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Procedure for Customer Supplied Motors

Customers who would like to have a customer supplied motor considered for mounting on an ER Series actuator must follow these instructions:

1) Determine motor and ER Series actuator desired for application. If the motor is not a standard AAD offering, then contact the AAD Applications Department with the following information:
   a) Fax a clear drawing showing all pertinent motor dimensions and mounting details, (flange size, bolt hole pattern, motor shaft diameter and length, key dimensions if applicable, etc.) See diagram below.
   b) Fax a summary of the motor performance. (i.e. torque curves, motor shaft radial load capability, etc.)
   c) Approval of a motor by the AAD Application Department means only that the motor can be physically mounted to the desired ER Series. Application success and performance based upon motor sizing or technology is the responsibility of the customer.
2) Delivery is based upon customer supplied motor arrival at AAD. **ALL MOTORS MUST BE MOUNTED AT AAD TO MAINTAIN WARRANTY.**
3) Final delivery will be established based upon customer's (Distributor/ATC) estimate of motor's arrival at AAD.

IMPORTANT!! ALL CUSTOMER SUPPLIED MOTORS MUST BE MOUNTED AT AAD. The customer should use the purchase order number placed with AAD as a mark number for the customer supplied motors shipped to AAD.

Parker Hannifin Corporation
Automation Actuator Division
135 Quadral Drive
Wadsworth, OH 44281
Mark #: P. O. XXXXXX

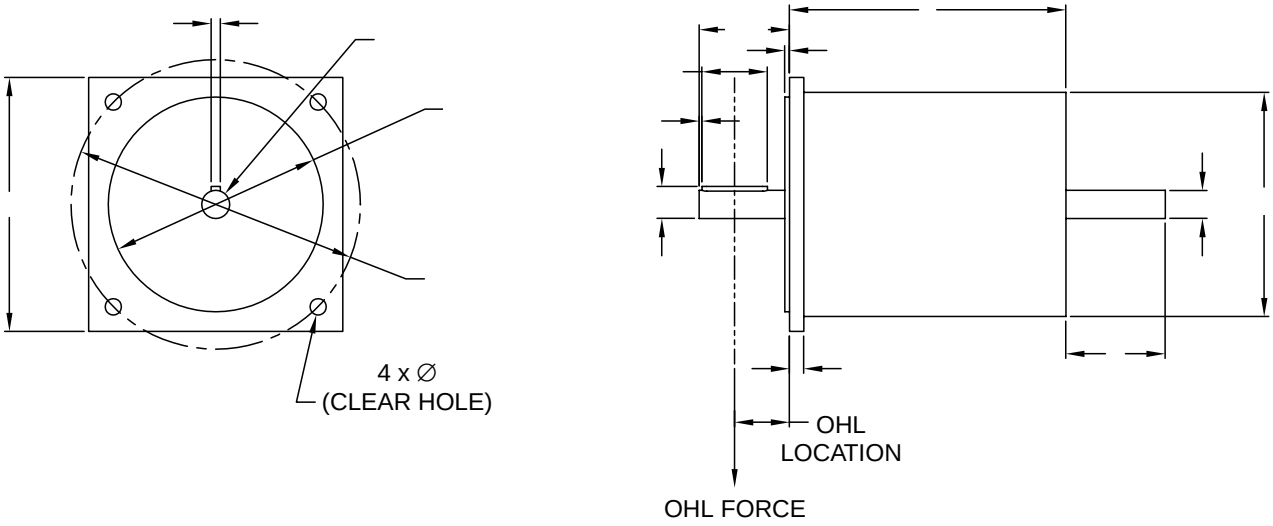
Company:
Name:
Address:

Phone:
Fax:

Cylinder Model:
Motor Manufacturer:
Motor Model Number:

Fax to: Parker Hannifin Corporation
Automation Actuator Division
Electromechanical Department
Fax: (330) 334-3335

Please provide indicated dimensions.



The following information should be taken into consideration when selecting a motor. These dimensions are the first barrier of physical limitations and any motors which are larger than the specified dimensions will not pass a motor approval through AAD. Notice there is a maximum shaft diameter for inline and parallel motors as well as a maximum motor flange dimension for parallel motors.

Please refer to the previous page for the motor approval process, as any customer supplied motor must first be approved through AAD before it will be deemed an acceptable motor for mounting to one of the actuators. Other considerations AAD will review include, but are not limited to, shaft length, pilot depth, pilot size, bolt hole pattern, key size, etc.

Maximum Shaft Size

Parallel Mounting

P represents any parallel motor orientation.
E in the last digit represents any gear drive ratio.

Model	Largest Motor Shaft	
	No Key	With Key
ER*32-***PA2	0.250	0.375
ER*32-***PZ2	0.250	11mm
ER*50-***PA	0.375	14mm
ER*50-***PB	0.375	—
ER*50-***PD	0.250	—
ER*50-***PE	0.375	—
ERS80-***PA	0.625	—
ERS80-***PB	0.625	—
ERS80-***PD	0.375	—
ERS80-***PE	0.500	—
ERB80-***PA	—	22mm
ERB80-***PB	—	0.750
ERB80-***PD	—	14mm
ERB80-***PE	—	0.500

* Any motor type *** Any drive type

Inline Mounting

Model	Largest Motor Shaft	
	No Key	With Key
ER*32-***LA	11mm	9mm
ER*50-***LA	16mm	14mm
ER*80-***LA	1.063	0.875

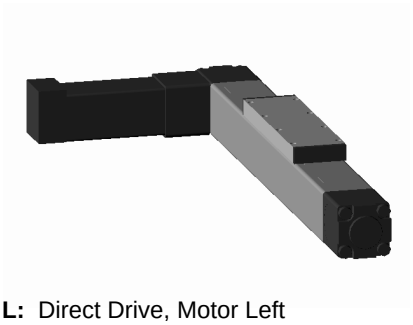
* Any motor type *** Any drive type

Maximum Motor Size for Parallel Mounting

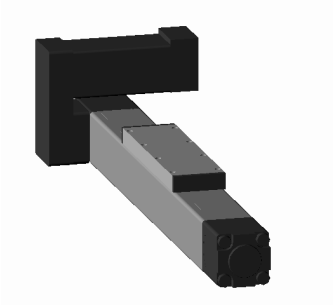
Model	Motor Flange Dimension
ER32	2.31 (58mm)
ER50	3.75 (95mm)
ER80	4.75 (120mm)

Note: Dimensions are for physical sizing only. AAD must approve motor before order will be accepted.

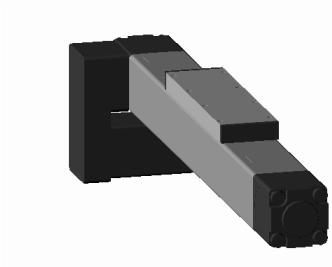
Belt Driven Orientations



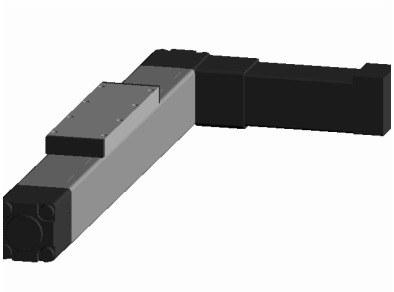
L: Direct Drive, Motor Left



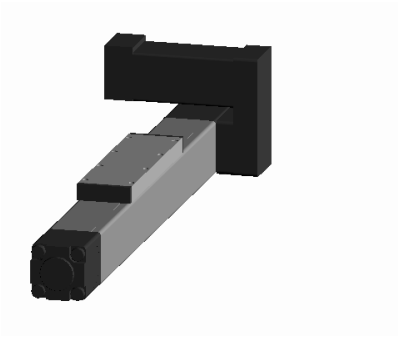
M: Parallel with Timing Belt or Gear Drive, Over Right



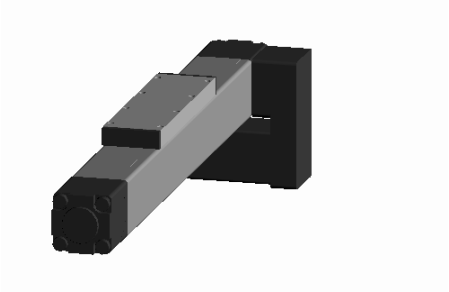
N: Parallel with Timing Belt or Gear Drive, Under Right



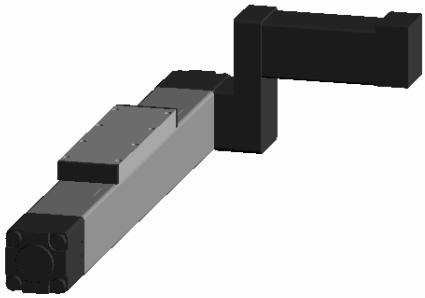
R: Direct Drive, Motor Right



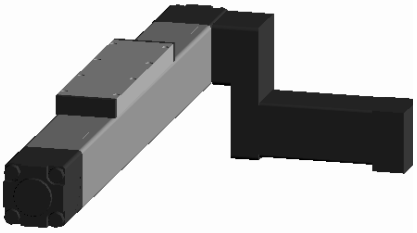
S: Parallel with Timing Belt or Gear Drive, Over Left



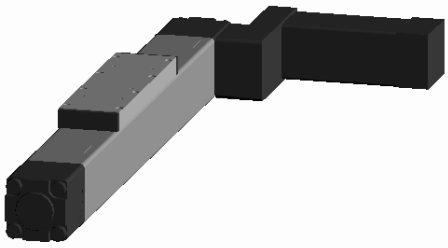
T: Parallel with Timing Belt or Gear Drive, Under Left



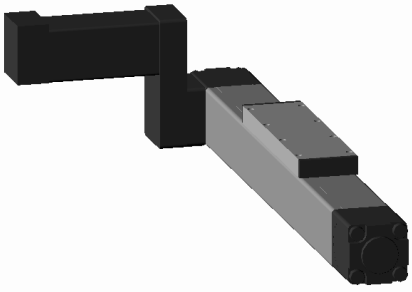
V: Reverse Parallel with Timing Belt or Gear Drive, Over Right



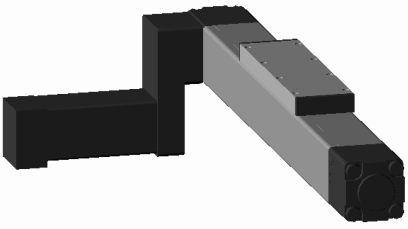
W: Reverse Parallel with Timing Belt or Gear Drive, Under Right



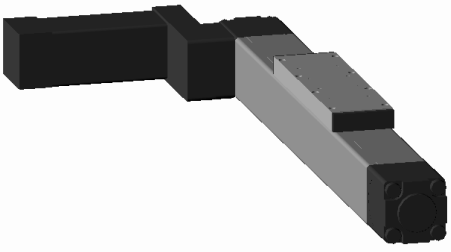
J: Reverse Parallel with Timing Belt or Gear Drive, Rear Right



Y: Reverse Parallel with Timing Belt or Gear Drive, Over Left

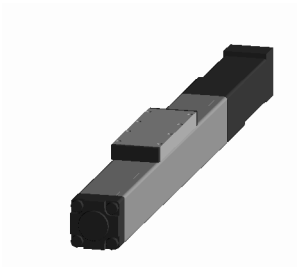


Z: Reverse Parallel with Timing Belt or Gear Drive, Under Left

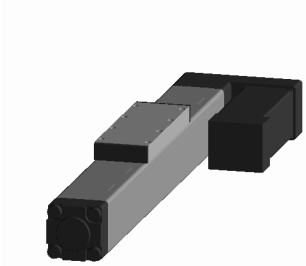


K: Reverse Parallel with Timing Belt or Gear Drive, Rear Left

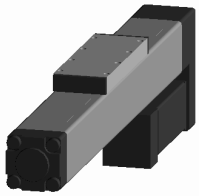
Screw Driven Orientations



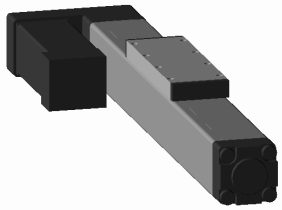
L: Inline Direct Drive



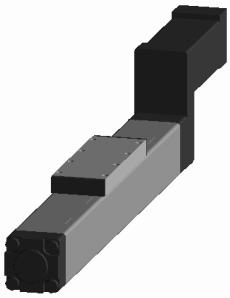
M: Parallel with Timing Belt or Gear Drive, Motor Right



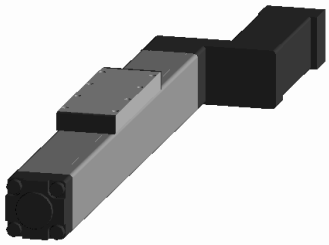
N: Parallel with Timing Belt or Gear Drive, Motor Under



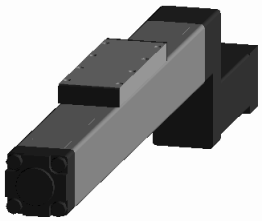
Q: Parallel with Timing Belt or Gear Drive, Motor Left



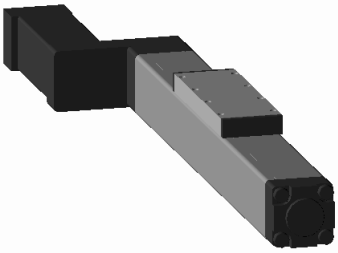
R: Reverse Parallel with Timing Belt or Gear Drive



S: Reverse Parallel with Timing Belt or Gear Drive Motor Left



T: Reverse Parallel with Timing Belt or Gear Drive, Motor Under



V: Reverse Parallel with Timing Belt or Gear Drive, Motor Right

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Screw Drive Example ERB 32 – A04 L A 23 – F S R X 600 – A

✔ Model Series
ER with Brushless Servo ..... ERB

✔ Profile Size
32mm 32

✔ Drive Type
Ball Screw, 0.125 in. lead B08
Acme Screw, 0.125 in lead A08
Acme Screw, 0.250 in. lead A04

✔ Motor Mounting Style
Inline L
Parallel, Position M* ..... M
Parallel, Position N* ..... N
Parallel, Position Q* ..... Q
Reverse Parallel, Position R* ..... R
Reverse Parallel, Position S* ..... S
Reverse Parallel, Position T* ..... T
Reverse Parallel, Position V* V

✔ Drive Ratio
1:1 Inline or Timing Belt (Parallel) ... A
1:1.5 Timing Belt (Parallel) ..... Z
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Servo Motors
Flange and Pulley/coupling only for SM23 Motor with "T" Shaft 20
SM233BE-TTQN 22
SM233BR-TMSN 23
SM233AE-TGSN 26
Other AAD Supplied SM Motor with "T" Shaft 2X
Customer Supplied SM Motor with "T" Shaft 29
Flange and Coupler/Pulley only for BE23 or iBE23 Motor with "K" Shaft L0
AAD Supplied BE23 or iBE23 Motor with "K" Shaft LX
Customer Supplied BE23 or iBE23 Motor with "K" Shaft L9
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
xxxx Up to maximum stroke in mm (see table below)

✔ Brake Option**
Omit No Brake
X Consult Application Department for brake option.

✔ Carriage Bearing
R Roller Bearing Carriage
S Square Rail Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
G Foot Side Lug
H Rear Flange (MF2)†
J Front Flange (MF1)
N Front & Rear Flange (MF1, MF2)†
X Special

Maximum Stroke (mm)

	Inline	Parallel (Timing Belt)	Parallel (Gear)
All Drive Types	1575	1550	1540

* See diagrams on page 145.
** Not available with inline motor mounting. Not compatible with rear mounting options (B, H, N)
† Parallel motor mounting only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Belt Drive Example

ERB | 32 | – | BLT | L | A | 23 | – | F | S | R | X | 600 | – | A

✔ Model Series
ER with Brushless Servo ..... ERB

✔ Profile Size
32mm 32

✔ Drive Type
Belt Drive ..... BLT

✔ Motor Mounting Style*
Direct Drive, Right ..... R
Direct Drive, Left L
Parallel, Under Right ..... N
Parallel, Under Left ..... T
Reverse Parallel, Over Right V
Reverse Parallel, Under Right ..... W
Reverse Parallel, Over Left ..... Y
Reverse Parallel, Under Left ..... Z
Reverse Parallel, Rear Right ..... J
Reverse Parallel, Rear Left ..... K

✔ Drive Ratio
1:1 Direct Drive or Timing Belt (Parallel) ..... A
1:1.5 Timing Belt (Parallel) ..... Z
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Servo Motors
Flange and Pulley/coupling only for SM23 Motor with "T" Shaft 20
SM233BE-TTQN 22
SM233BR-TMSN 23
SM233AE-TGSN 26
Other AAD Supplied SM Motor with "T" Shaft 2X
Customer Supplied SM Motor with "T" Shaft 29
Flange and Coupler/Pulley only for BE23 or iBE23 Motor with "K" Shaft L0
AAD Supplied BE23 or iBE23 Motor with "K" Shaft LX
Customer Supplied BE23 or iBE23 Motor with "K" Shaft L9
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
1500 1500mm (59.05 in.)
xxxx Up to 4550 mm (179 in.)

✔ Brake Option**
Omit No Brake
X Consult Application Department for brake option.

✔ Carriage Bearing
R Roller Bearing Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
J Front Flange (MF1)
X Special

* See diagrams on page 144.
** Not available with direct drive motor mounting. Not compatible with rear mounting options (B, H, N)
† Parallel motor mounting only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Screw Drive Example

ERS | 32 | – | A04 | L | A | 23 | – | F | S | R | X | 600 | – | A

✔ Model Series
ER with Step Motor ..... ERS

✔ Profile Size
32mm 32

✔ Drive Type
Ball Screw, 0.125 in. lead B08
Acme Screw, 0.125 in lead A08
Acme Screw, 0.250 in. lead A04

✔ Motor Mounting Style*
Inline L
Parallel, Position M ..... M
Parallel, Position N ..... N
Parallel, Position Q ..... Q
Reverse Parallel, Position R ..... R
Reverse Parallel, Position S ..... S
Reverse Parallel, Position T ..... T
Reverse Parallel, Position V V

✔ Drive Ratio
1:1 Inline or Timing Belt (Parallel) ... A
1:1.5 Timing Belt (Parallel) ..... Z
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Step Motors
Flange and Pulley/coupling only for S57, OS2 or ES2 Motor 20
S57-102 with Cable Grommet 21
S57-102 with Conduit Connector 22
S57-102 with Brad Harrison Connector 23
Other AAD Supplied S57, OS2 or ES2 Motor 2X
Customer Supplied S57,. OS2 or ES2 Motor 29
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A | Current Design

✔ Stroke
50 | 50mm (1.97 in.)
100 | 100mm (3.94 in.)
150 | 150mm (5.91 in.)
200 | 200mm (7.87 in.)
300 | 300mm (11.81 in.)
450 | 450mm (17.72 in.)
600 | 600mm (23.62 in.)
750 | 750mm (29.53 in.)
1000 | 1000mm (39.37 in.)
xxxx | Up to maximum stroke in mm (see table below)

✔ Brake Option
Omit | No Brake
X | Consult Application Department for brake option.

✔ Carriage Bearing
R | Roller Bearing Carriage
S | Square Rail Carriage

✔ Carriage Style
S | Standard
X | Special (Consult Factory)

✔ Actuator Mounting
B | Foot Mount (MS1)†
E | Rear Eye (MP4)†
F | Bottom Tap (MS4) - Standard
G | Foot Side Lug
H | Rear Flange (MF2)†
J | Front Flange (MF1)
N | Front & Rear Flange (MF1, MF2)†
X | Special

Maximum Stroke (mm)

	Inline	Parallel (Timing Belt)	Parallel (Gear)
All Drive Types	1575	1550	1540

* See diagrams on page 145.
** Not available with inline motor mounting. Not compatible with rear mounting options (B, H, N)
† Parallel motor mounting only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Belt Drive Example

ERS | 32 | – | BLT | L | A | 23 | – | F | S | R | X | 600 | – | A

✔ Model Series
ER with Brushless Servo ..... ERS

✔ Profile Size
32mm 32

✔ Drive Type
Belt Drive ..... BLT

✔ Motor Mounting Style*
Direct Drive, Right ..... R
Direct Drive, Left L
Parallel, Over Right ..... M
Parallel, Under Right ..... N
Parallel, Over Left ..... S
Parallel, Under Left ..... T
Reverse Parallel, Over Right V
Reverse Parallel, Under Right ..... W
Reverse Parallel, Over Left ..... Y
Reverse Parallel, Under Left ..... Z
Reverse Parallel, Rear Right ..... J
Reverse Parallel, Rear Left ..... K

✔ Drive Ratio
1:1 Direct Drive or Timing Belt (Parallel) ..... A
1:1.5 Timing Belt (Parallel) ..... Z
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Step Motors
Flange and Pulley/coupling only for S57, OS2 or ES2 Motor 20
S57-102 with Cable Grommet 21
S57-102 with Conduit Connector 22
S57-102 with Brad Harrison Connector 23
Other AAD Supplied S57, OS2 or ES2 Motor 2X
Customer Supplied S57,. OS2 or ES2 Motor 29
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

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A Current Design

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1000 1000mm (39.37 in.)
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xxxx Up to 4550 mm (179 in.)

✔ Brake Option
Omit No Brake
X Consult Application Department for brake option.

✔ Carriage Bearing
R Roller Bearing Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
J Front Flange (MF1)
X Special

* See diagrams on page 144.
** Not available with direct drive motor mounting. Not compatible with rear mounting options (B, H, N).
† Parallel motor mounting only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Screw Drive Example

ERD | 32 | – | A04 | L | A | 23 | – | F | S | R | X | 600 | – | A

✔ Model Series
ER with Brush DC Motor ..... ERD

✔ Profile Size
32mm 32

✔ Drive Type
Ball Screw, 0.125 in. lead B08
Acme Screw, 0.125 in lead A08
Acme Screw, 0.250 in. lead A04

✔ Motor Mounting Style*
Inline L
Parallel, Position M ..... M
Parallel, Position N ..... N
Parallel, Position Q ..... Q
Reverse Parallel, Position R ..... R
Reverse Parallel, Position S ..... S
Reverse Parallel, Position T ..... T
Reverse Parallel, Position V V

✔ Drive Ratio
1:1 Inline or Timing Belt (Parallel) ... A
1:1.5 Timing Belt (Parallel) ..... Z
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Motor Options
AD23A Motor Flange and Coupler/Pulley Only 20
AD23A Motor, Cable Grommet 21
AD23A Motor, Conduit Connector .. 22
AD23A Motor, Brad Harrison Connector 23
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor Mounted at AAD .. 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
xxxx Up to maximum stroke in mm (see table below)

✔ Brake Option**
Omit No Brake
X Consult Application Department for brake option.

✔ Carriage Bearing
R Roller Bearing Carriage
S Square Rail Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
G Foot Side Lug
H Rear Flange (MF2)†
J Front Flange (MF1)
N Front & Rear Flange (MF1, MF2)†
X Special

Maximum Stroke (mm)

	Inline	Parallel (Timing Belt)	Parallel (Gear)
All Drive Types	1575	1550	1540

* See diagrams on page 145.
** Not available with inline motor mounting. Not compatible with rear mounting options (B, H, N)
† Parallel motor mounting only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Belt Drive Example

ERD | 32 | – | BLT | L | A | 23 | – | F | S | R | X | 600 | – | A

✔ Model Series
ER with Brush DC Motor ..... ERD

✔ Profile Size
32mm 32

✔ Drive Type
Belt Drive ..... BLT

✔ Motor Mounting Style*
Direct Drive, Right ..... R
Direct Drive, Left L
Parallel, Over Right ..... M
Parallel, Under Right ..... N
Parallel, Over Left ..... S
Parallel, Under Left ..... T
Reverse Parallel, Over Right V
Reverse Parallel, Under Right ..... W
Reverse Parallel, Over Left ..... Y
Reverse Parallel, Under Left ..... Z
Reverse Parallel, Rear Right ..... J
Reverse Parallel, Rear Left ..... K

✔ Drive Ratio
1:1 Direct Drive or Timing Belt (Parallel) ..... A
1:1.5 Timing Belt (Parallel) ..... Z
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Servo Motors
AD23A Motor Flange and Coupler/Pulley Only 20
AD23A Motor, Cable Grommet 21
AD23A Motor, Conduit Connector .. 22
AD23A Motor, Brad Harrison Connector 23
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor Mounted at AAD .. 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
1500 1500mm (59.05 in.)
xxxx Up to 4550 mm (179 in.)

✔ Brake Option
Omit No Brake
X Consult Application Department for brake option.

✔ Carriage Bearing
R Roller Bearing Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
J Front Flange (MF1)
X Special

* See diagrams on page 144.
** Not available with direct drive motor mounting. Not compatible with rear mounting options (B, H, N).
† Parallel motor mounting only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Screw Drive Example ERB | 50 | – | B05 | R | A | 23 | – | F | S | S | E | 600 | – | A

✔ Model Series
ER with Brushless Servo Motor ..... ERB

Profile Size
50mm 50

✔ Drive Type
Ball Screw, 0.200 in. lead B05
Ball Screw, 0.500 in. lead B02
Ball Screw, 1.000 in. lead B01
Acme Screw, 0.200 in. lead A05

✔ Motor Mounting Style*
Inline L
Parallel, Position M ..... M
Parallel, Position N ..... N
Parallel, Position Q ..... Q
Reverse Parallel, Position R ..... R
Reverse Parallel, Position S ..... S
Reverse Parallel, Position T ..... T
Reverse Parallel, Position V V

✔ Drive Ratio
1:1 Inline or Timing Belt (Parallel) ... A
1.5:1 Timing Belt (Parallel) ‡ ..... B
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Servo Motors
Flange and Pulley/coupling only for SM23 Motor with "T" Shaft 20
SM233BE-TTQN 22
SM233BR-TMSN 23
SM233AE-TGSN 26
Other AAD Supplied SM Motor with "T" Shaft 2X
Customer Supplied SM Motor with "T" Shaft 29
Flange and Pulley/coupling only for BE23 or iBE23 Motor with "K" Shaft L0
AAD Supplied BE23 or iBE23 Motor*** LX
Customer Supplied BE23 or iBE23 Motor *** L9
Flange and Coupler/Pulley onlyfor BE34, iBE34 or N034 Motor with "K" Shaft N0
AAD Supplied BE34, iBE34 or N034 Motor with "K" Shaft ..... NX
Customer Supplied BE34, iBE34 or N034 Motor with "K" Shaft N9
Flange and Coupler/Pulley only for N092/J092 Motor with "K" Shaft J0
J0922JR-KMSN J1
J0923HR-KMSN J2
Other AAD Supplied N092/J092 Motor*** ..... JX
Customer Supplied N092/J092 Motor*** J9
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
xxxx Up to maximum stroke in mm (See table below)

✔ Brake Option**
Omit No Brake
E 115VAC with Flying Leads and Cable Gland
F 24VDC with Flying Leads and Cable Gland
G 115 VAC with Brad Harrison Connector and 4m Cable
H 24VDC with Brad Harrison Connector and 4m Cable

✔ Carriage Bearing
R Roller Bearing Carriage
S Square Rail Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
G Foot Side Lug
H Rear Flange (MF2)†
J Front Flange (MF1)
N Front & Rear Flange (MF1,MF2)†
X Special

Maximum Stroke (mm)

	Inline	Parallel (Timing Belt)	Parallel (Belt w/Brake)	Parallel (Gear)
Drive Type A05, B01	1550	1525	1510	1500
Drive Type B02, B05	3375	3350	3325	3320

* See diagrams on page 145.
** Not available with inline motor mounting. Not compatible with rear mounting options (B, H, N)
*** With "K" Shaft
† Parallel motor mounting only.
‡ Available with SM motors only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Belt Drive Example ERB | 50 | – | BLT | R | A | 23 | – | F | S | R | E | 600 | – | A

✔ Model Series
ER with Brushless Servo ..... ERB

✔ Profile Size
50mm 50

✔ Drive Type
Belt Drive ..... BLT

✔ Motor Mounting Style*
Direct Drive, Right ..... R
Direct Drive, Left L
Parallel, Under Right ..... N
Parallel, Under Left ..... T
Reverse Parallel, Over Right V
Reverse Parallel, Under Right ..... W
Reverse Parallel, Over Left ..... Y
Reverse Parallel, Under Left ..... Z
Reverse Parallel, Rear Right ..... J
Reverse Parallel, Rear Left ..... K

✔ Drive Ratio
1:1 Direct Drive or Timing Belt (Parallel) ..... A
1.5:1 Timing Belt (Parallel) ‡ ..... B
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Servo Motors
Flange and Pulley/coupling only for SM23 Motor with "T" Shaft 20
SM233BE-TTQN 22
SM233BR-TMSN 23
SM233AE-TGSN 26
Other AAD Supplied SM23 Motor with "T" Shaft . 2X
Customer Supplied SM Motor with "T" Shaft 29
Flange and Pulley/coupling only for BE23 or iBE23 Motor with "K" Shaft L0
AAD Supplied BE23 or iBE23 Motor*** LX
Customer Supplied BE23 or iBE23 Motor*** L9
Flange and Coupler/Pulley onlyfor BE34, iBE34 or N034 Motor with "K" Shaft N0
AAD Supplied BE34, iBE34 or N034 Motor with "K" Shaft ..... NX
Customer Supplied BE34, iBE34 or N034 Motor with "K" Shaft N9
Flange and Coupler/Pulley only for N092/J092 Motor with "K" Shaft J0
J0922JR-KMSN J1
J0923HR-KMSN J2
Other AAD Supplied N092/J092 Motor*** ..... JX
Customer Supplied N092/J092 Motor*** J9
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A | Current Design

✔ Stroke
50 | 50mm (1.97 in.)
100 | 100mm (3.94 in.)
150 | 150mm (5.91 in.)
200 | 200mm (7.87 in.)
300 | 300mm (11.81 in.)
450 | 450mm (17.72 in.)
600 | 600mm (23.62 in.)
750 | 750mm (29.53 in.)
1000 | 1000mm (39.37 in.)
1250 | 1250mm (49.21 in.)
1500 | 1500mm (59.05 in.)
xxxx | Up to 4540mm (178.7 in.)

✔ Brake Option**
Omit | No Brake
E | 115VAC w/Flying Leads and Cable Gland
F | 24VDC w/Flying Leads and Cable Gland
G | 115 VAC w/Brad Harrison Connector and 4m Cable
H | 24VDC w/Brad Harrison Connector and 4m Cable

✔ Carriage Bearing
R | Roller Bearing Carriage

✔ Carriage Style
S | Standard
X | Special (Consult Factory)

✔ Actuator Mounting
B | Foot Mount (MS1)†
E | Rear Eye (MP4)†
F | Bottom Tap (MS4) - Standard
J | Front Flange (MF1)
X | Special

* See diagrams on page .
** Not available with direct drive motor mounting. Not compatible with rear mounting options (B, H, N).
*** With "K" Shaft
† Parallel motor mounting only.
‡ Available with SM motors only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Screw Drive Example ERS | 50 | – | B05 | R | A | 23 | – | F | S | S | E | 600 | – | A

✔ Model Series
ER with Step Motor ..... ERS

Profile Size
50mm 50

✔ Drive Type
Ball Screw, 0.200 in. lead B05
Ball Screw, 0.500 in. lead B02
Ball Screw, 1.000 in. lead B01
Acme Screw, 0.200 in. lead A05

✔ Motor Mounting Style*
Inline L
Parallel, Position M ..... M
Parallel, Position N ..... N
Parallel, Position Q ..... Q
Reverse Parallel, Position R ..... R
Reverse Parallel, Position S ..... S
Reverse Parallel, Position T ..... T
Reverse Parallel, Position V V

✔ Drive Ratio
1:1 Inline or Timing Belt (Parallel) ... A
1.5:1 Timing Belt (Parallel) ..... B
2:1 Timing Belt (Parallel) ‡ ..... D
1:1 Gear Drive (Parallel) ‡ ..... K
3:1 Gear Drive (Parallel) ‡ ..... E
5:1 Gear Drive (Parallel) ‡ ..... F
7.5:1 Gear Drive (Parallel) ‡ ..... G
9.5:1 Gear Drive (Parallel) ‡ ..... H

✔ Step Motors
Flange and Pulley/coupling only for S57, OS2 and ES2 Motor 20
S57-102 Motor with Cable Grommet 21
S57-102 Motor with Conduit Connector 22
S57-102 Motor with Brad Harrison Connector 23
Other AAD Supplied S57, OS2 or ES2 Motor 2X
Customer Supplied S57, OS2 or ES2 Motor .. 29
Flange and Pulley/coupling for S83 or RS3 Motor 30
S83-135 Motor with Cable Grommet 31
S83-135 Motor with Conduit Connector 32
S83-135 Motor with Brad Harrison Connector 33
Other AAD Supplied S83 or RS3 Motor 3X
Customer Supplied S83 or RS3 Motor 39
Special Flange and Coupler/Pulley for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
xxxx Up to maximum stroke in mm (See table below)

✔ Brake Option**
Omit No Brake
E 115VAC with Flying Leads and Cable Gland
F 24VDC with Flying Leads and Cable Gland
G 115 VAC with Brad Harrison Connector and 4m Cable
H 24VDC with Brad Harrison Connector and 4m Cable
V 115VAC, Flying Leads, Cable Gland on Stepper
W 24VDC, Flying Leads, Cable Gland on Stepper
Y 115VAC, Brad Harrison Connector, 4m Cable on Stepper
Z 24VDC, Brad Harrison Connector, 4m Cable on Stepper

✔ Carriage Bearing
R Roller Bearing Carriage
S Square Rail Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
G Foot Side Lug
H Rear Flange (MF2)†
J Front Flange (MF1)
N Front & Rear Flange (MF1,MF2)†
X Special

Maximum Stroke (mm)

	Inline	Parallel (Timing Belt)	Parallel (Belt w/Brake)	Parallel (Gear)
Drive Type A05, B01	1550	1525	1510	1500
Drive Type B02, B05	3375	3350	3325	3320

* See diagrams on page 145.
** Not available with inline motor mounting. Not compatible with rear mounting options (B, H, N)
† Parallel motor mounting only.
‡ Available with size 23 motors only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Belt Drive Example ERS 50 – BLT R A 23 – F S R E 600 – A

✔ Model Series
ER with Step Motor ..... ERS

✔ Profile Size
50mm 50

✔ Drive Type
Belt Drive ..... BLT

✔ Motor Mounting Style*
Direct Drive, Right ..... R
Direct Drive, Left L
Parallel, Over Right ..... M
Parallel, Under Right ..... N
Parallel, Over Left ..... S
Parallel, Under Left ..... T
Reverse Parallel, Over Right V
Reverse Parallel, Under Right ..... W
Reverse Parallel, Over Left ..... Y
Reverse Parallel, Under Left ..... Z
Reverse Parallel, Rear Right ..... J
Reverse Parallel, Rear Left ..... K

✔ Drive Ratio
1:1 Direct Drive or Timing Belt (Parallel) ..... A
1.5:1 Timing Belt (Parallel) ..... B
2:1 Timing Belt (Parallel) ‡ ..... D
1:1 Gear Drive (Parallel) ‡ ..... K
3:1 Gear Drive (Parallel) ‡ ..... E
5:1 Gear Drive (Parallel) ‡ ..... F
7.5:1 Gear Drive (Parallel) ‡ ..... G
9.5:1 Gear Drive (Parallel) ‡ ..... H

✔ Step Motors
Flange and Pulley/coupling only for S57, OS2 and ES2 Motor 20
S57-102 Motor with Cable Grommet 21
S57-102 Motor with Conduit Connector 22
S57-102 Motor with Brad Harrison Connector 23
Other AAD Supplied S57, OS2 or ES2 Motor 2X
Customer Supplied S57, OS2 or ES2 Motor .. 29
Flange and Pulley/coupling for S83 or RS3 Motor 30
S83-135 Motor with Cable Grommet 31
S83-135 Motor with Conduit Connector 32
S83-135 Motor with Brad Harrison Connector 33
Other AAD Supplied S83 or RS3 Motor 3X
Customer Supplied S83 or RS3 Motor 39
Special Flange and Coupler/Pulley for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
1500 1500mm (59.05 in.)
xxxx Up to 4540mm (178.7 in.)

✔ Brake Option**
Omit No Brake
E 115VAC w/Flying Leads and Cable Gland
F 24VDC w/Flying Leads and Cable Gland
G 115 VAC w/Brad Harrison Connector and 4m Cable
H 24VDC w/Brad Harrison Connector and 4m Cable
V 115VAC, Flying Leads, Cable Gland on Stepper
W 24VDC, Flying Leads, Cable Gland on Stepper
Y 115VAC, Brad Harrison Connector, 4m Cable on Stepper
Z 24VDC, Brad Harrison Connector, 4m Cable on Stepper

✔ Carriage Bearing
R Roller Bearing Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
J Front Flange (MF1)
X Special

* See diagrams on page 144.
** Not available with direct drive motor mounting. Not compatible with rear mounting options (B, H, N).
† Parallel motor mounting only.
‡ Available with size 23 motors only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Screw Drive Example ERD | 50 | – | B05 | R | A | 23 | – | F | S | S | E | 600 | – | A

✔ Model Series
ER with Brush DC Motor ..... ERD

Profile Size
50mm 50

✔ Drive Type
Ball Screw, 0.200 in. lead B05
Ball Screw, 0.500 in. lead B02
Ball Screw, 1.000 in. lead B01
Acme Screw, 0.200 in. lead A05

✔ Motor Mounting Style*
Inline L
Parallel, Position M ..... M
Parallel, Position N ..... N
Parallel, Position Q ..... Q
Reverse Parallel, Position R ..... R
Reverse Parallel, Position S ..... S
Reverse Parallel, Position T ..... T
Reverse Parallel, Position V V

✔ Drive Ratio
1:1 Inline or Timing Belt (Parallel) ... A
1.5:1 Timing Belt (Parallel) ..... B
2:1 Timing Belt (Parallel) ‡ ..... D
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Motor Options
AD23A Motor Flange and Coupler/Pulley Only 20
AD23A Motor, Cable Grommet 21
AD23A Motor, Conduit Connector .. 22
AD23A Motor, Brad Harrison Connector 23
AD34A Motor Flange and Coupler/Pulley Only 30
AD34A Motor, Cable Grommet 31
AD34A Motor, Conduit Connector .. 32
AD34A Motor, Brad Harrison Connector 33
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor Mounted at AAD .. 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
xxxx Up to maximum stroke in mm (See table below)

✔ Brake Option**
Omit No Brake
E 115VAC with Flying Leads and Cable Gland
F 24VDC with Flying Leads and Cable Gland
G 115 VAC with Brad Harrison Connector and 4m Cable
H 24VDC with Brad Harrison Connector and 4m Cable

✔ Carriage Bearing
R Roller Bearing Carriage
S Square Rail Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
G Foot Side Lug
H Rear Flange (MF2)†
J Front Flange (MF1)
N Front & Rear Flange (MF1,MF2)†
X Special

Maximum Stroke (mm)

	Inline	Parallel (Timing Belt)	Parallel (Belt w/Brake)	Parallel (Gear)
Drive Type A05, B01	1550	1525	1510	1500
Drive Type B02, B05	3375	3350	3325	3320

* See diagrams on page 145.
** Not available with inline motor mounting. Not compatible with rear mounting options (B, H, N)
† Parallel motor mounting only.
‡ Available with size 23 motors only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Belt Drive Example ERD | 50 | – | BLT | R | A | 23 | – | F | S | R | E | 600 | – | A

✔ Model Series
ER with Brush DC Motor ..... ERD

✔ Profile Size
50mm 50

✔ Drive Type
Belt Drive ..... BLT

✔ Motor Mounting Style*
Direct Drive, Right ..... R
Direct Drive, Left L
Parallel, Over Right ..... M
Parallel, Under Right ..... N
Parallel, Over Left ..... S
Parallel, Under Left ..... T
Reverse Parallel, Over Right V
Reverse Parallel, Under Right ..... W
Reverse Parallel, Over Left ..... Y
Reverse Parallel, Under Left ..... Z
Reverse Parallel, Rear Right ..... J
Reverse Parallel, Rear Left ..... K

✔ Drive Ratio
1:1 Direct Drive or Timing Belt (Parallel) ..... A
1.5:1 Timing Belt (Parallel) ..... B
2:1 Timing Belt (Parallel) ‡ ..... D
1:1 Gear Drive (Parallel) ..... K
3:1 Gear Drive (Parallel) ..... E
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
9.5:1 Gear Drive (Parallel) ..... H

✔ Motor Options
AD23A Motor Flange and Coupler/Pulley Only 20
AD23A Motor, Cable Grommet 21
AD23A Motor, Conduit Connector .. 22
AD23A Motor, Brad Harrison Connector 23
AD34A Motor Flange and Coupler/Pulley Only 30
AD34A Motor, Cable Grommet 31
AD34A Motor, Conduit Connector .. 32
AD34A Motor, Brad Harrison Connector 33
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor Mounted at AAD .. 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
1500 1500mm (59.05 in.)
xxxx Up to 4540mm (178.7 in.)

✔ Brake Option**
Omit No Brake
E 115VAC w/Flying Leads and Cable Gland
F 24VDC w/Flying Leads and Cable Gland
G 115 VAC w/Brad Harrison Connector and 4m Cable
H 24VDC w/Brad Harrison Connector and 4m Cable

✔ Carriage Bearing
R Roller Bearing Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
J Front Flange (MF1)
X Special

* See diagrams on page 144.
** Not available with direct drive motor mounting. Not compatible with rear mounting options (B, H, N)
† Parallel motor mounting only.
‡ Available with size 23 motors only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Screw Drive Example ERB 80 – B04 L A J3 – F S S E 750 – A

✔ Model Series
ER w/Brushless Servo ..... ERB

Profile Size
80mm 80

✔ Drive Type
Ball Screw, 0.250 in. lead B04
Ball Screw, 0.500 in. lead B02
Ball Screw, 1.000 in. lead B01
Acme Screw, 0.250 in. lead A04

✔ Motor Mounting Style*
Inline L
Parallel, Position M ..... M
Parallel, Position N ..... N
Parallel, Position Q ..... Q
Reverse Parallel, Position R ..... R
Reverse Parallel, Position S ..... S
Reverse Parallel, Position T ..... T
Reverse Parallel, Position V V

✔ Drive Ratio
1:1 Inline or Timing Belt (Parallel) ... A
1.5:1 Timing Belt (Parallel) ..... B
1:1 Gear Drive (Parallel) ..... K
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
10:1 Gear Drive (Parallel) ..... H

✔ Servo Motors
Flange and Coupler/Pulley only for BE34, iBE34 or N034 Motor with "K" Shaft § N0
AAD Supplied BE34, iBE34 or N034 Motor with "K" Shaft § ..... NX
Customer Supplied BE34, iBE34 or N034 Motor with "K" Shaft § N9
Flange and Coupler/Pulley only for N092/J092 Motor with "K" Shaft § J0
J0922JR-KMSN § J1
J0923HR-KMSN § J2
J0923KR-KMSN § J3
Other AAD Supplied N092/J092 Motor with "K" Shaft § ..... JX
Customer Supplied N092/J092 Motor with "K" Shaft § J9
Flange and Coupler/Pulley only for M105xxJ-Kxxx Motor M0
AAD Supplied M105xxJ-Kxxx Motor ..... MX
Customer Supplier M105xxJ-Kxxx Motor ... M9
Flange and Coupler/Pulley only for M145xxx-Kxxx Motor § P0
AAD Supplied M145xxx-Kxxx Motor § ..... PX
Customer Supplied M145xxx-Kxxx Motor § P9
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
1500 1500mm (59.05 in.)
xxxx Up to 2575mm (101.4 in.)

✔ Brake Option**
Omit No Brake
E 115VAC w/Flying Leads and Cable Gland
F 24VDC w/Flying Leads and Cable Gland
G 115 VAC w/Brad Harrison Connector and 4m Cable
H 24VDC w/Brad Harrison Connector and 4m Cable

✔ Carriage Bearing
R Roller Bearing Carriage
S Square Rail Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
G Foot Side Lug
H Rear Flange (MF2)†
J Front Flange (MF1)
N Front & Rear Flange (MF1, MF2)†
X Special

* See diagrams on page 145.
** Not available with inline motor mounting. Not compatible with rear mounting options (B, H, N).
§ Inline motor mounting only. Consult Application Department for parallel mounting.
† Parallel motor mounting only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Belt Drive Example ERB 80 – BLT L A J3 – F S R E 600 – A

✔ Model Series
ER w/Brushless Servo ..... ERB

✔ Profile Size
80mm 80

✔ Drive Type
Belt Drive ..... BLT

✔ Motor Mounting Style*
Direct Drive, Right ..... R
Direct Drive, Left L
Parallel, Over Right ..... M
Parallel, Under Right ..... N
Parallel, Over Left ..... S
Parallel, Under Left ..... T
Reverse Parallel, Over Right V
Reverse Parallel, Under Right ..... W
Reverse Parallel, Over Left ..... Y
Reverse Parallel, Under Left ..... Z
Reverse Parallel, Rear Right ..... J
Reverse Parallel, Rear Left ..... K

✔ Drive Ratio
1:1 Direct Drive or Timing Belt (Parallel) ..... A
1.5:1 Timing Belt (Parallel) ..... B
1:1 Gear Drive (Parallel) ..... K
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
10:1 Gear Drive (Parallel) ..... H

✔ Servo Motors
Flange and Coupler/Pulley only for BE34, iBE34 or N034 Motor with "K" Shaft § N0
AAD Supplied BE34, iBE34 or N034 Motor with "K" Shaft § ..... NX
Customer Supplied BE34, iBE34 or N034 Motor with "K" Shaft § N9
Flange and Coupler/Pulley only for N092/J092 Motor with "K" Shaft § J0
J0922JR-KMSN § J1
J0923HR-KMSN § J2
J0923KR-KMSN § J3
Other AAD Supplied N092/J092 Motor with "K" Shaft § ..... JX
Customer Supplied N092/J092 Motor with "K" Shaft § J9
Flange and Coupler/Pulley only for M105xxJ-Kxxx Motor M0
AAD Supplied M105xxJ-Kxxx Motor ..... MX
Customer Supplier M105xxJ-Kxxx Motor ... M9
Flange and Coupler/Pulley only for M145xxx-Kxxx Motor § P0
AAD Supplied M145xxx-Kxxx Motor § ..... PX
Customer Supplied M145xxx-Kxxx Motor § P9
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
1500 1500mm (59.05 in.)
xxxx Up to 2575mm (101.4 in.)

✔ Brake Option**
Omit No Brake
E 115VAC w/Flying Leads and Cable Gland
F 24VDC w/Flying Leads and Cable Gland
G 115 VAC w/Brad Harrison Connector and 4m Cable
H 24VDC w/Brad Harrison Connector and 4m Cable

✔ Carriage Bearing
R Roller Bearing Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
J Front Flange (MF1)
X Special

* See diagrams on page 144.
** Not available with direct drive motor mounting. Not compatible with rear mounting options (B, H, N)
§ Inline motor mounting only. Consult Application Department for parallel mounting.
† Parallel motor mounting only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Screw Drive Example ERS 80 – B04 R A 43 – F S S E 750 – A

✔ Model Series
ER with Step Motor ..... ERS

✔ Profile Size
80mm 80

✔ Drive Type
Ball Screw, 0.250 in. lead B04
Ball Screw, 0.500 in. lead B02
Ball Screw, 1.000 in. lead B01
Acme Screw, 0.250 in. lead A04

✔ Motor Mounting Style*
Inline L
Parallel, Position M ..... M
Parallel, Position N ..... N
Parallel, Position Q ..... Q
Reverse Parallel, Position R ..... R
Reverse Parallel, Position S ..... S
Reverse Parallel, Position T ..... T
Reverse Parallel, Position V V

✔ Drive Ratio
1:1 Inline or Timing Belt (Parallel) ... A
1.5:1 Timing Belt (Parallel) ..... B
2:1 Timing Belt (Parallel) ‡ ..... D
1:1 Gear Drive (Parallel) ..... K
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
10:1 Gear Drive (Parallel) ..... H

✔ Step Motors
Flange and Pulley/coupling only for S83 or RS3 Motor 30
S83-135 Motor with Cable Grommet 31
S83-135 Motor with Conduit Connector 32
S83-135 Motor with Brad Harrison Connector 33
Other AAD Supplied S83 or RS3 Motor 3X
Customer Supplied S83 or RS3 Motor 39
Flange and Pulley/coupling only for S106 Motor 40
S106-178 Motor with Cable Grommet 41
S106-178 Motor with Conduit Connector 42
S106-178 Motor with Brad Harrison Connector 43
Other AAD Supplied S106 Motor 4X
Customer Supplied S106 Motor 49
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor Mounted at AAD 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
1500 1500mm (59.05 in.)
xxxx Up to 2575mm (101.4 in.)

✔ Brake Option**
Omit No Brake
E 115VAC with Flying Leads and Cable Gland
F 24VDC with Flying Leads and Cable Gland
G 115 VAC with Brad Harrison Connector and 4m Cable
H 24VDC with Brad Harrison Connector and 4m Cable
V 115VAC, Flying Leads, Cable Gland on Stepper
W 24VDC, Flying Leads, Cable Gland on Stepper
Y 115VAC, Brad Harrison Connector, 4m Cable on Stepper
Z 24VDC, Brad Harrison Connector, 4m Cable on Stepper

✔ Carriage Bearing
R Roller Bearing Carriage
S Square Rail Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
G Foot Side Lug
H Rear Flange (MF2)†
J Front Flange (MF1)
N Front & Rear Flange (MF1, MF2)†
X Special

* See diagrams on page 145.
** Not available with inline motor mounting. Not compatible with rear mounting options (B, H, N)
† Parallel motor mounting only.
‡ Available with NEMA 34 motors only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Belt Drive Example ERS | 80 | – | BLT | R | A | 43 | – | F | S | R | E | 600 | – | A

✔ Model Series
ER with Step Motor	ERS

✔ Profile Size
80mm	80

✔ Drive Type
Belt Drive	BLT

✔ Motor Mounting Style*
Direct Drive, Right	R
Direct Drive, Left	L
Parallel, Over Right	M
Parallel, Under Right	N
Parallel, Over Left	S
Parallel, Under Left	T
Reverse Parallel, Over Right	V
Reverse Parallel, Under Right	W
Reverse Parallel, Over Left	Y
Reverse Parallel, Under Left	Z
Reverse Parallel, Rear Right	J
Reverse Parallel, Rear Left	K

✔ Drive Ratio
1:1 Direct Drive or Timing Belt (Parallel)	A
1.5:1 Timing Belt (Parallel)	B
2:1 Timing Belt (Parallel) ‡	D
1:1 Gear Drive (Parallel)	K
5:1 Gear Drive (Parallel)	F
7.5:1 Gear Drive (Parallel)	G
10:1 Gear Drive (Parallel)	H

✔ Step Motors
Flange and Pulley/coupling only for S83 or RS3 Motor	30
S83-135 Motor with Cable Grommet	31
S83-135 Motor with Conduit Connector	32
S83-135 Motor with Brad Harrison Connector	33
Other AAD Supplied S83 or RS3 Motor	3X
Customer Supplied S83 or RS3 Motor	39
Flange and Pulley/coupling only for S106 Motor	40
S106-178 Motor with Cable Grommet	41
S106-178 Motor with Conduit Connector	42
S106-178 Motor with Brad Harrison Connector	43
Other AAD Supplied S106 Motor	4X
Customer Supplied S106 Motor	49
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor Mounted at AAD	90
AAD Approved Customer Motor Mounted at AAD	99
Other AAD Supplied Motor/Gearbox Mounted at AAD	9X

✔ Design Series
A	Current Design

✔ Stroke
50	50mm (1.97 in.)
100	100mm (3.94 in.)
150	150mm (5.91 in.)
200	200mm (7.87 in.)
300	300mm (11.81 in.)
450	450mm (17.72 in.)
600	600mm (23.62 in.)
750	750mm (29.53 in.)
1000	1000mm (39.37 in.)
1250	1250mm (49.21 in.)
1500	1500mm (59.05 in.)
xxxx	Up to 2575mm (101.4 in.)

✔ Brake Option**
Omit	No Brake
E	115VAC with Flying Leads and Cable Gland
F	24VDC with Flying Leads and Cable Gland
G	115 VAC with Brad Harrison Connector and 4m Cable
H	24VDC with Brad Harrison Connector and 4m Cable
V	115VAC, Flying Leads, Cable Gland on Stepper
W	24VDC, Flying Leads, Cable Gland on Stepper
Y	115VAC, Brad Harrison Connector, 4m Cable on Stepper
Z	24VDC, Brad Harrison Connector, 4m Cable on Stepper

✔ Carriage Bearing
R	Roller Bearing Carriage

✔ Carriage Style
S	Standard
X	Special (Consult Factory)

✔ Actuator Mounting
B	Foot Mount (MS1)†
E	Rear Eye (MP4)†
F	Bottom Tap (MS4) - Standard
J	Front Flange (MF1)
X	Special

* See diagrams on page 144.
** Not available with direct drive motor mounting. Not compatible with rear mounting options (B, H, N).
† Parallel motor mounting only.
‡ Available with NEMA 34 motors only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Screw Drive Example ERD 80 – B04 R A 41 – F S S E 750 – A

✔ Model Series
ER with Brush DC Motor ..... ERD

Profile Size
80mm 80

✔ Drive Type
Ball Screw, 0.250 in. lead B04
Ball Screw, 0.500 in. lead B02
Ball Screw, 1.000 in. lead B01
Acme Screw, 0.250 in. lead A04

✔ Motor Mounting Style*
Inline L
Parallel, Position M ..... M
Parallel, Position N ..... N
Parallel, Position Q ..... Q
Reverse Parallel, Position R ..... R
Reverse Parallel, Position S ..... S
Reverse Parallel, Position T ..... T
Reverse Parallel, Position V V

✔ Drive Ratio
1:1 Inline or Timing Belt (Parallel) ... A
1.5:1 Timing Belt (Parallel) ..... B
2:1 Timing Belt (Parallel) ‡ ..... D
1:1 Gear Drive (Parallel) ..... K
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
10:1 Gear Drive (Parallel) ..... H

✔ Motor Options
AD34A Motor Flange and Coupler/Pulley Only 30
AD34A Motor, Cable Grommet 31
AD34A Motor, Conduit Connector .. 32
AD34A Motor, Brad Harrison Connector 33
AD42A Motor Flange and Coupler/Pulley Only 40
AD42A Motor, Cable Grommet 41
AD42A Motor, Conduit Connector .. 42
AD42A Motor, Brad Harrison Connector 43
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor Mounted at AAD .. 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
1500 1500mm (59.05 in.)
xxxx Up to 2575mm (101.4 in.)

✔ Brake Option**
Omit No Brake
E 115VAC w/Flying Leads and Cable Gland
F 24VDC w/Flying Leads and Cable Gland
G 115 VAC w/Brad Harrison Connector and 4m Cable
H 24VDC w/Brad Harrison Connector and 4m Cable

✔ Carriage Bearing
R Roller Bearing Carriage
S Square Rail Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
G Foot Side Lug
H Rear Flange (MF2)†
J Front Flange (MF1)
N Front & Rear Flange (MF1, MF2)†
X Special

* See diagrams on page 145.
** Not available with inline motor mounting. Not compatible with rear mounting options (B, H, N).
† Parallel motor mounting only.
‡ Available with size 34 motors only.

Special modifications are available. Contact ApplicationDepartment.

Parker Hannifin Corporation
Automation Actuator Division
Wadsworth, Ohio USA

Belt Drive Example ERD 80 – BLT R A 41 – F S R E 600 – A

✔ Model Series
ER with Brush DC Motor ..... ERD

✔ Profile Size
80mm 80

✔ Drive Type
Belt Drive ..... BLT

✔ Motor Mounting Style*
Direct Drive, Right ..... R
Direct Drive, Left L
Parallel, Over Right ..... M
Parallel, Under Right ..... N
Parallel, Over Left ..... S
Parallel, Under Left ..... T
Reverse Parallel, Over Right V
Reverse Parallel, Under Right ..... W
Reverse Parallel, Over Left ..... Y
Reverse Parallel, Under Left ..... Z
Reverse Parallel, Rear Right ..... J
Reverse Parallel, Rear Left ..... K

✔ Drive Ratio
1:1 Direct Drive or Timing Belt (Parallel) ..... A
1.5:1 Timing Belt (Parallel) ..... B
2:1 Timing Belt (Parallel) ‡ ..... D
1:1 Gear Drive (Parallel) ..... K
5:1 Gear Drive (Parallel) ..... F
7.5:1 Gear Drive (Parallel) ..... G
10:1 Gear Drive (Parallel) ..... H

✔ Motor Options
AD34A Motor Flange and Coupler/Pulley Only 30
AD34A Motor, Cable Grommet 31
AD34A Motor, Conduit Connector .. 32
AD34A Motor, Brad Harrison Connector 33
AD42A Motor Flange and Coupler/Pulley Only 40
AD42A Motor, Cable Grommet 41
AD42A Motor, Conduit Connector .. 42
AD42A Motor, Brad Harrison Connector 43
Special Flange and Coupler/Pulley only for AAD Approved Customer Motor Mounted at AAD .. 90
AAD Approved Customer Motor Mounted at AAD 99
Other AAD Supplied Motor/Gearbox Mounted at AAD 9X

✔ Design Series
A Current Design

✔ Stroke
50 50mm (1.97 in.)
100 100mm (3.94 in.)
150 150mm (5.91 in.)
200 200mm (7.87 in.)
300 300mm (11.81 in.)
450 450mm (17.72 in.)
600 600mm (23.62 in.)
750 750mm (29.53 in.)
1000 1000mm (39.37 in.)
1250 1250mm (49.21 in.)
1500 1500mm (59.05 in.)
xxxx Up to 2575mm (101.4 in.)

✔ Brake Option**
Omit No Brake
E 115VAC w/Flying Leads and Cable Gland
F 24VDC w/Flying Leads and Cable Gland
G 115 VAC w/Brad Harrison Connector and 4m Cable
H 24VDC w/Brad Harrison Connector and 4m Cable

✔ Carriage Bearing
R Roller Bearing Carriage

✔ Carriage Style
S Standard
X Special (Consult Factory)

✔ Actuator Mounting
B Foot Mount (MS1)†
E Rear Eye (MP4)†
F Bottom Tap (MS4) - Standard
J Front Flange (MF1)
X Special

* See diagrams on page 144.
** Not available with direct drive motor mounting. Not compatible with rear mounting options (B, H, N).
† Parallel motor mounting only.
‡ Available with size 34 motors only.

Special modifications are available. Contact ApplicationDepartment.

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