

RCP6CR-HSA6C



±10µm
standard



±5µm
high precision
optional



Cleanroom
Spec



Battery-less
absolute



Straight
motor





Body width
60
mm







24v
Pulse
motor

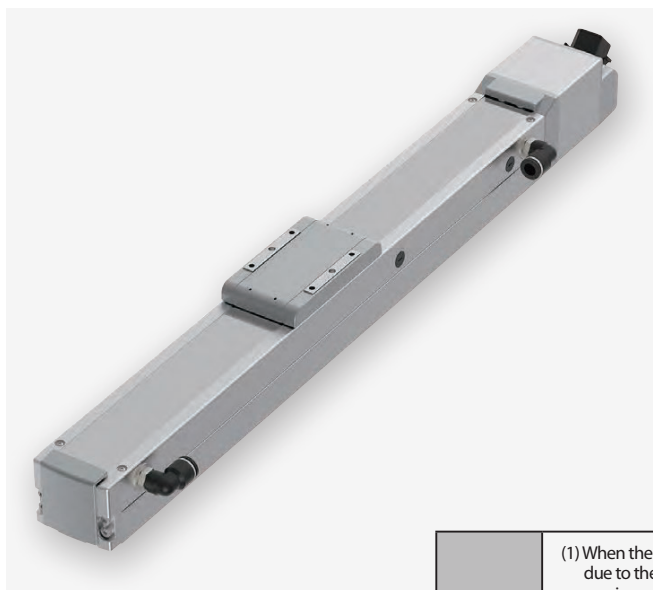
Model Specification Items

RCP6CR	HSA6C	WA	42P					
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Option
		WA Battery-less absolute	42P Pulse motor 42□ size	20 20mm 12 12mm 6 6mm 3 3mm	50 50mm 800 800mm (every 50mm)	P3 PCON MSEL P5 RCON RSEL	N None P 1m S 3m M 5m X□ Specified length R□ Robot cable	Refer to option table below



POINT

Selection Notes

- (1) When the stroke becomes longer, the maximum speed will decrease due to the dangerous revolutions of the ball screw. Confirm the maximum speed for the desired stroke in the "Stroke and Maximum Speed."
- (2) The payload in the main specifications displays the payload's maximum value. Refer to the "Payload Diagram by Speed and Acceleration."
- (3) When performing push-motion operation, refer to the "Correlation Diagrams of Push Force and Current Limit." The push forces are guideline values. Please contact IAI or refer to the website for precautions.
- (4) The duty ratio must be limited depending on the ambient operating temperature. Please contact IAI or refer to the website for details.
- (5) Pay careful attention on the mounting method. Please contact IAI or refer to the website for details.
- (6) The guideline for the overhang load length is 300mm or less for the Ma, Mb and Mc directions (600mm or less for the double slider specification). Please contact IAI or refer to the website for the details of overhang load length.
- (7) Please contact IAI or refer to the website for the model name and precautions of the double slider specification.

Cable length	
Type	Cable code
Standard type	P (1m)
	S (3m)
	M (5m)
Specified length	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)
	R01 (1m) ~ R03 (3m)
	R04 (4m) ~ R05 (5m)
Robot cable	R06 (6m) ~ R10 (10m)
	R11 (11m) ~ R15 (15m)
	R16 (16m) ~ R20 (20m)

(Note) When selecting the 4-way connector cable, specify "N" in the actuator cable length and order the cable separately. The model code for ordering is as follows:
 Specify the cable length in □□□. (Ex.) 080=8m, "-RB"=Robot cable
 P3: CB-CAN2-MPA□□□(-RB)
 P5/SE: CB-ADPC2-MPA□□□(-RB)
 Please contact IAI for precautions on installation.

Options		
Name	Option code	Reference page
Brake	B	See P.189
High-precision specification (Note 1)	HPR	See P.192
Non-motor end specification	NM	See P.194
Air suction joint in opposite position	VR	See P.195
Double slider specification (Note 2)	W	See P.196

(Note 1) Cannot be selected for Lead 20. Cannot be selected for double slider specifications.
 (Note 2) There are some leads that cannot be selected. (Please contact IAI or refer to the website)

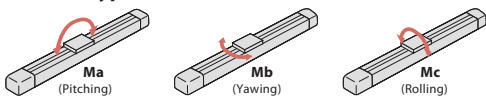
Main specifications

Item		Details					
Lead	Ball screw lead (mm)	20	12	6	3		
	Payload	Maximum payload (kg) (high-output enabled)	15	29	50	42	
Maximum payload (kg) (high-output disabled)		8	14	20	25		
Horizontal	Speed, acceleration/ deceleration	Maximum speed (mm/s)	1280	900	450	225	
		Minimum speed (mm/s)	25	15	8	4	
		Rated acceleration/deceleration (G)	0.3	0.1	0.1	0.3	
		Maximum acceleration/deceleration (G)	1	1	1	1	
Vertical	Payload	Maximum payload (kg) (high-output enabled)	1	2.5	6	16	
		Maximum payload (kg) (high-output disabled)	0.75	2	5	10	
		Speed, acceleration/ deceleration	Maximum speed (mm/s)	1120	900	450	225
			Minimum speed (mm/s)	25	15	8	4
Push motion	Speed, acceleration/ deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3	
		Maximum acceleration/deceleration (G)	0.5	0.5	0.5	0.5	
		Maximum push force (N)	67	112	224	449	
		Maximum push speed (mm/s)	20	20	20	20	
Brake	Brake specification	Non-exciting electromagnetic brake					
		Brake holding force (kgf)	1	2.5	6	16	
Stroke	Stroke specification	Minimum stroke (mm)	50	50	50	50	
		Maximum stroke (mm)	800	800	800	800	
		Stroke pitch (mm)	50	50	50	50	

Item		Details	
Driving method	Ball screw ø10mm rolled C10		
Positioning repeatability (Note 1)	±0.01mm [±0.005mm]		
Lost motion	0.1mm or less		
Base	Material: Aluminum white alumite treated		
Linear guide	Direct-acting infinite circulation type		
	Static allowable moment	Ma : 65 N·m	
		Mb : 75 N·m	
Dynamic allowable moment (Note 2)	Mc : 120 N·m		
Cleanliness	Ma : 33.7 N·m		
	Mb : 40.2 N·m		
Vibration- and shock-resistance	Mc : 55.3 N·m		
	ISO class 2.5 or equiv. (ISO STD 14644-1:2015), US class 10 (FED STD 209D)		
Ambient oper. temperature and humidity	0 - 40°C, 85%RH or less (non-condensing)		
Degree of protection	IP20		
International standards	CE marking, RoHS directive		
Motor type	Pulse motor		
Encoder type	Battery-less absolute		
Number of encoder pulses	8192 pulse/rev		

(Note 1) Values in [] represent for the high-precision specification (leads 3, 6 and 12).
 (Note 2) Based on the rated operational life of 5000 km. The operational life varies depending on the operating conditions and mounting. Please contact IAI or refer to the website for the operation life.

Slider type moment direction



Payload by speed and acceleration * The default factory setting is high-output enabled. Refer to the RCP6 manual for details.

High-output setting enabled (power mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 20

Mounting	Horizontal		Vertical					
	Acceleration (G)							
Speed (mm/s)	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	15	15	10	8	7	1	1	1
160	15	15	10	8	7	1	1	1
320	15	12	10	8	6	1	1	1
480	12	12	9	8	6	1	1	1
640	12	12	8	6	5	1	1	1
800	10	10	6.5	4.5	3	1	1	1
960		8	5	3.5	1.5		1	1
1120		5	3	2	1			0.5
1280			1	0.5				

Lead 12

Mounting	Horizontal		Vertical					
	Acceleration (G)							
Speed (mm/s)	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	29	27	20	17	14	2.5	2.5	2.5
80	29	27	20	17	14	2.5	2.5	2.5
200	29	27	20	17	14	2.5	2.5	2.5
320	29	27	20	14	12	2.5	2.5	2.5
440	29	26	18	12	10	2.5	2.5	2.5
560	29	20	12	8	7	2.5	2.5	2.5
700		13	7	5	4		2	1
800		8	4	2	1		1	0.5
900		3	1	0.5				

Lead 6

Mounting	Horizontal		Vertical					
	Acceleration (G)							
Speed (mm/s)	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	50	45	40	35	30	6	6	6
40	50	45	40	35	30	6	6	6
100	50	45	40	35	30	6	6	6
160	50	43	35	32	20	6	6	6
220	48	39	29	24	20	6	6	6
280	44	35	26	21	15	6	6	5.5
340	38	31	19	14	11	6	5	4.5
400	32	18	10	6	4	4.5	3	2.5
450	26	10	4	2	1	3	1.5	1

Lead 3

Mounting	Horizontal		Vertical					
	Acceleration (G)							
Speed (mm/s)	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	42	42	37	35	35	16	16	16
50	42	42	37	35	35	16	16	16
80	40	40	35	35	30	16	16	16
110	40	40	35	35	30	16	16	16
140	40	40	35	35	28	16	15	15
170	40	40	32	26	26	10	10	10
200	40	30	21	10	10	8	5	5
225	40	8				5	2	

High-output setting disabled (energy-saving mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 20

Mounting	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.7	0.3	0.3
0	8	5	0.75	
160	8	5	0.75	
320	8	5	0.75	
480	8	4	0.75	
640	6	3	0.75	
800	4	1.5	0.5	

Lead 12

Mounting	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.7	0.3	0.3
0	14	10	2	
80	14	10	2	
200	14	10	2	
320	14	10	2	
440	11	7	1.5	
560	7	2.5	1	
680	4			

Lead 6

Mounting	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.7	0.3	0.3
0	20	14	5	
40	20	14	5	
100	20	14	5	
160	20	14	5	
220	16	14	4	
280	13	7	2.5	
340	8	1	1	

Lead 3

Mounting	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.7	0.3	0.3
0	25	22	10	
20	25	22	10	
50	25	22	10	
80	25	22	10	
110	20	14	8	
140	15	11	5	
170	5		1.5	

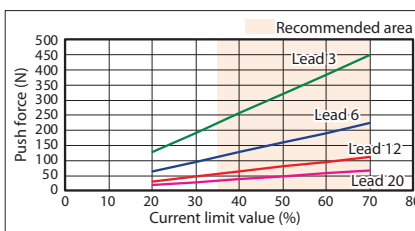
Stroke and maximum speed

Lead (mm)	Connecting controllers	50-400 (every 50mm)	450 (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)	Suction amount (N2/min)
20	High-output enabled	1280<1120>			1090	940	815	715	630	560	100
	High-output disabled	800						715	630	560	
12	High-output enabled	900	845	705	585	515	445	390	345	305	70
	High-output disabled	680<560>			585<560>			515	445	390	
6	High-output enabled	450	415	350	295	255	220	190	170	140	40
	High-output disabled	340			295	255	220	190	170	140	
3	High-output enabled	225	205	170	145	125	110	95	85	70	30
	High-output disabled	170			145	125	110	95	85	70	

(Note) Values in < > represent for vertical use.

(Unit: mm/s)

Correlation Diagram of Push Force and Current Limit



Foreword
Slider Type
Wide Slider Type
Rod Type
Radial Cylinder
Wide Radial Cylinder
Table Type
Cleanroom Slider
Cleanroom Wide Slider
Dust/Splash-Proof Rod
Dust/Splash-Proof Radial Cylinder
Dust/Splash-Proof Wide Radial Cylinder
Options
Reference Data
Controller

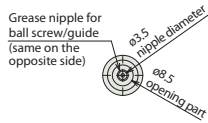
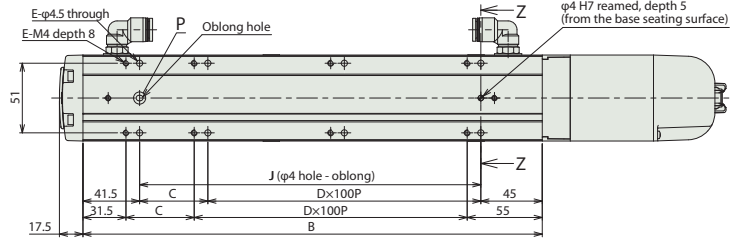
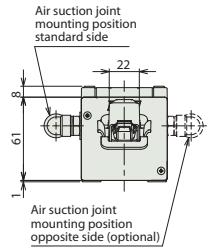
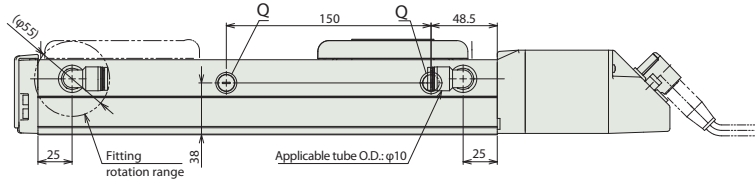
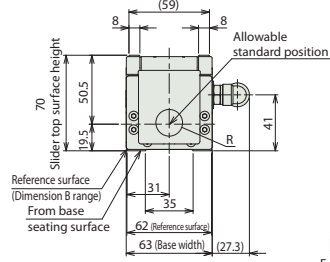
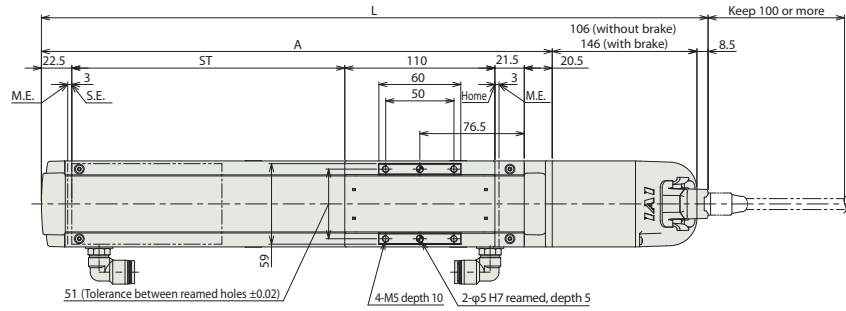
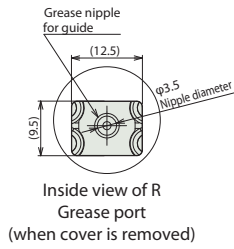
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

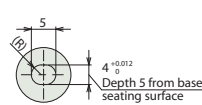


(Note) When the slider is returning to its home position, be careful of interfering with surrounding objects, as it will travel until it reaches the ME.

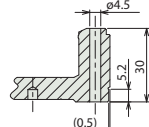
ST: Stroke
ME: Mechanical end
SE: Stroke end



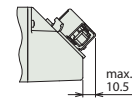
Detail view of Q Grease port (when grease nipple cap is removed)



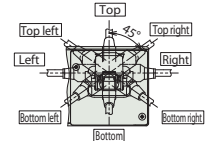
Detail view of P Base oblong hole detail



Sectional view of Z-Z Detail of through hole for base



Cable connector part



Cable exit direction (8 ways) (On delivery: bottom)

Dimensions by stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	Without brake	339	389	439	489	539	589	639	689	739	789	839	889	939	989	1039	1089
	With brake	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129
A	224.5	274.5	324.5	374.5	424.5	474.5	524.5	574.5	624.5	674.5	724.5	774.5	824.5	874.5	924.5	974.5	
B	186.5	236.5	286.5	336.5	386.5	436.5	486.5	536.5	586.5	636.5	686.5	736.5	786.5	836.5	886.5	936.5	
C	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	
D	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	
E	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
J	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	

Mass by stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Mass (kg)	Without brake	1.9	2.1	2.3	2.5	2.8	3	3.2	3.4	3.7	3.9	4.1	4.3	4.6	4.8	5.2
	With brake	2.3	2.5	2.7	2.9	3.2	3.4	3.6	3.8	4.1	4.3	4.5	4.7	5	5.2	5.6

Main specifications (double slider specification)

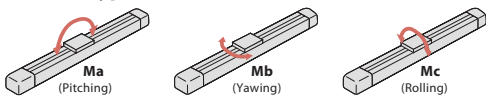
Item		Details			
Lead	Ball screw lead (mm)	12	6	3	
	Payload	Maximum payload (kg) (high-output enabled)	24	30	38
Maximum payload (kg) (high-output disabled)		12	18	23	
Horizontal	Speed, acceleration/ deceleration	Maximum speed (mm/s)	700	450	225
		Minimum speed (mm/s)	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Maximum acceleration/deceleration (G)	1	1	1
Vertical	Payload	Maximum payload (kg) (high-output enabled)	—	4	14
		Maximum payload (kg) (high-output disabled)	—	3	8
		Maximum speed (mm/s)	—	340	200
		Minimum speed (mm/s)	—	8	4
Vertical	Speed, acceleration/ deceleration	Rated acceleration/deceleration (G)	—	0.3	0.3
		Maximum acceleration/deceleration (G)	—	0.5	0.5
		Maximum push force (N)	112	224	449
		Maximum push speed (mm/s)	20	20	20
Brake	Brake specification	Non-exciting electromagnetic brake			
	Brake holding force (kgf)	2.5	6	16	
Stroke	Minimum nominal stroke (mm)	200	200	200	
	Minimum effective stroke (mm)	50	50	50	
	Maximum nominal stroke (mm)	800	800	800	
	Maximum effective stroke (mm)	650	650	650	
	Stroke pitch (mm)	50	50	50	

Item		Details
Driving method	Ball screw ø10mm rolled C10	
Positioning repeatability	±0.01mm	
Lost motion	0.1mm or less	
Base	Material: Aluminum white alumite treated	
Linear guide	Direct-acting infinite circulation type	
	Ma : 546 N·m	
	Mb : 779 N·m	
Static allowable moment	Mc : 205 N·m	
	Ma : 167 N·m	
	Mb : 199 N·m	
Dynamic allowable moment (Note 1)	Mc : 89.8 N·m	
Cleanliness	ISO class 2.5 or equiv. (ISO STD 14644-1:2015), US class 10 (FED STD 209D)	
Ambient oper. temperature and humidity	0 - 40°C, 85%RH or less (non-condensing)	
Degree of protection	IP20	
Vibration- and shock-resistance	4.9m/s ²	
International standards	CE marking, RoHS directive	
Motor type	Pulse motor	
Encoder type	Battery-less absolute	
Number of encoder pulses	8192 pulse/rev	

(Note 1) Based on the rated operational life of 5000 km. The operational life varies depending on the operating conditions and mounting. Please contact IAI or refer to the website for the operation life.

(Note) Nominal stroke: Stroke indicated in the model number.
Effective stroke: Stroke that can be operated actually.
(Note) Lead 12 cannot be mounted vertically.

Slider type moment direction



Payload by speed and acceleration (double slider specification) *The default factory setting is high-output enabled. Refer to the RCP6 manual for details.

High-output setting enabled (power mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 12

Mounting	Speed (mm/s)	Acceleration (G)					
		0.3	0.5	0.7	1	0.3	0.5
Horizontal	0	24	16	14	12		
	80	24	16	14	12		
Vertical	200	24	16	14	12		
	320	24	16	10	8		
Vertical	440	20	12	8	6		
	560	12	6	4	2		
Vertical	700	5	1				

Lead 6

Mounting	Speed (mm/s)	Acceleration (G)					
		0.3	0.5	0.7	1	0.3	0.5
Horizontal	0	30	24	22	18	4	4
	40	30	24	22	18	4	4
Vertical	100	30	24	22	18	4	4
	160	30	24	22	18	4	4
Vertical	220	30	24	20	16	4	4
	280	28	22	18	10	3	3
Vertical	340	20	12	10	6	1	1
	400	6	4	1			
Vertical	450	1					

Lead 3

Mounting	Speed (mm/s)	Acceleration (G)					
		0.3	0.5	0.7	1	0.3	0.5
Horizontal	0	38	33	33	33	14	14
	50	38	33	33	33	14	14
Vertical	80	38	33	33	28	14	14
	110	38	33	33	28	14	14
Vertical	140	38	33	30	26	13	12
	170	36	28	21	20	10	8
Vertical	200	25	15	5	4	3	2
	225	3					

High-output setting disabled (energy-saving mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 12

Mounting	Speed (mm/s)	Acceleration (G)		
		0.3	0.8	0.3
Horizontal	0	12	8	
	80	12	8	
Vertical	200	12	8	
	320	12	8	
Vertical	440	9	3	
	560	2		

Lead 6

Mounting	Speed (mm/s)	Acceleration (G)		
		0.3	0.8	0.3
Horizontal	0	18	12	3
	40	18	12	3
Vertical	100	18	12	3
	160	18	12	3
Vertical	220	14	12	2
	280	8	4	
Vertical	340	1		

Lead 3

Mounting	Speed (mm/s)	Acceleration (G)		
		0.3	0.8	0.3
Horizontal	0	23	20	8
	20	23	20	8
Vertical	50	23	20	8
	80	23	20	8
Vertical	110	18	12	6
	140	12	8	3
Vertical	170	8	4	1

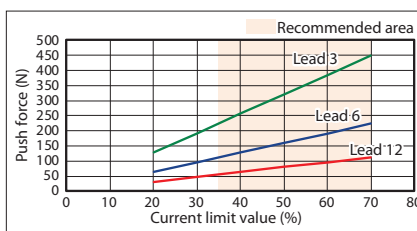
Stroke and maximum speed (double slider specification)

Lead (mm)	Nominal stroke	200~400	450	500	550	600	650	700	750	800	Suction amount (Nl/min)
	Effective stroke	50~250	300	350	400	450	500	550	600	650	
12	Connecting controllers (every 50mm)										
	High-output enabled	700			585	515	445	390	345	315	100
High-output disabled	560			515	445	390	345	315			
6	High-output enabled	450<340>	415<340>	350<340>	295	255	220	190	170	140	60
	High-output disabled	340<220>			295<220>	255<220>	220	190	170	140	
3	High-output enabled	225<200>	205<200>	170	145	125	110	95	85	70	35
	High-output disabled	170		145	125	110	95	85	70		

(Note) Values in < > represent for vertical use.
(Note) Nominal stroke: Stroke indicated in the model number.
Effective stroke: Stroke that can be operated actually.

(Unit: mm/s)

Correlation Diagram of Push Force and Current Limit (double slider spec)



(Note) Same as the single slider specification.

RCP6CR-HSA7C



±10µm
standard



±5µm
high-precision
optional



Cleanroom
Spec



Battery-less
absolute



Straight
motor





Body width
80
mm





24v
Pulse
motor


Model Specification Items


RCP6CR - HSA7C - WA - 56P - [] - [] - [] - [] - []								
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Option
		WA Battery-less absolute	56P Pulse motor 56□ size	24 24mm 16 16mm 8 8mm 4 4mm	50 50mm 800 800mm (every 50mm)	P3 PCON MSEL P5 RCON RSEL	N None P 1m S 3m M 5m X□ Specified length R□ Robot cable	Refer to option table below

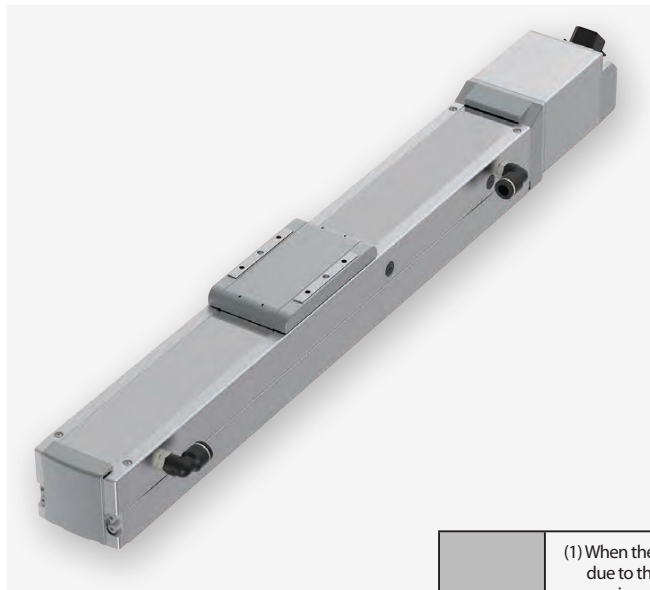




Side


Ceiling


Horizontal


Vertical






- (1) When the stroke becomes longer, the maximum speed will decrease due to the dangerous revolutions of the ball screw. Confirm the maximum speed for the desired stroke in the "Stroke and Maximum Speed."
- (2) The payload in the main specifications displays the payload's maximum value. Refer to the "Payload Diagram by Speed and Acceleration."
- (3) When performing push-motion operation, refer to the "Correlation Diagrams of Push Force and Current Limit." The push forces are guideline values. Please contact IAI or refer to the website for precautions.
- (4) The duty ratio must be limited depending on the ambient operating temperature. Please contact IAI or refer to the website for details.
- (5) Pay careful attention on the mounting method. Please contact IAI or refer to the website for details.
- (6) The guideline for the overhang load length is 400mm or less for the Ma, Mb and Mc directions (600mm or less for the double slider specification). Please contact IAI or refer to the website for the details of overhang load length.
- (7) Please contact IAI or refer to the website for the model name and precautions of the double slider specification.

Cable length	
Type	Cable code
Standard type	P (1m)
	S (3m)
	M (5m)
Specified length	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)
	R01 (1m) ~ R03 (3m) R04 (4m) ~ R05 (5m) R06 (6m) ~ R10 (10m) R11 (11m) ~ R15 (15m) R16 (16m) ~ R20 (20m)
Robot cable	

(Note) When selecting the 4-way connector cable, specify "N" in the actuator cable length and order the cable separately. The model code for ordering is as follows:
Specify the cable length in □□□. (Ex.) 080=8m, *-RB*-Robot cable
P3: CB-CAN2-MPA□□□(-RB)
P5/SE: CB-ADPC2-MPA□□□(-RB)
Please contact IAI for precautions on installation.

Options		
Name	Option code	Reference page
Brake	B	See P.189
High-precision specification (Note 1)	HPR	See P.192
Non-motor end specification	NM	See P.194
Air suction joint in opposite position	VR	See P.195
Double slider specification (Note 2)	W	See P.196

(Note 1) Cannot be selected for Lead 16/24. Cannot be selected for double slider specifications.
(Note 2) There are some leads that cannot be selected. (Please contact IAI or refer to the website)

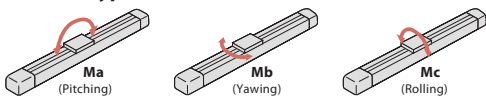
Main specifications

Item		Details					
Lead	Ball screw lead (mm)	24	16	8	4		
	Payload	Maximum payload (kg) (high-output enabled)	37	48	61	55	
Maximum payload (kg) (high-output disabled)		18	35	40	40		
Horizontal	Speed, acceleration/ deceleration	Maximum speed (mm/s)	1230	840	420	210	
		Minimum speed (mm/s)	30	20	10	5	
		Rated acceleration/deceleration (G)	0.3	0.1	0.1	0.1	
		Maximum acceleration/deceleration (G)	1	1	1	1	
Vertical	Payload	Maximum payload (kg) (high-output enabled)	3	8	16	25	
		Maximum payload (kg) (high-output disabled)	2	5	10	15	
		Speed, acceleration/ deceleration	Maximum speed (mm/s)	1080	840	420	210
			Minimum speed (mm/s)	30	20	10	5
Push motion	Maximum push force (N)	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3	
		Maximum acceleration/deceleration (G)	0.5	0.5	0.5	0.5	
		Maximum push speed (mm/s)	139	209	418	836	
		Maximum push speed (mm/s)	20	20	20	20	
Brake	Brake specification	Non-exciting electromagnetic brake					
		Brake holding force (kgf)	3	8	16	25	
Stroke	Minimum stroke (mm)	Maximum stroke (mm)	50	50	50	50	
		Maximum stroke (mm)	800	800	800	800	
		Stroke pitch (mm)	50	50	50	50	
		Stroke pitch (mm)	50	50	50	50	

Item	Details
Driving method	Ball screw ø12mm rolled C10
Positioning repeatability (Note 1)	±0.01mm [±0.005mm]
Lost motion	0.1mm or less
Base	Material: Aluminum white alumite treated
Linear guide	Direct-acting infinite circulation type
	Ma : 145 N·m
	Mb : 145 N·m
	Mc : 300 N·m
Static allowable moment	Ma : 75.5 N·m
	Mb : 90 N·m
Dynamic allowable moment (Note 2)	Mb : 90 N·m
	Mc : 134 N·m
Cleanliness	ISO class 2.5 or equiv. (ISO STD 14644-1:2015), US class 10 (FED STD 209D)
Ambient oper. temperature and humidity	0 - 40°C, 85%RH or less (non-condensing)
Degree of protection	IP20
Vibration- and shock-resistance	4.9m/s ²
International standards	CE marking, RoHS directive
Motor type	Pulse motor
Encoder type	Battery-less absolute
Number of encoder pulses	8192 pulse/rev

(Note 1) Values in [] represent for the high-precision specification (leads 4 and 8).
 (Note 2) Based on the rated operational life of 5000 km. The operational life varies depending on the operating conditions and mounting. Please contact IAI for the operation life.

Slider type moment direction



Payload by speed and acceleration * The default factory setting is high-output enabled. Refer to the RCP6 manual for details.

High-output setting enabled (power mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 24

Mounting Speed (mm/s)	Horizontal Acceleration (G)					Vertical		
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	37	37	22	16	14	3	3	3
200	37	37	22	16	14	3	3	3
420	37	34	20	16	14	3	3	3
640	37	20	15	10	9	3	3	3
860	12	9	6	4		2	2	
1080	6	3	1.5	0.5		0.5	0.5	
1230	3	1						

Lead 16

Mounting Speed (mm/s)	Horizontal Acceleration (G)					Vertical		
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	48	46	35	28	27	8	8	8
140	48	46	35	28	27	8	8	8
280	48	46	35	25	24	8	8	8
420	46	34	25	15	10	6	5	4.5
560	35	20	15	10	6	5	4	3
700	20	14	8	5	2.5	3	2	1
840	6	2				0.5		

Lead 8

Mounting Speed (mm/s)	Horizontal Acceleration (G)					Vertical		
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	61	55	50	45	40	16	16	16
70	61	55	50	45	40	16	16	16
140	61	55	50	45	37	16	16	16
210	61	55	40	33	24	11	10	9.5
280	55	40	28	20	13	9	8	7
350	51	21	9	4		7	4	3
420	40	7				4	1	

Lead 4

Mounting Speed (mm/s)	Horizontal Acceleration (G)					Vertical		
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	55	51	45	40	40	25	25	25
35	55	51	45	40	40	25	25	25
70	55	51	45	40	40	25	25	25
105	55	51	45	40	35	22	20	19
140	55	45	35	30	25	16	14	12
175	55	30	14			11	7	3
210	45					5		

High-output setting disabled (energy-saving mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 24

Mounting Speed (mm/s)	Horizontal Acceleration (G)			Vertical
	0.3	0.7	0.3	
0	18	10	2	
200	18	10	2	
420	18	10	2	
640	10	2	1	
800	4	0.5	0.5	

Lead 16

Mounting Speed (mm/s)	Horizontal Acceleration (G)			Vertical
	0.3	0.7	0.3	
0	35	20	5	
140	35	20	5	
280	25	12	3	
420	15	6	1.5	
560	7	0.5	0.5	

Lead 8

Mounting Speed (mm/s)	Horizontal Acceleration (G)			Vertical
	0.3	0.7	0.3	
0	40	25	10	
70	40	25	10	
140	40	25	7	
210	25	14	4	
280	10		1.5	

Lead 4

Mounting Speed (mm/s)	Horizontal Acceleration (G)			Vertical
	0.3	0.7	0.3	
0	40	30	15	
35	40	30	15	
70	40	30	15	
105	40	30	8	
140	3			

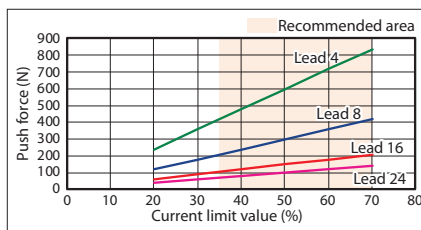
Stroke and maximum speed

Lead (mm)	Connecting controllers	50~500 (every 50mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)	Suction amount (Nl/min)
24	High-output enabled	1230<1080>		1080	950	840	750	750	130
	High-output disabled	800					750		
16	High-output enabled	840	820	715	625	555	495	495	80
	High-output disabled	560				555	495		
8	High-output enabled	420	405	350	310	275	245	245	50
	High-output disabled	280				275	245		
4	High-output enabled	210	195	175	150	135	120	120	30
	High-output disabled	140<105>				135<105>	120<105>		

(Note) Values in < > represent for vertical use.

(Unit: mm/s)

Correlation Diagram of Push Force and Current Limit



Foreword
Slider Type
Wide Slider Type
Rod Type
Radial Cylinder
Wide Radial Cylinder
Table Type
Cleanroom Slider
Cleanroom Wide Slider
Dust/Splash-Proof Rod
Dust/Splash-Proof Radial Cylinder
Dust/Splash-Proof Wide Radial Cylinder
Options
Reference Data
Controller

Dimensions

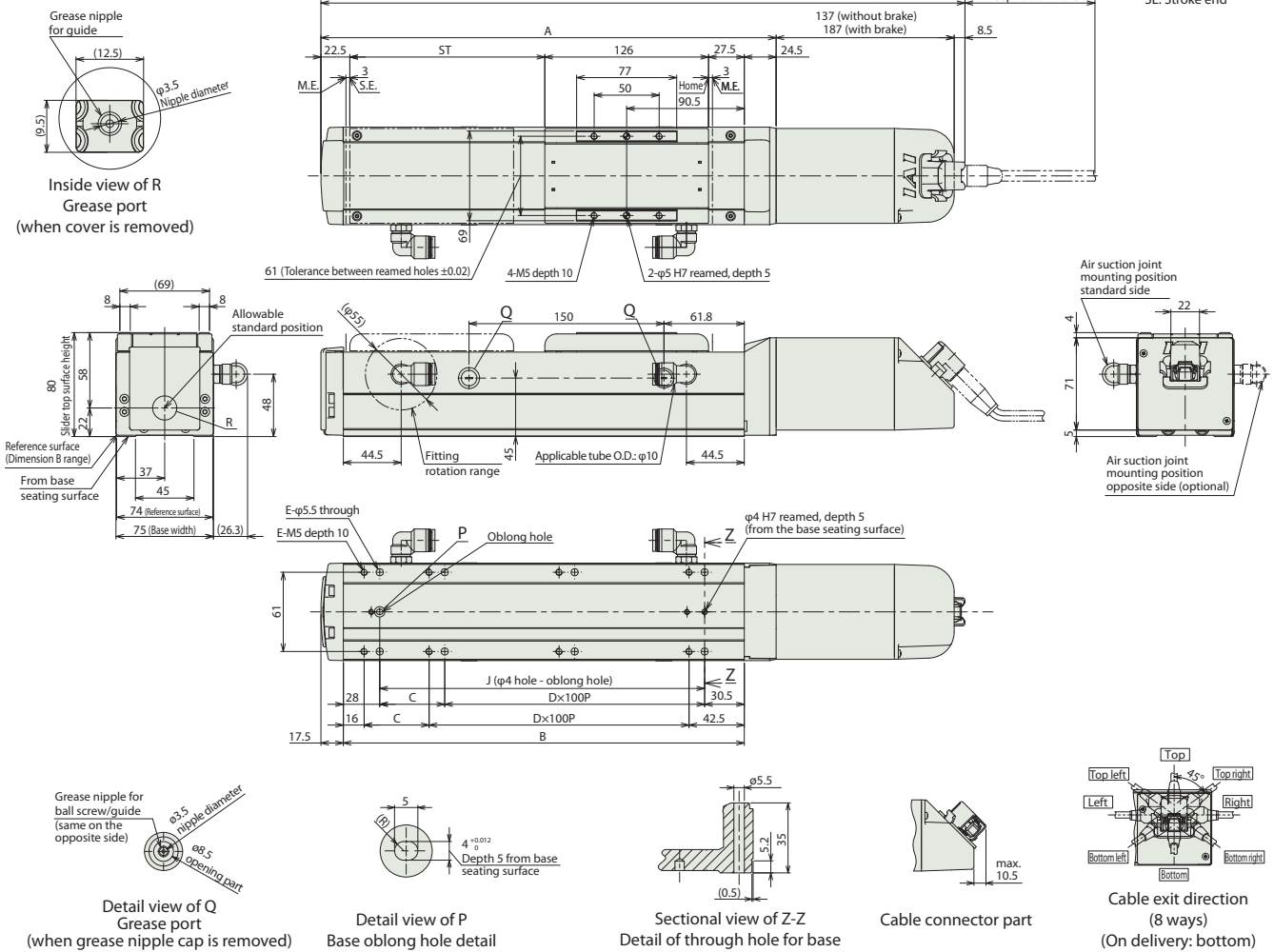
CAD drawings can be downloaded from our website.

www.iai-automation.com



(Note) When the slider is returning to its home position, be careful of interfering with surrounding objects, as it will travel until it reaches the ME.

ST: Stroke
ME: Mechanical end
SE: Stroke end



Dimensions by stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	Without brake	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146
	With brake	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196
A	250.5	300.5	350.5	400.5	450.5	500.5	550.5	600.5	650.5	700.5	750.5	800.5	850.5	900.5	950.5	1000.5	
B	208.5	258.5	308.5	358.5	408.5	458.5	508.5	558.5	608.5	658.5	708.5	758.5	808.5	858.5	908.5	958.5	
C	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	
D	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	
E	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	
J	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	

Mass by stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Mass (kg)	Without brake	3.8	4.0	4.3	4.6	4.8	5.1	5.4	5.6	5.9	6.2	6.4	6.7	7	7.5	7.8
	With brake	4.3	4.5	4.8	5.1	5.3	5.6	5.9	6.1	6.4	6.7	6.9	7.2	7.5	7.7	8

Main specifications (double slider specification)

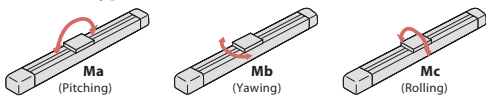
Item		Details		
Lead	Ball screw lead (mm)	16	8	4
	Horizontal Payload	Maximum payload (kg) (high-output enabled)	44	49
Maximum payload (kg) (high-output disabled)		33	38	38
Maximum speed (mm/s)		560	420	175
Horizontal Speed, acceleration/ deceleration	Minimum speed (mm/s)	20	10	5
	Rated acceleration/deceleration (G)	0.3	0.3	0.3
	Maximum acceleration/deceleration (G)	1	1	1
	Vertical Payload	Maximum payload (kg) (high-output enabled)	—	14
Maximum payload (kg) (high-output disabled)		—	8	13
Maximum speed (mm/s)		—	350	175
Vertical Speed, acceleration/ deceleration	Minimum speed (mm/s)	—	10	5
	Rated acceleration/deceleration (G)	—	0.3	0.3
	Maximum acceleration/deceleration (G)	—	0.5	0.5
	Push motion	Maximum push force (N)	112	224
Maximum push speed (mm/s)		20	20	20
Brake	Brake specification	Non-exciting electromagnetic brake		
	Brake holding force (kgf)	2.5	6	16
Stroke	Minimum nominal stroke (mm)	200	200	200
	Minimum effective stroke (mm)	50	50	50
	Maximum nominal stroke (mm)	800	800	800
	Maximum effective stroke (mm)	650	650	650
	Stroke pitch (mm)	50	50	50

Item		Details
Driving method	Ball screw ø12mm rolled C10	
Positioning repeatability	±0.01mm	
Lost motion	0.1mm or less	
Base	Material: Aluminum white alumite treated	
Linear guide	Direct-acting infinite circulation type	
	Ma : 900 N·m	
	Mb : 900 N·m	
Static allowable moment	Mc : 458 N·m	
	Ma : 316 N·m	
Dynamic allowable moment (Note 1)	Mb : 376 N·m	
	Mc : 218 N·m	
Cleanliness	ISO class 2.5 or equiv. (ISO STD 14644-1:2015), US class 10 (FED STD 209D)	
Ambient oper. temperature and humidity	0 - 40°C, 85%RH or less (non-condensing)	
Degree of protection	IP20	
Vibration- and shock-resistance	4.9m/s ²	
International standards	CE marking, RoHS directive	
Motor type	Pulse motor	
Encoder type	Battery-less absolute	
Number of encoder pulses	8192 pulse/rev	

(Note 1) Based on the rated operational life of 5000 km. The operational life varies depending on the operating conditions and mounting. Please contact IAI for the operation life.

(Note) Nominal stroke: Stroke indicated in the model number.
Effective stroke: Stroke that can be operated actually.
(Note) Lead 16 cannot be mounted vertically.

Slider type moment direction



Payload by speed and acceleration * The default factory setting is high-output enabled. Refer to the RCP6 manual for details.

High-output setting enabled (power mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 16

Mounting	Horizontal		Vertical			
	Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	44	33	26	25		
140	44	33	26	25		
280	44	32	22	20		
420	30	20	10	6		
560	10	6	4	2		

Lead 8

Mounting	Horizontal			Vertical		
	Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	49	43	38	38	14	14
70	49	43	38	38	14	14
140	49	38	36	33	14	14
210	49	33	28	20	8	7
280	36	24	16	10	5	4
350	14	4	1		1	
420	3					

Lead 4

Mounting	Horizontal		Vertical			
	Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	49	43	38	38	23	23
35	49	43	38	38	23	23
70	49	43	38	38	23	23
105	49	43	38	33	18	17
140	40	30	25	20	9	7
175	25	7			4	1

High-output setting disabled (energy-saving mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 16

Mounting	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.7	0.3	
0	33	18		
140	33	18		
280	23	10		
420	10	3		

Lead 8

Mounting	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.7	0.3	
0	38	23	8	
70	38	23	8	
140	38	23	5	
210	20	10	2	
280	5			

Lead 4

Mounting	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.7	0.3	
0	38	28	13	
35	38	28	13	
70	38	28	13	
105	36	26	4	
140	6			

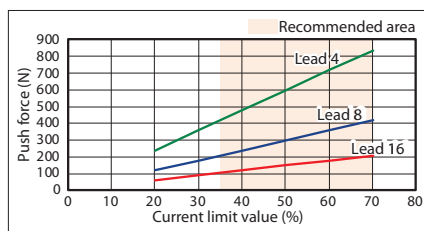
Stroke and maximum speed (double slider specification)

Lead (mm)	Nominal stroke	200~550	600	650	700	750	800	Suction amount (N _L /min)
	Effective stroke	50~400	450	500	550	600	650	
	Connecting controllers	(every 50mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
16	High-output enabled	560			555		495	100
	High-output disabled	420						
8	High-output enabled	420<350>	405<350>	350	310	275	245	60
	High-output disabled	280<210>						
4	High-output enabled	175		150		135	120	40
	High-output disabled	140<105>						

(Note) Values in < > represent for vertical use.
(Note) Nominal stroke: Stroke indicated in the model number.
Effective stroke: Stroke that can be operated actually

(Unit: mm/s)

Correlation Diagram of Push Force and Current Limit (double slider spec.)



(Note) Same as the single slider specification.

RCP6CR-HSA6XC

$\pm 10\mu\text{m}$ standard	Cleanroom Spec	Battery-less absolute	Support Mechanism	Straight motor	Body width 60 mm	24v Pulse motor
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Model Specification Items

RCP6CR - HSA6XC - WA - 42P

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Option
WA	HSA6XC	Battery-less absolute	42P Pulse motor 42□ size	20 20mm 12 12mm 6 6mm 3 3mm	500 500mm 1500 1500mm (every 50mm)	P3 PCON MSEL P5 RCON RSEL	N None P 1m S 3m M 5m X□□ Specified length R□□ Robot cable	Refer to option table below

CE RoHS 10

Side Ceiling

Horizontal Vertical



- (1) When the stroke becomes longer, the maximum speed will decrease due to the dangerous revolutions of the ball screw. Confirm the maximum speed for the desired stroke in the "Stroke and Maximum Speed."
- (2) The payload in the main specifications displays the payload's maximum value. Refer to the "Payload Diagram by Speed and Acceleration."
- (3) When performing push-motion operation, refer to the "Correlation Diagrams of Push Force and Current Limit." The push forces are guideline values. Please contact IAI or refer to the website for precautions.
- (4) The duty ratio must be limited depending on the ambient operating temperature. Please contact IAI or refer to the website for details.
- (5) Pay careful attention on the mounting method. Please contact IAI or refer to the website for details.
- (6) The guideline for the overhang load length is 300mm or less for the Ma, Mb and Mc directions. Please contact IAI or refer to the website for the details of overhang load length.

Cable length	
Type	Cable code
Standard type	P (1m)
	S (3m)
	M (5m)
Specified length	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)
	R01 (1m) ~ R03 (3m)
Robot cable	R04 (4m) ~ R05 (5m)
	R06 (6m) ~ R10 (10m)
	R11 (11m) ~ R15 (15m)
	R16 (16m) ~ R20 (20m)

(Note) When selecting the 4-way connector cable, specify "N" in the actuator cable length and order the cable separately. The model code for ordering is as follows:
Specify the cable length in □□□. (Ex.) 080=8m, "-RB"=Robot cable
P3: CB-CAN2-MPA□□□(-RB)
P5/SE: CB-ADPC2-MPA□□□(-RB)
Please contact IAI for precautions on installation.

Options		
Name	Option code	Reference page
Brake	B	See P.189
Non-motor end specification	NM	See P.194
Air suction joint in opposite position	VR	See P.195

Foreword
Slider Type
Wide Slider Type
Rod Type
Radial Cylinder
Wide Radial Cylinder
Table Type
Cleanroom Slider
Cleanroom Wide Slider
Dust/Splash-Proof Rod
Dust/Splash-Proof Radial Cylinder
Dust/Splash-Proof Wide Radial Cylinder
Options
Reference Data
Controller

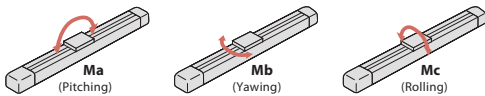
Main specifications

Item		Details				
Lead	Ball screw lead (mm)	20	12	6	3	
	Payload	Maximum payload (kg) (high-output enabled)	15	28	42	42
		Maximum payload (kg) (high-output disabled)	8	14	20	25
Horizontal	Speed, acceleration/ deceleration	Maximum speed (mm/s)	1120	800	450	225
		Minimum speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.1	0.1	0.3
		Maximum acceleration/deceleration (G)	1	1	1	1
Vertical	Payload	Maximum payload (kg) (high-output enabled)	1	2.5	6	16
		Maximum payload (kg) (high-output disabled)	0.75	2	5	10
Vertical	Speed, acceleration/ deceleration	Maximum speed (mm/s)	960	700	450	225
		Minimum speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Maximum acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push motion	Maximum push force (N)	67	112	224	449	
	Maximum push speed (mm/s)	20	20	20	20	
Brake	Brake specification	Non-exciting electromagnetic brake				
	Brake holding force (kgf)	1	2.5	6	16	
Stroke	Minimum stroke (mm)	500	500	500	500	
	Maximum stroke (mm)	1500	1500	1400	1000	
	Stroke pitch (mm)	50	50	50	50	

Item	Details
Driving method	Ball screw ø10mm rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Base	Material: Aluminum white alumite treated
Linear guide	Direct-acting infinite circulation type
Static allowable moment	Ma : 65 N·m
	Mb : 75 N·m
	Mc : 120 N·m
Dynamic allowable moment (Note 1)	Ma : 33.7 N·m
	Mb : 40.2 N·m
	Mc : 55.3 N·m
Cleanliness	ISO class 2.5 or equiv. (ISO STD 14644-1:2015), US class 10 (FED STD 209D)
Ambient oper. temperature and humidity	0 - 40°C, 85%RH or less (non-condensing)
Degree of protection	IP20
Vibration- and shock-resistance	4.9m/s ²
International standards	CE marking, RoHS directive
Motor type	Pulse motor
Encoder type	Battery-less absolute
Number of encoder pulses	8192 pulse/rev

(Note 1) Based on the rated operational life of 5000 km. The operational life varies depending on the operating conditions and mounting. Please contact IAI or refer to the website for the operation life.

Slider type moment direction



Payload by speed and acceleration * The default factory setting is high-output enabled. Refer to the RCP6 manual for details.

High-output setting enabled (power mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 20

Mounting Speed (mm/s)	Acceleration (G)							
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	15	15	10	8	7	1	1	1
160	15	15	10	8	7	1	1	1
320	12	12	10	8	6	1	1	1
480	12	12	9	8	6	1	1	1
640	12	12	6.5	5	4	1	1	1
800	9.5	9.5	5	3	2	1	1	1
960		6	3	2	1		0.5	0.5
1120		3	1					

Lead 12

Mounting Speed (mm/s)	Acceleration (G)							
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	28	26	18	16	14	2.5	2.5	2.5
80	28	26	18	16	14	2.5	2.5	2.5
200	28	26	18	16	14	2.5	2.5	2.5
320	26	26	18	14	12	2.5	2.5	2.5
440	26	26	13	11	8	2.5	2.5	2.5
560	17.5	17.5	9	5	3	2	2	2
700		9	3	2	1		1	0.5
800		3						

Lead 6

Mounting Speed (mm/s)	Acceleration (G)							
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	42	38	26	24	20	6	6	6
40	42	38	26	24	20	6	6	6
100	40	38	26	24	20	6	6	6
160	40	38	26	24	20	6	6	6
220	37	36	26	24	18	6	6	6
280	32	32	26	18	13	6	6	5.5
340	26	26	16	11	8	5	5	4.5
400	22	16	6	3	1	2.5	2.5	1.5
450	12	6	1			1	1	

Lead 3

Mounting Speed (mm/s)	Acceleration (G)							
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5
0	42	42	35	35	35	16	16	16
50	42	42	35	35	35	16	16	16
80	40	40	35	35	30	16	16	16
110	40	40	35	35	30	16	16	16
140	40	40	35	35	28	15	15	15
170	40	36	29	20	16	11	10	8
200	24	6	6	1	1	4	4	3
225	8					1		

High-output setting disabled (energy-saving mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 20

Mounting Speed (mm/s)	Acceleration (G)			
	0.3	0.7	0.3	0.3
0	8	5		0.75
160	8	5		0.75
320	8	5		0.75
480	8	4		0.75
640	6	3		0.75
800	3	0.5		

Lead 12

Mounting Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	14	10	2
80	14	10	2
200	14	10	2
320	14	10	2
440	11	5	1.5
560	4	0.5	0.5

Lead 6

Mounting Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	20	14	5
40	20	14	5
100	20	14	5
160	20	14	5
220	16	14	4
280	11	3	1.5
340	1		

Lead 3

Mounting Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	25	22	10
20	25	22	10
50	25	22	10
80	25	22	10
110	20	14	8
140	15	4	3

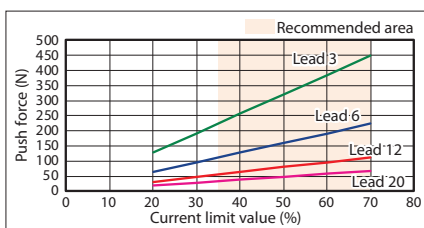
Stroke and maximum speed

Lead (mm)	Connecting controllers (every 50mm)	500~650 (mm)	700 (mm)	750 (mm)	800 (mm)	850 (mm)	900 (mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)	1150 (mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)	Suction amount (Nl/min)
20	High-output enabled	1120<960>				970<960>		940	860	790	730	640	610	580	540	470	450	430	400	110
	High-output disabled	800<640>				790<640>		730<640>	640	610	580	540	470	450	430	400				
12	High-output enabled	800<700>	770<700>	770<700>	680	620	560	510	460	425	380	360	330	315	285	270	250	235	220	110
	High-output disabled	560				510		460	425	380	360	330	315	285	270	250	235	220		
6	High-output enabled	450	380	380	340	310	280	255	230	210	185	175	165	140	135	125	115			55
	High-output disabled	340<280>				310<280>		280	255	230	210	185	175	165	140	135	125	115		
3	High-output enabled	225	190	190	165	145	135	125	115											40
	High-output disabled	140				135		125	115											

(Unit: mm/s)

(Note) Values in < > represent for vertical use.

Correlation Diagram of Push Force and Current Limit



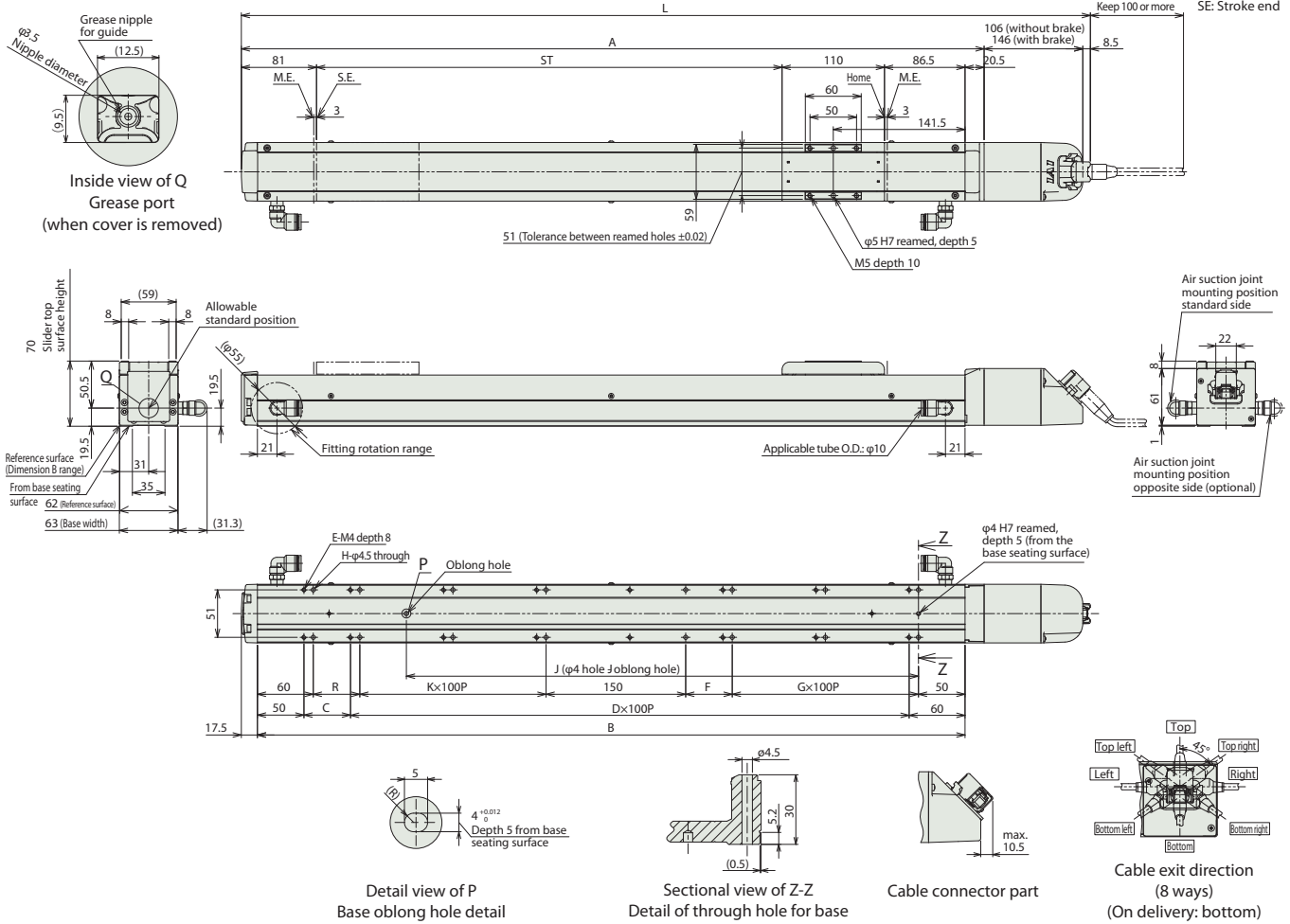
Dimensions

(Note) When the slider is returning to its home position, be careful of interfering with surrounding objects, as it will travel until it reaches the ME.

CAD drawings can be downloaded from our website.
www.iai-automation.com



ST: Stroke
ME: Mechanical end
SE: Stroke end



Dimensions by stroke

Stroke	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
L	Without brake	912.5	962.5	1012.5	1062.5	1112.5	1162.5	1212.5	1262.5	1312.5	1362.5	1412.5	1462.5	1512.5	1562.5	1612.5	1662.5	1712.5	1762.5	1812.5	1862.5	1912.5
	With brake	952.5	1002.5	1052.5	1102.5	1152.5	1202.5	1252.5	1302.5	1352.5	1402.5	1452.5	1502.5	1552.5	1602.5	1652.5	1702.5	1752.5	1802.5	1852.5	1902.5	1952.5
A	798	848	898	948	998	1048	1098	1148	1198	1248	1298	1348	1398	1448	1498	1548	1598	1648	1698	1748	1798	
B	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560	1610	1660	1710	1760	
C	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	
D	6	7	7	8	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16
E	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36	
F	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	
G	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	
H	16	16	16	18	20	20	20	22	24	24	24	26	28	28	28	30	32	32	32	34	36	
J	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	
K	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	
R	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	

Mass by stroke

Stroke	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
Mass (kg)	Without brake	4.9	5.1	5.3	5.5	5.7	5.9	6.2	6.4	6.6	6.8	7.0	7.2	7.4	7.6	7.9	8.1	8.3	8.5	8.7	8.9	9.1
	With brake	5.2	5.4	5.6	5.8	6.0	6.3	6.5	6.7	6.9	7.1	7.3	7.5	7.7	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.4

Applicable controllers

The actuators in this page can be operated by the following controllers. Select the right controller type according to the application.

Name	External view	Maximum number of connectable axes	Power voltage	Control method													Maximum number of positioning points	Reference page				
				Positioner	Pulse train	Program	Network option *															
				DV	CC	CIE	PR	CN	—	—	EC	EP	PRT	—	ECM							
MSEL-PC/PG		4	Single-phase AC 100~230V	—	—	●	●	●	—	●	—	—	—	—	●	●	●	—	—	30000	Please see the MSEL catalogue.	
PCON-CB/CGB		1		●	●	—	●	●	●	●	—	—	●	●	●	—	—	—	—	512 (768 for network specification)	P.255	
PCON-CY/PLB/POB (Coming soon)		1		●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64	—	
RCON		16 (8 for ECM)		—	—	—	●	●	●	●	—	—	—	—	—	●	●	●	—	●	128 (No position data for ECM)	Please see the R-unit catalogue.
RSEL		8		—	—	●	●	●	●	—	—	—	—	—	●	●	●	—	—	36000		

* Network abbreviations: DV - DeviceNet | CC - CC-Link | CIE - CC-Link IE | PR - Profibus-DP | CN - CompoNet | EC - EtherCAT | EP - Ethernet/IP | PRT - Profinet-IO | ECM - EtherCAT Motion

Foreword
Slider Type
Wide Slider Type
Rod Type
Radial Cylinder
Wide Radial Cylinder
Table Type
Cleanroom Slider
Cleanroom Wide Slider
Dust/Splash-Proof Rod
Dust/Splash-Proof Radial Cylinder
Dust/Splash-Proof Wide Radial Cylinder
Options
Reference Data
Controller

RCP6CR-HSA7XC

$\pm 10\mu\text{m}$ standard	Cleanroom Spec	Battery-less absolute	Support Mechanism	Straight motor	Body width 80 mm	24v Pulse motor
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Model Specification Items

RCP6CR	HSA7XC	WA	56P					
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Option
		WA Battery-less absolute	56P Pulse motor 56□ size	24 24mm 16 16mm 8 8mm 4 4mm	700 700mm 1500 1500mm (every 50mm)	P3 PCON MSEL P5 RCON RSEL	N None P 1m S 3m M 5m X□□ Specified length R□□ Robot cable	Refer to option table below

CE RoHS 10

Side Ceiling

Horizontal Vertical



- (1) When the stroke becomes longer, the maximum speed will decrease due to the dangerous revolutions of the ball screw. Confirm the maximum speed for the desired stroke in the "Stroke and Maximum Speed."
- (2) The payload in the main specifications displays the payload's maximum value. Refer to the "Payload Diagram by Speed and Acceleration."
- (3) When performing push-motion operation, refer to the "Correlation Diagrams of Push Force and Current Limit." The push forces are guideline values. Please contact IAI or refer to the website for precautions.
- (4) The duty ratio must be limited depending on the ambient operating temperature. Please contact IAI or refer to the website for details.
- (5) Pay careful attention on the mounting method. Please contact IAI or refer to the website for details.
- (6) The guideline for the overhang load length is 400mm or less for the Ma, Mb and Mc directions. Please contact IAI or refer to the website for the details of overhang load length.

Cable length	
Type	Cable code
Standard type	P (1m)
	S (3m)
	M (5m)
Specified length	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)
	R01 (1m) ~ R03 (3m)
Robot cable	R04 (4m) ~ R05 (5m)
	R06 (6m) ~ R10 (10m)
	R11 (11m) ~ R15 (15m)
	R16 (16m) ~ R20 (20m)

(Note) When selecting the 4-way connector cable, specify "N" in the actuator cable length and order the cable separately. The model code for ordering is as follows:
Specify the cable length in □□□. (Ex.) 080=8m, "-RB"=Robot cable
P3: CB-CAN2-MPA□□□(-RB)
P5/SE: CB-ADPC2-MPA□□□(-RB)
Please contact IAI for precautions on installation.

Options		
Name	Option code	Reference page
Brake	B	See P.189
Non-motor end specification	NM	See P.194
Air suction joint in opposite position	VR	See P.195

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Dust/Splash-Proof Wide Radial Cylinder
Options
Reference Data
Controller

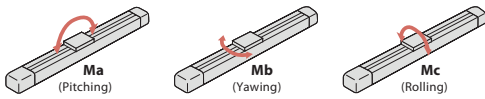
Main specifications

Item		Details				
Lead	Ball screw lead (mm)	24	16	8	4	
	Payload	Maximum payload (kg) (high-output enabled)	37	48	53	53
Maximum payload (kg) (high-output disabled)		18	35	40	40	
Horizontal	Speed, acceleration/ deceleration	Maximum speed (mm/s)	1080	700	420	175
		Minimum speed (mm/s)	30	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.1	0.1	0.1
		Maximum acceleration/deceleration (G)	1	1	1	1
		Maximum payload (kg) (high-output enabled)	3	8	16	25
Vertical	Payload	Maximum payload (kg) (high-output disabled)	2	5	10	15
		Maximum speed (mm/s)	860	560	350	140
Speed, acceleration/ deceleration	Minimum speed (mm/s)	30	20	10	5	
	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3	
	Maximum acceleration/deceleration (G)	0.5	0.5	0.5	0.5	
	Maximum push force (N)	139	209	418	836	
Push motion	Maximum push speed (mm/s)	20	20	20	20	
		Brake specification	Non-exciting electromagnetic brake			
Brake	Brake holding force (kgf)	3	8	16	25	
		Minimum stroke (mm)	700	700	700	700
Stroke	Maximum stroke (mm)	1500	1500	1500	1100	
	Stroke pitch (mm)	50	50	50	50	

Item	Details
Driving method	Ball screw ø12mm rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Base	Material: Aluminum white alumite treated
Linear guide	Direct-acting infinite circulation type
	Ma : 145 N·m
Static allowable moment	Mb : 145 N·m
	Mc : 300 N·m
Dynamic allowable moment (Note 1)	Ma : 75.5 N·m
	Mb : 90 N·m
	Mc : 134 N·m
Cleanliness	ISO class 2.5 or equiv. (ISO STD 14644-1:2015), US class 10 (FED STD 209D)
Ambient oper. temperature and humidity	0 - 40°C, 85%RH or less (non-condensing)
Degree of protection	IP20
Vibration- and shock-resistance	4.9m/s ²
International standards	CE marking, RoHS directive
Motor type	Pulse motor
Encoder type	Battery-less absolute
Number of encoder pulses	8192 pulse/rev

(Note 1) Based on the rated operational life of 5000 km. The operational life varies depending on the operating conditions and mounting. Please contact IAI for the operation life.

Slider type moment direction



Payload by speed and acceleration * The default factory setting is high-output enabled. Refer to the RCP6 manual for details.

High-output setting enabled (power mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 24

Mounting Speed (mm/s)	Horizontal Acceleration (G)								Vertical		
	Acceleration (G)										
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5			
0	37	37	22	16	14	3	3	3			
200	37	37	22	16	14	3	3	3			
420	34	34	20	16	11	3	3	3			
640	15	15	10	8	6.5	3	3	2			
860	9	6	3	2	1						
1080	3										

Lead 16

Mounting Speed (mm/s)	Horizontal Acceleration (G)								Vertical		
	Acceleration (G)										
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5			
0	48	46	35	28	27	8	8	8			
140	48	46	35	28	27	8	8	8			
280	48	46	35	25	19	8	8	8			
420	35	30	19	15	10	5	5	4.5			
560	15	15	9	5	2	2.5	2.5	2			
700	3	3	1								

Lead 8

Mounting Speed (mm/s)	Horizontal Acceleration (G)								Vertical		
	Acceleration (G)										
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5			
0	53	51	45	40	40	16	16	16			
70	53	51	45	40	40	16	16	16			
140	53	51	40	38	35	16	16	16			
210	51	51	35	30	24	10	10	9.5			
280	40	40	28	20	15	8	8	7			
350	26	20	8	2		3	3	2			
420	5	1									

Lead 4

Mounting Speed (mm/s)	Horizontal Acceleration (G)								Vertical		
	Acceleration (G)										
	0.1	0.3	0.5	0.7	1	0.1	0.3	0.5			
0	53	51	45	40	40	25	25	25			
35	53	51	45	40	40	25	25	25			
70	53	51	45	40	40	25	25	25			
105	51	51	45	40	35	20	20	19			
140	45	45	35	30	25	14	14	12			
175	11					4	3				

High-output setting disabled (energy-saving mode) The maximum speed varies depending on the payload. The unit of payload is kg. Operation is not possible in blank columns.

Lead 24

Mounting Speed (mm/s)	Horizontal Acceleration (G)			Vertical
	Acceleration (G)			
	0.3	0.7	0.3	
0	18	10	2	
200	18	10	2	
420	18	10	2	
640	9	2	1	
800	1			

Lead 16

Mounting Speed (mm/s)	Horizontal Acceleration (G)			Vertical
	Acceleration (G)			
	0.3	0.7	0.3	
0	35	20	5	
140	35	20	5	
280	25	12	3	
420	14	4	1.5	
500	4			

Lead 8

Mounting Speed (mm/s)	Horizontal Acceleration (G)			Vertical
	Acceleration (G)			
	0.3	0.7	0.3	
0	40	25	10	
70	40	25	10	
140	40	25	7	
210	25	14	4	

Lead 4

Mounting Speed (mm/s)	Horizontal Acceleration (G)			Vertical
	Acceleration (G)			
	0.3	0.7	0.3	
0	40	30	15	
35	40	30	15	
70	40	30	15	
105	40	20	8	
120	8			

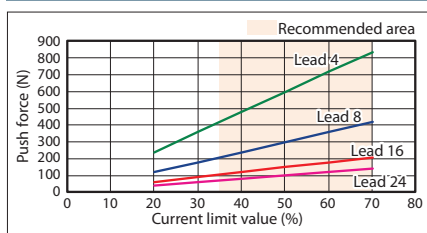
Stroke and maximum speed

Lead (mm)	Connecting controllers	700~950 (every 50mm)	1000 (mm)	1050 (mm)	1100 (mm)	1150 (mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)	Suction amount (Nℓ/min)
24	High-output enabled	1080<860>			990<860>		850	770	735	680	635	565	550	140
	High-output disabled	800<640>			770<640>		735<640>	680<640>	635	565	550			
16	High-output enabled	700<560>			645<560>		590<560>	555	510	470	420	375	355	120
	High-output disabled	500<420>			470<420>		440<420>	420	375	355				
8	High-output enabled	420	375	345	310	285	255	245	230	215	190	180	170	55
	High-output disabled	210			190		180	170						
4	High-output enabled	175<140>		165<140>	150<140>									35
	High-output disabled	120<105>												

(Note) Values in <> represent for vertical use.

(Unit: mm/s)

Correlation Diagram of Push Force and Current Limit



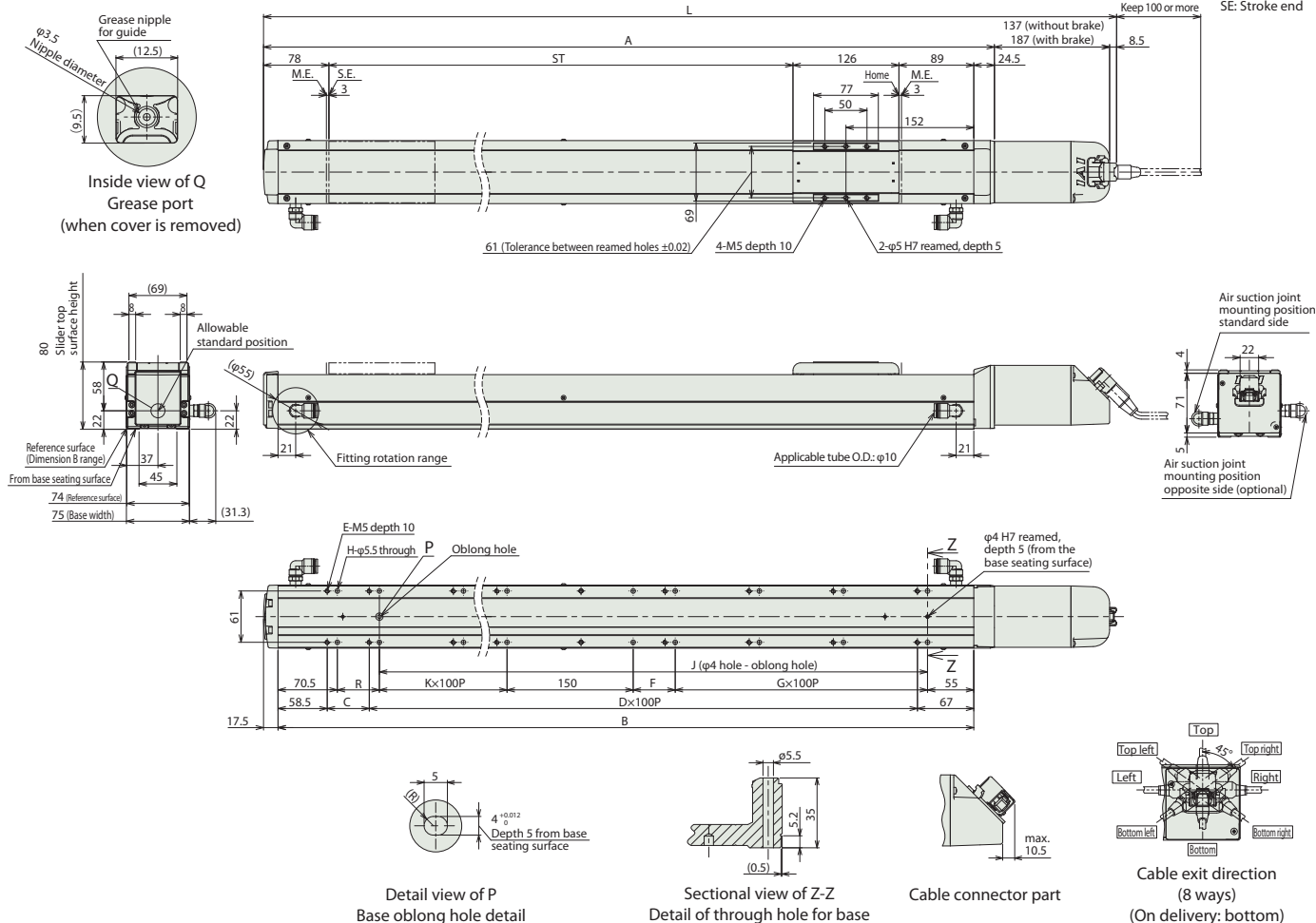
Dimensions

(Note) When the slider is returning to its home position, be careful of interfering with surrounding objects, as it will travel until it reaches the ME.

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Options
Reference Data
Controller

Dimensions by stroke

Stroke	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
L	Without brake	1163	1213	1263	1313	1363	1413	1463	1513	1563	1613	1663	1713	1763	1813	1863	1913	1963
	With brake	1213	1263	1313	1363	1413	1463	1513	1563	1613	1663	1713	1763	1813	1863	1913	1963	2013
A	1017.5	1067.5	1117.5	1167.5	1217.5	1267.5	1317.5	1367.5	1417.5	1467.5	1517.5	1567.5	1617.5	1667.5	1717.5	1767.5	1817.5	
B	975.5	1025.5	1075.5	1125.5	1175.5	1225.5	1275.5	1325.5	1375.5	1425.5	1475.5	1525.5	1575.5	1625.5	1675.5	1725.5	1775.5	
C	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	
D	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	
E	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36	
F	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	
G	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	
H	20	20	20	22	24	24	24	26	28	28	28	30	32	32	32	34	36	
J	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	
K	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	
R	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	

Mass by stroke

Stroke	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
Mass (kg)	Without brake	8.4	8.7	8.9	9.2	9.5	9.8	10.0	10.3	10.6	10.8	11.1	11.4	11.6	11.9	12.2	12.4	12.7
	With brake	8.9	9.2	9.5	9.7	10.0	10.3	10.5	10.8	11.1	11.3	11.6	11.9	12.1	12.4	12.7	12.9	13.2

Applicable controllers

The actuators in this page can be operated by the following controllers. Select the right controller type according to the application.

Name	External view	Maximum number of connectable axes	Power voltage	Control method													Maximum number of positioning points	Reference page		
				Positioner	Pulse train	Program	Network option *													
				DV	CC	CIE	PR	CN	—	—	EC	EP	PRT	—	ECM					
MSEL-PC/PG		4	Single-phase AC 100~230V DC24V	—	—	●	●	●	—	●	—	—	—	●	●	●	—	—	30000	Please see the MSEL catalogue.
PCON-CB/CGB		1		●	●	—	●	●	●	●	—	—	●	●	●	—	—	—	512 (768 for network specification)	P.255
PCON-CYB/PLB/POB (Coming soon)		1		●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	64	—
RCON		16 (8 for ECM)		—	—	—	●	●	●	●	—	—	●	●	●	—	●	—	128 (No position data for ECM)	Please see the R-unit catalogue.
RSEL		8		—	—	●	●	●	●	—	—	—	●	●	●	—	—	—	36000	

* Network abbreviations: DV - DeviceNet | CC - CC-Link | CIE - CC-Link IE | PR - Profibus-DP | CN - CompoNet | EC - EtherCAT | EP - Ethernet/IP | PRT - Profinet-IO | ECM - EtherCAT Motion