

# N15



## Ordering method

### N15-20

Model	Lead designation	Cable carrier entry location	Cable carrier specification	Origin position change	Grease type	Stroke	Cable length
		RH: Horizontal, right LH: Horizontal, left RW: Wall, right LW: Wall, left	S: Standard M: Optional C: Cable carrier	Hori- zontal None: R side (Standard) Z: L side Wall None: L side (Standard) Z: R side	None: Standard GC: Clean	500 to 2000 (100mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)

TSX	220	R			Battery
Positioner TSX: TS-X	Driver: Power-supply voltage / Power capacity 220: 200V/400 to 600W	Regenerative unit 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	B: With battery (Absolute) N: None (Incremental)
SR1-X	20	R			Battery
Controller	Driver: Power capacity 20: 400 to 600W	Usable for CE No entry: Standard E: CE marking	Regenerative unit R: With RG1	I/O selection 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 2: AC200V	Driver: Power capacity 20: 600W or less			Regenerative unit

Note 1. To find information on cable carrier extraction directions see P.293.  
 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)	400
Repeatability (mm)	+/-0.01
Deceleration mechanism	Ball screw $\phi 15$
Ball screw lead (mm)	20
Maximum speed (mm/sec)	1200
Maximum payload (kg)	50
Rated thrust (N)	339
Stroke (mm)	500 to 2000 (100mm pitch)
Overall length (mm)	Stroke+330
Maximum dimensions of cross section of main unit (mm)	W145 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
Resolution (Pulse/rotation)	16384

Note 1. Positioning repeatability in one direction.  
 Note 2. The maximum speed may not be reached when the moving distance is short.  
 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)		
	A	B	C
Lead 20	10kg 3048	2322	1259
	30kg 1489	841	500
	50kg 1278	544	344

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

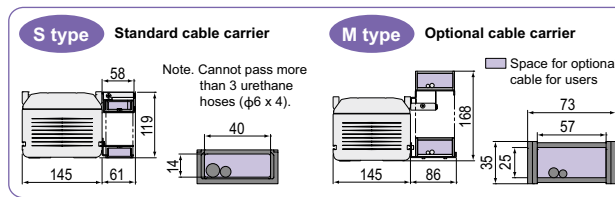
## Static loading moment

(Unit: N·m)		
MY	MP	MR
691	692	608

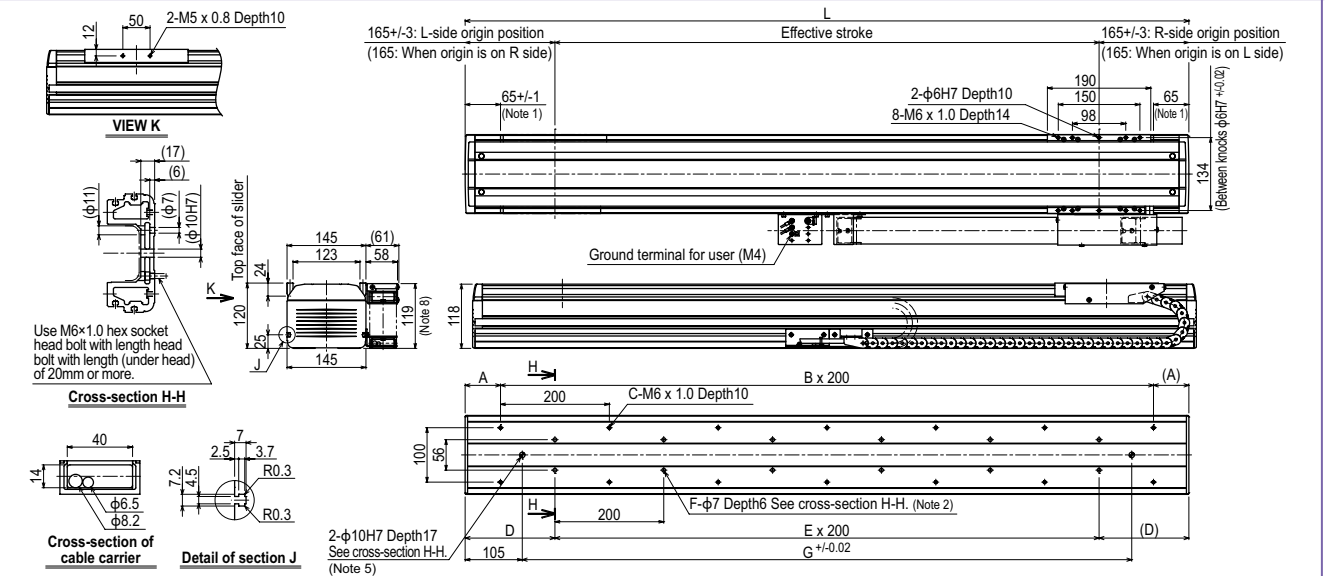
## Controller

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

## Cable carrier for users



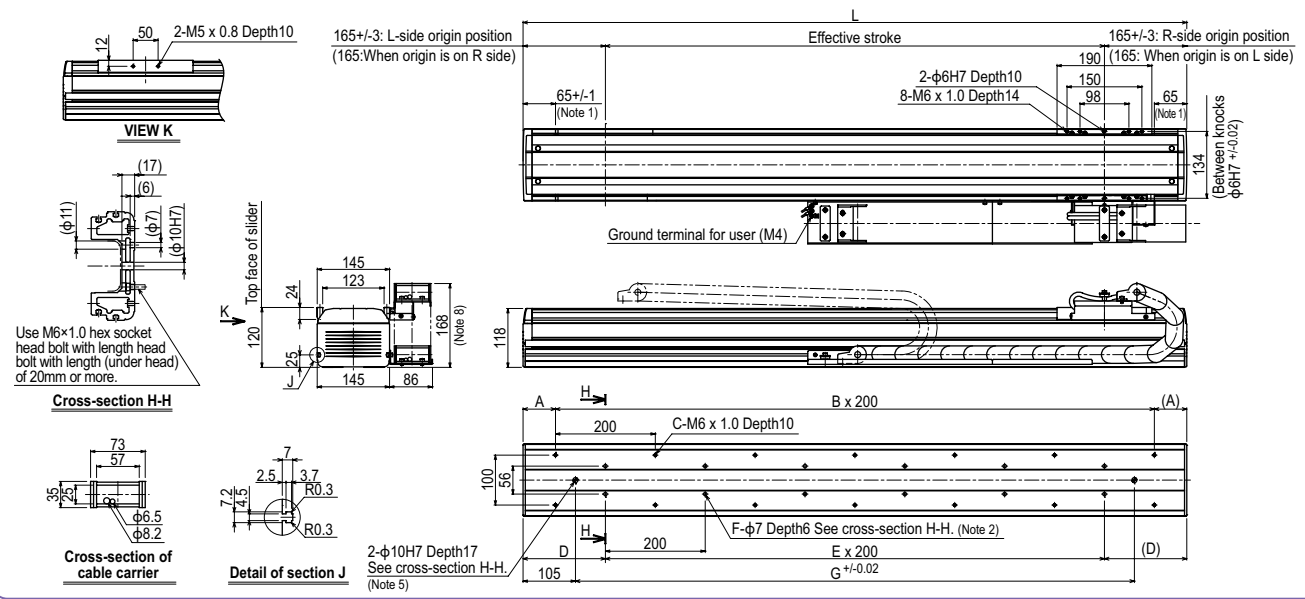
## N15: Horizontal installation / Standard Cable carrier specification



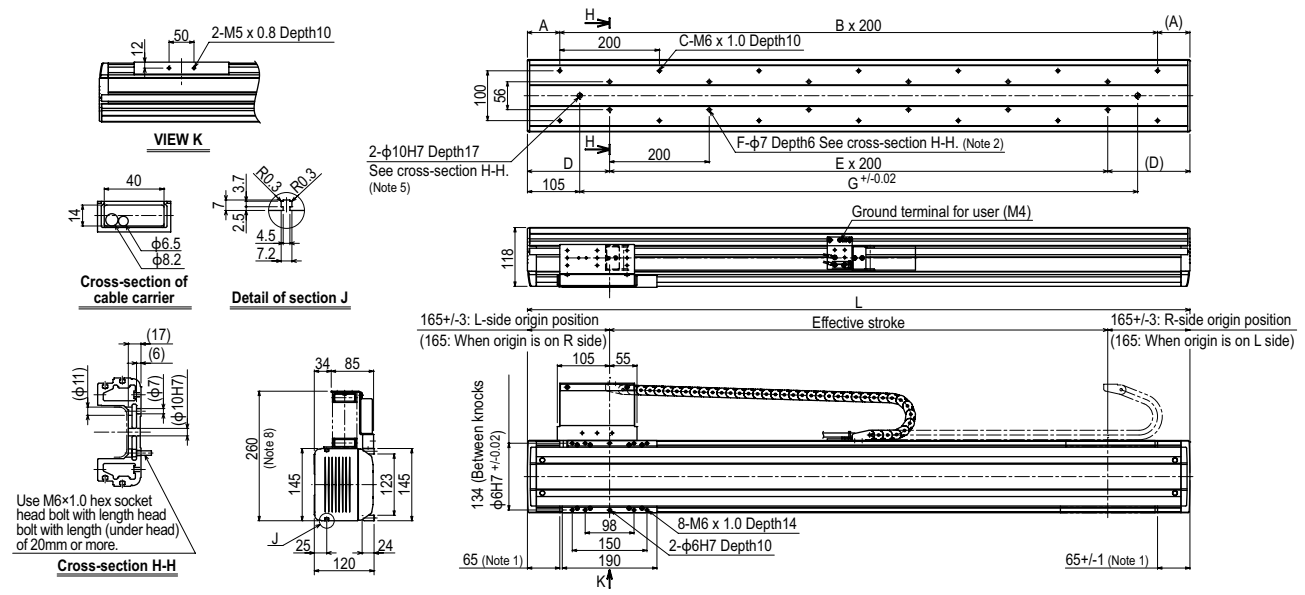
Note 1. Stop positions are determined by the mechanical stoppers at both ends.  
 Note 2. When using  $\phi 7$  holes for installation, do not use a washer, spring washer, etc. in the main unit.  
 Note 3. When shipped from the factory, the horizontal model has the origin on the right side and the wall model has the origin on the left side. (This diagram shows the machine whose cable carrier taken out from right.)  
 Note 4. If the model is a standard cable carrier specification, it is not possible to pass 3 or more  $\phi 6 \times 4$  urethane air hoses.  
 Note 5. When using a  $\phi 10H7$  hole, make sure that the pin does not go into deeper than as shown in the drawing.  
 Note 6. Contact us for vertical installation.  
 Note 7. Weight of models with no brake. The weight of brake-attached models is 1 kg heavier than the models with no brake shown in the table.  
 Note 8. Depending on the stroke and the operating conditions, the cable carrier bending radius might be larger, making it higher than the dimensions shown in the diagram.

Effective stroke	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
L	830	930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
A	15	65	15	65	15	65	15	65	15	65	15	65	15	65	15	65
B	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11
C	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24
D	115	165	115	165	115	165	115	165	115	165	115	165	115	165	115	165
E	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
F	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22
G	620	720	820	920	1020	1120	1220	1320	1420	1520	1620	1720	1820	1920	2020	2120
Weight (kg)	19	20	22	23	24	26	27	29	30	32	33	35	36	38	39	40

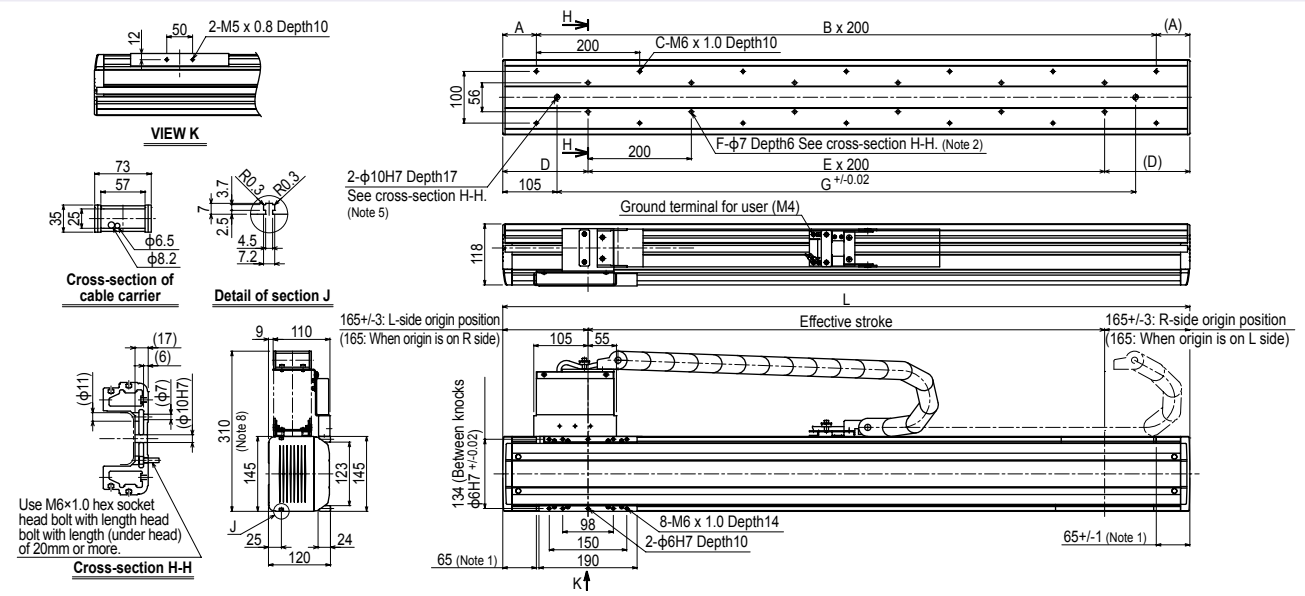
N15: Horizontal installation / Optional Cable carrier specification **RH**



N15: Wall installation / Standard Cable carrier specification **RW**



N15: Wall installation / Optional Cable carrier specification **RW**



# N15D

Double carriage

## Ordering method

<b>N15D-20</b>							
Model	Lead designation	Installation direction	Cable carrier specification	Option	Stroke	Cable length	Controller <sup>Note 1</sup>
		H: Horizontal installation W: Wall installation	S: Standard Cable carrier M: Optional Cable carrier	Grease type: None: Standard GC: Clean	250 to 1750 (100mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) <sup>Note 3</sup>	RCX320 SR1-X (2 units) <sup>Note 2</sup> TS-X (2 units) <sup>Note 2</sup> RDV-X (2 units) <sup>Note 2</sup>

Note 1. To find controller selection options, see the ordering method on each controller page.

Note 2. 2 units are required when using SR1-X, TS-X or RDV-X.

Note 3. If a flexible cable is needed for the SR1-X, TS-X, or RDV-X, then select 3K/5K/10K. On the RCX320 the standard cable is a flexible cable, so enter 3L/5L/10L when ordering.

## Specifications

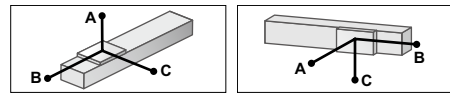
AC servo motor output (W)	400
Repeatability <sup>Note 1</sup> (mm)	+/-0.01
Deceleration mechanism	Ball screw $\phi 15$
Ball screw lead (mm)	20
Maximum speed <sup>Note 2</sup> (mm/sec)	1200
Maximum payload (kg)	50
Rated thrust (N)	339
Stroke (mm)	250 to 1750 (100mm pitch)
Overall length (mm)	Stroke+330
Maximum dimensions of cross section of main unit (mm)	W145 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 <sup>Note 3</sup>
Resolution (Pulse/rotation)	16384

Note 1. Positioning repeatability in one direction.

Note 2. The maximum speed may not be reached when the moving distance is short.

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.

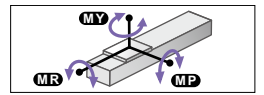
## Allowable overhang<sup>Note</sup>



Horizontal installation (Unit: mm)				Wall installation (Unit: mm)			
Lead 20	A	B	C	Lead 20	A	B	C
10kg	3048	2322	1259	10kg	1258	1823	2449
30kg	1489	841	500	30kg	428	545	1039
50kg	1278	544	344	50kg	248	289	749

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



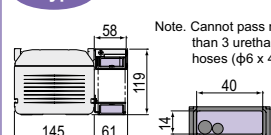
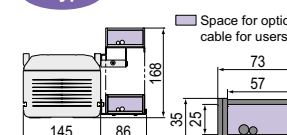
(Unit: N·m)		
MY	MP	MR
691	692	608

## Controller

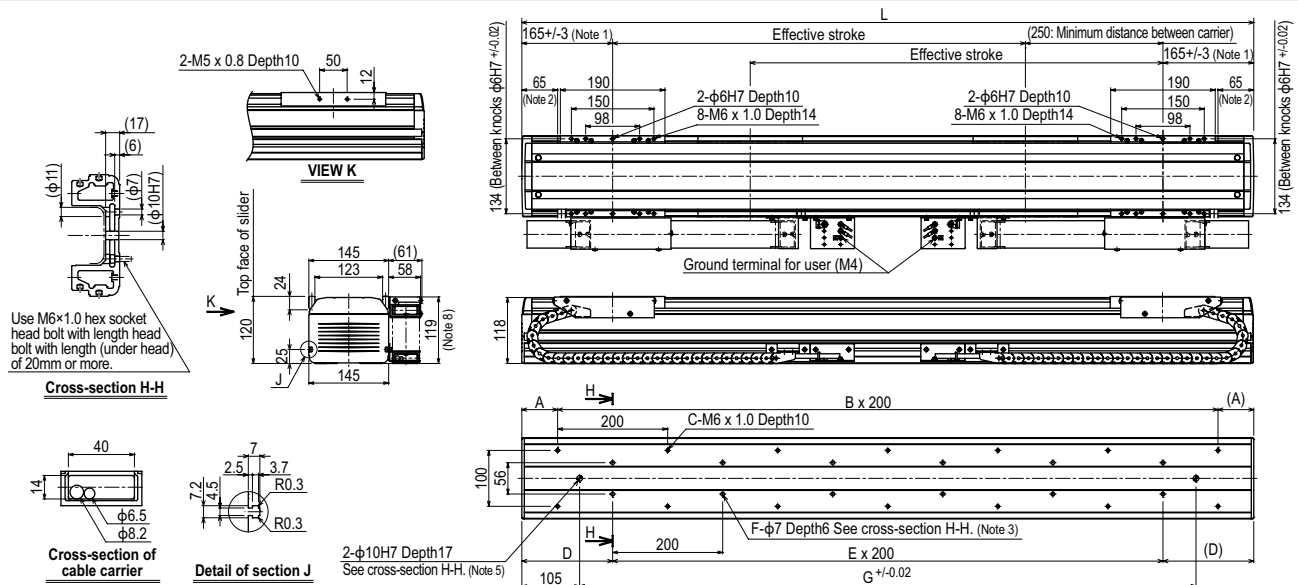
Controller	Operation method
RCX320-R	Programming / I/O point trace / Remote command / Operation using RS-232C communication
SR1-X20-R <sup>Note</sup>	I/O point trace / Remote command
TS-X220-R <sup>Note</sup>	I/O point trace / Remote command
RDV-X20-RBR1 <sup>Note</sup>	Pulse train control

Note. 2 units are required when using SR-1, TS-X or RDV-X.

## Cable carrier for users

S type	Standard cable carrier	M type	Optional cable carrier
	Standard cable carrier		Optional cable carrier
	Note. Cannot pass more than 3 urethane hoses ( $\phi 6 \times 4$ ).		Space for optional cable for users

## N15D: Horizontal installation / Standard Cable carrier specification



Note 1. Position of table carriage when searched to the origin.

Note 2. Stop positions are determined by the mechanical stoppers at both ends.

Note 3. When using  $\phi 7$  holes for installation, do not use a washer, spring washer, etc. in the main unit.

Note 4. If the model is a standard cable carrier specification, it is not possible to pass 3 or more  $\phi 6 \times 4$  urethane air hoses.

Note 5. When using a  $\phi 10H7$  hole, make sure that the pin does not go into deeper than as shown in the drawing.

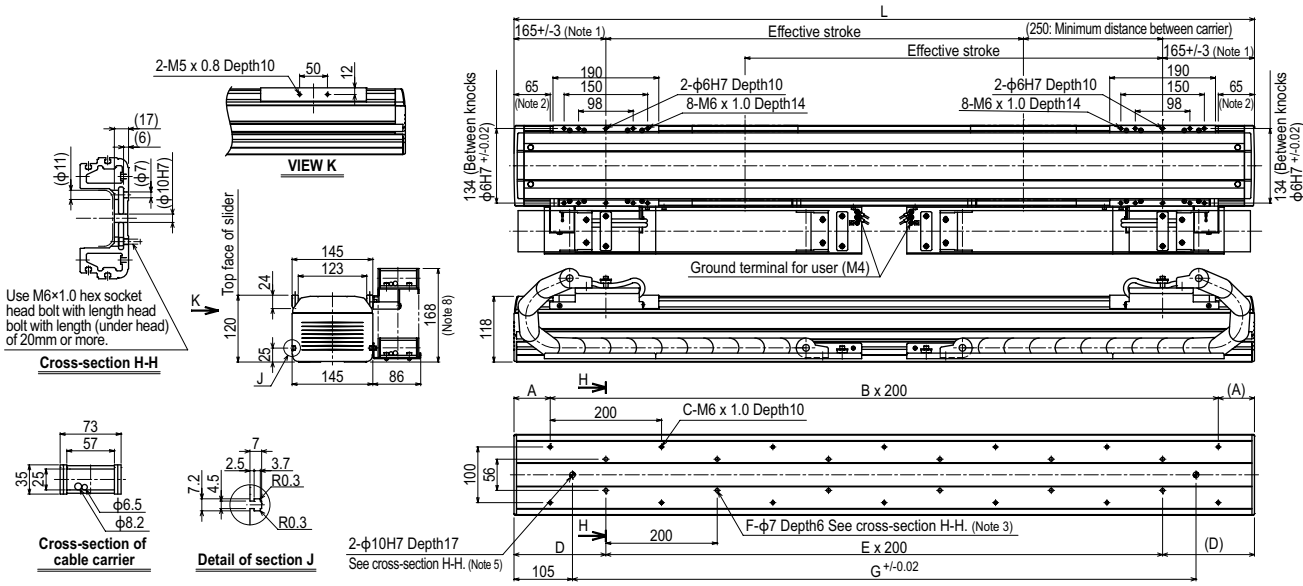
Note 6. Contact us for vertical installation.

Note 7. Weight of models with no brake. The weight of brake-attached models is 1 kg heavier than the models with no brake shown in the table.

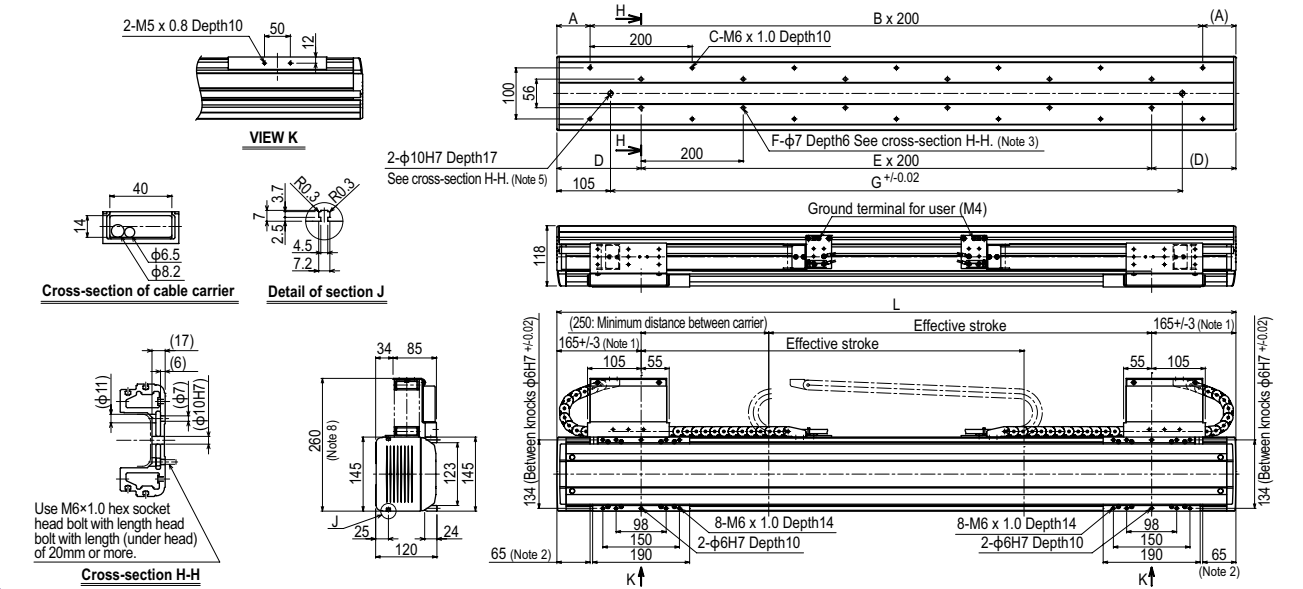
Note 8. Depending on the stroke and the operating conditions, the cable carrier bending radius might be larger, making it higher than the dimensions shown in the diagram.

Effective stroke	250	350	450	550	650	750	850	950	1050	1150	1250	1350	1450	1550	1650	1750
L	830	930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
A	15	65	15	65	15	65	15	65	15	65	15	65	15	65	15	65
B	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11
C	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24
D	115	165	115	165	115	165	115	165	115	165	115	165	115	165	115	165
E	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
F	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22
G	620	720	820	920	1020	1120	1220	1320	1420	1520	1620	1720	1820	1920	2020	2120
Weight (kg) <sup>Note 7</sup>	24	26	27	29	30	32	33	35	36	38	39	40	42	43	45	46

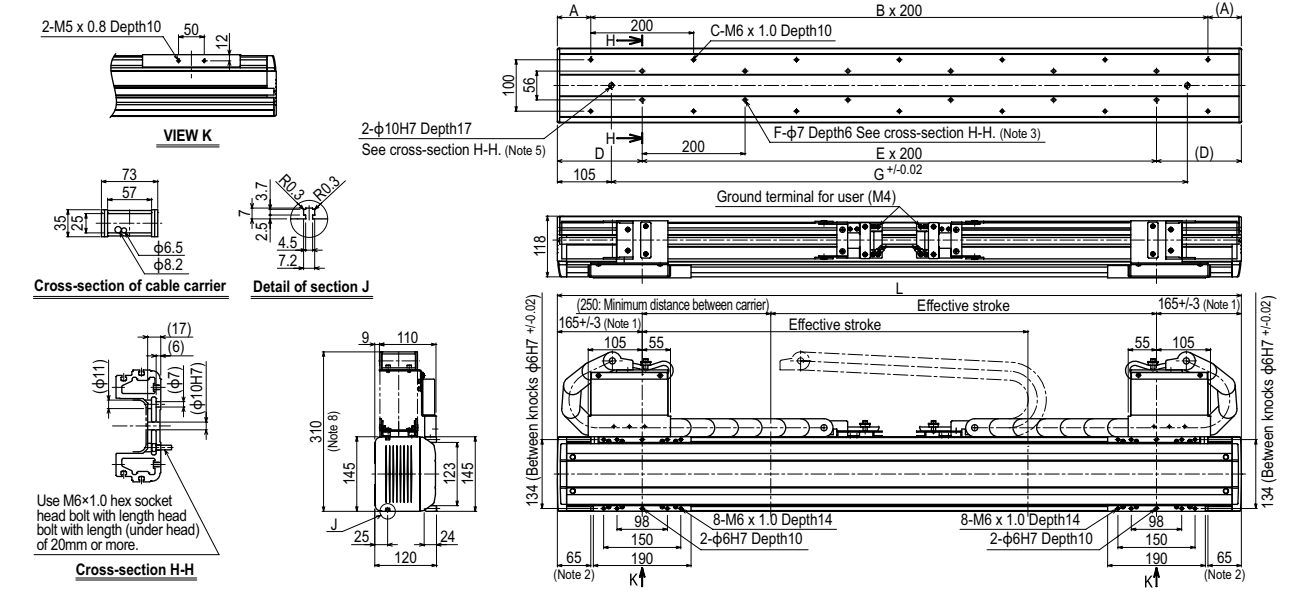
N15D: Horizontal installation / Optional Cable carrier specification



N15D: Wall installation / Standard Cable carrier specification



N15D: Wall installation / Optional Cable carrier specification



# N18



## Ordering method

**N18- 20**

<b>Model</b>	<b>Lead designation</b>	<b>Cable carrier entry location</b> RH: Horizontal, right LH: Horizontal, left RW: Wall, right LW: Wall, left	<b>Cable carrier specification</b> S: Standard Cable carrier M: Optional Cable carrier	<b>Origin position change</b> Horizontal Z: L side Wall None: R side (Standard) Z: L side None: L side (Standard) Z: R side	<b>Grease type</b> None: Standard GC: Clean	<b>Stroke</b> 500 to 2500 (100mm pitch)	<b>Cable length</b> <sup>Note 2</sup> 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)	<b>Positioner</b> <sup>Note 3</sup> TSX: TS-X	<b>220</b> Driver: Power-supply voltage / Power capacity 220: 200V/400 to 600W	<b>R</b> Regenerative unit 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>20</b>							<b>Controller</b>	Driver: Power capacity 20: 400 to 600W	Usable for CE No entry: Standard E: CE marking	<b>R</b> Regenerative unit R: With RGT1	<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>Driver</b>	Power-supply voltage 2: AC200V		<b>20</b> Driver: Power capacity 20: 600W or less	<b>RBR1</b> Regenerative unit	

Note 1. To find information on cable carrier extraction directions see P.293.  
 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)	400
Repeatability <sup>Note 1</sup> (mm)	+/-0.01
Deceleration mechanism	Ball screw φ20
Ball screw lead (mm)	20
Maximum speed <sup>Note 2</sup> (mm/sec)	1200
Maximum payload (kg)	80
Rated thrust (N)	339
Stroke (mm)	500 to 2500 (100mm pitch)
Overall length (mm)	Stroke+362
Maximum dimensions of cross section of main unit (mm)	W180 × H115
Cable length (m)	Standard: 3.5 / Option: 5.10
Linear guide type	4 rows of circular arc grooves × 2 rail
Position detector	Resolvers <sup>Note 3</sup>
Resolution (Pulse/rotation)	16384

Note 1. Repeatability for single oscillation.  
 Note 2. The maximum speed may not be reached when the moving distance is short.  
 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>

Horizontal installation (Unit: mm)	A	B	C
	30kg	3045	1629
Wall installation (Unit: mm)	A	B	C
	30kg	1928	1553
Lead 20	A	B	C
	50kg	2602	961
Lead 20	A	B	C
	80kg	2193	586

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
1161	1163	1021

(Unit: N·m)

## Controller

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

## Cable carrier for users

**S type** Standard cable carrier

**M type** Optional cable carrier

Note. Cannot pass more than 3 urethane hoses (φ6 × 4).

Space for optional cable for users

## N18: Horizontal installation / Standard Cable carrier specification RH

**Cross-section E-E**

**Cross-section of cable carrier**

**Detail of section F**

Use M8 x 1.25 hex socket head bolt with length head bolt with length (under head) of 40mm or more.

181±/3: L-side origin position (181: When origin is on R side)

78±/1 (Note 1)

Effective stroke

181±/3: R-side origin position (181: When origin is on L side)

2-φ6H7 Depth10  
8-M8 x 1.25 Depth25

190  
150  
98

78 (Note 1)

168 (Between knobs φ6H7 +0.02)

(Note 7)

Ground terminal for user (M4)

A

200

C-φ9 Depth30 See cross-section E-E. (Note 2)

B x 200

149

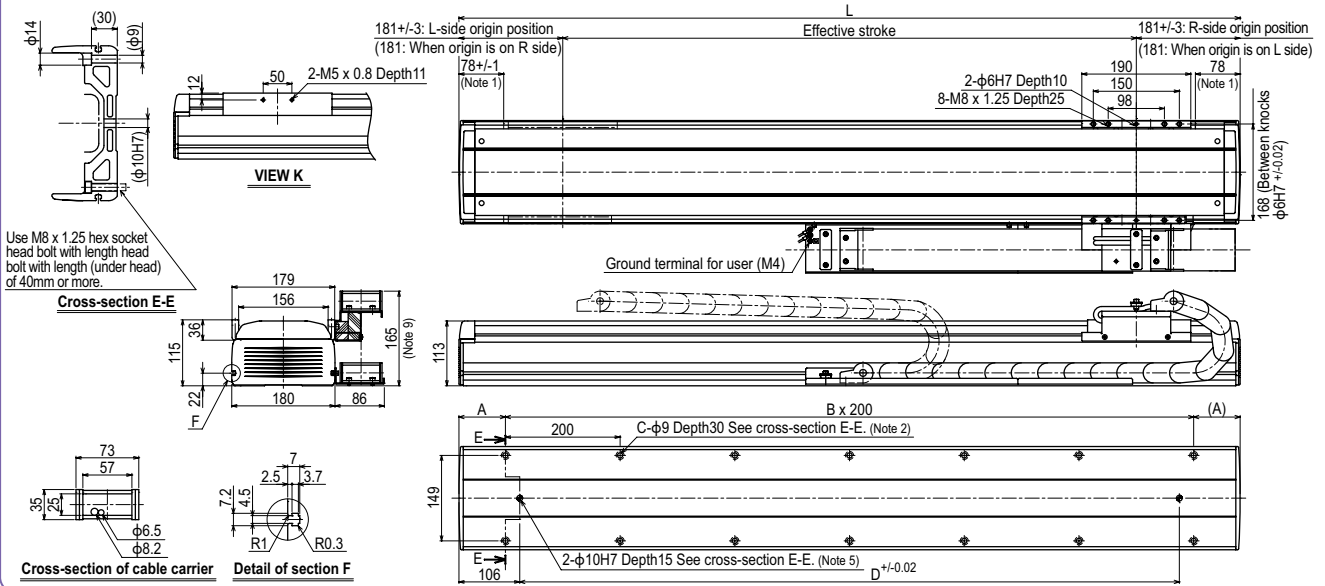
2-φ10H7 Depth15 See cross-section E-E. (Note 5)

D ±0.02

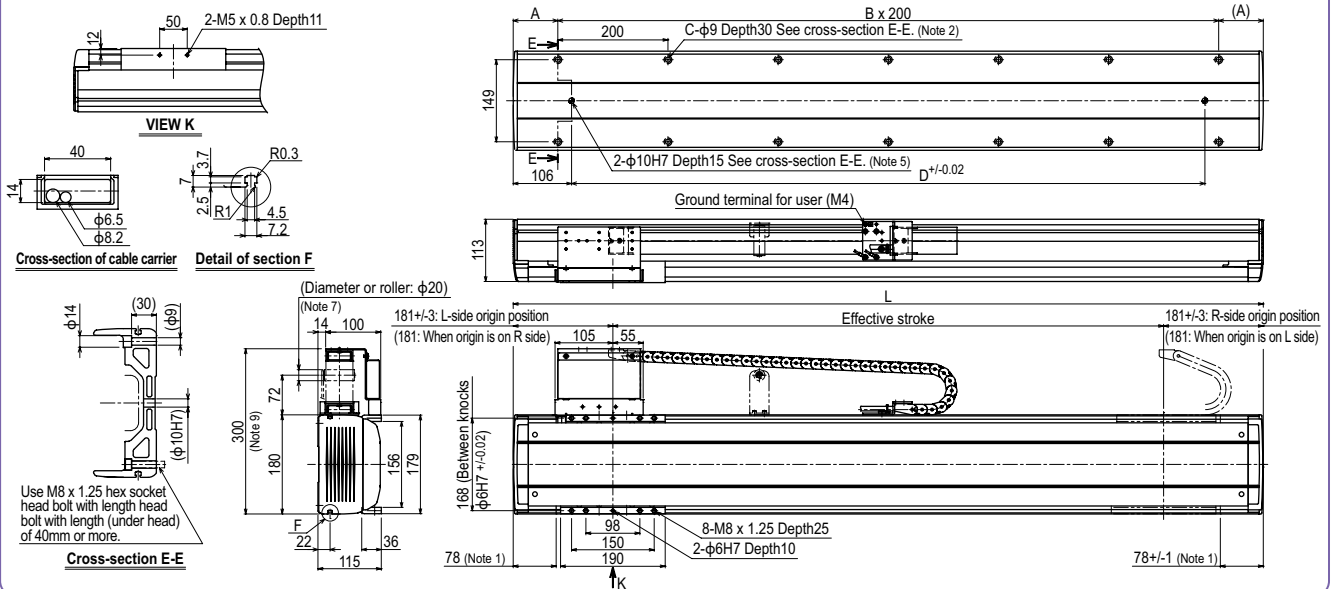
Note 1. Stop positions are determined by the mechanical stoppers at both ends.  
 Note 2. When using φ9 holes for installation, do not use a washer, spring washer, etc. in the main unit.  
 Note 3. When shipped from the factory, the horizontal model has the origin on the right side and the wall model has the origin on the left side. (This diagram shows the machine whose cable carrier taken out from right.)  
 Note 4. If the model is a standard cable carrier specification, it is not possible to pass 3 or more φ6 × 4 urethane air hoses.  
 Note 5. When using a φ10H7 hole, make sure that the pin does not go into deeper than as shown in the drawing.  
 Note 6. Contact us for vertical installation.  
 Note 7. For the robot with more than 2,100 stroke, a roller is installed to prevent the cable carrier hanging.  
 Note 8. Weight of models with no brake. The weight of brake-attached models is 1 kg heavier than the models with no brake shown in the table.  
 Note 9. Depending on the stroke and the operating conditions, the cable carrier bending radius might be larger, making it higher than the dimensions shown in the diagram.

Effective stroke	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
L	862	962	1062	1162	1262	1362	1462	1562	1662	1762	1862	1962	2062	2162	2262	2362	2462	2562	2662	2762	2862
A	131	81	131	81	131	81	131	81	131	81	131	81	131	81	131	81	131	81	131	81	131
B	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
C	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28
D	650	750	850	950	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650
Weight (kg) <sup>Note 8</sup>	27	29	31	33	35	37	39	41	43	45	47	48	50	52	54	56	58	60	62	64	66

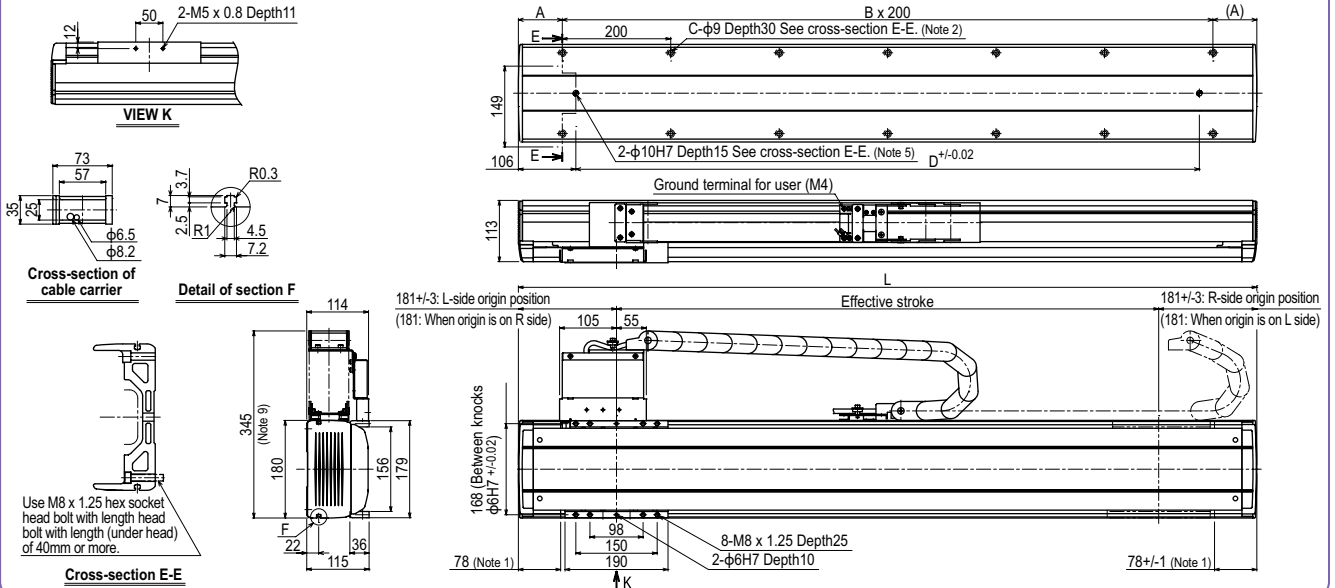
N18: Horizontal installation / Optional Cable carrier specification **RH**



N18: Wall installation / Standard Cable carrier specification **RW**



N18: Wall installation / Optional Cable carrier specification **RW**



# N18D

Double carriage

## Ordering method

<b>N18D - 20</b>							
<b>Model</b>	<b>Lead designation</b>	<b>Installation direction</b>	<b>Cable carrier specification</b>	<b>Option</b>	<b>Stroke</b>	<b>Cable length</b>	<b>Controller</b> <sup>Note 1</sup>
		H: Horizontal installation W: Wall installation	S: Standard Cable carrier M: Optional Cable carrier	Grease type: None: Standard GC: Clean	250 to 2250 (100mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) <sup>Note 3</sup>	RCX320 SR1-X (2 units) <sup>Note 2</sup> TS-X (2 units) <sup>Note 2</sup> RDV-X (2 units) <sup>Note 2</sup>

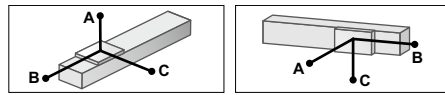
Note 1. To find controller selection options, see the ordering method on each controller page.  
 Note 2. 2 units are required when using SR1-X, TS-X or RDV-X.  
 Note 3. If a flexible cable is needed for the SR1-X, TS-X, or RDV-X, then select 3K/5K/10K. On the RCX320 the standard cable is a flexible cable, so enter 3L/5L/10L when ordering.

## Specifications

AC servo motor output (W)	400
Repeatability <sup>Note 1</sup> (mm)	+/-0.01
Deceleration mechanism	Ball screw $\phi 20$
Ball screw lead (mm)	20
Maximum speed <sup>Note 2</sup> (mm/sec)	1200
Maximum payload (kg)	80
Rated thrust (N)	339
Stroke (mm)	250 to 2250 (100 pitch)
Overall length (mm)	Stroke+362
Maximum dimensions of cross section of main unit (mm)	W180 x H115
Cable length (m)	Standard: 3.5 / Option: 5, 10
Linear guide type	4 rows of circular arc grooves x 2 rail
Position detector	Resolvers <sup>Note 3</sup>
Resolution (Pulse/rotation)	16384

Note 1. Positioning repeatability in one direction.  
 Note 2. The maximum speed may not be reached when the moving distance is short.  
 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.

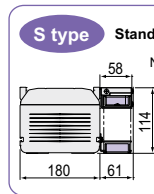
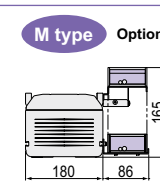
## Allowable overhang<sup>Note</sup>



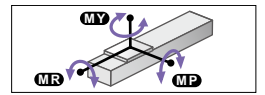
Horizontal installation (Unit: mm)	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			
	A	B	C	A	B	C	
Lead 20	3045	1629	1902	30kg	1928	1553	
	50kg	2602	961	1150	50kg	1157	885
	80kg	2193	586	716	80kg	707	509

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

## Cable carrier for users

S type	Standard cable carrier	M type	Optional cable carrier
	Standard cable carrier		Optional cable carrier
	Note. Cannot pass more than 3 urethane hoses ( $\phi 6 \times 4$ ).		Space for optional cable for users

## Static loading moment



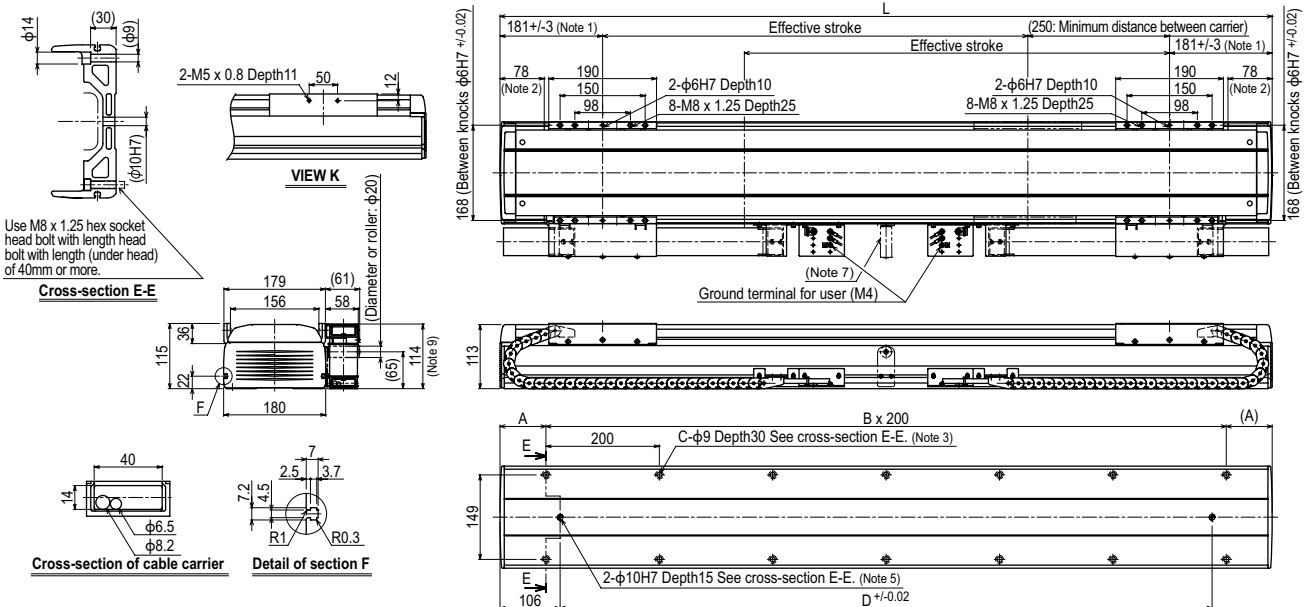
(Unit: N·m)		
MY	MP	MR
1161	1163	1021

## Controller

Controller	Operation method
RCX320-R	Programming / I/O point trace / Remote command / Operation using RS-232C communication
SR1-X20-R <sup>Note</sup>	I/O point trace / Remote command
TS-X220-R <sup>Note</sup>	I/O point trace / Remote command
RDV-X20-RBR1 <sup>Note</sup>	Pulse train control

Note. 2 units are required when using SR1-X, TS-X or RDV-X.

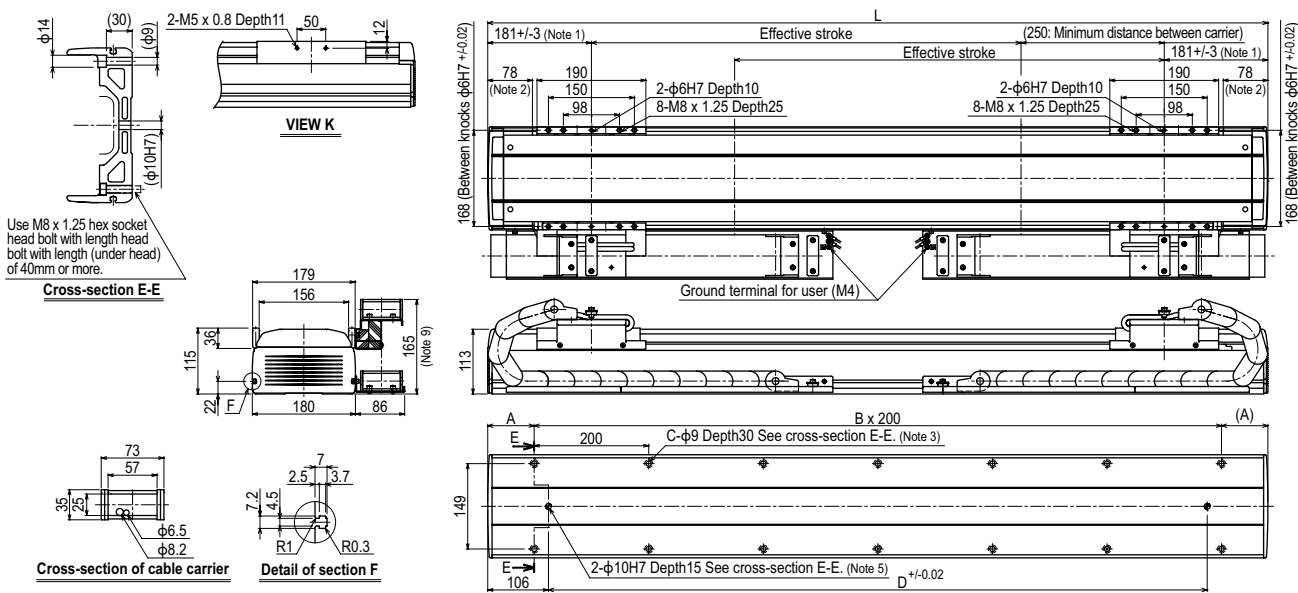
## N18D: Horizontal installation / Standard Cable carrier specification



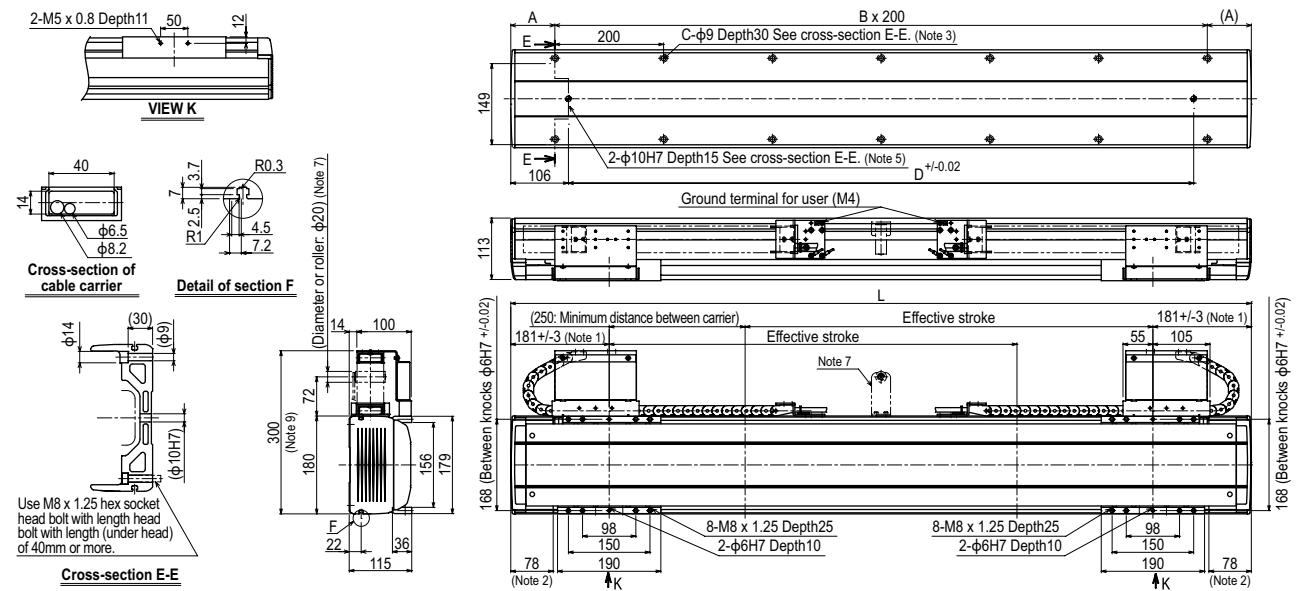
Note 1. Position of table carriage when searched to the origin.  
 Note 2. Stop positions are determined by the mechanical stoppers at both ends.  
 Note 3. When using  $\phi 9$  holes for installation, do not use a washer, spring washer, etc. in the main unit.  
 Note 4. If the model is a standard cable carrier specification, it is not possible to pass 3 or more  $\phi 6 \times 4$  urethane air hoses.  
 Note 5. When using a  $\phi 10H7$  hole, make sure that the pin does not go into deeper than as shown in the drawing.  
 Note 6. Contact us for vertical installation.  
 Note 7. For the robot with more than 2,050 stroke, a roller to prevent the cable carrier from hanging is provided.  
 Note 8. Weight of models with no brake. The weight of brake-attached models is 1 kg heavier than the models with no brake shown in the table.  
 Note 9. Depending on the stroke and the operating conditions, the cable carrier bending radius might be larger, making it higher than the dimensions shown in the diagram.

Effective stroke	250	350	450	550	650	750	850	950	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250
L	862	962	1062	1162	1262	1362	1462	1562	1662	1762	1862	1962	2062	2162	2262	2362	2462	2562	2662	2762	2862
A	131	81	131	81	131	81	131	81	131	81	131	81	131	81	131	81	131	81	131	81	131
B	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
C	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28
D	650	750	850	950	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650
Weight (kg) <sup>Note 8</sup>	35	37	39	41	43	45	47	48	50	52	54	56	58	60	62	64	66	68	70	72	74

N18D: Horizontal installation / Optional Cable carrier specification



N18D: Wall installation / Standard Cable carrier specification



N18D: Wall installation / Optional Cable carrier specification

