



TECHNICO INC

766 North River Road NW
Warren, OH 44483

eShaft case 60



Linear Shafting



Motion Control Products
For Industrial Automation

Contact us at:

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FAX: (330) 847-0528

www.eShaft.com



For over two decades, Technico has been a leader in the motion control industry. Our team has focused on what matters – the highest quality products with the best customer service.

- eShaft Case 60 Linear Shafting is induction hardened, precision ground, and polished to the tolerances required by the demanding Linear Motion Industry
- Linear Shafting Industry Class "L", "S", "N" and "D"
- Inch sizes of Linear Shafting (1/4" - 4" Diameters)
- Metric sizes of Linear Shafting (6mm - 100mm Diameters)
- Pre-Drilled Linear Shafting (1/2" - 2" Diameters)
- Stainless Steel Linear Shafting
- Standard Aluminum Support Rails, Low Profile Steel Support Rails
- Complete Selection of Linear Bearings, Pillow Blocks and End Supports
- Custom machining to your print and special coatings available
- See our website for the complete product line

eSHAFT SPECS

Material – High quality Carbon 1060 or Stainless 440C produced in the U.S.

Case Hardness – Varies by material type - See Chart

Surface Finish – 8 RMS

Roundness – Industry Superior

Cylindricity – Industry Superior

Straightness – .001 per foot cumulative, (TIR .002")

www.eShaft.com

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COMPOSITION OF PART NUMBERS

| | | | | |
|------------|--------------|---|--|---|
| ES | 0.625 | SS + | 25 | S |
| Shaft Type | Diameter | Material <small>(Blank for Regular 1060)</small> | Length <small>(In Inches or MM for metric Shafting)</small> | Accuracy Class <small>(Blank for Standard L Class)</small> |

PREDRILLED SHAFTING AND ASSEMBLIES

| | | | |
|------|-------|----------------------|---|
| ES | 0.750 | PD + XX | - Predrilled Shaft Only |
| ESSR | 0.750 | PD + XX | - Predrilled Shaft Support Rail Only |
| ES | 0.750 | PD + XX Assembly | - Predrilled Shaft Mounted to Support |
| ES | 0.750 | PD + XX Low Assembly | - Predrilled Shaft Mounted to Low Support |

XX = Length in inches or mm

INCH LINEAR SHAFTING

INCH LINEAR SHAFTING – 1060 STEEL SURFACE HARDNESS RC60-63

| PART NUMBER | NOMINAL DIA. (IN) | CLASS L | CLASS S | CLASS N | CLASS D | MAX LENGTH (IN) |
|-------------|-------------------|---------------|---------------|---------------|---------------|-----------------|
| ES 0.250 | 1/4 | .2495/.2490 | .2490/.2485 | .2500/.2498 | | 94 |
| ES 0.375 | 3/8 | .3745/.3740 | .3740/.3735 | .3750/.3748 | – | 166 |
| ES 0.500 | 1/2 | .4995/.4990 | .4990/.4985 | .5000/.4998 | – | 166 |
| ES 0.625 | 5/8 | .6245/.6240 | .6240/.6235 | .6250/.6248 | – | 180 |
| ES 0.750 | 3/4 | .7495/.7490 | .7490/.7485 | .7500/.7498 | – | 180 |
| ES 0.875 | 7/8 | .8745/.8740 | – | .8750/.8748 | – | 180 |
| ES 1.000 | 1 | .9995/.9990 | .9990/.9985 | 1.0000/.9998 | 1.0000/1.003 | 180 |
| ES 1.125 | 1-1/8 | 1.1245/1.1240 | – | 1.1250/1.1248 | – | 180 |
| ES 1.250 | 1-1/4 | 1.2495/1.2490 | 1.2490/1.2485 | 1.2500/1.2498 | 1.2500/1.2503 | 180 |
| ES 1.375 | 1-3/8 | 1.3745/1.3740 | – | 1.3750/1.3747 | – | 180 |
| ES 1.500 | 1-1/2 | 1.4994/1.4989 | 1.4989/1.4984 | 1.5000/1.4997 | 1.5000/1.5003 | 180 |
| ES 1.625 | 1-5/8 | 1.6245/1.6240 | – | 1.6250/1.6247 | – | 180 |
| ES 1.750 | 1-3/4 | 1.7495/1.7490 | – | 1.7500/1.7497 | – | 180 |
| ES 2.000 | 2 | 1.9994/1.9987 | 1.9987/1.9980 | 2.0000/1.9997 | 2.0000/2.0003 | 204 |
| ES 2.500 | 2-1/2 | 2.4993/2.4985 | 2.4985/2.4977 | 2.5000/2.4996 | – | 204 |
| ES 3.000 | 3 | 2.9992/2.9983 | 2.9983/2.9974 | 3.0000/2.9996 | – | 204 |
| ES 3.500 | 3-1/2 | 3.4990/3.4980 | – | – | – | 204 |
| ES 4.000 | 4 | 3.9988/3.9976 | 3.9976/3.9964 | – | – | 204 |

Class L is standard

INCH LINEAR SHAFTING – 440C STEEL SURFACE HARDNESS RC50-55

| PART NUMBER | NOMINAL DIA. (IN) | CLASS L | CLASS S | MAX LENGTH (IN) |
|-------------|-------------------|---------------|---------------|-----------------|
| ES 0.250 SS | 1/4 | .2495/.2490 | .2490/.2485 | 94 |
| ES 0.375 SS | 3/8 | .3745/.3740 | .3740/.3735 | 166 |
| ES 0.500 SS | 1/2 | .4995/.4990 | .4990/.4985 | 166 |
| ES 0.625 SS | 5/8 | .6245/.6240 | .6240/.6235 | 180 |
| ES 0.750 SS | 3/4 | .7495/.7490 | .7490/.7485 | 180 |
| ES 1.000 SS | 1 | .9995/.9990 | .9990/.9985 | 180 |
| ES 1.250 SS | 1-1/4 | 1.2495/1.2490 | 1.2490/1.2485 | 180 |
| ES 1.500 SS | 1-1/2 | 1.4994/1.4989 | 1.4989/1.4984 | 180 |
| ES 2.000 SS | 2 | 1.9994/1.9987 | 1.9987/1.9980 | 180 |

METRIC LINEAR SHAFTING

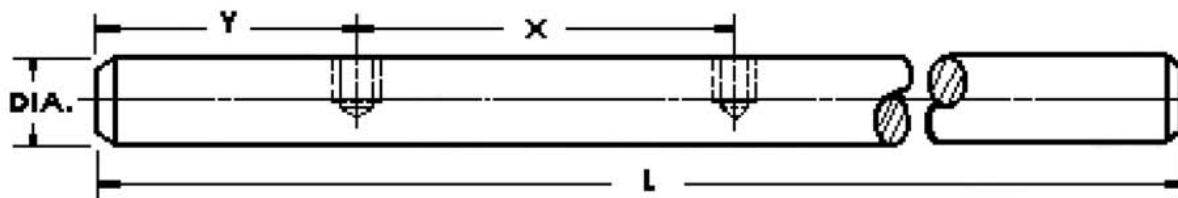
METRIC LINEAR SHAFTING – 1060 STEEL SURFACE HARDNESS RC60-63

| PART NUMBER | NOMINAL DIA. (MM) | CLASS M (H6) | MAX LENGTH (MM) |
|-------------|-------------------|---------------|-----------------|
| ESM 5 | 5 | .1969/.1965 | 4000 |
| ESM 8 | 8 | .3150/.3146 | 4000 |
| ESM 10 | 10 | .3937/.3933 | 4000 |
| ESM 12 | 12 | .4724/.4720 | 6000 |
| ESM 16 | 16 | .6299/.6295 | 6000 |
| ESM 20 | 20 | .7874/.7869 | 6000 |
| ESM 25 | 25 | .9843/.9838 | 6000 |
| ESM 30 | 30 | 1.1811/1.1806 | 6000 |
| ESM 35 | 35 | 1.3780/1.3773 | 6000 |
| ESM 40 | 40 | 1.5748/1.5743 | 6000 |
| ESM 50 | 50 | 1.9685/1.9679 | 6000 |
| ESM 60 | 60 | 2.3622/2.3615 | 6000 |
| ESM 80 | 80 | 3.1496/3.1489 | 6000 |

METRIC LINEAR SHAFTING – 440C STAINLESS SURFACE HARDNESS RC50-55

| PART NUMBER | NOMINAL DIA. (MM) | CLASS M (H6) | MAX LENGTH (IN) |
|-------------|-------------------|---------------|-----------------|
| ESM 5 SS | 5 | .1969/.1965 | 4000 |
| ESM 8 SS | 8 | .3150/.3146 | 4000 |
| ESM 10 SS | 10 | .3937/.3933 | 4000 |
| ESM 12 SS | 12 | .4724/.4720 | 6000 |
| ESM 16 SS | 16 | .6299/.6295 | 6000 |
| ESM 20 SS | 20 | .7874/.7869 | 6000 |
| ESM 25 SS | 25 | .9843/.9838 | 6000 |
| ESM 30 SS | 30 | 1.1811/1.1806 | 6000 |
| ESM 40 SS | 40 | 1.5748/1.5743 | 6000 |
| ESM 50 SS | 50 | 1.9685/1.9679 | 6000 |
| ESM 60 SS | 60 | 2.3622/2.3615 | 6000 |

PREDRILLED LINEAR SHAFTING



PREDRILLED LINEAR SHAFTING – 1060 STEEL

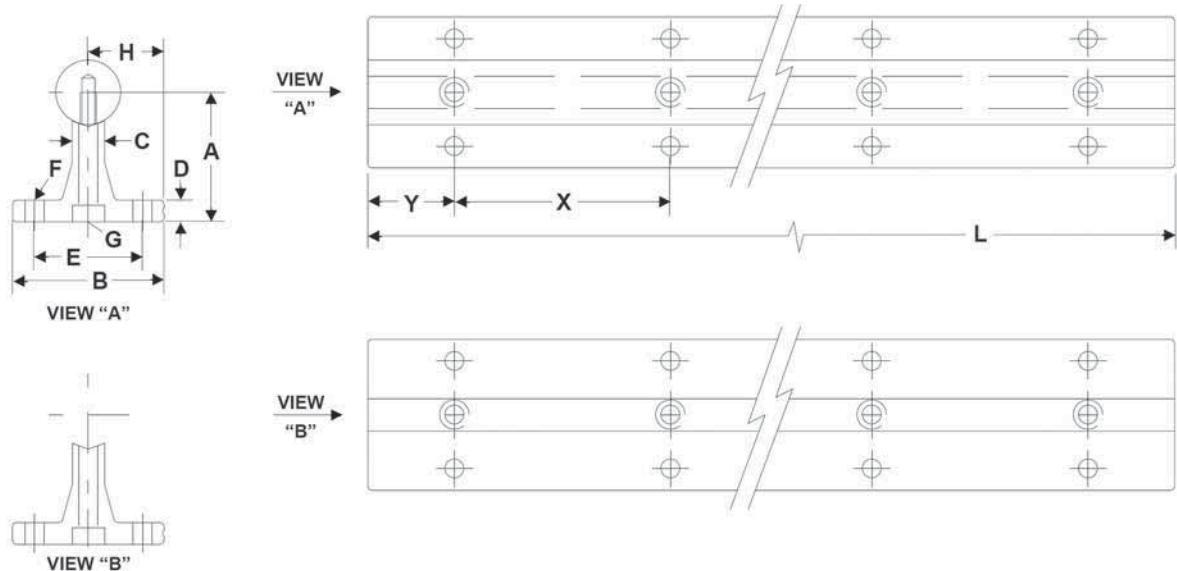
| PART NUMBER | NOMINAL DIA. (IN) | CLASS "L" DIA. (IN) | STANDARD THREAD SIZE | X (IN) | Y (IN) | MAX LENGTH (IN) |
|-------------|-------------------|---------------------|----------------------|--------|--------|-----------------|
| ES 0.500 PD | 1/2 | .4995/.4990 | #6-32 | 4 | 2 | 166 |
| ES 0.625 PD | 5/8 | .6245/.6240 | #8-32 | 4 | 2 | 178 |
| ES 0.750 PD | 3/4 | .7495/.7490 | #10-32 | 6 | 3 | 178 |
| ES 1.000 PD | 1 | .9995/.9990 | 1/4-20 | 6 | 3 | 178 |
| ES 1.250 PD | 1-1/4 | 1.2495/1.2490 | 5/16-18 | 6 | 3 | 178 |
| ES 1.500 PD | 1-1/2 | 1.4994/1.4989 | 3/8-16 | 8 | 4 | 178 |
| ES 2.000 PD | 2 | 1.9994/1.9987 | 1/2-13 | 8 | 4 | 178 |

PREDRILLED LINEAR SHAFTING – 440C STAINLESS

| PART NUMBER | NOMINAL DIA. (IN) | CLASS "L" DIA. (IN) | STANDARD THREAD SIZE | X (IN) | Y (IN) | MAX LENGTH (IN) |
|---------------|-------------------|---------------------|----------------------|--------|--------|-----------------|
| ES 0.500 PDSS | 1/2 | .4995/.4990 | #6-32 | 4 | 2 | 166 |
| ES 0.625 PDSS | 5/8 | .6245/.6240 | #8-32 | 4 | 2 | 178 |
| ES 0.750 PDSS | 3/4 | .7495/.7490 | #10-32 | 6 | 3 | 178 |
| ES 1.000 PDSS | 1 | .9995/.9990 | 1/4-20 | 6 | 3 | 178 |
| ES 1.250 PDSS | 1-1/4 | 1.2495/1.2490 | 5/16-18 | 6 | 3 | 178 |
| ES 1.500 PDSS | 1-1/2 | 1.4994/1.4989 | 3/8-16 | 8 | 4 | 178 |
| ES 2.000 PDSS | 2 | 1.9994/1.9987 | 1/2-13 | 8 | 4 | 178 |

SHAFT SUPPORT RAILS

PREDRILLED SHAFT SUPPORT RAILS



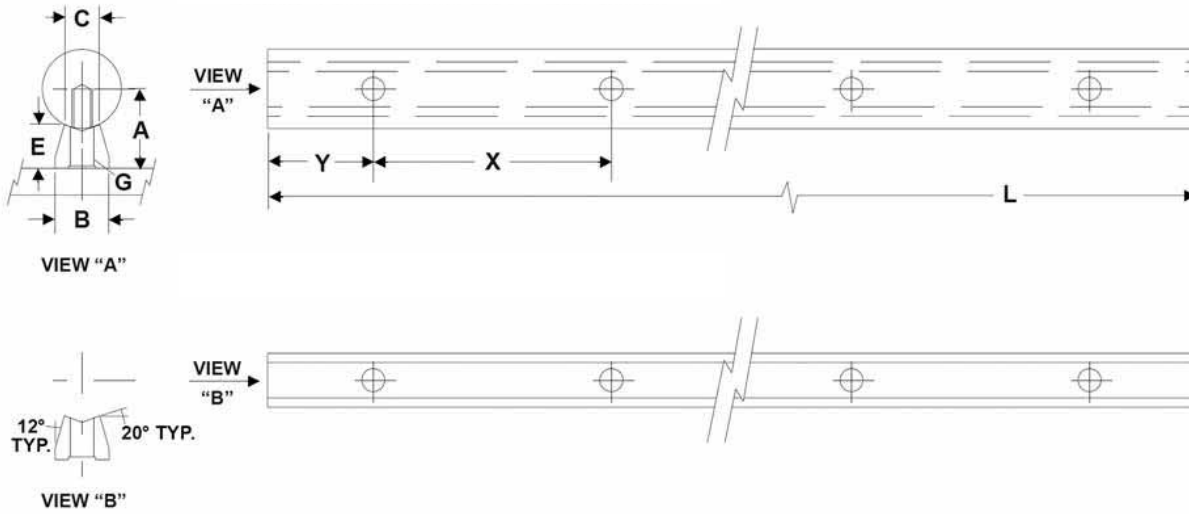
PREDRILLED SHAFT SUPPORT RAILS

Note: Shaft Support Rails and Linear Shafting are separate parts numbers, not assemblies

| PREDRILLED SHAFT SUPPORT RAIL | SHAFT DIA. | A +/- .001 | B | C | D | E +/- .005 | F BOLT | F HOLE | G SCREW | G HOLE | H +/- .001 | X | Y |
|-------------------------------|------------|------------|-------|-------|------|------------|--------|--------|-----------------|--------|------------|---|---|
| ESSR 0.500 PD | 1/2 | 1.125 | 1-1/2 | 1/4 | 3/16 | 1.000 | 6 | .169 | 6-32 X 7/8 | .169 | .750 | 4 | 2 |
| ESSR 0.625 PD | 5/8 | 1.125 | 1-5/8 | 5/16 | 1/4 | 1.125 | 8 | .193 | 8-32 X 7/8 | .193 | .812 | 4 | 2 |
| ESSR 0.750 PD | 3/4 | 1.500 | 1-3/4 | 3/8 | 1/4 | 1.250 | 10 | .221 | 10-32 X 1-1/4 | .221 | .875 | 6 | 3 |
| ESSR 1.000 PD | 1 | 1.750 | 2-1/8 | 1/2 | 1/4 | 1.500 | 1/4 | .281 | 1/4-20 X 1-1/2 | .281 | 1.062 | 6 | 3 |
| ESSR 1.250 PD | 1-1/4 | 2.125 | 2-1/2 | 9/16 | 5/16 | 1.875 | 5/16 | .343 | 5/16-18 X 1-3/4 | .343 | 1.250 | 6 | 3 |
| ESSR 1.500 PD | 1-1/2 | 2.500 | 3 | 11/16 | 3/8 | 2.250 | 5/16 | .343 | 3/8-16 X 2 | .406 | 1.500 | 8 | 4 |
| ESSR 2.000 PD | 2 | 3.250 | 3-3/4 | 7/8 | 1/2 | 2.750 | 3/8 | .406 | 1/2-13 X 2-1/2 | .531 | 1.875 | 8 | 4 |

To Order a Predrilled Assembly with Mounted Shaft and Rail see Page 3 Composition of Part Numbers

PREDRILLED LOW SHAFT SUPPORT RAILS



PREDRILLED LOW SHAFT SUPPORT RAILS

Note: Shaft Support Rails and Linear Shafting are separate parts numbers, not assemblies

| LOW PREDRILLED SHAFT SUPPORT RAIL | SHAFT DIA. | A +/- .001 | B | C | E | G SCREW | G HOLE | X | Y |
|-----------------------------------|------------|---------------|-------|-------|------|------------|-----------|---|---|
| ESLSR 0.500 PD | 1/2 | .562 | .370 | 1/4 | .341 | 6-32 | .169 | 4 | 2 |
| ESLSR 0.625 PD | 5/8 | .687 | .450 | 5/16 | .412 | 8-32 | .193 | 4 | 2 |
| ESLSR 0.750 PD | 3/4 | .750 | .510 | 3/8 | .420 | 10-32 | .221 | 6 | 3 |
| ESLSR 1.000 PD | 1 | 1.000 | .690 | 1/2 | .560 | 1/4-20 | .281 | 6 | 3 |
| ESLSR 1.250 PD | 1-1/4 | 1.187 | .780 | 9/16 | .626 | 5/16-18 | .343 | 6 | 3 |
| ESLSR 1.500 PD | 1-1/2 | 1.375 | .930 | 11/16 | .703 | 3/8-16 | .406 | 8 | 4 |
| ESLSR 2.000 PD | 2 | 1.750 | 1.180 | 7/8 | .845 | 1/2-13 | .531 | 8 | 4 |

To Order a Predrilled Assembly with Mounted Shaft and Rail see Page 2 Composition of Part Numbers

MACHINED ENDS

Below are some of the most common types of machined ends available.
Eshaft can provide special shaft machining for all your linear shafting needs.



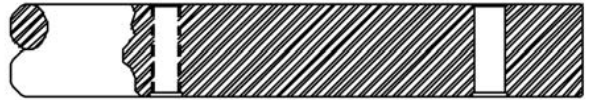
RADIAL FLAT(S)



O.D. THREADED



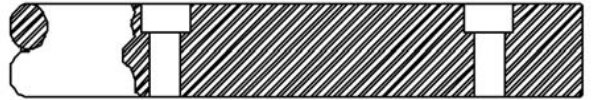
CLEVIS MOUNT END



TAPPED OR DRILLED RADIALY THRU.



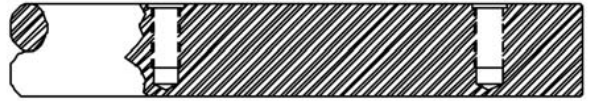
SNAP RING GROOVE(S)



COUNTERBORED THRU HOLE(S)



REDUCED DIA.(S) WITH/WITHOUT KEYWAY



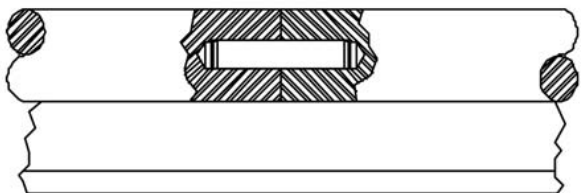
RADIAL TAPPED BLIND HOLES



REDUCED DIA. WITH THREADED END



AXIALLY DRILLED AND TAPPED END(S)



SHAFT RAIL ASSEMBLIES DOWEL JOINED



SHAFT RAIL ASSEMBLIES BUTT JOINED

LINEAR BEARINGS AND UNITS

TOPBALL PRODUCTS

INCH

TW
SW
SWA

METRIC

TK
SM
SMA



SLIDE BUSH

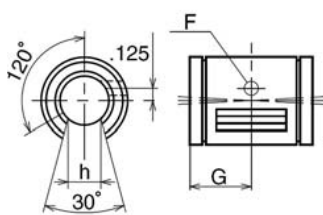
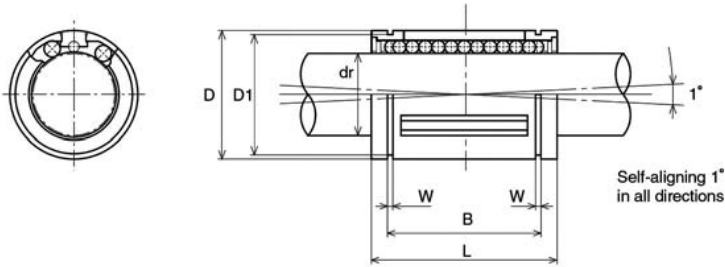


SLIDE UNIT

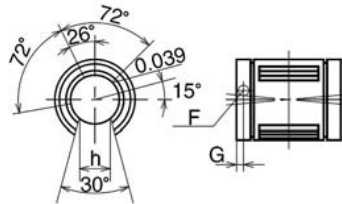


Please visit our website at www.eshaft.com for **METRIC BEARINGS** and other available bushing types.

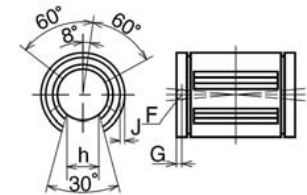
TW / TW-OP TYPE – TOPBALL INCH TYPE



TW 8-OP



TW 10-OP



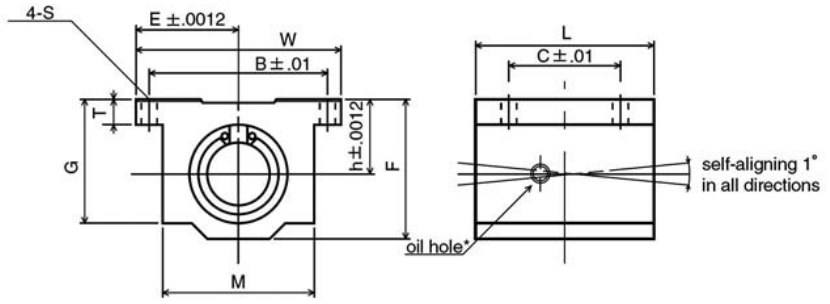
TW 12-OP thru TW32-OP

| PART NUMBER | | | | | | MAJOR DIMENSIONS | | | | |
|-------------|----------------------|----------|-----------|----------------------|----------|------------------|--------------------|-----------|---------|-------------------|
| CLOSED TYPE | | | OPEN TYPE | | | DR | | D INCH | L | |
| TW | NO. OF BALL CIRCUITS | MASS LBS | | NO. OF BALL CIRCUITS | MASS LBS | INCH | TOLERANCE* INCH | | INCH | TOLERANCE INCH |
| TW 3 | 4 | .004 | - | - | - | .1875 | 0 -.0005 | .3750 | .562 | ±.008 |
| TW 4 | 4 | .009 | - | - | - | .2500 | | .5000 | .750 | 0 -.015 |
| TW 6 | 4 | .014 | - | - | - | .3750 | | .6250 | .875 | |
| TW 8 | 4 | .043 | TW 8-OP | 3 | .033 | .5000 | | .8750 | 1.250 | 0 -.020 |
| TW 10 | 5 | .103 | TW 10-OP | 4 | .083 | .6250 | | 1.1250 | 1.500 | |
| TW 12 | 6 | .123 | TW 12-OP | 5 | .102 | .7500 | | 1.2500 | 1.625 | |
| TW 16 | 6 | .265 | TW 16-OP | 5 | .220 | 1.0000 | | 1.5625 | 2.250 | 0 -.025 |
| TW 20 | 6 | .485 | TW 20-OP | 5 | .419 | 1.2500 | 2.0000 | 2.625 | | |
| TW 24 | 6 | .750 | TW 24-OP | 5 | .639 | 1.5000 | 2.3750 | 3.0000 | 0/-.030 | |
| TW 32 | 6 | 1.411 | TW 32-OP | 5 | 1.168 | 2.0000 | 0/-.0008 | 3.0000 | 4.0000 | 0/-.040 |

| PART NUMBER | | MAJOR DIMENSIONS | | | | | | | | BASIC LOAD RATING | | NOMINAL SHAFT DIAMETER INCH | |
|-------------|-----------|------------------|----------------|---------|--------|-----------|------|-------|---------|-------------------|------------|-----------------------------|-------|
| CLOSED TYPE | OPEN TYPE | B | | W | D | OPEN TYPE | | | | DYNAMIC C | DYNAMIC Co | | |
| | | INCH | TOLERANCE INCH | INCH | INCH | h | F | G | J | INCH | INCH | INCH | |
| TW 3 | - | - | - | - | - | - | - | - | - | - | 35 | 47 | 3/16 |
| TW 4 | - | .515 | 0 -.015 | .0390 | .4687 | - | - | - | - | - | 60 | 80 | 1/4 |
| TW 6 | - | .703 | | .0390 | .5880 | - | - | - | - | - | 95 | 120 | 3/8 |
| TW 8 | TW 8-OP | 1.032 | 0 -.020 | .0459 | .8209 | .313 | .136 | .6250 | THROUGH | 230 | 290 | 1/2 | |
| TW 10 | TW 10-OP | 1.112 | | .0559 | 1.0590 | .375 | .105 | .1250 | .0390 | 400 | 500 | 5/8 | |
| TW 12 | TW 12-OP | 1.272 | | .0559 | 1.1760 | .438 | .136 | .1250 | .0590 | 470 | 590 | 3/4 | |
| TW 16 | TW 16-OP | 1.886 | | .0679 | 1.4687 | .563 | .136 | .1250 | .0470 | 850 | 1,060 | 1 | |
| TW 20 | TW 20-OP | 2.011 | | 0/-.025 | .0679 | 1.8859 | .625 | .201 | .1875 | .0900 | 1,230 | 1,530 | 1-1/4 |
| TW 24 | TW 24-OP | 2.422 | 0/-.030 | .0859 | 2.2389 | .750 | .201 | .1875 | .0900 | 1,480 | 1,850 | 1-1/2 | |
| TW 32 | TW 32-OP | 3.206 | 0/-.040 | .1029 | 2.8379 | 1.000 | .265 | .3125 | THROUGH | 2,430 | 3,040 | 2 | |

1 inch = 25.4 mm 1 lb ≈ .454 kg 1 lbs ≈ 4.448 N

TWA TYPE – BLOCK TYPE (INCH SERIES)



| PART NUMBER | NOM. SHAFT DIA INCH | MAJOR DIMENSIONS | | | | | | | | MOUNTING DIMENSIONS | | | BASIC LOAD RATING | | MASS LBS |
|-------------|---------------------|------------------|--------|--------|--------|--------|--------|--------|--------|---------------------|--------|--------|-------------------|---------------|----------|
| | | h INCH | E INCH | W INCH | L INCH | F INCH | T INCH | G INCH | M INCH | B INCH | C INCH | S INCH | DYNAMIC C LBS | STATIC Co LBS | |
| TWA 4UU | 1/4 | .4370 | .8125 | 1.625 | 1.188 | .813 | .188 | .750 | 1.000 | 1.312 | .750 | .156 | 60 | 80 | .090 |
| TWA 6UU | 3/8 | .5000 | .8750 | 1.750 | 1.313 | .938 | .188 | .875 | 1.125 | 1.437 | .875 | .156 | 95 | 120 | .120 |
| TWA 8UU | 1/2 | .6870 | 1.0000 | 2.000 | 1.688 | 1.250 | .250 | 1.125 | 1.375 | 1.688 | 1.000 | .156 | 230 | 290 | .248 |
| TWA 10UU | 5/8 | .8750 | 1.2500 | 2.500 | 1.938 | 1.625 | .281 | 1.437 | 1.750 | 2.125 | 1.125 | .188 | 400 | 500 | .465 |
| TWA 12UU | 3/4 | .9370 | 1.3750 | 2.750 | 2.063 | 1.750 | .313 | 1.563 | 1.875 | 2.375 | 1.250 | .188 | 470 | 590 | .553 |
| TWA 16UU | 1 | 1.1870 | 1.6250 | 3.250 | 2.813 | 2.188 | .375 | 1.938 | 2.375 | 2.875 | 1.750 | .219 | 850 | 1060 | 1.200 |
| TWA 20UU | 1-1/4 | 1.5000 | 2.0000 | 4.000 | 3.625 | 2.813 | .438 | 2.500 | 3.000 | 3.500 | 2.000 | .219 | 1230 | 1530 | 2.380 |
| TWA 24UU | 1-1/2 | 1.7500 | 2.3750 | 4.750 | 4.000 | 3.250 | .500 | 2.875 | 3.500 | 4.125 | 2.500 | .281 | 1480 | 1850 | 3.460 |
| TWA 32UU | 2 | 2.1250 | 3.0000 | 6.000 | 5.000 | 4.063 | .625 | 3.625 | 4.500 | 5.250 | 3.250 | .406 | 2430 | 3040 | 6.830 |

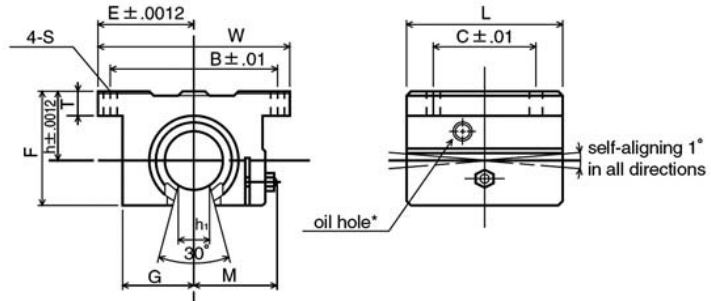
* Provided with push-in oil fitting for 1/4" to 1/2" sizes. Sizes from 5/8" to 2" offer a 1/4-28 tapped hole with a plug for adding a fitting if desired.

1 inch = 25.4 mm

1 lb ≈ .454 kg

1 lbs ≈ 4.448 N

TWD TYPE – OPEN BLOCK TYPE (INCH SERIES)



| PART NUMBER | NOM. SHAFT DIA INCH | MAJOR DIMENSIONS | | | | | | | | | MOUNTING DIMENSIONS | | | BASIC LOAD RATING | | MASS LBS |
|-------------|---------------------|------------------|--------|--------|--------|--------|--------|--------|--------|---------------------|---------------------|--------|--------|-------------------|---------------|----------|
| | | h INCH | E INCH | W INCH | L INCH | F INCH | T INCH | G INCH | M INCH | h ₁ INCH | B INCH | C INCH | S INCH | DYNAMIC C LBS | STATIC Co LBS | |
| TWD 8UU | 1/2 | .6870 | 1.000 | 2.000 | 1.500 | 1.100 | .250 | .688 | .98 | .260 | 1.688 | 1.000 | .156 | 230 | 290 | .188 |
| TWD 10UU | 5/8 | .8750 | 1.2500 | 2.500 | 1.750 | 1.405 | .281 | .875 | 1.15 | .319 | 2.125 | 1.125 | .188 | 400 | 500 | .365 |
| TWD 12UU | 3/4 | .9370 | 1.3750 | 2.750 | 1.975 | 1.535 | .315 | .937 | 1.23 | .386 | 2.375 | 1.250 | .188 | 470 | 590 | .452 |
| TWD 16UU | 1 | 1.1870 | 1.6250 | 3.250 | 2.625 | 1.975 | .375 | 1.188 | 1.48 | .512 | 2.875 | 1.750 | .218 | 850 | 1060 | 1.010 |
| TWD 20UU | 1-1/4 | 1.5000 | 2.0000 | 4.000 | 3.375 | 2.485 | .437 | 1.500 | 1.88 | .569 | 3.500 | 2.000 | .218 | 1230 | 1530 | 1.980 |
| TWD 24UU | 1-1/2 | 1.7500 | 2.3750 | 4.750 | 3.750 | 2.910 | .500 | 1.750 | 2.12 | .681 | 4.125 | 2.500 | .281 | 1480 | 1850 | 2.950 |
| TWD 32UU | 2 | 2.1250 | 3.0000 | 6.000 | 4.750 | 3.660 | .625 | 2.250 | 2.70 | .933 | 5.250 | 3.250 | .406 | 2430 | 3040 | 5.840 |

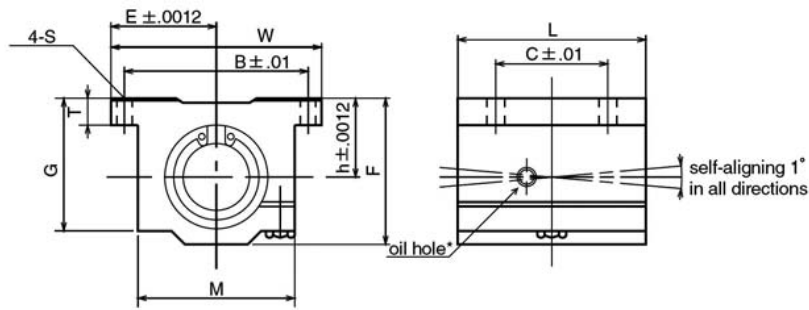
* Provided with push-in oil fitting for 1/4" to 1/2" sizes. Sizes from 5/8" to 2" offer a 1/4-28 tapped hole with a plug for adding a fitting if desired.

1 inch = 25.4 mm

1 lb ≈ .454 kg

1 lbs ≈ 4.448 N

TWJ TYPE – CLEARANCE ADJUSTABLE BLOCK TYPE (INCH SERIES)

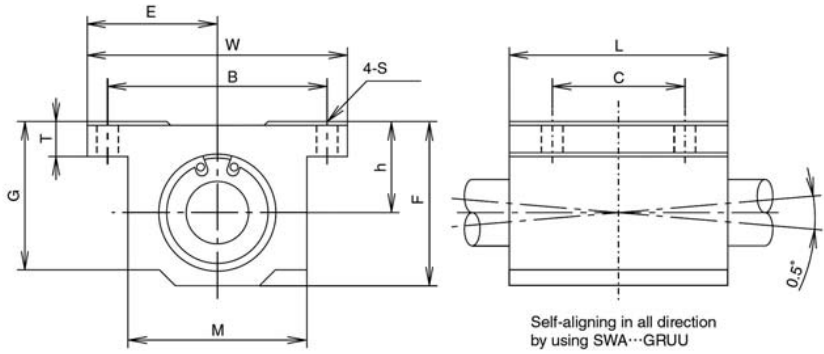


| PART NUMBER | NOM. SHAFT DIA INCH | MAJOR DIMENSIONS | | | | | | | | MOUNTING DIMENSIONS | | | BASIC LOAD RATING | | MASS LBS |
|-------------|---------------------|------------------|--------|--------|--------|--------|--------|--------|--------|---------------------|--------|--------|-------------------|---------------|----------|
| | | h INCH | E INCH | W INCH | L INCH | F INCH | T INCH | G INCH | M INCH | B INCH | C INCH | S INCH | DYNAMIC C LBS | STATIC Co LBS | |
| TWJ 4UU | 1/4 | .4370 | .8125 | 1.625 | 1.188 | .813 | .188 | .750 | 1.000 | 1.312 | .750 | .156 | 60 | 80 | .090 |
| TWJ 6UU | 3/8 | .5000 | .8750 | 1.750 | 1.313 | .938 | .188 | .875 | 1.125 | 1.437 | .875 | .156 | 95 | 120 | .120 |
| TWJ 8UU | 1/2 | .6870 | 1.0000 | 2.000 | 1.688 | 1.250 | .250 | 1.125 | 1.375 | 1.688 | 1.000 | .156 | 230 | 290 | .248 |
| TWJ 10UU | 5/8 | .8750 | 1.2500 | 2.500 | 1.938 | 1.625 | .281 | 1.437 | 1.750 | 2.125 | 1.125 | .188 | 400 | 500 | .465 |
| TWJ 12UU | 3/4 | .9370 | 1.3750 | 2.750 | 2.063 | 1.750 | .313 | 1.563 | 1.875 | 2.375 | 1.250 | .188 | 470 | 590 | .553 |
| TWJ 16UU | 1 | 1.1870 | 1.6250 | 3.250 | 2.813 | 2.188 | .375 | 1.938 | 2.375 | 2.875 | 1.750 | .219 | 850 | 1060 | 1.200 |
| TWJ 20UU | 1-1/4 | 1.5000 | 2.0000 | 4.000 | 3.625 | 2.813 | .438 | 2.500 | 3.000 | 3.500 | 2.000 | .219 | 1230 | 1530 | 2.380 |
| TWJ 24UU | 1-1/2 | 1.7500 | 2.3750 | 4.750 | 4.000 | 3.250 | .500 | 2.875 | 3.500 | 4.125 | 2.500 | .281 | 1480 | 1850 | 3.460 |
| TWJ 32UU | 2 | 2.1250 | 3.0000 | 6.000 | 5.000 | 4.063 | .625 | 3.625 | 4.500 | 5.250 | 3.250 | .406 | 2430 | 3040 | 6.830 |

* Provided with push-in oil fitting for 1/4" to 1/2" sizes. Sizes from 5/8" to 2" offer a 1/4-28 tapped hole with a plug for adding a fitting if desired.

1 inch = 25.4 mm 1 lb ≈ .454 kg 1 lbs ≈ 4.448 N

SWA TYPE – BLOCK TYPE (INCH SERIES)

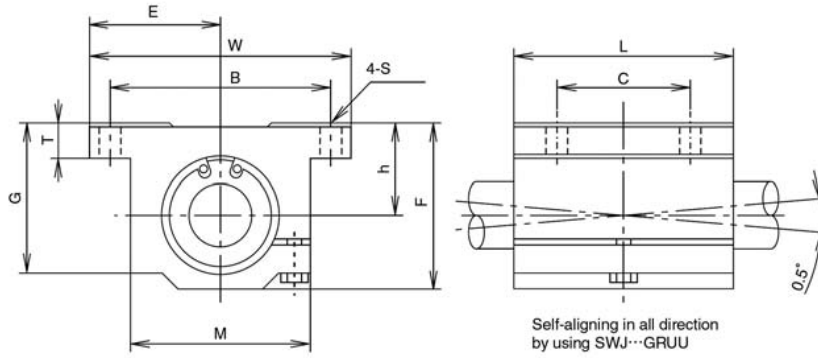


| PART NUMBER | MAJOR DIMENSIONS | | | | | | | |
|-------------|------------------------|-------------------|-----------------------------|-----------------------------|-----------------|-----------------|-----------------|---------------|
| | INNER CONTACT DIAMETER | | OUTER DIMENSIONS | | | | | |
| | INCH/MM | TOLERANCE INCH/MM | h ±.001/±.002 INCH/MM | E ±.001/±.002 INCH/MM | W INCH/MM | L INCH/MM | F INCH/MM | T INCH/MM |
| SWA 4GUU | .2500 6.350 | 0 -.00040 | .4370 11.100 | .8125 20.638 | 1.625 41.28 | 1.188 30.16 | .813 20.64 | .188 4.76 |
| SWA 6GUU | .3750 9.525 | | .5000 12.700 | .8750 22.225 | 1.750 44.45 | 1.313 33.34 | .938 23.82 | .188 4.76 |
| SWA 8GUU | .5000 12.700 | 0 -9 | .6870 17.450 | 1.0000 25.400 | 2.000 50.80 | 1.688 42.86 | 1.250 31.75 | .250 6.35 |
| SWA 10GUU | .6250 15.875 | 0 -.00040 | .8750 22.225 | 1.2500 31.750 | 2.500 63.50 | 1.938 49.21 | 1.625 41.28 | .281 7.14 |
| SWA 12GUU | .7500 19.050 | | .9370 23.800 | 1.3750 34.925 | 2.750 69.85 | 2.063 52.39 | 1.750 44.45 | .313 7.94 |
| SWA 16GUU | 1.0000 25.400 | 0 -10 | 1.1870 30.150 | 1.6250 41.275 | 3.250 82.55 | 2.813 71.44 | 2.188 55.56 | .375 9.53 |
| SWA 20GUU | 1.2500 31.750 | 0 -.00050 | 1.5000 38.100 | 2.0000 50.800 | 4.000 101.60 | 3.625 92.08 | 2.813 71.44 | .438 11.11 |
| SWA 24GUU | 1.5000 38.100 | | 1.7500 44.450 | 2.3750 60.325 | 4.750 120.65 | 4.000 101.60 | 3.250 82.55 | .500 12.70 |
| SWA 32GUU | 2.0000 50.800 | 0 -12 | 2.1250 53.975 | 3.0000 76.200 | 6.000 152.40 | 5.000 127.00 | 4.063 103.19 | .625 15.88 |

| MAJOR DIMENSIONS | | | | | BASIC LOAD RATING | | MASS G | PART NUMBER |
|------------------------|-----------------|---------------------------|---------------------------|--------------|-------------------|-------------------|-----------|-------------|
| INNER CONTACT DIAMETER | | MOUNTING DIMENSION | | | DYNAMIC C N | STATIC Co N | | |
| G INCH/MM | M INCH/MM | B ±.01/±.02 INCH/MM | C ±.01/±.02 INCH/MM | S INCH/MM | | | | |
| .750 19.05 | 1.000 25.40 | 1.312 33.33 | .750 19.05 | .156 4.0 | 206 | 265 | 45 | SWA 4GUU |
| .875 22.23 | 1.125 28.58 | 1.437 36.50 | .875 22.23 | .156 4.0 | 225 | 314 | 62 | SWA 6GUU |
| 1.125 28.58 | 1.375 34.93 | 1.688 42.88 | 1.000 25.40 | .156 4.0 | 510 | 784 | 130 | SWA 8GUU |
| 1.437 36.50 | 1.750 44.45 | 2.125 53.98 | 1.125 28.58 | .188 4.8 | 774 | 1,180 | 240 | SWA 10GUU |
| 1.563 39.69 | 1.875 47.63 | 2.375 60.33 | 1.250 31.75 | .188 4.8 | 862 | 1,370 | 290 | SWA 12GUU |
| 1.938 49.21 | 2.375 60.33 | 2.875 73.03 | 1.750 44.45 | .219 5.6 | 980 | 1,570 | 615 | SWA 16GUU |
| 2.500 63.50 | 3.000 76.20 | 3.500 88.90 | 2.000 50.80 | .219 5.6 | 1,570 | 2,740 | 1,300 | SWA 20GUU |
| 2.875 73.03 | 3.500 88.90 | 4.125 104.78 | 2.500 63.50 | .281 7.2 | 2,160 | 4,020 | 1,900 | SWA 24GUU |
| 3.625 92.08 | 4.500 114.30 | 5.250 133.35 | 3.250 82.55 | .406 10.5 | 3,820 | 7,940 | 3,600 | SWA 32GUU |

SI UNIT 1 N ≈ .225 lbs 1 kg ≈ 2.205 lbs

SWJ TYPE – CLEARANCE ADJUSTABLE BLOCK TYPE (INCH SERIES)

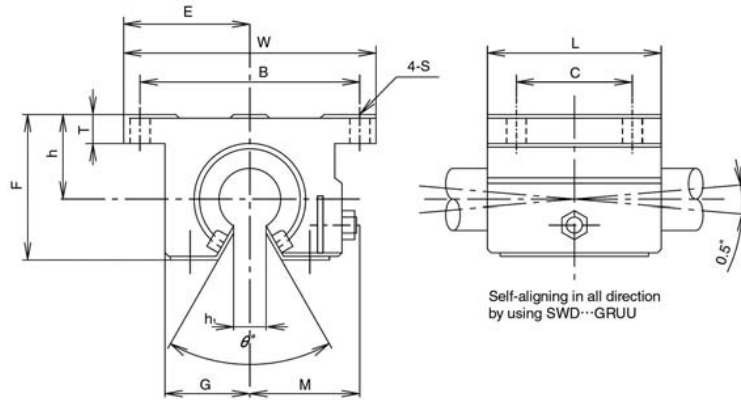


| PART NUMBER | MAJOR DIMENSIONS | | | | | | |
|-------------|--------------------------------|-----------------------------|-----------------------------|-----------------|-----------------|-----------------|---------------|
| | INNER CONTACT DIAMETER INCH/MM | OUTER DIMENSIONS | | | | | |
| | | h ±.001/±.002 INCH/MM | E ±.001/±.002 INCH/MM | W INCH/MM | L INCH/MM | F INCH/MM | T INCH/MM |
| SWJ 8GUU | .5000 12.700 | .6870 17.450 | 1.0000 25.400 | 2.000 50.80 | 1.688 42.86 | 1.250 31.75 | .250 6.35 |
| SWJ 10GUU | .6250 15.875 | .8750 22.225 | 1.2500 31.750 | 2.500 63.50 | 1.938 49.21 | 1.625 41.28 | .281 7.14 |
| SWJ 12GUU | .7500 19.050 | .9370 23.800 | 1.3750 34.925 | 2.750 69.85 | 2.063 52.39 | 1.750 44.45 | .313 7.94 |
| SWJ 16GUU | 1.0000 25.400 | 1.1870 30.150 | 1.6250 41.275 | 3.250 82.55 | 2.813 71.44 | 2.188 55.56 | .375 9.53 |
| SWJ 20GUU | 1.2500 31.750 | 1.5000 38.100 | 2.0000 50.800 | 4.000 101.60 | 3.625 92.08 | 2.813 71.44 | .438 11.11 |
| SWJ 24GUU | 1.5000 38.100 | 1.7500 44.450 | 2.3750 60.325 | 4.750 120.65 | 4.000 101.60 | 3.250 82.55 | .500 12.70 |
| SWJ 32GUU | 2.0000 50.800 | 2.1250 53.975 | 3.0000 76.200 | 6.000 152.40 | 5.000 127.00 | 4.063 103.19 | .625 15.88 |

| MAJOR DIMENSIONS | | | | | BASIC LOAD RATING | | MASS g | PART NUMBER |
|------------------|-----------------|---------------------------|---------------------------|--------------|-------------------|-------------------|-----------|----------------|
| OUTER DIMENSIONS | | MOUNTING DIMENSIONS | | | DYNAMIC C N | STATIC Co N | | |
| G INCH/MM | M INCH/MM | B ±.01/±.02 INCH/MM | C ±.01/±.02 INCH/MM | S INCH/MM | | | | |
| 1.125 28.58 | 1.375 34.93 | 1.688 42.88 | 1.000 25.40 | .156 4.0 | 510 | 784 | 130 | SWJ 8GUU |
| 1.437 36.50 | 1.750 44.45 | 2.125 53.98 | 1.125 28.58 | .188 4.8 | 774 | 1,180 | 240 | SWJ 10GUU |
| 1.563 39.69 | 1.875 47.63 | 2.375 60.33 | 1.250 31.75 | .188 4.8 | 862 | 1,370 | 290 | SWJ 12GUU |
| 1.938 49.21 | 2.375 60.33 | 2.875 73.03 | 1.750 44.45 | .219 5.6 | 980 | 1,570 | 615 | SWJ 16GUU |
| 2.500 63.50 | 3.000 76.20 | 3.500 88.90 | 2.000 50.80 | .219 5.6 | 1,570 | 2,740 | 1,300 | SWJ 20GUU |
| 2.875 73.03 | 3.500 88.90 | 4.125 104.78 | 2.500 63.50 | .281 7.2 | 2,160 | 4,020 | 1,900 | SWJ 24GUU |
| 3.625 92.08 | 4.500 114.30 | 6.000 152.40 | 3.250 82.55 | .406 10.5 | 3,820 | 7,940 | 3,600 | SWJ 32GUU |

SI UNIT 1 N ≈ .225 lbs 1 kg ≈ 2.205 lbs

SWD TYPE – OPEN BLOCK TYPE (INCH SERIES)

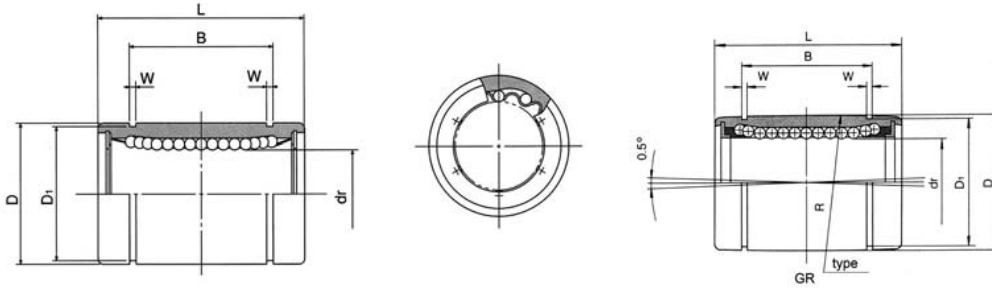


| PART NUMBER | MAJOR DIMENSIONS | | | | | | | |
|-------------|--------------------------------|-----------------------------|-----------------------------|-----------------|-----------------|----------------|---------------|----------------|
| | INNER CONTACT DIAMETER INCH/MM | OUTER DIMENSIONS | | | | | | |
| | | h ±.001/±.002 INCH/MM | E ±.001/±.002 INCH/MM | W INCH/MM | L INCH/MM | F INCH/MM | T INCH/MM | G INCH/MM |
| SWD 8GUU | .5000 12.700 | .6870 17.450 | 1.0000 25.400 | 2.000 50.80 | 1.500 38.10 | 1.100 27.94 | .250 6.35 | .688 17.5 |
| SWD 10GUU | .6250 15.875 | .8750 22.225 | 1.2500 31.750 | 2.500 63.50 | 1.750 44.45 | 1.375 34.93 | .281 7.14 | .875 22.23 |
| SWD 12GUU | .7500 19.050 | .9370 23.800 | 1.3750 34.950 | 2.750 69.85 | 1.875 47.63 | 1.535 39.00 | .315 8.00 | .937 23.80 |
| SWD 16GUU | 1.0000 25.400 | 1.1870 30.150 | 1.6250 41.300 | 3.250 82.55 | 2.625 66.68 | 1.975 50.17 | .375 9.53 | 1.188 30.18 |
| SWD 20GUU | 1.2500 31.750 | 1.5000 38.100 | 2.0000 50.800 | 4.000 101.60 | 3.375 85.73 | 2.485 63.12 | .437 11.10 | 1.500 38.10 |
| SWD 24GUU | 1.5000 38.100 | 1.7500 44.450 | 2.3750 60.325 | 4.750 120.65 | 3.750 95.25 | 2.910 73.90 | .500 12.70 | 1.750 44.45 |
| SWD 32GUU | 2.0000 50.800 | 2.1250 53.975 | 3.0000 76.200 | 6.000 152.40 | 4.750 120.65 | 3.660 92.90 | .625 15.88 | 2.250 57.15 |

| PART NUMBER | MAJOR DIMENSIONS | | | | | | BASIC LOAD RATING | | MASS g |
|-------------|------------------|---------------------------|-----|---------------------------|---------------------------|--------------|-------------------|-----------------|--------|
| | OUTER DIMENSIONS | | | MOUNTING DIMENSIONS | | | DYNAMIC C N | DYNAMIC Co N | |
| | M INCH/MM | h ₁ INCH/MM | θ | B ±.01/±.02 INCH/MM | C ±.01/±.02 INCH/MM | S INCH/MM | | | |
| SWD 8GUU | .98 24.89 | .3425 8.70 | 80° | 1.688 42.88 | 1.000 25.40 | .156 4.0 | 510 | 784 | 98 |
| SWD 10GUU | 1.15 29.21 | .375 9.53 | 80° | 2.125 53.98 | 1.125 28.58 | .188 4.8 | 774 | 1,180 | 185 |
| SWD 12GUU | 1.23 31.24 | .4375 11.11 | 60° | 2.375 60.33 | 1.250 31.75 | .188 4.8 | 862 | 1,370 | 235 |
| SWD 16GUU | 1.48 37.59 | .5625 14.29 | 50° | 2.875 73.03 | 1.750 44.45 | .218 5.6 | 980 | 1,570 | 530 |
| SWD 20GUU | 1.88 47.75 | .625 15.88 | 50° | 3.500 88.90 | 2.000 50.80 | .218 5.6 | 1,570 | 2,740 | 1,080 |
| SWD 24GUU | 2.12 53.85 | .750 19.05 | 50° | 4.125 104.78 | 2.500 63.50 | .281 7.4 | 2,160 | 4,020 | 1,620 |
| SWD 32GUU | 2.70 68.58 | 1.00 25.40 | 50° | 5.250 133.35 | 3.250 82.55 | .406 10.5 | 3,820 | 7,940 | 3,100 |

SI UNIT 1 N = .225 lbs 1 kg ≈ 2.205 lbs

SW TYPE – STANDARD TYPE

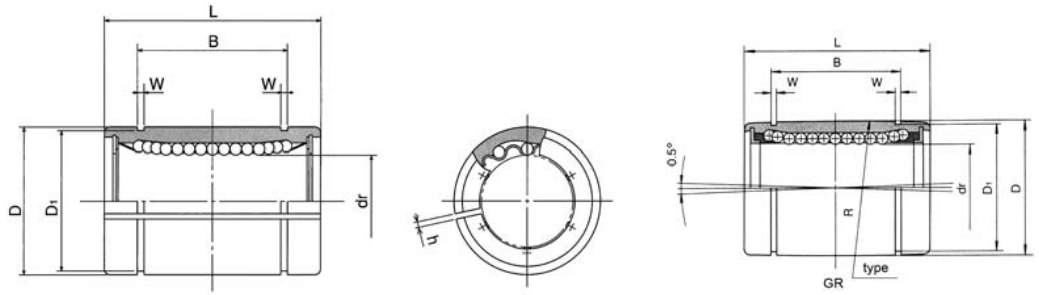


| PART NUMBER | # OF BALL CIRCUITS | MAJOR DIMENSIONS INCH/MM | | | | | | | | |
|-------------|--------------------|--------------------------|------------------------------------|-------------------------------|--------------------|--------------------------|-------------------|--------------------------|------------------|--------------------------|
| | | dr | | D | | L | | B | | tolerance inch / μ m |
| | | INCH MM | tolerance inch / μ m precision | tolerance inch / μ m high | INCH MM | tolerance inch / μ m | INCH MM | tolerance inch / μ m | INCH MM | |
| SW 4 | 3 | .2500 6.350 | 0 -0.0025 | 0 -0.0040 | .5000 12.700 | 0/- .00045 0/-11 | .7500 19.050 | 0 -0.008 | .5110 12.98 | 0 -0.008 |
| SW 6 | 4 | .3750 9.525 | 0 -6 | 0 -9 | .6250 15.875 | 0 -0.00050 | .8750 22.225 | 0 -0.2 | .6358 16.15 | 0 -0.2 |
| SW 8 | 4 | .5000 12.700 | | | .8750 22.225 | | 1.2500 31.750 | | .9625 24.46 | |
| SW 10 | 4 | .625 15.875 | 0 -0.00030 | 0 -0.0040 | 1.1250 28.575 | 0 -0.00065 | 1.5000 38.100 | 0 -0.12 | 1.1039 28.04 | 0 -0.12 |
| SW 12 | 5 | .7500 19.050 | | | 1.2500 31.750 | | 1.6250 41.275 | | 1.1657 29.61 | |
| SW 16 | 6 | 1.0000 25.400 | 0 -0.00035 | 0 -0.0050 | 1.5625 39.688 | 0 -0.00075 | 2.2500 57.150 | 0 -0.3 | 1.7547 44.57 | 0 -0.3 |
| SW 20 | 6 | 1.2500 31.750 | | | 2.0000 50.800 | | 2.6250 66.675 | | 2.0047 50.92 | |
| SW 24 | 6 | 1.5000 38.100 | 0 -0.00040 | 0 -0.0060 | 2.3750 60.325 | 0 -0.00090 | 3.0000 76.200 | 0 -0.16 | 2.4118 61.26 | 0 -0.16 |
| SW 32 | 6 | 2.0000 50.800 | | | 3.0000 76.200 | | 4.0000 101.600 | | 3.1917 81.07 | |
| SW 40 | 6 | 2.5000 63.500 | 0 -9 | 0 -15 | 3.7500 95.250 | 0 -22 | 5.0000 127.000 | 0 -0.4 | 3.9760 100.99 | 0 -0.4 |
| SW 48 | 6 | 3.0000 76.200 | | | 4.50000 114.300 | | 6.0000 152.400 | | 4.726 120.04 | |
| SW 64 | 6 | 4.0000 101.600 | 0/- .00040 0/-10 | 0/- .00080 0/-20 | 6.0000 152.400 | 0/- .00100 0/-25 | 8.0000 203.200 | 0 -0.4 | 6.258 158.95 | 0 -0.4 |

| PART NUMBER | MAJOR DIMENSIONS INCH/MM | | ECCENTRICITY | | MAXIMUM RADIAL CLEARANCE inch / μ m | BASIC LOAD RATING | | MASS g | SHAFT DIAMETER INCH / MM |
|-------------|--------------------------|--------------------------|--------------------------|---------------------|---|-------------------|-------------|--------|--------------------------|
| | W INCH / MM | D ₁ INCH / MM | PRECISION inch / μ m | HIGH inch / μ m | | DYNAMIC C N | STATIC Co N | | |
| SW 4 | .0390 0.992 | .4687 11.906 | .0003 | .0005 | -3 | 206 | 265 | 9.5 | 1/4 6.350 |
| SW 6 | .0390 0.992 | .5880 14.935 | | | | | | | |
| SW 8 | .0459 1.168 | .8209 20.853 | 8 | 12 | -0.0001 | 510 | 784 | 42 | 1/2 12.700 |
| SW 10 | .0559 1.422 | 1.0590 26.899 | | | | | | | |
| SW 12 | .0559 1.422 | 1.1760 29.870 | .0004 | .0006 | -0.0002 | 862 | 1,370 | 104 | 3/4 19.050 |
| SW 16 | .0679 1.727 | 1.4687 37.306 | | | | | | | |
| SW 20 | .0679 1.272 | 1.8859 47.904 | .0005 | .0008 | -0.0003 | 1,570 | 2,740 | 465 | 1-1/4 31.750 |
| SW 24 | 0.859 2.184 | 2.2389 56.870 | | | | | | | |
| SW 32 | .1029 2.616 | 2.8379 72.085 | .0007 | .0010 | -0.0005 | 3,820 | 7,940 | 1,310 | 2 50.800 |
| SW 40 | .1200 3.048 | 3.5519 90.220 | | | | | | | |
| SW 48 | .1200 3.048 | 4.3100 109.474 | 17 | 25 | -0.0008 | 7,350 | 16,000 | 4,380 | 3 76.200 |
| SW 64 | .1389 3.530 | 5.745 145.923 | | | | | | | |

1 N \approx .225 lbs 1 kg \approx 2.205 lbs

SW-AJ TYPE – CLEARANCE ADJUSTABLE TYPE

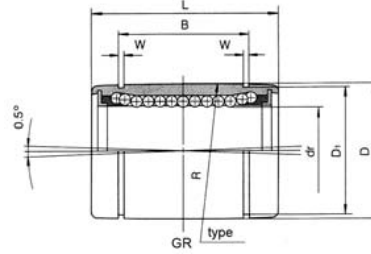
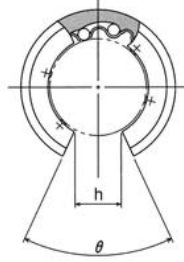
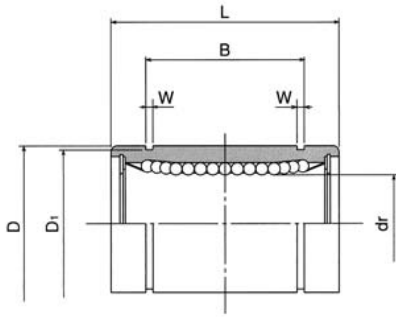


| PART NUMBER | # OF BALL CIRCUITS | MAJOR DIMENSIONS INCH/MM | | | | | | | |
|-------------|--------------------|--------------------------|--------------------------|--------------------|--------------------------|-------------------|--------------------------|------------------|--------------------------|
| | | dr | | D | | L | | B | |
| | | INCH/MM | tolerance inch / μ m | INCH/MM | tolerance inch / μ m | INCH/MM | tolerance inch / μ m | INCH/MM | tolerance inch / μ m |
| SW 8-A-J | 4 | 5.000 12.700 | 0 -0.00040 | .8750 22.225 | 0 -0.00050 | 1.2500 31.750 | 0 -0.2 | .9625 24.46 | 0 -0.2 |
| SW 10-A-J | 4 | .625 15.875 | 0 -9 | 1.1250 28.575 | 0 -13 | 1.5000 38.100 | | 1.1039 28.04 | |
| SW 12-A-J | 5 | .7500 19.050 | 0 -0.00040 | 1.2500 31.750 | 0 -0.00065 | 1.6250 41.275 | 0 -0.12 | 1.1657 29.61 | 0 -0.12 |
| SW16-A-J | 6 | 1.0000 25.400 | 0 -10 | 1.5625 39.688 | 0 -16 | 2.2500 57.150 | | 1.7547 44.57 | |
| SW 20-A-J | 6 | 1.2500 31.750 | 0 -0.00050 | 2.0000 50.800 | 0 -0.00075 | 2.6250 66.675 | 0 -0.3 | 2.0047 50.92 | 0 -0.12 |
| SW 24-A-J | 6 | 1.5000 38.100 | 0 -12 | 2.3750 60.325 | 0 -19 | 3.0000 76.200 | | 2.4118 61.26 | |
| SW 32-A-J | 6 | 2.0000 50.800 | 0 -0.00060 | 3.0000 76.200 | 0 -0.00090 | 4.0000 101.600 | 0 -0.16 | 3.1917 81.07 | 0 -0.3 |
| SW 40-A-J | 6 | 2.5000 63.500 | | 3.7500 95.250 | | 5.0000 127.000 | | 3.9760 100.99 | |
| SW 48-A-J | 6 | 3.0000 76.200 | 0 -15 | 4.50000 114.300 | 0 -22 | 6.0000 152.400 | 0 -0.16 | 4.726 120.04 | 0 -0.16 |
| SW 64-A-J | 6 | 4.0000 101.600 | 0/ -0.00080 0/ -20 | 6.0000 152.400 | 0/ -0.00100 0/ -25 | 8.0000 203.200 | 0 -0.4 | 6.258 158.95 | 0 -0.4 |

| PART NUMBER | MAJOR DIMENSIONS INCH/MM | | | ECCENTRICITY inch / μ m | MAXIMUM RADIAL CLEARANCE inch / μ m | BASIC LOAD RATING | | MASS g | SHAFT DIAMETER INCH / MM |
|-------------|--------------------------|--------------------------|-------------|-----------------------------|---|-------------------|-------------------------|--------|--------------------------|
| | W INCH / MM | D ₁ INCH / MM | h INCH / MM | | | DYNAMIC C N | STATIC C ₀ N | | |
| SW 8-A-J | .0459 1.168 | .8209 20.853 | .06 1.5 | .0005 | -0.001 | 510 | 748 | 41 | 1/2 12.700 |
| SW 10-A-J | .0559 1.422 | 1.0590 26.899 | .06 1.5 | | | 12 | -4 | 774 | 1,180 |
| SW 12-A-J | .0559 1.422 | 1.1760 29.870 | .06 1.5 | .0006 | -0.0002 | 862 | 1,370 | 102 | 3/4 19.050 |
| SW16-A-J | .0679 1.727 | 1.4687 37.306 | .06 1.5 | | | 15 | -6 | 980 | 1,570 |
| SW 20-A-J | .0679 1.727 | 1.8859 47.904 | .10 2.5 | .0008 | -0.0003 | 1,570 | 2,740 | 455 | 1-1/4 31.750 |
| SW 24-A-J | 0.859 2.184 | 2.2389 56.870 | .12 3 | | | 20 | -8 | 2,180 | 4,020 |
| SW 32-A-J | .1029 2.616 | 2.8379 72.085 | .12 3 | .0010 | -0.0005 | 3,820 | 7,940 | 1,290 | 2 50.800 |
| SW 40-A-J | .1200 3.048 | 3.5519 90.220 | .12 3 | | | 25 | -13 | 4,700 | 10,000 |
| SW 48-A-J | .1200 3.048 | 4.3100 109.474 | .12 3 | .0012 | -0.0008 | 7,350 | 16,000 | 4,350 | 3 76.200 |
| SW 64-A-J | .1389 3.530 | 5.745 145.923 | .12 3 | | | 30 | -20 | 14,100 | 34,800 |

1 N \approx .225 lbs 1 kg \approx 2.205 lbs

SW-OP TYPE – OPEN TYPE



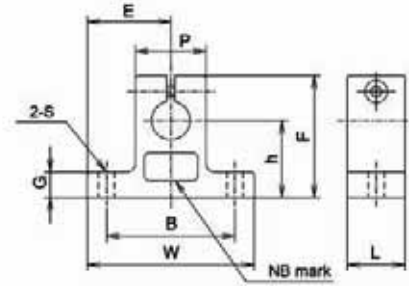
| PART NUMBER | # OF BALL CIRCUITS | MAJOR DIMENSIONS INCH/MM | | | | | | | |
|-------------|--------------------|--------------------------|---------------------|-------------------|---------------------|-------------------|---------------------|------------------|---------------------|
| | | dr | | D | | L | | B | |
| | | INCH/MM | tolerance inch / μm | INCH/MM | tolerance inch / μm | INCH/MM | tolerance inch / μm | INCH/MM | tolerance inch / μm |
| SW 8-OP | 3 | .5000 12.700 | 0 -0.00040 | .8750 22.225 | 0 -0.00050 | 1.2500 31.750 | 0 -0.008 | .9625 24.46 | 0 -0.008 |
| SW 10-OP | 3 | .625 15.875 | 0 -9 | 1.1250 28.575 | 0 -13 | 1.500 38.100 | 0 -0.2 | 1.1039 28.04 | 0 -0.2 |
| SW 12-OP | 4 | .7500 19.050 | 0 -0.00010 | 1.2500 31.750 | 0 -0.00065 | 1.6250 41.275 | 0 -0.2 | 1.1657 29.61 | 0 -0.2 |
| SW16-OP | 5 | 1.0000 25.400 | 0 -10 | 1.5625 39.688 | 0 -16 | 2.2500 57.150 | 0 -0.2 | 1.7547 44.57 | 0 -0.2 |
| SW 20-OP | 5 | 1.2500 31.750 | 0 -0.00050 | 2.0000 50.800 | 0 -0.00075 | 2.6250 66.675 | 0 -0.12 | 2.0047 50.92 | 0 -0.12 |
| SW 24-OP | 5 | 1.5000 38.100 | 0 -12 | 2.3750 60.325 | 0 -19 | 3.0000 76.200 | 0 -0.3 | 2.4118 61.26 | 0 -0.3 |
| SW 32-OP | 5 | 2.0000 50.800 | 0 -0.00060 | 3.0000 76.200 | 0 -0.00090 | 4.0000 101.600 | 0 -0.3 | 3.1917 81.07 | 0 -0.3 |
| SW 40-OP | 5 | 2.5000 63.500 | 0 -0.00060 | 3.7500 95.250 | 0 -22 | 5.0000 127.000 | 0 -0.16 | 3.9760 100.99 | 0 -0.16 |
| SW 48-OP | 5 | 3.0000 76.200 | 0 -15 | 4.5000 114.300 | 0 -22 | 6.0000 152.400 | 0 -0.16 | 4.726 120.04 | 0 -0.16 |
| SW 64-OP | 5 | 4.0000 101.600 | 0/-0.00080 0/-20 | 6.0000 152.400 | 0/-0.00100 0/-25 | 8.0000 203.200 | 0 -0.4 | 6.258 158.95 | 0 -0.4 |

| PART NUMBER | MAJOR DIMENSIONS INCH/MM | | | | ECCENTRICITY inch / μm | MAXIMUM RADIAL CLEARANCE inch / μm | BASIC LOAD RATING | | MASS g | SHAFT DIAMETER INCH/MM |
|-------------|--------------------------|------------------------|------------------|-----|------------------------|------------------------------------|-------------------|-------------|--------|------------------------|
| | W INCH/MM | D ₁ INCH/MM | h INCH/MM | θ | | | DYNAMIC C N | STATIC Co N | | |
| SW 8-OP | .0459 1.168 | .8209 20.853 | .34 7.9375 | 80° | .0005 12 | -0.001 -4 | 510 | 784 | 32 | 1/2 12.700 |
| SW 10-OP | .0559 1.422 | 1.0590 26.899 | .375 9.5250 | 80° | | | 774 | 1,180 | 64 | 5/8 15.875 |
| SW 12-OP | .0559 1.422 | 1.1760 29.870 | .4375 11.1125 | 60° | .0006 15 | -0.002 -6 | 862 | 1,370 | 86 | 3/4 19.050 |
| SW16-OP | .0679 1.727 | 1.4687 37.306 | .5625 14.2875 | 50° | | | 980 | 1,570 | 190 | 1 25.400 |
| SW 20-OP | .0679 1.727 | 1.8859 47.904 | .625 15.875 | 50° | .0008 20 | -0.003 -8 | 1,570 | 2,740 | 390 | 1-1/4 31.750 |
| SW 24-OP | 0.859 2.184 | 2.2389 56.870 | .75 19.05 | 50° | | | 2,180 | 4,020 | 610 | 1-1/2 38.100 |
| SW 32-OP | .1029 2.616 | 2.8379 72.085 | 1.0 25.40 | 50° | .0010 25 | -0.005 -13 | 3,820 | 7,940 | 1,120 | 2 50.800 |
| SW 40-OP | .1200 3.048 | 3.5519 90.220 | 1.25 31.75 | 50° | | | 4,700 | 10,000 | 2,230 | 2-1/2 63.500 |
| SW 48-OP | .1200 3.048 | 4.3100 109.474 | 1.5 38.10 | 50° | .0012 30 | -0.008 -20 | 7,350 | 16,000 | 3,750 | 3 76.200 |
| SW 64-OP | .1389 3.530 | 5.745 145.923 | 2.0 50.8 | 50° | | | 14,100 | 34,800 | 8,740 | 4 101.60 |

1 N ≈ .225 lbs 1 kg ≈ 2.205 lbs

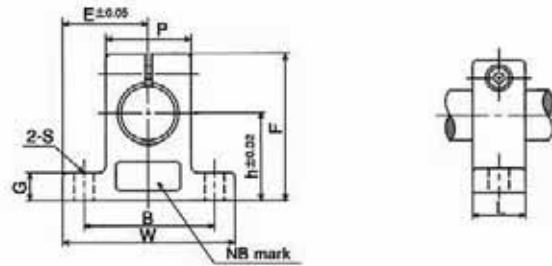
SHAFT END SUPPORTS

INCH SHAFT END SUPPORTS – WH-A TYPE



| MAJOR DIMENSIONS INCH/MM | | | | | | | | | | | | |
|--------------------------|------------------------|------------------|------------------|-----------------|----------------|-----------------|---------------|----------------|-----------------|--------------|------|--------|
| PART NUMBER | SHAFT DIAMETER INCH/MM | h ± .001 ± 0.02 | E ± .001 ± 0.02 | W | L | F | G | P | B ± .01 ± 0.2 | S | BOLT | MASS g |
| WH 4A | .2500 6.350 | .6875 17.463 | .7500 19.050 | 1.500 38.10 | .500 12.70 | 1.063 27.00 | .250 6.35 | .500 12.70 | 1.125 28.58 | .156 4.0 | #6 | 15 |
| WH 6A | .3750 9.525 | .7500 19.050 | .8125 20.637 | 1.625 41.28 | .563 14.30 | 1.187 30.16 | .250 6.35 | .688 17.46 | 1.250 31.75 | .156 4.0 | #6 | 21 |
| WH 8A | .5000 12.700 | 1.0000 25.400 | 1.0000 25.400 | 2.000 50.80 | .625 15.88 | 1.625 41.28 | .250 6.35 | .875 22.23 | 1.500 38.10 | .188 4.8 | #8 | 35 |
| WH 10A | .6250 15.875 | 1.0000 25.400 | 1.2500 31.750 | 2.500 63.50 | .688 17.46 | 1.750 44.45 | .313 7.94 | 1.000 25.40 | 1.875 47.63 | .218 5.6 | #10 | 52 |
| WH 12A | .7500 19.050 | 1.2500 31.750 | 1.2500 31.750 | 2.500 63.50 | .750 19.05 | 2.063 52.40 | .313 7.94 | 1.250 31.75 | 2.000 50.80 | .218 5.6 | #10 | 74 |
| WH 16A | 1.0000 25.400 | 1.5000 38.100 | 1.5315 38.900 | 3.063 77.80 | 1.000 25.40 | 2.500 63.50 | .375 9.53 | 1.500 38.10 | 2.500 63.50 | .281 7.2 | 1/4 | 136 |
| WH 20A | 1.2500 31.750 | 1.7500 44.450 | 1.8750 47.625 | 3.750 95.25 | 1.125 28.58 | 3.000 76.20 | .438 11.14 | 2.000 50.80 | 3.000 76.20 | .346 8.8 | 5/16 | 254 |
| WH 24A | 1.5000 38.100 | 2.0000 50.800 | 2.1875 55.550 | 4.375 111.13 | 1.250 31.75 | 3.437 87.30 | .500 12.70 | 2.250 57.15 | 3.500 88.90 | .346 8.8 | 5/16 | 340 |
| WH 32A | 2.0000 50.800 | 2.5000 63.500 | 2.7500 69.850 | 5.500 139.70 | 1.500 38.10 | 4.375 111.13 | .625 15.88 | 3.000 76.20 | 4.500 114.30 | .406 10.5 | 3/8 | 670 |

METRIC SHAFT END SUPPORTS – SH-A TYPE



| MAJOR DIMENSIONS INCH/MM | | | | | | | | | | | | |
|--------------------------|-------------------|------|------|------|------|------|------|-------|------|------------------|------------------------------------|--------|
| PART NUMBER | SHAFT DIAMETER MM | h MM | E MM | W MM | L MM | F MM | G MM | 6P MM | B MM | S (BOLT SIZE) MM | M ⁴ ADJUSTING BOLT SIZE | MASS g |
| SH 8A | 8 | 20 | 21 | 42 | 14 | 32.8 | 6 | 18 | 32 | 5.5 (M5) | M 4 | 24 |
| SH10A | 10 | 20 | 21 | 42 | 14 | 32.8 | 6 | 18 | 32 | 5.5 (M5) | M 4 | 24 |
| SH12A | 12 | 23 | 21 | 42 | 14 | 37.5 | 6 | 20 | 32 | 5.5 (M5) | M 4 | 30 |
| SH13A | 13 | 23 | 21 | 42 | 14 | 37.5 | 6 | 20 | 32 | 5.5 (M5) | M 4 | 30 |
| SH16A | 16 | 27 | 24 | 48 | 16 | 44 | 8 | 25 | 38 | 5.5 (M5) | M 4 | 40 |
| SH20A | 20 | 31 | 30 | 60 | 20 | 51 | 10 | 30 | 45 | 6.6 (M6) | M 5 | 70 |
| SH25A | 25 | 35 | 35 | 70 | 24 | 60 | 12 | 38 | 56 | 6.6 (M6) | M 6 | 130 |
| SH30A | 30 | 42 | 42 | 84 | 28 | 70 | 12 | 44 | 64 | 9 (M8) | M 6 | 180 |
| SH35A | 35 | 50 | 49 | 98 | 32 | 82 | 15 | 50 | 74 | 11 (M10) | M 8 | 270 |
| SH40A | 40 | 60 | 57 | 114 | 36 | 96 | 15 | 60 | 90 | 11 (M10) | M 8 | 420 |
| SH50A | 50 | 70 | 63 | 126 | 40 | 120 | 18 | 74 | 100 | 14 (M12) | M 12 | 750 |
| SH60A | 60 | 80 | 74 | 148 | 45 | 136 | 18 | 90 | 120 | 14 (M12) | M 12 | 1,100 |



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Technico, Inc. is an established Sales and Distribution Organization, offering motion control products and services required for industrial automation applications. Our company offers a complete sales and support staff to assist customers with all of their motion control needs. Our primary sales efforts target mechanical and electrical design engineers, as well as purchasing and maintenance personnel.

Incorporated in 1986, our staff consists of Outside Sales, Engineering Services and Inside Sales specialists in motion control products. Technico also has warehouse and machine shop associates who provide inventory, shipping, receiving, assembly and machining services on site. Technico owns and occupies a 10,000 sq. ft. building, 8,000 of which is warehouse and machine shop space.

We specialize in offering a broad range of motion control products to OEMs in a wide variety of industries. Primary industrial applications include machine tool, metalworking, automotive, automation, transfer equipment, glass, robotics, tire and rubber, medical, injection molding, pick and place, press, steel mill equipment, packaging, and special machinery, among others.

We also have an established presence with end user accounts, including automotive assembly plants, steel mills, stamping facilities, light and lamp plants, and a host of other large industrial users.

Please feel free to contact a member of our sales staff with any questions or comments or to learn more about the motion control products we supply.

We look forward to doing business with you!

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THK offers the world's most complete line of Linear Motion Systems and products for your Motion Control and Automation needs. These systems include Linear Motion Slides, Ball Screws, Ball Splines, Linear Actuators and Stages, as well as other linear motion products.



Yaskawa is the world's largest manufacturer of Servo Drives, Servomotors, Amplifiers and related products for Motion Control applications. Yaskawa has a Worldwide reputation for the most reliable, most technically advanced and longest-lasting products



eShaft Case 60 is engineered round linear shafting, manufactured to extremely close industry tolerances on diameter, straightness, and roundness. Designed for use in all Motion Control applications and engineered to exacting standards.



Technico Design and Machine includes Machining Services, Application Engineering, and custom Mechanical and Electro-Mechanical Motion Control solutions to support our customers in the Motion Control and Automation Industries.



EJM Ballscrews specializes in the manufacture and repair of ground ball screws to customer specifications. EJM Ballscrews provides engineering services, does conversions of acme and roller screws, and provides 24-hour emergency ball screw repair service in North America.



Nook manufactures Ball Screw Assemblies, Acme Screw Assemblies, Planetary Roller Screws, Worm Gear Screw Jacks, Electrical Cylinder Actuators, Linear Bearings, Linear Shafting, Slide Systems and End Bearing Supports.



LinTech manufactures standard and custom positioning components and systems for the Motion Control and Automation industry.



NB Corp. of America offers a complete line of low cost linear ball bearing and slide products for Motion Control applications: inch and metric ball bearings, round shafting, and other slide components for automation applications.



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Heidenhain develops and manufactures linear encoders, angular encoders, rotary encoders, digital readouts, and numerical controls. Heidenhain delivers its products to manufacturers of machine tools and manufacturers of Automation and Motion Control machines and systems.



Hoerbiger offers technologically advanced system solutions and components including electric actuators and drives for Automation and Motion Control applications.



Nabell USA Corporation is a manufacturer of bellows and protective covers for a variety of applications, including medical equipment, machine tools (ball screw, linear way, linear guide, telescopic waycover, laser, water jet), precision instruments, camera & optical, clean room applications, and materials handling .