

# 92W-1

Enclosed Electric Power Clamps | Smart Clamp | How to Order

92W-1

23

00

02

02

Clamp Arm Shaft

03

23

Shaft Length (L)

10 mm [0.39 in]

16 mm [0.63 in]

Body Style

for 400 V Motor Option 01 only

01 Compact Clamp Design

for 48 V Motor Option 02 only

02 Compact Clamp Design

01

02

Motor

for Body Style Option 01 only

01 Servo Drive, Decentral 400 V

for Body Style Option 02 only

02 Servo Drive, Decentral 48 V

01

02

03

23

01

02

01

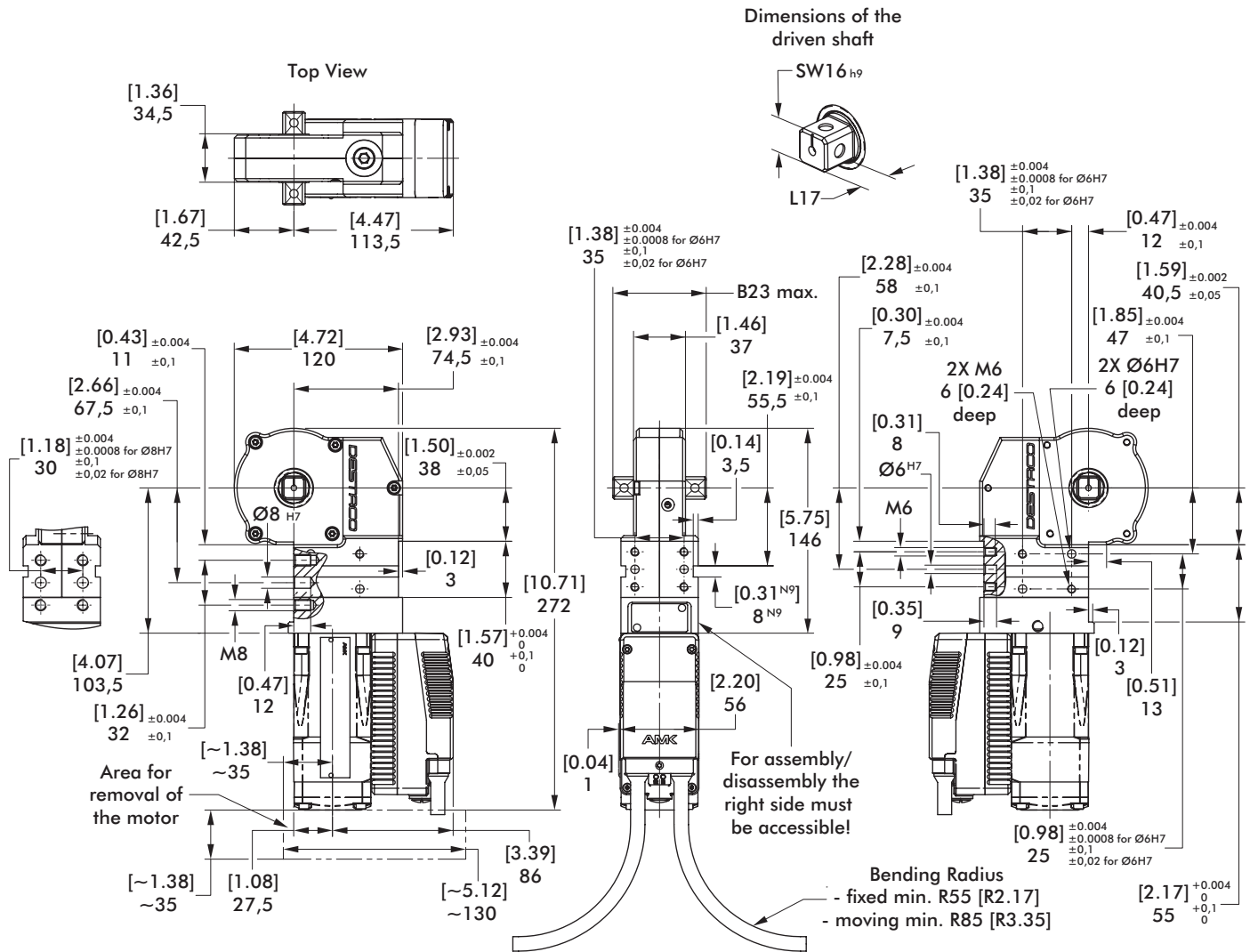
02

92W-123000101

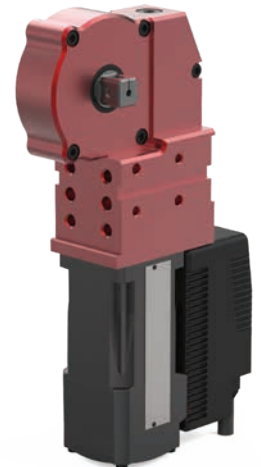
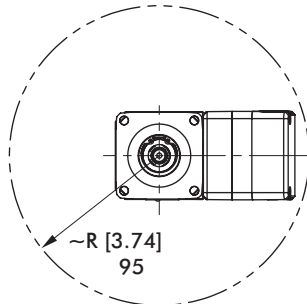
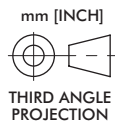
Shown with U-Arm 8UM404-41-131 (order separately)

92W-103000202

Shown with U-Arm 8UM404-41-131 (order separately)



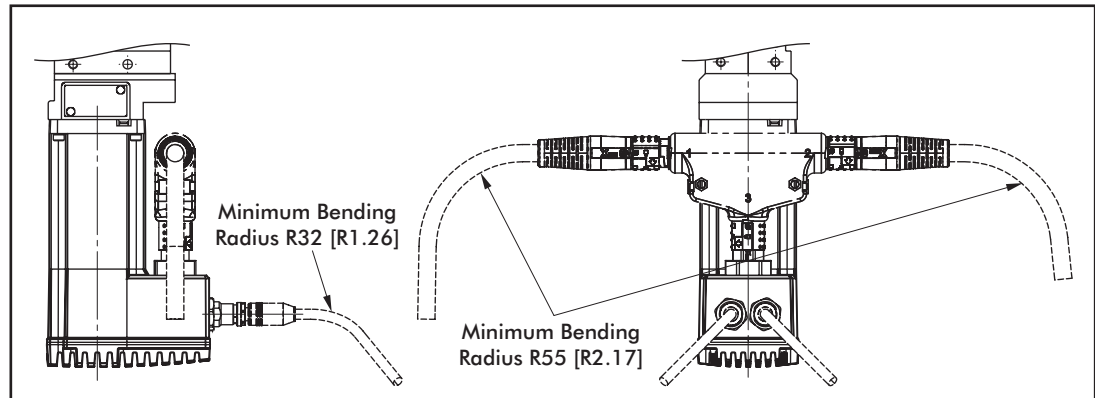
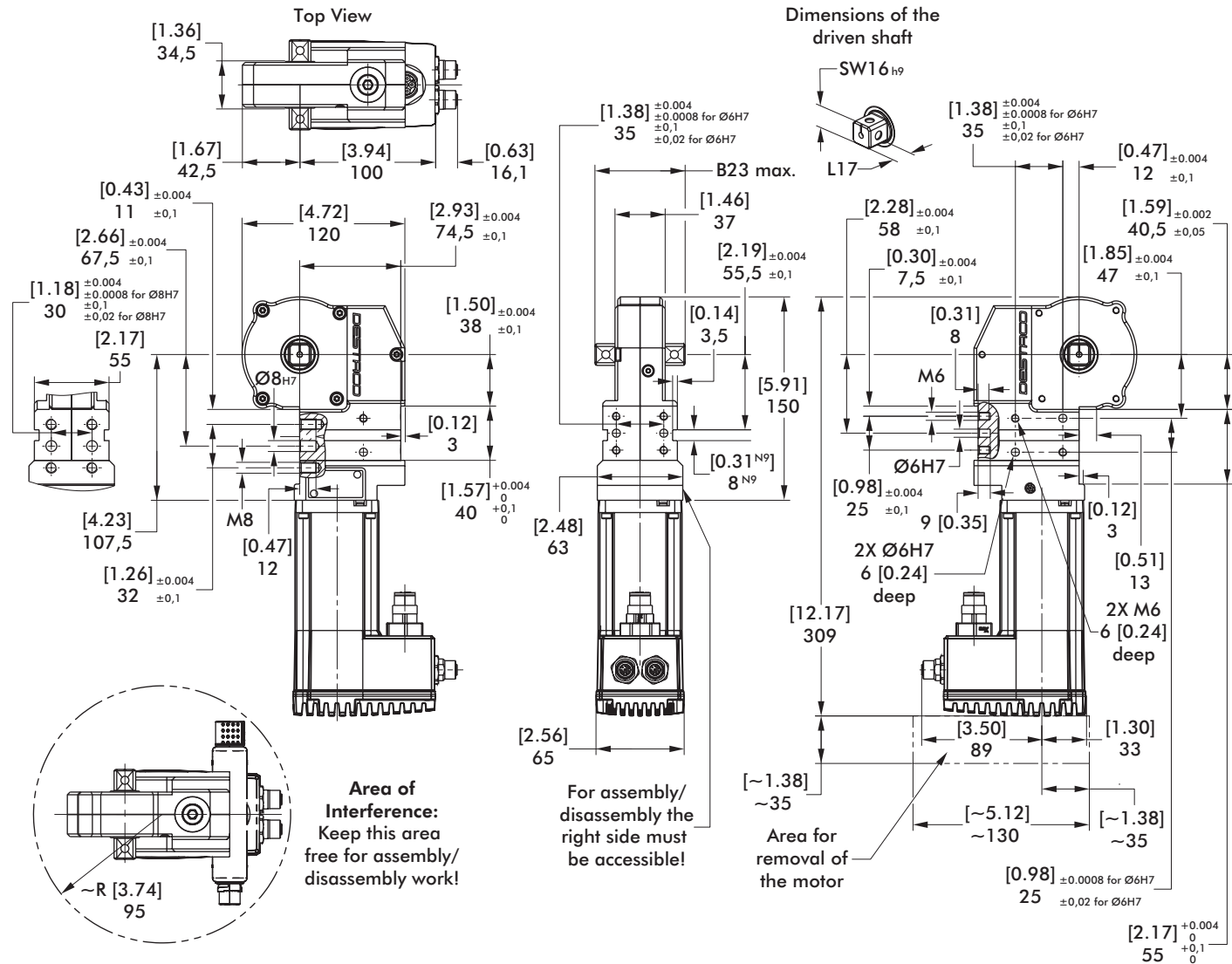
**Area of Interference:**  
Keep this area free for  
assembly/disassembly work!



| Model         | Max. Holding Torque<br>Nm [ft-lb] | Max. Clamping Torque<br>Nm [ft-lb] | Weight<br>kg [lbs] | B23 Max.    | L17       |
|---------------|-----------------------------------|------------------------------------|--------------------|-------------|-----------|
| 92W-103000101 | [332]<br>450                      | [7.4-74]<br>10-100                 | [7.72]<br>3,5      | 54,5 [2.15] | 10 [0.39] |
| 92W-123000101 |                                   |                                    |                    | 66,5 [2.62] | 16 [0.63] |

# 92W-1....0202

## Enclosed Electric Power Clamps | Smart Clamp | Dimensions | Technical Specifications

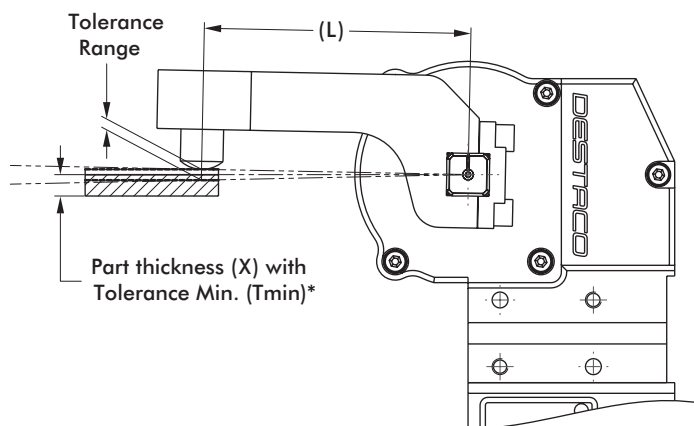


| Model         | Max. Holding Torque<br>Nm [ft-lb] | Max. Clamping Torque<br>Nm [ft-lb] | Weight<br>kg [lbs] | B23 Max.    | L17       |
|---------------|-----------------------------------|------------------------------------|--------------------|-------------|-----------|
| 92W-103000202 | [332]<br>450                      | [7.4-89]<br>10-120                 | [7.93]<br>3,6      | 54,5 [2.15] | 10 [0.39] |
| 92W-123000202 |                                   |                                    |                    | 66,5 [2.62] | 16 [0.63] |

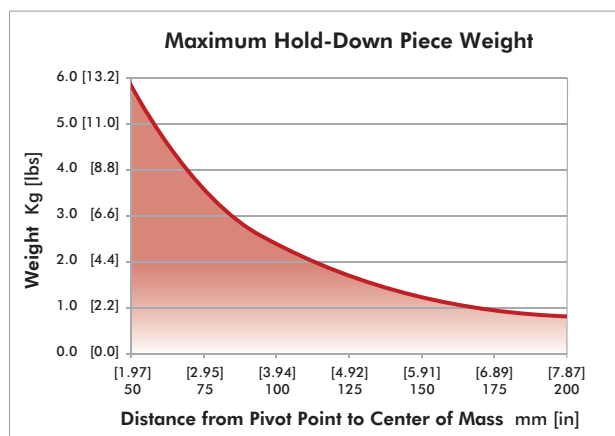
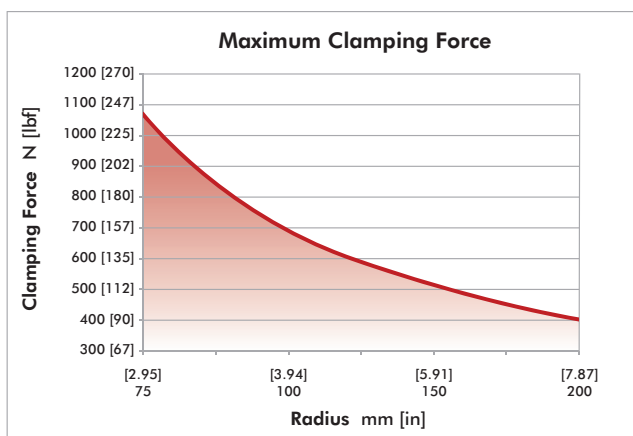
### Part Present Control and Tolerance Compensation

| Distance (L)<br>[in] mm             | Part Thickness (X)<br>Min. Tolerance (Tmin)*<br>[in] mm | Tolerance<br>Range<br>[in] mm |
|-------------------------------------|---------------------------------------------------------|-------------------------------|
| [3.94 ±0.004]<br>100 ±0,1           | [±0.0098]<br>±0,25                                      | [0.019]<br>0,5                |
| [5.91 ±0.004]<br>150 ±0,1           | [±0.0138]<br>±0,35                                      | [0.027]<br>0,7                |
| [7.87 ±0.004] Max.<br>200 ±0,1 Max. | [±0.0177]<br>±0,45                                      | [0.031]<br>0,9                |

\*Specification only as a guideline



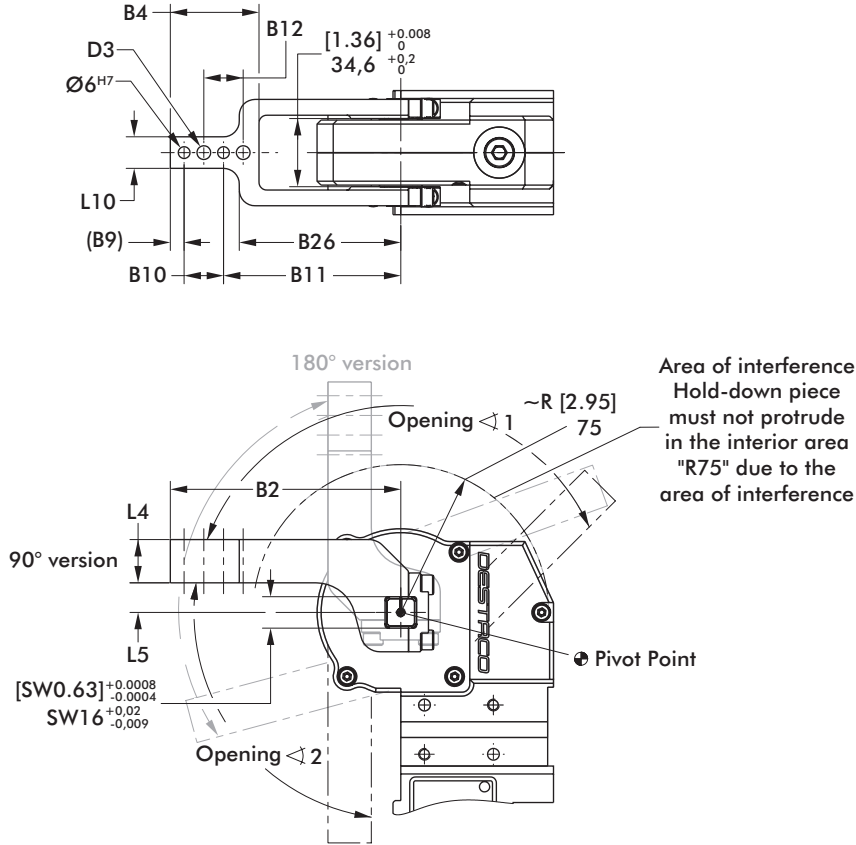
### Technical Specifications



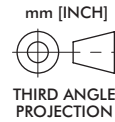
# 92W-1 U-ARMS CENTER (ALUMINUM)

Enclosed Electric Power Clamps | Dimensions | Technical Specifications

## U-Clamp Arm, Center



8UM404-00-117  
8UM404E-15-117  
8UM404E-15-144  
8UM404E-25-117  
8UM404E-45-107  
8UM404-41-131



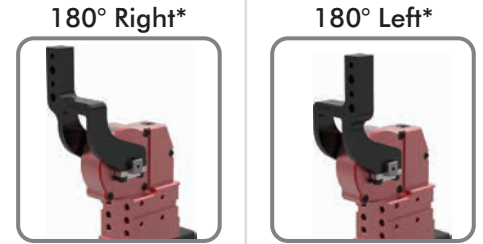
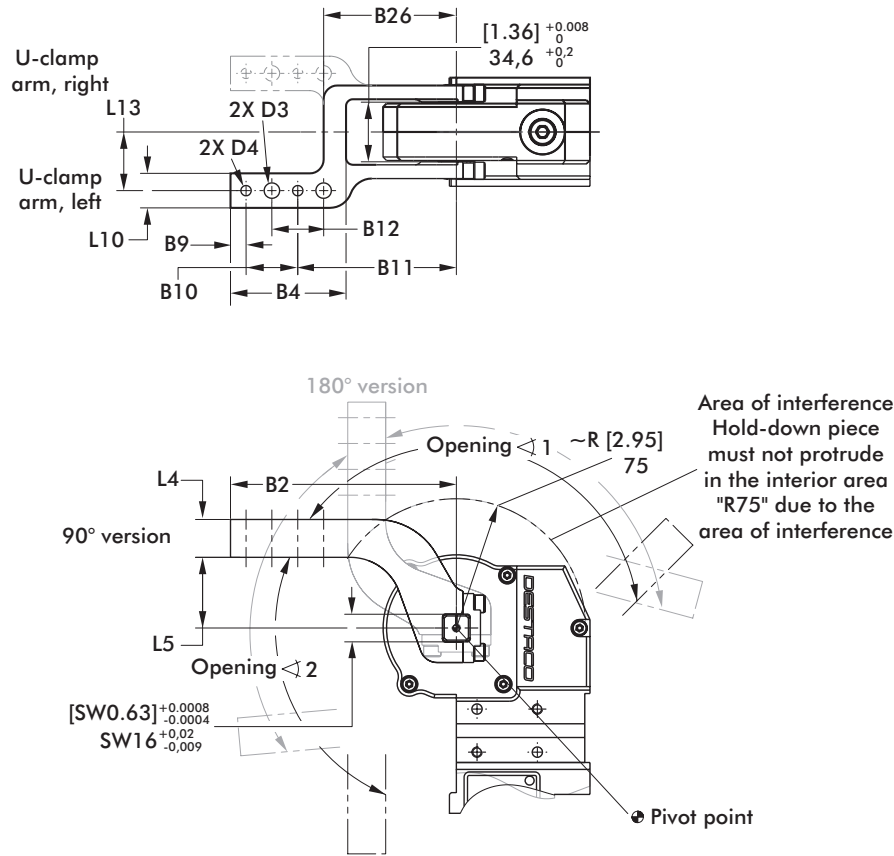
| Arm Model No.  | Max. Opening Angle for 90° Version |            | Max. Opening Angle for 180° Version |            | Weight kg [lbs] | B2            | B4           | B9          | B10                                                              | B11                                                            | B12                                                            | B26          | D3           | L4                                                             | L5           | L10          |
|----------------|------------------------------------|------------|-------------------------------------|------------|-----------------|---------------|--------------|-------------|------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|--------------|--------------|----------------------------------------------------------------|--------------|--------------|
|                | $\angle 1$                         | $\angle 2$ | $\angle 1$                          | $\angle 2$ |                 |               |              |             | $\begin{smallmatrix} [\pm 0.0008] \\ \pm 0,02 \end{smallmatrix}$ | $\begin{smallmatrix} [\pm 0.004] \\ \pm 0,1 \end{smallmatrix}$ | $\begin{smallmatrix} [\pm 0.008] \\ \pm 0,2 \end{smallmatrix}$ |              |              | $\begin{smallmatrix} [\pm 0.004] \\ \pm 0,1 \end{smallmatrix}$ |              |              |
| 8UM404-00-117  | 135°                               | 85°        | 55°                                 | 140°       | [0.49]<br>0,22  | [4.61]<br>117 | [1.77]<br>45 | [0.28]<br>7 | [0.79]<br>20                                                     | [3.54]<br>90                                                   | [0.79]<br>20                                                   |              | [0.28]<br>7  | [0.87]<br>22                                                   | 0            | [0.63]<br>16 |
| 8UM404E-15-117 |                                    | 90°        | 70°                                 | 105°       | [0.51]<br>0,23  | [5.67]<br>144 | [2.83]<br>72 | [0.35]<br>9 | [1.18]<br>30                                                     | [4.13]<br>105                                                  | [1.18]<br>30                                                   | [3.23]<br>82 | [0.35]<br>9  | [1.10]<br>28                                                   | [0.59]<br>15 | [0.79]<br>20 |
| 8UM404E-15-144 |                                    |            | 90°                                 | 100°       | [0.73]<br>0,33  | [4.61]<br>117 | [1.77]<br>45 | [0.28]<br>7 | [0.79]<br>20                                                     | [3.54]<br>90                                                   | [0.79]<br>20                                                   |              | [0.28]<br>7  |                                                                | [0.98]<br>25 | [0.63]<br>16 |
| 8UM404E-25-117 |                                    |            | 110°                                | 95°        | [0.53]<br>0,24  | [4.21]<br>107 |              |             |                                                                  | [3.15]<br>80                                                   | [0.79]<br>20                                                   | [2.83]<br>72 | [0.87]<br>22 | [1.77]<br>45                                                   |              |              |
| 8UM404E-45-107 |                                    | 130°       | 105°                                |            | [0.64]<br>0,29  | [5.16]<br>131 | [2.64]<br>67 | [0.35]<br>9 | [1.18]<br>30                                                     | [3.62]<br>92                                                   | [1.18]<br>30                                                   | [3.03]<br>77 | [0.35]<br>9  |                                                                | [1.61]<br>41 | [0.79]<br>20 |
| 8UM404-41-131  | 135°                               |            |                                     |            |                 |               |              |             |                                                                  |                                                                |                                                                |              |              |                                                                |              |              |

Dimensions = [in] mm

# 92W-1 U-ARMS OFFSET (ALUMINUM)

Enclosed Electric Power Clamps | Dimensions | Technical Specifications

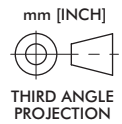
## U-Clamp Arm, Offset



8UL404-00-117  
8UL404E-15-117  
8UL404E-25-117  
8UL404E-45-107  
8UL404E-15-144  
8UL404-41-131

8UR404-00-117  
8UR404E-15-117  
8UR404E-25-117  
8UR404E-45-107  
8UR404E-15-144  
8UR404-41-131

\*90° left/180° right uses same clamp arm.  
90° right/180° left uses same clamp arm.



THIRD ANGLE  
PROJECTION

| Arm Model No.<br>Left 90° / Right 180° | Arm Model No.<br>Right 90° / Left 180° | Max. Opening Angle<br>for 90° Version |     | Max. Opening Angle<br>for 180° Version |      | Weight<br>kg [lbs] |
|----------------------------------------|----------------------------------------|---------------------------------------|-----|----------------------------------------|------|--------------------|
|                                        |                                        | < 1                                   | < 2 | < 1                                    | < 2  |                    |
| 8UL404-00-117                          | 8UR404-00-117                          | 135°                                  | 85° | 55°                                    | 140° | 0,22 [0.49]        |
| 8UL404E-15-117                         | 8UR404E-15-117                         |                                       | 90° | 70°                                    | 105° | 0,23 [0.51]        |
| 8UL404E-25-117                         | 8UR404E-25-117                         |                                       |     | 90°                                    | 100° | 0,24 [0.53]        |
| 8UL404E-45-107                         | 8UR404E-45-107                         |                                       |     | 110°                                   | 95°  |                    |
| 8UL404E-15-144                         | 8UR404E-15-144                         |                                       |     | 70°                                    | 105° | 0,35 [0.77]        |
| 8UL404-41-131                          | 8UR404-41-131                          |                                       |     | 105°                                   | 95°  | 0,30 [0.66]        |

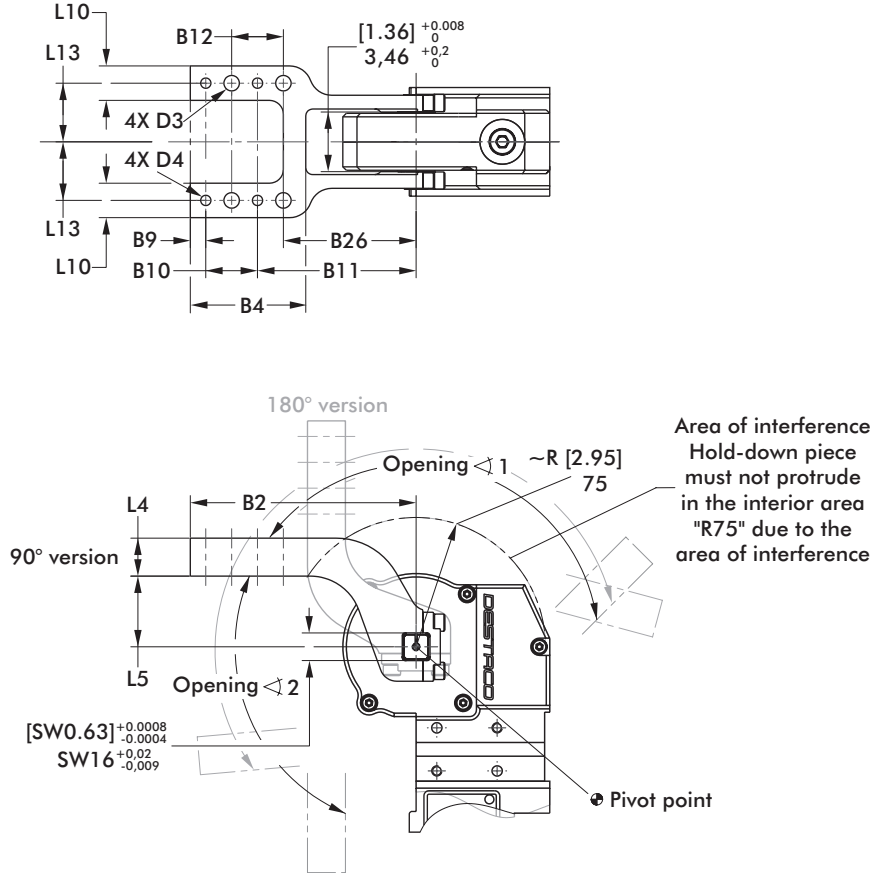
| Arm Model No.<br>Left 90° / Right 180° | Arm Model No.<br>Right 90° / Left 180° | B2            | B4           | B9          | B10                | B11              | B12              | B26          | L4               | L5           | Ø D3        | Ø D4        | L10          | L13              |
|----------------------------------------|----------------------------------------|---------------|--------------|-------------|--------------------|------------------|------------------|--------------|------------------|--------------|-------------|-------------|--------------|------------------|
|                                        |                                        |               |              |             | [±0.0008]<br>±0,02 | [±0.004]<br>±0,1 | [±0.008]<br>±0,2 |              | [±0.004]<br>±0,1 |              |             | H7          |              | [±0.004]<br>±0,1 |
| 8UL404-00-117                          | 8UR404-00-117                          |               |              |             |                    |                  |                  |              |                  | 0            |             |             |              |                  |
| 8UL404E-15-117                         | 8UR404E-15-117                         | [4.61]<br>117 | [1.77]<br>45 | [0.28]<br>7 | [0.79]<br>20       | [3.54]<br>90     | [0.79]<br>20     | [3.23]<br>82 | [0.87]<br>22     | [0.59]<br>15 | [0.28]<br>7 | [0.24]<br>6 | [0.63]<br>16 | [0.91]<br>23     |
| 8UL404E-25-117                         | 8UR404E-25-117                         |               |              |             |                    |                  |                  |              |                  | [0.98]<br>25 |             |             |              |                  |
| 8UL404E-45-107                         | 8UR404E-45-107                         | [4.21]<br>107 |              |             |                    | [3.15]<br>80     |                  | [2.83]<br>72 |                  | [1.77]<br>45 |             |             |              |                  |
| 8UL404E-15-144                         | 8UR404E-15-144                         | [5.67]<br>144 | [2.83]<br>72 | [0.35]<br>9 | [1.18]<br>30       | [4.13]<br>105    | [1.18]<br>30     | [3.23]<br>82 | [1.10]<br>28     | [0.59]<br>15 | [0.35]<br>9 |             | [0.79]<br>20 | [1.46]<br>37     |
| 8UL404-41-131                          | 8UR404-41-131                          | [5.16]<br>131 | [2.64]<br>67 |             |                    | [3.62]<br>92     |                  | [3.03]<br>77 | [0.87]<br>22     | [1.61]<br>41 |             |             |              | [1.34]<br>34     |

Dimensions = [in] mm

# 92W-1 H-ARMS (ALUMINUM)

Enclosed Electric Power Clamps | Dimensions | Technical Specifications

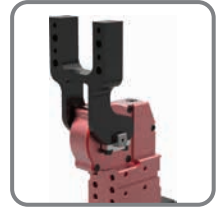
## H-Clamp Arms



90°



180°

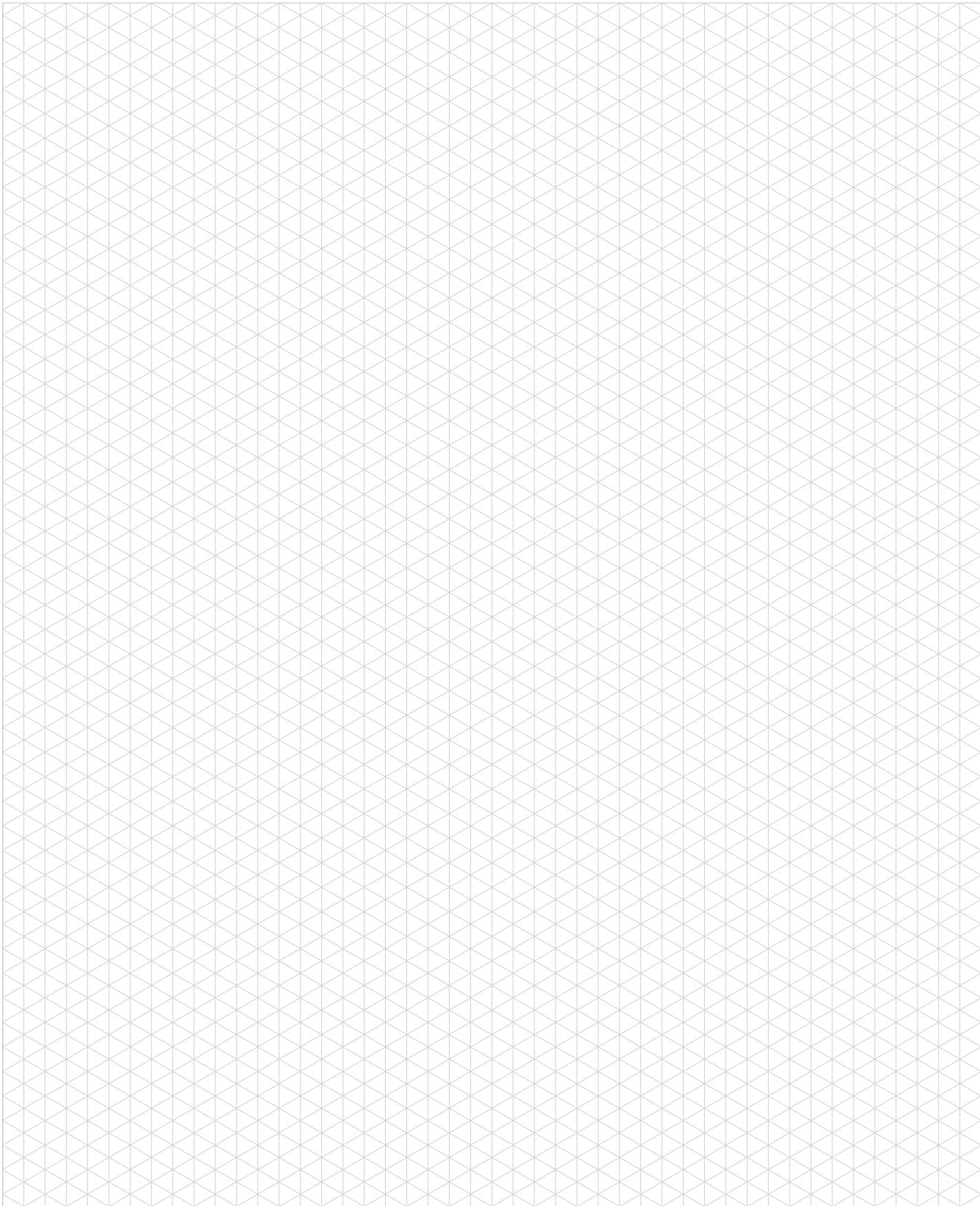


8UH404E-15-117  
8UH404E-15-144  
8UH404-41-131

| Arm Model No.  | Max. Opening Angle for 90° Version |     | Max. Opening Angle for 180° Version |      | Weight kg [lbs] |
|----------------|------------------------------------|-----|-------------------------------------|------|-----------------|
|                | <1                                 | <2  | <1                                  | <2   |                 |
| 8UH404E-15-117 |                                    |     |                                     |      | [0.57]<br>0,26  |
| 8UH404E-15-144 | 135°                               | 90° | 70°                                 | 105° | [1.01]<br>0,46  |
| 8UH404-41-131  |                                    |     | 105°                                | 95°  | [0.82]<br>0,37  |

| Arm Model No.  | B2            | B4           | B9          | B10              | B11            | B12            | B26          | L4             | L5           | D3          | D4          | L10          | L13            |
|----------------|---------------|--------------|-------------|------------------|----------------|----------------|--------------|----------------|--------------|-------------|-------------|--------------|----------------|
|                |               |              |             | ±0.0008<br>±0,02 | ±0.004<br>±0,1 | ±0.008<br>±0,2 |              | ±0.004<br>±0,1 |              |             | H7          |              | ±0.004<br>±0,1 |
| 8UH404E-15-117 | [4.61]<br>117 | [1.77]<br>45 | [0.28]<br>7 | [0.79]<br>20     | [3.54]<br>90   | [0.79]<br>20   | [3.23]<br>82 | [0.87]<br>22   | [0.59]<br>15 | [0.28]<br>7 |             | [0.63]<br>16 | [0.91]<br>23   |
| 8UH404E-15-144 | [5.67]<br>144 | [2.83]<br>72 | [0.35]<br>9 | [1.18]<br>30     | [4.13]<br>105  | [1.18]<br>30   | [3.03]<br>77 | [1.10]<br>28   |              | [0.35]<br>9 | [0.24]<br>6 | [0.79]<br>20 | [1.46]<br>37   |
| 8UH404-41-131  | [5.16]<br>131 | [2.64]<br>67 |             |                  | [3.62]<br>92   |                |              | [0.87]<br>22   | [1.61]<br>41 |             |             |              | [1.34]<br>34   |

Dimensions = [in] mm



# 95W-1

## Electric Smart Guides/Lifters | How to Order

95W-1

01

02

10

60

| Motor Connection | Description                      |
|------------------|----------------------------------|
| 00               | Straight, without Drive          |
| 01               | Straight, Rear Connections       |
| 02               | Straight, Connections on Right   |
| 03               | Straight, Connections on Left    |
| 10               | Redirected, without Drive        |
| 11               | Redirected, Rear Connections     |
| 12               | Redirected, Connections on Right |
| 13               | Redirected, Connections on Left  |

| Motor | Description                  |
|-------|------------------------------|
| 01    | Servo Drive, Decentral 400 V |
| 02    | Servo Drive, Decentral 48 V  |

| Stroke | Description              |
|--------|--------------------------|
| 60     | 0-60 mm Stroke, Standard |

| Mounting Plate | Description              |
|----------------|--------------------------|
| 10             | Mounting Plate, Standard |

00

01

02

03

10

11

12

13

01

02

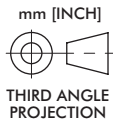
60

10

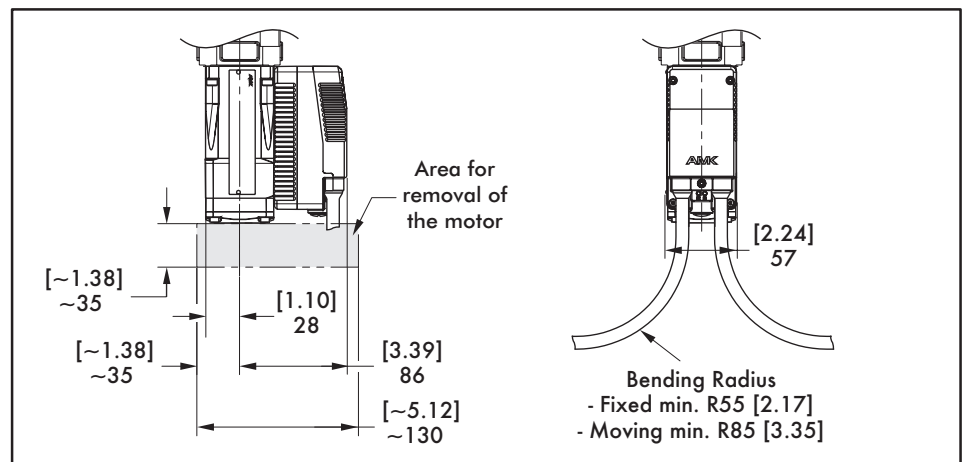
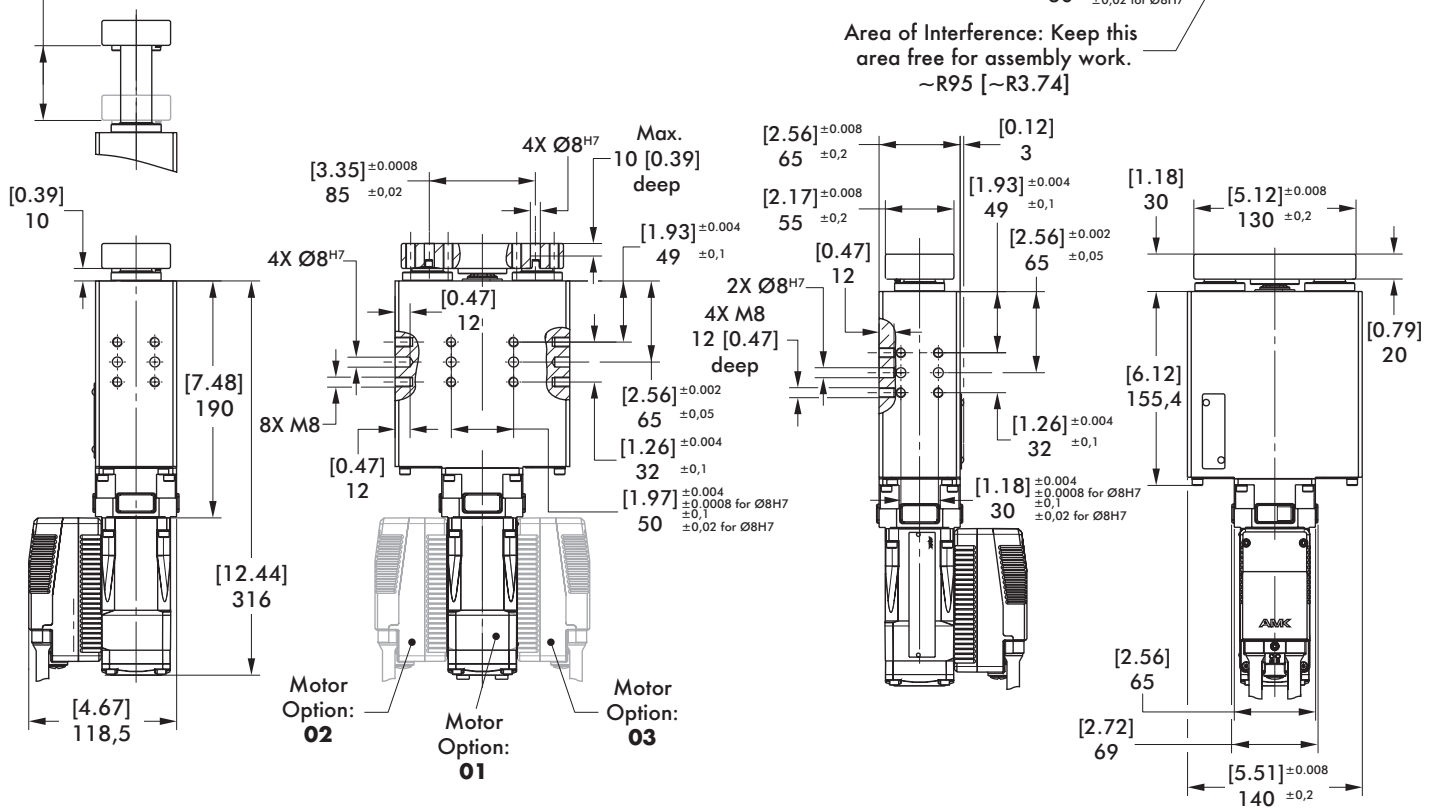
95W-111021060

95W-101011060

## Electric Smart Guides/Lifters | Dimensions | Technical Specifications



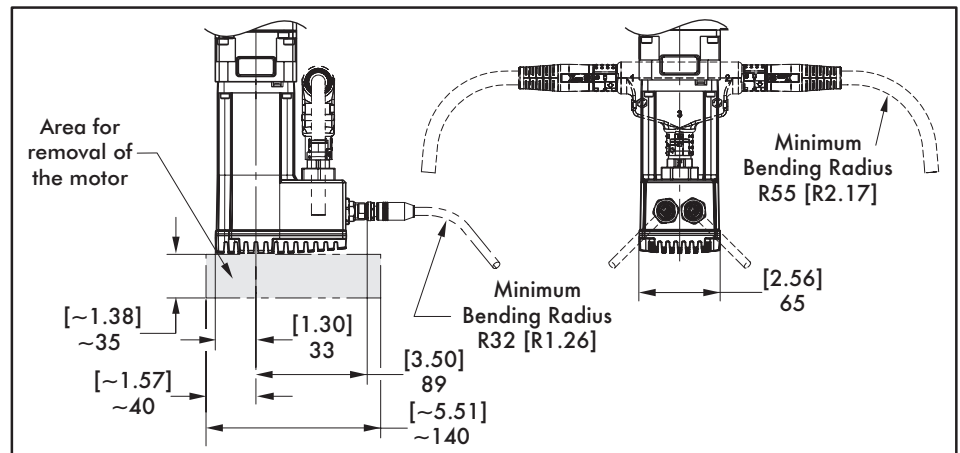
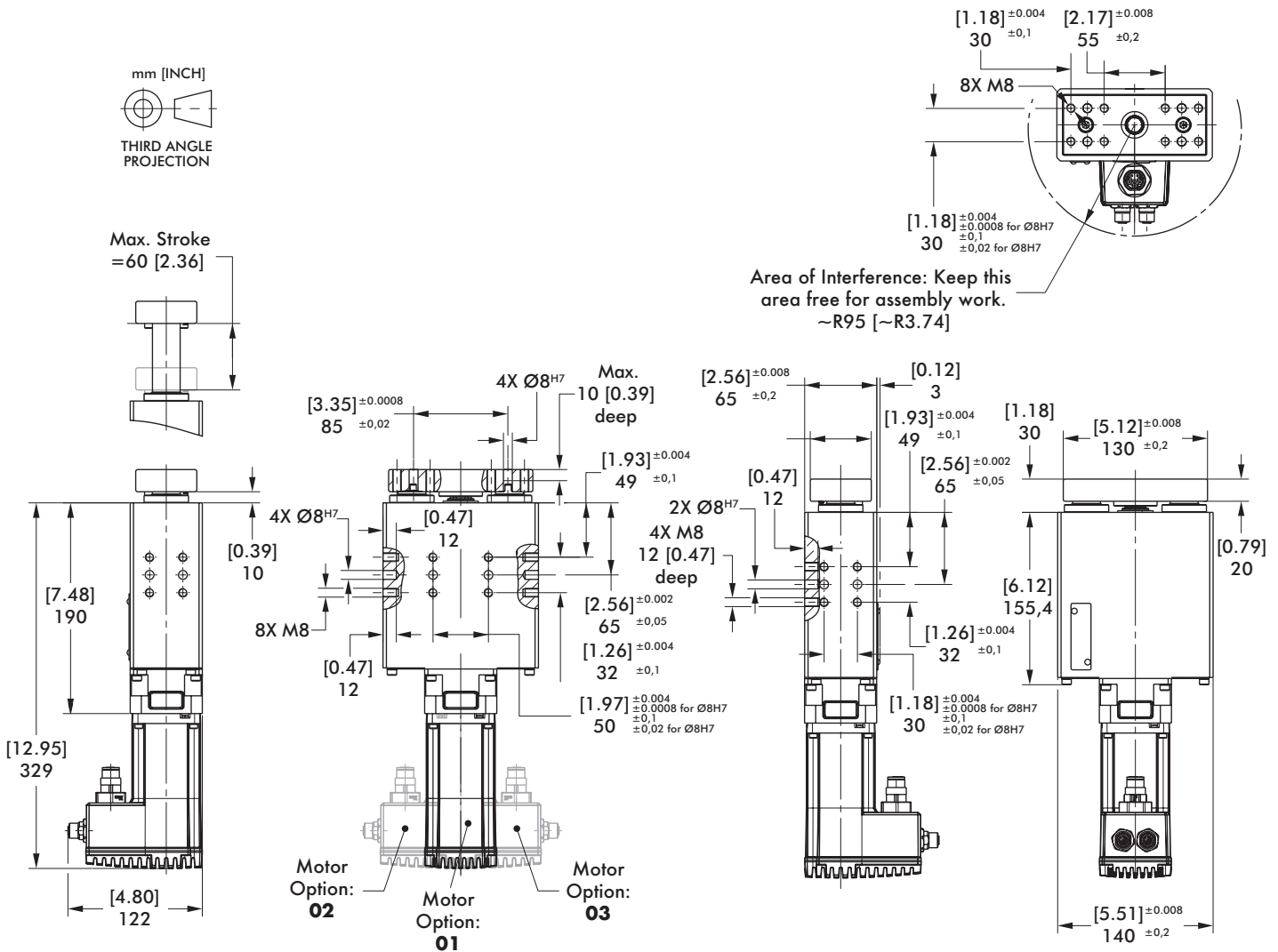
Max. Stroke  
= 60 [2.36]



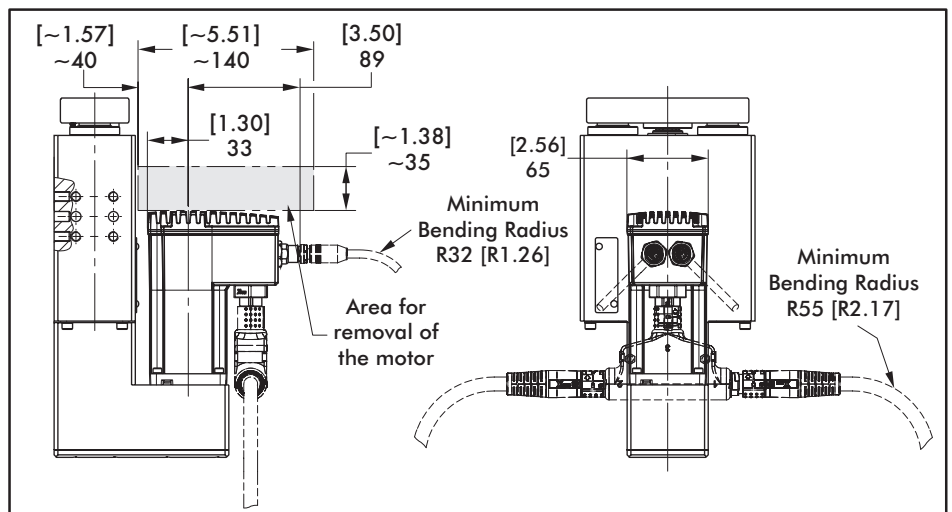
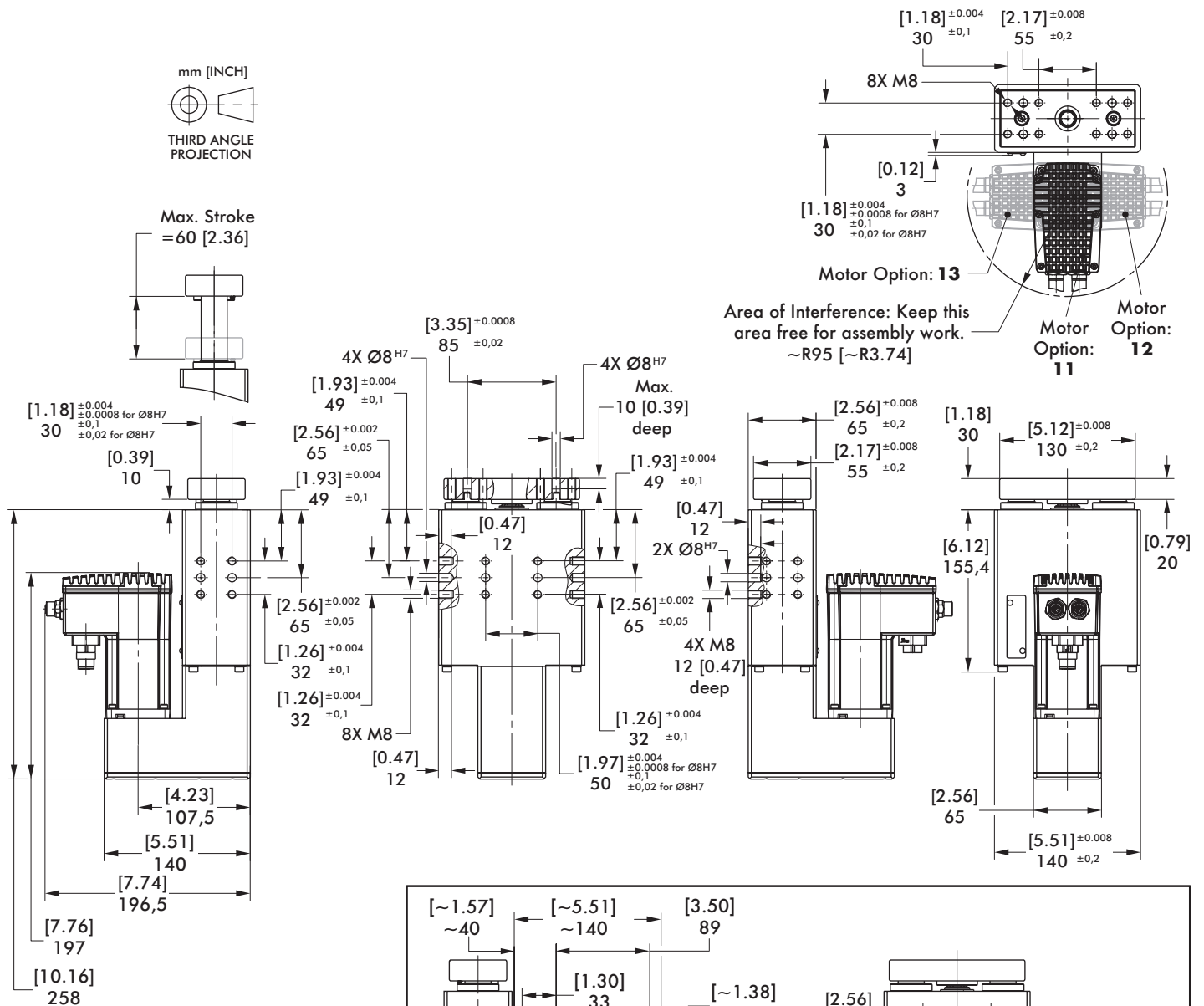
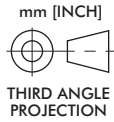
| Base Model    | Stroke<br>mm [in] | Lifting<br>Force<br>N [lbf] | Holding<br>Force<br>N [lbf] | Speed<br>Max.<br>mm/s [in/s] | Weight<br>Kg [lbs] |
|---------------|-------------------|-----------------------------|-----------------------------|------------------------------|--------------------|
| 95W-10.011060 | [0-2.36]<br>0-60  | [225]<br>1000               | [225]<br>1000               | [2.36]<br>60                 | [16.31]<br>7.4     |

# 95W-10.021060

## Electric Smart Guides/Lifters | Dimensions | Technical Specifications



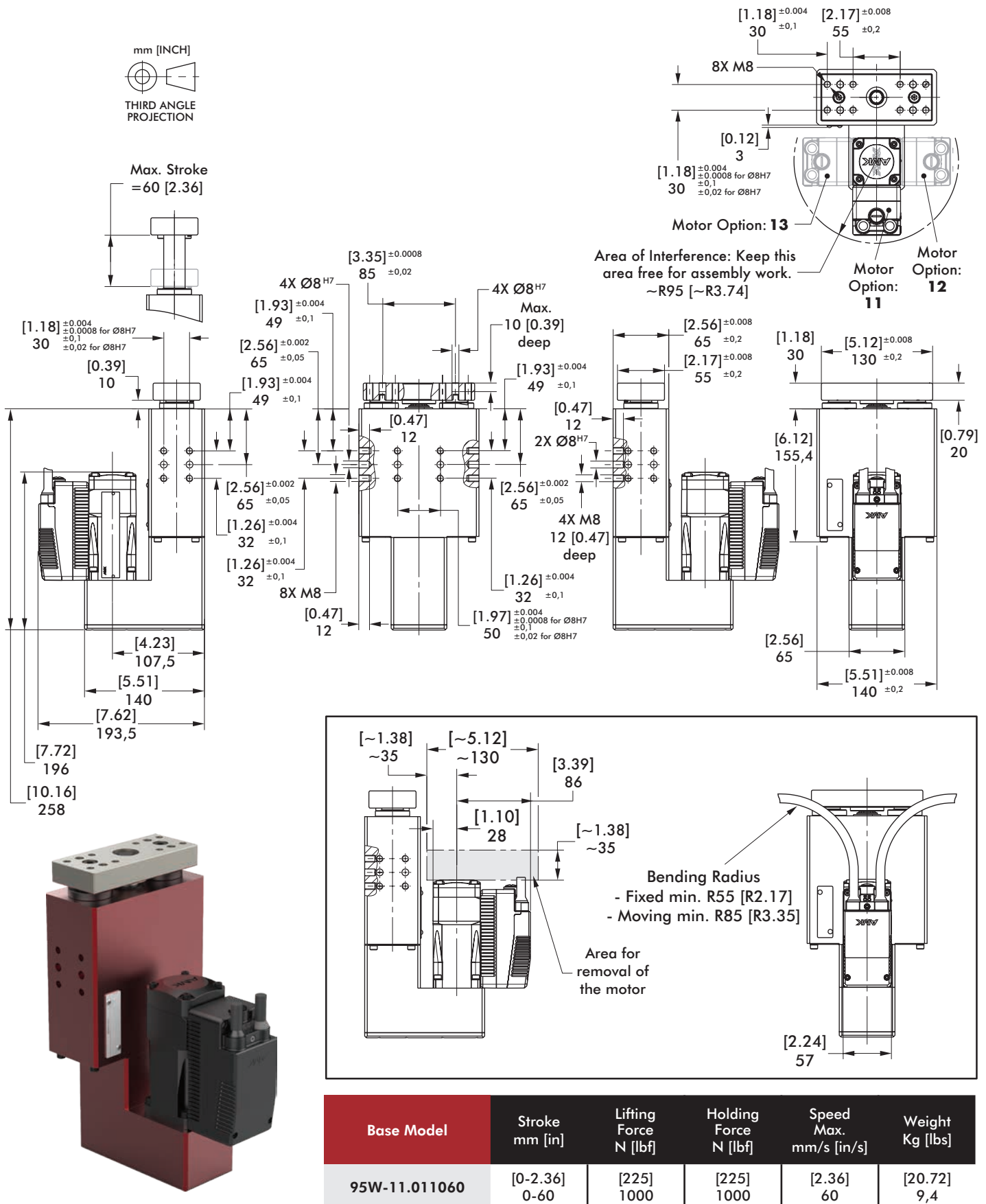
| Base Model    | Stroke<br>mm [in] | Lifting Force<br>N [lbf] | Holding Force<br>N [lbf] | Speed Max.<br>mm/s [in/s] | Weight<br>Kg [lbs] |
|---------------|-------------------|--------------------------|--------------------------|---------------------------|--------------------|
| 95W-10.021060 | [0-2.36]<br>0-60  | [225]<br>1000            | [225]<br>1000            | [2.36]<br>60              | [16.09]<br>7,3     |

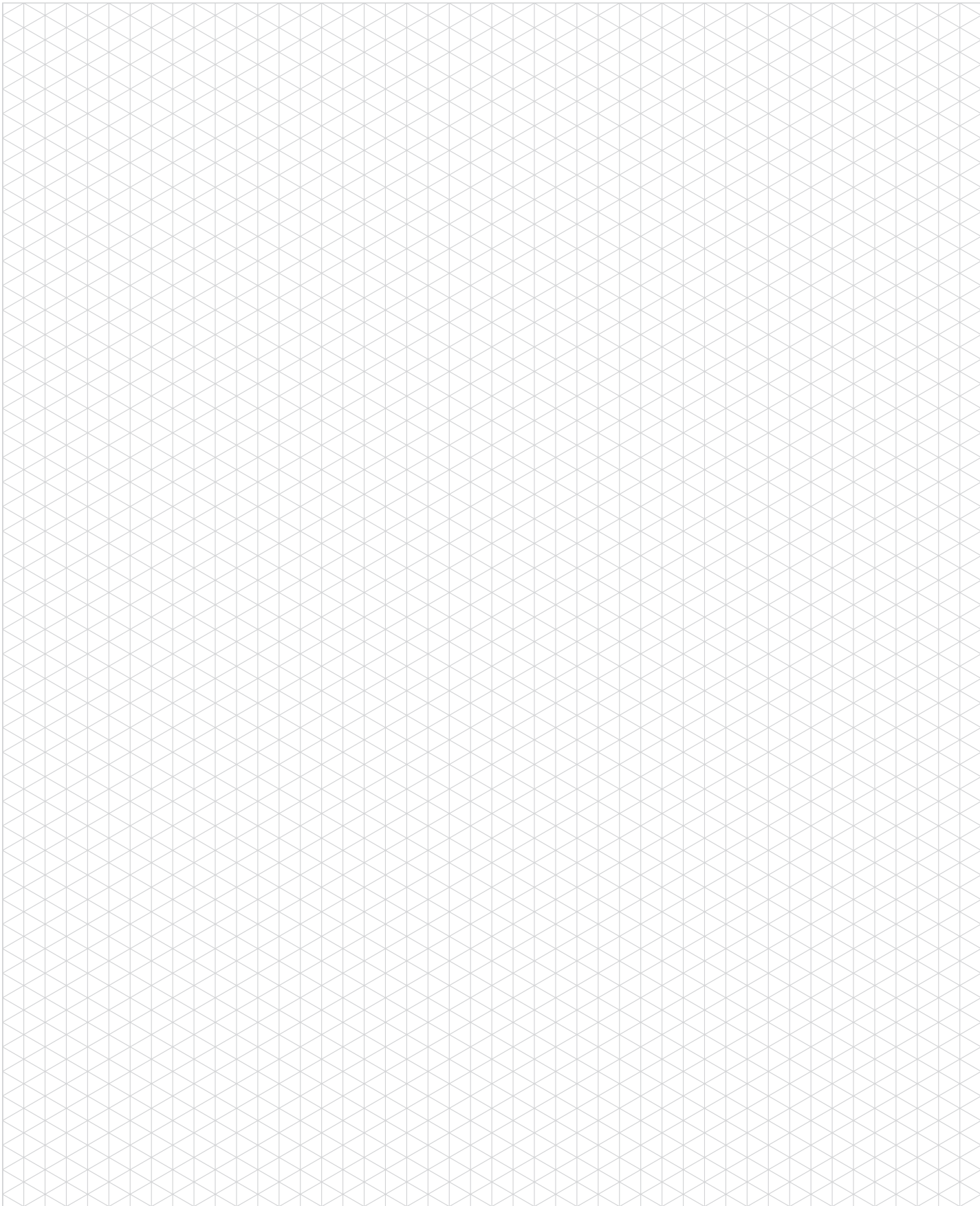


| Base Model    | Stroke<br>mm [in] | Lifting<br>Force<br>N [lbf] | Holding<br>Force<br>N [lbf] | Speed<br>Max.<br>mm/s [in/s] | Weight<br>Kg [lbs] |
|---------------|-------------------|-----------------------------|-----------------------------|------------------------------|--------------------|
| 95W-11.021060 | [0-2.36]<br>0-60  | [225]<br>1000               | [225]<br>1000               | [2.36]<br>60                 | [19.62]<br>8,9     |

# 95W-11.011060

## Electric Smart Guides/Lifters | Dimensions | Technical Specifications





# 96W-1

Electric Pin Package | Smart Pin Package | How to Order

96W-1

01

02

A4

60

| Motor Connection | Description                      |
|------------------|----------------------------------|
| 00               | Straight, without Drive          |
| 01               | Straight, Rear Connections       |
| 02               | Straight, Connections on Right   |
| 03               | Straight, Connections on Left    |
| 10               | Redirected, without Drive        |
| 11               | Redirected, Rear Connections     |
| 12               | Redirected, Connections on Right |
| 13               | Redirected, Connections on Left  |

| Motor | Description                  |
|-------|------------------------------|
| 01    | Servo Drive, Decentral 400 V |
| 02    | Servo Drive, Decentral 48 V  |

| Stroke | Description    |
|--------|----------------|
| 40*    | 0-40 mm Stroke |
| 60     | 0-60 mm Stroke |

\*Straight motor option only.

00

01

02

03

10

11

12

13

01

02

40

60

| Piston Rod | Description                                                                                                        |
|------------|--------------------------------------------------------------------------------------------------------------------|
| 02*        | Ø16 mm Cross Groove<br>(*with M6 Threaded Inside Hole for Redirected Motor Connections 10, 11, 12, 13 see page 20) |
| 04         | NAAMS Standard                                                                                                     |
| A4         | NAAMS Standard Rotated 180°                                                                                        |
| B4         | NAAMS Standard Rotated 90°                                                                                         |
| C4         | NAAMS Standard Rotated 270°                                                                                        |
| 05         | Ø10 mm Inside Hole, Cross Groove                                                                                   |

02

04

A4

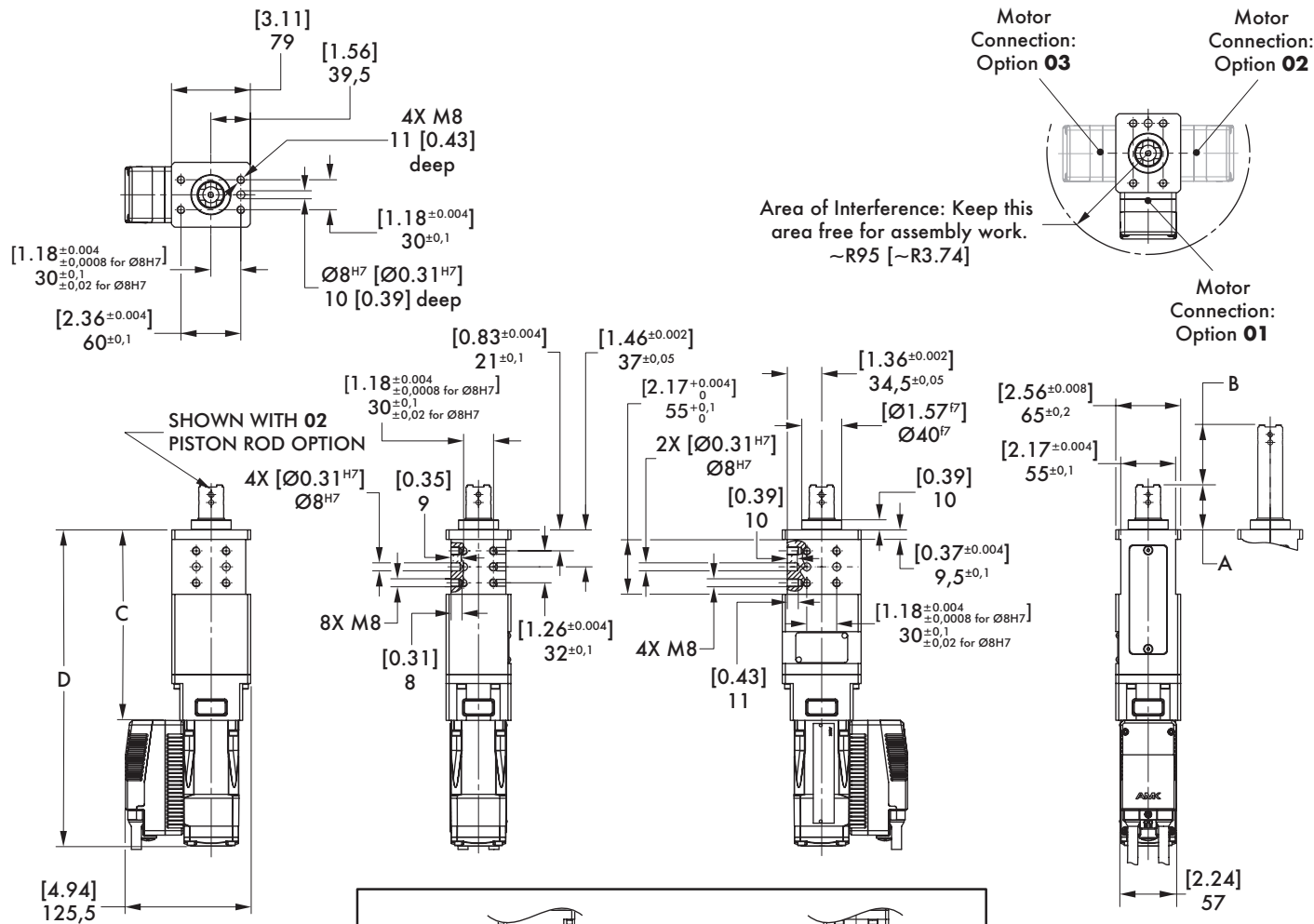
B4

C4

05

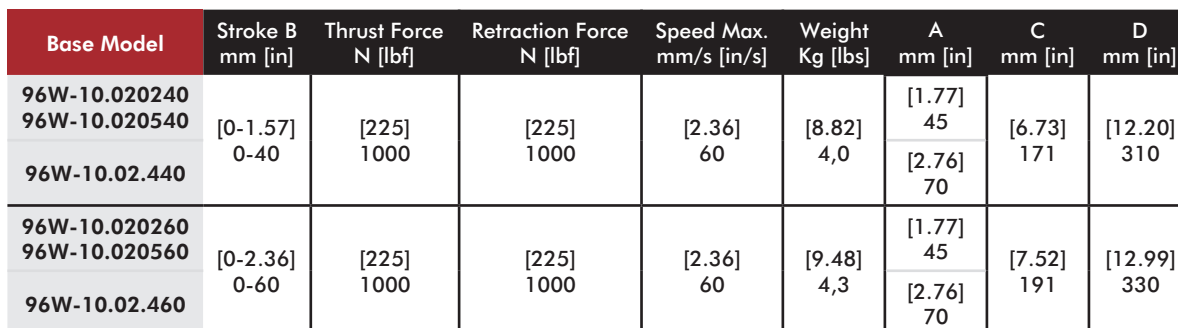
96W-111010260

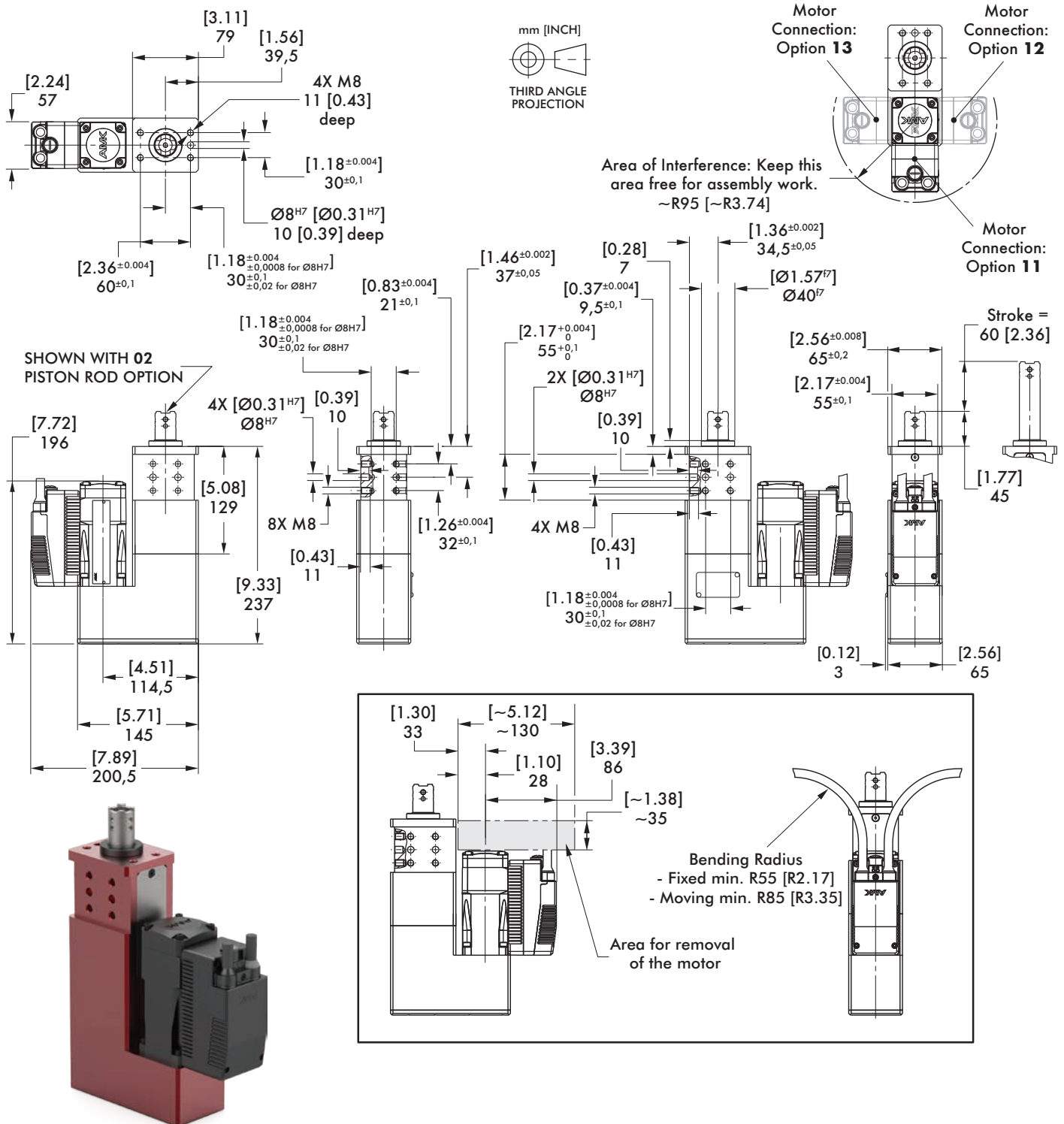
96W-10102A460



| Base Model                     | Stroke B<br>mm [in] | Thrust Force<br>N [lbf] | Retraction Force<br>N [lbf] | Speed Max.<br>mm/s [in/s] | Weight<br>Kg [lbs] | A<br>mm [in] | C<br>mm [in]  | D<br>mm [in]   |
|--------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|--------------------|--------------|---------------|----------------|
| 96W-10.010240<br>96W-10.010540 | [0-1.57]<br>0-40    | [225]<br>1000           | [225]<br>1000               | [2.36]<br>60              | [9.48]<br>4,3      | [1.77]<br>45 | [6.73]<br>171 | [11.69]<br>297 |
| 96W-10.01.440                  |                     |                         |                             |                           |                    | [2.76]<br>70 |               |                |
| 96W-10.010260<br>96W-10.010560 | [0-2.36]<br>0-60    | [225]<br>1000           | [225]<br>1000               | [2.36]<br>60              | [10.14]<br>4,6     | [1.77]<br>45 | [7.52]<br>191 | [12.48]<br>317 |
| 96W-10.01.460                  |                     |                         |                             |                           |                    | [2.76]<br>70 |               |                |

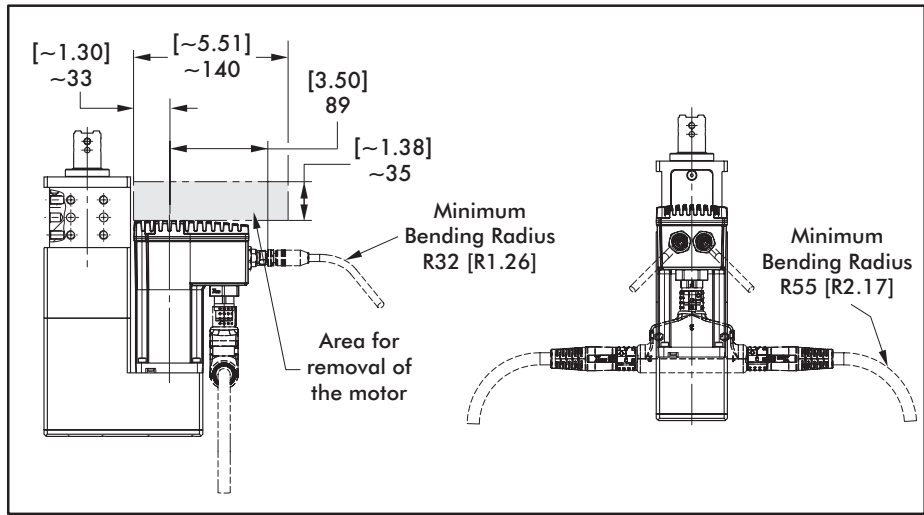
Electric Pin Package | Smart Pin Package | Dimensions | Technical Specifications





| Base Model    | Stroke<br>mm [in] | Thrust Force<br>N [lbf] | Retraction Force<br>N [lbf] | Speed Max.<br>mm/s [in/s] | Weight<br>Kg [lbs] |
|---------------|-------------------|-------------------------|-----------------------------|---------------------------|--------------------|
| 96W-11.01..60 | [0-2.36]<br>0-60  | [225]<br>1000           | [225]<br>1000               | [2.36]<br>60              | [14,33]<br>6,5     |

Electric Pin Package | Smart Pin Package | Dimensions | Technical Specifications



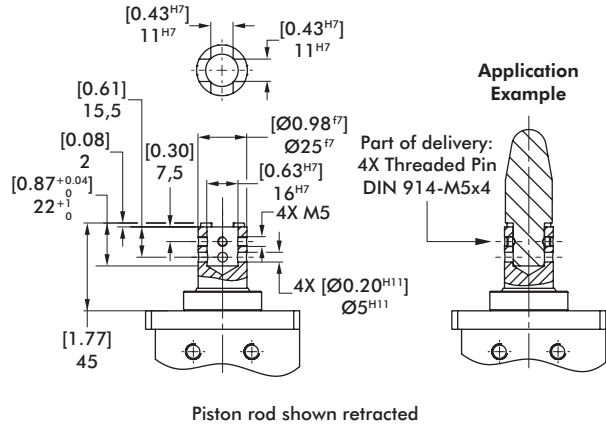
| Base Model    | Stroke<br>mm [in] | Thrust<br>Force<br>N [lbf] | Retraction<br>Force<br>N [lbf] | Speed<br>Max.<br>mm/s [in/s] | Weight<br>Kg [lbs] |
|---------------|-------------------|----------------------------|--------------------------------|------------------------------|--------------------|
| 96W-11.02..60 | [0-2.36]<br>0-60  | [225]<br>1000              | [225]<br>1000                  | [2.36]<br>60                 | [13.01]<br>5,9     |

# 96W-1 PISTON RODS

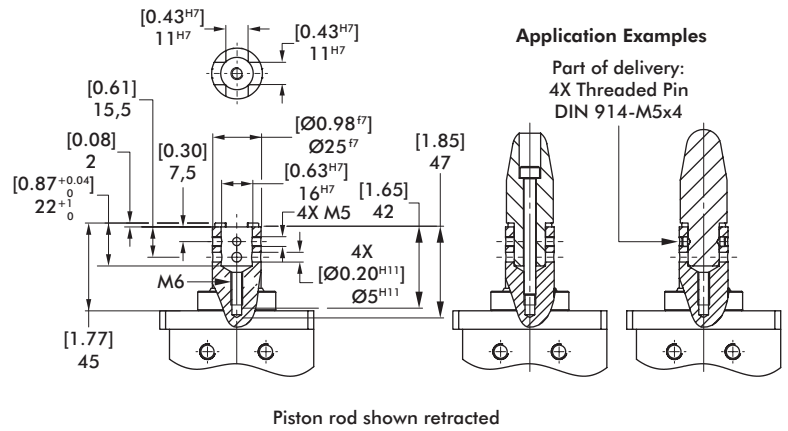
Electric Pin Package | Smart Pin Package | Dimensions

## 02 Ø16 mm, Cross Groove

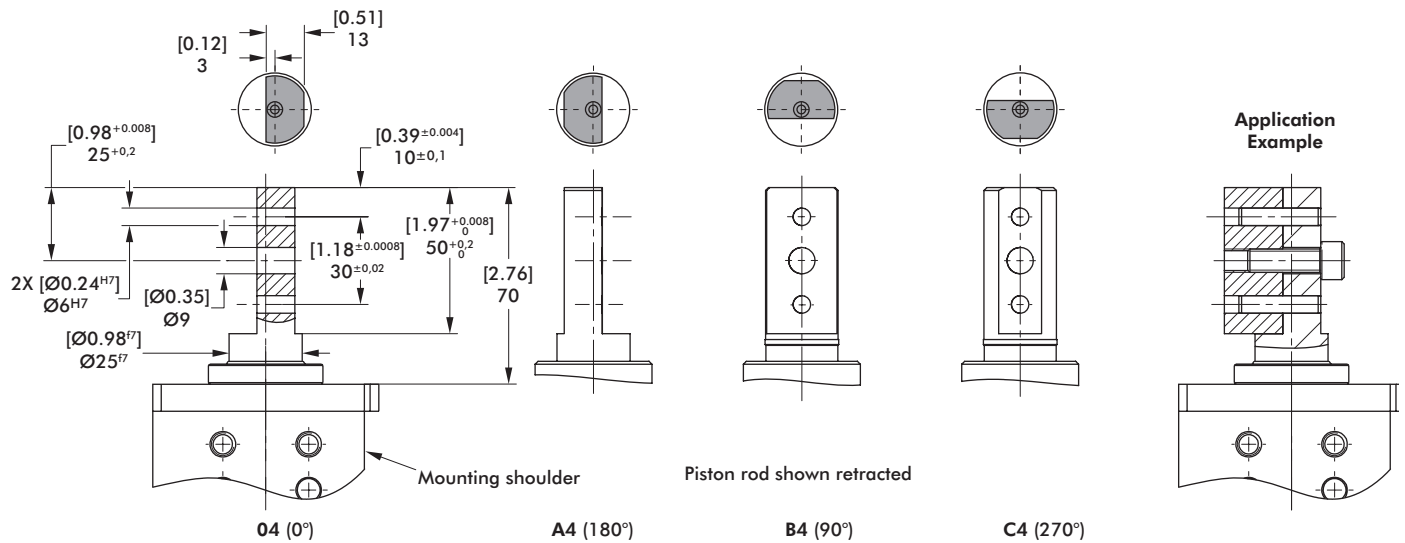
for Straight Motor Option 00, 01, 02 or 03 only



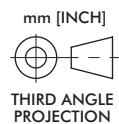
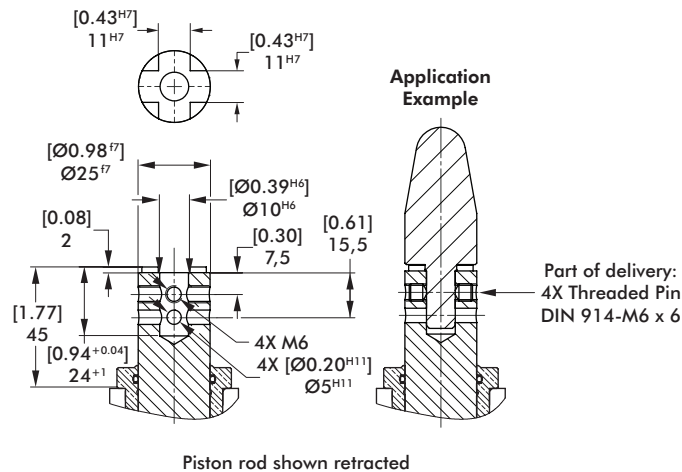
with M6 Threaded Inside Hole for Redirected Motor Option 10, 11, 12 or 13 only



## 04, A4, B4, C4 NAAMS Standard



## 05 Ø10 mm Inside Hole, Cross Groove



# 98W03-XXX

## Electric Pivot Unit | Ordering Information

98W03

-

210

-

C

-

0

-

00

-

0

Motor

Drive Motor w/Brake

210

SEW 400 V for MOVIPRO

220

HEIDRIVE Servo Drive, Decentral 48 V

260

AMK Decentral 400 V

270

LENZE 400 V

310

SEW 400 V for MOVIMOT

Hard Stop

0

Description

Standard Stop

Motor Connections

0

Facing Back

Swivel Arm

Description

A

Center of Pivot Point

B

Below Pivot Point

C

Above Pivot Point

210

220

260

270

310

210

220

260

270

310

98W03-210C0-00-0

Holding Torque:

2000 Nm [1475 ft-lb]

0

0

0

0

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A STABILUS COMPANY

PC-ELC | 21

Dimensions and technical information are subject to change without notice

### Compact size and lightweight design



The 98W series electric pivot unit can share the same mounting pattern as the pneumatic pivot units, while providing greater energy savings with reduced size and weight.

One electric pivot unit replaces four sizes of pneumatic pivot units



98W03

Ø100

Ø125

Ø160

Ø200

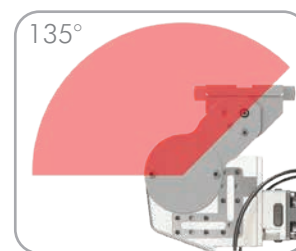
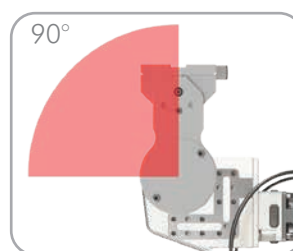
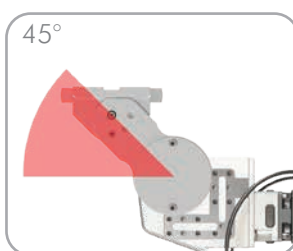
Electric Pivot Unit

Pneumatic Pivot Units

### Easily adjustable saddle arm and mount

The saddle arm of the electric pivot unit can be adjusted into three different starting positions. Each starting position allows the saddle arm to be pivoted from 135° up to 210°.

With out the saddle arm, the pivot unit can be used as a rotate with 360° rotation.

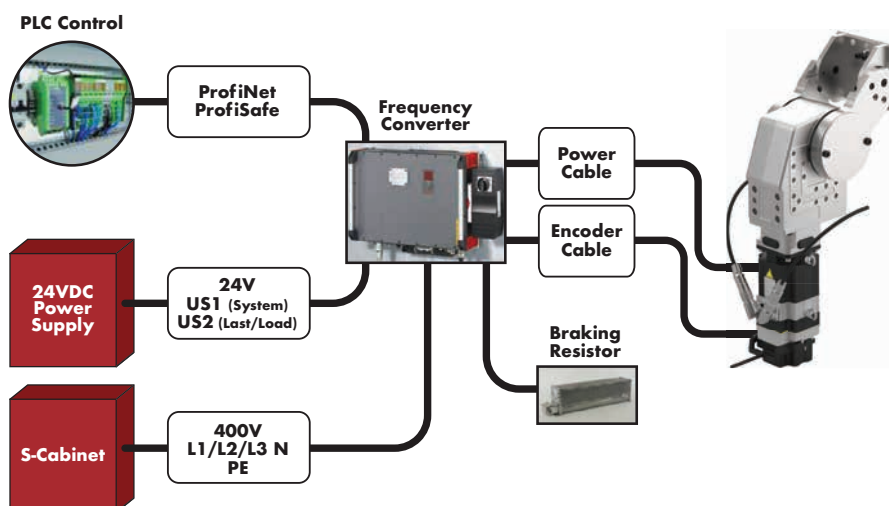


### Application Example

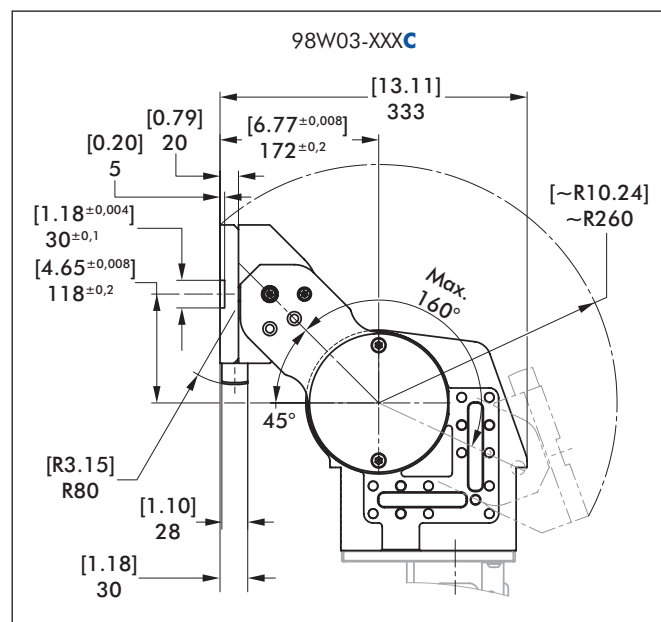
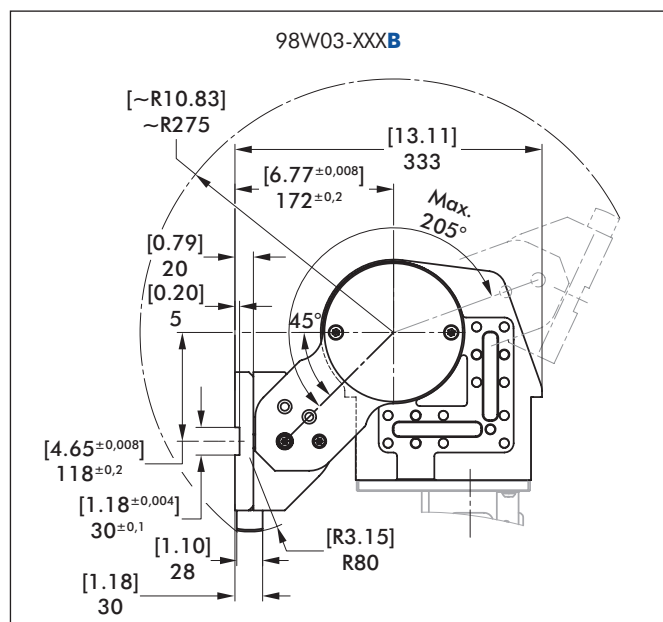
98W Series shown with a holding fixture mounted to the saddle mount.



### Operating Principle



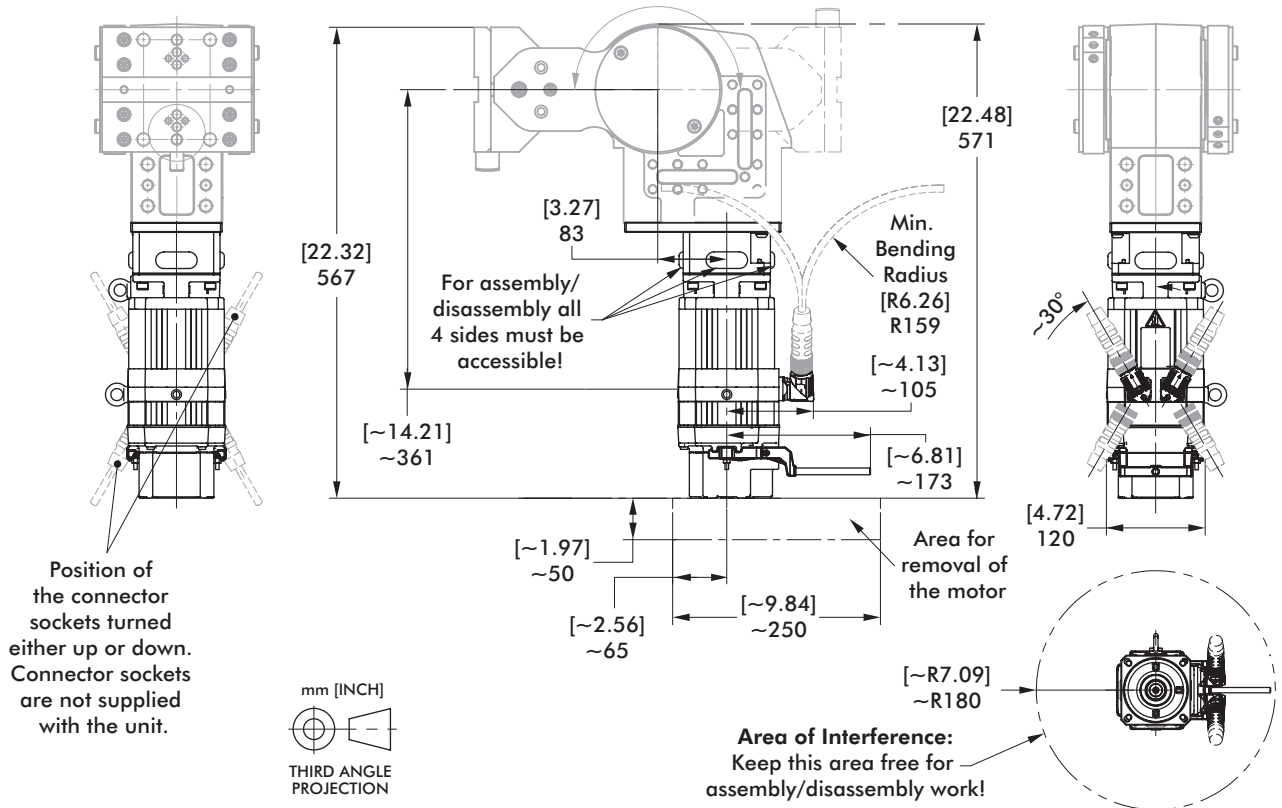
## Electric Pivot Unit | Basic Unit Dimensions



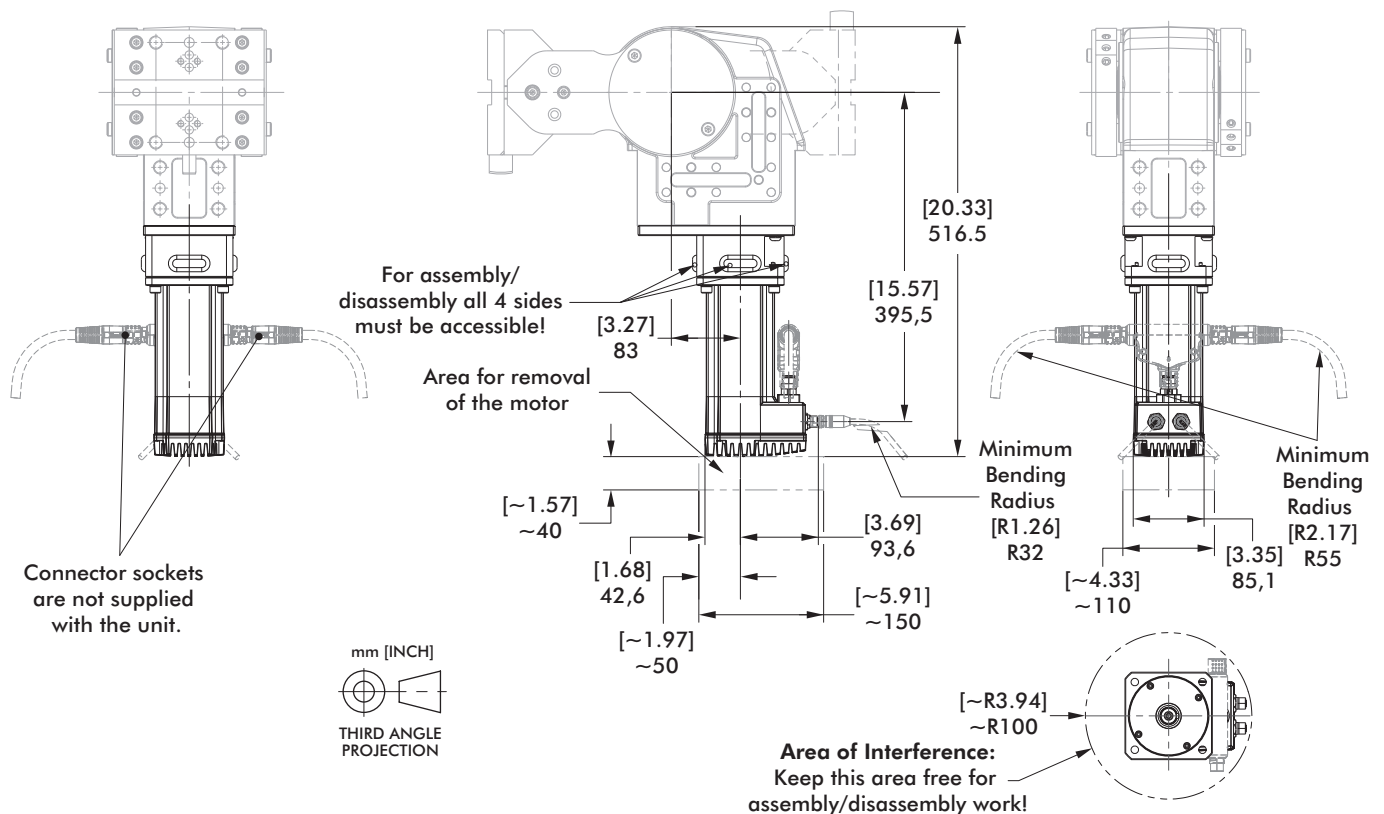
# 98W03-XXX MOTOR OPTIONS

Electric Pivot Unit | Motor Dimensions

**98W03-210** SEW 400 V for MOVIPRO



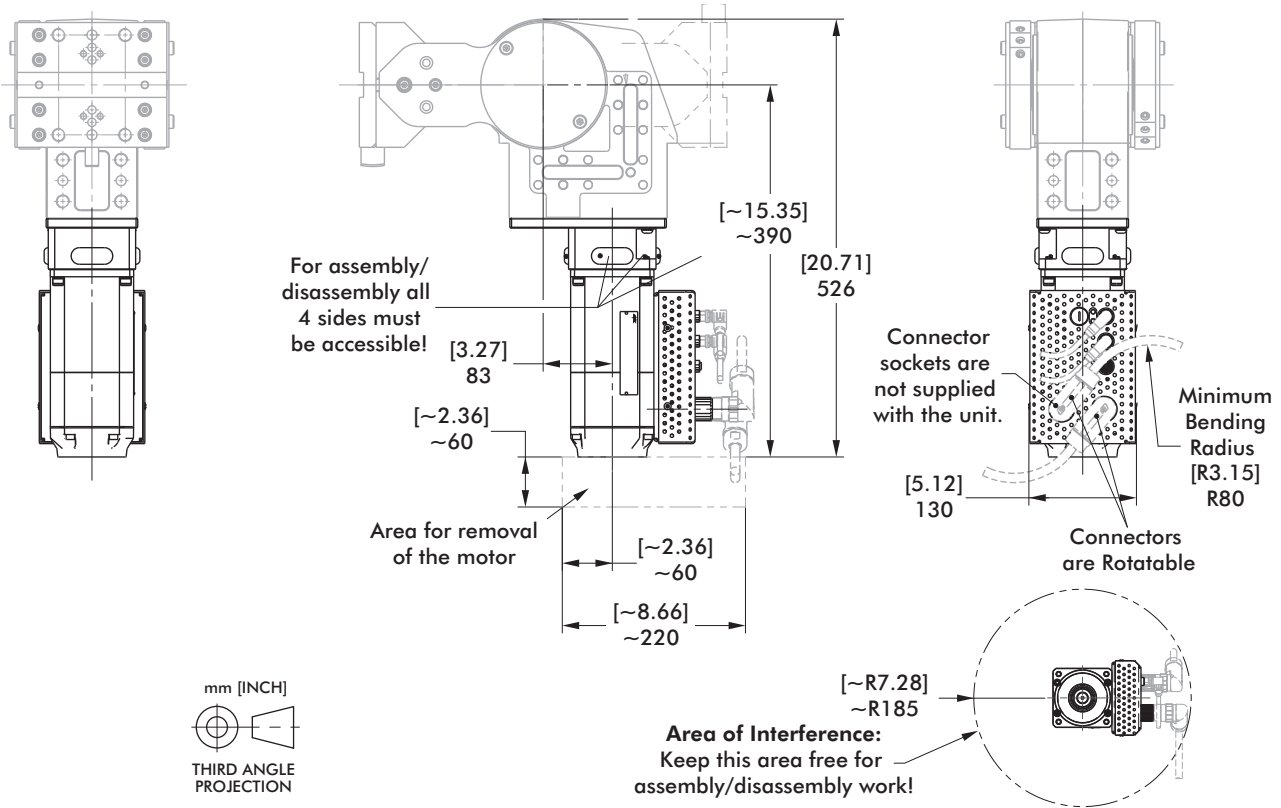
**98W03-220** HEIDRIVE Servo Drive, Decentral 48 V



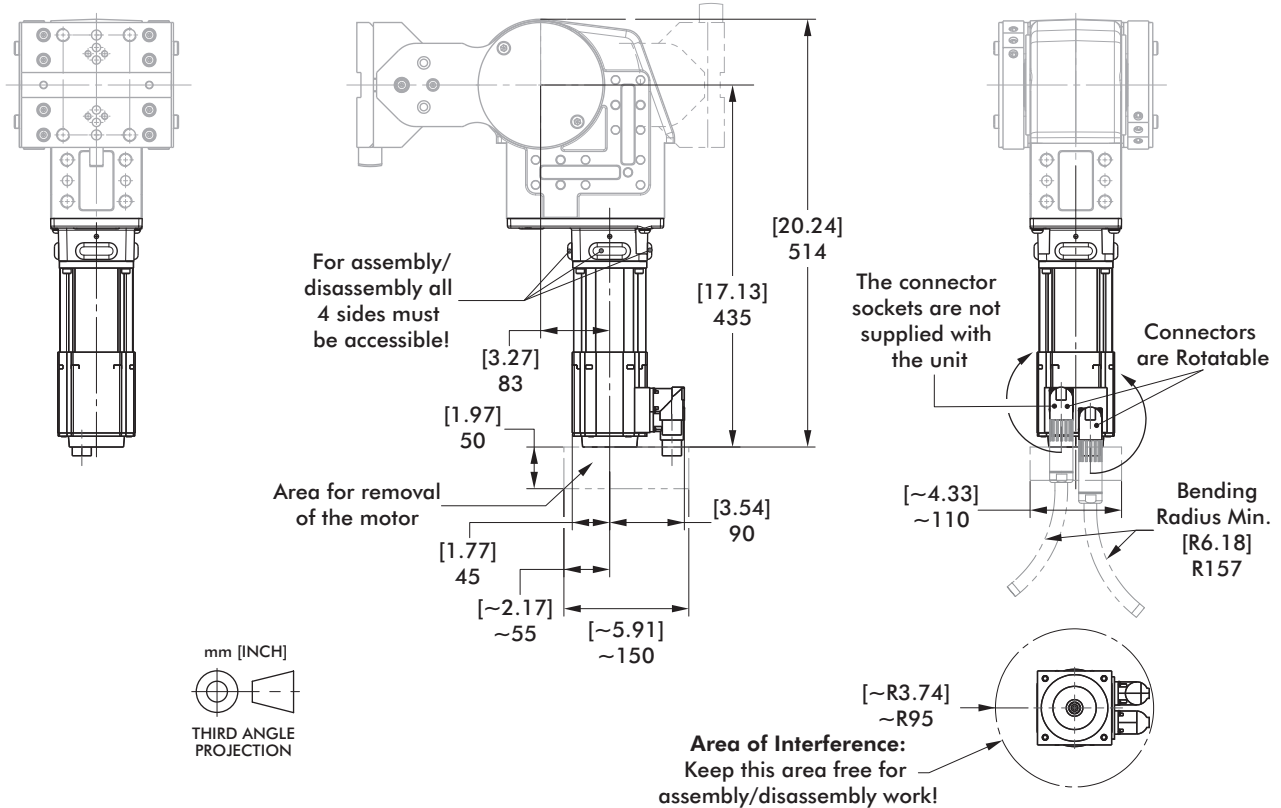
# 98W03-XXX MOTOR OPTIONS

## Electric Pivot Unit | Motor Dimensions

### 98W03-260 AMK Decentral 400 V



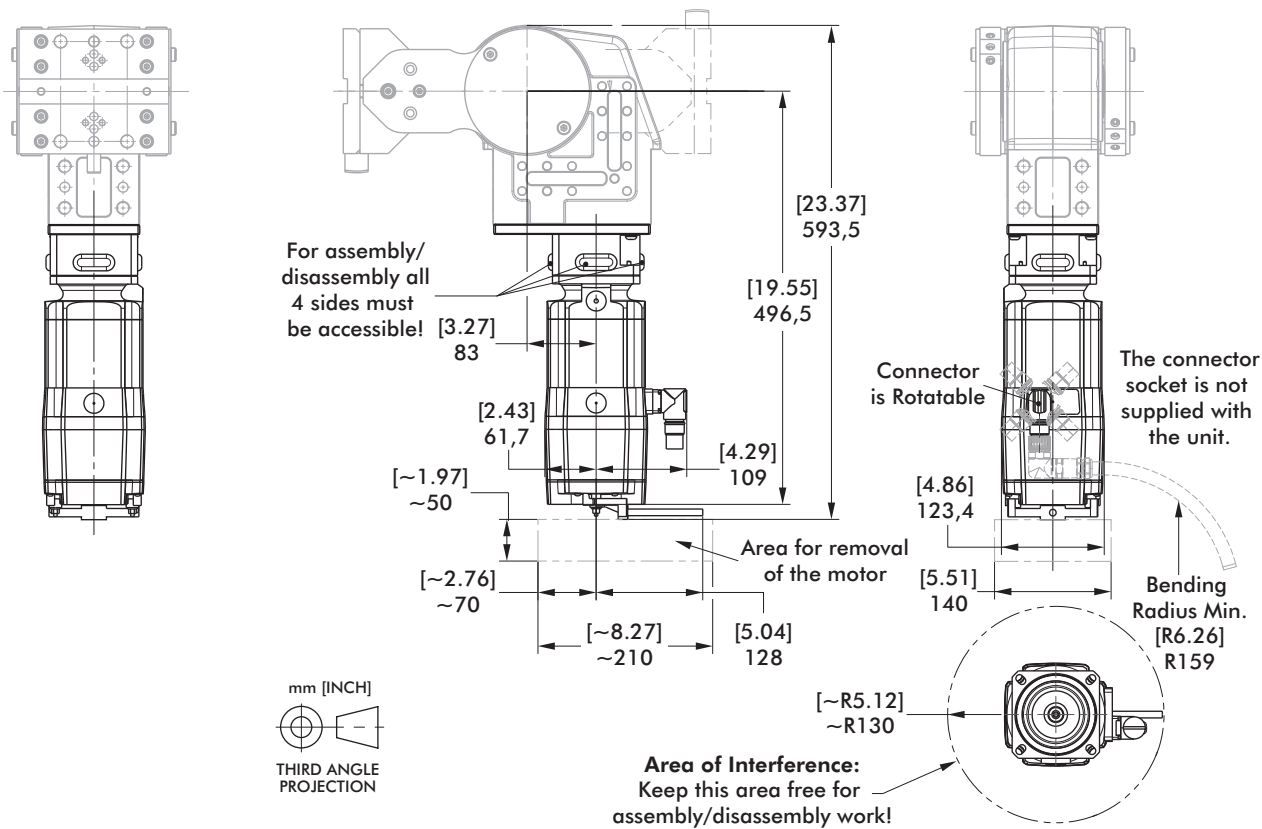
### 98W03-270 LENZE 400 V



# 98W03-XXX MOTOR OPTIONS

Electric Pivot Unit | Motor Dimensions

98W03-310 SEW 400 V for MOVIMOT



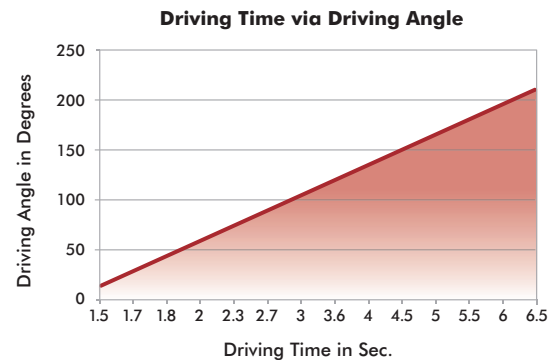
# 98W03-XXX

## Electric Pivot Unit | Technical Specifications

| Specifications                                                                                      | Units       | 98W03-210                               | 98W03-220      | 98W03-260    | 98W03-270      | 98W03-310      |
|-----------------------------------------------------------------------------------------------------|-------------|-----------------------------------------|----------------|--------------|----------------|----------------|
| Brake                                                                                               | V           | 400                                     | 24             | 400          | 24             | 400            |
| Temperature                                                                                         | °C [°F]     | 0°-60° [32°-140°]                       |                |              |                |                |
| Weight                                                                                              | kg [lbs]    | ~51,5 [~113.54]                         | ~38,3 [~84.44] | ~43 [~94.80] | ~38,6 [~85.10] | 48,2 [~106.26] |
| Connection Voltage of Control<br>Control signals from external PLC<br>Return signal to external PLC |             | 400 VAC                                 | 48 VDC         | 400 VAC      | 400 VAC        | 400 VAC        |
| Logic                                                                                               |             | N/A                                     | 24 VDC         | N/A          | N/A            | N/A            |
| Speeds:                                                                                             |             |                                         |                |              |                |                |
| Drive from 135° to 0°                                                                               | sec.        | 3.1 sec / 135°                          |                |              |                |                |
| Drive from 0° to 135°                                                                               | sec.        |                                         |                |              |                |                |
| Maximum Output Torque                                                                               | Nm [ft-lbs] | 500 [369]                               |                |              |                |                |
| Maximum Holding Torque                                                                              | Nm [ft-lbs] | 2000 [1475]                             |                |              |                |                |
| Gear Ratio                                                                                          |             | 420:1                                   |                |              |                |                |
| Permissible Motor Torque<br>(Motor torque must be limited on the control side)                      | Nm [ft-lbs] | 6 [4.4]                                 |                |              |                |                |
| Permissible Motor Speed                                                                             | RPM         | 6000<br>1/min Max.                      |                |              |                |                |
| Switch On Time                                                                                      |             | 70%                                     |                |              |                |                |
| Permissible Output Speed:                                                                           |             |                                         |                |              |                |                |
| Radial                                                                                              | N [lbf]     | 2000 [449.6]                            |                |              |                |                |
| Axial                                                                                               | N [lbf]     | 5000 [1124]                             |                |              |                |                |
| Below 45°                                                                                           | N [lbf]     | 1500 [337]                              |                |              |                |                |
| Duty Cycle                                                                                          |             | 70%                                     |                |              |                |                |
| E-Stop                                                                                              | N [lbf]     | 0.4 sec @ 500 [0.4 sec @ 112] = ca. 10° |                |              |                |                |
| Acceleration                                                                                        | sec         | 2                                       |                |              |                |                |
| Slow down                                                                                           | sec         | 2                                       |                |              |                |                |
| Repeatability with Hard Stop                                                                        | mm [in]     | ± 0,01 @ 500 [± 0.0004 @ 19.69]         |                |              |                |                |
| Repeatability w/o Hard Stop                                                                         | mm [in]     | ± 0,05 @ 500 [± 0.002 @ 19.69]          |                |              |                |                |

## Driving Time and Angle Guidelines

| Driving Angle | Driving Time | Max Speed | Jolt Time | Acceleration Ramp | Braking Ramp | Amplification X-Controller |
|---------------|--------------|-----------|-----------|-------------------|--------------|----------------------------|
| Degrees       | Sec.         | RPM       | Sec.      | ms                | ms           |                            |
| 15            | 1.4          | 4017      | 0.1       | 500               | 500          | 2.23                       |
| 30            | 1.7          | 5862      |           |                   |              |                            |
| 45            | 1.8          | 6000      |           | 400               | 400          |                            |
| 60            | 2.0          |           |           |                   |              |                            |
| 75            | 2.3          |           |           |                   |              |                            |
| 90            | 2.7          |           |           | 500               | 500          |                            |
| 105           | 3.0          |           |           |                   |              |                            |
| 120           | 3.6          |           |           | 600               | 600          |                            |
| 135           | 4.0          |           |           | 800               | 800          |                            |
| 150           | 4.5          |           |           | 600               | 600          |                            |
| 165           | 5.0          | 5700      | 0.1       | 700               | 700          | 2.23                       |
| 180           | 5.5          | 5600      |           |                   |              |                            |
| 195           | 6.0          | 4500      |           |                   |              |                            |
| 210           | 6.5          |           |           | 800               | 800          |                            |



**Note:**  
Maximum speed should not exceed 6000 rpm.  
Velocity must never be in a trapezoidal profile.  
The velocity must have a triangular or sinusoidal shape. Acceleration ramps or jolt tiles must be adjusted corresponding to the driving angle.

