

FLCR

Electric actuator
Motor specification

Table



CONTENTS

Product introduction	Intro Pages
● Specifications/How to order/Dimensions	
· FLCR-16	14
· FLCR-20	16
· FLCR-25	18
● Model selection	20
● Technical data	22
⚠ Safety precautions	58
Model Selection Check Sheet	69

FLCR Series variation

Model No.	Motor size	Screw lead (mm)	Max. load capacity (kg)		Stroke length and max. speed (mm/s)			Maximum pressing force (N)
			Horizontal	Vertical	50 mm	75 mm	100 mm	
FLCR-16	□20	2	4	4	100 mm/s			90
		8	3	0.5	300			20
FLCR-20	□25	2	5.5	6	100			150
		8	5	0.8	300			55
FLCR-25	□25L	2	11	8.5	100			210
		6	11	3	300			90

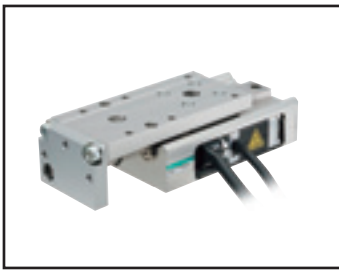
FLSH

FLCR

FGRC

ECR
(Controller)

Safety
precautions



Electric actuator Table FLCR-16

20 stepper motor



How to order

FLCR - **16** **02** **050** **N** **C** **N** - **L** **S03**

A Size

16

B Screw lead

02	2 mm
08	8 mm

C Stroke length

050	50 mm
075	75 mm
100	100 mm

D Encoder

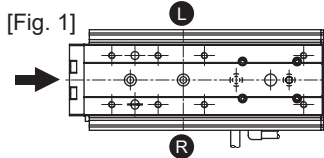
C	Incremental encoder
---	---------------------

E Connector leadout direction *1

L	Left surface
R	Right surface

F Relay cable *2 *3

N00	None
S01	Fixing cable 1 m
S03	Fixing cable 3 m
S05	Fixing cable 5 m
S10	Fixing cable 10 m
R01	Movable cable 1 m
R03	Movable cable 3 m
R05	Movable cable 5 m
R10	Movable cable 10 m



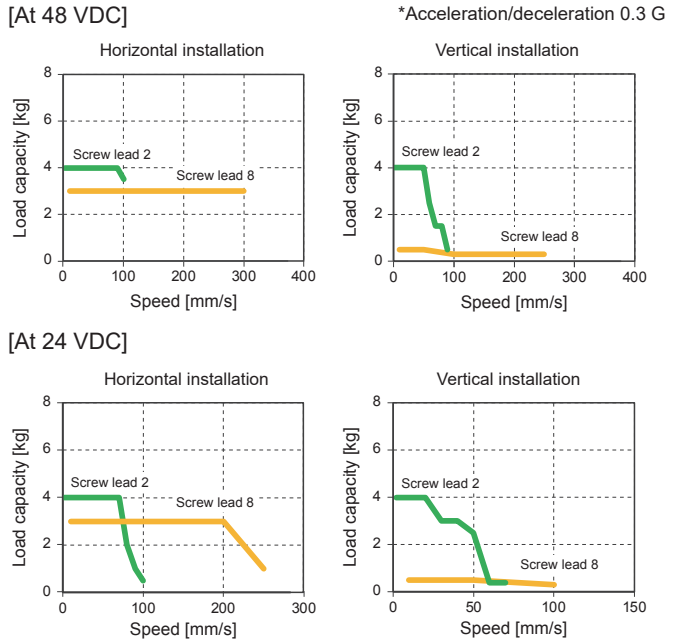
*1 Refer to Figure 1.
*2 Select the controller from page 45.
*3 Refer to page 55 for relay cable dimensions.

Specifications

Motor	<input type="checkbox"/> 20 stepper motor	
Encoder type	Incremental encoder	
Drive method	Ball screw (ø6) + belt	
Stroke length	mm	50, 75, 100
Screw lead	mm	2 8
Max. load capacity	kg	Horizontal: 4(4) 3(3) Vertical: 4(4) 0.5(0.5)
Operation speed range *3	mm/s	2 to 100(100) 10 to 300(250)
Maximum pressing force	N	90 20
Pressing operation speed range	mm/s	2 to 20 5 to 20
Repeatability	mm	±0.02
Lost motion	mm	0.1 or less
Static allowable moment	N·m	<50st>MP:17.8, MY:17.8, MR:19.2 [75 st or greater]: MP: 37.3, MY: 37.3, MR: 19.2
Motor power supply voltage	24 VDC ±10% or 48 VDC ±10%	
Motor section maximum instantaneous current	A	1.5
Insulation resistance	10 MΩ, 500 VDC	
Withstand voltage	500 VAC for 1 minute	
Operating ambient temperature, humidity	0 to 40°C (no freezing) 35 to 80% RH (no condensation)	
Storage ambient temperature, humidity	-10 to 50°C (no freezing) 35 to 80% RH (no condensation)	
Atmosphere	No corrosive gas, explosive gas, or dust	
Degree of protection	IP40	

*1 The values in () are at 24 VDC.
*2 Maximum value at acceleration/deceleration of 0.3 G. Load capacity varies according to acceleration/deceleration and speed. Refer to page 27 for details.
*3 The maximum speed values in () are at 24 VDC.

Speed and load capacity

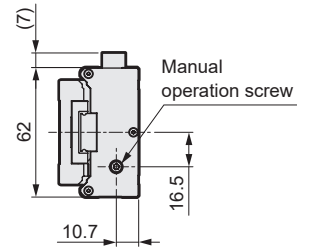


Stroke length and max. speed

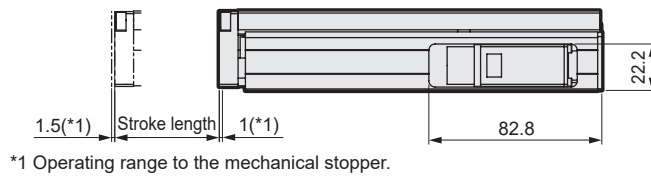
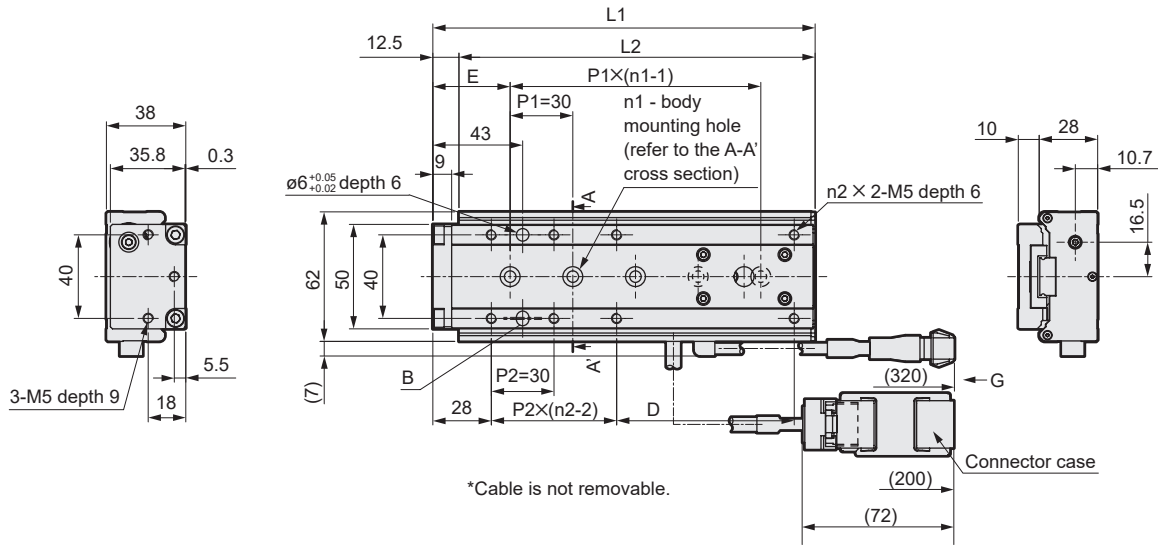
Screw lead	Power supply voltage	Stroke length
		(mm/s)
2	48 VDC	100
	24 VDC	100
8	48 VDC	300
	24 VDC	250

Dimensions

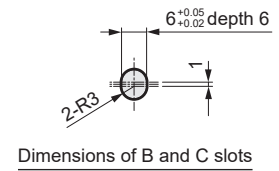
● FLCR-16



For connector leadout direction L (left)



*1 Operating range to the mechanical stopper.

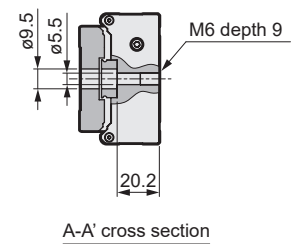
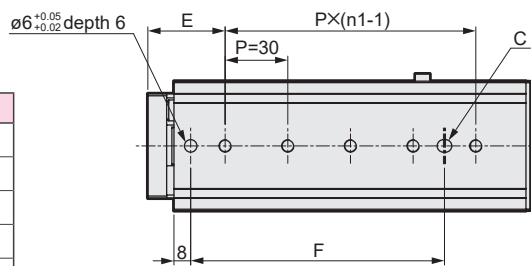


Dimensions of B and C slots

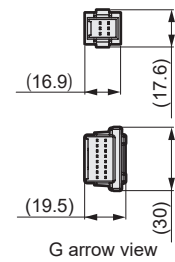
[Dimensions by stroke]

Stroke length	50	75	100
L1	116	158	183
L2	103.5	145.5	170.5
n1	3	4	5
n2	3	4	4
D	48	60	85
E	35.5	39	37
F	60	93.5	121.5
Weight kg	0.8	1.1	1.3

This figure shows connector leadout direction R (right).



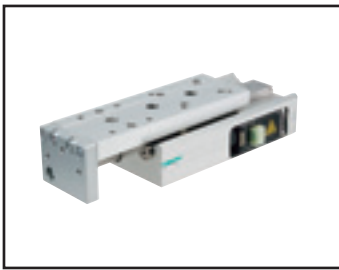
A-A' cross section



G arrow view

FLSH
FLCR
FGRC
ECR (Controller)

Safety precautions



Electric actuator Table FLCR-20

□ 25 stepper motor



How to order

FLCR - **20** **02** **050** N **C** N - **F** **S03**

A Size

20

B Screw lead

02	2 mm
08	8 mm

C Stroke length

050	50 mm
075	75 mm
100	100 mm

D Encoder

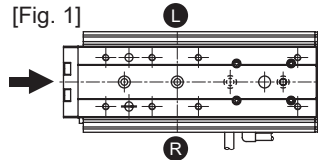
C	Incremental encoder
---	---------------------

E Connector leadout direction *1

L	Left surface
R	Right surface

F Relay cable *2 *3

N00	None
S01	Fixing cable 1 m
S03	Fixing cable 3 m
S05	Fixing cable 5 m
S10	Fixing cable 10 m
R01	Movable cable 1 m
R03	Movable cable 3 m
R05	Movable cable 5 m
R10	Movable cable 10 m



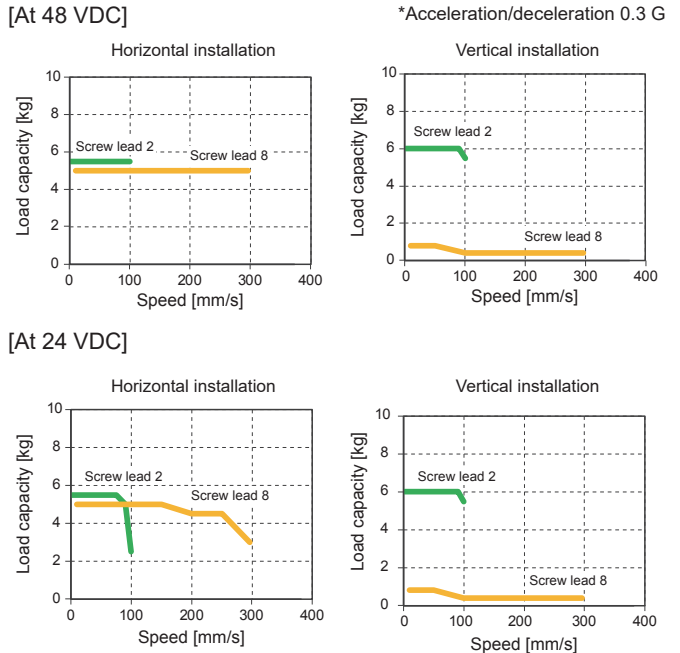
*1 Refer to Figure 1.
*2 Select the controller from page 45.
*3 Refer to page 55 for relay cable dimensions.

Specifications

Motor	□ 25 stepper motor	
Encoder type	Incremental encoder	
Drive method	Ball screw (ø6) + belt	
Stroke length	mm	50, 75, 100
Screw lead	mm	2 8
Max. load capacity kg	Horizontal	5.5(5.5) 5(5)
*1*2	Vertical	6(6) 0.8(0.8)
Operation speed range *3	mm/s	2 to 100(100) 10 to 300(300)
Maximum pressing force	N	150 55
Pressing operation speed range	mm/s	2 to 20 5 to 20
Repeatability	mm	±0.02
Lost motion	mm	0.1 or less
Static allowable moment	N·m	<50st>MP:31.1, MY:31.1, MR:37.6 [75 st or greater]: MP: 56.2, MY: 56.2, MR: 37.6
Motor power supply voltage	24 VDC ±10% or 48 VDC ±10%	
Motor section maximum instantaneous current	A	3
Insulation resistance	10 MΩ, 500 VDC	
Withstand voltage	500 VAC for 1 minute	
Operating ambient temperature, humidity	0 to 40°C (no freezing) 35 to 80% RH (no condensation)	
Storage ambient temperature, humidity	-10 to 50°C (no freezing) 35 to 80% RH (no condensation)	
Atmosphere	No corrosive gas, explosive gas, or dust	
Degree of protection	IP40	

*1 The values in () are at 24 VDC.
*2 Maximum value at acceleration/deceleration of 0.3 G. Load capacity varies according to acceleration/deceleration and speed. Refer to page 27 for details.
*3 The maximum speed values in () are at 24 VDC.

Speed and load capacity

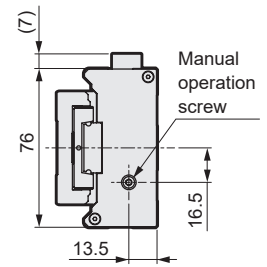


Stroke length and max. speed

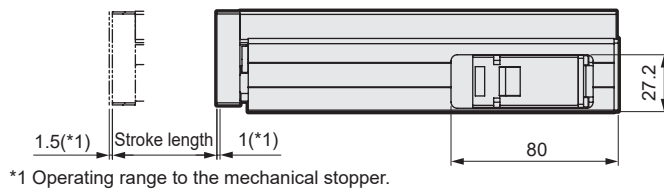
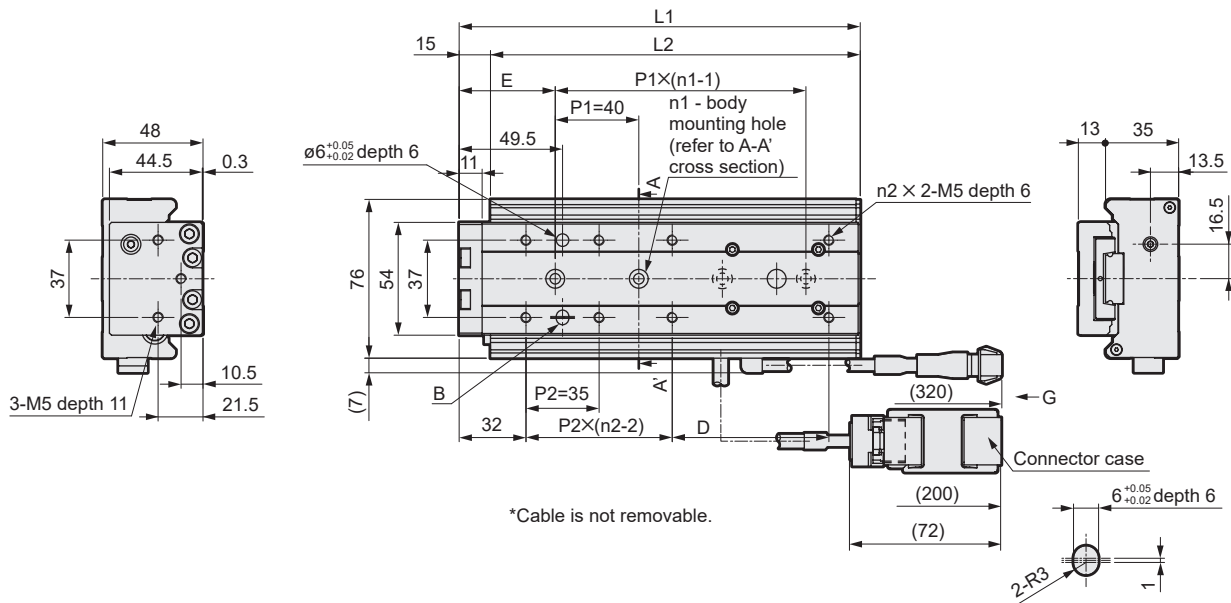
Screw lead	Power supply voltage	Stroke length
		(mm/s)
2	48 VDC	100
	24 VDC	100
8	48 VDC	300
	24 VDC	300

Dimensions

● FLCR-20



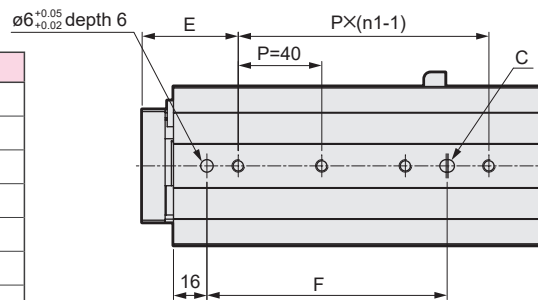
For connector leadout direction L (left)



Dimensions of B and C slots

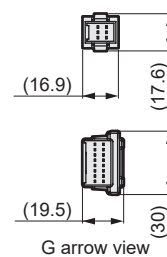
[Dimensions by stroke]

Stroke length	50	75	100
L1	130.5	167	192
L2	115.5	152	177
n1	2	3	4
n2	3	4	4
D	48.5	50	75
E	49	46	46
F	38	75	115
Weight kg	1.3	1.7	1.9



A-A' cross section

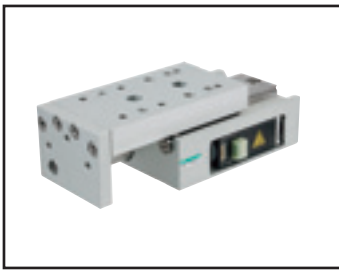
This figure shows connector leadout direction R (right).



G arrow view

FLSH
FLCR
FGRC
ECR (Controller)

Safety precautions



Electric actuator Table FLCR-25

25L stepper motor



How to order

FLCR - **25** **02** **050** **N** **C** **N** - **L** **S03**

A Size

25

B Screw lead

02	2 mm Coming Soon
06	6 mm

C Stroke length

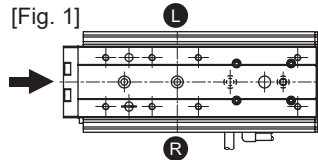
050	50 mm
075	75 mm
100	100 mm

D Encoder

C	Incremental encoder
---	---------------------

E Connector leadout direction *1

L	Left surface
R	Right surface



F Relay cable *2 *3

N00	None
S01	Fixing cable 1 m
S03	Fixing cable 3 m
S05	Fixing cable 5 m
S10	Fixing cable 10 m
R01	Movable cable 1 m
R03	Movable cable 3 m
R05	Movable cable 5 m
R10	Movable cable 10 m

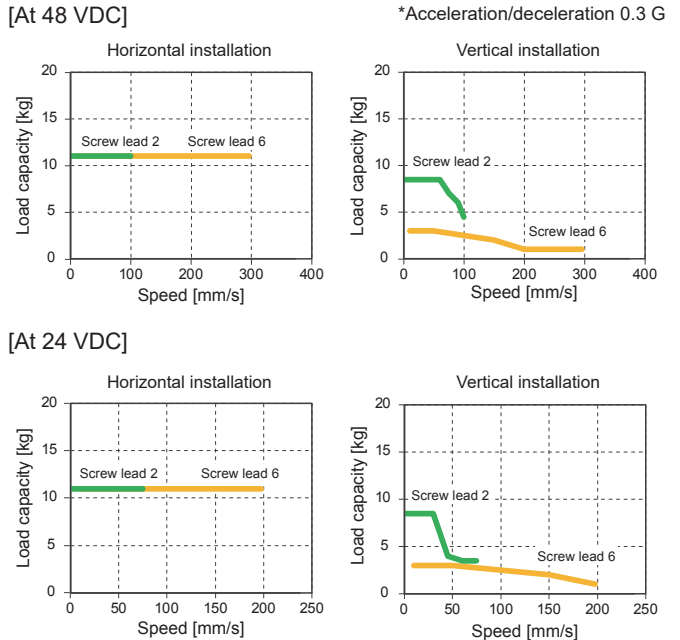
*1 Refer to Figure 1.
*2 Select the controller from page 45.
*3 Refer to page 55 for relay cable dimensions.

Specifications

Motor	<input type="checkbox"/> 25L stepper motor	
Encoder type	Incremental encoder	
Drive method	Ball screw (ø10) + belt	
Stroke length	mm	50, 75, 100
Screw lead	mm	2 6
Max. load capacity kg	Horizontal	11(11) 11(11)
	Vertical	8.5(8.5) 3(3)
Operation speed range *3	mm/s	2 to 100(75) 7 to 300(200)
Maximum pressing force	N	210 90
Pressing operation speed range	mm/s	2 to 20 5 to 20
Repeatability	mm	±0.02
Lost motion	mm	0.1 or less
Static allowable moment	N·m	<50st>MP:65.1, MY:65.1, MR:116.3 [75 st or greater]: MP: 127.5, MY: 127.5, MR: 116.3
Motor power supply voltage	24 VDC ±10% or 48 VDC ±10%	
Motor section maximum instantaneous current	A	4.5
Insulation resistance	10 MΩ, 500 VDC	
Withstand voltage	500 VAC for 1 minute	
Operating ambient temperature, humidity	0 to 40°C (no freezing) 35 to 80% RH (no condensation)	
Storage ambient temperature, humidity	-10 to 50°C (no freezing) 35 to 80% RH (no condensation)	
Atmosphere	No corrosive gas, explosive gas, or dust	
Degree of protection	IP40	

*1 The values in () are at 24 VDC.
*2 Maximum value at acceleration/deceleration of 0.3 G. Load capacity varies according to acceleration/deceleration and speed. Refer to page 27 for details.
*3 The maximum speed values in () are at 24 VDC.

Speed and load capacity

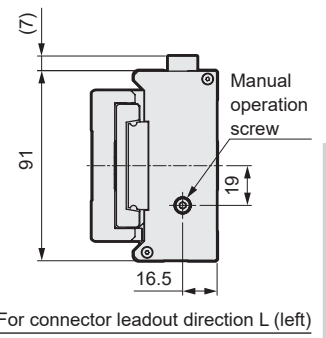


Stroke length and max. speed

Screw lead	Power supply voltage	Stroke length
		(mm/s)
2	48 VDC	100
	24 VDC	75
6	48 VDC	300
	24 VDC	200

Dimensions

● FLCR-25

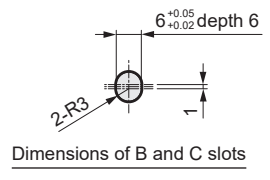
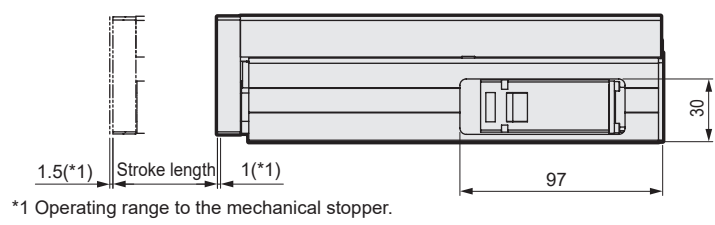
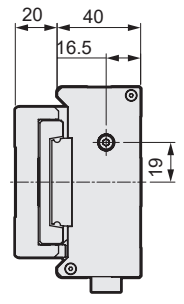
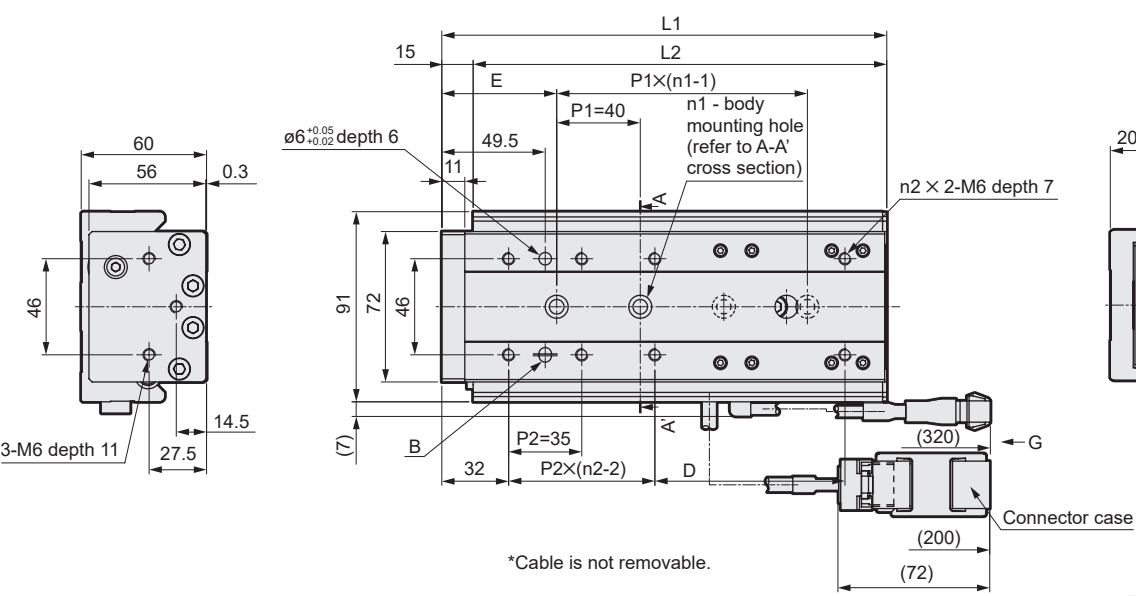


FLSH

FLCR

FGRC

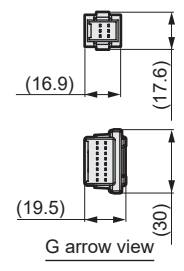
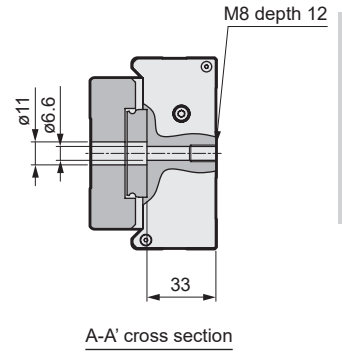
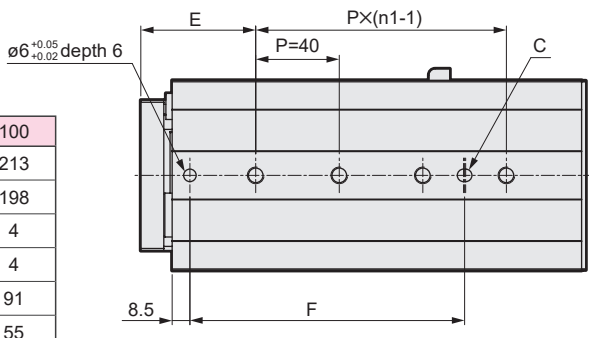
ECR
(Controller)



[Dimensions by stroke]

Stroke length	50	75	100
L1	142.5	188	213
L2	127.5	173	198
n1	2	3	4
n2	3	4	4
D	55.5	66	91
E	60.5	60	55
F	57	96.5	131.5
Weight kg	2.3	3.0	3.3

This figure shows connector leadout direction R (right).



Safety
precautions