

# F10H

● High lead: Lead 30

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

## Ordering method

F10H							TSX						
<b>Model</b>	<b>Lead designation</b> 30: 30mm 20: 20mm 10: 10mm 5: 5mm	<b>Brake</b> No entry: No brakes BK: Brakes provided	<b>Cable entry location</b> No entry: Standard (S) U: From the top	<b>Origin position change</b> None: Standard Z: Non-motor side	<b>Grease type</b> None: Standard GC: Clean	<b>Stroke</b> Lead 20-10-5: 150 to 1000 (50mm pitch) Lead 30: 150 to 1000 (50mm pitch)	<b>Cable length</b> 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)	<b>Positioner</b> TSX: TS-X	<b>Driver: Power-supply voltage / Power capacity</b> 110: 100V/200W 210: 200V/200W	<b>Regenerative unit</b> No entry: None R: With RGT	<b>LCD monitor</b> No entry: None L: With LCD	<b>I/O selection</b> NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PT: PROFINET GW: No I/O board	<b>Battery</b> B: With battery (Absolute) N: None (Incremental)
							<b>SR1-X</b>	<b>10</b>					
							<b>Controller</b>	<b>Driver: Power capacity</b> 10: 200W	<b>Usable for CE</b> No entry: Standard E: CE marking	<b>Regenerative unit</b> No entry: None R: With RGT	<b>I/O selection</b> N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: Profibus	<b>Battery</b> B: With battery (Absolute) N: None (Incremental)	
							<b>RDV-X</b>	<b>2</b>	<b>10</b>	<b>RBR1</b>			
							<b>Driver</b>	<b>Power-supply voltage</b> 2: AC200V	<b>Driver: Power capacity</b> 10: 200W or less	<b>Regenerative unit</b>			

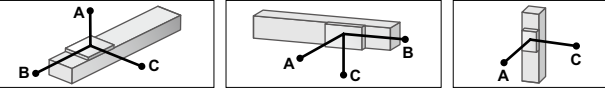
- Note 1. The model with a lead of 30mm cannot select specifications with brake (vertical specifications).
- Note 2. If selecting 5mm lead specifications then the origin point cannot be changed to the non-motor side.
- Note 3. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.732 for details on robot cable.
- Note 4. See P.634 for DIN rail mounting bracket.
- Note 5. Select this selection when using the gateway function. For details, see P.96.

## Specifications

<b>AC servo motor output (W)</b>	200		
<b>Repeatability</b> (mm)	± 0.01		
<b>Deceleration mechanism</b>	Ball screw φ15		
<b>Ball screw lead (mm)</b>	30	20	10
<b>Maximum speed</b> (mm/sec)	1800	1200	600
<b>Maximum payload (kg)</b>	<b>Horizontal</b>	<b>Vertical</b>	
	25	40	80
	-	8	20
<b>Rated thrust (N)</b>	113	170	341
<b>Stroke (mm)</b>	150 to 1000		
<b>Overall length (mm)</b>	<b>Horizontal</b>	<b>Vertical</b>	
	Stroke+355	Stroke+385	
<b>Maximum dimensions of cross section of main unit (mm)</b>	W110 × H71		
<b>Cable length (m)</b>	Standard: 3.5 / Option: 5.10		
<b>Linear guide type</b>	4 rows of circular arc grooves × 1 rail		
<b>Position detector</b>	Resolvers		
<b>Resolution (Pulse/rotation)</b>	16384		

- Note 1. Positioning repeatability in one direction.
- Note 2. When the stroke is longer than 600mm, 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. When the movement distance is short, the speed may not reach the maximum speed according to the payload.
- 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.

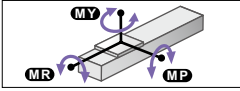
## Allowable overhang



	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)		
	A	B	C	A	B	C	A	C	
<b>Lead 30</b>									
10kg	1181	681	219	10kg	193	570	1062		
20kg	772	298	99	20kg	65	187	549		
<b>Lead 20</b>									
10kg	1961	685	232	10kg	198	570	1786		
20kg	949	301	103	20kg	65	187	732		
<b>Lead 10</b>									
40kg	432	109	38	40kg	0	0	0		
30kg	1615	239	84	30kg	100	283	1981		
50kg	1131	112	39	25kg	66	187	1546		
80kg	812	40	14	30kg	43	123	1223		
<b>Lead 5</b>									
60kg	3091	112	39	20kg	134	379	7629		
80kg	2330	64	23	25kg	93	264	5987		
100kg	1733	36	12	30kg	66	187	4841		

- 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 600mm stroke models.

## Static loading moment



			(Unit: N·m)	
	MY	MP	MR	
	348	348	160	

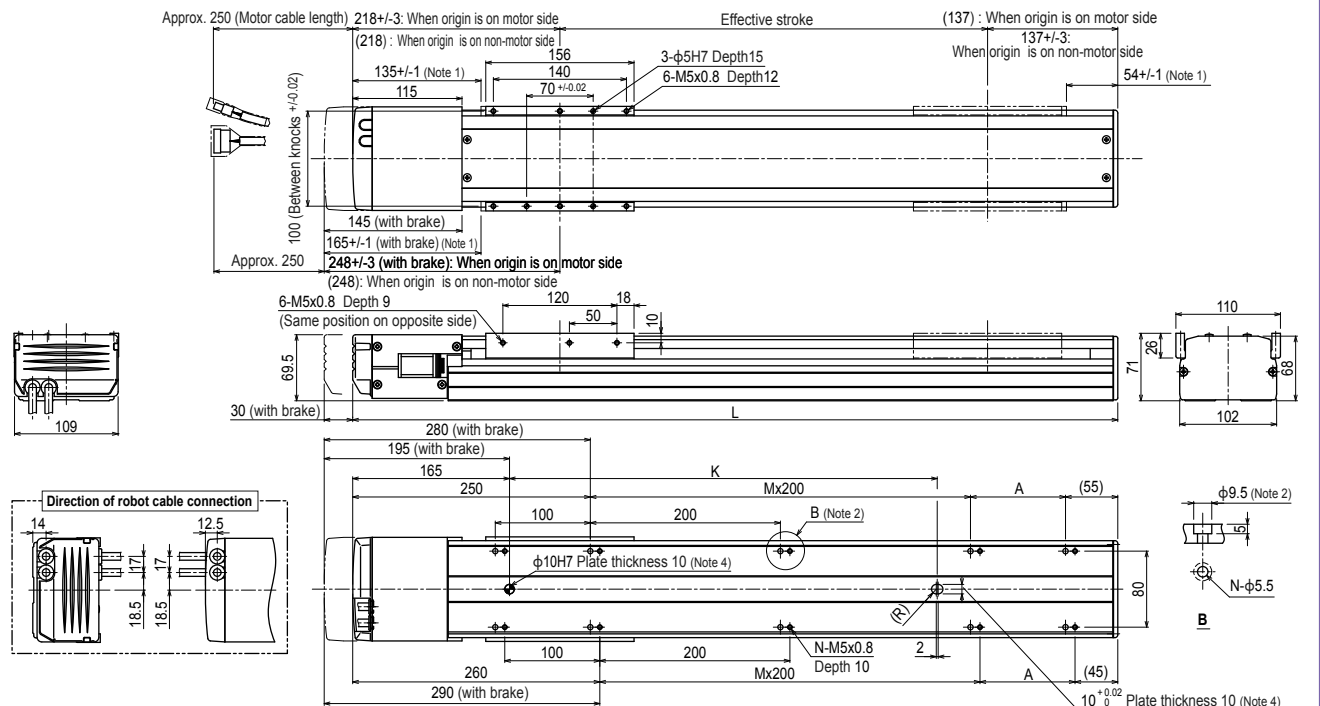
	Lead 20	
	A	C
4kg	1650	1650
6kg	1104	1104
8kg	832	832
10kg	927	927
15kg	614	614
20kg	458	458
15kg	752	752
20kg	560	560
30kg	369	369

## Controller

Controller	Operation method
SR1-X10 RCX320 RCX221/222 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X110 TS-X210 RDV-X210 RBR1	I/O point trace / Remote command / Pulse train control

- Note. When using the unit vertically, a regeneration unit is required.

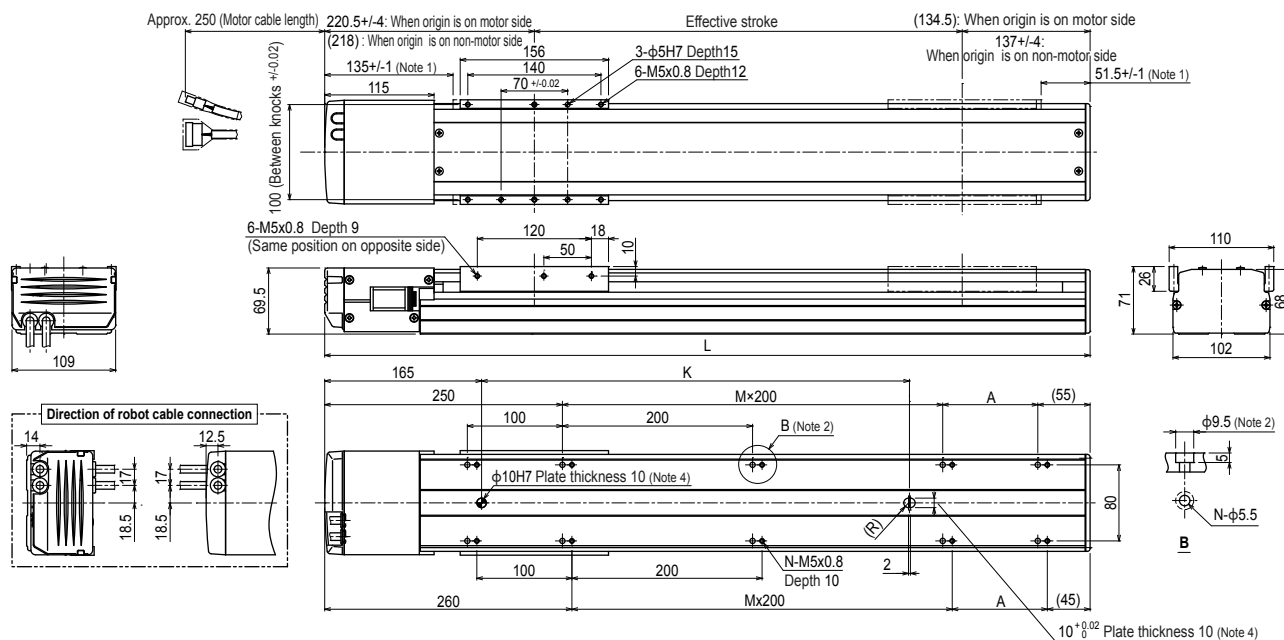
## F10H



Effective stroke	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000																																								
<b>L</b>	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355																																								
<b>A</b>	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50																																								
<b>M</b>	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5																																								
<b>N</b>	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16																																								
<b>K</b>	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100																																								
<b>Weight (kg)</b>	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																																								
<b>Maximum speed (mm/sec)</b>	<table border="1"> <thead> <tr> <th>Lead 30</th> <th>1800</th> <th>1440</th> <th>1260</th> <th>1080</th> <th>900</th> <th>720</th> <th>630</th> </tr> <tr> <th>Lead 20</th> <th>1200</th> <th>960</th> <th>840</th> <th>720</th> <th>600</th> <th>480</th> <th>420</th> </tr> <tr> <th>Lead 10</th> <th>600</th> <th>480</th> <th>420</th> <th>360</th> <th>300</th> <th>240</th> <th>210</th> </tr> <tr> <th>Lead 5</th> <th>300</th> <th>240</th> <th>210</th> <th>180</th> <th>150</th> <th>120</th> <th>105</th> </tr> <tr> <th>Speed setting</th> <th>-</th> <th>80%</th> <th>70%</th> <th>60%</th> <th>50%</th> <th>40%</th> <th>35%</th> </tr> </thead> </table>																		Lead 30	1800	1440	1260	1080	900	720	630	Lead 20	1200	960	840	720	600	480	420	Lead 10	600	480	420	360	300	240	210	Lead 5	300	240	210	180	150	120	105	Speed setting	-	80%	70%	60%	50%	40%	35%
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Speed setting	-	80%	70%	60%	50%	40%	35%																																																			

- Note 1. Stop positions are determined by the mechanical stoppers at both ends. When installing the unit, washers, etc. cannot be used in the φ9.5 counter bore hole.
- Note 2. Minimum bend radius of motor cable is R50.
- Note 3. 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 4. Weight of models with no brake. The weight of brake-attached models is 0.5 kg heavier than the models with no brake shown in the table.
- Note 5. When the stroke is longer than 600mm, 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.

## 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
<b>L</b>	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355
<b>A</b>	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50
<b>M</b>	0	1	1	1	1	2	2	2	3	3	3	3	3	4	4	4	4	5
<b>N</b>	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16
<b>K</b>	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
<b>Weight (kg)</b>	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
<b>Maximum speed</b> <small>Note 5</small> <b>(mm/sec)</b>	<b>Lead 30</b>											1440	1260	1080	900	720	630	
	<b>Lead 20</b>											960	840	720	600	480	420	
	<b>Lead 10</b>											480	420	360	300	240	210	
	<b>Lead 5</b>											240	210	180	150	120	105	
	<b>Speed setting</b>											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.  
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 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.  
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