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 - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - **TSX** - [ ] - [ ] - [ ] - [ ] - [ ]

Model	Lead designation	Brake Note 1	Cable entry location	Origin position change	Grease type	Stroke	Cable length Note 2
F14	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)

Positioner Note 3	Driver: Power-supply voltage / Power capacity	Regenerative unit	LCD monitor	I/O selection	Battery
TSX: TSX-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 Note 4	B: With battery (Absolute) N: None (Incremental)

Controller	Driver: Power capacity	Usable for CE	Regenerative unit	I/O selection	Battery
SR1-X	05: 100W or less	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)

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

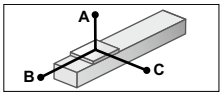
Note 1. The model with a lead of 30mm cannot select specifications with brake (vertical specifications).
Note 2. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.692 for details on robot cable.
Note 3. See P.600 for DIN rail mounting bracket.
Note 4. Select this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

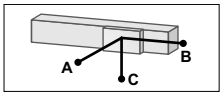
Specifications

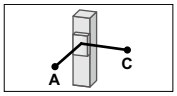
AC servo motor output (W)		100			
Repeatability Note 1 (mm)		+/-0.01			
Deceleration mechanism		Ball screw ϕ15			
Ball screw lead (mm)		30	20	10	5
Maximum speed Note 2 (mm/sec)		1800	1200	600	300
Maximum payload (kg)	Horizontal	15	30	55	80
	Vertical	–	4	10	20
Rated thrust (N)		56	84	169	339
Stroke (mm)		150 to 1250 Note 3 (50mm pitch)			
Overall length (mm)	Horizontal	Stroke+255			
	Vertical	Stroke+285			
Maximum dimensions of cross section of main unit (mm)		W136 × H83			
Cable length (m)		Standard: 3.5 / Option: 5,10			
Linear guide type		4 rows of circular arc grooves × 2 rail			
Position detector		Resolvers Note 4			
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 Note







Horizontal installation (Unit: mm)

		A	B	C
Lead 30	5kg	1756	1364	863
	15kg	1236	467	438
Lead 20	5kg	2153	1366	980
	15kg	1193	465	430
	30kg	1266	245	294
Lead 10	20kg	1132	353	361
	40kg	872	183	218
	55kg	946	140	184
Lead 5	50kg	1575	158	222
	60kg	1493	135	194
	80kg	1466	107	159

Wall installation (Unit: mm)

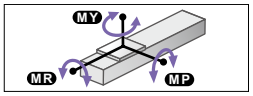
		A	B	C
Lead 30	5kg	951	969	1286
	15kg	408	277	803
Lead 20	5kg	1066	974	1578
	15kg	402	276	775
	30kg	219	105	678
Lead 10	20kg	312	189	690
	40kg	140	57	402
	55kg	92	0	345
Lead 5	30kg	246	107	1095
	40kg	167	64	798
	60kg	88	20	508

Vertical installation (Unit: mm)

		A	C
Lead 20	1kg	600	600
	2kg	1200	1200
	4kg	1154	895
Lead 10	4kg	1232	956
	8kg	634	492
	10kg	499	387
Lead 5	10kg	587	456
	15kg	383	297
	20kg	281	218

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)

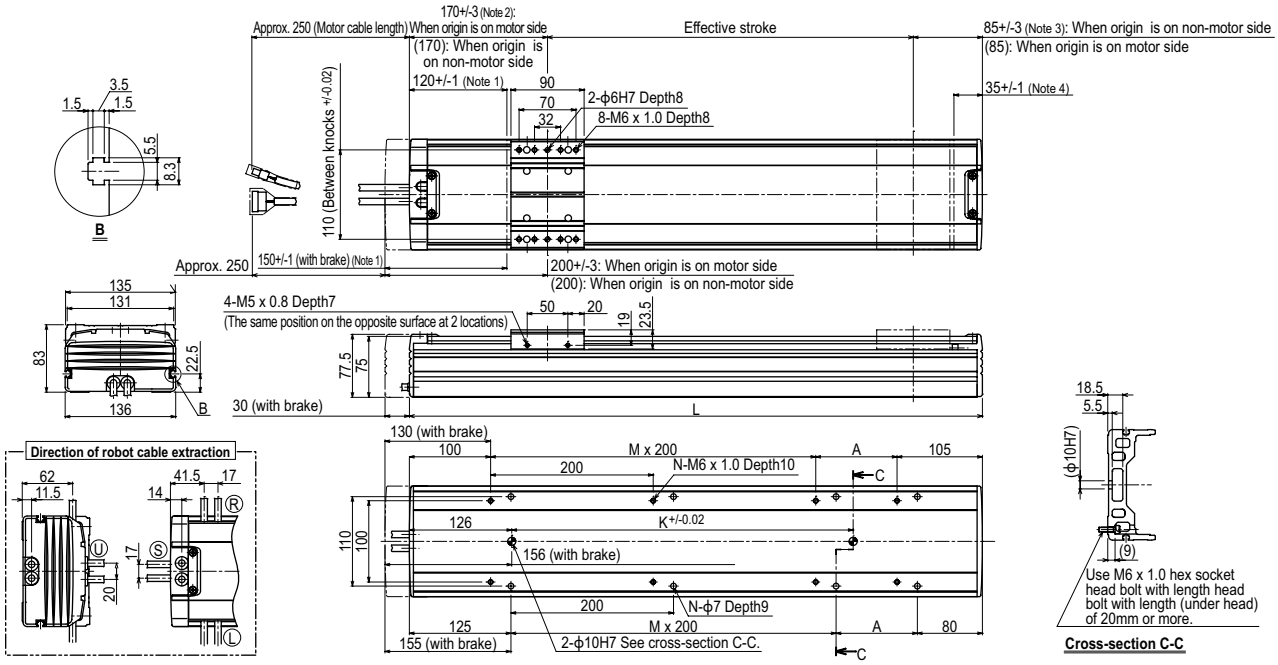
MY	MP	MR
232	233	204

Controller

Controller	Operation method
SR1-X05 Note RCX320 RCX340	Programming / I/O point trace / Remote command / Operation using RS-232C communication
TS-X105 Note	I/O point trace /
TS-X205 Note	Remote command
RDV-X205-RBR1	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 Note 8	1150 Note 8	1200 Note 8	1250 Note 8
L		405	455	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455	1505
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		240	240	240	240	420	420	420	600	600	600	600	600	780	780	780	780	960	960	960	960	1140	1140	1140
Weight (kg) Note 6		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 Note 7 (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.