

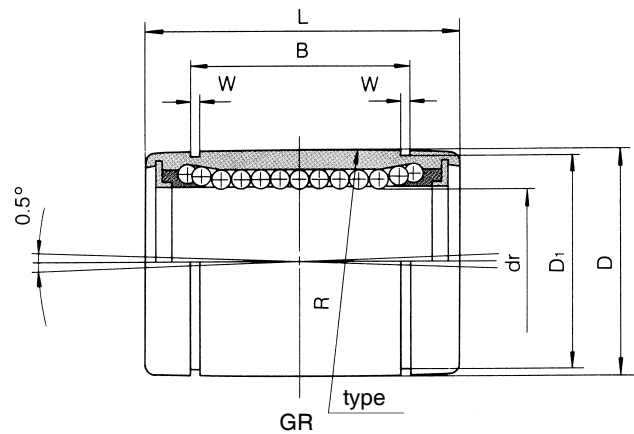
SW TYPE

– Standard Type –

This type is an inch dimension series mainly used in the U.S.

| | | | | | | | |
|------------------------|---|-------|-------------------|-----|------------------|----|---------------------|
| part number structure | | | | | | | |
| example | SWS 16 G R UU - P | | | | | | |
| specification | <table border="1"> <tr> <td>SW</td> <td>standard</td> </tr> <tr> <td>SWS</td> <td>anticorrosion</td> </tr> </table> | SW | standard | SWS | anticorrosion | | |
| SW | standard | | | | | | |
| SWS | anticorrosion | | | | | | |
| inner contact diameter | | | | | | | |
| retainer material | <table border="1"> <tr> <td>blank</td> <td>steel</td> </tr> <tr> <td>G</td> <td>resin</td> </tr> </table> | blank | steel | G | resin | | |
| blank | steel | | | | | | |
| G | resin | | | | | | |
| accuracy grade | <table border="1"> <tr> <td>blank</td> <td>high</td> </tr> <tr> <td>P</td> <td>precision</td> </tr> </table> | blank | high | P | precision | | |
| blank | high | | | | | | |
| P | precision | | | | | | |
| seal | <table border="1"> <tr> <td>blank</td> <td>without seal</td> </tr> <tr> <td>U</td> <td>seal on one side</td> </tr> <tr> <td>UU</td> <td>seals on both sides</td> </tr> </table> | blank | without seal | U | seal on one side | UU | seals on both sides |
| blank | without seal | | | | | | |
| U | seal on one side | | | | | | |
| UU | seals on both sides | | | | | | |
| self aligning | <table border="1"> <tr> <td>blank</td> <td>non self aligning</td> </tr> <tr> <td>R</td> <td>self aligning</td> </tr> </table> | blank | non self aligning | R | self aligning | | |
| blank | non self aligning | | | | | | |
| R | self aligning | | | | | | |

*Seal is not provided for SW 2 and 3 sizes.



| part number | | | | number of ball circuits | dr | | D | | |
|----------------|----------------|--------------------|----------------|-------------------------|---------|-------------------|---------------------|-------------------|---------------------|
| standard | | anticorrosion | | | inch mm | tolerance inch/μm | | inch mm | tolerance inch/μm |
| steel retainer | resin retainer | stainless retainer | resin retainer | | | precision | high | | |
| – | – | – | SWS 2 | SWS 2G | 4 | .1250 3.175 | 0 –.00035 | .3125 7.938 | 0 –.00040 |
| – | – | – | SWS 3 | SWS 3G | 4 | .1875 4.763 | 0 – 8 | .3750 9.525 | 0 – 9 |
| SW 4 | SW 4G | SW 4GR | SWS 4 | SWS 4G | 3* | .2500 6.350 | 0 –.00025 | .5000 12.700 | 0 –.00045 –11 |
| SW 6 | SW 6G | SW 6GR | SWS 6 | SWS 6G | 4 | .3750 9.525 | 0 – 6 | .6250 15.875 | 0 –.00050 |
| SW 8 | SW 8G | SW 8GR | SWS 8 | SWS 8G | 4 | .5000 12.700 | 0 – 9 | .8750 22.225 | 0 – 13 |
| SW10 | SW10G | SW10GR | SWS10 | SWS10G | 4 | .625 15.875 | 0 – 7 | 1.1250 28.575 | 0 – 16 |
| SW12 | SW12G | SW12GR | SWS12 | SWS12G | 5 | .7500 19.050 | 0 – 10 | 1.2500 31.750 | 0 –.00065 |
| SW16 | SW16G | SW16GR | SWS16 | SWS16G | 6 | 1.0000 25.400 | 0 – 8 | 1.5625 39.688 | 0 – 19 |
| SW20 | SW20G | SW20GR | SWS20 | SWS20G | 6 | 1.2500 31.750 | 0 – 12 | 2.0000 50.800 | 0 –.00075 |
| SW24 | SW24G | SW24GR | SWS24 | SWS24G | 6 | 1.5000 38.100 | 0 – 9 | 2.3750 60.325 | 0 – 22 |
| SW32 | SW32G | SW32GR | SWS32 | SWS32G | 6 | 2.0000 50.800 | 0 – 15 | 3.0000 76.200 | 0 – 25 |
| SW40 | – | – | – | – | 6 | 2.5000 63.500 | 0 –.00040 | 3.7500 95.250 | 0 –.00090 |
| SW48 | – | – | – | – | 6 | 3.0000 76.200 | 0 – 9 | 4.5000 114.300 | 0 –.00100 |
| SW64 | – | – | – | – | 6 | 4.0000 101.600 | 0 –.00040 –10 | 6.0000 152.400 | 0 –.00100 –25 |

* 4 rows for resin retainer type.

SLIDE BUSH

SLIDE GUIDE

BALL SPLINE
ROTARY BALL SPLINE

TOPBALL® PRODUCTS

SLIDE BUSH

SLIDE UNIT

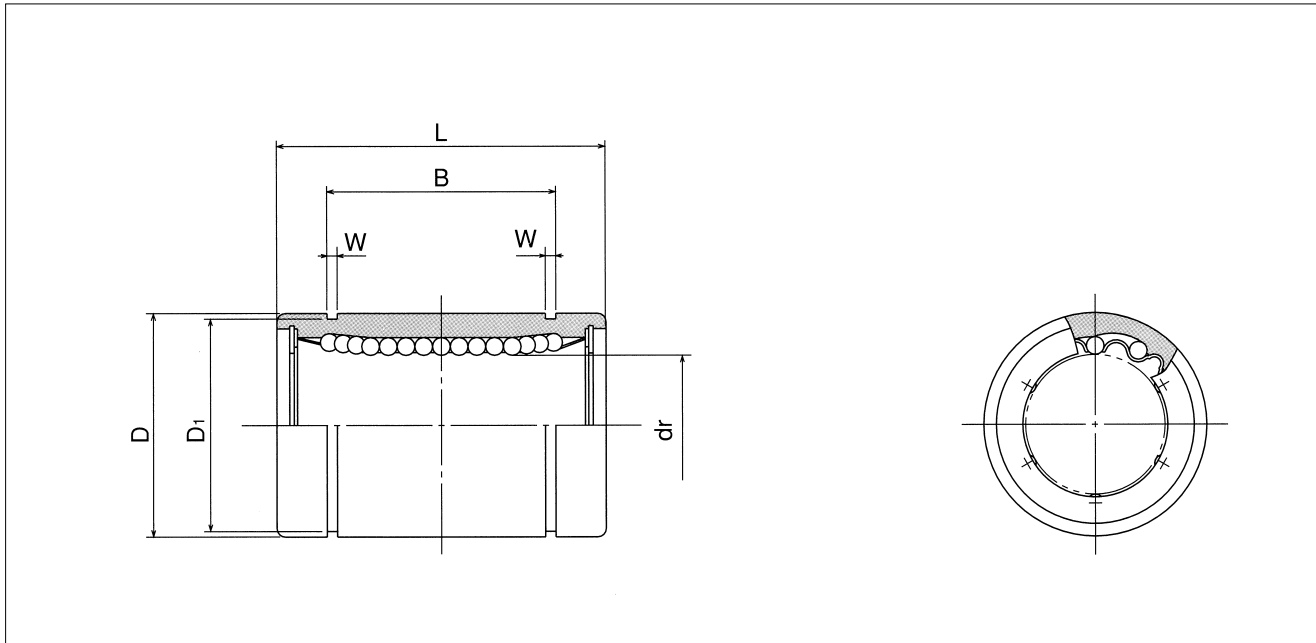
STROKE BUSH
SLIDE ROTARY BUSH

SLIDE SHAFT

SLIDE WAY
SLIDE TABLE
GONIO WAY

ACTUATOR

SLIDE SCREW



| major dimensions | | | | | | eccentricity | | radial clearance (maximum) inch/ μ m | basic load rating | | mass g | shaft diameter inch mm |
|-------------------|----------------------|------------------|----------------------|----------------|-------------------|---------------|---------------|---|-------------------|-------------|-----------|------------------------------|
| inch | L | B | | W | D ₁ | precision | high | | dynamic | static | | |
| mm | tolerance inch/mm | inch | tolerance inch/mm | inch | inch | inch/ μ m | inch/ μ m | C | Co | | | |
| .5000 12.700 | 0 -.008 | .3681 9.35 | 0 -.008 | .0280 0.710 | .2902 7.370 | - | .0003 8 | -.0001 - 2 | 59 | 76 | 2.8 | 1/8 3.175 |
| .5625 14.275 | | .4311 10.95 | | .0280 0.710 | .3520 8.940 | | | | 91 | 110 | 3.6 | 3/16 4.763 |
| .7500 19.050 | | .5110 12.98 | | .0390 0.992 | .4687 11.906 | | | | 206 | 265 | 9.5 | 1/4 6.350 |
| .8750 22.225 | | .6358 16.15 | | .0390 0.992 | .5880 14.935 | | | | 225 | 314 | 15 | 3/8 9.525 |
| 1.2500 31.750 | | .9625 24.46 | | .0459 1.168 | .8209 20.853 | | | | 510 | 784 | 42 | 1/2 12.700 |
| 1.5000 38.100 | | 1.1039 28.04 | | .0559 1.422 | 1.0590 26.899 | | | | 774 | 1,180 | 85 | 5/8 15.875 |
| 1.6250 41.275 | | 1.1657 29.61 | | .0559 1.422 | 1.1760 29.870 | | | | 862 | 1,370 | 104 | 3/4 19.050 |
| 2.2500 57.150 | 0 -.012 | 1.7547 44.57 | 0 -.012 | .0679 1.727 | 1.4687 37.306 | 10 | 15 | - 6 | 980 | 1,570 | 220 | 1 25.400 |
| 2.6250 66.675 | | 2.0047 50.92 | | .0679 1.727 | 1.8859 47.904 | | | | 1,570 | 2,740 | 465 | 1-1/4 31.750 |
| 3.0000 76.200 | | 2.4118 61.26 | | 0.859 2.184 | 2.2389 56.870 | | | | 2,180 | 4,020 | 720 | 1-1/2 38.100 |
| 4.0000 101.600 | 0 -.03 | 3.1917 81.07 | 0 -.03 | .1029 2.616 | 2.8379 72.085 | .0007 | .0010 | - 8 | 3,820 | 7,940 | 1,310 | 2 50.800 |
| 5.0000 127.000 | | 3.9760 100.99 | | .1200 3.048 | 3.5519 90.220 | | | | 4,700 | 10,000 | 2,600 | 2-1/2 63.500 |
| 6.0000 152.400 | 0 -.016 | 4.726 120.04 | 0 -.016 | .1200 3.048 | 4.3100 109.474 | 17 | 25 | - 13 | 7,350 | 16,000 | 4,380 | 3 76.200 |
| 8.0000 203.200 | | 6.258 158.95 | | .1389 3.530 | 5.745 145.923 | | | | 14,100 | 34,800 | 10,200 | 4 101.600 |
| | | | | | | | | | .0008 20 | .0012 30 | - 20 | |

1N \approx 0.225lbs 1kg \approx 2.205lbs

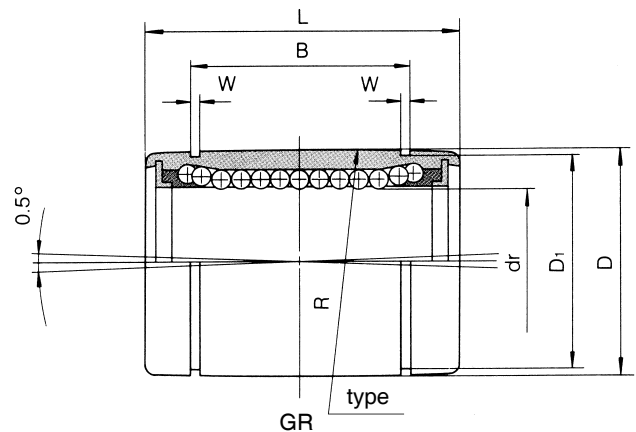
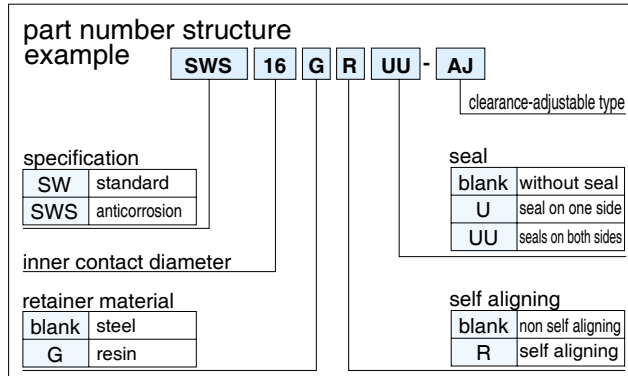
ISOTECH, inc.

2299 Amber Dr. Suite 120, Hatfield PA 19440
Toll Free: 800-314-3332 Fax: 215-631-9148

SW-AJ TYPE

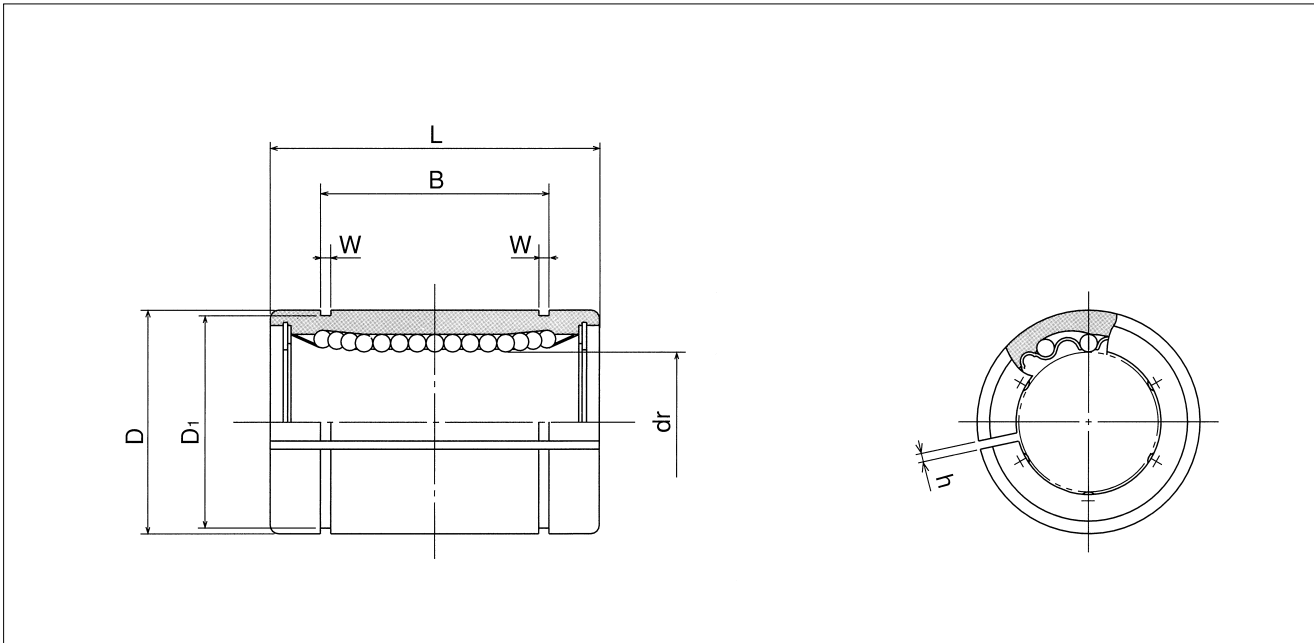
– Clearance Adjustable Type –

This type is an inch dimension series mainly used in the U.S.



| part number | | | | | number of ball circuits | dr | | D | |
|----------------|----------------|--------------------|----------------|-----------|-------------------------|-------------------|----------------------------------|-------------------|----------------------------------|
| standard | | anticorrosion | | inch | | tolerance* | inch | tolerance* | |
| steel retainer | resin retainer | stainless retainer | resin retainer | mm | | inch/ μ m | mm | inch/ μ m | |
| – | SW 4G-AJ | – | – | SWS 4G-AJ | 4 | .2500 6.350 | | .5000 12.700 | $^{0}_{-.00045}$ $^{0}_{-11}$ |
| – | SW 6G-AJ | – | – | SWS 6G-AJ | 4 | .3750 9.525 | $^{0}_{-.00040}$ | .6250 15.875 | $^{0}_{-.00050}$ |
| SW 8-AJ | SW 8G-AJ | SW 8GR-AJ | SWS 8-AJ | SWS 8G-AJ | 4 | 5.000 12.700 | $^{0}_{-9}$ | 8.750 22.225 | $^{0}_{-13}$ |
| SW10-AJ | SW10G-AJ | SW10GR-AJ | SWS10-AJ | SWS10G-AJ | 4 | .625 15.875 | | 1.1250 28.575 | |
| SW12-AJ | SW12G-AJ | SW12GR-AJ | SWS12-AJ | SWS12G-AJ | 5 | .7500 19.050 | $^{0}_{-.00040}$ | 1.2500 31.750 | $^{0}_{-.00065}$ |
| SW16-AJ | SW16G-AJ | SW16GR-AJ | SWS16-AJ | SWS16G-AJ | 6 | 1.0000 25.400 | $^{0}_{-10}$ | 1.5625 39.688 | $^{0}_{-16}$ |
| SW20-AJ | SW20G-AJ | SW20GR-AJ | SWS20-AJ | SWS20G-AJ | 6 | 1.2500 31.750 | $^{0}_{-.00050}$ | 2.0000 50.800 | $^{0}_{-.00075}$ |
| SW24-AJ | SW24G-AJ | SW24GR-AJ | SWS24-AJ | SWS24G-AJ | 6 | 1.5000 38.100 | $^{0}_{-12}$ | 2.3750 60.325 | $^{0}_{-19}$ |
| SW32-AJ | SW32G-AJ | SW32GR-AJ | SWS32-AJ | SWS32G-AJ | 6 | 2.0000 50.800 | | 3.0000 76.200 | $^{0}_{-20}$ |
| SW40-AJ | – | – | – | – | 6 | 2.5000 63.500 | $^{0}_{-.00060}$ | 3.7500 95.250 | $^{0}_{-22}$ |
| SW48-AJ | – | – | – | – | 6 | 3.0000 76.200 | $^{0}_{-15}$ | 4.5000 114.300 | |
| SW64-AJ | – | – | – | – | 6 | 4.0000 101.600 | $^{0}_{-.00080}$ $^{0}_{-20}$ | 6.0000 152.400 | $^{0}_{-.00100}$ $^{0}_{-25}$ |

* Accuracy is measured prior to machining clearance slot.



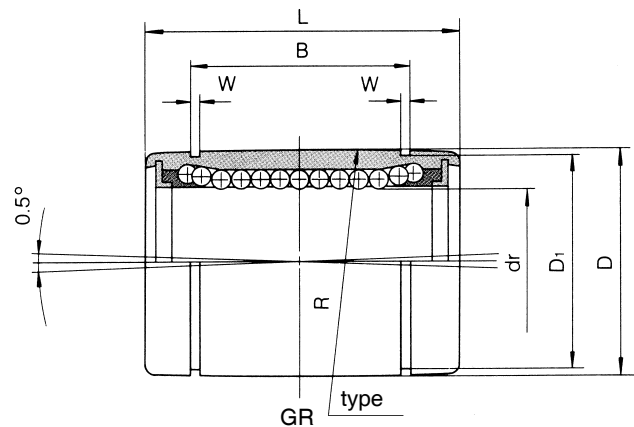
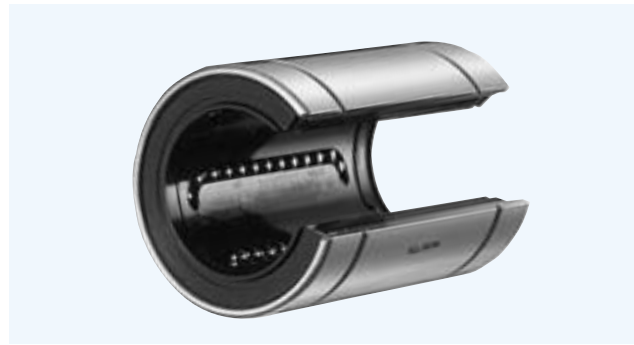
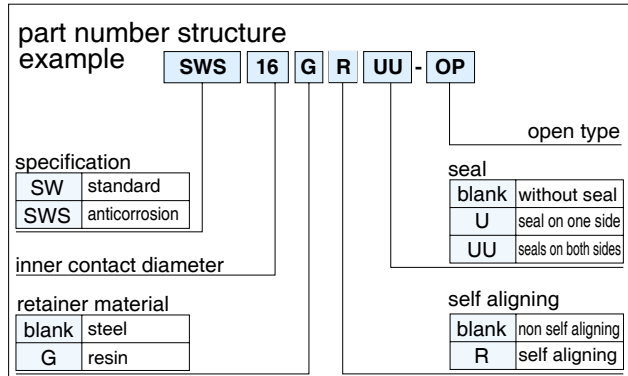
| major dimensions | | | | | | | eccentricity | Radial clearance (Max) | basic load rating | | mass | shaft diameter |
|-------------------|-------------|------------------|-------------|----------------|-------------------|----------------|--------------|------------------------|-------------------|-----------|--------|-----------------|
| inch | L tolerance | inch | B tolerance | inch | W | D ₁ | | | h | dynamic C | | |
| mm | inch/mm | mm | inch/mm | mm | mm | mm | mm | N | N | | mm | |
| .7500 19.050 | 0 | .5100 12.98 | 0 | .0390 0.992 | .4687 11.906 | .04 1 | .0005 | -.0001 | 206 | 265 | 7.5 | 1/4 6.350 |
| .8750 22.225 | | .6358 12.15 | | .0390 0.992 | .5880 14.935 | .04 1 | 12 | -3 | 225 | 314 | 13.5 | 3/8 9.525 |
| 1.2500 31.750 | 0 | .9625 24.46 | 0 | .0459 1.168 | .8209 20.853 | .06 1.5 | .0005 | -.0001 | 510 | 784 | 41 | 1/2 12.700 |
| 1.5000 38.100 | -0.2 | 1.1039 28.04 | -0.2 | .0559 1.422 | 1.0590 26.899 | .06 1.5 | 12 | -4 | 774 | 1,180 | 83 | 5/8 15.875 |
| 1.6250 41.275 | 0 | 1.1657 29.61 | 0 | .0559 1.422 | 1.1760 29.870 | .06 1.5 | .0006 | -.0002 | 862 | 1,370 | 102 | 3/4 19.050 |
| 2.2500 57.150 | | 1.7547 44.57 | | .0679 1.727 | 1.4687 37.306 | .06 1.5 | 15 | -6 | 980 | 1,570 | 218 | 1 25.400 |
| 2.6250 66.675 | 0 | 2.0047 50.92 | 0 | .0679 1.727 | 1.8859 47.904 | .10 2.5 | .0008 | -.0003 | 1,570 | 2,740 | 455 | 1-1/4 31.750 |
| 3.0000 76.200 | -0.12 | 2.4118 61.26 | -0.12 | 0.859 2.184 | 2.2389 56.870 | .12 3 | 20 | -8 | 2,180 | 4,020 | 710 | 1-1/2 38.100 |
| 4.0000 101.600 | 0 | 3.1917 81.07 | 0 | .1029 2.616 | 2.8379 72.085 | .12 3 | .0010 | -.0005 | 3,820 | 7,940 | 1,290 | 2 50.800 |
| 5.0000 127.000 | -0.3 | 3.9760 100.99 | -0.3 | .1200 3.048 | 3.5519 90.220 | .12 3 | | 25 | -13 | 4,700 | 10,000 | 2,560 |
| 6.0000 152.400 | 0 | 4.726 120.04 | 0 | .1200 3.048 | 4.3100 109.474 | .12 3 | .0012 | -.0008 | 7,350 | 16,000 | 4,350 | 3 76.200 |
| 8.0000 203.200 | -0.4 | 6.258 158.95 | -0.4 | .1389 3.530 | 5.745 145.923 | .12 3 | | 30 | -20 | 14,100 | 34,800 | 10,150 |

1N ≅ 0.225lbs 1kg ≅ 2.205lbs

SW-OP TYPE

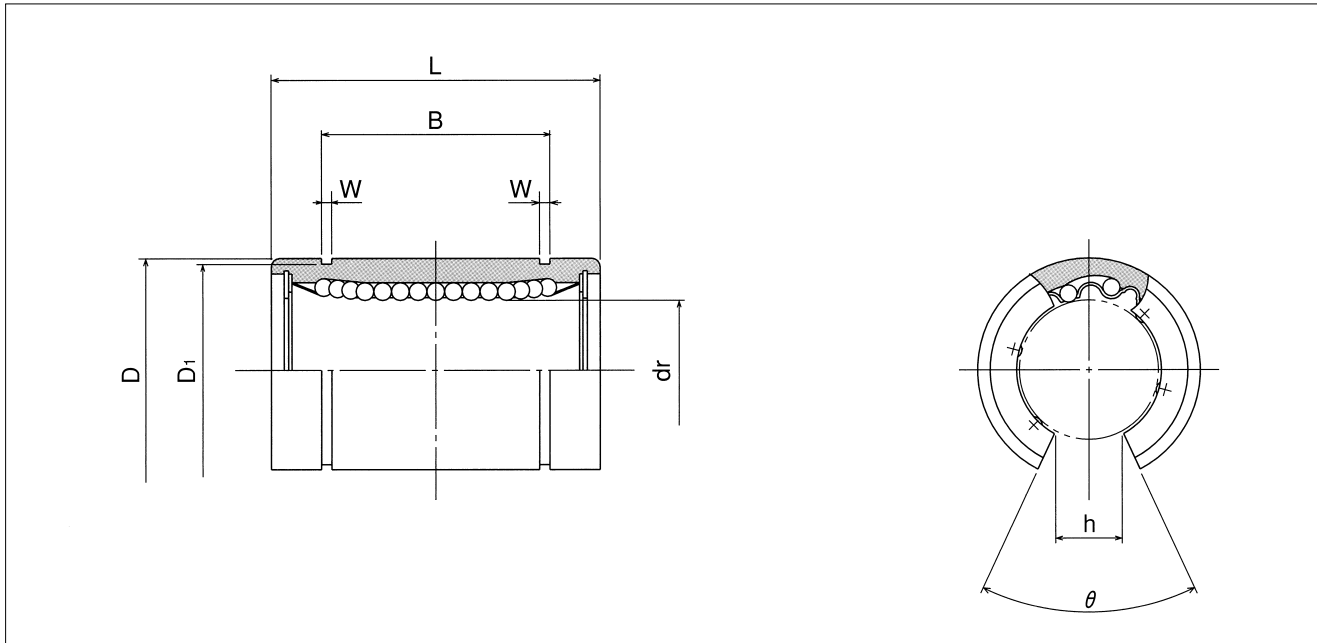
— Open Type —

This type is an inch dimension series mainly used in the U.S.



| part number | | | | | number of ball circuits | dr | | D | |
|----------------|----------------|--------------------|----------------|-----------|-------------------------|-------------------|--------------|--------------------|--------------|
| standard | | anticorrosion | | inch | | tolerance | inch | tolerance | |
| steel retainer | resin retainer | stainless retainer | resin retainer | mm | | inch/ μ m | mm | inch/ μ m | |
| SW 8-OP | SW 8G-OP | SW 8GR-OP | SWS 8-OP | SWS 8G-OP | 3 | .5000 12.700 | 0 -.00040 | .8750 22.225 | 0 -.00050 |
| SW10-OP | SW10G-OP | SW10GR-OP | SWS10-OP | SWS10G-OP | 3 | .625 15.875 | 0 - 9 | 1.1250 28.575 | 0 - 13 |
| SW12-OP | SW12G-OP | SW12GR-OP | SWS12-OP | SWS12G-OP | 4 | .7500 19.050 | 0 -.00040 | 1.2500 31.750 | 0 -.00065 |
| SW16-OP | SW16G-OP | SW16GR-OP | SWS16-OP | SWS16G-OP | 5 | 1.0000 25.400 | 0 -10 | 1.5625 39.688 | 0 - 16 |
| SW20-OP | SW20G-OP | SW20GR-OP | SWS20-OP | SWS20G-OP | 5 | 1.2500 31.750 | 0 -.00050 | 2.0000 50.800 | 0 -.00075 |
| SW24-OP | SW24G-OP | SW24GR-OP | SWS24-OP | SWS24G-OP | 5 | 1.5000 38.100 | 0 -12 | 2.3750 60.325 | 0 - 19 |
| SW32-OP | SW32G-OP | SW32GR-OP | SWS32-OP | SWS32G-OP | 5 | 2.0000 50.800 | 0 -15 | 3.0000 76.200 | 0 - 22 |
| SW40-OP | - | - | - | - | 5 | 2.5000 63.500 | 0 -.00060 | 3.7500 95.250 | 0 - 25 |
| SW48-OP | - | - | - | - | 5 | 3.0000 76.200 | 0 -20 | 4.50000 114.300 | 0 -25 |
| SW64-OP | - | - | - | - | 5 | 4.0000 101.600 | 0 -20 | 6.0000 152.400 | 0 -25 |

* Accuracy is measured prior to machining open slot.



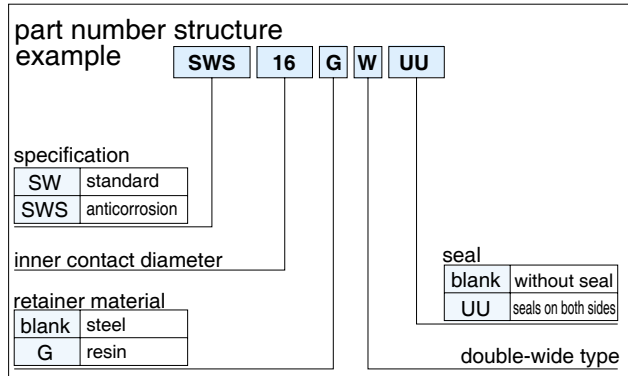
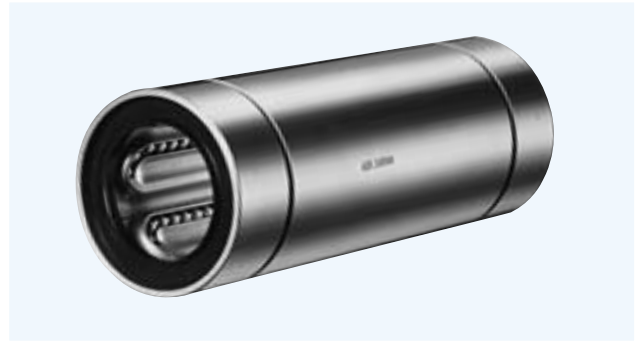
| major dimensions | | | | | | | | eccentricity inch μm | Radial clearance (Max) inch/μm | basic load rating | | mass g | shaft diameter inch mm |
|-------------------|----------------------|------------------|----------------------|----------------|-------------------|------------------|-----|----------------------------|---|-------------------|-------------------------------|-----------|---------------------------------|
| L | | B | | W | D ₁ | h | θ | | | dynamic C N | static C ₀ N | | |
| inch | tolerance inch/mm | inch | tolerance inch/mm | inch | inch | inch | | | | | | | |
| 1.2500 31.750 | 0 | .9625 24.46 | 0 | .0459 1.168 | .8209 20.853 | .34 7.9375 | 80° | .0005 12 | -.0001 -4 | 510 | 784 | 32 | 1/2 12.700 |
| 1.5000 38.100 | -.008 | 1.1039 28.04 | -.008 | .0559 1.422 | 1.0590 26.899 | .375 9.5250 | 80° | | | | | | |
| 1.6250 41.275 | 0 | 1.1657 29.61 | 0 | .0559 1.422 | 1.1760 29.870 | .4375 11.1125 | 60° | .0006 15 | -.0002 -6 | 862 | 1,370 | 86 | 3/4 19.050 |
| 2.2500 57.150 | -.02 | 1.7547 44.57 | -.02 | .0679 1.727 | 1.4687 37.306 | .5625 14.2875 | 50° | | | | | | |
| 2.6250 66.675 | 0 | 2.0047 50.92 | 0 | .0679 1.727 | 1.8859 47.904 | .625 15.875 | 50° | .0008 20 | -.0003 -8 | 1,570 | 2,740 | 390 | 1-1/4 31.750 |
| 3.0000 76.200 | -.012 | 2.4118 61.26 | -.012 | .0859 2.184 | 2.2389 56.870 | .75 19.05 | 50° | | | | | | |
| 4.0000 101.600 | 0 | 3.1917 81.07 | 0 | .1029 2.616 | 2.8379 72.085 | 1.0 25.40 | 50° | .0010 25 | -.0005 -13 | 3,820 | 7,940 | 1,120 | 2 50.800 |
| 5.0000 127.000 | -.03 | 3.9760 100.99 | -.03 | .1200 3.048 | 3.5519 90.220 | 1.25 31.75 | 50° | | | | | | |
| 6.0000 152.400 | 0 | 4.726 120.04 | 0 | .1200 3.048 | 4.3100 109.474 | 1.5 38.10 | 50° | .0012 30 | -.0008 -20 | 7,350 | 16,000 | 3,750 | 3 76.200 |
| 8.0000 203.200 | -.016 | 6.258 158.95 | -.016 | .1389 3.530 | 5.745 145.923 | 2.0 50.8 | 50° | | | | | | |

1N≅0.225lbs 1kg≅2.205lbs

SW-W TYPE

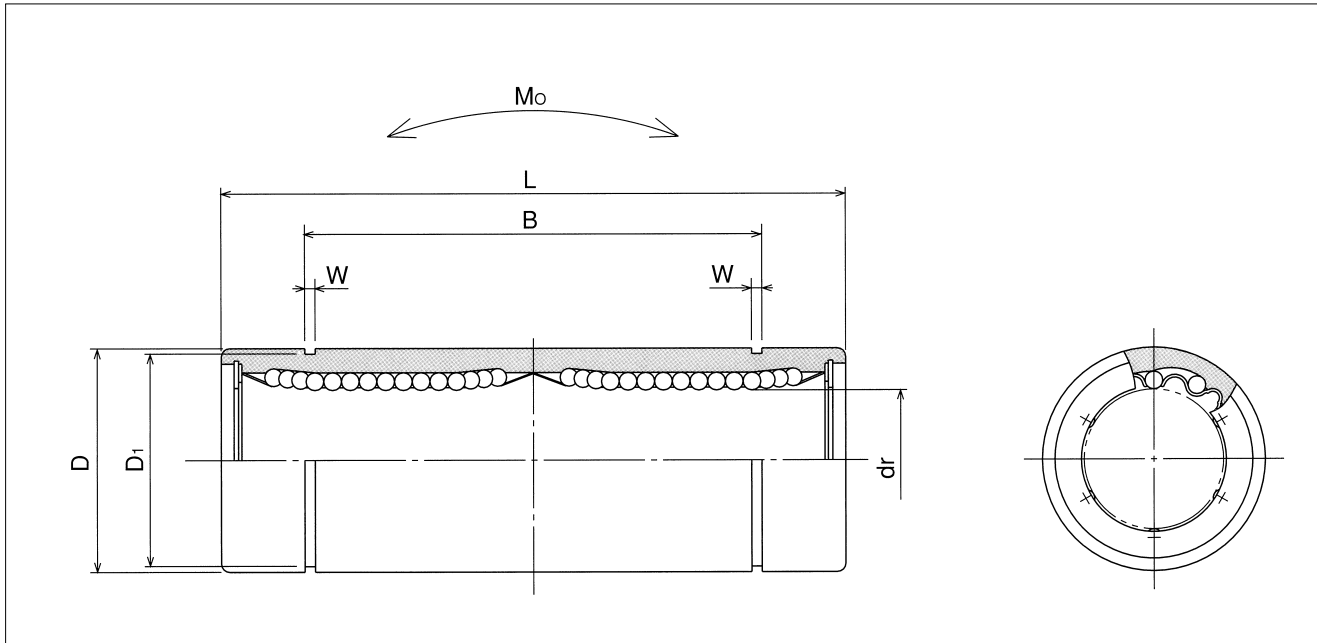
— Double-Wide Type —

This type is an inch dimension series mainly used in the U.S.



| part number | | | | number of ball circuits | dr | | D | |
|----------------|----------------|--------------------|----------------|-------------------------|------------------|-------------------------|------------------|------------------------------|
| standard | | anticorrosion | | | inch mm | tolerance inch/ μ m | inch mm | tolerance inch/ μ m |
| steel retainer | resin retainer | stainless retainer | resin retainer | | | | | |
| SW 4W | SW 4GW | SWS 4W | SWS 4GW | 3* | .2500 6.350 | - .00040 ⁰ | .5000 12.700 | - .00050 ⁰ -13 |
| SW 6W | SW 6GW | SWS 6W | SWS 6GW | 4 | .3750 9.525 | | .6250 15.875 | - .00065 ⁰ -16 |
| SW 8W | SW 8GW | SWS 8W | SWS 8GW | 4 | .5000 12.700 | -10 ⁰ | .8750 22.225 | - .00065 ⁰ -16 |
| SW10W | SW10GW | SWS10W | SWS10GW | 4 | .6250 15.875 | | 1.1250 28.575 | |
| SW12W | SW12GW | SWS12W | SWS12GW | 5 | .7500 19.050 | - .00050 ⁰ | 1.2500 31.750 | - .00075 ⁰ |
| SW16W | SW16GW | SWS16W | SWS16GW | 6 | 1.0000 25.400 | -12 ⁰ | 1.5625 39.688 | -19 ⁰ |
| SW20W | SW20GW | SWS20W | SWS20GW | 6 | 1.2500 31.750 | - .00060 ⁰ | 2.0000 50.800 | - .00090 ⁰ |
| SW24W | SW24GW | SWS24W | SWS24GW | 6 | 1.5000 38.100 | -15 ⁰ | 2.3750 60.325 | -22 ⁰ |
| SW32W | SW32GW | SWS32W | SWS32GW | 6 | 2.0000 50.800 | | 3.0000 76.200 | - .00100 ⁰ -25 |

* 4 rows for resin retainer type.



| major dimensions | | | | | | eccentricity | basic load rating | | allowable static moment | mass | shaft diameter |
|-------------------|------------------|-------------------|------------------|----------------|------------------|--------------|-------------------|--------|-------------------------|-------|-----------------|
| inch | L | B | | W | D_1 | | dynamic | static | | | |
| mm | tolerance | inch | tolerance | inch | inch | C | C_o | M_o | g | inch | |
| mm | inch/mm | mm | inch/mm | mm | mm | N | N | N · m | | mm | |
| 1.3750 34.925 | 0 -0.012 | 1.0220 25.959 | 0 -0.012 | .0390 0.992 | .4687 11.906 | .0006 | 323 | 530 | 2.0 | 17.5 | 1/4 6.350 |
| 1.5938 40.481 | | 1.2716 32.298 | | .0390 0.992 | .5880 14.935 | | 353 | 630 | | | 3/8 9.525 |
| 2.3750 60.325 | | 1.9250 48.895 | | .0459 1.168 | .8209 20.853 | | 813 | 1,570 | | | 1/2 12.700 |
| 2.8125 71.438 | 0 -0.3 | 2.2079 56.080 | 0 -0.3 | .0559 1.422 | 1.0590 26.899 | 15 | 1,230 | 2,350 | 20.0 | 160 | 5/8 15.875 |
| 3.0937 78.581 | 2.3314 59.218 | .0559 1.422 | 1.1760 29.870 | 1,370 | 2,740 | | 3/4 19.050 | | | | |
| 4.2813 108.744 | 0 -0.016 | 3.5094 89.139 | 0 -0.016 | .0679 1.727 | 1.4687 37.306 | 20 | 1,570 | 3,140 | 41.2 | 410 | 1 25.400 |
| 5.0000 127.000 | | 4.0094 101.839 | | .0679 1.727 | 1.8859 47.904 | | 2,500 | 5,490 | | | 1-1/4 31.750 |
| 5.6875 144.463 | | 4.8236 122.519 | | .0859 2.184 | 2.2389 56.870 | | 3,430 | 8,040 | | | 1-1/2 38.100 |
| 7.7500 196.850 | 0 -0.4 | 6.3834 162.138 | 0 -0.4 | .1029 2.616 | 2.8379 72.085 | 25 | 6,080 | 15,900 | 399 | 2,350 | 2 50.800 |
| | | | | | | 30 | | | | | |

1N≐0.225lbs 1N·m≐0.738lb·ft