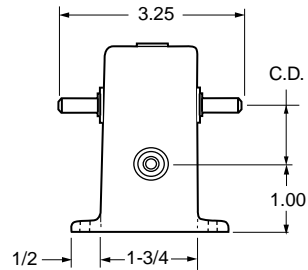
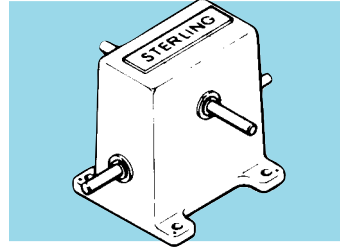
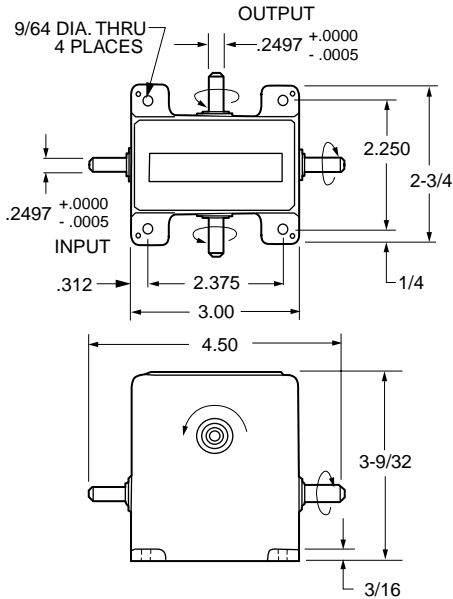


- PRECISION QUALITY
- PERMANENTLY LUBRICATED
- MULTIPLE RATIOS
- INPUT SPEEDS UP TO 1000 RPM
- RIGHT- OR LEFT-HAND ROTATION



**MATERIAL:** Housing – Cast Aluminum, Sulfuric Acid Anodized  
 Worm and Shaft – 303 Stainless Steel  
 Worm Wheel – Bronze  
 Ball Bearings – 440C Stainless Steel

**SPECIFICATIONS:** Maximum Backlash – 30 minutes  
 Maximum Breakaway Torque – .05 oz. in.  
 Maximum Load Rating – 150 oz. in.

Catalog Number	Ratio to 1	C.D.
S9914Y-WW4-020	20	.8750
S9914Y-WW4-025	25	1.0312
S9914Y-WW4-030	30	1.1875
S9914Y-WW4-040	40	.8750
S9914Y-WW4-050	50	1.0312
S9914Y-WW4-060	60	1.1875
S9914Y-WW4-080	80	.8750
S9914Y-WW4-100	100	1.0312
S9914Y-WW4-120	120	1.1875

**NOTE:** Unit can only be driven from input shaft which may rotate in both directions.

Also available with anti-backlash worm wheel & other shaft sizes.



# INCH

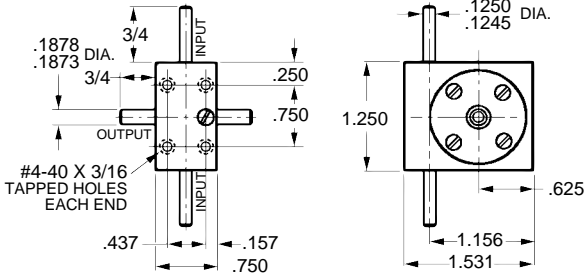
## Worm Gear Speed Reducers

■ PRECISION QUALITY

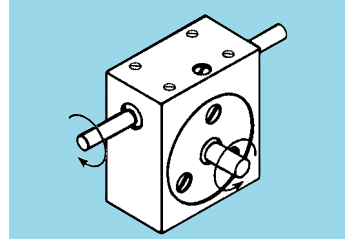
■ STYLE "E"

■ MULTIPLE RATIOS

■ INPUT SPEEDS UP TO 6000 RPM



STYLE "E"



**QUALITY CLASS**

### MATERIAL:

- Gears** – Right-Hand Worm — Hardened Carbon Steel with Polished Threads
- Wormwheel — Phosphor Bronze
- Bearings** – Input — Precision Ballraces
- Output — Self-Lubricating Bearings
- Shafts** – Output — Mild Steel
- Input (one piece with worm) — Carbon Steel
- Housing** – Aluminum Alloy, Black Anodized
- Lubrication** – Packed with grease at assembly having temperature range of -25°F to +295°F.

### SPECIFICATIONS:

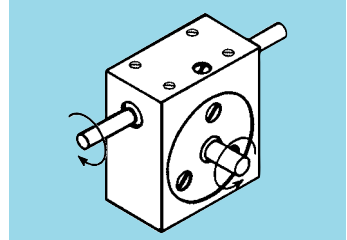
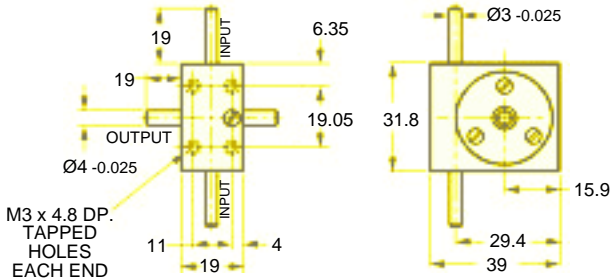
- Input Speed** – 6000 rpm Max.
- Backlash** – at output — 0°30'
- Torque**
- Max. starting torque at input shaft — .07 oz. in.
- Max. cont. output torque @ 1800 rpm — 4.5 lb. in.
- Weight** – 2.75 oz.

Catalog Number	Ratio to 1
A 2Z17-E0080	8
A 2Z17-E0100	10
A 2Z17-E0125	12.5
A 2Z17-E0166	16.67
A 2Z17-E0200	20
A 2Z17-E0250	25
A 2Z17-E0300	30
A 2Z17-E0500	50
A 2Z17-E0600	60
A 2Z17-E0800	80

**NOTE:** Also available in other styles where special shaft diameters or extensions are required. These speed reducers are available with anti-backlash gears. Input speed, however, is limited to 3000 rpm with a maximum continuous output torque of 1.3 oz. in. Maximum starting torque at input shaft is .85 oz. in.



- PRECISION QUALITY
- STYLE "E"
- MULTIPLE RATIOS
- INPUT SPEEDS UP TO 6000 RPM



**QUALITY CLASS**

### MATERIAL:

**Gears:** Worm — Hardened Carbon Steel with Polished Right Hand Threads  
Wormwheel — Phosphor Bronze

**Bearings:** Input — Precision Ball Bearings  
Output — Self-Lubricating Bearings

**Shafts:** Input — Carbon Steel, Integral with Worm  
Output — Mild Steel

**Housing** — Aluminum Alloy, Black Anodized

**Lubrication** — Packed with grease at assembly having temperature range of -20°C to +150°C.

### SPECIFICATIONS:

**Input Speed:** 6000 rpm Max.

**Backlash at Output** — 0°30'

### Torque:

**Max. starting torque at input shaft** —  $5 \times 10^{-4} \text{ N} \cdot \text{m}$

**Max. cont. output torque @ 1800 rpm** —  $0.51 \text{ N} \cdot \text{m}$

**Weight:** 0.08 kg

Catalog Number	Ratio to 1
A 2Z17ME0080	8
A 2Z17ME0100	10
A 2Z17ME0125	12.5
A 2Z17ME0166	16.67
A 2Z17ME0200	20
A 2Z17ME0250	25
A 2Z17ME0300	30
A 2Z17ME0500	50
A 2Z17ME0600	60
A 2Z17ME0800	80

**NOTE:** Also available in other styles where special shaft diameters or extensions are required. These speed reducers are available with anti-backlash gears. Input speed, however, is limited to 3000 rpm with a maximum continuous output torque of 0.009 N • m. Maximum starting torque at input shaft is  $60 \times 10^{-4} \text{ N} \cdot \text{m}$ .



# INCH

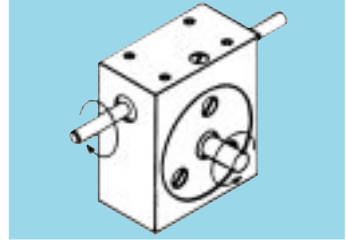
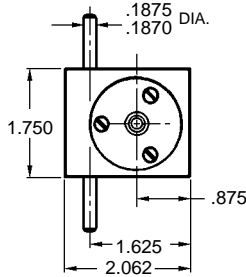
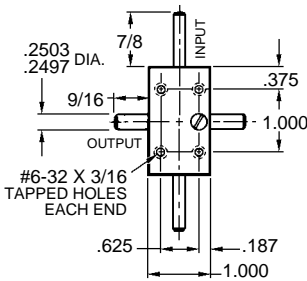
## Worm Gear Speed Reducers

■ PRECISION QUALITY

■ STYLE "E"

■ MULTIPLE RATIOS

■ INPUT SPEEDS UP TO 6000 RPM



STYLE "E"

**QUALITY CLASS**

### MATERIAL:

**Gears – Right-Hand Worm** — Hardened Carbon Steel with Polished Threads

– **Wormwheel** — Phosphor Bronze

**Bearings – Input** — Precision Ballraces

– **Output** — Self-Lubricating Bearings

**Shafts – Output** — Mild Steel

– **Input (one piece with worm)** — Carbon Steel

**Housing** — Aluminum Alloy, Black Anodized

**Lubrication** — Packed with grease at assembly having temperature range of -25°F to +295°F.

### SPECIFICATIONS:

**Input Speed** — 6000 rpm Max.

**Backlash** — at output — 0°30'

### Torque

– **Max. starting torque at input shaft** — .14 oz. in.

– **Max. cont. output torque @ 1800 rpm** — 13 lb. in.

**Weight** — 7.0 oz.

Catalog Number	Ratio to 1
A 2Z18-E0075	7.5
A 2Z18-E0080	8
A 2Z18-E0100	10
A 2Z18-E0120	12
A 2Z18-E0150	15
A 2Z18-E0160	16
A 2Z18-E0166	16.67
A 2Z18-E0170	17
A 2Z18-E0200	20
A 2Z18-E0215	21.5
A 2Z18-E0240	24
A 2Z18-E0250	25

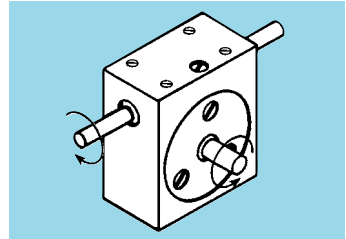
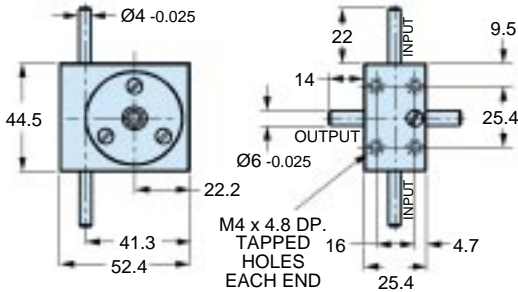
Catalog Number	Ratio to 1
A 2Z18-E0300	30
A 2Z18-E0320	32
A 2Z18-E0360	36
A 2Z18-E0400	40
A 2Z18-E0420	42
A 2Z18-E0450	45
A 2Z18-E0480	48
A 2Z18-E0500	50
A 2Z18-E0600	60
A 2Z18-E0900	90
A 2Z18-E1000	100

**NOTE:** Also available in other styles where special shaft diameters or extensions are required.

These speed reducers are available with anti-backlash gears. Input speed however is limited to 3000 rpm with a maximum continuous output torque of 1.5 lb. in. Maximum starting torque at input shaft is 3.19 oz. in.



- PRECISION QUALITY
  - STYLE "E"
  - MULTIPLE RATIOS
- INPUT SPEEDS UP TO 6000 RPM



**QUALITY CLASS**

The projections shown are per ISO convention.

**MATERIAL:**

- Gears:** Worm — Hardened Carbon Steel with Polished Right Hand Threads  
Wormwheel — Phosphor Bronze
- Bearings:** Input — Precision Ball Bearings  
Output — Self-Lubricating Bearings
- Shafts:** Input — Carbon Steel, Integral with Worm  
Output — Mild Steel
- Housing** — Aluminum Alloy, Black Anodized
- Lubrication** — Packed with grease at assembly having temperature range of -20°C to +150°C.

**SPECIFICATIONS:**

- Input Speed:** 6000 rpm Max.
- Backlash at Output** — 0°30'
- Torque:**  
Max. starting torque at input shaft —  $12 \times 10^{-4} \text{ N} \cdot \text{m}$   
Max. cont. output torque @ 1800 rpm —  $1.47 \text{ N} \cdot \text{m}$
- Weight:** 0.2 kg

Catalog Number	Ratio to 1
A 2Z18ME0080	8
A 2Z18ME0100	10
A 2Z18ME0120	12
A 2Z18ME0150	15
A 2Z18ME0160	16
A 2Z18ME0200	20
A 2Z18ME0360	36
A 2Z18ME0500	50
A 2Z18ME0600	60
A 2Z18ME1000	100

**NOTE:** Also available in other styles where special shaft diameters or extensions are required. These speed reducers are available with anti-backlash gears. Input speed, however, is limited to 3000 rpm with a maximum continuous output torque of 0.17 N • m. Maximum starting torque at input shaft is  $250 \times 10^{-4} \text{ N} \cdot \text{m}$ .

Other ratios are available on special order.



# INCH

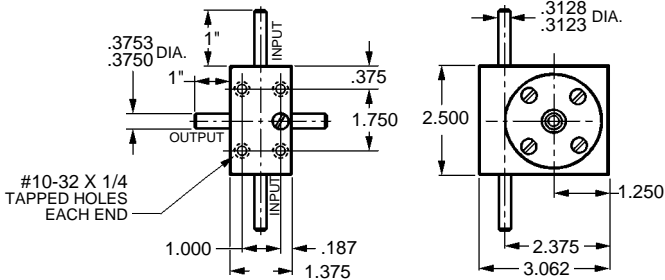
## Worm Gear Speed Reducers

■ PRECISION QUALITY

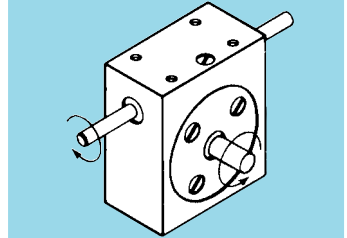
■ STYLE "E"

■ MULTIPLE RATIOS

■ INPUT SPEEDS UP TO 6000 RPM



STYLE "E"



**QUALITY CLASS**

### MATERIAL:

**Gears** – Right-Hand Worm — Hardened Carbon Steel with Polished Threads  
 – Wormwheel — Phosphor Bronze

**Bearings** – Input — Precision Ballraces  
 – Output — Self-Lubricating Bearings

**Shafts** – Output — Mild Steel  
 – Input — Carbon Steel

**Housing** – Aluminum Alloy, Black Anodized

**Lubrication** – Packed with grease at assembly having temperature range of -25°F to +295°F.

### SPECIFICATIONS:

**Input Speed** – 6000 rpm Max.

**Backlash** – at output — 0°30'

### Torque

– Max. starting torque at input shaft — 1.12 oz. in.

– Max. cont. output torque @ 1800 rpm — 39 lb. in.

**Weight** – 21 oz.

Catalog Number	Ratio to 1
A 2Z19-E0060	6
A 2Z19-E0075	7.5
A 2Z19-E0083	8.33
A 2Z19-E0100	10
A 2Z19-E0125	12.5
A 2Z19-E0150	15
A 2Z19-E0160	16
A 2Z19-E0200	20
*A 2Z19-E0240	24
A 2Z19-E0250	25
A 2Z19-E0300	30

Catalog Number	Ratio to 1
*A 2Z19-E0320	32
A 2Z19-E0360	36
A 2Z19-E0400	40
A 2Z19-E0450	45
*A 2Z19-E0480	48
A 2Z19-E0500	50
A 2Z19-E0600	60
*A 2Z19-E0700	70
*A 2Z19-E0900	90
A 2Z19-E1000	100

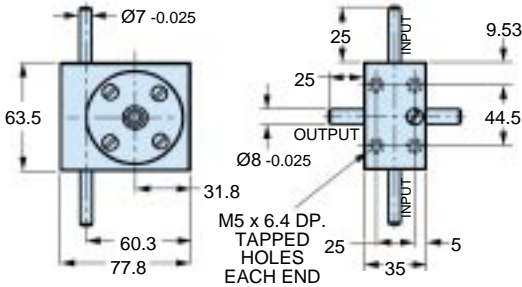
\*To be discontinued when present stock is depleted.

**NOTE:** Also available in other styles where special shaft diameters or extensions are required.

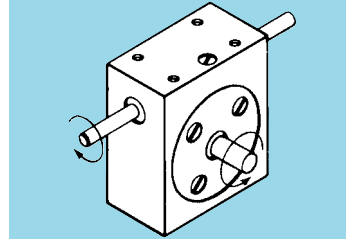
These speed reducers are available with anti-backlash gears. Input speed, however, is limited to 3000 rpm with a maximum continuous output torque of 2.6 lb. in. Maximum starting torque at input shaft is 15.8 oz. in.



- PRECISION QUALITY
- STYLE "E"
- MULTIPLE RATIOS
- INPUT SPEEDS UP TO 6000 RPM



The projections shown are per ISO convention.



**QUALITY CLASS**

**MATERIAL:**

- Gears:** Worm — Hardened Carbon Steel with Polished Right Hand Threads  
 Wormwheel — Phosphor Bronze
- Bearings:** Input — Precision Ball Bearings  
 Output — Self-Lubricating Bearings
- Shafts:** Input — Carbon Steel  
 Output — Mild Steel
- Housing** — Aluminum Alloy, Black Anodized
- Lubrication** — Packed with grease at assembly having temperature range of  $-20^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$ .

**SPECIFICATIONS:**

- Input Speed:** 6000 rpm Max.  
**Backlash at Output** —  $0^{\circ}30'$   
**Torque:**  
 Max. starting torque at input shaft —  $80 \times 10^{-4} \text{ N} \cdot \text{m}$   
 Max. cont. output torque @ 1800 rpm —  $4.41 \text{ N} \cdot \text{m}$   
**Weight:** 0.6 kg

Catalog Number	Ratio to 1
A 2Z19ME0060	6
A 2Z19ME0100	10
A 2Z19ME0200	20
A 2Z19ME0250	25
A 2Z19ME0300	30
A 2Z19ME0360	36
A 2Z19ME0500	50
A 2Z19ME0700	70
A 2Z19ME1000	100

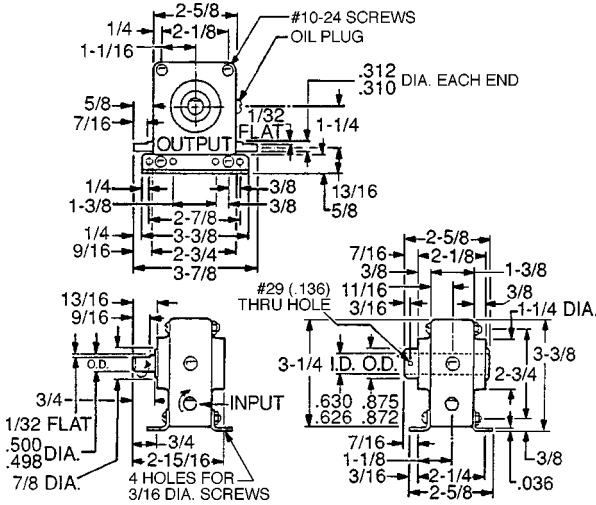
**NOTE:** Also available in other styles where special shaft diameters or extensions are required. These speed reducers are available with anti-backlash gears. Input speed, however, is limited to 3000 rpm with a maximum continuous output torque of  $0.29 \text{ N} \cdot \text{m}$ . Maximum starting torque at input shaft is  $1225 \times 10^{-4} \text{ N} \cdot \text{m}$ .



# INCH

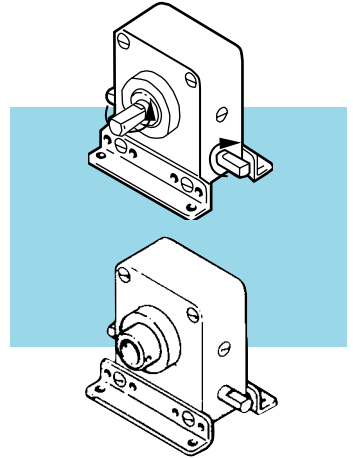
## Worm Gear Speed Reducers

- COMMERCIAL QUALITY
- SINTERED BEARINGS
- MULTIPLE RATIOS
- RATED SPEEDS UP TO 1800 RPM



**SOLID SHAFT**

**HOLLOW SHAFT**



**MATERIAL:** Case – Fiberglass Reinforced Molded Plastic  
 Gears – Precision-Hobbed Bronze Driven Gear  
 Ground Steel Worm - Right-Hand  
 Bearings – Input and Output Shaft — Sintered Bronze  
 Shafts – Steel  
 Lubrication – Gears are Pre-lubricated with Lubriplate #630-AA Grease  
 Seals – Grease Seals are Provided on Both Input and Output Shafts

**APPROX. WEIGHT:** 20 oz.

Catalog Number		1800 rpm Input				
Solid Shaft	Hollow Shaft	Ratio	Input HP	Output rpm	Output HP	Output Torque lb. In.
<b>BRONZE DRIVEN GEAR</b>						
A 2B 7-S035	A 2B 7-H035	3.5:1	.84	514	.84	102
A 2B 7-S100	A 2B 7-H100	10:1	.33	180	.30	
A 2B 7-S150	A 2B 7-H150	15:1	.27	120	.24	105
A 2B 7-S200	A 2B 7-H200	20:1	.225	90	.18	
A 2B 7-S300	A 2B 7-H300	30:1	.15	60	.12	120
A 2B 7-S400	A 2B 7-H400	40:1	.10	45	.08	112
A 2B 7-S480	A 2B 7-H480	48:1	.09	38	.06	96
A 2B 7-S600	A 2B 7-H600	60:1	.075	30	.035	75