Super Smart Ball Bushing Bearings

Thomson Super Smart Ball Bushing Bearing products offer:

- Up to six times the load capacity or 216 times the travel life of conventional linear bearings.
- Twice the load capacity or eight times the travel life of industry standard Thomson Super Ball Bushing Bearings.
- Universal self-alignment feature that compensates for misalignment of housing bores and 60 Case® LinearRace® shaft deflection, optimizes load distribution between ball tracks and assures uniform ball loading over the entire length of the bearing plate. Installation time and cost is minimized, while bearing performance and life is maximized.
- Technologically advanced design that allows the bearing to maintain its diametral fit-up when installed in a housing that is slightly out-of-round.
- Up to 400% longer LinearRace shaft life and minimal machine downtime when replacing conventional linear bearings or the standard Super Ball Bushing Bearing.
- RoundRail Advantage combined with universal self-alignment, eliminating the need for derating factors commonly required when using linear guides.
- Coefficient of friction as low as 0.001. This allows the use of smaller, less expensive motors, belts, gears and ball screws, when replacing high friction, plain bearings.
- Closed and open configurations.
- Double-lip integral wipers that keep out dirt while retaining lubrication. Travel life is maximized.

Available in both European and JIS standard dimensions.

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Linear Motion. Optimized.™

Part Number Description and Specification

Super Smart Ball Bushing® Bearings (Closed Type) for End-Supported Applications

SSEM16OPNWW-CR

Type	Description
SSE	Super Smart Ball Bushing bearings European Metric
SSJ	Super Smart Ball Bushing Bearings Japanese Industrial Standard

Size	Nominal Diameter
M16	16mm
M20	20mm
M25	25mm
M30	30mm
M40	40mm

Option	Description
(blank)	Closed Bearing
OPN	Open Bearing

Option	Description
–	No Wipers
W	One Integral Wiper
WW	Two Integral Wipers

Ball Options

Option	Description
CR	Corrosion Resistant
NB	Nylon Balls
NBA	Alternating Nylon Balls

Lube Options

DP	Dry Pack
LL	Lubricated with Thomson Linear Lube

Other Options

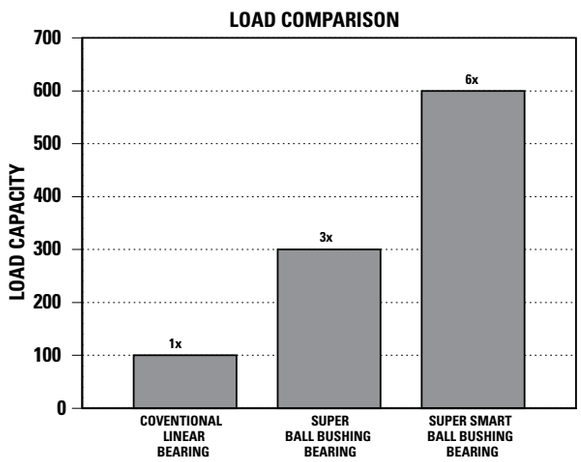
RP	Roll Pack (no box)

Not all options are available in all sizes.
See catalog pages or contact Thomson Customer Support for combination availability.
For additional information on bearing options, see page 267.

The Super Smart Advantage

Advantage: Load Capacity

The Super Smart Ball Bushing Bearing provides twice the load capacity of the industry standard Thomson Super Ball Bushing Bearing and six times the load capacity of conventional linear bearings.

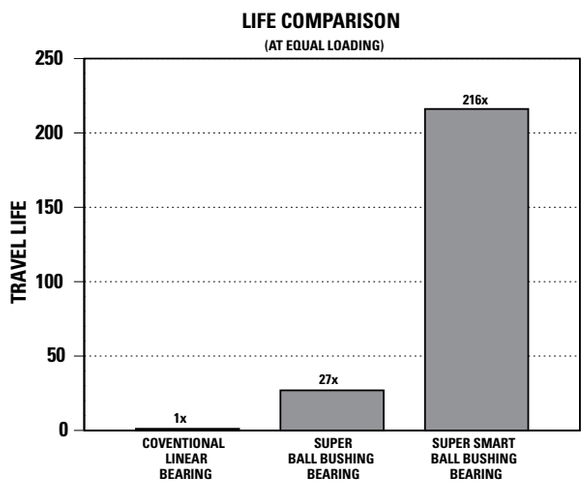


Downsizing

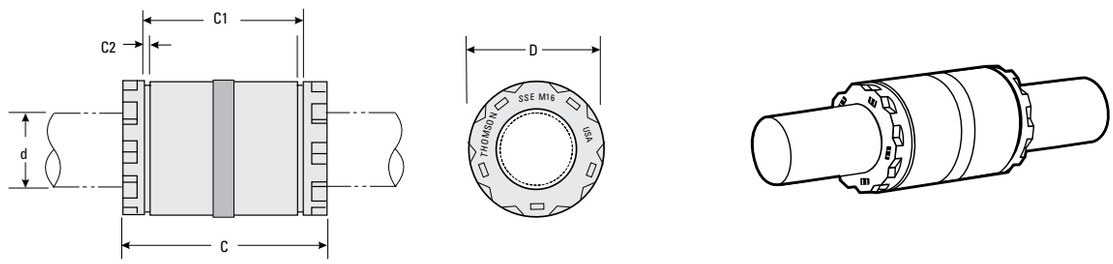
The photograph above shows a conventional Ball Bushing Bearing, Super Ball Bushing Bearing and Super Smart Ball Bushing Bearing, all of which have the same load capacity.

Advantage: Travel Life

The Super Smart Ball Bushing Bearing provides eight times the travel life of the industry standard Thomson Super Ball Bushing Bearing and 216 times the travel life of conventional linear bearings.



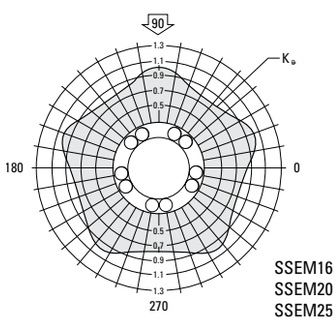
Super Smart Ball Bushing® Bearings
(Closed Type)



Super Smart Ball Bushing Bearings (Closed Type) (Dimensions in mm)

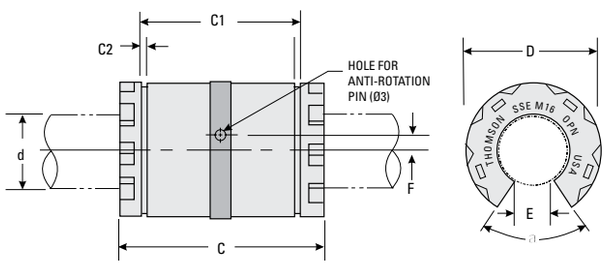
Part Number			d(4)	D	C h14	C1 H13	C2 min.	Number of Ball Tracks	Mass (kg)	Dynamic Load W(1)(3) (N)	Load Limit $W_0^{(2)(3)}$ (N)
Without Integral Wipers	With one Integral Wiper	With two Integral Wipers									
SSEM16	SSEM16W	SSEM16WW	16	26	36	24.6	1.30	10	0.030	2200	2400
SSEM20	SSEM20W	SSEM20WW	20	32	45	31.2	1.60	10	0.066	4000	4400
SSEM25	SSEM25W	SSEM25WW	25	40	58	43.7	1.85	10	0.135	6700	7300
SSEM30	SSEM30W	SSEM30WW	30	47	68	51.7	1.85	10	0.206	8300	9100
SSEM40	SSEM40W	SSEM40WW	40	62	80	60.3	2.15	10	0.392	13700	15000

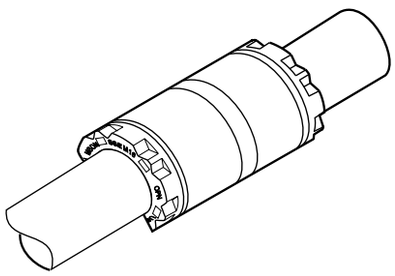
(1) For rated travel life of 100 km. For longer travel lives. reduce load to •(100/L)$^{0.33}$ where L (km) is the required travel life. Do not exceed the Dynamic Load Rating for travel life of less than 100 km.
(2) The Load Limit is the maximum load that may be applied to a bearing/shaft. It is important to analyze the application so that peak and/or shock do not exceed the Load Limit.
(3) The load capacities W and Wq are valid for a resultant load applied at 90° with the ball tracks oriented as shown in the polar graphs below. If the resultant acts along another direction. the appropriate multiplicative correction factor Kq. should be applied to W and Wq respectively. Open type bearings have reduced load capacities when used in pull-off situations.
(4) Internal bearing diameter is affected by the housing bore. see Table 1.
(5) Hole for anti-rotation pin is below centerline.
NOTE: For part number description and specifications, see page 132.
NOTE: External seals and retaining rings are available. See page 172 for specifications.
NOTE: For additional technical information. see the Engineering section beginning on page 256.



SSEM16
SSEM20
SSEM25
SSEM30
SSEM40

Super Smart Ball Bushing Bearings
(Open Type)





Super Smart Ball Bushing Bearings (Open Type) (Dimensions in mm)

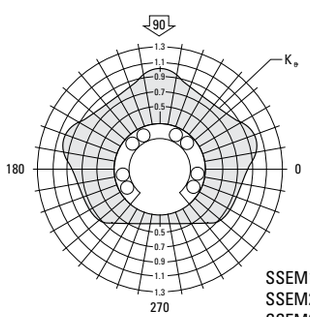
Part Number			d[4]	D	C h14	C1 H13	C2 min.	E	F	Angle α (deg)	Number of Ball Tracks	Mass (kg)	Dynamic Load W[1][3] (N)	Load Limit W_0[2][3] (N)
Without Integral Wipers	With one Integral Wiper	With two Integral Wipers												
SSEM16OPN	SSEM16OPNW	SSEM16OPNWW	16	26	36	24.6	1.30	9.0	0	70	8	0.023	2200	2400
SSEM20OPN	SSEM20OPNW	SSEM20OPNWW	20	32	45	31.2	1.60	10.0	0	50	8	0.054	4000	4400
SSEM25OPN	SSEM25OPNW	SSEM25OPNWW	25	40	58	43.7	1.85	12.5	1.50[5]	60	8	0.107	6700	7300
SSEM30OPN	SSEM30OPNW	SSEM30OPNWW	30	47	68	51.7	1.85	13.7	2.00	55	8	0.163	8300	9100
SSEM40OPN	SSEM40OPNW	SSEM40OPNWW	40	62	80	60.3	2.15	19.0	1.50	54	8	0.315	13700	15000

(1) For rated travel life of 100 km. For longer travel lives, reduce load to •(100/L)$^{0.33}$ where L (km) is the required travel life. Do not exceed the Dynamic Load Rating for travel life of less than 100 km.
(2) The Load Limit is the maximum load that may be applied to a bearing/shaft. It is important to analyze the application so that peak and/or shock do not exceed the Load Limit.
(3) The load capacities W and Wq are valid for a resultant load applied at 90° with the ball tracks oriented as shown in the polar graphs below. If the resultant acts along another direction, the appropriate multiplicative correction factor Kq, should be applied to W and Wq respectively. Open type bearings have reduced load capacities when used in pull-off situations.
(4) Internal bearing diameter is affected by the housing bore, see Table 1.
(5) Hole for anti-rotation pin is below centerline.
NOTE: For part number description and specifications, see page 132.
NOTE: External seals and retaining are available. See page 172 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 256.

Table 1 - Standard Diametral Clearances

Nominal Shaft Diameter d (mm)	Nominal Housing Bore Diameter d (mm)	Diametral Clearance	
		Housing Bore H7 (µm)	Housing Bore H6 (µm)
16	26	+33 +4	+26 +3
20	32	+37 +6	+30 +4
25	40	+37 +6	+30 +4
30	47	+37 +6	+30 +4
40	62	+44 +7	+35 +5

For Super Smart Ball Bushing Bearings mounted in a housing and with LinearRace shafts, h6 tolerance



SSEM16OPN
SSEM20OPN
SSEM25OPN
SSEM30OPN
SSEM40OPN

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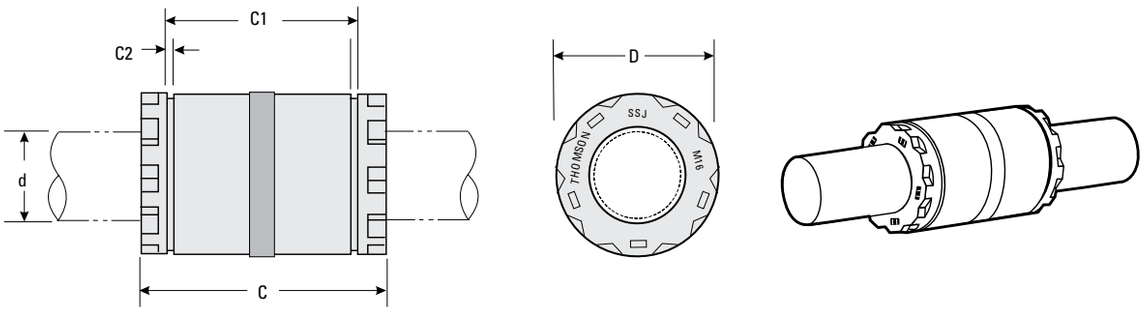
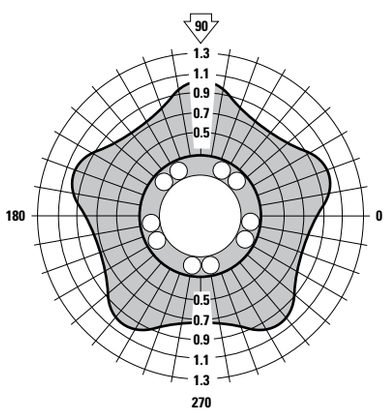
Super Smart Ball Bushing® Bearings - JIS Specifications
(Closed Type)



Designed to be used for new or existing JIS (Japanese Industrial Standard) designs

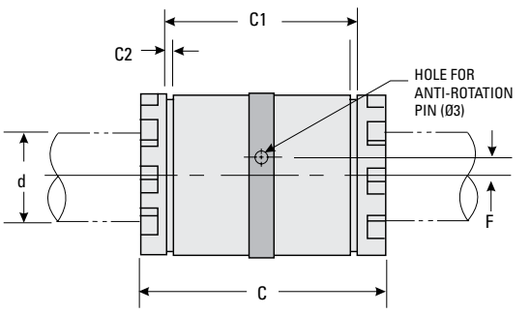
Part Number			Dimensions (mm)					Number of Ball Tracks	Mass (kg)	Dynamic Load W[1][3] (N)	Load Limit W_o [2][3] (N)
Without Integral Wipers	With One Integral Wiper	With Two Integral Wiper	Nominal LinearRace Dia. d	C h14	C1 h13	C2 min.	Nominal Housing Bore Dia. D[2]				
SSJM16	SSJM16W	SSJM16WW	16	37	26.5	1.60	28	10	.030	2200	2400
SSJM20	SSJM20W	SSJM20WW	20	42	30.5	1.60	32	10	.066	4000	4400
SSJM25	SSJM25W	SSJM25WW	25	59	41	1.85	40	10	.133	6700	7300
SSJM30	SSJM30W	SSJM30WW	30	64	44.5	1.85	45	10	.202	8300	9100
SSJM40	SSJM40W	SSJM40WW	40	80	60.5	2.10	60	10	.392	13700	15000

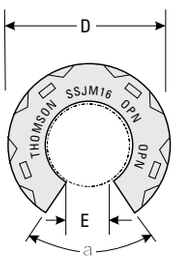
(1) For rated travel life of 100 km. For longer travel lives, reduce load to •$(100/L)^{0.33}$ where L (km) is the required travel life. Do not exceed the Dynamic Load Rating for travel life of less than 100 km.
(2) The Load Limit is the maximum load that may be applied to a bearing/shaft. It is important to analyze the application so that peak and/or shock do not exceed the Load Limit.
(3) The load capacities W and Wq are valid for a resultant load applied at 90° with the ball tracks oriented as shown in the polar graphs below. If the resultant acts along another direction, the appropriate multiplicative correction factor Kq, should be applied to W and Wq respectively. Open type bearings have reduced load capacities when used in pull-off situations.
(4) Refer to Table 1 to find the diametral tolerance between the LinearRace and Super Smart Ball Bushing bearing for bearing installation in housing H7 or J7 tolerance.
NOTE: For part number description and specifications, see page 132.
NOTE: External seals and retaining are available. See page 172 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 256.

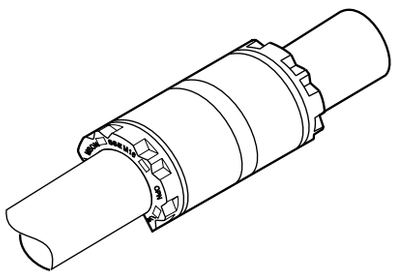


SSJM16
SSJM20
SSJM25
SSJM30
SSJM40

Super Smart Ball Bushing Bearings - JIS Specifications
(Open Type)







Designed to be used for new or existing JIS (Japanese Industrial Standard) designs

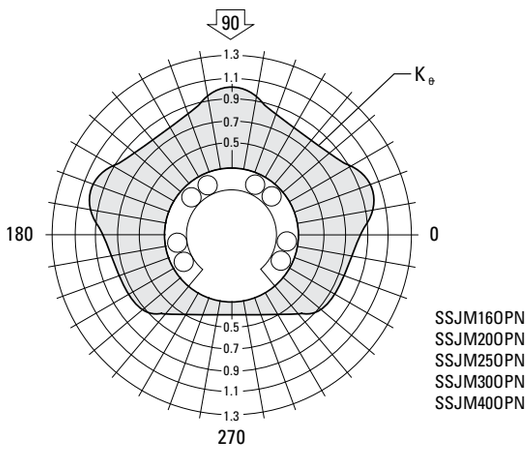
Part Number			Dimensions (mm)					E min.	a (deg)	Number of Ball Tracks	Mass (kg)	Dynamic Load W[1][3] (N)	Load Limit W_e[2][3] (N)
Without Integral Wipers	With One Integral Wiper	With Two Integral Wiper	Nominal LinearRace Dia. d	C h14	C1 h13	C2 min.	Nominal Housing Bore Dia. D[2]						
SSJM16OPN	SSJM16OPNW	SSJM16OPNWW	16	37	26.5	1.60	28	11	80	8	.023	2200	2400
SSJM20OPN	SSJM20OPNW	SSJM20OPNWW	20	42	30.5	1.60	32	11	60	8	.054	4000	4400
SSJM25OPN	SSJM25OPNW	SSJM25OPNWW	25	59	41	1.85	40	12	50	8	.107	6700	7300
SSJM30OPN	SSJM30OPNW	SSJM30OPNWW	30	64	44.5	1.85	45	15	50	8	.163	8300	9100
SSJM40OPN	SSJM40OPNW	SSJM40OPNWW	40	80	60.5	2.10	60	20	50	8	.315	13700	15000

(1) For rated travel life of 100 km. For longer travel lives, reduce load to •(100/L)$^{0.33}$ where L (km) is the required travel life. Do not exceed the Dynamic Load Rating for travel life of less than 100 km.
(2) The Load Limit is the maximum load that may be applied to a bearing/shaft. It is important to analyze the application so that peak and/or shock do not exceed the Load Limit.
(3) The load capacities W and Wq are valid for a resultant load applied at 90° with the ball tracks oriented as shown in the polar graphs below. If the resultant acts along another direction, the appropriate multiplicative correction factor Kq, should be applied to W and Wq respectively. Open type bearings have reduced load capacities when used in pull-off situations.
(4) Refer to Table 1 to find the diametral tolerance between the LinearRace and Super Smart Ball Bushing bearing for bearing installation in housing having either a H7 or J7 tolerance.
NOTE: For part number description and specifications, see page 132.
NOTE: External seals and retaining are available. See page 172 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 256.

Table 1 – Standard Dimensional Clearances

Nominal LinearRace® Dia. d (mm)	Nominal Housing Bore Diameter d (mm)	Dimensional Clearance	
		Housing Bore H7 (µm)	Housing Bore J7 (µm)
16	28	+33 +8	+24 -1
20	32	+39 +9	+28 -2
25	40	+39 +9	+28 -2
30	45	+39 +9	+28 -2
40	60	+44 +11	+35 -1

For Super Smart Ball Bushing Bearings mounted in a housing and with LinearRace shafts, h6 tolerances



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Application

Cam-Actuated Part Transfer Mechanism for Multiple-Transfer Press

Objective

Improve production rate and increase the service life of a transfer table mechanism.

Solution

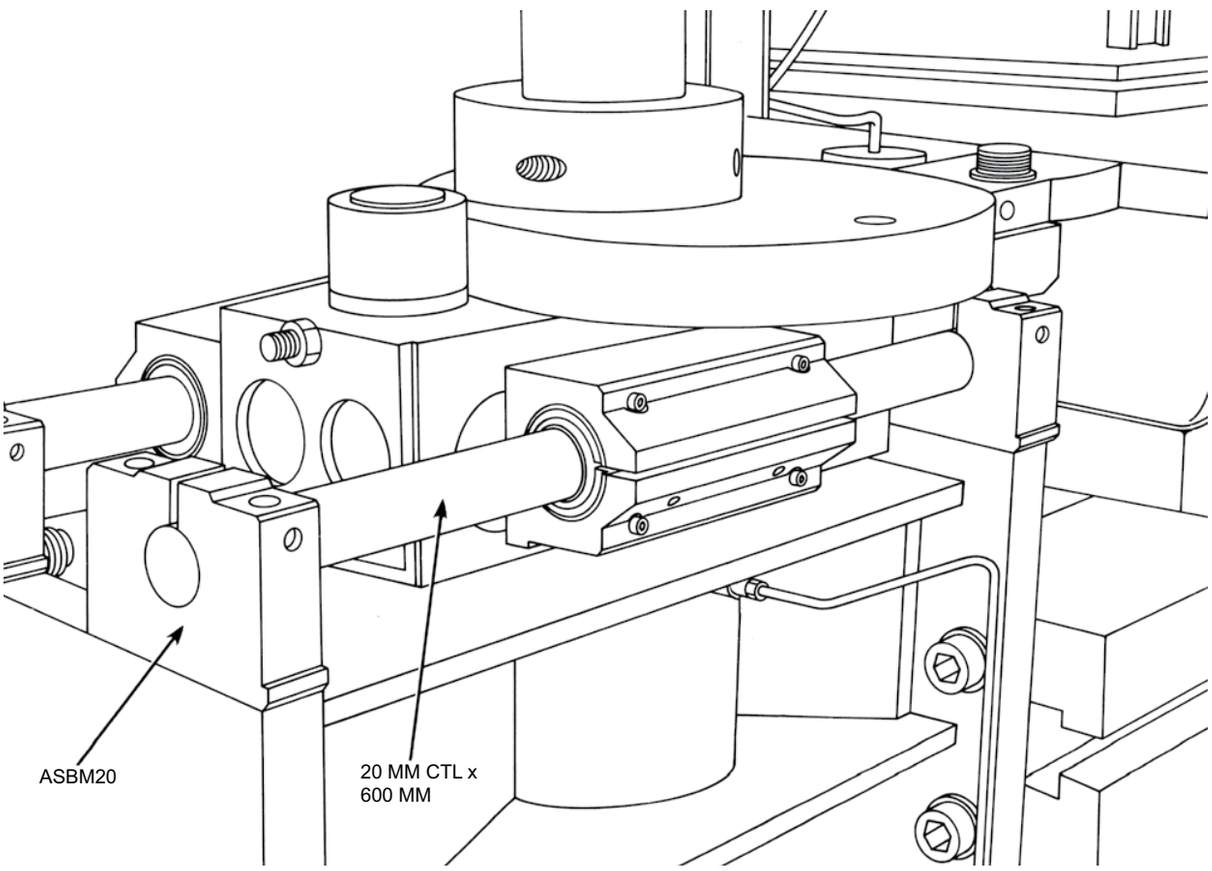
Replace the conventional linear bearings with adjustable Super Smart twin pillow blocks.

Products Specified

2 - SSETWNAM20DD (Super Smart Twin Pillow Blocks)
4 - ASBM20 (Shaft support blocks) Blocks
2 - 20 MM CTL X 600 mm 60 Case LinearRace Shaft

Benefits

The table achieved maximum cycle efficiency by reducing costly downtime and improving service life. Bearing life is increased from 1 to 8 years.



X-Y Inspection System

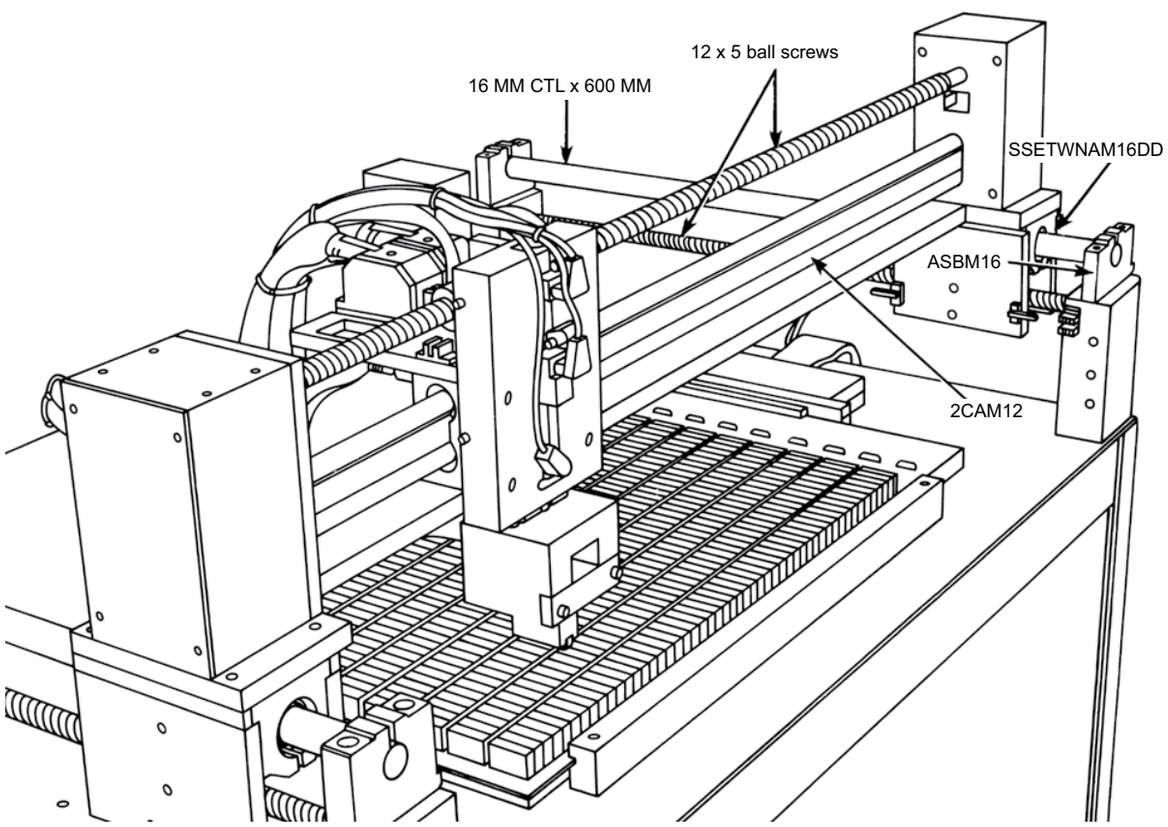
Objective
Accurately position an inspection probe of an X-Y system over small electronic components.

Solution
Design an X-Y system with Super Smart Ball Bushing® pillow blocks to provide accurate and repeatable movement of the test probe. Utilize Thomson linear motion systems on the Y-axis to reduce cost and installation time.

Benefits
Outstanding positioning accuracy and repeatability was provided by the adjustable pillow blocks and ball screws. The use of a pre-engineered, pre-assembled linear motion system on the Y-axis saved valuable design and assembly time.

Products Specified
X–axis
2 - SSETWNAM16DD (Super Smart Twin pillow blocks)
4 - ASBM16 (Shaft support blocks)
2 - 16 MM CTL X 600 MM (60 Case® LinearRace® shaft)
2 - 12 x5 Thomson ball screw assemblies

Y-axis
1 - 2CAM12 (pre-assembled linear motion system)
1 - 12 x5 Thomson ball screw assembly



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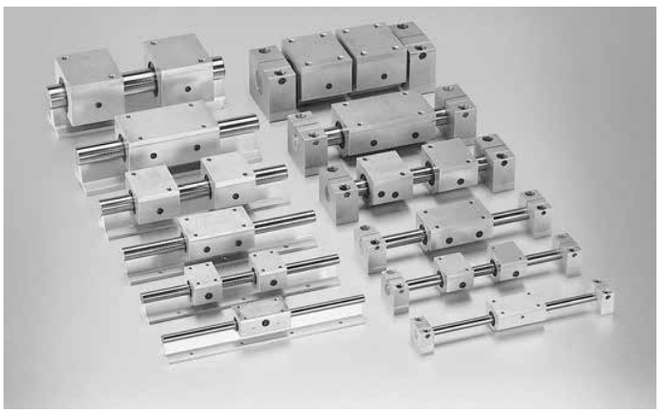
Super Smart Pillow Blocks



Thomson Pillow Blocks with factory-installed Super Smart Ball Bushing® Bearings offer:

- Up to six times the load capacity or 216 times the travel life and five times the LinearRace® shaft life when replacing conventional linear bearing pillow blocks.
- Accelerations as high as 150 m/s^2 and steady state travel speeds up to 3 m/s without the derating factors commonly required with linear guides.
- Replaceable bearing components for quick, cost-effective machine maintenance and minimal downtime.
- Standard, double-acting, integral seals at both ends which keep out dirt, grit and other contaminants, retain lubrication and maximize bearing life.
- Adjustable, closed and open styles.
- Lubrication hole for easy maintenance.
- Tapped or thru hole mounting configuration for ease of installation.
- Twin version with two Super Smart Ball Bushing Bearings providing twice the load capacity or eight times more travel life than the single version.
- A single bearing version that self aligns in all directions, minimizing installation time and cost.

Note: See page 131 for information on Thomson Super Smart Ball Bushing Bearings.

Part Number Description and Specification

Super Smart Ball Bushing Bearings (Closed Type) for End-Supported Applications

SSETWNM16OPNWW-CR

Type	Description
SSE	Super Smart Ball Bushing bearings European Metric
SSJ	Super Smart Ball Bushing bearings Japanese Industrial Standard

Size	Nominal Diameter
M16	16mm
M20	20mm
M25	25mm
M30	30mm
M40	40mm

Type	Description
PB	Closed Pillow Block
PBA	Closed Adjustable Pillow Block (SSE only)
PBO	Open Pillow Block
PBOA	Open Adjustable Pillow Block (SSE only)
TWN	Twin Closed Pillow Block
TWNA	Twin Adjustable Pillow Block (SSE only)
TWNO	Twin Open Pillow Block
TWNOA	Twin Open Adjustable Pillow Block (SSE only)

Option	Description
(blank)	Closed Bearing
OPN	Open Bearing

Option	Description
DD	Seals (Standard with SSE)
WW	Wipers (Standard with SSJ)

Ball Options

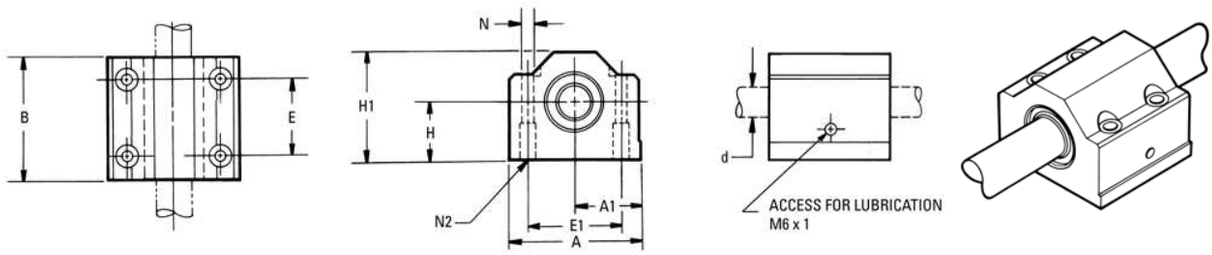
Option	Description
CR	Corrosion Resistant
NB	Nylon Balls
NBA	Alternating Nylon Balls

Lube Options

DP	Dry Pack
LL	Lubricated with Thomson Linear Lube

Not all options are available in all sizes.
See catalog pages or contact Thomson Customer Support for combination availability.
For additional information on bearing options, see page 263.

Super Smart Pillow Blocks
(Closed Type)



Super Smart Pillow Blocks (Closed Type) (Dimensions in mm)

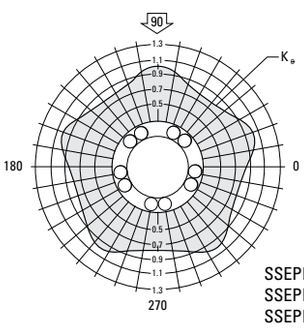
Part Number	d(5)	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Mass (kg)	Dynamic Load W(1)(3) (N)	Load Limit W_0(2)(3) (N)
SSEPBM16DD	16	22	42	53	26.5	43	26	40	5.3	M6	0.21	2200	2400
SSEPBM20DD	20	25	50	60	30.0	54	32	45	6.6	M8	0.35	4000	4400
SSEPBM25DD	25	30	60	78	39.0	67	40	60	8.4	M10	0.67	6700	7300
SSEPBM30DD	30	35	71	87	43.5	79	45	68	8.4	M10	0.99	8300	9100
SSEPBM40DD	40	45	91	108	54.0	91	58	86	10.5	M12	1.84	13700	15000

(1) For rated travel life of 100 km. For longer travel lives, reduce load to $W \bullet (100/L)^{0.33}$ where L (km) is the required travel life. Do not exceed the Dynamic Load Rating for travel life of less than 100km.
(2) The Load Limit is the maximum load that may be applied to a bearing/shaft. It is important to analyze the application so the peak and/or shock loads do not exceed the Load Limit.
(3) For bearing diametral clearances, see Table 1.
NOTE: For part number description and specifications, see page 143.
NOTE: External seals and retaining rings are available. See page 168 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 252.

Table 1- Standard Diametral Clearances (Closed Type)

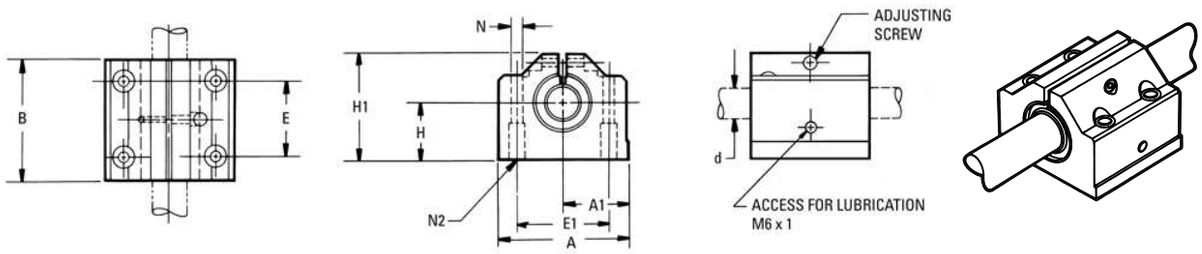
Nominal Size d (mm)	Diametral Clearance (µm)
16	+26 +3
20	+30 +4
25	+30 +4
30	+30 +4
40	+35 +5

For Pillow Blocks used with LinearRace Shaft, h6 tolerance



SSEPBM16DD
SSEPBM20DD
SSEPBM25DD
SSEPBM30DD
SSEPBM40DD

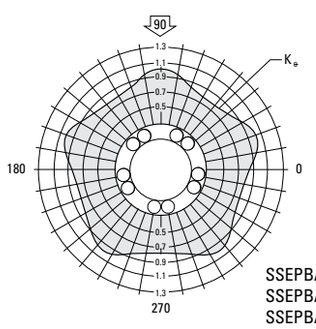
Super Smart Pillow Blocks
(Closed Adjustable Type)



Super Smart Pillow Blocks (Closed Adjustable Type) (Dimensions in mm)

Part Number	d(5)	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Mass (kg)	Dynamic Load W(1)(2) (N)	Load Limit W_0 (2)(4) (N)
SSEPBAM16DD	16	22	42	53	26.5	43	26	40	5.3	M6	0.21	2200	2400
SSEPBAM20DD	20	25	50	60	30.0	54	32	45	6.6	M8	0.35	4000	4400
SSEPBAM25DD	25	30	60	78	39.0	67	40	60	8.4	M10	0.67	6700	7300
SSEPBAM30DD	30	35	71	87	43.5	79	45	68	8.4	M10	0.99	8300	9100
SSEPBAM40DD	40	45	91	108	54.0	91	58	86	10.5	M12	1.84	13700	15000

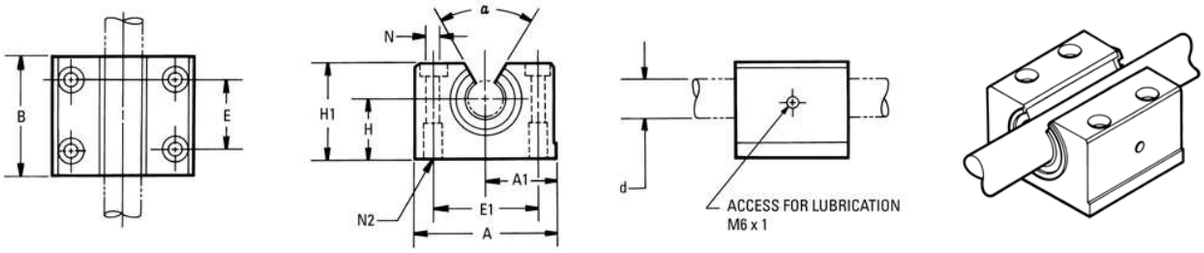
(4) The load capacities W and W_0 are valid for a resultant load applied at 90° with the ball tracks oriented as shown in the polar graphs below. If the resultant acts along another direction, the appropriate multiplicative correction factor, Kq, should be applied to W and W_0 respectively. Open type bearings have reduced load capacities when used in pull-off situations.
(5) Adjusted to nominal.
NOTE: For part number description and specifications, see page 143.
NOTE: External seals and retaining rings are available. See page 168 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 252.



SSEPBAM16DD
SSEPBAM20DD
SSEPBAM25DD
SSEPBAM30DD
SSEPBAM40DD

THOMSON
Linear Motion. Optimized.™

Super Smart Pillow Blocks
(Open Type)



Super Smart Pillow Blocks (Open Type) (Dimensions in mm)

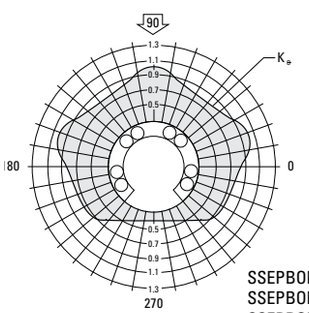
Part Number	d[5]	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Angle α (deg)	Mass (kg)	Dynamic Load W[1][2] (N)	Load Limit W_0[2][4] (N)
SSEPBOM16DD	16	22	35	53	26.5	43	26	40	5.3	M6	70	0.19	2200	2400
SSEPBOM20DD	20	25	42	60	30.0	54	32	45	6.6	M8	50	0.30	4000	4400
SSEPBOM25DD	25	30	51	78	39.0	67	40	60	8.4	M10	60	0.60	6700	7300
SSEPBOM30DD	30	35	60	87	43.5	79	45	68	8.4	M10	55	0.93	8300	9100
SSEPBOM40DD	40	45	77	108	54.0	91	58	86	10.5	M12	54	1.66	13700	15000

(1) For rated travel life of 100 km. For longer travel lives, reduce load to $W \cdot (100/L)^{0.33}$ where L (km) is the required travel life. Do not exceed the Dynamic Load Rating for travel life of less than 100km.
(2) The Load Limit is the maximum load that may be applied to a bearing/shaft. It is important to analyze the application so that peak and/or shock loads do not exceed the Load Limit.
(3) For bearing diametral clearances, see Table 2.
NOTE: For part number description and specifications, see page 143.
NOTE: External seals and retaining rings are available. See page 168 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 252.

Table 2 - Standard Diametral Clearances (Open Type)

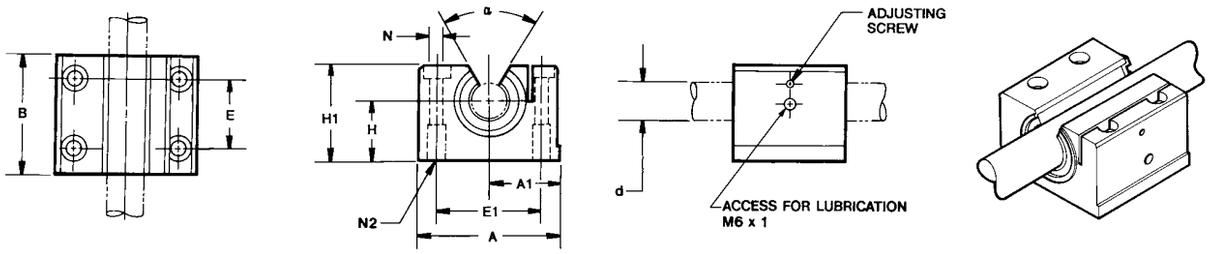
Nominal Size d (mm)	Diametral Clearance (µm)
16	+26 +3
20	+30 +4
25	+30 +4
30	+30 +4
40	+35 +5

For Pillow Blocks used with LinearRace Shaft, h6 tolerance



SSEPBOM16DD
SSEPBOM20DD
SSEPBOM25DD
SSEPBOM30DD
SSEPBOM40DD

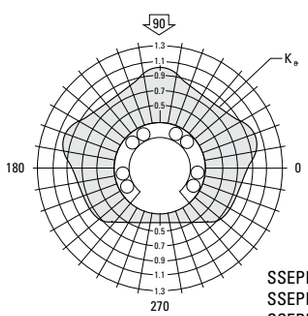
Super Smart Pillow Blocks
(Open Adjustable Type)



Super Smart Pillow Blocks (Open Adjustable Type) (Dimensions in mm)

Part Number	d(5)	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Angle α (deg)	Mass (kg)	Dynamic Load W(1)(2) (N)	Load Limit W_0(2)(4) (N)
SSEPBOAM16DD	16	22	35	53	26.5	43	26	40	5.3	M6	70	0.19	2200	2400
SSEPBOAM20DD	20	25	42	60	30.0	54	32	45	6.6	M8	50	0.30	4000	4400
SSEPBOAM25DD	25	30	51	78	39.0	67	40	60	8.4	M10	60	0.60	6700	7300
SSEPBOAM30DD	30	35	60	87	43.5	79	45	68	8.4	M10	55	0.93	8300	9100
SSEPBOAM40DD	40	45	77	108	54.0	91	58	86	10.5	M12	54	1.66	13700	15000

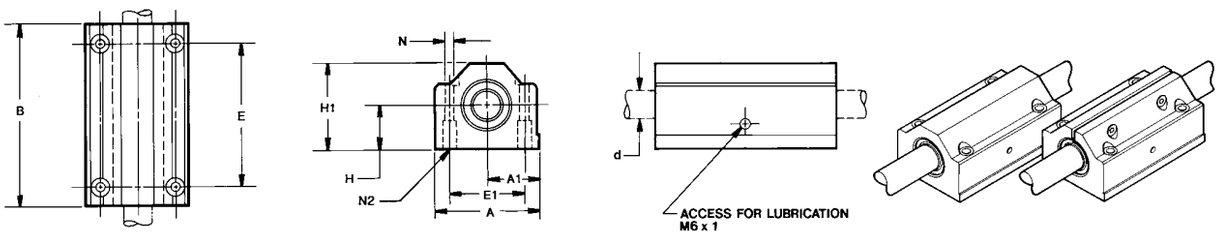
(4) The load capacities W and W_0 are valid for a resultant load applied at 90° with the ball tracks oriented as shown in the polar graphs below. If the resultant acts along another direction, the appropriate multiplicative correction factor, Kq, should be applied to W and W_0 respectively. Open type bearings have reduced load capacities when used in pull-off situations.
(5) Adjusted to nominal.
NOTE: For part number description and specifications, see page 143.
NOTE: External seals and retaining rings are available. See page 168 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 252.



SSEPBOAM16DD
SSEPBOAM20DD
SSEPBOAM25DD
SSEPBOAM30DD
SSEPBOAM40DD

Super Smart Twin Pillow Blocks

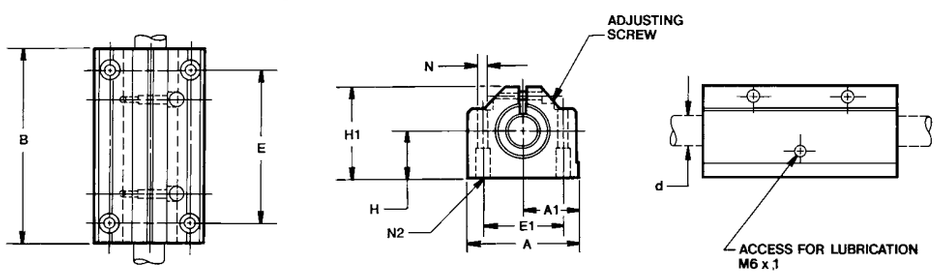
(Closed Type)



Super Smart Twin Pillow Blocks (Closed Type) (Dimensions in mm)

Part Number	d[5]	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Mass (kg)	Dynamic Load W[1][2] (N)	Load Limit W_0[2][4] (N)
SSETWNM16DD	16	22	42	53	26.5	84	64	40	5.3	M6	0.41	4400	4800
SSETWNM20DD	20	25	51	60	30.0	104	76	45	6.6	M8	0.67	8000	8800
SSETWNM25DD	25	30	60	78	39.0	130	94	60	8.4	M10	1.24	13400	14600
SSETWNM30DD	30	35	71	87	43.5	152	106	68	8.4	M10	1.94	16600	18200
SSETWNM40DD	40	45	91	108	54.0	176	124	86	10.5	M12	3.63	27400	30000

(Closed Adjustable Type)



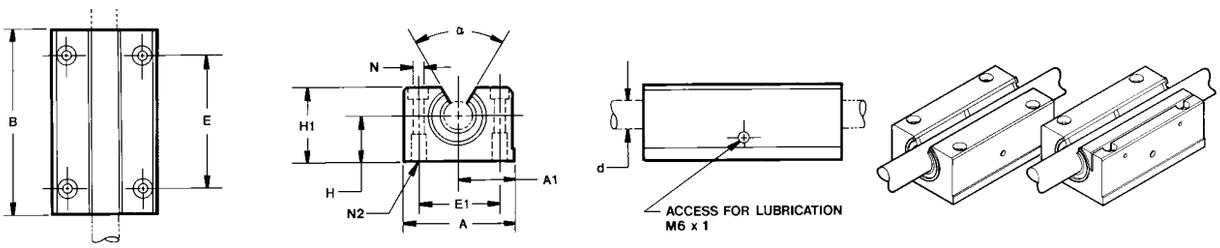
Super Smart Twin Pillow Blocks (Closed Adjustable Type) (Dimensions in mm)

Part Number	d[5]	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Mass (kg)	Dynamic Load W[1][2] (N)	Load Limit W_0[2][4] (N)
SSETWNAM16DD	16	22	42	53	26.5	84	64	40	5.3	M6	0.41	4400	4800
SSETWNAM20DD	20	25	50	60	30.0	104	76	45	6.6	M8	0.67	8000	8800
SSETWNAM25DD	25	30	60	78	39.0	130	94	60	8.4	M10	1.24	13400	14600
SSETWNAM30DD	30	35	71	87	43.5	152	106	68	8.4	M10	1.94	16600	18200
SSETWNAM40DD	40	45	91	108	54.0	176	124	86	10.5	M12	3.63	27400	30000

See footnotes (1) (2) (3) (4) (5) on pages 140-141. For diametral clearances, see single versions of pillow block.
NOTE: For part number description and specifications, see page 143.
NOTE: External seals and retaining rings are available. See page 168 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 252.

Super Smart Twin Pillow Blocks

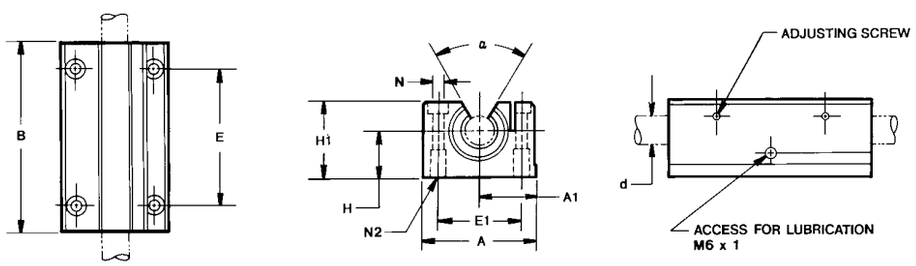
(Open Type)



Super Smart Twin Pillow Blocks (Open Type) (Dimensions in mm)

Part Number	d[5]	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Angle α (deg)	Mass (kg)	Dynamic Load W[1][2] (N)	Load Limit W_0[2][4] (N)
SSETWNOM16DD	16	22	35	53	26.5	84	64	40	5.3	M6	70	0.37	4400	4800
SSETWNOM20DD	20	25	41	60	30.0	104	76	45	6.6	M8	50	0.58	8000	8800
SSETWNOM25DD	25	30	50	78	39.0	130	94	60	8.4	M10	60	1.16	13400	14600
SSETWNOM30DD	30	35	60	87	43.5	152	106	68	8.4	M10	55	1.78	16600	18200
SSETWNOM40DD	40	45	77	108	54.0	176	124	86	10.5	M12	54	3.25	27400	30000

(Open Adjustable Type)

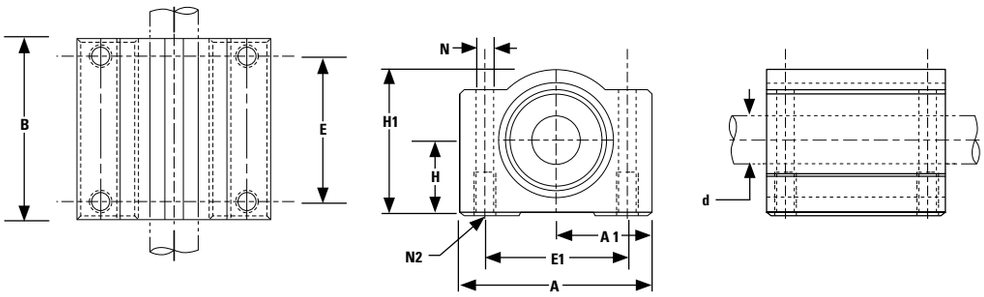


Super Smart Twin Pillow Blocks (Open Adjustable Type) (Dimensions in mm)

Part Number	d[5]	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Angle α (deg)	Mass (kg)	Dynamic Load W[1][2] (N)	Load Limit W_0[2][4] (N)
SSETWNOAM16DD	16	22	35	53	26.5	84	64	40	5.3	M6	70	0.37	4400	4800
SSETWNOAM20DD	20	25	41	60	30.0	104	76	45	6.6	M8	50	0.58	8000	8800
SSETWNOAM25DD	25	30	50	78	39.0	130	94	60	8.4	M10	60	1.16	13400	14600
SSETWNOAM30DD	30	35	60	87	43.5	152	106	68	8.4	M10	55	1.78	16600	18200
SSETWNOAM40DD	40	45	77	108	54.0	176	124	86	10.5	M12	54	3.25	27400	30000

See footnotes (1) (2) (3) (4) (5) on pages 140-141. For diametral clearances, see single versions of pillow block.
NOTE: For part number description and specifications, see page 143.
NOTE: External seals and retaining rings are available. See page 168 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 252.

Super Smart Pillow Blocks - JIS Specifications
(Closed Type)



Designed to be used for new or existing JIS (Japanese Industrial Standard) designs (Dimensions in mm)

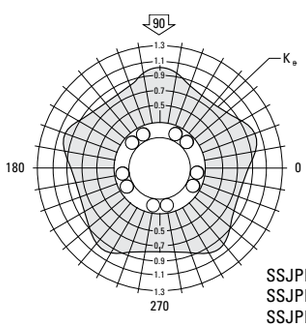
Part Number	d[5]	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Mass (kg)	Dynamic Load W[1)3)] (N)	Load Limit W_0[2)3)] (N)
SSJPBM16	16	19	37	50	25	44	34	36	4.3	M5	0.21	2200	2400
SSJPBM20	20	21	41	54	27	50	40	40	5.2	M6	0.35	4000	4400
SSJPBM25	25	26	51	76	38	67	50	54	7	M8	0.67	6700	7300
SSJPBM30	30	30	57	78	39	72	58	58	7	M8	0.99	8300	9100
SSJPBM40	40	40	75	102	51	90	60	80	8.7	M10	1.84	13700	15000

(1) For rated travel life of 100 km. For longer travel lives, reduce load to $W \cdot (100/L)^{0.33}$ where L (km) is the required travel life. Do not exceed the Dynamic Load Rating for travel life of less than 100km.
(2) The Load Limit is the maximum load that may be applied to a bearing/shaft. It is important to analyze the application so the peak and/or shock loads do not exceed the Load Limit.
(3) For bearing diametral clearances, see Table 1.
NOTE: For part number description and specifications, see page 143.
NOTE: External seals and retaining rings are available. See page 168 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 252.

Table 1- Standard Diametral Clearances (Closed Type)

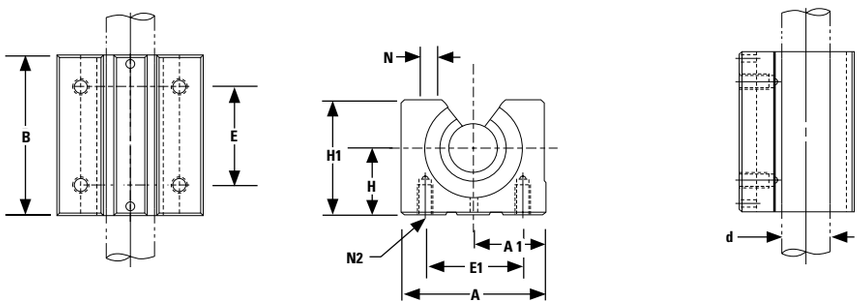
Nominal Size d (mm)	Diametral Clearance (µm)
16	+26 +3
20	+30 +4
25	+30 +4
30	+30 +4
40	+35 +5

For pillow blocks used with LinearRace® shaft, h6 tolerance



SSJPBM16
SSJPBM20
SSJPBM25
SSJPBM30
SSJPBM40

Super Smart Pillow Blocks - JIS Specifications
(Open Type)



Designed to be used for new or existing JIS (Japanese Industrial Standard) designs (Dimensions in mm)

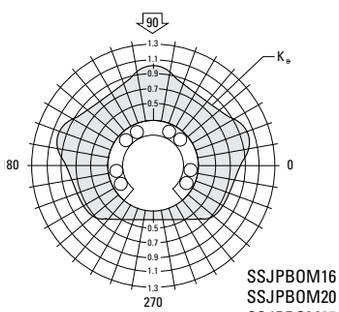
Part Number	d(5)	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Mass (kg)	Dynamic Load W(1)(2) (N)	Load Limit W_0(2)(4) (N)
SSJPBOM16	16	20	33	45	22.5	45	30	32	5	M5	0.19	2200	2400
SSJPBOM20	20	23	38	48	24	50	35	35	6	M6	0.30	4000	4400
SSJPBOM25	25	27	47	60	30	65	40	40	6	M6	0.60	6700	7300
SSJPBOM30	30	33	55	70	35	70	50	50	8	M8	0.93	8300	9100
SSJPBOM40	40	42	72	90	45	90	65	65	10	M10	1.66	13700	15000

(1) For rated travel life of 100 km. For longer travel lives, reduce load to $W \cdot (100/L)^{0.33}$ where L (km) is the required travel life. Do not exceed the Dynamic Load Rating for travel life of less than 100km.
(2) The Load Limit is the maximum load that may be applied to a bearing/shaft. It is important to analyze the application so that peak and/or shock loads do not exceed the Load Limit.
(3) For bearing diametral clearances, see Table 2.
NOTE: For part number description and specifications, see page 143.
NOTE: External seals and retaining rings are available. See page 168 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 252.

Table 2 - Standard Diametral Clearances (Open Type)

Nominal Size d (mm)	Diametral Clearance (µm)
16	+26 +3
20	+30 +4
25	+30 +4
30	+30 +4
40	+35 +5

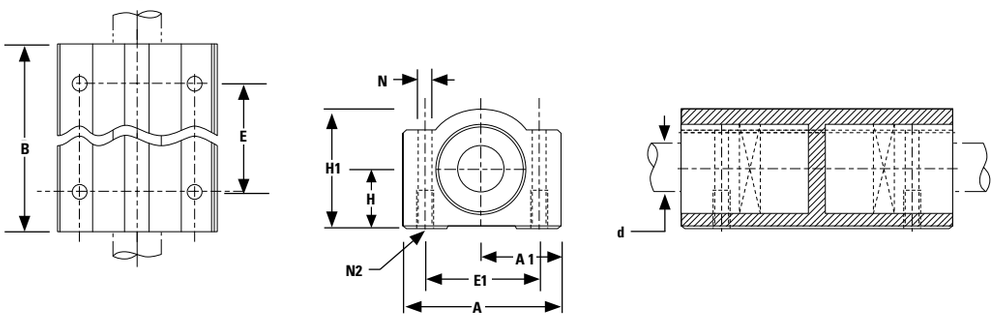
For pillow blocks used with LinearRace shaft, h6 tolerance



SSJPBOM16
SSJPBOM20
SSJPBOM25
SSJPBOM30
SSJPBOM40

Super Smart Twin Pillow Blocks - JIS Specifications

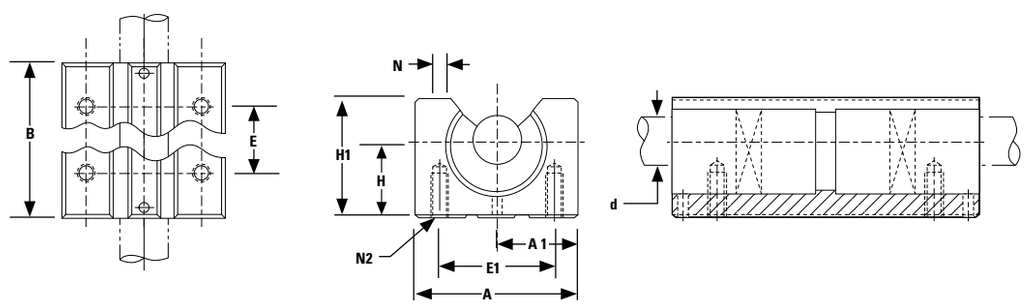
(Closed Type)



Designed to be used for new or existing JIS (Japanese Industrial Standard) designs (Dimensions in mm)

Part Number	d(5)	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Mass (kg)	Dynamic Load W(1)(2) (N)	Load Limit W_0(2)(4) (N)
SSJTWNM16	16	19	37	50	25	85	60	36	4.3	M5	0.41	4400	4800
SSJTWNM20	20	21	41	54	27	96	70	40	5.2	M6	0.67	8000	8800
SSJTWNM25	25	26	51	76	38	130	100	54	7	M8	1.24	13400	14600
SSJTWNM30	30	30	57	78	39	140	110	58	7	M8	1.94	16600	18200
SSJTWNM40	40	40	75	102	51	175	140	80	8.7	M10	3.63	27400	30000

(Open Type)



Designed to be used for new or existing JIS (Japanese Industrial Standard) designs (Dimensions in mm)

Part Number	d(5)	H ± 0.020	H1	A	A1 ± 0.020	B	E ± 0.1	E1 ± 0.1	N Dia.	N2	Mass (kg)	Dynamic Load W(1)(2) (N)	Load Limit W_0(2)(4) (N)
SSJTWNOM16	16	20	33	45	27.5	85	60	32	5	M5	0.41	4400	4800
SSJTWNOM20	20	23	38	48	24	96	70	35	6	M6	0.67	8000	8800
SSJTWNOM25	25	27	47	60	30	130	100	40	6	M6	1.24	13400	14600
SSJTWNOM30	30	33	55	70	35	140	110	50	8	M8	1.94	16600	18200
SSJTWNOM40	40	42	72	90	45	175	140	65	10	M10	3.63	27400	30000

See footnotes (1) (2) (3) on pages 144-145. For diametral clearances, see single versions of pillow block.
NOTE: For part number description and specifications, see page 143.
NOTE: External seals and retaining rings are available. See page 168 for specifications.
NOTE: For additional technical information, see the Engineering section beginning on page 252.

Application
Punch Press

Objective
Reduce deflection of plate loader to minimize scrap and improve cycle speed.

Solution
Replace super type linear bearings with Super Smart pillow blocks and Smart Rail assemblies to improve accuracy, load capacity, service life, efficiency and reduce downtime.

Products Specified
4 - SSEPBOAM25DD (Super Smart Pillow Blocks)
2 - LSRAM25 x 900 mm Smart Rail assemblies

Benefits
By retrofitting with Super Smart Pillow Blocks, machine productivity increased 700%. Smart Rail assemblies provided reduced deflection during plate loading. The retrofit required minimum downtime due to the pillow blocks' ease of installation.