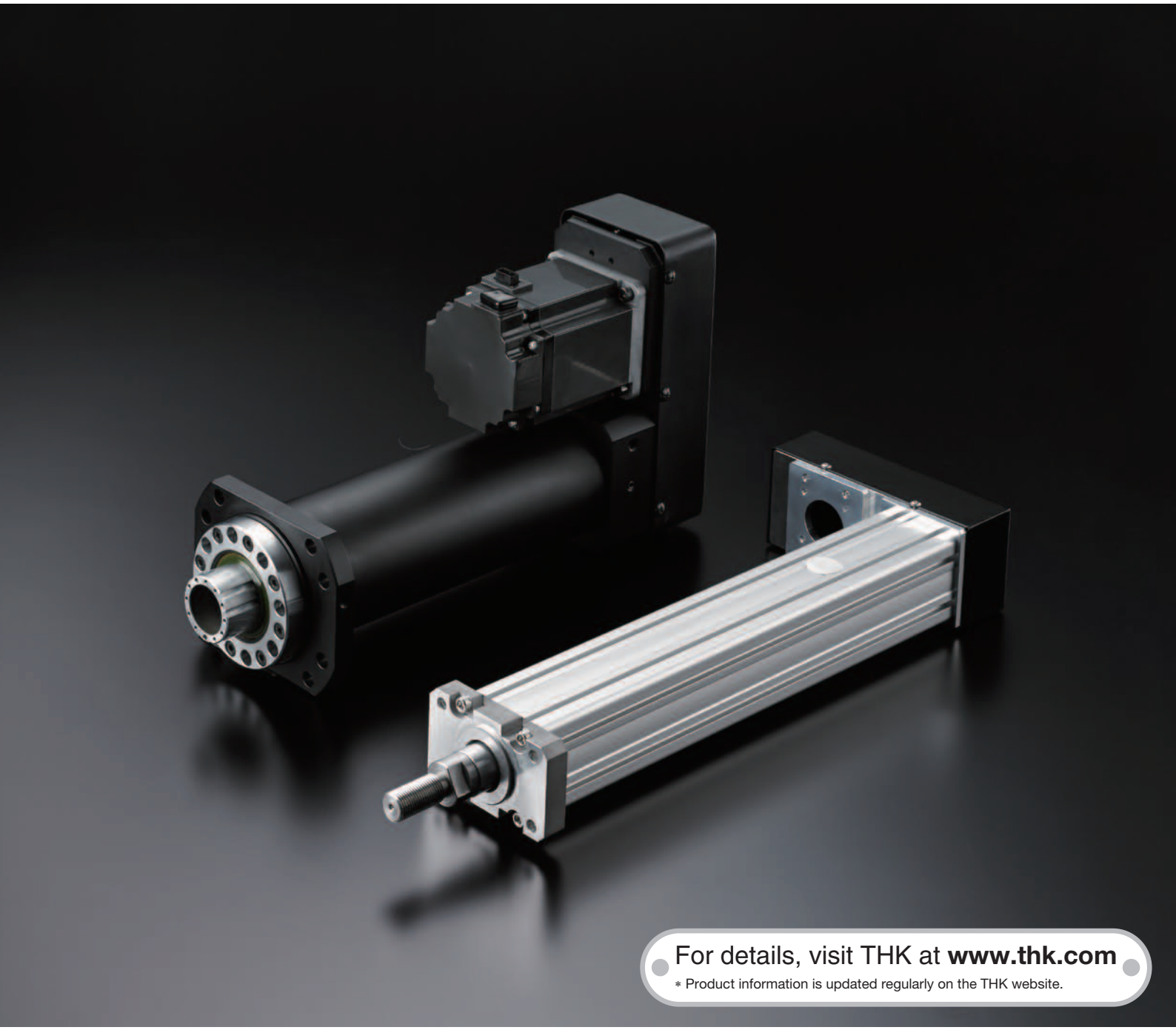
THK

ACTUATOR UNITS

NEW

Press series

PCT/PC



For details, visit THK at **www.thk.com**

* Product information is updated regularly on the THK website.

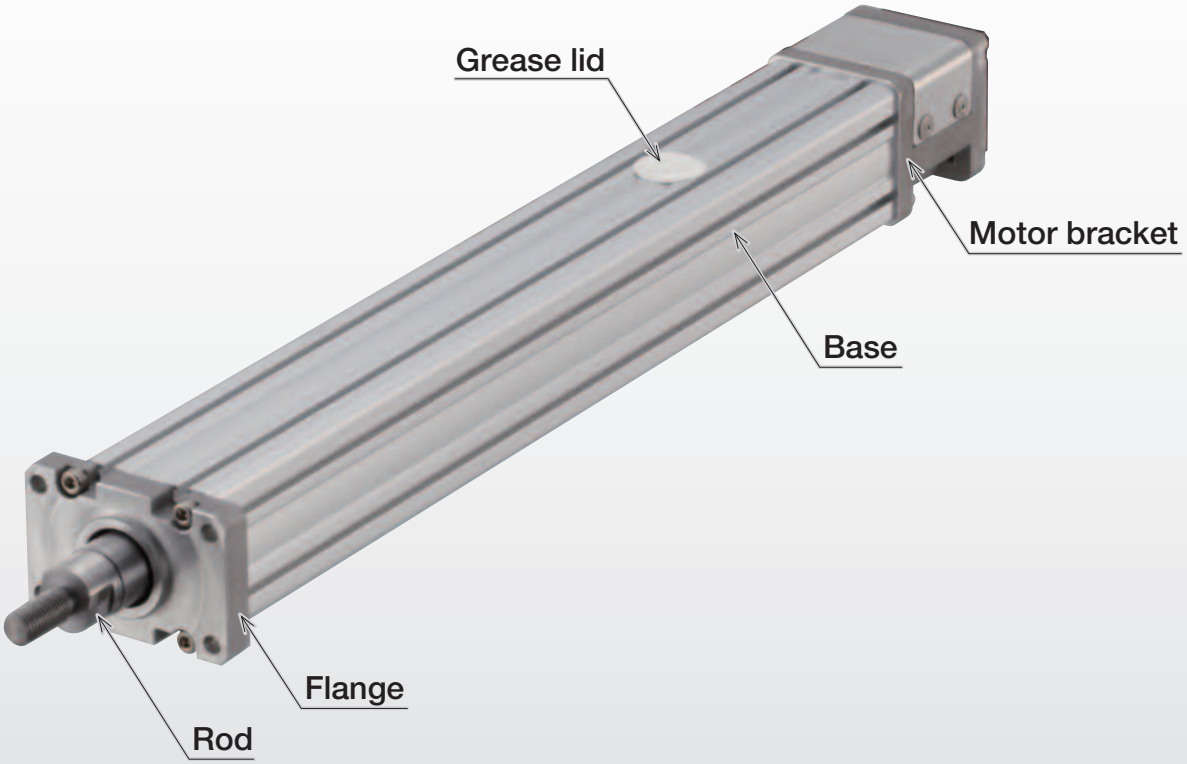
THK CO., LTD.
TOKYO, JAPAN

CATALOG No.379-5E

Electrical Actuator
Press Series

PCT

Cylinder-type Actuator with Ball Screw



Features

Press actuator

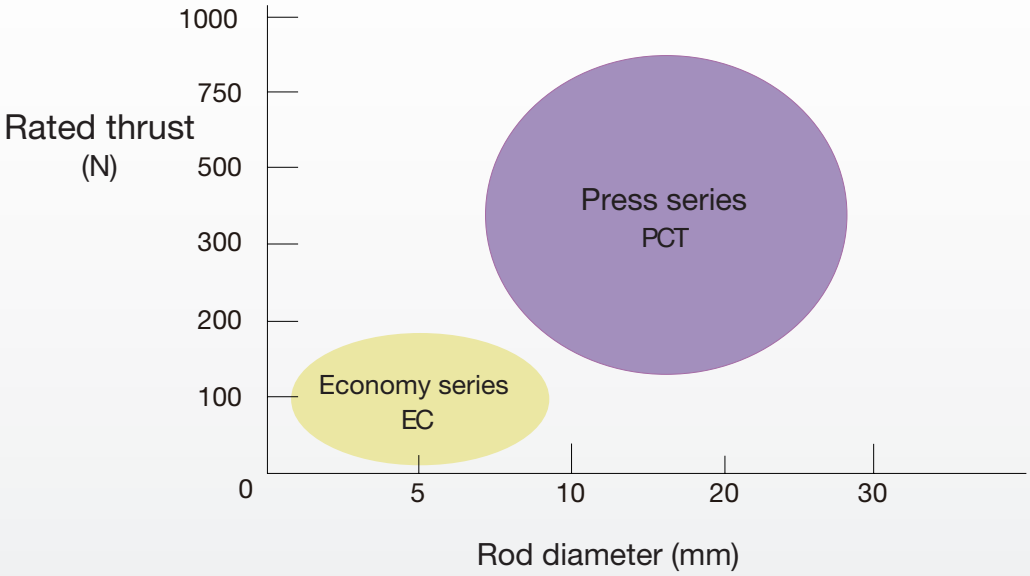
This actuator is offers superior axial load rigidity and thus available for use in a small press fitting and caulking machine.

Motorized

A motorized mechanism is employed instead of an air cylinder, reducing process time, increasing accuracy, and providing multi-point positioning, for improved productivity.

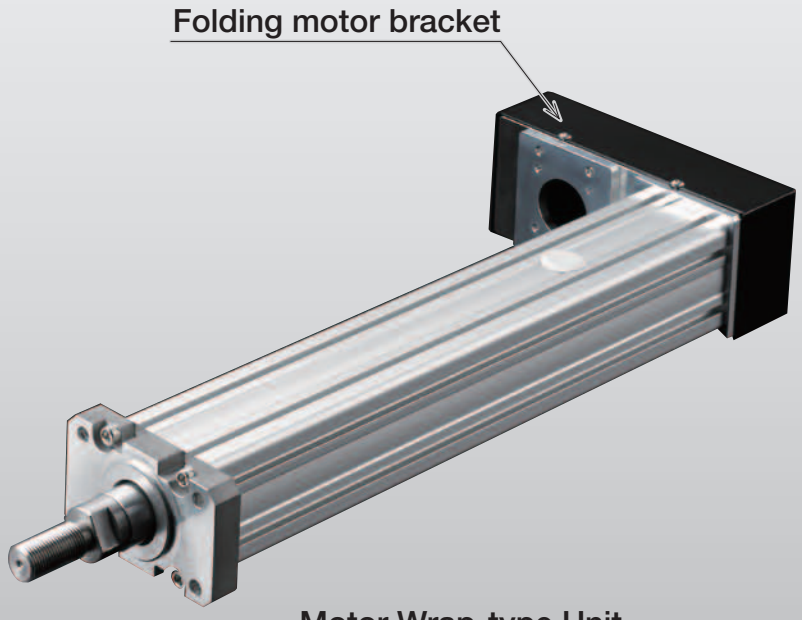
Many possible variations

A combination of ball screw lead and motor capacity allows you to select products suited to your needs from five types of variations with rated thrusts ranging from about 100 to 800N.



Flexible device design

PCT can support any installation direction through the use of a flange or T slot on the main unit.
Motor installation is also possible by direct coupling or return.
(When a radial load and moment load are applied to the rod, a guide must be installed separately.)



Motor Wrap-type Unit

PCT Model Configuration without Motor

Model	Lead, reduction ratio	Stroke	Option	With/without motor	Motor bracket	Method for fixing the motor shaft
PCT20R	06N	0200	R	0	A1	D
(1)	(2)	(3)	(4)	(5)	(6)	(7)
PCT20 PCT25 PCT20R PCT25R	04N 06N	0050: 50mm 0100: 100mm 0150: 150mm 0200: 200mm 0250: 250mm 0300: 300mm	N: Direct coupling D: Down L: Left R: Right	0: Without motor	A1 A2 K1 K2 B1 B2	No symbol: select when directly coupled D: D-Cut K: Key

R for PCT represents motor return.

For PCT, folded motor configuration is limited to reduction ratio 1/1. Select from the "Combinations" table below.

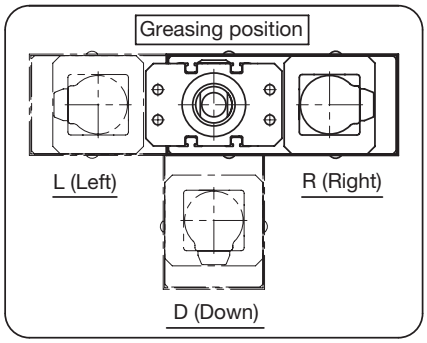
Specify N for direct motor coupling and select folded direction from the figure below for motor return.

Select a bracket from the table on page 3 to match the motor selected.

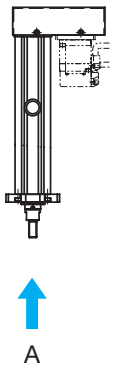
Combinations

Model (1)	Lead, reduction ratio (2)	Stroke (3)
PCT20 PCT20R	06N	0050 to 0200
PCT25 PCT25R	06N or 04N	0050 to 0300

Option: Motor return



(Seen from side A)

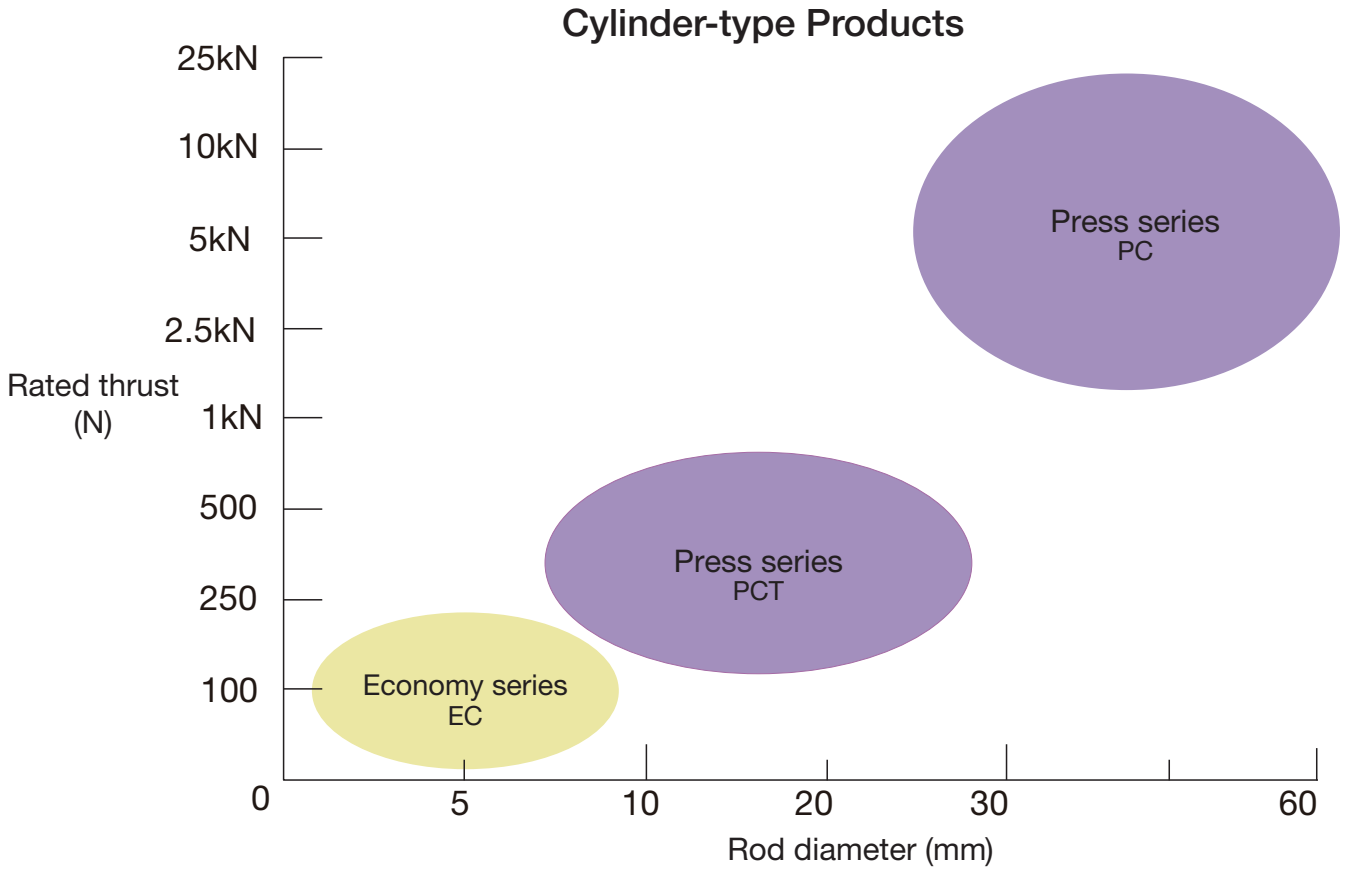


Motor brackets

Motor model				PCT20 (R)		PCT25 (R)	
Manufacturer	Series	Model	Rated output [W]	Direct motor coupling	Motor wrap	Direct motor coupling	Motor wrap
Yaskawa Electric Corporation	Σ-V	SGMJV-A5	50	A1	A1D, A1K	-	-
		SGMAV-A5		A1	A1D, A1K	-	-
		SGMJV-01	100	-	-	A1	A1D, A1K
		SGMAV-01		-	-	A1	A1D, A1K
		SGMJV-02	200	-	-	A2	A2D, A2K
		SGMAV-02		-	-	A2	A2D, A2K
Mitsubishi Electric Corporation	J4	HG-KR053	50	A1	A1D	-	-
		HG-MR053		A1	A1D	-	-
		HG-KR13	100	-	-	A1	A1D
		HG-MR13		-	-	A1	A1D
		HG-KR23	200	-	-	A2	A2K
		HG-MR23		-	-	A2	A2K
Omron Corporation	G5	R88M-K05030	50	A1	A1K	-	
		R88M-K10030	100	-	-	A1	A1K
		R88M-K20030	200	-	-	K2	K2K
Panasonic Corporation	A5	MSME5A	50	K1	K1D, K1K	-	
		MSME01	100	-	-	K1	K1D, K1K
		MSME02	200	-	-	K2	K2D, K2K
Oriental Motor Co. Ltd.	α step	□60	-	-	-	B1	-
	5 phase	□60	-	-	-	B1	-
	2 phase	□56.4	-	-	-	B2	-

Consult THK before installing a motor other than those listed above.

Specifications



PCT

Model	Motor rated output [W]	Rated thrust [N]	Maximum speed [mm/s]	Maximum stroke [mm]	Generated thrust [N] 0 100 250 500 1000 1500 2500 5000
PCT20-06N	50	133	300	200	130 / 402
PCT20R-06N					
PCT25-06N	100	266		300	260 / 796
PCT25R-06N					
PCT25-04N		400	200		400 / 1194
PCT25R-04N					
PCT25-06N	200	536	300		500 / 1600
PCT25R-06N					
PCT25-04N		804	200		800 / 2400
PCT25R-04N					

Rated thrust
Instantaneous maximum thrust

Note: Contact THK before attempting a pressing operation with generated thrust above the rated thrust and below the instantaneous maximum thrust.

PC

Model	Motor rated output [kW]	Rated thrust [kN]	Maximum speed [mm/s]	Maximum stroke [mm]	Generated thrust [kN] 0 1 2 3 7.5 10 15 20 30 40
PC30-06A	0.4	1.6	210	250	1.6 / 3.3
PC40-06B	0.75	3.2	200		3.2 / 6.4
PC40H-08C	1(0.85)	5.6	150(112.5)		5.6 / 11.2
PC50-06D	1.5(1.3)	8.4	150(112.5)		8.4 / 16.8
PC60-10E	2(1.8)	10.9	150(112.5)		10.9 / 21.8
PC60H-10F	3.5(2.9)	17.8	160(125)		17.8 / 35.6

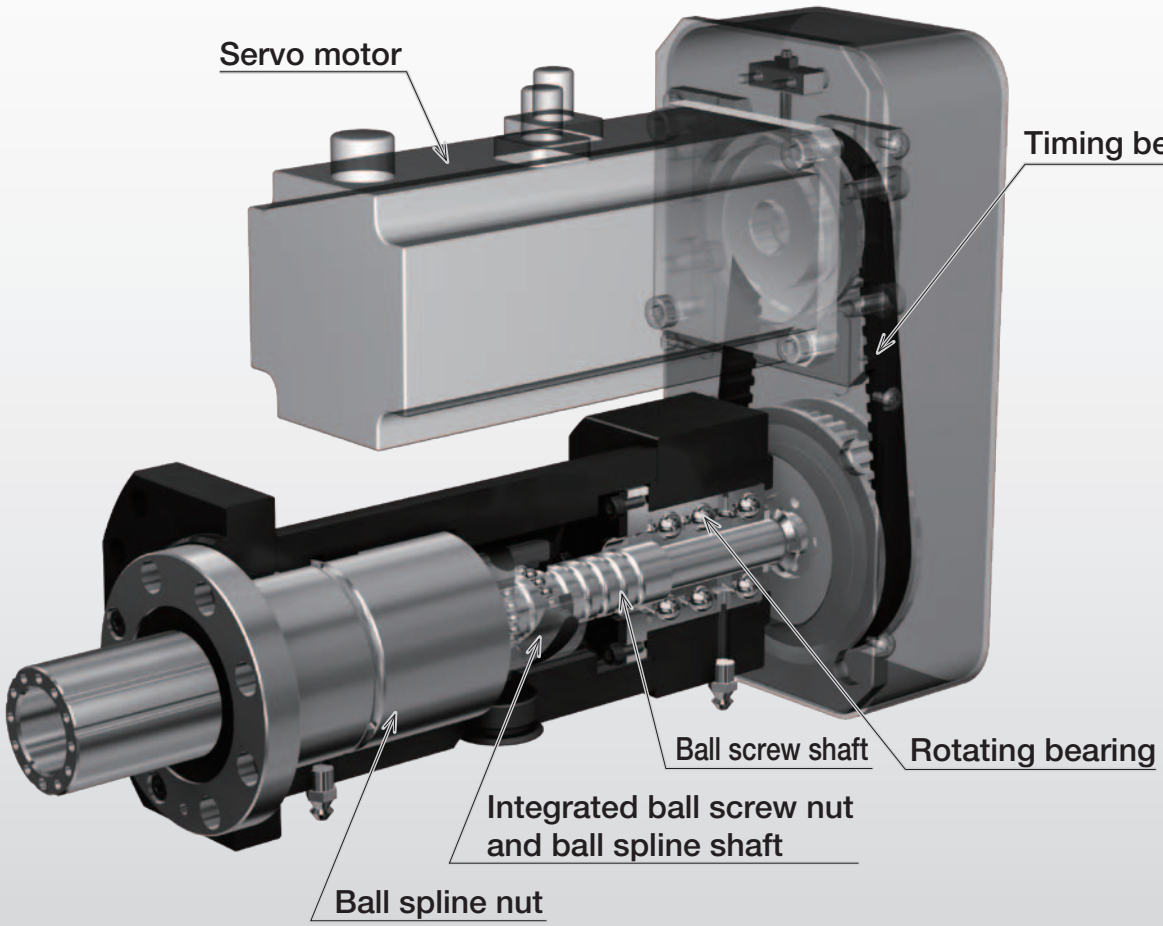
Rated thrust
Instantaneous maximum thrust

Note: Contact THK before attempting a pressing operation with generated thrust above the rated thrust and below the instantaneous maximum thrust.
Values with Yaskawa motor are shown in parentheses.

Electrical Actuator
Press Series

PC

Compact, High-precision, High-rigidity Servo Press Actuator

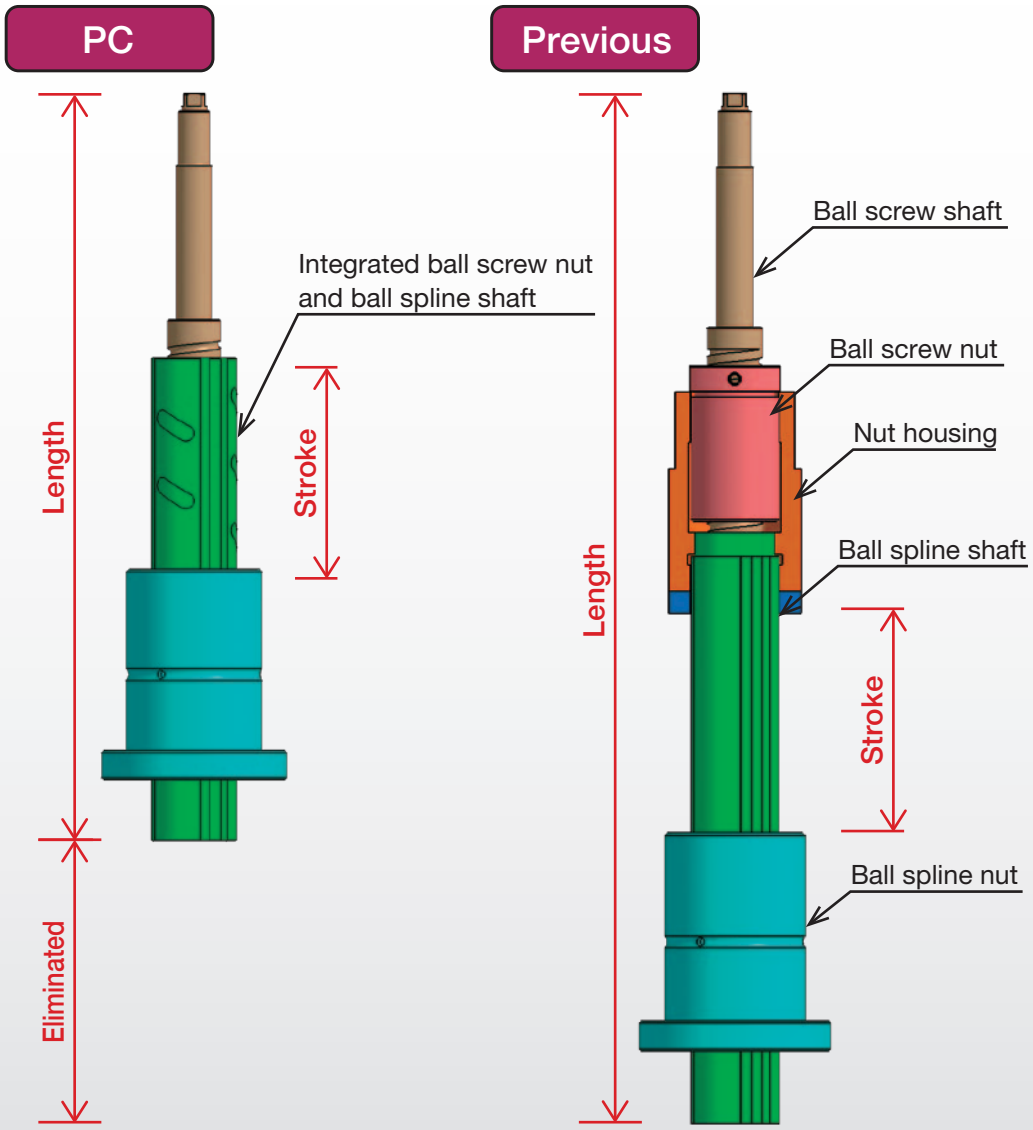


A servo press actuator with a new structure incorporating a precision ball screw nut and ball spline shaft, providing a compact unit that delivers high thrust.

Features

Compact structure

The new integrated structure, incorporating a precision ball screw nut and ball spline shaft, significantly reduces the product length, making the unit much more compact.



30% less length (when stroke is 50mm)

(Compared to our previous product)

Designed to withstand compressive loads

The bearing arrangement provides high resistance against compressive loads.

High load capacity

The ball screw shaft diameter and loaded circuitry have been maximized to enable high load capacity.

High rigidity

The Ball Spline Model LF enables smooth movement without clearance, providing a guide with high rigidity.

High feed precision

The feed mechanism employs a precision ball screw, providing superior feed precision.

PC Model Configuration with Motor and Driver

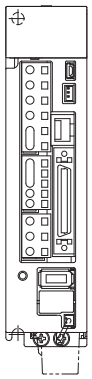
Model	Lead, reduction ratio	Stroke	Greasing position	Applicable motor (control device)	Motor cable orientation
PC30	06A	0050	D	M040BM	U
(1)	(2)	(3)	(4)	(5)	(6)
PC30	06A	0050: 50mm	D: Down	M040M	U: Up
PC40	06B	0100: 100mm	L: Left	M040BM (with brake)	L: Left
PC40H	08C	0150: 150mm	R: Right	M040Y	R: Right
PC50	06D	0200: 200mm		M040BY (with brake)	
PC60	10E	0250: 250mm		M075M	
PC60H	10F			M075BM (with brake)	
				M075Y	
				M075BY (with brake)	
				M085Y	
				M085BY (with brake)	
				M100M	
				M100BM (with brake)	
				M130Y	
				M130BY (with brake)	
				M150M	
				M150BM (with brake)	
				M180Y	
				M180BY (with brake)	
				M200M	
				M200BM (with brake)	
				M290Y	
				M290BY (with brake)	
				M350M	
				M350BM (with brake)	

Select from the "Applicable motor (control device)" table on page 8.

"M" or "Y" at the end of the symbol represents the motor manufacturer.
M: Mitsubishi Electric Corporation
Y : Yaskawa Electric Corporation

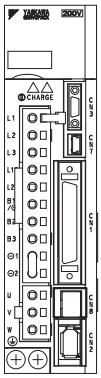
A driver and cables (5m each) are shipped with the PC main unit. To obtain a network-supported servo amp/servo pack, contact THK.

Accessories (included with main unit)

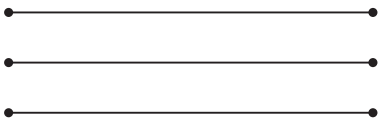


Servo amp

or



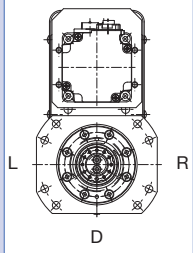
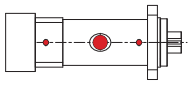
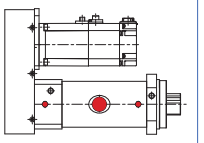
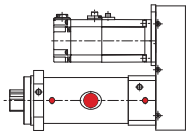
Servo pack



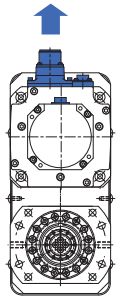
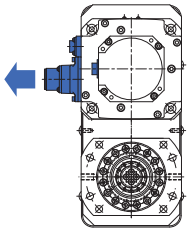
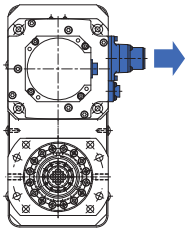
Cables (5m each)
Motor power cable, encoder cable, brake cable, motor power/brake cable

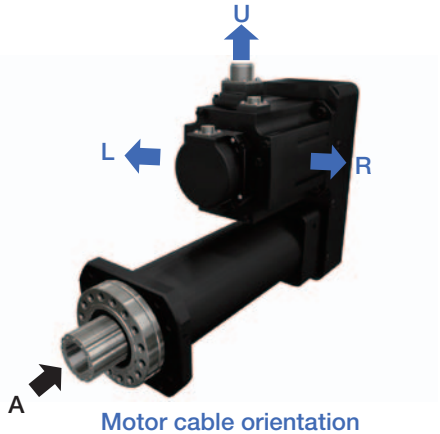
PC main unit

Greasing position

Greasing position	Down	Left	Right
Symbol	D	L	R
Greasing position (Seen from rod side)				

Motor cable orientation

Motor cable orientation	Up	Left	Right
Symbol	U	L	R
Motor cable orientation (Seen from side A)			



Motor cable orientation

Applicable motor (control device)

Model, lead, reduction ratio	Symbol	Servo motor	Servo amp/servo pack	Encoder cable (5m)	Motor cable (5m)	Brake cable (5m)
PC30-06A	M040M	HF-KP43	MR-J3-40A	MR-J3ENCBL5M-A1-L	MR-PWS1CBL5M-A1-L	-
	M040BM	HF-KP43B				MR-BKS1CBL5M-A1-L
	M040Y	SGMJV-04ADA21	SGDV-2R8A01A	JZSP-CSP01-05-E	JZSP-CSM02-05-E	-
	M040BY	SGMJV-04ADA2C			JZSP-CSM12-05-E*1	
PC40-06B	M075M	HF-KP73	MR-J3-70A	MR-J3ENCBL5M-A1-L	MR-PWS1CBL5M-A1-L	-
	M075BM	HF-KP73B				MR-BKS1CBL5M-A1-L
	M075Y	SGMJV-08ADA21	SGDV-5R5A01A	JZSP-CSP01-05-E	JZSP-CSM03-05-E	-
	M075BY	SGMJV-08ADA2C			JZSP-CSM13-05-E*1	
PC40H-08C	M100M	HF-SP102	MR-J3-100A	MR-J3ENSCBL5M-L	SVPM-J3HF3-A-5*2	-
	M100BM	HF-SP102B				SVPM-J3HF2B-A-5*2
	M085Y	SGMGV-09ADA21	SGDV-7R6A01A	JZSP-CVP01-05-E	JZSP-UVA101-05-E*3	-
	M085BY	SGMGV-09ADA2C			JZSP-UVA131-05-E*4	
PC50-06D	M150M	HF-SP152	MR-J3-200AN	MR-J3ENSCBL5M-L	SVPM-J3HF3-A-5*2	-
	M150BM	HF-SP152B				SVPM-J3HF2B-A-5*2
	M130Y	SGMGV-13ADA21	SGDV-120A01A	JZSP-CVP01-05-E	JZSP-UVA101-05-E*3	-
	M130BY	SGMGV-13ADA2C			JZSP-UVA131-05-E*4	
PC60-10E	M200M	HF-SP202	MR-J3-200AN	MR-J3ENSCBL5M-L	SVPM-J3HF5-A-5*2	-
	M200BM	HF-SP202B				SVPM-J3HF2B-A-5*2
	M180Y	SGMGV-20ADA21	SGDV-180A01A	JZSP-CVP01-05-E	JZSP-UVA301-05-E*3	-
	M180BY	SGMGV-20ADA2C			JZSP-UVA331-05-E*4	
PC60H-10F	M350M	HF-SP352	MR-J3-350A	MR-J3ENSCBL5M-L	SVPM-J3HF6-A-5*2	-
	M350BM	HF-SP352B				SVPM-J3HF2B-A-5*2
	M290Y	SGMGV-30ADA21	SGDV-330A01A	JZSP-CVP01-05-E	JZSP-UVA701-05-E*3	-
	M290BY	SGMGV-30ADA2C			JZSP-UVA731-05-E*4	

*1 Motor power cable and brake cable are integrated.
*2 Manufactured by Misumi Corporation.
*3 Manufactured by Yaskawa Controls Co., Ltd.
*4 Motor power cable and brake cable manufactured by Yaskawa Controls Co., Ltd.
For servo motor, servo amp/servo pack, and cable specifications, consult the relevant manufacturer's catalog.

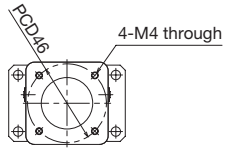
PCT20

Press series
Rod diameter: 20mm

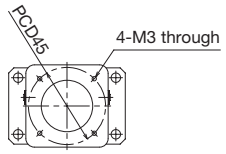
Specifications

Motor capacity (Rated output) [W]			50
Ball screw portion	Shaft diameter [mm]		8
	Lead [mm]		6
	Basic dynamic load rating Ca [N]		1950
	Basic static load rating Coa [N]		3510
	Root diameter [mm]		6.872
	Ball center-to-center diameter [mm]		8.4
Bearing portion (For fixed side)	Axial direction	Basic dynamic load rating Ca [N]	8000
		Static permissible load Poa [N]	3240
Positioning repeatability [mm]			±0.010
Lost motion [mm]			0.1
Rod non-rotational accuracy [°]			±1
Starting torque [N·cm]			1.6
Maximum input torque [N·m]			0.48

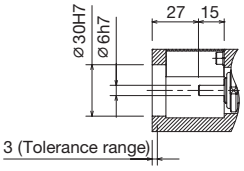
Motor bracket



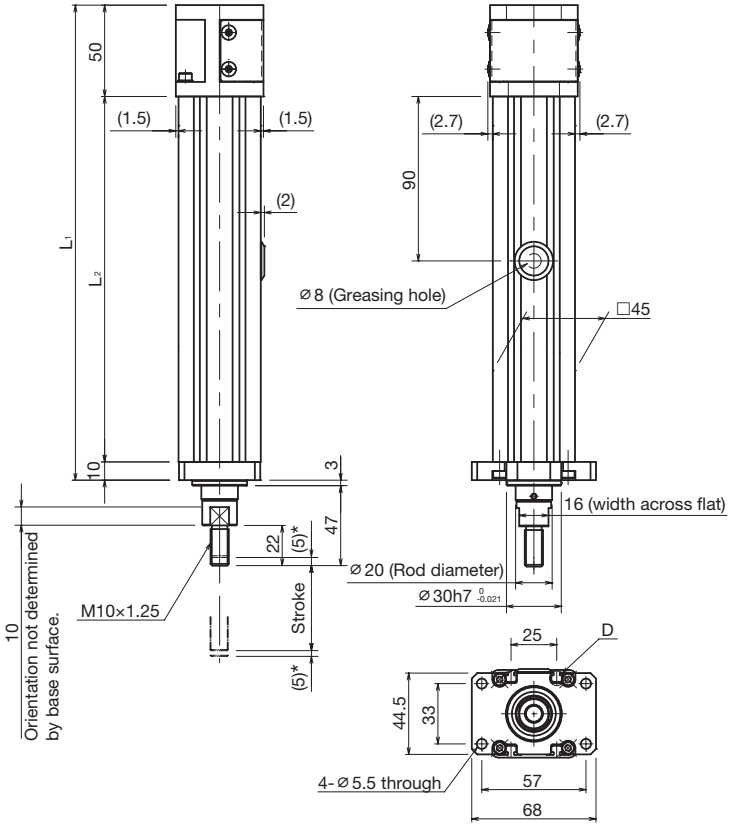
Symbol: A1

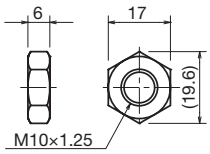


Symbol: K1

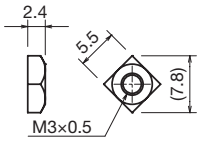


Dimensions

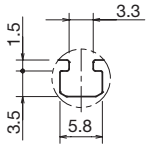




Hexagonal Nut (×1)



Square Nut (×8)



Section D (detail)

*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)		50 (60)	100 (110)	150 (160)	200 (210)
Maximum speed *1 [mm/s]	Ball screw lead: 6mm	300			230
Dimensions [mm]	L_1	260	310	360	410
	L_2	200	250	300	350
Weight [kg]		1.4	1.6	1.8	2.1

*1 Dependent on permissible rotational speed of the ball screw.

PCT20R

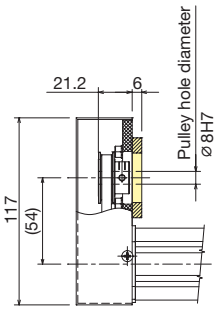
Press series
Rod diameter: 20mm

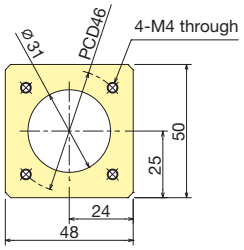
Specifications

Motor capacity (Rated output) [W]			50
Ball screw portion	Shaft diameter [mm]		8
	Lead [mm]		6
	Basic dynamic load rating Ca [N]		1950
	Basic static load rating Coa [N]		3510
	Root diameter [mm]		6.872
	Ball center-to-center diameter [mm]		8.4
Bearing portion (For fixed side)	Axial direction	Basic dynamic load rating Ca [N]	8000
		Static permissible load Poa [N]	3240
Positioning repeatability [mm]			±0.010
Lost motion [mm]			0.1
Rod non-rotational accuracy [°]			±1
Starting torque *1 [N·cm]			1.6
Maximum input torque [N·m]			0.48

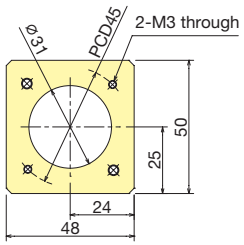
*1 Pulley and timing belt are not included.

Motor bracket



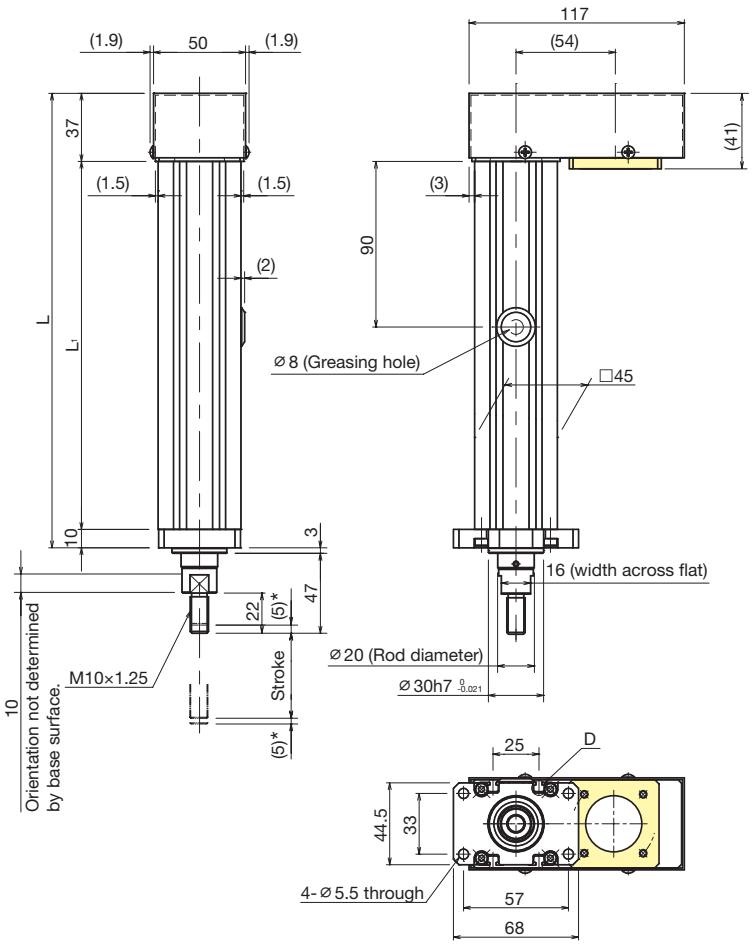


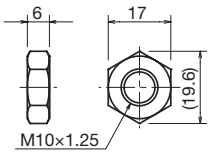
Symbol: A1D, A1K



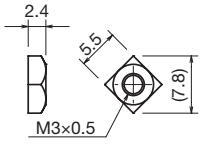
Symbol: K1D, K1K

Dimensions

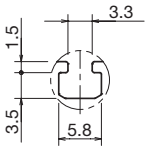




Hexagonal Nut (×1)



Square Nut (×8)



Section D (detail)

*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)		50 (60)	100 (110)	150 (160)	200 (210)
Maximum speed *1 [mm/s]	Ball screw lead: 6mm	300			230
Dimensions [mm]	L	247	297	347	397
	L_1	200	250	300	350
Weight [kg]		1.6	1.8	2.0	2.2

*1 Dependent on permissible rotational speed of the ball screw.

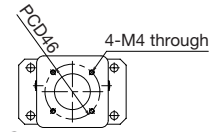
PCT25

Press series
Rod diameter: 25mm

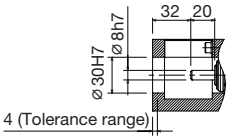
Specifications

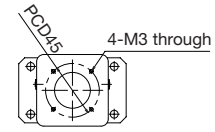
Motor capacity (Rated output) [W]			100	
Ball screw portion	Shaft diameter [mm]		12	14
	Lead [mm]		6	4
	Basic dynamic load rating Ca [N]		4910	5500
	Basic static load rating Coa [N]		9600	11500
	Root diameter [mm]		9.872	11.5
	Ball center-to-center diameter [mm]		12.65	14.4
Bearing portion (For fixed side)	Axial direction	Basic dynamic load rating Ca [N]	13800	
		Static permissible load Poa [N]	5850	
Positioning repeatability [mm]			±0.010	
Lost motion [mm]			0.1	
Rod non-rotational accuracy [°]			±1	
Starting torque [N·cm]			3.2	2.8
Maximum input torque [N·m]			1.91	

Motor bracket

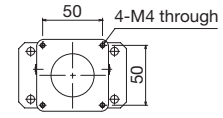


Symbol: A1

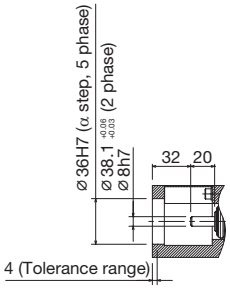


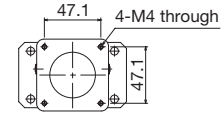


Symbol: K1



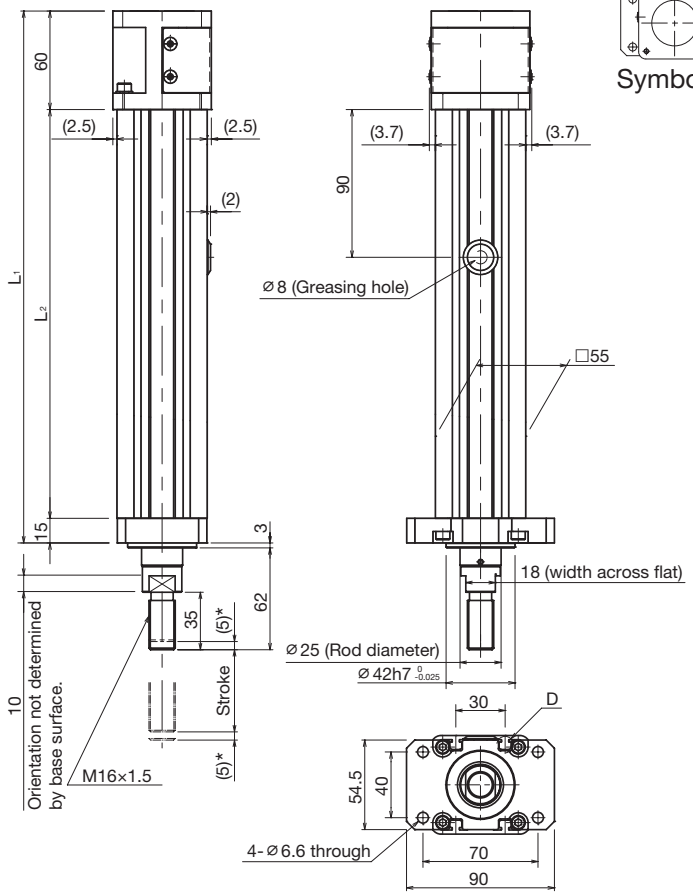
Symbol: B1

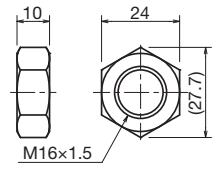




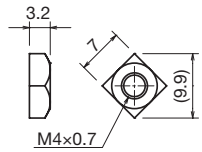
Symbol: B2

Dimensions

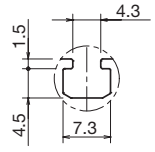




Hexagonal Nut (×1)



Square Nut (×8)



Section D (detail)

*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)		50 (60)	100 (110)	150 (160)	200 (210)	250 (260)	300 (310)
Maximum speed *1 [mm/s]	Ball screw lead: 6mm	300			260	200	160
	Ball screw lead: 4mm	200				160	130
Dimensions [mm]	L_1	324	374	424	474	524	574
	L_2	249	299	349	399	449	499
Weight [kg]		2.8	3.2	3.5	3.8	4.2	4.5

*1 Dependent on permissible rotational speed of the ball screw.

PCT25R

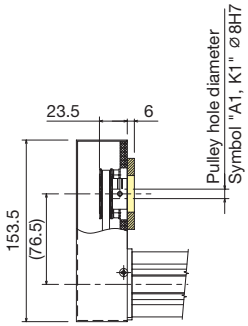
Press series
Rod diameter: 25mm

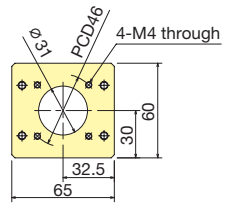
Specifications

Motor capacity (Rated output) [W]			100	
Ball screw portion	Shaft diameter [mm]		12	14
	Lead [mm]		6	4
	Basic dynamic load rating Ca [N]		4910	5500
	Basic static load rating Coa [N]		9600	11500
	Root diameter [mm]		9.872	11.5
	Ball center-to-center diameter [mm]		12.65	14.4
Bearing portion (For fixed side)	Axial direction	Basic dynamic load rating Ca [N]	13800	
		Static permissible load Poa [N]	5850	
Positioning repeatability [mm]			±0.010	
Lost motion [mm]			0.1	
Rod non-rotational accuracy [°]			±1	
Starting torque *1 [N·cm]			3.2	2.8
Maximum input torque [N·m]			0.95	

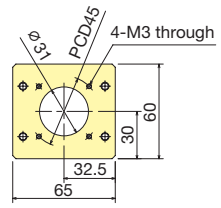
*1 Pulley and timing belt are not included.

Motor bracket



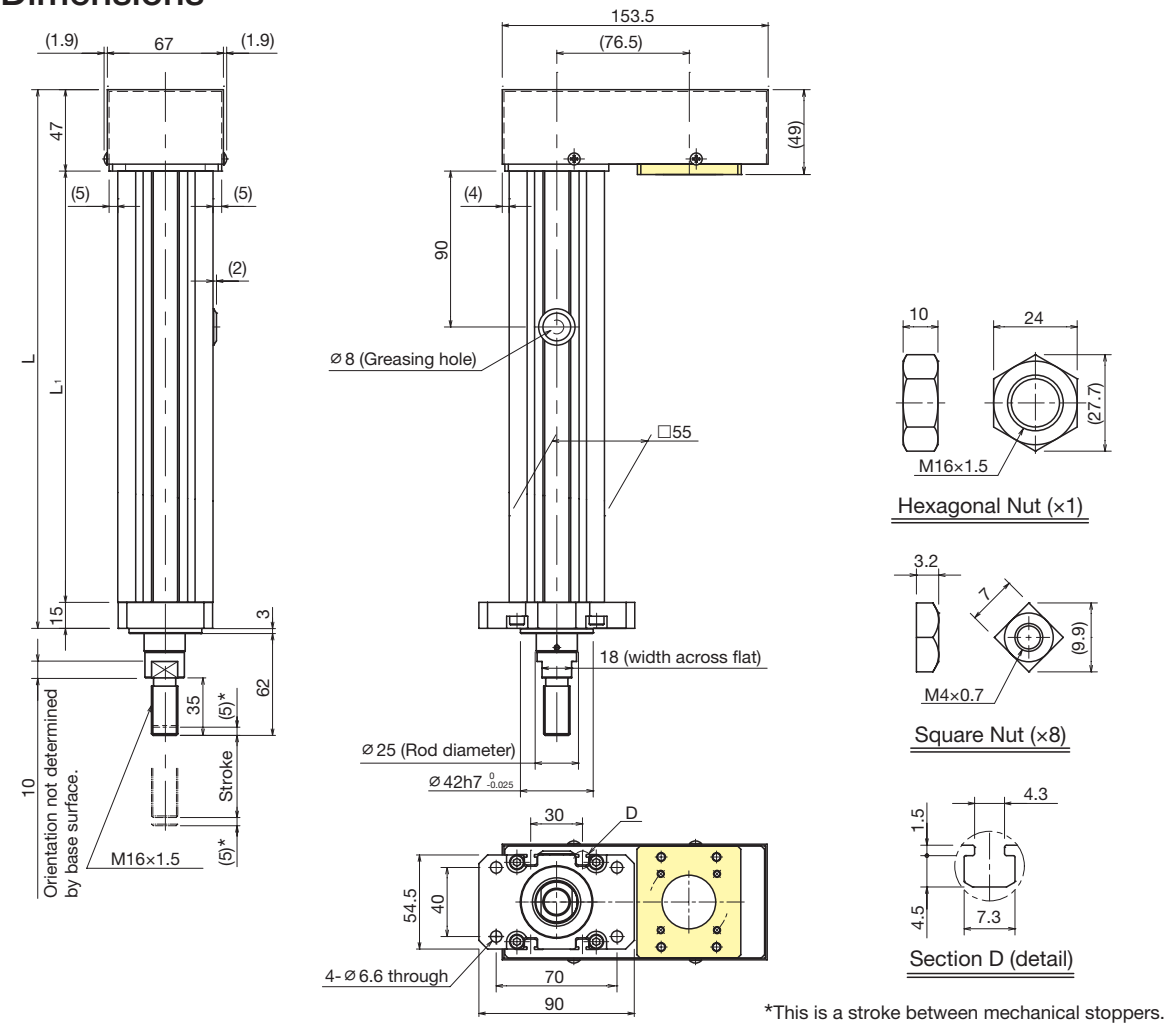


Symbol: A1D, A1K



Symbol: K1D, K1K

Dimensions



*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)		50 (60)	100 (110)	150 (160)	200 (210)	250 (260)	300 (310)
Maximum speed *1 [mm/s]	Ball screw lead: 6mm	300			260	200	160
	Ball screw lead: 4mm	200				160	130
Dimensions [mm]	L	311	361	411	461	511	561
	L_1	249	299	349	399	449	499
Weight [kg]		3.1	3.4	3.8	4.1	4.4	4.7

*1 Dependent on permissible rotational speed of the ball screw.

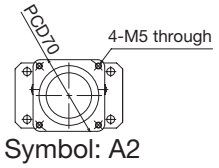
PCT25

Press series
Rod diameter: 25mm

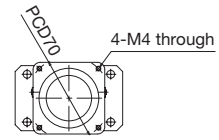
Specifications

Motor capacity (Rated output) [W]			200	
Ball screw portion	Shaft diameter [mm]		12	14
	Lead [mm]		6	4
	Basic dynamic load rating Ca [N]		4910	5500
	Basic static load rating Coa [N]		9600	11500
	Root diameter [mm]		9.872	11.5
	Ball center-to-center diameter [mm]		12.65	14.4
Bearing portion (For fixed side)	Axial direction	Basic dynamic load rating Ca [N]	13800	
		Static permissible load Poa [N]	5850	
Positioning repeatability [mm]			±0.010	
Lost motion [mm]			0.1	
Rod non-rotational accuracy [°]			±1	
Starting torque [N·cm]			3.2	2.8
Maximum input torque [N·m]			1.91	

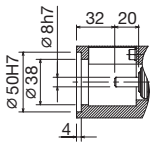
Motor bracket

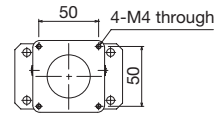


Symbol: A2

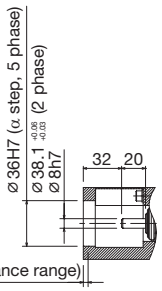


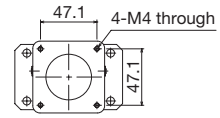
Symbol: K2





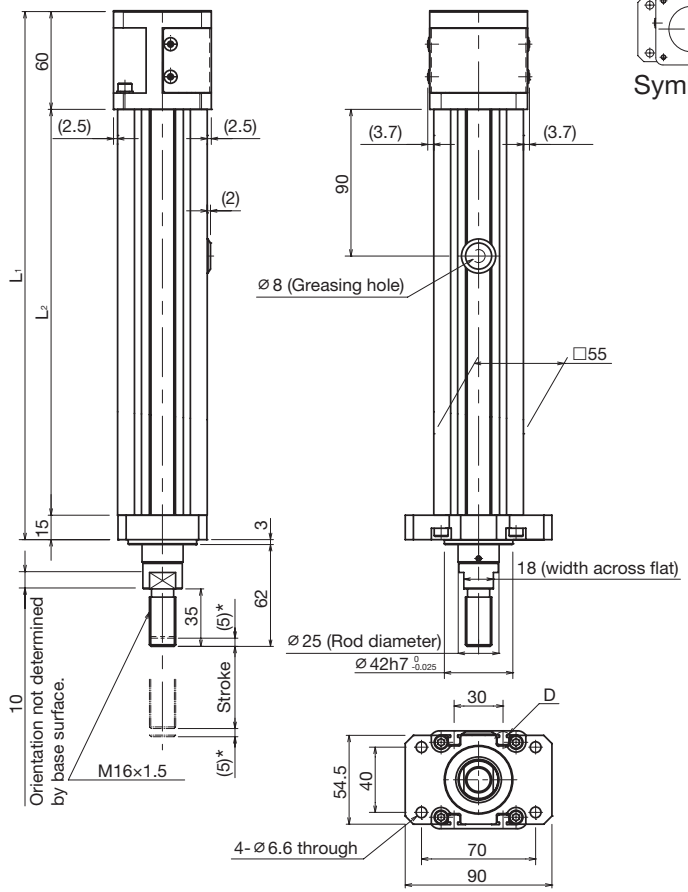
Symbol: B1

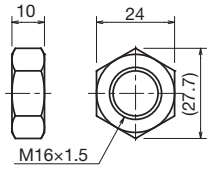




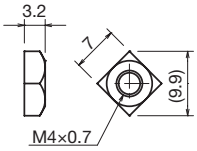
Symbol: B2

Dimensions

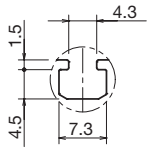




Hexagonal Nut (×1)



Square Nut (×8)



Section D (detail)

*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)		50 (60)	100 (110)	150 (160)	200 (210)	250 (260)	300 (310)
Maximum speed *1 [mm/s]	Ball screw lead: 6mm	300			260	200	160
	Ball screw lead: 4mm	200				160	130
Dimensions [mm]	L_1	324	374	424	474	524	574
	L_2	249	299	349	399	449	499
Weight [kg]		2.8	3.1	3.5	3.8	4.1	4.5

*1 Dependent on permissible rotational speed of the ball screw.

PCT25R

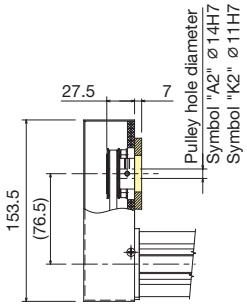
Press series
Rod diameter: 25mm

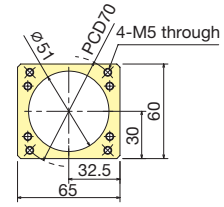
Specifications

Motor capacity (Rated output) [W]			200	
Ball screw portion	Shaft diameter [mm]		12	14
	Lead [mm]		6	4
	Basic dynamic load rating Ca [N]		4910	5500
	Basic static load rating Coa [N]		9600	11500
	Root diameter [mm]		9.872	11.5
	Ball center-to-center diameter [mm]		12.65	14.4
Bearing portion (For fixed side)	Axial direction	Basic dynamic load rating Ca [N]	13800	
		Static permissible load Poa [N]	5850	
Positioning repeatability [mm]			±0.010	
Lost motion [mm]			0.1	
Rod non-rotational accuracy [°]			±1	
Starting torque *1 [N·cm]			3.2	2.8
Maximum input torque [N·m]			1.91	

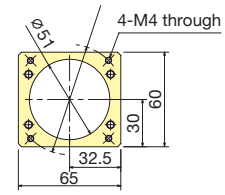
*1 Pulley and timing belt are not included.

Motor bracket



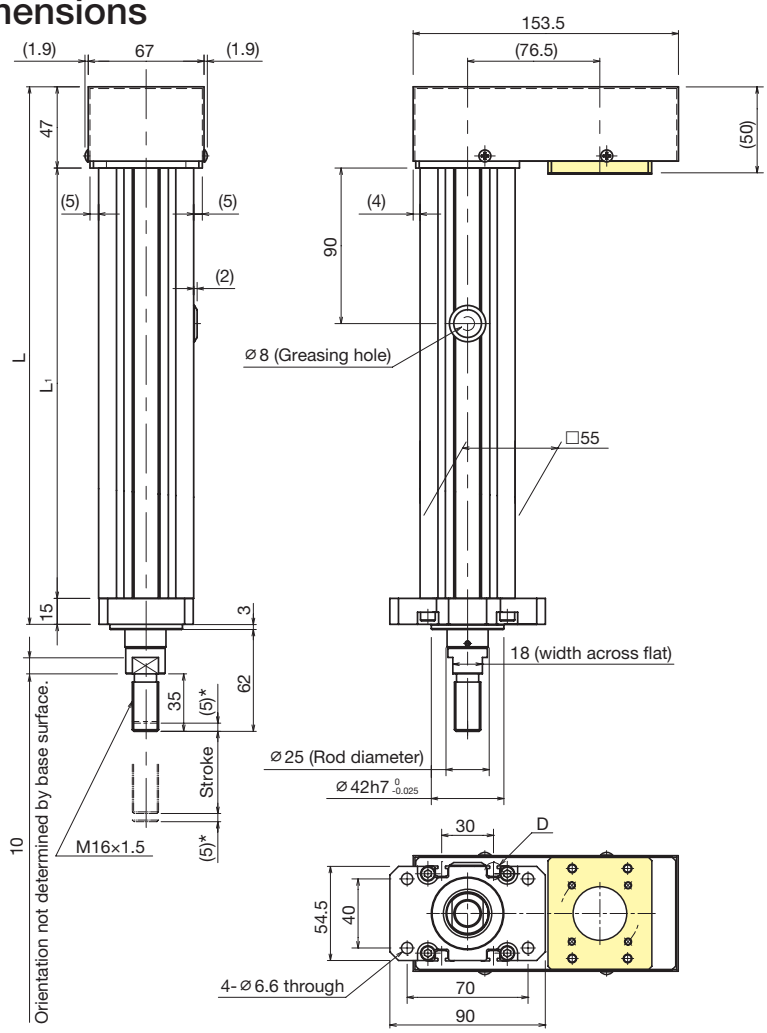


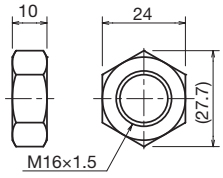
Symbol: A2D, A2K



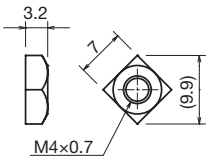
Symbol: K2D, K2K

Dimensions

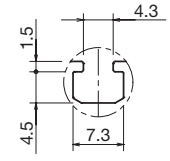




Hexagonal Nut (×1)



Square Nut (×8)



Section D (detail)

*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)		50 (60)	100 (110)	150 (160)	200 (210)	250 (260)	300 (310)
Maximum speed *1 [mm/s]	Ball screw lead: 6mm	300			260	200	160
	Ball screw lead: 4mm	200				160	130
Dimensions [mm]	L	311	361	411	461	511	561
	L_1	249	299	349	399	449	499
Weight [kg]		3.1	3.4	3.8	4.1	4.4	4.7

*1 Dependent on permissible rotational speed of the ball screw.

PC30-06A

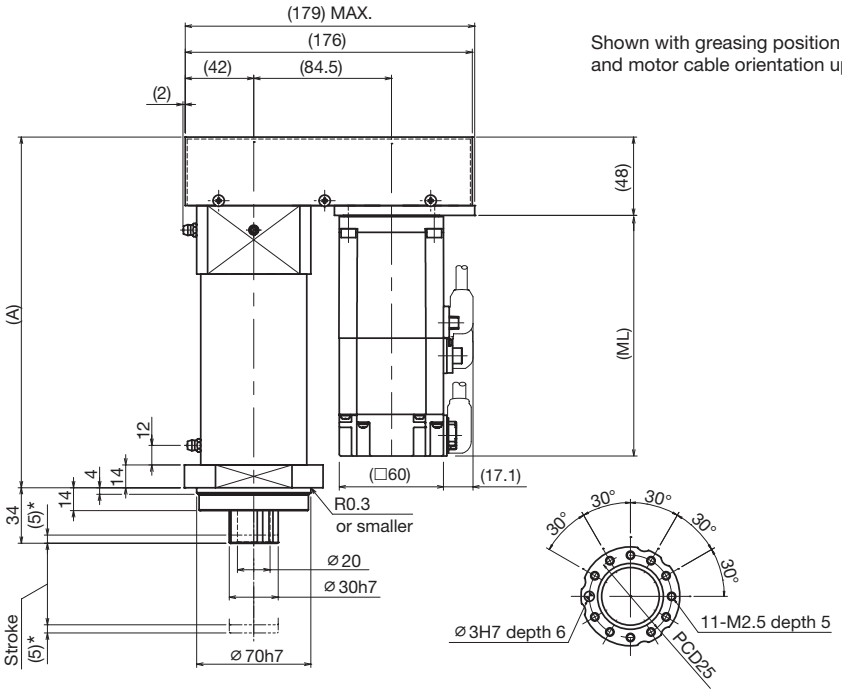
Press series
Rod outer diameter: 30mm, Rated thrust: 1.6kN

Specifications

Motor rated output [W]		400
Ball screw lead [mm]		6
Reduction ratio		28/40
Rated thrust *1 [kN]		1.6
Instantaneous maximum thrust *2 [kN]		3.3
Maximum speed *3 [mm/s]		210
Acceleration and deceleration rate *4 [G]		0.3
Permissible axial load *5 [kN]	Pressing direction	3.3
	Tensile direction	1.6
Positioning repeatability [mm]		±0.005
Backlash [mm]		0.020
Permissible input torque *6 [N·m]		2.6
Maximum load capacity *7 [kg]		15
Operating life *8		15,000,000 times

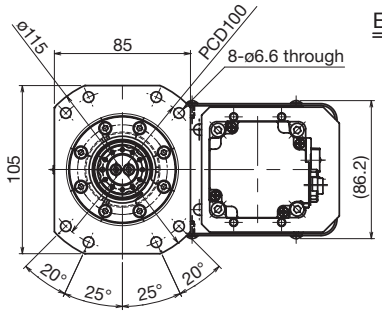
*1 At rated motor torque.
*2 Dependent on permissible axial load.
*3 At rated motor speed.
*4 When maximum load capacity is applied.
*5 Load that can be applied to actuator when static.
*6 To prevent mechanical damage, motor must be operated within this limit.
*7 When actuator is positioned vertically with rod reaching lower end.
*8 Conditions: actuator is positioned vertically with rod reaching lower end; pressing load: rated thrust; pressing direction: compressing direction; pressing distance: 15mm; payload: maximum load capacity.

Dimensions



Shown with greasing position down (D) and motor cable orientation up (U).

End of ball spline shaft (detail)



*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)			50 (60)	100 (110)	150 (160)	200 (210)	250 (260)
Dimensions [mm]	A		215	265	315	365	415
	ML	M040M (M040BM)*1*2	98.5 (138)				
		M040Y (M040BY)*1*2	98.5 (138.5)				
Weight [kg]	M040M (M040BM)*1 *2		8.8 (9.4)	9.9 (10.5)	11 (11.6)	12.1 (12.7)	13.3 (13.9)
	M040Y (M040BY)*1*2		8.6 (9.2)	9.7 (10.3)	10.8 (11.4)	11.9 (12.5)	13.1 (13.7)

*1 Values when a brake is installed are shown in parentheses.
*2 "M" or "Y" at the end of the model number represents the motor manufacturer.
M: Mitsubishi Electric Corporation. Y: Yaskawa Electric Corporation.

PC40-06B

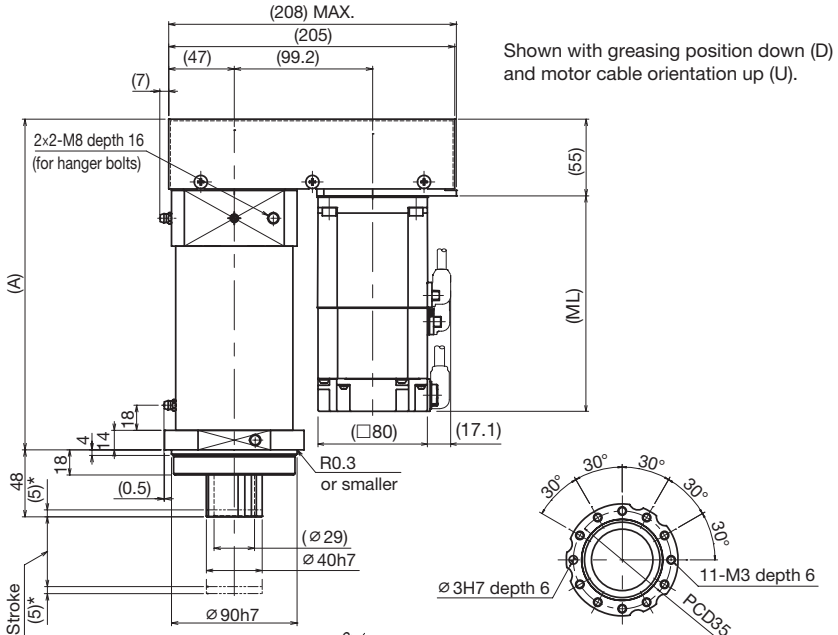
Press series
Rod outer diameter: 40mm, Rated thrust: 3.2kN

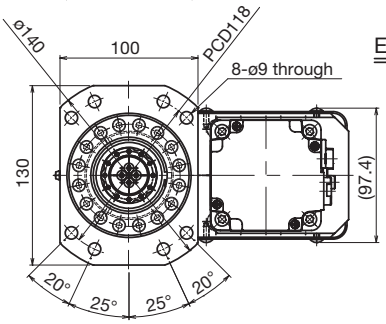
Specifications

Motor rated output [W]		750
Ball screw lead [mm]		6
Reduction ratio		32/48
Rated thrust *1 [kN]		3.2
Instantaneous maximum thrust *2 [kN]		6.4
Maximum speed *3 [mm/s]		200
Acceleration and deceleration rate *4 [G]		0.3
Permissible axial load *5 [kN]	Pressing direction	6.4
	Tensile direction	3.2
Positioning repeatability [mm]		±0.005
Backlash [mm]		0.020
Permissible input torque *6 [N·m]		4.8
Maximum load capacity *7 [kg]		25
Operating life *8		15,000,000 times

*1 At rated motor torque.
*2 Dependent on permissible axial load.
*3 At rated motor speed.
*4 When maximum load capacity is applied.
*5 Load that can be applied to actuator when static.
*6 To prevent mechanical damage, motor must be operated within this limit.
*7 When actuator is positioned vertically with rod reaching lower end.
*8 Conditions: actuator is positioned vertically with rod reaching lower end; pressing load: rated thrust; pressing direction: compressing direction; pressing distance: 15mm; payload: maximum load capacity.

Dimensions





End of ball spline shaft (detail)

*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)			50 (60)	100 (110)	150 (160)	200 (210)	250 (260)
Dimensions [mm]	A		237	287	337	387	437
	ML	M075M (M075BM)*1*2	113.8 (157)				
		M075Y (M075BY)*1*2	115 (160)				
Weight [kg]	M075M (M075BM)*1 *2		14.4 (15.4)	16 (17)	17.5 (18.5)	19 (20)	20.5 (21.5)
	M075Y (M075BY)*1*2		14.2 (15.1)	15.8 (16.7)	17.3 (18.2)	18.8 (19.7)	20.3 (21.2)

*1 Values when a brake is installed are shown in parentheses.
*2 "M" or "Y" at the end of the model number represents the motor manufacturer.
M: Mitsubishi Electric Corporation. Y: Yaskawa Electric Corporation.

PC40H-08C

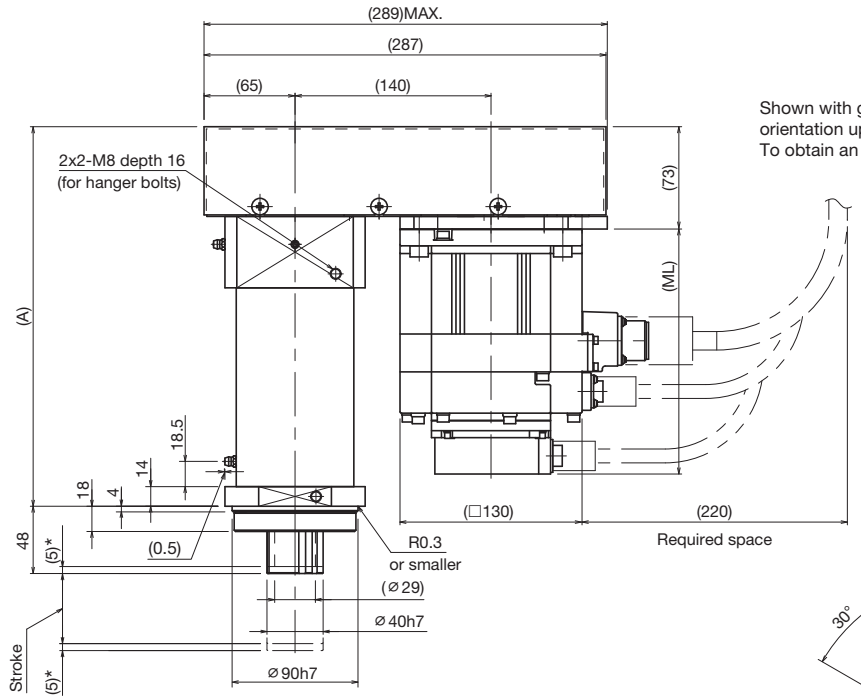
Press series
Rod outer diameter: 40mm, Rated thrust: 5.6kN

Specifications

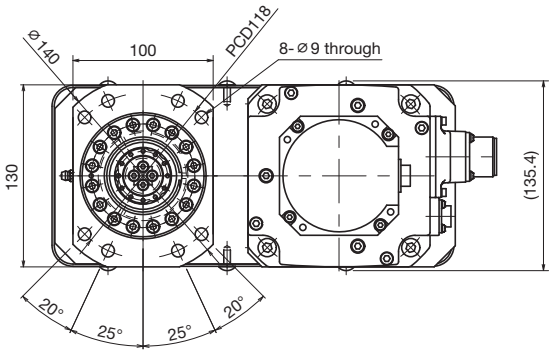
Motor rated output [kW] *1		1 (0.85)
Ball screw lead [mm]		8
Reduction ratio		25/44
Rated thrust *2 [kN]		5.6
Instantaneous maximum thrust *3 [kN]		11.2
Maximum speed *1 *4 [mm/s]		150 (112.5)
Acceleration and deceleration rate *5 [G]		0.1
Permissible axial load *6 [kN]	Pressing direction	11.2
	Tensile direction	5.6
Positioning repeatability [mm]		±0.005
Backlash [mm]		0.020
Permissible input torque *7 [N·m]		9.54
Maximum load capacity *8 [kg]		50
Pressing operation life *9		15,000,000 times

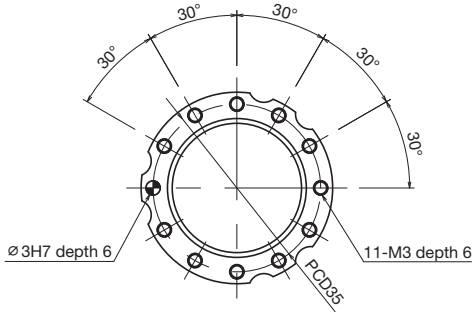
*1 Values with Yaskawa motor are shown in parentheses.
*2 At rate motor torque.
*3 Dependent on permissible axial load.
*4 At rated motor speed.
*5 When maximum load capacity is applied.
*6 Load that can be applied to actuator when static.
*7 To prevent mechanical damage, motor must be operated within this limit.
*8 When actuator is positioned vertically with rod reaching lower end.
*9 Conditions: actuator is positioned vertically with rod reaching lower end; pressing load: rated thrust; pressing direction: compressing direction; pressing distance: 15mm; payload: maximum load capacity.

Dimensions



Shown with greasing position down (D) and motor cable orientation up (U).
To obtain an angle-type motor connector, contact THK.





End of ball spline shaft (detail)

*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)			50 (60)	100 (110)	150 (160)	200 (210)	250 (260)
Dimensions [mm]	A		271	321	371	421	471
	ML	M100M (M100BM)*	140.5 (175)				
		M085Y (M085BY)*	137 (173)				
Weight [kg]	M100M (M100BM)*		23.6 (25.6)	25.2 (27.2)	26.8 (28.8)	28.4 (30.4)	30 (32)
	M085Y (M085BY)*		22.6 (24.6)	24.2 (26.2)	25.8 (27.8)	27.4 (29.4)	29 (31)

* Values when a brake is installed are shown in parentheses.
"M" or "Y" at the end of the model number represents the motor manufacturer.
M: Mitsubishi Electric Corporation. Y: Yaskawa Electric Corporation.

PC50-06D

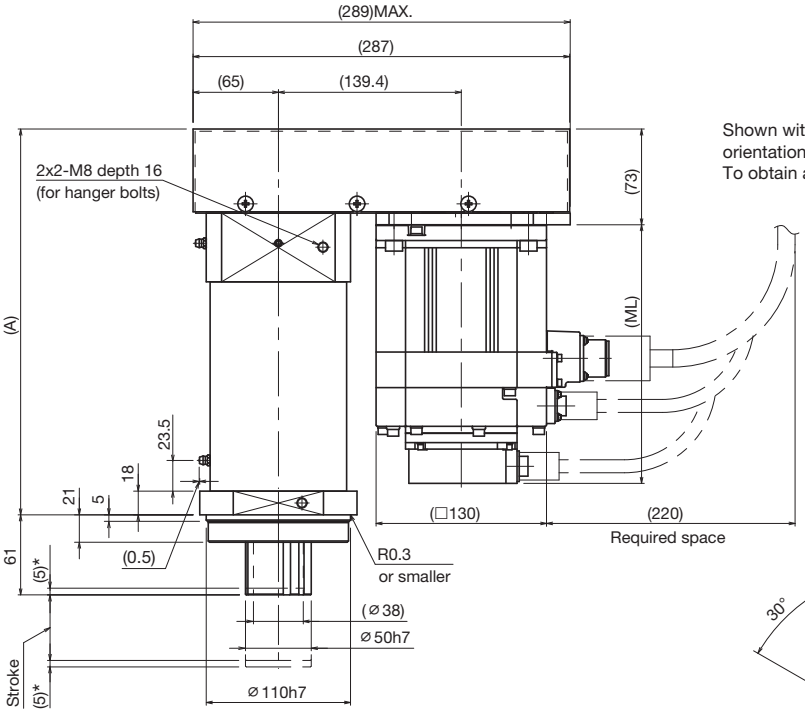
Press series
Rod outer diameter: 50mm, Rated thrust: 8.4kN

Specifications

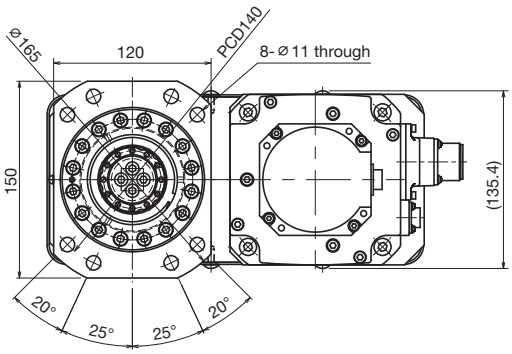
Motor rated output [kW] *1		1.5 (1.3)
Ball screw lead [mm]		6
Reduction ratio		30/40
Rated thrust *2 [kN]		8.4
Instantaneous maximum thrust *3 [kN]		16.8
Maximum speed *1 *4 [mm/s]		150 (112.5)
Acceleration and deceleration rate *5 [G]		0.1
Permissible axial load *6 [kN]	Pressing direction	16.8
	Tensile direction	8.4
Positioning repeatability [mm]		±0.005
Backlash [mm]		0.020
Permissible input torque *7 [N·m]		14.32
Maximum load capacity *8 [kg]		75
Pressing operation life *9		15,000,000 times

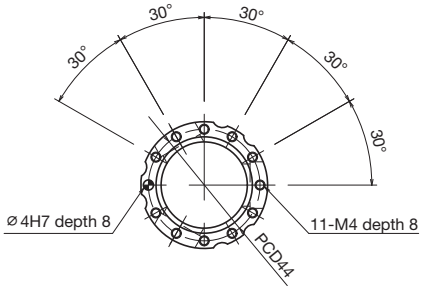
*1 Values with Yaskawa motor are shown in parentheses.
*2 At rate motor torque.
*3 Dependent on permissible axial load.
*4 At rated motor speed.
*5 When maximum load capacity is applied.
*6 Load that can be applied to actuator when static.
*7 To prevent mechanical damage, motor must be operated within this limit.
*8 When actuator is positioned vertically with rod reaching lower end.
*9 Conditions: actuator is positioned vertically with rod reaching lower end; pressing load: rated thrust; pressing direction: compressing direction; pressing distance: 15mm; payload: maximum load capacity.

Dimensions



Shown with greasing position down (D) and motor cable orientation up (U).
To obtain an angle-type motor connector, contact THK.





End of ball spline shaft (detail)

*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)			50 (60)	100 (110)	150 (160)	200 (210)	250 (260)
Dimensions [mm]	A		294	344	394	444	494
	ML	M150M (M150BM)*	162.5 (197)				
		M130Y (M130BY)*	153 (189)				
Weight [kg]	M150M (M150BM)*		31.4 (33.4)	33.9 (35.9)	36.3 (38.3)	38.8 (40.8)	41.3 (43.3)
	M130Y (M130BY)*		30.2 (32.1)	32.7 (34.6)	35.1 (37)	37.6 (39.5)	40.1 (42)

* Values when a brake is installed are shown in parentheses.
"M" or "Y" at the end of the model number represents the motor manufacturer.
M: Mitsubishi Electric Corporation. Y: Yaskawa Electric Corporation.

PC60-10E

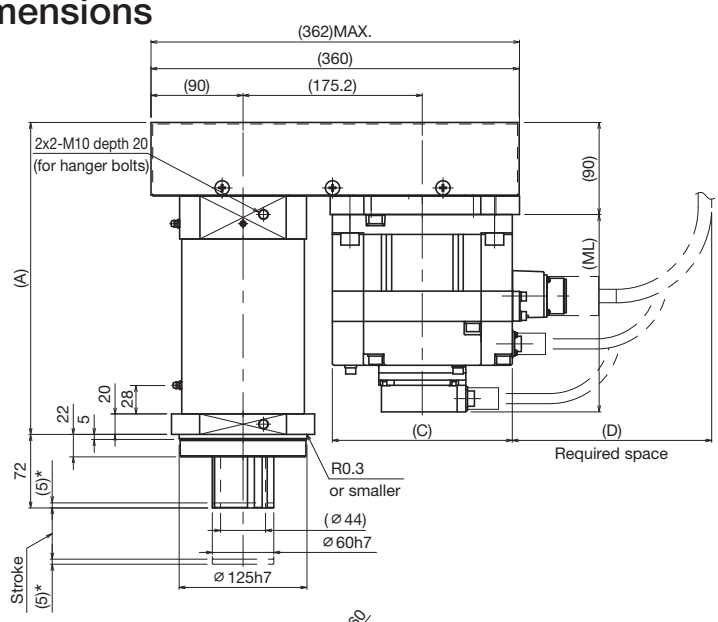
Press series
Rod outer diameter: 60mm, Rated thrust: 10.9kN

Specifications

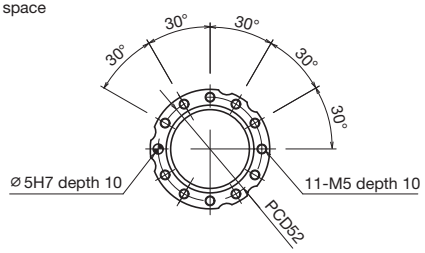
Motor rated output [kW] *1		2 (1.8)
Ball screw lead [mm]		10
Reduction ratio		28/60
Rated thrust *2 [kN]		10.9
Instantaneous maximum thrust *3 [kN]		21.8
Maximum speed *1 *4 [mm/s]		150 (112.5)
Acceleration and deceleration rate *5 [G]		0.1
Permissible axial load *6 [kN]	Pressing direction	21.8
	Tensile direction	10.9
Positioning repeatability [mm]		±0.005
Backlash [mm]		0.020
Permissible input torque *7 [N·m]		19.1
Maximum load capacity *8 [kg]		100
Pressing operation life *9		15,000,000 times

*1 Values with Yaskawa motor are shown in parentheses.
*2 At rate motor torque.
*3 Dependent on permissible axial load.
*4 At rated motor speed.
*5 When maximum load capacity is applied.
*6 Load that can be applied to actuator when static.
*7 To prevent mechanical damage, motor must be operated within this limit.
*8 When actuator is positioned vertically with rod reaching lower end.
*9 Conditions: actuator is positioned vertically with rod reaching lower end; pressing load: rated thrust; pressing direction: compressing direction; pressing distance: 15mm; payload: maximum load capacity.

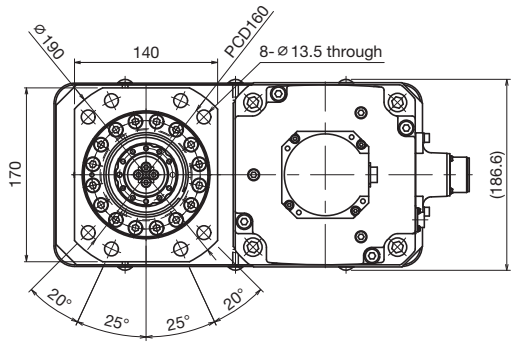
Dimensions



Shown with greasing position down (D) and motor cable orientation up (U).
To obtain an angle-type motor connector, contact THK.



End of ball spline shaft (detail)



*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)			50 (60)	100 (110)	150 (160)	200 (210)	250 (260)
Dimensions [mm]	A		305	355	405	455	505
	ML	M200M (M200BM)*	143.5 (193)				
		M180Y (M180BY)*	171 (207)				
	C	M200M, M200BM	□176				
		M180Y, M180BY	□130				
	D	M200M, M200BM	230				
		M180Y, M180BY	240				
Weight [kg]	M200M (M200BM)*		49.7 (55.7)	53.2 (59.2)	56.7 (62.7)	60.3 (66.3)	63.8 (69.8)
	M180Y (M180BY)*		46.3 (48.7)	49.8 (52.2)	53.3 (55.7)	56.9 (59.3)	60.4 (62.8)

* Values when a brake is installed are shown in parentheses.
"M" or "Y" at the end of the model number represents the motor manufacturer.
M: Mitsubishi Electric Corporation. Y: Yaskawa Electric Corporation.

PC60H-10F

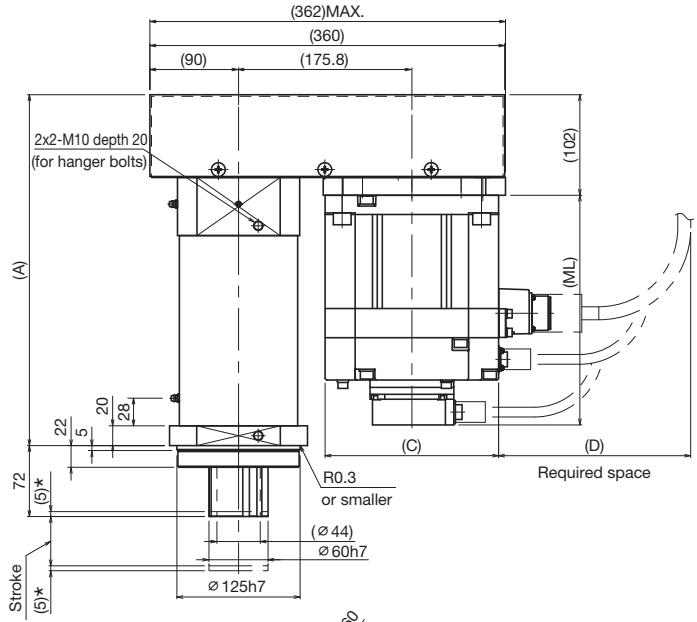
Press series
Rod outer diameter: 60mm, Rated thrust: 17.8kN

Specifications

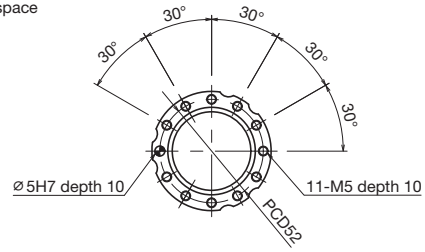
Motor rated output [kW] *1		3.5 (2.9)
Ball screw lead [mm]		10
Reduction ratio		30/60
Rated thrust *2 [kN]		17.8
Instantaneous maximum thrust *3 [kN]		35.6
Maximum speed *1 *4 [mm/s]		160 (125)
Acceleration and deceleration rate *5 [G]		0.1
Permissible axial load *6 [kN]	Pressing direction	35.6
	Tensile direction	17.8
Positioning repeatability [mm]		±0.005
Backlash [mm]		0.020
Permissible input torque *7 [N·m]		33.4
Maximum load capacity *8 [kg]		150
Pressing operation life *9		15,000,000 times

*1 Values with Yaskawa motor are shown in parentheses.
*2 At rate motor torque.
*3 Dependent on permissible axial load.
*4 At rated motor speed.
*5 When maximum load capacity is applied.
*6 Load that can be applied to actuator when static.
*7 To prevent mechanical damage, motor must be operated within this limit.
*8 When actuator is positioned vertically with rod reaching lower end.
*9 Conditions: actuator is positioned vertically with rod reaching lower end; pressing load: rated thrust; pressing direction: compressing direction; pressing distance: 15mm; payload: maximum load capacity.

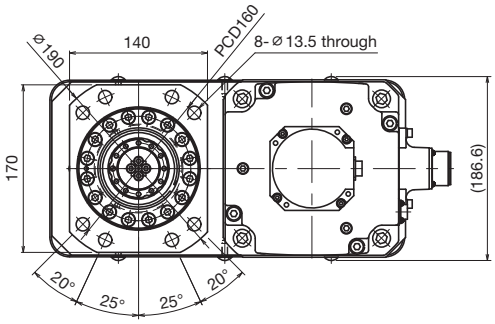
Dimensions



Shown with greasing position down (D) and motor cable orientation up (U).
To obtain an angle-type motor connector, contact THK.



End of ball spline shaft (detail)



*This is a stroke between mechanical stoppers.

Stroke [mm] (Stroke between mechanical stoppers)			50 (60)	100 (110)	150 (160)	200 (210)	250 (260)
Dimensions [mm]	A		356	406	456	506	556
	ML	M350M (M350BM)*	183.5 (233)				
		M290Y (M290BY)*	160 (208)				
	C	M350M, M350BM	□176				
		M290Y, M290BY	□180				
	D	M350M, M350BM	245				
		M290Y, M290BY	285				
Weight [kg]	M350M (M350BM)*		62 (68)	65.5 (71.5)	69.1 (75.1)	72.6 (78.6)	76.1 (82.1)
	M290Y (M290BY)*		56.5 (62.5)	60 (66)	63.6 (69.6)	67.1 (73.1)	70.6 (76.6)

* Values when a brake is installed are shown in parentheses.
"M" or "Y" at the end of the model number represents the motor manufacturer.
M: Mitsubishi Electric Corporation. Y: Yaskawa Electric Corporation.

PCT accessories

Timing Belt

Model	PCT20R (50W)	PCT25R (100W)	PCT25R (200W)
Timing belt model	196-2GT-6	273-3GT-6	273-3GT-9
Manufacturer	Gates Unitta Asia Company		
Mounting tension [N]	15.8 to 19.8	29 to 36	44 to 55
Belt unit mass [g/mm (width) x m (length)]	1.6	2.5	2.5
Belt width [mm]	6	6	9
Belt span [mm]	54	76.5	76.5

Recommended Couplings

Model	PCT20 (50W)	PCT25 (100W)	PCT25 (200W)
Coupling model	SFC-010DA2	SFC-020DA2	SFC-025DA2
Manufacturer	Miki Pulley Co., Ltd.		

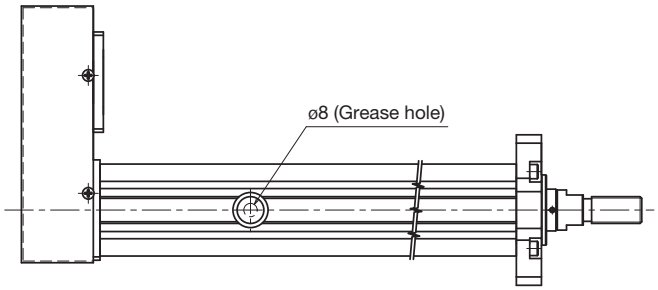
Maintenance

To maximize the performance of the actuator, periodic greasing is required.
THK cylinder-type actuators have a grease hole.

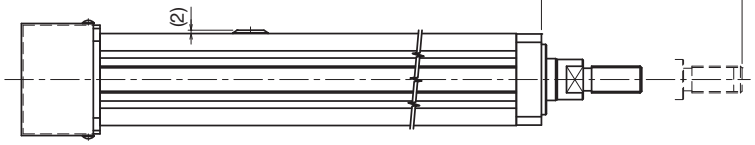
For details of greasing procedures, refer to the Instruction Manual.

PCT

Standard grease: AFB-LF
To grease the ball screw portion, remove the plug and apply the grease directly to the ball screw shaft.

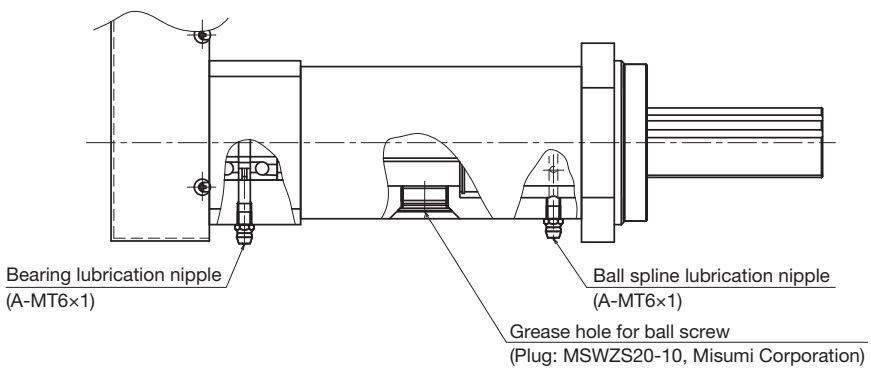


PCT20: Ball screw ready for greasing position: 95mm or more
PCT25: Ball screw ready for greasing position: 110mm or more



PC

Standard grease: FS2 (Lube Corporation)
To grease the ball screw portion, remove the plug and apply the grease directly to the ball screw shaft.



Precautions on Use

● Operation

- Do not unnecessarily disassemble the actuator or control devices. Doing so may allow foreign objects to enter or reduce functionality.
- Do not drop or knock the actuator or control devices. Doing so may cause injury or damage the unit. If the product is dropped or impacted, functionality may be reduced even if there is no surface damage.

● Environment

Wrong environment can cause failures of the actuator and control devices. The best place to use the product is as follows:

- Actuator: A place with an ambient temperature from 0 to 40°C and humidity of from 20% to 80% RH that will not expose the product to freezing or condensation.
- Controller: A place with an ambient temperature from 0 to 40°C and humidity of no more than 90% RH that will not expose the product to freezing or condensation.
- A place free from corrosive gas and flammable gas.
- A place free from electrically conductive powder (such as iron powder), dust, oil mist, moisture, salt, and organic solvent.
- A place free from direct sunlight and radiant heat.
- A place free from strong electric and magnetic fields
- A place where vibration or impact is not transmitted to the unit.
- A place that is easily accessible for service and cleaning purposes.

● Safety Precautions

- When the actuator is in motion or about to be in motion, do not touch any moving parts. Do not go near the actuator when it is in motion.
- Before performing installation, adjustment, checking, or services regarding the actuator and the connected peripherals, ensure that all power is disconnected. In addition, take countermeasures to prevent anyone other than the operator from turning on the power.
- If two or more people are involved in the operation, confirm the procedures such as sequences, signs, and abnormalities in advance, and appoint another person for monitoring the operation.
- Before operation, please read thoroughly and obey "Manipulating industrial robots
- Safety" (JIS B8433) and "Ordinance on Industrial Safety and Health" (Ministry of Health, Labor and Welfare).
- Operation of the actuator over the torque limit value leads to damage of parts or injury. Please keep the torque limit settings of parameters within THK specifications.
- For folding type of PCT and PC, this product does not include a safety device to protect users when the timing belt is broken. The customer must provide a safety device.
- Although a stopper is installed inside the product, it is intended to limit the stroke and therefore may be damaged in case of a hard collision.
- PC is designed to accommodate load in the pressing direction. Applying a load in the tensile direction may shorten product life.
- With PCT, only an axial load is permissible.
- Please contact THK if a rotational torque or moment load is applied to the PC rod.
- The total weight of PC exceeds 20kg.
- When moving the product, use hanger bolts to raise and move the product.Do not use a hanger belt alone to raise the product.
- When moving the product vertically, such as for installation, use two bolts at the motor side and the rod side. When moving it horizontally, use two or four bolts at the motor side and the rod side.
- Some models may tilt when raised, due to unbalanced center of gravity.

● Storage

When storing the actuator, enclose it in a package designated by THK and store it in a horizontal position away from abnormally high or low temperatures and high humidity.

- When storing the control devices, avoid abnormally high or low temperatures and high humidity.

● Lubrication

- In order to effectively use the actuator, lubrication is required. Insufficient lubrication may increase abrasion on moving parts and shorten service life.
- Do not use a mix of lubricants with different physical properties.
- Please contact THK if using special lubricants.
- The greasing interval may vary depending on the usage conditions, so THK recommends determining a greasing interval during the initial inspection.

THK ACTUATOR UNITS Press Series PCT/PC

THK CO., LTD.

Head Office 3-11-6 Nishigotanda, Shinagawa-ku, Tokyo 141-8503 JAPAN
International Sales Department Phone:+81-3-5434-0351 Fax:+81-3-5434-0353
Global site : http://www.thk.com/

NORTH AMERICA
THK America,Inc.
●HEADQUARTERS
Phone:+1-847-310-1111 Fax:+1-847-310-1271
●CHICAGO OFFICE
Phone:+1-847-310-1111 Fax:+1-847-310-1182
●NORTH EAST OFFICE
Phone:+1-631-244-1565 Fax:+1-631-244-1565
●ATLANTA OFFICE
Phone:+1-770-840-7990 Fax:+1-770-840-7897
●LOS ANGELES OFFICE
Phone:+1-949-955-3145 Fax:+1-949-955-3149
●SAN FRANCISCO OFFICE
Phone:+1-925-455-8948 Fax:+1-925-455-8965
●DETROIT OFFICE
Phone:+1-248-858-9330 Fax:+1-248-858-9455
●TORONTO OFFICE
Phone:+1-905-820-7800 Fax:+1-905-820-7811

SOUTH AMERICA
THK BRAZIL INDUSTRIA E COMERCIO LTDA.
Phone:+55-11-3767-0100 Fax:+55-11-3767-0101

EUROPE
THK GmbH
●EUROPEAN HEADQUARTERS
Phone:+49-2102-7425-555 Fax:+49-2102-7425-556
●DÜSSELDORF OFFICE
Phone:+49-2102-7425-0 Fax:+49-2102-7425-299
●STUTTGART OFFICE
Phone:+49-7141-4988-500 Fax:+49-7141-4988-888
●U.K. OFFICE
Phone:+44-1384-47-1550 Fax:+44-1384-47-1551
●ITALY OFFICE
Phone:+39-02-9901-1801 Fax:+39-02-9901-1881
●SWEDEN OFFICE
Phone:+46-8-445-7630 Fax:+46-8-445-7639
●AUSTRIA OFFICE
Phone:+43-7229-51400 Fax:+43-7229-51400-79
●SPAIN OFFICE
Phone:+34-93-652-5740 Fax:+34-93-652-5746
●TURKEY OFFICE
Phone:+90-216-362-4050 Fax:+90-216-569-7150
●PRAGUE OFFICE
Phone:+420-2-41025-100 Fax:+420-2-41025-199
●MOSCOW OFFICE
Phone:+7-495-649-80-47 Fax:+7-495-649-80-44
THK Europe B.V.
●EINDHOVEN OFFICE
Phone:+31-040-290-9500 Fax:+31-040-290-9599
THK France S.A.S.
●PARIS OFFICE
Phone:+33-1-7425-3800 Fax:+33-1-7425-3799

CHINA
THK (CHINA) CO.,LTD.
●HEADQUARTERS
Phone:+86-411-8733-7111 Fax:+86-411-8733-7000
●SHANGHAI OFFICE
Phone:+86-21-6219-3000 Fax:+86-21-6219-9890
●BEIJING OFFICE
Phone:+86-10-8441-7277 Fax:+86-10-6590-3557
●CHENGDU OFFICE
Phone:+86-28-8526-8025 Fax:+86-28-8525-6357
●GUANGZHOU OFFICE
Phone:+86-20-8523-8418 Fax:+86-20-3801-0456
●SHENZHEN OFFICE
Phone:+86-755-2642-9587 Fax:+86-755-2642-9604
●XIAN OFFICE
Phone:+86-29-8834-1712 Fax:+86-29-8834-1710
THK (SHANGHAI) CO.,LTD.
Phone:+86-21-6275-5280 Fax:+86-21-6219-9890

TAIWAN
THK TAIWAN CO.,LTD.
●TAIPEI HEAD OFFICE
Phone:+886-2-2888-3818 Fax:+886-2-2888-3819
●TAICHUNG OFFICE
Phone:+886-4-2359-1505 Fax:+886-4-2359-1506
●TAINAN OFFICE
Phone:+886-6-289-7668 Fax:+886-6-289-7669

KOREA
SEOUL REPRESENTATIVE OFFICE
Phone:+82-2-3468-4351 Fax:+82-2-3468-4353

SINGAPORE
THK LM System Pte. Ltd.
Phone:+65-6884-5500 Fax:+65-6884-5550

THAILAND
THK RHYTHM(THAILAND) CO., LTD. LM System Division
●Bangkok Branch
Phone:+66-2751-3001 Fax:+66-2751-3003

INDIA
THK India Pvt. Ltd.
●HEADQUARTERS & Bangalore Branch
Phone:+91-80-2340-9934 Fax:+91-80-2340-9937
●Pune Branch
Phone:+91-20-4120-8742

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