

# F20N



## Ordering method

<b>F20N - 20</b>					
<b>Model</b>	<b>Lead designation</b>	<b>Origin position change</b>	<b>Grease type</b>	<b>Stroke</b>	<b>Cable length<sup>Note 1</sup></b>
		None: Standard 2: Non-motor side	None: Standard GC: Clean	1150 to 2050 (100mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

<b>TSX</b>	<b>220</b>				
<b>Positioner<sup>Note 2</sup></b>	<b>Driver: Power-supply voltage / Power capacity</b>	<b>Regenerative unit</b>	<b>LCD monitor</b>	<b>I/O selection</b>	<b>Battery</b>
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 <sup>Note 3</sup>	B: With battery (Absolute) N: None (Incremental)
<b>SR1-X</b>	<b>20</b>				
<b>Controller</b>	<b>Driver: Power capacity</b>	<b>Usable for CE</b>	<b>Regenerative unit</b>	<b>I/O selection</b>	<b>Battery</b>
	20: 400 to 600W	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)
<b>RDV-X</b>	<b>2</b>	<b>20</b>		<b>RBR1</b>	
<b>Driver</b>	<b>Power-supply voltage</b>	<b>Driver: Power capacity</b>		<b>Regenerative unit</b>	
	2: AC200V	20: 600W or less			

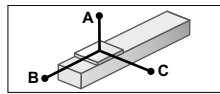
Note 1. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.614 for details on robot cable.  
 Note 2. See P.522 for DIN rail mounting bracket.  
 Note 3. Select this selection when using the gateway function. For details, see P.66.

## Specifications

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

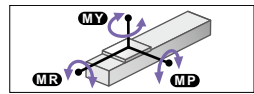
## Allowable overhang<sup>Note</sup>



<b>Horizontal installation</b> (Unit: mm)			
	<b>A</b>	<b>B</b>	<b>C</b>
<b>20kg</b>	3397	2332	2683
<b>40kg</b>	2795	1144	1361
<b>60kg</b>	2443	749	914
<b>80kg</b>	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



<b>(Unit: N·m)</b>		
<b>MY</b>	<b>MP</b>	<b>MR</b>
1196	1199	1052

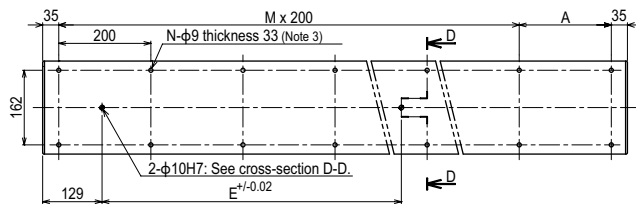
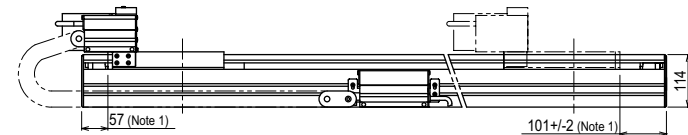
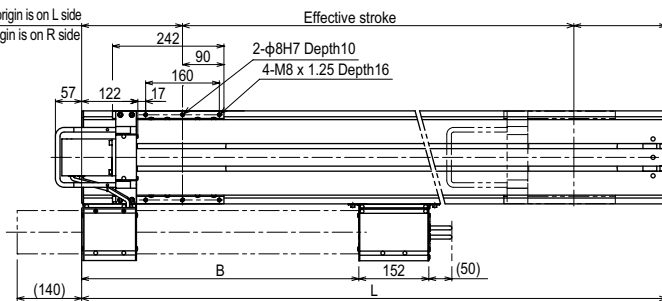
## Controller

Controller	Operation method
SR1-X20 <sup>Note</sup>	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RX320	
RX221/222	
RX340	
TS-X220 <sup>Note</sup>	I/O point trace / Remote command / Pulse train control
RDV-X220-RBR1	

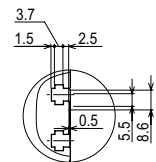
Note. When the unit is operated at a speed exceeding the maximum speed of 1,000mm/sec., a regeneration unit is required.

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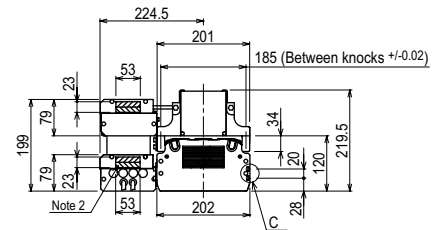
219+/-3: When origin is on L side  
 (219: When origin is on R side)



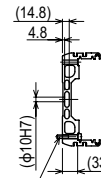
201+/-3: When origin is on R side  
 (201: When origin is on L side)



C section detailed chart



Cross section of cable guide



Cross-section D-D

Use M8 x 1.25 hex socket head bolt with length head bolt with length (under head) of 45mm or more.

Effective stroke	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050
<b>L</b>	1570	1670	1770	1870	1970	2070	2170	2270	2370	2470
<b>A</b>	100	200	100	200	100	200	100	200	100	200
<b>B</b>	602	648	694	740	786	832	878	924	970	1016
<b>E</b>	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320
<b>M</b>	7	7	8	8	9	9	10	10	11	11
<b>N</b>	18	18	20	20	22	22	24	24	26	26
<b>Weight (kg)</b>	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 as shown.