

F17

- High lead: Lead 40
- Origin at non-motor side

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.



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)

TSX 220	SR1-X 20	RDV-X 2	RDV-X 20
Positioner TSX-X	Controller	Driver	Driver
Driver: Power-supply voltage Power capacity 220: 200V/400 to 600W	Driver: Power capacity 20: 400 to 600W	Power-supply voltage 2: AC200V	Power-supply voltage 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
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	I/O selection N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS		I/O selection N: NPN P: PNP CC: CC-Link DN: DeviceNet™ RBR1 (Horizontal) RBR2 (Vertical)
Battery B: With battery (Absolute) N: None (Incremental)	Battery B: With battery (Absolute) N: None (Incremental)		Battery B: With battery (Absolute) N: None (Incremental)

- Note 1. The model with a lead of 40mm 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. The robot with the high lead specifications (lead 40) needs a regenerative unit.
 Note 5. Select this selection when using the gateway function. For details, see P.439.

Specifications

AC servo motor output (W)	400
Repeatability (mm)	+/-0.01
Deceleration mechanism	Ball screw (Class C7)
Ball screw lead (mm)	40 20 10
Maximum speed (mm/sec)	2400 1000 (1200) ^{Note 3} 600
Maximum payload (kg)	Horizontal 40 80 120 Vertical - 15 35
Rated thrust (N)	169 339 678
Stroke (mm)	200 to 1450 ^{Note 4} (50mm pitch)
Overall length (mm)	Horizontal Stroke+375 Stroke+365 Vertical - Stroke+395
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 5}
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

Horizontal installation (Unit: mm)				Wall installation (Unit: mm)				Vertical installation (Unit: mm)				
Lead	Weight	A	B	Lead	Weight	A	B	Lead	Weight	A	C	
Lead 40	10kg	3540	2753	1999	10kg	2022	2670	3501	Lead 20	5kg	3000	3000
	20kg	2541	1357	1181	20kg	1202	1283	2483		10kg	2447	2447
	40kg	2639	661	736	40kg	752	587	2516		15kg	1650	1650
	30kg	2647	894	989	30kg	987	820	2578		25kg	1782	1782
	50kg	1770	521	588	50kg	574	447	1685		35kg	1054	1054
Lead 20	80kg	1391	312	362	80kg	342	237	1263	Lead 10	15kg	742	742
	60kg	2443	430	572	60kg	535	355	2443				
	100kg	2000	243	326	100kg	283	169	2000				
	120kg	1841	197	264	120kg	220	123	1841				

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

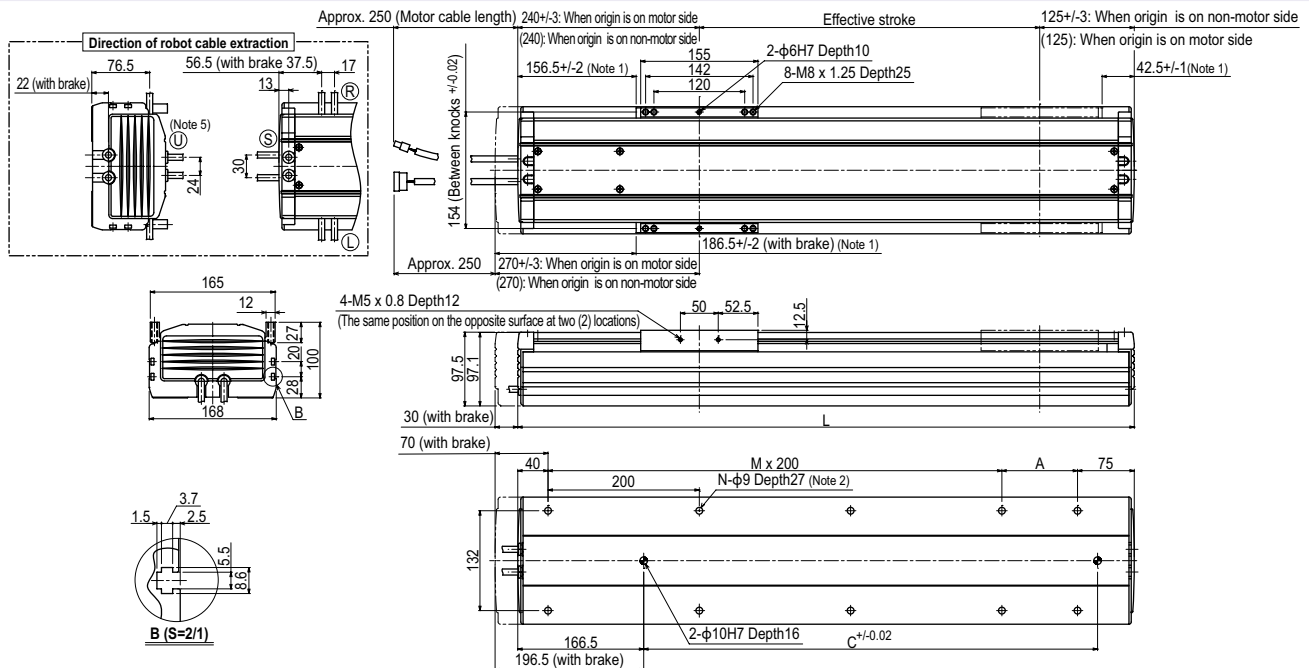
(Unit: N·m)		
MY	MP	MR
1032	1034	908

Controller

Controller	Operation method
SR1-X20 ^{Note} RCX221/222 RCX240/340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X220 ^{Note} RDV-X220-RBR1 (Horizontal) RDV-X220-RBR2 (Vertical)	I/O point trace / Remote command
	Pulse train control

Note. When using the vertical model, if the unit is operated at such speed exceeding the maximum speed of 1,000mm/sec., and if it has a high lead (40), a regeneration unit is required.

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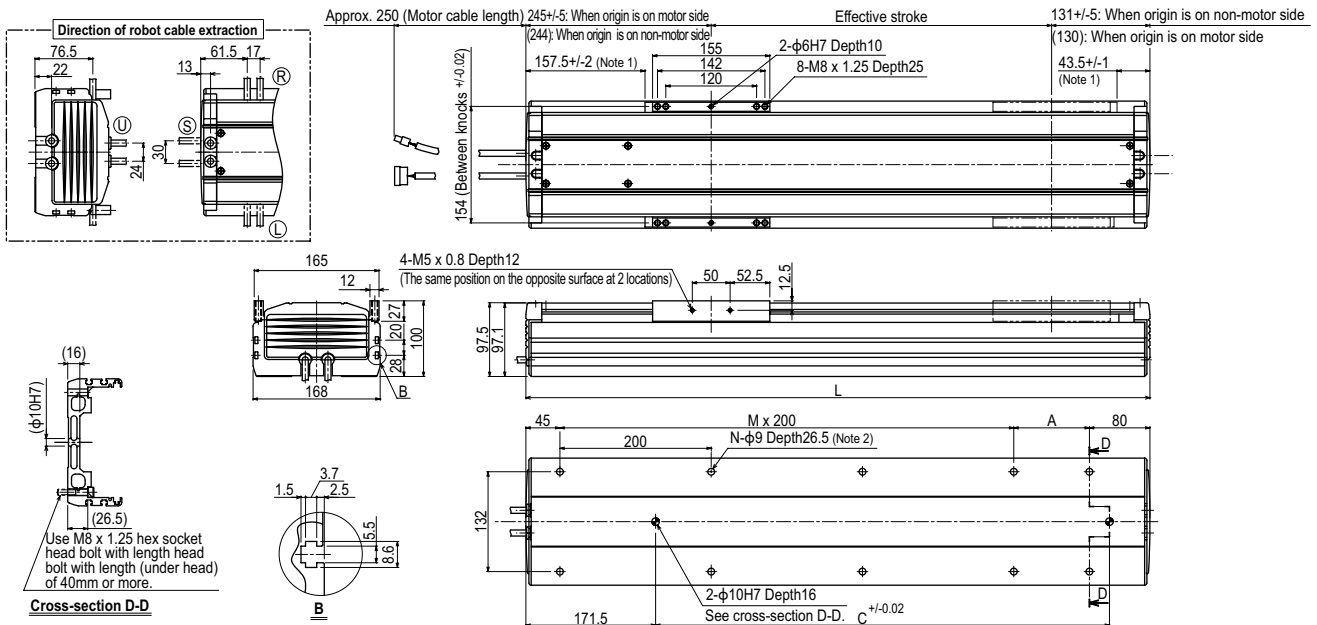


- Note 1. Distance from both ends to the mechanical stopper.
 Note 2. When installing the robot, do not use washers inside the robot body.
 Note 3. Minimum bend radius of motor cable is R50.
 Note 4. Weight of models with no brake. The weight of brake-attached models is 1.2 kg heavier than the models with no brake shown in the table.
 Note 5. Make a separate consultation with us regarding robot cable (brake specifications) U extraction.

Effective stroke	U extraction																					
	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	1140	1140	1140	1140	1320	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) ^{Note 7}																					
Speed setting	960 840 720 600 480 420 360 300 240 80% 70% 60% 50% 40%																					

- 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 is required.

F17 High lead type: Lead 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.

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.