5	40kg: 35	0	6	40kg: 0	0	0	16kg: 19	19	
	20kg: 249	23	62	20kg: 19	7	140			
Lead 10	30kg: 170	10	29	30kg: 0	0	0			
	40kg: 138	4	12	40kg: 0	0	0			
Lead 5	50kg: 51	0	0	50kg: 0	0	0			

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

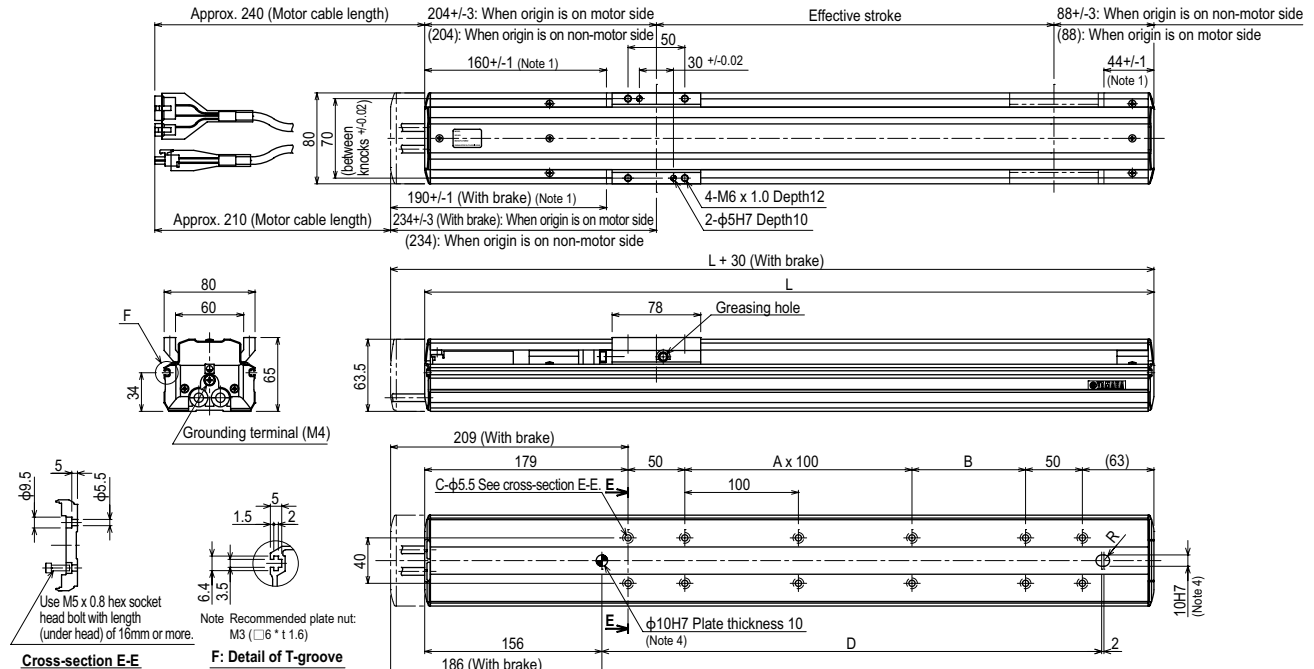
Static loading moment

Direction	70	95	110
MY			
MP			
MR			

Controller

Controller	Operation method
SR1-X05	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RCX320	
RCX340	
TS-X105	I/O point trace / Remote command
TS-X205	
RDV-X205-RBR1	Pulse train control

F8L

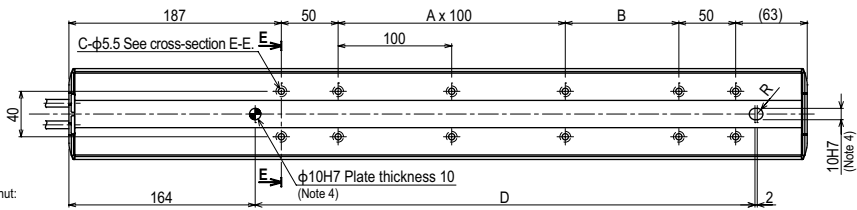
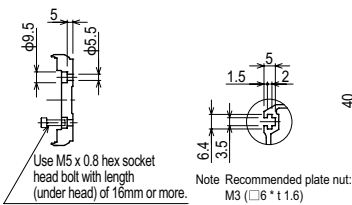
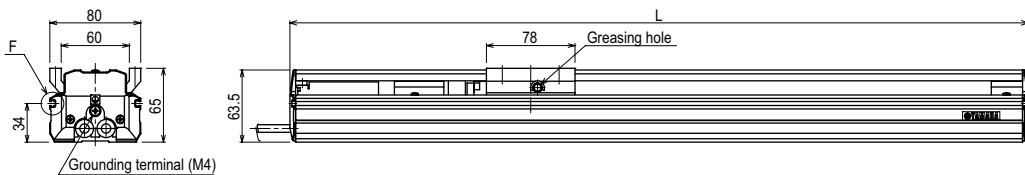
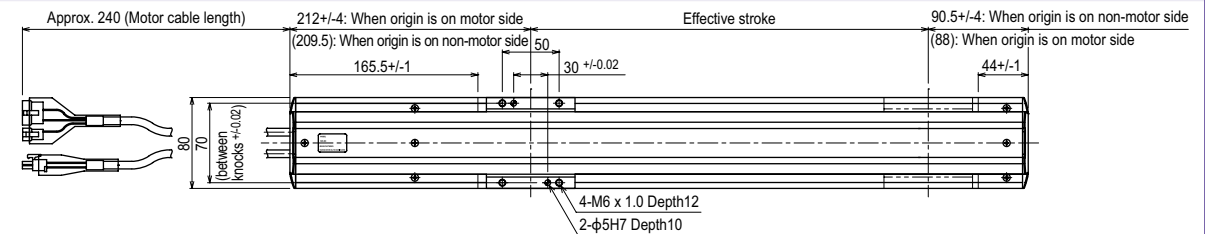


Effective stroke	Cross-section E-E										
	150	200	250	300	350	400	450	500	550	600	
L	442	492	542	592	642	692	742	792	842	892	
A	0	0	1	1	2	2	3	3	4	4	
B	100	150	100	150	100	150	100	150	100	150	
C	8	8	10	10	12	12	14	14	16	16	
D	240	290	340	390	440	490	540	590	640	690	
Weight (kg)	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.1	6.4	6.7	
Maximum speed (mm/sec)	Lead 20	1200									
	Lead 10	600									
	Lead 5	300									
	Speed setting		85%	75%	65%	60%	55%	50%	45%	40%	

- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 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 knockpin 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 ^{Notes} (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. Stop positions are determined by the mechanical stoppers at both ends.
- 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 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.

F10

● High lead: Lead 30

● Origin on the non-motor side is selectable: Lead 10-20-30

Note. Strokes longer than 1050mm are special order items. Please consult us for delivery time.

Ordering method

F10

Model	Lead designation	Brake	Cable entry location	Origin position change	Grease type	Stroke	Cable length
	30: 30mm 20: 20mm 10: 10mm 5: 5mm	No entry: No brakes BK: Brakes provided	No entry: Standard (S) U: From the top	None: Standard Z: Non-motor side	None: Standard GC: Clean	Lead 20/10/5: 150 to 1050 (50mm pitch) Lead 30: 150 to 1250 (50mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

- Note 1. The model with a lead of 30mm cannot select specifications with brake (vertical specifications).
 Note 2. If selecting 5mm lead specifications then the origin point cannot be changed to the non-motor side.
 Note 3. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.692 for details on robot cable.
 Note 4. See P.600 for DIN rail mounting bracket.
 Note 5. Select this selection when using the gateway function.

TSX

Positioner	Driver: Power-supply voltage	Regenerative unit	LCD monitor	I/O selection	Battery
TSX: TS-X	Power capacity 105: 100V/100W or less 205: 200V/100W or less	No entry: None R: With RGT	No entry: None L: With LCD	NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board	B: With battery (Absolute) N: None (Incremental)

SR1-X

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

RDV-X

Driver	Power-supply voltage	Driver: Power capacity	Regenerative unit
2	2: AC200V	05: 100W or less	

Specifications

AC servo motor output (W)	100
Repeatability (mm)	+/-0.01
Deceleration mechanism	Ball screw ϕ 15
Ball screw lead (mm)	30 20 10 5
Maximum speed (mm/sec)	1800 1200 600 300
Maximum payload (kg)	Horizontal: 15 20 40 60 Vertical: - 4 10 20
Rated thrust (N)	56 84 169 339
Stroke (mm)	150 to 1250 (50mm pitch)
Overall length (mm)	Horizontal: Stroke+260 Vertical: Stroke+290
Maximum dimensions of cross section of main unit (mm)	W110 x H71
Cable length (m)	Standard: 3.5 / Option: 5.10
Linear guide type	4 rows of circular arc grooves x 1 rail
Position detector	Resolvers
Resolution (Pulse/rotation)	16384

- Note 1. Positioning repeatability in one direction.
 Note 2. When the stroke is longer than 700mm, 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. Strokes longer than 1050mm are available only for high lead (Lead 30). (Special order item)
 Note 4. 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

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: 491	273	215	5kg: 206	209	480	1kg: 600	600	600
Lead 20	15kg: 223	61	63	15kg: 45	0	177	2kg: 649	691	
	5kg: 937	282	259	5kg: 250	213	905	4kg: 306	347	
Lead 10	10kg: 487	121	116	10kg: 99	51	438	8kg: 142	183	
	20kg: 236	40	44	20kg: 21	0	149	10kg: 102	144	
Lead 5	15kg: 389	71	74	15kg: 105	53	550	10kg: 105	146	
	30kg: 179	17	20	30kg: 22	0	230	15kg: 51	93	
Lead 5	40kg: 106	0	0	40kg: 0	0	0	20kg: 25	66	
	30kg: 419	19	20	30kg: 107	54	1410			
Lead 5	50kg: 0	0	0	50kg: 22	0	540			
	60kg: 0	0	0	60kg: 0	0	0			

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

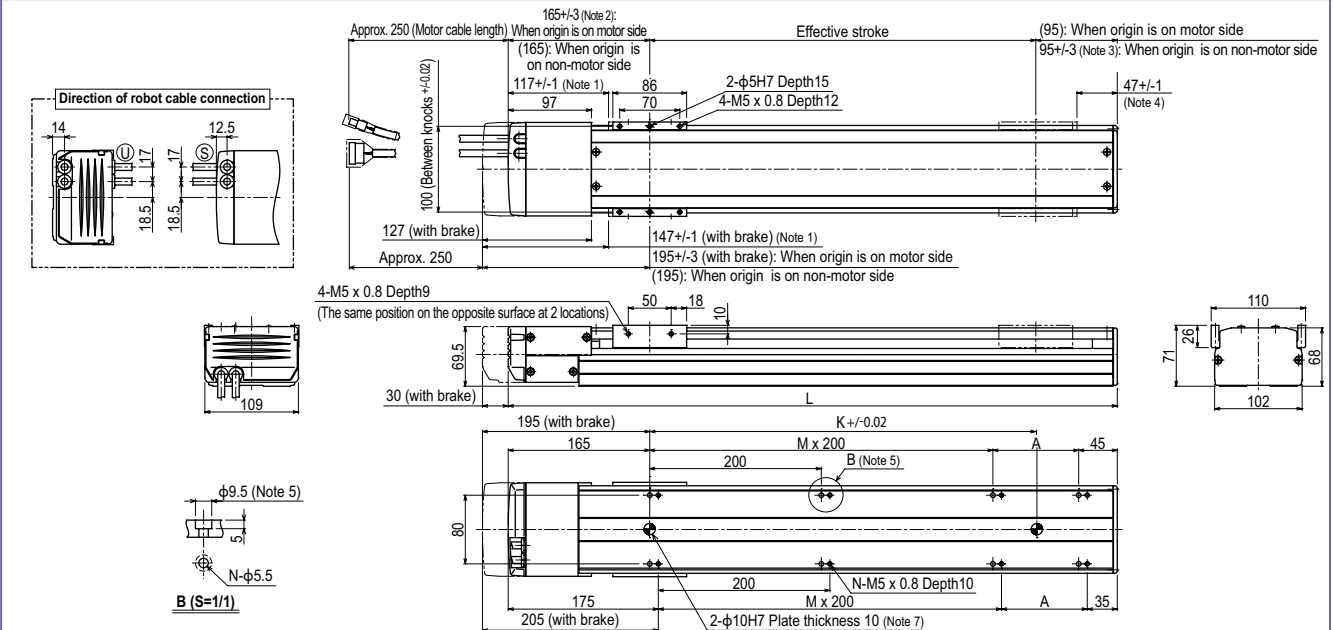
MY	MP	MR
131	131	115

Controller

Controller	Operation method
SR1-X05 Note	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RDX-X205 Note	I/O point trace / Remote command
RDX-X205-RBR1 Note	Pulse train control

Note. Regenerative unit is required when the models used vertically and with 700mm or larger stroke.

F10

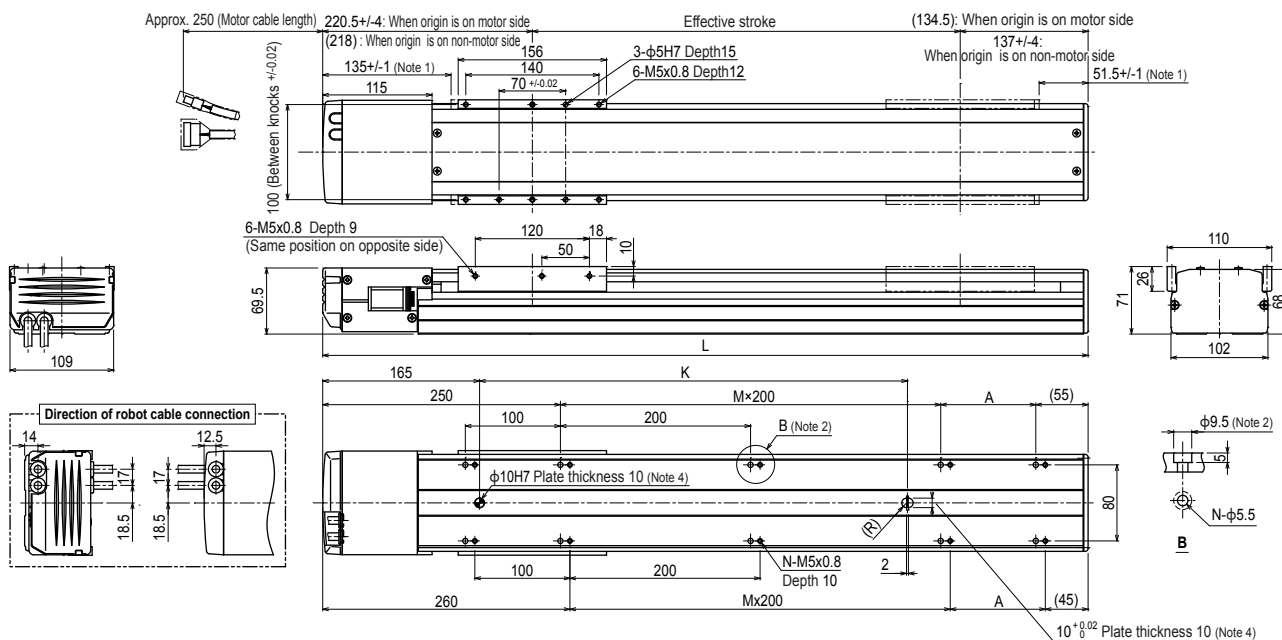


- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. 167.5+/-4 when the high lead specification (Lead 30) is used.
 Note 3. 95+/-4 when the high lead specification (Lead 30) is used.
 Note 4. 44.5+/-1 when the high lead specification (Lead 30) is used.
 Note 5. When installing the unit, washers, etc., cannot be used in the ϕ 9.5 counter bore hole.
 Note 6. Minimum bend radius of motor cable is R50.
 Note 7. When using this ϕ 10 knock-pin hole to position the robot body, the knock-pin must not protrude more than 10mm inside the robot body.
 Note 8. Weight of models with no brake. The weight of brake-attached models is 0.6 kg heavier than the models with no brake shown in the table.

Effective stroke	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
	L	410	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6
N	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16
K	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
Weight (kg) Note 8	5.5	5.7	5.8	6.2	6.5	6.9	7.3	7.7	8.1	8.5	8.8	9.2	9.6	10.0	10.4	10.8	11.1	11.5	11.9	12.3	12.7	13.1	13.5
Maximum speed (mm/sec) Note 9	Lead 30	1800																					
	Lead 20	1200																					
	Lead 10	600																					
	Lead 5	300																					
Speed setting	Lead 30	80%																					
	Lead 20	65%																					
Lead 10	50%																						
Lead 5	45%																						

- Note 9. When the stroke is longer than 700mm, 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.
 Note 10. Strokes longer than 1050mm are special order items. Please contact us for speed setting.

F10H High lead type: Lead 30



Effective stroke	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
L	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	
M	0	1	1	1	1	2	2	2	3	3	3	3	3	4	4	4	4	5	
N	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	
K	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
Weight (kg)	6.9	7.3	7.7	8.1	8.4	8.8	9.2	9.6	10.0	10.3	10.7	11.1	11.5	11.9	12.2	12.6	13.0	13.4	
Maximum speed (mm/sec)	Lead 30											1440	1260	1080	900	720	630		
	Lead 20											960	840	720	600	480	420		
	Lead 10											480	420	360	300	240	210		
	Lead 5											240	210	180	150	120	105		
	Speed setting											80%	70%	60%	50%	40%	35%		

Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. When installing the unit, washers, etc., cannot be used in the φ9.5 counter bore hole.
 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 knockpin must not protrude more than 10mm inside the robot body.

F14

- High lead: Lead 30
- Origin on the non-motor side is selectable

Note. Strokes longer than 1050mm are special order items. Please consult us for delivery time.



Ordering method

F14

Model	Lead designation	Brake	Cable entry location	Origin position change	Grease type	Stroke	Cable length
	30: 30mm 20: 20mm 10: 10mm 5: 5mm	No entry: No brakes BK: Brakes provided	No entry: Standard (S) U: From the top R: From the right L: From the left	None: Standard Z: Non-motor side	None: Standard GC: Clean	Lead 20: 10:5 150 to 1050 (50mm pitch) Lead 30: 150 to 1250 (50mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

TSX

Positioner	Driver: Power supply voltage Power capacity	Regenerative unit	LCD monitor	I/O selection	Battery
TSX: TS-X	105: 100V/100W or less 205: 200V/100W or less	No entry: None R: With RGT	No entry: None L: With LCD	NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board	B: With battery (Absolute) N: None (Incremental)

SR1-X

Controller	Driver: Power capacity	Usable for CE	Regenerative unit	I/O selection	Battery
05	05: 100W or less	No entry: Standard E: CE marking	No entry: None R: With RGT1	N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS	B: With battery (Absolute) N: None (Incremental)

RDV-X

Driver	Power supply voltage	Driver: Power capacity	Regenerative unit
2	2: AC200V	05: 100W or less	RBR1

- 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.692 for details on robot cable.
 Note 3. See P.600 for DIN rail mounting bracket.
 Note 4. Select this selection when using the gateway function.

Specifications

AC servo motor output (W)	100
Repeatability (mm)	+/-0.01
Deceleration mechanism	Ball screw ϕ 15
Ball screw lead (mm)	30 20 10 5
Maximum speed (mm/sec)	1800 1200 600 300
Maximum payload (kg)	Horizontal 15 30 55 80 Vertical - 4 10 20
Rated thrust (N)	56 84 169 339
Stroke (mm)	150 to 1250 (50mm pitch)
Overall length (mm)	Horizontal Stroke+255 Vertical Stroke+285
Maximum dimensions of cross section of main unit (mm)	W136 x H83
Cable length (m)	Standard: 3.5 / Option: 5.10
Linear guide type	4 rows of circular arc grooves x 2 rail
Position detector	Resolvers
Resolution (Pulse/rotation)	16384

- Note 1. Positioning repeatability in one direction.
 Note 2. When the stroke is longer than 700mm, 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. Strokes longer than 1050mm are available only for high lead (Lead 30). (Special order item)
 Note 4. 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

Lead	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)		
	A	B	C	A	B	C	A	B	C
Lead 30	5kg 1756	1364	863	5kg 951	969	1286	1kg 600	600	600
Lead 20	15kg 1236	467	438	15kg 408	277	803	2kg 1200	1200	1200
Lead 10	5kg 2153	1366	980	5kg 1066	974	1578	4kg 1154	895	895
Lead 5	15kg 1193	465	430	15kg 402	276	775	8kg 634	492	492
Lead 30	30kg 1266	245	294	30kg 219	105	678	10kg 499	387	387
Lead 20	20kg 1132	353	361	20kg 312	189	690	10kg 587	456	456
Lead 10	40kg 872	183	218	40kg 140	57	402	15kg 383	297	297
Lead 5	55kg 946	140	184	55kg 92	0	345	20kg 281	218	218
Lead 30	50kg 1575	158	222	30kg 246	107	1095			
Lead 20	60kg 1493	135	194	40kg 167	64	798			
Lead 10	80kg 1466	107	159	60kg 88	20	508			

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

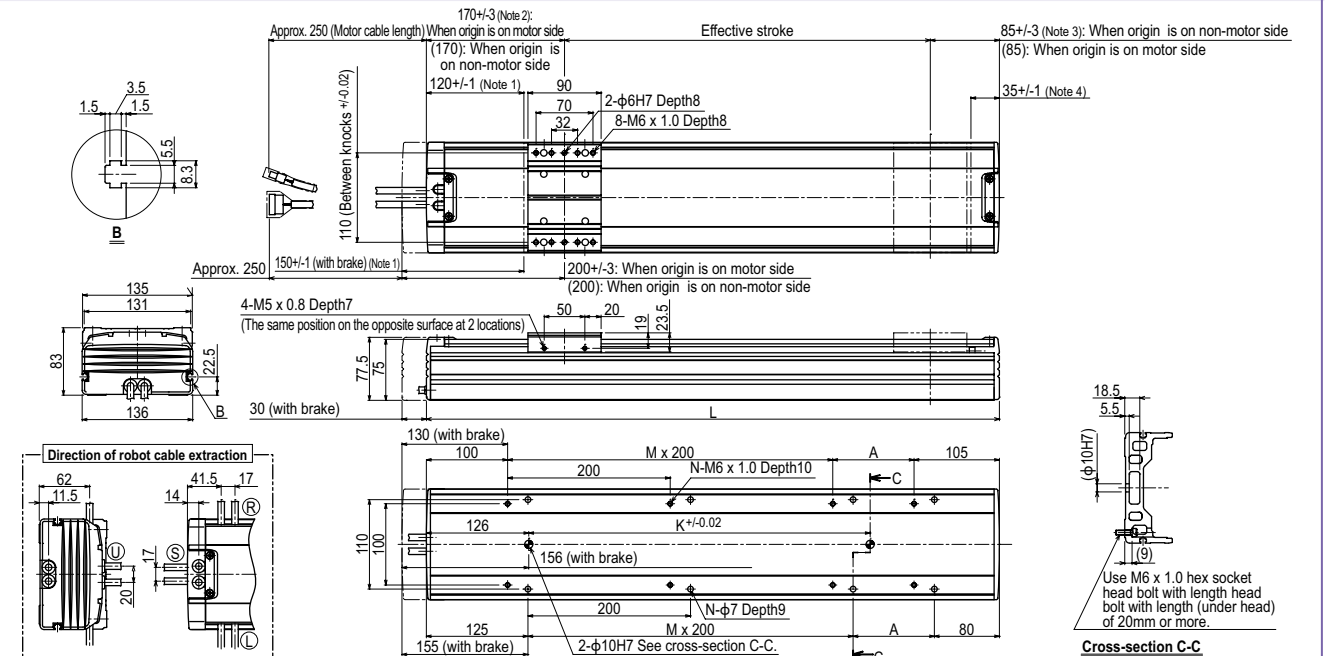
(Unit: N·m)		
MY	MP	MR
232	233	204

Controller

Controller	Operation method
SR1-X05 RCX320 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X105 TS-X205 RDV-X205-RBR1	I/O point trace / Remote command / Pulse train control

Note. Regenerative unit is required when the models used vertically and with 700mm or larger stroke.

F14



- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. 172.5+/-4 when the high lead specification (Lead 30) is used.
 Note 3. 85+/-4 when the high lead specification (Lead 30) is used.
 Note 4. 32.5+/-1 when the high lead specification (Lead 30) is used.
 Note 5. Minimum bend radius of motor cable is R50.
 Note 6. Weight of models with no brake. The weight of brake-attached models is 0.7 kg heavier than the models with no brake shown in the table.

Effective stroke	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
	L	405	455	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	0	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4	4	4	5	5	5	6	6
N	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16
K	240	240	240	240	420	420	420	420	600	600	600	600	780	780	780	780	960	960	960	960	1140	1140	1140
Weight (kg)	6.2	6.9	7.5	8.2	8.8	9.5	10.1	10.8	11.4	12.1	12.6	13.4	13.9	14.6	15.2	15.9	16.5	17.2	17.8	18.5	19.1	19.8	20.4
Maximum speed (mm/sec)	Lead 30	1800												1440	1170	900	810						
	Lead 20	1200												960	780	600	540						
	Lead 10	600												480	390	300	270						
	Lead 5	300												240	195	150	135						
Speed setting														80%	65%	50%	45%						

- Note 7. When the stroke is longer than 700mm, 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.
 Note 8. Strokes longer than 1050mm are special order items. Please contact us for speed setting.

GF14XL

● Origin on the non-motor side is selectable

Note. If you need an installation posture other than the horizontal installation, please contact us.

Ordering method

GF14XL - S H - 20

Model	Model S: Straight model	Installation direction H: Horizontal installation	Lead designation	Cable entry location	Origin position change	Frame	Grease type	Stroke	Cable length
				No entry: Standard (S) U: From the top R: From the right L: From the left	None: Standard Z: Non-motor side	No entry: Standard Spot facing T: Tapping	None: Standard GC: Clean	750 to 2000 (50mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

TSX	SR1-X	RDV-X
Positioner ^{Note 2} TSX: TS-X	Controller 10: 200W	Driver 2: AC200V
Driver: Power-supply voltage Power capacity 110: 100V/200W 210: 200V/200W	Driver: Power capacity 10: 200W	Power-supply voltage 2: AC200V
LCD monitor No entry: None L: With LCD	Usable for CE No entry: Standard E: CE marking	Driver: Power capacity 20: 600W or less
I/O selection NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board ^{Note 3}	I/O selection N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS	Regenerative unit
Battery B: With battery (Absolute) N: None (Incremental)	Battery B: With battery (Absolute) N: None (Incremental)	

Note 1. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.692 for details on robot cable.
Note 2. See P.600 for DIN rail mounting bracket.
Note 3. Select this selection when using the gateway function.

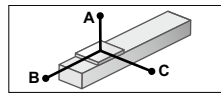
- [Cautions after purchase]
- When changing the origin position, contact us since the adjustment is needed.
 - When changing the cable entry location, contact us since necessary parts may vary depending on the cable entry location.
 - Do not install the robot with the horizontal installation specifications in a direction other than the horizontal direction.

Specifications

AC servo motor output (W)	200
Repeatability ^{Note 1} (mm)	+/-0.01
Deceleration mechanism	Ball screw φ15
Ball screw lead (mm)	20
Maximum speed (mm/sec)	1200
Maximum payload (kg)	45
Rated thrust (N)	170
Stroke (mm)	750 to 2000 (50mm pitch)
Overall length (mm)	Stroke+561
Maximum dimensions of cross section of main unit (mm)	W140×H91.5
Cable length (m)	Standard: 3.5 / Option: 5.10
Linear guide type	4 rows of circular arc grooves × 2 rail
Position detector	Resolvers ^{Note 2}
Resolution (Pulse/rotation)	20480

Note 1. Positioning repeatability in one direction.
Note 2. Position detectors (resolvers) are common to incremental and absolute specifications. If the controller has a backup function then it will be absolute specifications.

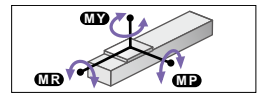
Allowable overhang^{Note}



Horizontal installation (Unit: mm)	Horizontal installation (Unit: mm)		
	A	B	C
10kg	3550	1340	1210
20kg	2075	685	633
45kg	1280	326	308

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 1000mm stroke models.

Static loading moment

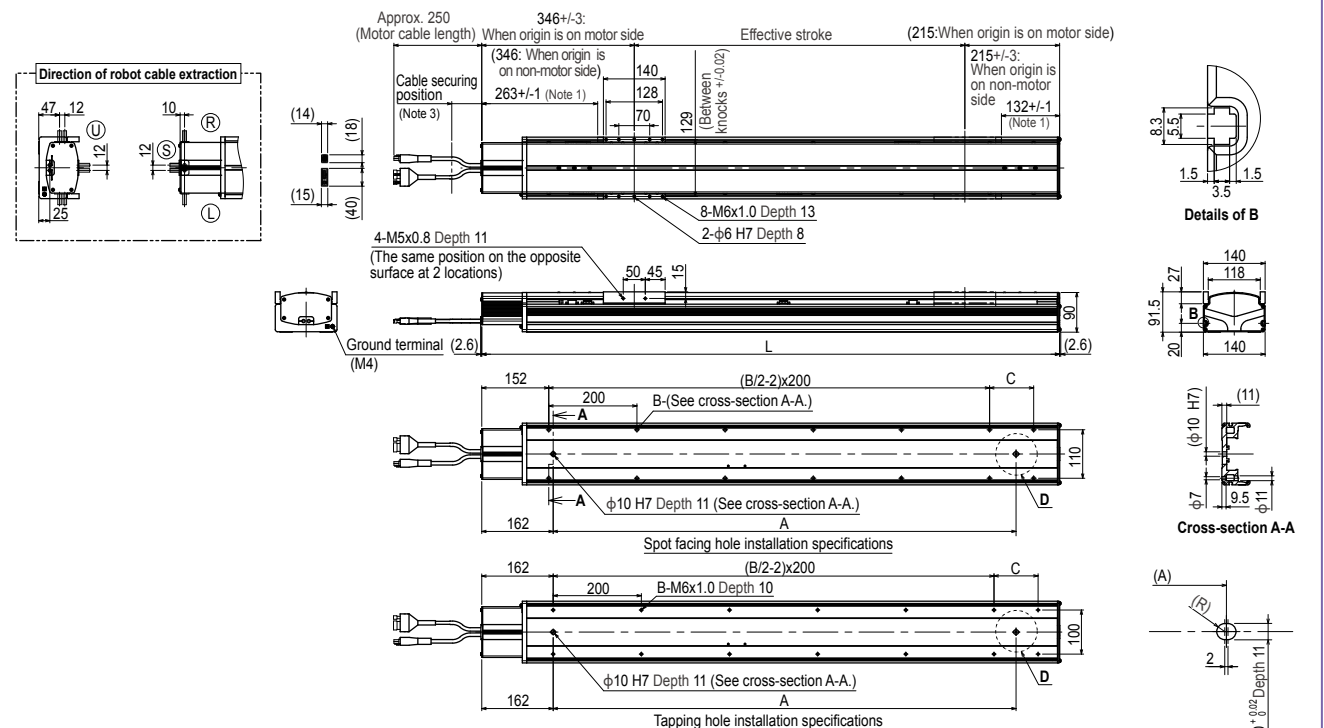


Static loading moment (Unit: N·m)		
MY	MP	MR
551	552	485

Controller

Controller	Operation method
SR1-X10 RCX320 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X110 TS-X210	I/O point trace / Remote command
RDV-X220-RBR1	Pulse train control

GF14XL



Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. When changing the return-to-origin direction, the adjustment is needed. (The standard is the origin on the motor side.)
Note 3. Secure the cable with a tie-band 100mm or less from unit's end face to prevent the cable from being subjected to excessive loads.
Note 4. The cable's minimum bend radius is R30.
Note 5. The length under head of the hexagonal socket head bolts (M6 x 1.0) that are used to install the main body with the spot facing hole installation specifications is 20mm or more. It is recommended that the length under head of the hexagonal socket head bolts (M6 x 1.0) that are used to install the main body with the tapping hole installation specifications is the thickness of the installation base + 10mm or less.

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
L	1311	1361	1411	1461	1511	1561	1611	1661	1711	1761	1811	1861	1911	1961	2011	2061	2111	2161	2211	2261	2311	2361	2411	2461	2511	2561
A	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	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
C	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
Weight (kg)	22.5	23.2	23.8	24.5	25.2	25.9	26.5	27.2	27.9	28.6	29.2	29.9	30.6	31.3	31.9	32.6	33.3	33.9	34.6	35.3	36.0	36.6	37.3	38.0	38.7	39.3

F17

- High lead: Lead 40
- Origin on the non-motor side is selectable

Note. Upper robot cable (U) on models with brakes is a special order item, so please consult our sales office or sales representative for assistance. (External dimensions: overall length + 20 mm)



Ordering method

F17

Model	Lead designation	Brake	Cable entry location	Origin position change	Grease type	Stroke	Cable length
	40: 40mm 20: 20mm 10: 10mm	No entry: No brakes BK: Brakes provided	No entry: Standard (S) U: From the top R: From the right L: From the left	None: Standard Z: Non-motor side	None: Standard GC: Clean	Lead 20/10: 200 to 1250 (50mm pitch) Lead 40: 200 to 1450 (50mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

- Note 1. The model with a lead of 40mm cannot select specifications with brake (vertical specifications).
 Note 2. Upper robot cable (U) on models equipped with brake is a special-order item.
 Note 3. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.692 for details on robot cable.
 Note 4. See P.600 for DIN rail mounting bracket.
 Note 5. The robot with the high lead specifications (lead 40) needs a regenerative unit.
 Note 6. Select this selection when using the gateway function.

TSX	220				
Positioner TSX: TS-X	Driver: Power-supply voltage / Power capacity 220: 200V/400 to 600W	Regenerative unit No entry: None R: With RGT	LCD monitor No entry: None L: With LCD	I/O selection NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board	Battery N: None (Incremental) A: Absolute
SR1-X	20				
Controller	Driver: Power capacity 20: 400 to 600W	Usable for CE No entry: Standard E: CE marking	Regenerative unit No entry: None R: With RGT	I/O selection N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS	Battery B: With battery (Absolute) N: None (Incremental)
RDV-X	2	20			
Driver	Power-supply voltage 2: AC200V	Driver: Power capacity 20: 600W or less	Regenerative unit RBR1 (Horizontal) RBR2 (Vertical)		

Specifications

AC servo motor output (W)	400
Repeatability (mm)	+/-0.01
Deceleration mechanism	Ball screw φ20
Ball screw lead (mm)	40 20 10
Maximum speed (mm/sec)	2400 1000 (1200) 600
Maximum payload (kg)	Horizontal: 40 80 120 Vertical: - 15 35
Rated thrust (N)	169 339 678
Stroke (mm)	200 to 1450 (50mm pitch) Stroke+375 Stroke+365
Overall length (mm)	Horizontal: - Vertical: -
Maximum dimensions of cross section of main unit (mm)	W168 x H100
Cable length (m)	Standard: 3.5 / Option: 5.10
Linear guide type	4 rows of circular arc grooves x 2 rail
Position detector	Resolvers
Resolution (Pulse/rotation)	16384

- Note 1. Repeatability for single oscillation.
 Note 2. When the stroke exceeds 800mm, although depending on the moving range, the ball screw may resonate (critical speed). In that case, make adjustment to lower the speed on the program using the maximum speed given in the below table as a guide.
 Note 3. To operate the unit at a speed exceeding 1,000mm/sec. (Max. speed), a regeneration unit RG1 is required.
 Note 4. Longer than 1250mm stroke can be handled by the high lead specification (Lead 40) only.
 Note 5. 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

Lead	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)		
	A	B	C	A	B	C	A	C	
Lead 40	10kg: 3540	20kg: 2541	40kg: 2639	10kg: 2022	20kg: 1202	40kg: 752	5kg: 3000	10kg: 2447	
Lead 20	10kg: 2753	20kg: 1357	40kg: 661	10kg: 1283	20kg: 587	40kg: 820	15kg: 1650	15kg: 1782	
Lead 10	10kg: 1999	20kg: 1181	40kg: 736	10kg: 2483	20kg: 2578	40kg: 1263	25kg: 1054	35kg: 742	

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

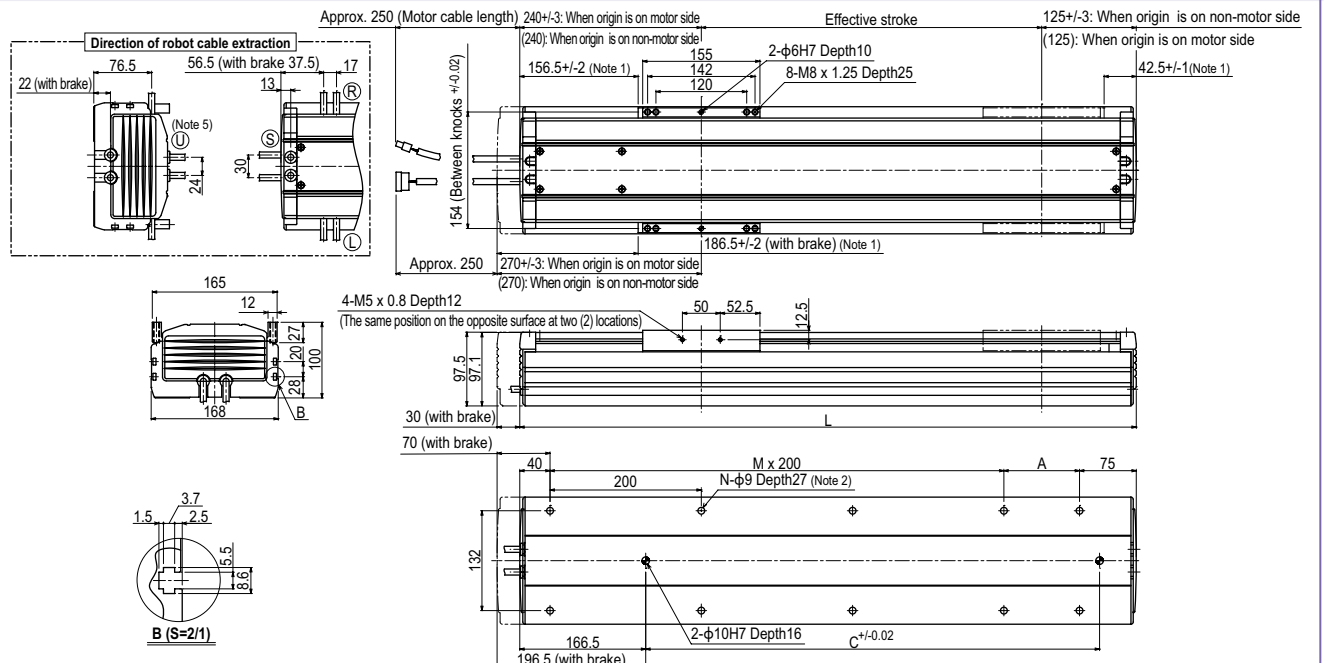
	MY	MP	MR
(Unit: N·m)	1032	1034	908

Controller

Controller	Operation method
SR1-X20	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RCX320, RCX340	Operation using RS-232C communication
TS-X220	I/O point trace / Remote command
RDV-X220-RBR1 (Horizontal)	Pulse train control
RDV-X220-RBR2 (Vertical)	

- Note. [The following arrangements require a regeneration unit.]
 • Using in the upright position.
 • To move at a speed exceeding 1,000 mm/sec horizontally.
 • High lead (40) used horizontally.

F17



- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 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. Weight of models with no brake. The weight of brake-attached models is 1.2 kg heavier than the models with no brake shown in the table.
 Note 5. Make a separate consultation with us regarding robot cable (brake specifications) U extraction. (External dimensions: overall length + 20 mm)
 Note 6. When the stroke is longer than 800mm, 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.
 Note 7. To operate the unit at a speed exceeding 1,000mm/sec. (Max. speed), a regeneration unit RG1 is required.

Effective stroke	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250		
L	565	615	665	715	765	815	865	915	965	1015	1065	1115	1165	1215	1265	1315	1365	1415	1465	1515	1565	1615		
A	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100		
M	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7		
N	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18		
C	240	240	420	420	420	600	600	600	600	780	780	780	780	960	960	960	960	1140	1140	1140	1140	1320		
Weight (kg)	14.5	15.3	16.2	17.0	17.8	18.6	19.5	20.3	21.1	21.9	22.8	23.6	24.4	25.2	26.1	26.9	27.7	28.5	29.4	30.2	31.0	31.8		
Maximum speed (mm/sec)	1000(1200)												960	840	720	600	480	420	360	300	240	200	180	
Speed setting	-												80%	70%	60%	50%	40%							

Linear conveyor modules
LCMR200

Single-axis robots
GX

Linear conveyor modules
LCM100

SCARA robots
YK-X

Single-axis robots
Robonity

Linear motor single-axis robots
PHASER

Single-axis robots
FLIP-X

Compact single-axis robots
TRANSERO

Cartesian robots
XY-X

Pick & place robots
YP-X

CLEAN

CONTROLLER

INFORMATION

T type

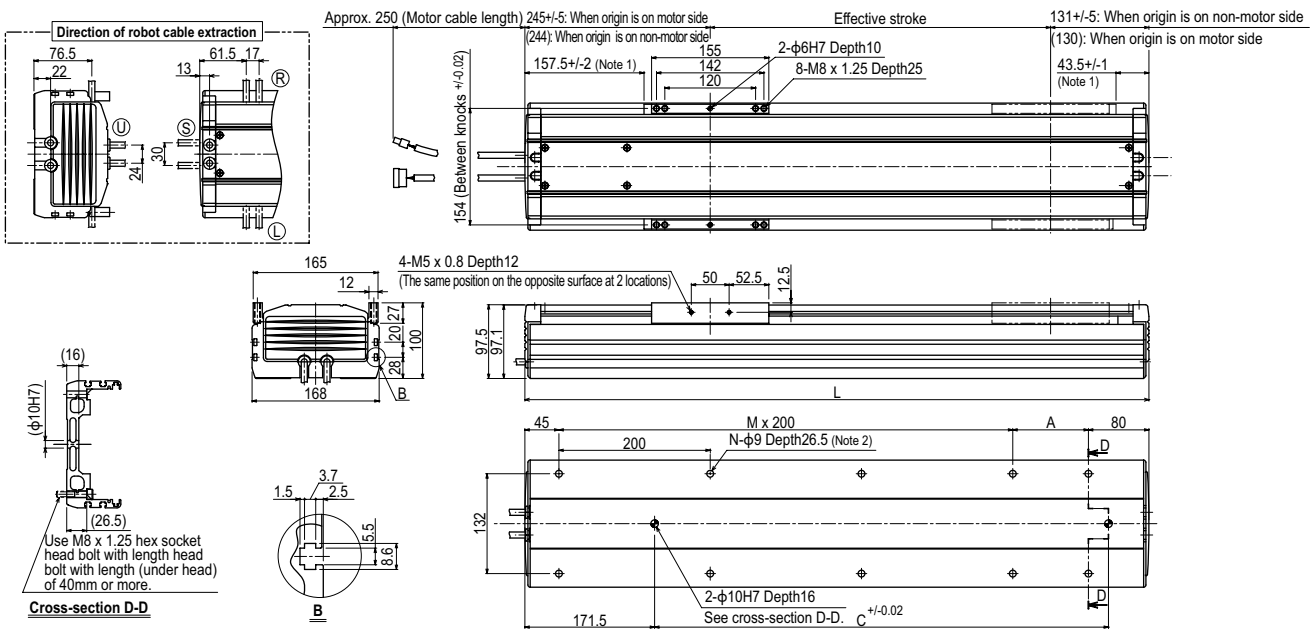
F type

GF type

N type

B/R type

F17 High lead type: Lead 40



Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. When installing the robot, do not use washers inside the robot body.

Note 3. Minimum bend radius of motor cable is R50.

Effective stroke	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		
L	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175	1225	1275	1325	1375	1425	1475	1525	1575	1625	1675	1725	1775	1825		
A	50	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		
M	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8		
N	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20		
C	240	240	420	420	420	600	600	600	600	780	780	780	780	960	960	960	960	1140	1140	1140	1140	1320	1320	1320	1320	1320		
Weight (kg)	14.7	15.5	16.4	17.2	18.0	18.8	19.7	20.5	21.3	22.1	23.0	23.8	24.6	25.4	26.3	27.1	27.9	28.7	29.6	30.4	31.2	32.0	32.8	33.6	34.4	35.2		
Maximum speed ^{Note 4} (mm/sec)	Lead 40 2400													1920	1680	1440	1200	960	840	720								
Speed setting	-													80%	70%	60%	50%	40%	35%	30%								

Note 4. When the stroke is longer than 800mm, 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.

F17L

● Origin on the non-motor side is selectable

Note. Upper robot cable (U) on models with brakes is a special order item, so please consult our sales office or sales representative for assistance. (External dimensions: overall length + 20 mm)

Ordering method

F17L-50

Model	Lead designation	Brake	Cable entry location	Origin position change	Grease type	Stroke	Cable length ^{Note 5}
		No entry: No brakes BK: Brakes provided	No entry: Standard (S) U: From the top ^{Note 1} R: From the right L: From the left	None: Standard Z: Non-motor side	None: Standard GC: Clean	1100 to 2050 (50mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

TSX	220	R	I/O selection	Battery	
Positioner ^{Note 5} TSX: TS-X	Driver: Power-supply voltage / Power capacity ^{Note 4} 220: 200V/400 to 600W	Regenerative unit R: With RGT	No entry: None L: With LCD	N: NPN P: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board ^{Note 5}	B: With battery (Absolute) N: None (Incremental)
SR1-X	20	R	I/O selection	Battery	
Controller	Driver: Power capacity ^{Note 4} 20: 400 to 600W	Usable for CE No entry: Standard E: CE marking	No entry: None R: With RG1	N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS	B: With battery (Absolute) N: None (Incremental)
RDV-X	2	20	Regenerative unit		
Driver	Power-supply voltage 2: AC200V	Driver: Power capacity ^{Note 4} 20: 600W or less	RBR1 (Horizontal) RBR2 (Vertical)		

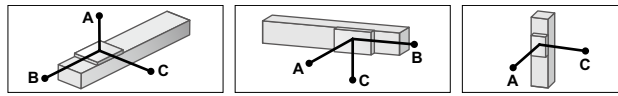
- Note 1. Upper robot cable (U) on models equipped with brake is a special-order item.
 Note 2. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.692 for details on robot cable.
 Note 3. See P.600 for DIN rail mounting bracket.
 Note 4. Acceleration / deceleration is different depending the Positioner or Controller or Driver.
 Note 5. Select this selection when using the gateway function.

Specifications

AC servo motor output (W)	600
Repeatability ^{Note 1} (mm)	+/-0.02
Deceleration mechanism	Ball screw $\phi 25$
Ball screw lead (mm)	50
Maximum speed ^{Note 2} (mm/sec)	2200
Maximum payload (kg)	Horizontal: 50 Vertical: 10
Rated thrust (N)	204
Stroke (mm)	1100 to 2050 (50mm pitch)
Overall length (mm)	Horizontal: Stroke+475 Vertical: Stroke+505
Maximum dimensions of cross section of main unit (mm)	W168 x H100
Cable length (m)	Standard: 3.5 / Option: 5.10
Linear guide type	4 rows of circular arc grooves x 2 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 1200mm, 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.

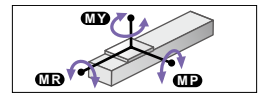
Allowable overhang ^{Note}



Lead 50	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)		
	A	B	C	A	B	C	A	B	C
10kg	4000	2755	2608	2720	2681	4000	2kg	1200	1200
30kg	3045	895	1175	1185	821	3045	5kg	3000	3000
50kg	2602	523	715	680	449	2602	10kg	2650	2650

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

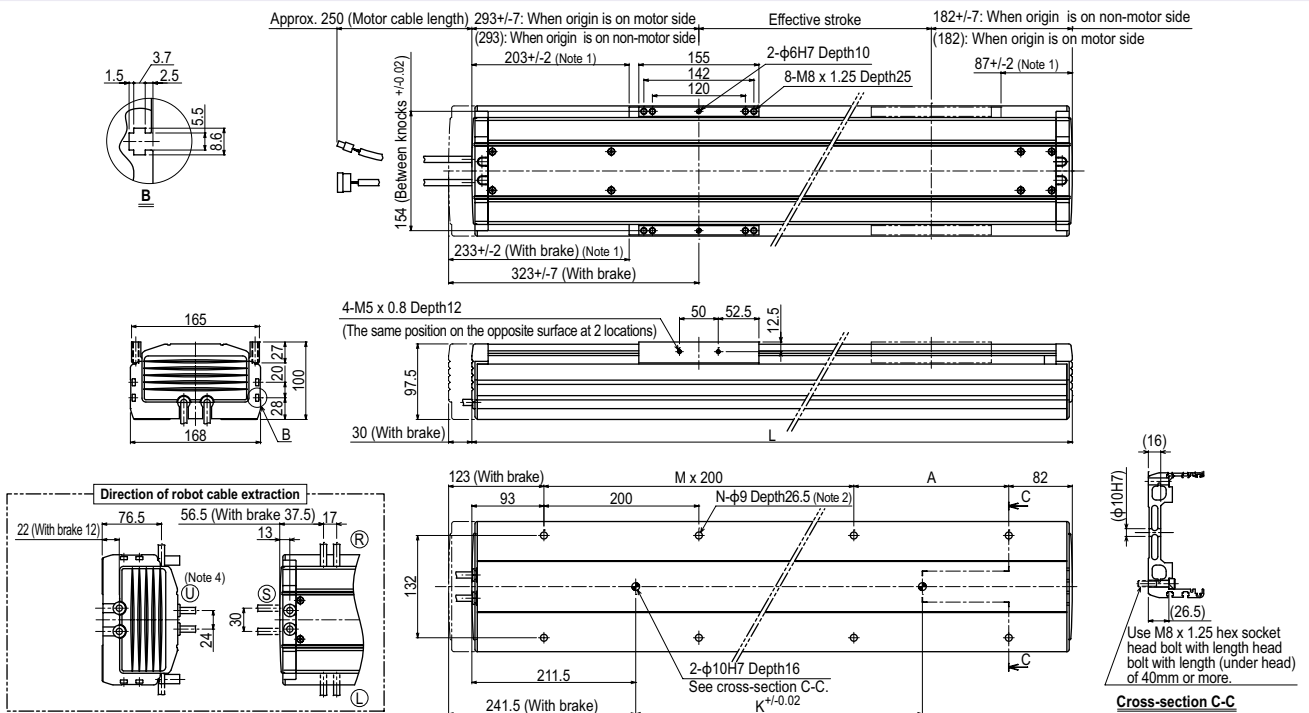


(Unit: N·m)		
MY	MP	MR
1032	1034	908

Controller

Controller	Operation method
SR1-X20-R RCX320 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X220-R RDV-X220-RBR1 (Horizontal) RDV-X220-RBR2 (Vertical)	I/O point trace / Remote command Pulse train control

F17L



- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. It is not allowed to use a counter bore washer, etc. when installing the main unit.
 Note 3. This is the weight of the model without a brake. The weight of the model equipped with a brake is 1.2kg heavier than this value.
 Note 4. Make a separate consultation with us regarding robot cable (brake specifications) U extraction. (External dimensions: overall length + 20 mm)

Effective stroke	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050
L	1575	1625	1675	1725	1775	1825	1875	1925	1975	2025	2075	2125	2175	2225	2275	2325	2375	2425	2475	2525
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
M	6	7	7	7	7	8	8	8	8	8	9	9	9	10	10	10	10	11	11	11
N	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26
K	1140	1140	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320
Weight (kg) ^{Note 3}	34.1	34.9	35.8	36.7	37.6	38.4	39.3	40.2	41.1	42	42.9	43.8	44.7	45.6	46.5	47.3	48.2	49.1	50	50.9
Maximum speed ^{Note 5}	2200		1900		1500		1200		900		800									
(mm/sec)	Speed setting		86%		68%		54%		40%		36%									

Note 5. When the stroke exceeds 1200mm, although depending on the moving range, the ball screw may resonate (critical speed). In that case, make adjustment to lower the speed on the program using the maximum speed given in the above table as a guide.

Controller

SR1-X ▶ 618 TS-X ▶ 592 RDV-X ▶ 606

GF17XL

Origin on the non-motor side is selectable

Note. If you need an installation posture other than the horizontal installation, please contact us.

Ordering method

GF17XL - S H - 20

Model	Model	Installation direction	Lead designation	Cable entry location	Origin position change	Frame	Grease type	Stroke	Cable length
S: Straight model	H: Horizontal installation	No entry: Standard (S) U: From the top R: From the right L: From the left	No entry: Standard Z: Non-motor side	No entry: Standard (Spot facing) T: Tapping	None: Standard GC: Clean	850 to 2500 (50mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)		

TSX	220	SR1-X	20	RDV-X	2	20	RBR1
Positioner TSX: TS-X	Driver: Power-supply voltage / Power capacity 220: 200V/400 to 600W	Controller 20: 400 to 600W	Driver: Power capacity 20: 400 to 600W	Driver 2: AC200V	Driver: Power capacity 20: 600W or less	Usable for CE No entry: Standard E: CE marking R: With RGT	Regenerative unit No entry: None L: With LCD
I/O selection NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board	Battery B: With battery (Absolute) N: None (Incremental)	I/O selection N: NPN P: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PB: PROFIBUS	Battery B: With battery (Absolute) N: None (Incremental)	Regenerative unit No entry: None R: With RGT	Battery B: With battery (Absolute) N: None (Incremental)		

- Note 1. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.692 for details on robot cable.
 Note 2. See P.600 for DIN rail mounting bracket.
 Note 3. Select this selection when using the gateway function.
 Note 4. When operating the robot at a speed that is a maximum speed of 750 mm/sec or less, the regenerative unit is not needed.

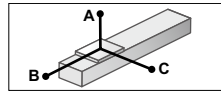
- [Cautions after purchase]
 • When changing the origin position, contact us since the adjustment is needed.
 • When changing the cable entry location, contact us since necessary parts may vary depending on the cable entry location.
 • Do not install the robot with the horizontal installation specifications in a direction other than the horizontal direction.

Specifications

AC servo motor output (W)	400
Repeatability ^{Note 1} (mm)	+/-0.01
Deceleration mechanism	Ball screw φ20
Ball screw lead (mm)	20
Maximum speed (mm/sec)	1200 ^{Note 2}
Maximum payload (kg)	90
Rated thrust (N)	339
Stroke (mm)	850 to 2500 (50mm pitch)
Overall length (mm)	Stroke+686
Maximum dimensions of cross section of main unit (mm)	W168×H105.5
Cable length (m)	Standard: 3.5 / Option: 5.10
Linear guide type	4 rows of circular arc grooves × 2 rail
Position detector	Resolvers ^{Note 3}
Resolution (Pulse/rotation)	20480

- Note 1. Positioning repeatability in one direction.
 Note 2. To operate the unit at a speed exceeding 750 mm/sec. (Max. speed), a regeneration unit is required.
 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.

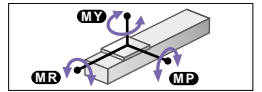
Allowable overhang^{Note}



Horizontal installation (Unit: mm)			
	A	B	C
Lead 20	30kg 4050	1090	1405
	50kg 2755	650	835
	90kg 1610	345	450

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 1000mm stroke models.

Static loading moment



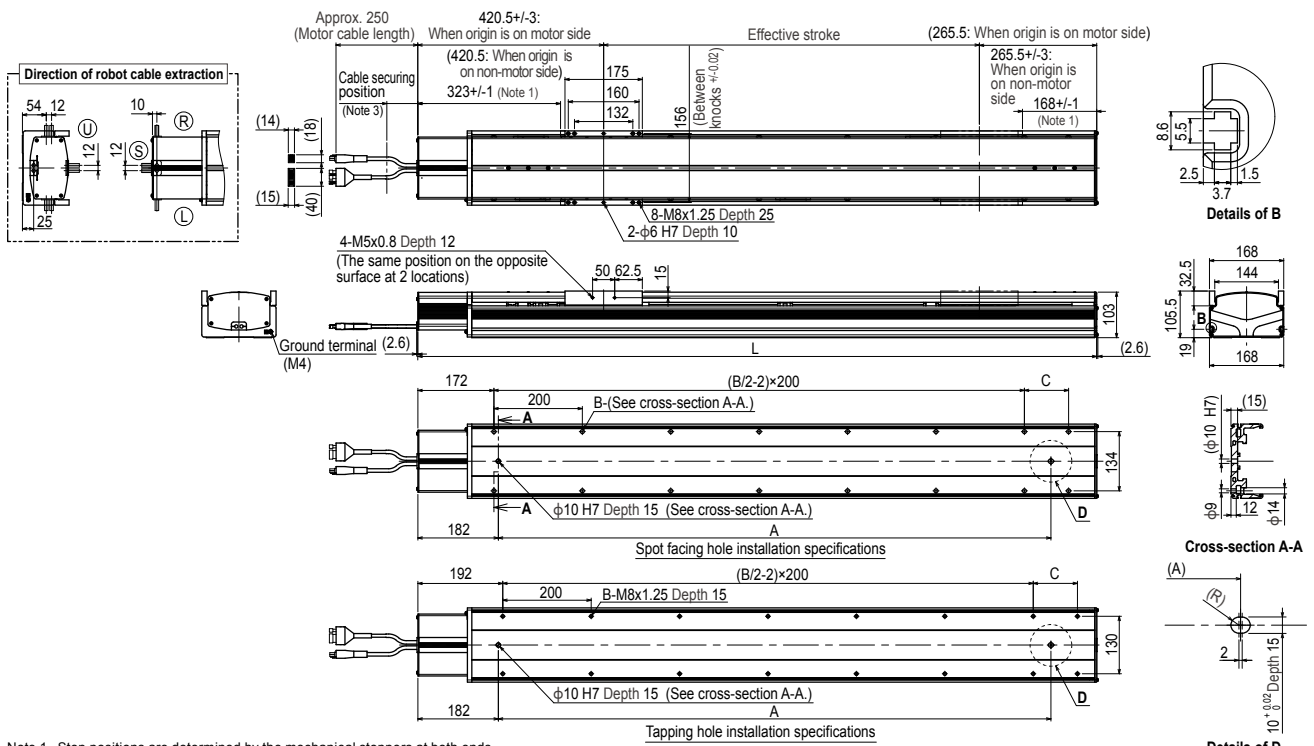
(Unit: N·m)		
MY	MP	MR
1032	1034	908

Controller

Controller	Operation method
SR1-X20 ^{Note} RCX320 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X220	I/O point trace / Remote command
RDV-X220-RBR1	Pulse train control

Note. To operate the unit at a speed exceeding 750 mm/sec. (Max. speed), a regeneration unit is required.

GF17XL



- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. When changing the return-to-origin direction, the adjustment is needed. (The standard is the origin on the motor side.)
 Note 3. Secure the cable with a tie-band 100mm or less from unit's end face to prevent the cable from being subjected to excessive loads.
 Note 4. The cable's minimum bend radius is R30.
 Note 5. The length under head of the hexagonal socket head bolts (M8 x 1.25) that are used to install the main body with the spot facing hole installation specifications is 45 mm or more. It is recommended that the length under head of the hexagonal socket head bolts (M8 x 1.25) that are used to install the main body with the tapping hole installation specifications is the thickness of the installation base + 15 mm or less.

Effective stroke	850	900	950	1000	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	2350	2400	2450	2500
L	1536	1586	1636	1686	1736	1786	1836	1886	1936	1986	2036	2086	2136	2186	2236	2286	2336	2386	2436	2486	2536	2586	2636	2686	2736	2786	2836	2886	2936	2986	3036	3086	3136	3186
A	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900
B	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	28	28	28	28	30	30	30	30	32	32	32
C	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	200	50	100	150	200	50	100	150
Weight (kg)	37.4	38.4	39.4	40.3	41.3	42.3	43.2	44.2	45.2	46.1	47.1	48.1	49.0	50.0	51.0	51.9	52.9	53.9	54.8	55.8	56.8	57.7	58.7	59.7	60.6	61.6	62.6	63.5	64.5	65.5	66.4	67.4	68.4	69.3

F20

- High lead: Lead 40
- Origin on the non-motor side is selectable

Note. Upper robot cable (U) on models with brakes is a special order item, so please consult our sales office or sales representative for assistance. (External dimensions: overall length + 20 mm)

Ordering method

F20

Model	Lead designation	Brake	Cable entry location	Origin position change	Grease type	Stroke	Cable length
	40: 40mm 20: 20mm 10: 10mm	No entry: BK: Brakes provided	No entry: Standard (S) U: From the top R: From the right L: From the left	None: Standard Z: Non-motor side	None: Standard GC: Clean	Lead 20: 10: 200 to 1250 (50mm pitch) Lead 40: 200 to 1450 (50mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

- Note 1. The model with a lead of 10mm cannot select specifications without brake (horizontal specifications).
The model with a lead of 40mm cannot select specifications with brake (vertical specifications).
Note 2. Upper robot cable (U) on models equipped with brake is a special-order item.
Note 3. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.692 for details on robot cable.
Note 4. See P.600 for DIN rail mounting bracket.
Note 5. Acceleration / deceleration is different depending the Positioner or Controller or Driver.
Note 6. The robot with the high lead specifications (lead 40) needs a regenerative unit.
Note 7. Select this selection when using the gateway function.

TSX	220	SR1-X	20	RDV-X	2	20
Positioner TSX: TS-X	Driver: Power supply voltage / Power capacity 220: 200V/400 to 600W	Controller	Driver: Power capacity 20: 400 to 600W	Driver	Power supply voltage 2: AC200V	Driver: Power capacity 20: 600W or less
	Regenerative unit No entry: None R: With RGT	Usable for CE No entry: Standard E: CE marking	Regenerative unit No entry: None R: With RGT			Regenerative unit No entry: None R: With RGT
	LCD monitor No entry: None L: With LCD					
	I/O selection NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board		I/O selection N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS			
	Battery No entry: None B: With battery (Absolute) N: None (Incremental)		Battery B: With battery (Absolute) N: None (Incremental)			

Specifications

AC servo motor output (W)	600		
Repeatability (mm)	±0.01		
Deceleration mechanism	Ball screw φ20		
Ball screw lead (mm)	40	20	10
Maximum speed (mm/sec)	2400	1000 (1200)	600
Maximum payload (kg)	Horizontal: 60 Vertical: -	120 25	- 45
Rated thrust (N)	255	510	1020
Stroke (mm)	200 to 1450 (50mm pitch)		
Overall length (mm)	Horizontal: Stroke+427 Vertical: -	Stroke+417	-
Maximum dimensions of cross section of main unit (mm)	W202 × H115		
Cable length (m)	Standard: 3.5 / Option: 5.10		
Linear guide type	4 rows of circular arc grooves × 2 rail		
Position detector	Resolvers		
Resolution (Pulse/rotation)	16384		

- Note 1. Positioning repeatability in one direction.
Note 2. When the stroke is longer than 800mm, 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. To operate the unit at a speed exceeding 1,000mm/sec. (Max. speed), a regeneration unit RG1 is required.
Note 4. Longer than 1250mm stroke can be handled by the high lead specification (Lead 40) only.
Note 5. 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

Lead	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)		
	A	B	C	A	B	C	A	C	
Lead 40	10kg 4000	4000	3450	10kg 3571	4000	4000	15kg 2635	2635	
Lead 20	20kg 3397	2235	2073	20kg 2118	2164	3397	20kg 2000	2000	
	60kg 2443	718	977	60kg 1000	648	2443	25kg 1621	1621	
Lead 10	50kg 2602	869	1083	50kg 1097	799	2602	20kg 2188	2188	
	80kg 2193	528	703	80kg 708	458	2193	30kg 1446	1446	
Lead 5	120kg 1841	339	505	120kg 468	268	1841	45kg 951	951	

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

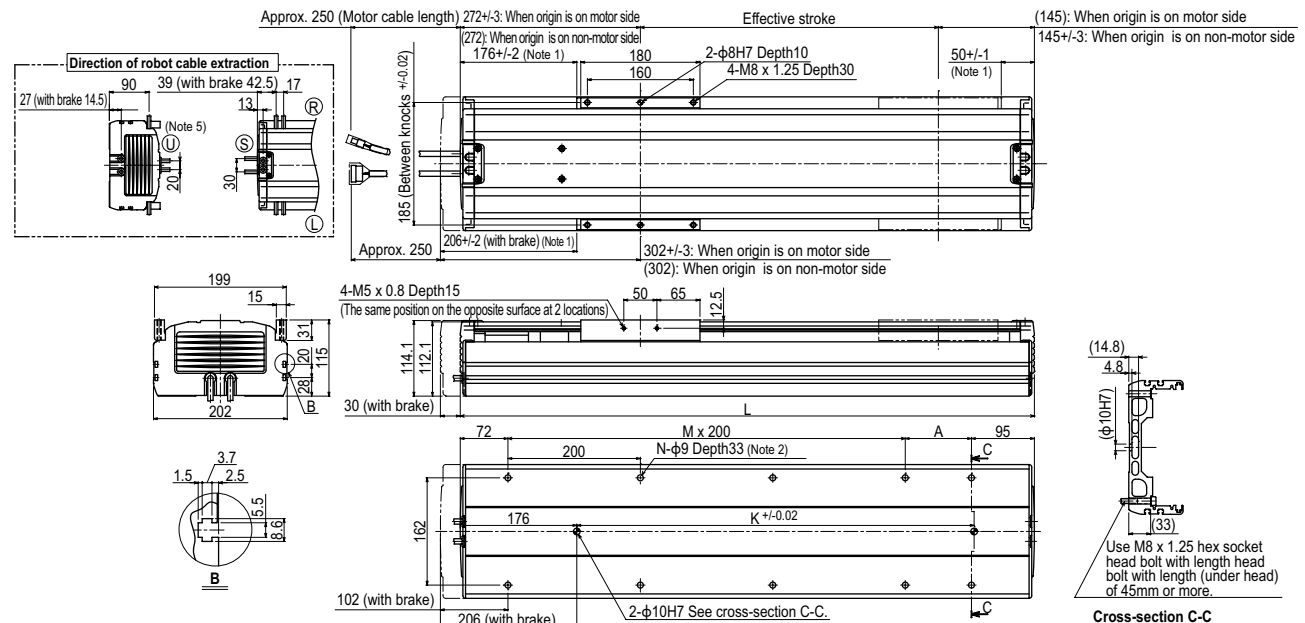
	Static loading moment (Unit: N·m)		
	MY	MP	MR
	1196	1199	1052

Controller

Controller	Operation method
SR1-X20 RCX320, RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X220	I/O point trace / Remote command
RDV-X220-RBR1 (Horizontal)	Pulse train control
RDV-X220-RBR2 (Vertical)	

- Note. [The following arrangements require a regeneration unit.]
- Using in the upright position.
 - To move at a speed exceeding 1,000 mm/sec horizontally.
 - High lead (40) used horizontally.

F20



- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
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. Weight of models with no brake. The weight of brake-attached models is 1.5 kg heavier than the models with no brake shown in the table.
Note 5. Make a separate consultation with us regarding robot cable (brake specifications) U extraction. (External dimensions: overall length + 20 mm)

Effective stroke	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250		
L	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	1367	1417	1467	1517	1567	1617	1667		
A	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100		
M	2	2	2	2	3	3	3	3	4	4	4	5	5	5	5	6	6	6	6	6	7	7		
N	8	8	8	8	10	10	10	10	12	12	12	14	14	14	14	16	16	16	16	16	18	18		
K	420	420	420	420	600	600	600	600	780	780	780	780	960	960	960	960	1140	1140	1140	1320	1320	1320		
Weight (kg)	21.0	22.0	22.9	23.8	24.8	25.7	26.6	27.5	28.5	29.4	30.3	31.2	32.1	33.0	34.0	34.9	35.8	36.7	37.7	38.6	39.5	40.4		
Maximum speed (mm/sec)	1000 (1200)										960		840		720		600		480		480			
Speed setting	-										80%		70%		60%		50%		40%		-		-	

- Note 6. When the stroke exceeds 800mm, although depending on the moving range, the ball screw may resonate (critical speed). In that case, make adjustment to lower the speed on the program using the maximum speed given in the above table as a guide.
Note 7. To operate the unit at a speed exceeding 1,000mm/sec. a regeneration unit RG1 is required.

F20N



Ordering method

F20N - 20					
Model	Lead designation	Origin position change	Grease type	Stroke	Cable length^{Note 1}
		None: Standard Z: Non-motor side	None: Standard GC: Clean	1150 to 2050 (100mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

TSX	220				
Positioner^{Note 2}	Driver: Power-supply voltage / Power capacity	Regenerative unit	LCD monitor	I/O selection	Battery
TSX: TS-X	220: 200V/400 to 600W	No entry: None R: With RGT	No entry: None L: With LCD	N: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board ^{Note 3}	B: With battery (Absolute) N: None (Incremental)
SR1-X	20				
Controller	Driver: Power capacity	Usable for CE	Regenerative unit	I/O selection	Battery
	20: 400 to 600W	No entry: Standard E: CE marking	No entry: None R: With RGT	N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS	B: With battery (Absolute) N: None (Incremental)
RDV-X	2	20		RBR1	
Driver	Power-supply voltage	Driver: Power capacity		Regenerative unit	
	2: AC200V	20: 600W or less			

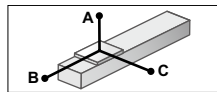
Note 1. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.692 for details on robot cable.
 Note 2. See P.600 for DIN rail mounting bracket.
 Note 3. Select this selection when using the gateway function.

Specifications

AC servo motor output (W)	400
Repeatability^{Note 1} (mm)	+/-0.04
Deceleration mechanism	Ball screw $\phi 20$
Ball screw lead (mm)	20
Maximum speed (mm/sec)	1000 (1200 ^{Note 2})
Maximum payload (kg)	80
Rated thrust (N)	339
Stroke (mm)	1150 to 2050 (100mm pitch)
Overall length (mm)	Stroke+420
Maximum dimensions of cross section of main unit (mm)	W202 x H120
Cable length (m)	Standard: 3.5 / Option: 5.10
Linear guide type	4 rows of circular arc grooves x 2 rail
Position detector	Resolvers ^{Note 3}
Resolution (Pulse/rotation)	16384

Note 1. Positioning repeatability in one direction.
 Note 2. A regenerative unit is needed if using the SR1-X, TS-X at maximum speeds exceeding 1000mm/sec.. If using the RDV-X, then the regenerative unit RBR1 is required regardless of the installation conditions.
 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.

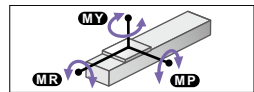
Allowable overhang^{Note}



		Horizontal installation (Unit: mm)		
		A	B	C
Lead 20	20kg	3397	2332	2683
	40kg	2795	1144	1361
	60kg	2443	749	914
	80kg	2193	551	695

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	
1196	1199	1052	

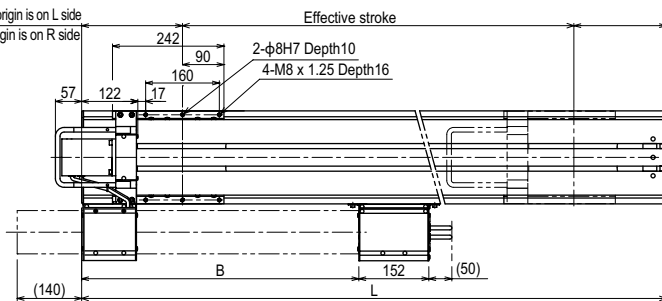
Controller

Controller	Operation method
SR1-X20 ^{Note} RCX320 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X220 ^{Note} RDV-X220-RBR1	I/O point trace / Remote command / Pulse train control

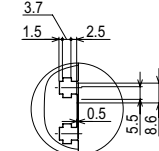
Note. When the unit is operated at a speed exceeding the maximum speed of 1,000mm/sec., a regeneration unit is required.

F20N

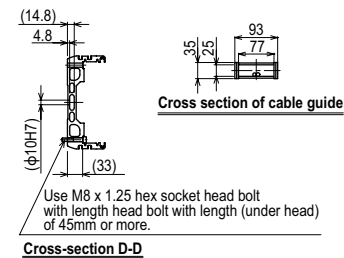
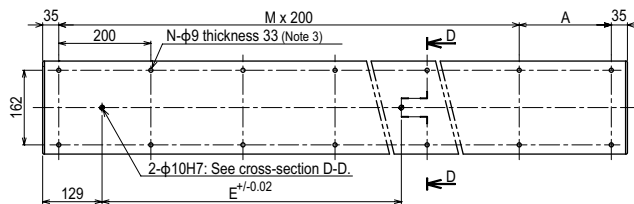
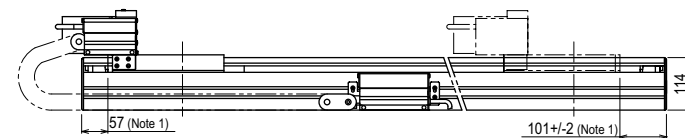
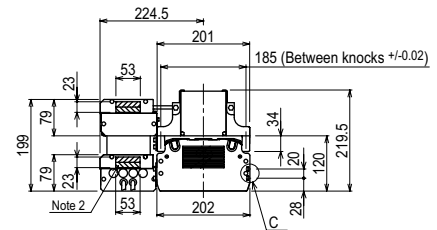
219+/-3: When origin is on L side
 (219: When origin is on R side)



201+/-3: When origin is on R side
 (201: When origin is on L side)



C section detailed chart



Cross-section D-D

Effective stroke	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050
L	1570	1670	1770	1870	1970	2070	2170	2270	2370	2470
A	100	200	100	200	100	200	100	200	100	200
B	602	648	694	740	786	832	878	924	970	1016
E	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320
M	7	7	8	8	9	9	10	10	11	11
N	18	18	20	20	22	22	24	24	26	26
Weight (kg)	54.0	56.2	58.4	60.6	62.9	65.1	67.3	69.6	71.8	74.0

Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. The shaded position indicates the user cable extraction port.
 Note 3. When installing the robot, do not use washers inside the robot body.
 Note 4. The origin is set on the left (L) side of the sliding.