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TEN GOOD REASONS TO USE PLASTIC BALL BEARINGS



STEEL BEARINGS CORRODE IN LIQUIDS

If you're looking for an innovative, cost effective way to approach an engineering design problem, the solution may be a plastic ball bearing. They can make your products run smoother, quieter, more efficiently and with less maintenance than conventional steel bearings. Size, shape and environment are no longer limitations. Following are ten good reasons to use plastic ball bearings.

1. CORROSION RESISTANCE:

Most bearing failures today are caused by corrosion. KMS Bearings' plastic ball bearings can be utilized in environments destructive to conventional bearings. They can operate in hostile environments such as sea water, film processing solutions and swimming pools. In many cases the medium can be used as a lubricant.

2. LIGHTWEIGHT:

Plastics are five times lighter than steel, thereby reducing the weight and energy required to move them.

3. DESIGN FLEXIBILITY:

Special designs are readily and inexpensively made from plastics. This allows engineers complete freedom to design the bearing around the device rather than attempting to design the device around a limited range of standard bearings.

4. PRODUCT INTEGRATION:

Many times a bearing is mounted into another part, such as a plastic pulley, sprocket, wheel or a mounted block. Utilizing the design concept of a plastic ball bearing, KMS Bearings, Inc., can integrate the mating component as the raceway of the bearing, ie: pulley as the outer ring, or the shaft as the inner ring. The end result is fewer parts, reduced assembly time, and overall lower cost.

5. NON METALLIC – NON MAGNETIC:

Plastic ball bearings become completely non magnetic when fitted with either polymer, glass, or non magnetic 316 stainless balls. They are ideal for use where there can be no magnetic distortion.

6. HYGIENIC:

Plastic ball bearings are naturally clean because they do not corrode or require lubrication. They are ideal for wash down applications and clean room environments.

7. NOISE CONTROL:

Plastics have the inherent ability to dampen vibrations. Add lubrication and they become virtually silent.

8. SHOCK LOAD SUPPRESSION:

Plastics absorb shock loads better than metal due to their elastic nature. Many conventional radial ball bearings fail due to brinelling of the raceway, ie: balls denting the raceway.

9. LUBRICATION FREE:

There are three reasons steel bearings require lubrication; to reduce friction, dissipate heat and resist corrosion. Plastic, by nature, does not corrode. Due to the design of plastic ball bearings, there is no metal to metal contact, resulting in less friction; therefore dissipating heat becomes less critical.

10. LOW INERTIA – FREER TURNING:

Plastic ball bearings run freer and naturally have low inertia due to the low coefficient of friction between plastic and stainless. Two other factors contributing to low inertia are the ability to run without grease and being lighter in weight.



APPLICATIONS

STANDARD PLASTIC RACE BALL BEARINGS



Conveyors Systems

Plastic Skatewheel ball bearings are ideal for conveyor systems. They are light weight, no lube, will not rust after wash down and require less energy to turn.

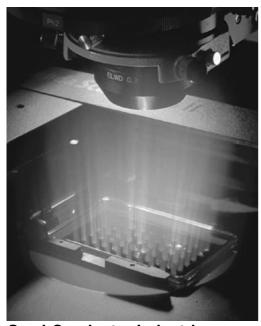


Pool Cleaners

Plastic Ball Bearings can run under water without lubrication or rusting.



Medical ApplicationsPlastic Ball Bearings fitted with plastic or glass balls meet MRI system requirements because they do not distort magnetic imaging.



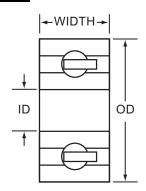
Semi-Conductor Industries

Plastic and 316 Stainless survive in the hostile environments of semi-conductor manufacturing.



Single Row Plastic Raceways Inch Sizes





Standard Plastic is Acetal

PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
AR3-6	3/16 in	1/2 in	5/32 in	3167	17 lbs	11 lbs
AR3A-6	3/16 in	5/8 in	0.196 in	2352	26 lbs	17 lbs
AR4-6	1/4 in	5/8 in	0.196 in	2352	26 lbs	17 lbs
AR4A-6	1/4 in	3/4 in	7/32 in	2352	26 lbs	17 lbs
AR4AW-6	1/4 in	3/4 in	9/32 in	2352	26 lbs	17 lbs
AR6-6	3/8 in	7/8 in	7/32 in	1600	42 lbs	33 lbs
AR6A-6	3/8 in	7/8 in	9/32 in	1600	42 lbs	33 lbs
AR8-6-1/2	1/2 in	1 1/8 in	1/4 in	1142	55 lbs	43 lbs
AR8-6-5/8	5/8 in	1 1/8 in	1/4 in	1142	55 lbs	43 lbs
AR10A-6	3/8, 1/2, 5/8 in	1 3/8 in	3/8 in	1069	69 lbs	46 lbs
AR10B-6	3/8, 1/2, 5/8 in	1 3/8 in	7/16 in	1069	69 lbs	46 lbs
AR12-6	3/4 in	1 5/8 in	5/16 in	840	78 lbs	52 lbs
AR12W-6	3/4 in	1 5/8 in	7/16 in	840	78 lbs	52 lbs
AR16-6	1, 1-1/4 in	2 in	1/2 in	729	92 lbs	61 lbs
AR16-6-1	1 in	2 in	1/2 in	729	92 lbs	61 lbs
AR16-6-1-1/4	1 1/4 in	2 in	1/2 in	729	92 lbs	61 lbs
AR18-6	1 1/8 in	2 1/8 in	1/2 in	729	92 lbs	61 lbs
AR20-6	1 1/4 in	2 1/4 in	1/2 in	729	92 lbs	61 lbs

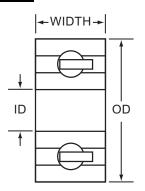
- For Delivery see Availability and Material Selection Page.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
- Information presented is believed to be accurate at the time of publication but is subject to change without notice.



Single Row Plastic Raceways

Metric Sizes





600 Series

Standard Plastic is Acetal

PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
A624-6	4 mm	13 mm	5 mm	3167	17 lbs	11 lbs
A634-6	4 mm	16 mm	5 mm	2352	26 lbs	17 lbs
A625-6	5 mm	16 mm	5 mm	2352	26 lbs	17 lbs
A635-6	5 mm	19 mm	6 mm	2352	26 lbs	17 lbs
A606-6	6 mm	17 mm	6 mm	2352	26 lbs	17 lbs
A626-6	6 mm	19 mm	6 mm	2352	26 lbs	17 lbs
A636-6	6 mm	22 mm	7 mm	1600	42 lbs	33 lbs
A607-6	7 mm	19 mm	6 mm	1600	42 lbs	33 lbs
A627-6	7 mm	22 mm	7 mm	1600	42 lbs	33 lbs
A637-6	7 mm	26 mm	9 mm	1600	42 lbs	33 lbs
A608-6	8 mm	22 mm	7 mm	1600	42 lbs	33 lbs
A628-6	8 mm	24 mm	8 mm	1600	42 lbs	33 lbs
A638-6	8 mm	28 mm	9 mm	1142	55 lbs	43 lbs
A609-6	9 mm	24 mm	7 mm	1600	42 lbs	33 lbs
A629-6	9 mm	26 mm	7 mm	1600	42 lbs	33 lbs
A639-6	9 mm	30 mm	10 mm	1142	55 lbs	43 lbs

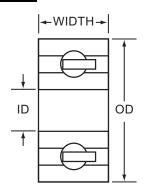
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Single Row Plastic Raceways

Metric Sizes





6000 Series

Standard Plastic is Acetal

PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
A6000-6	10 mm	26 mm	8 mm	1600	42 lbs	33 lbs
A6001-6	12 mm	28 mm	8 mm	1142	55 lbs	43 lbs
A6002-6	15 mm	32 mm	9 mm	1142	55 lbs	43 lbs
A6003-6	17 mm	35 mm	10 mm	1069	69 lbs	46 lbs
A6004-6	20 mm	42 mm	12 mm	840	78 lbs	52 lbs
A6005-6	25 mm	47 mm	12 mm	840	78 lbs	52 lbs

6200 Series

Standard Plastic is Acetal

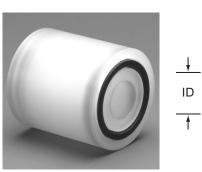
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PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
A6200-6	10 mm	30 mm	9 mm	1142	55 lbs	43 lbs
A6201-6	12 mm	32 mm	10 mm	1142	55 lbs	43 lbs
A6202-6	15 mm	35 mm	11 mm	1069	69 lbs	46 lbs
A6203-6	17 mm	40 mm	12 mm	840	78 lbs	52 lbs
A6006-6	30 mm	55 mm	13 mm	729	92 lbs	61 lbs
A6007-6	35 mm	62 mm	14 mm	630	111 lbs	74 lbs
A6204-6	20 mm	47 mm	14 mm	840	78 lbs	52 lbs
A6205-6	25 mm	52 mm	15 mm	729	92 lbs	61 lbs
A6206-6	30 mm	62 mm	16 mm	729	92 lbs	61 lbs

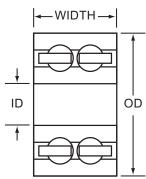
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Double Row Plastic Raceways

Inch Sizes





Standard Plastic is Acetal

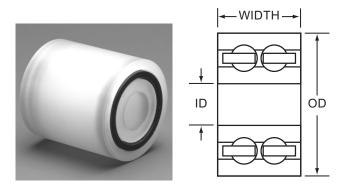
PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY		
AR4DR-6	1/4 in	5/8 in	3/8 in	1881	50 lbs	33 lbs		
AR4ADR-6	1/4 in	3/4 in	3/8 in	1881	50 lbs	33 lbs		
AR6DR-6	3/8 in	7/8 in	7/16 in	1280	60 lbs	43 lbs		
AR8DR-6-3/8	3/8 in	1 1/8 in	7/16 in	913	78 lbs	61 lbs		
AR8DR-6-1/2	1/2 in	1 1/8 in	7/16 in	913	78 lbs	61 lbs		
AR10BDR-6-3/8	3/8 in	1 3/8 in	7/16 in	855	85 lbs	68 lbs		
AR10BDR-6-1/2	1/2 in	1 3/8 in	7/16 in	855	85 lbs	68 lbs		
AR10BDR-6-5/8	5/8 in	1 3/8 in	7/16 in	855	85 lbs	68 lbs		
AR12DR-6	3/4 in	1 5/8 in	5/8 in	672	100 lbs	83 lbs		
AR16DR-6-1	1 in	2 in	3/4 in	583	127 lbs	110 lbs		
AR16DR-6-1-1/4	1 1/4 in	2 in	3/4 in	583	127 lbs	110 lbs		
AR18DR-6	1 1/8 in	2 1/8 in	3/4 in	583	127 lbs	110 lbs		
AR20DR-6	1 1/4 in	2 1/4 in	3/4 in	583	127 lbs	110 lbs		

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Double Row Plastic Raceways

Metric Sizes



Standard Plastic is Acetal

PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
A5200-6	10 mm	30 mm	14.28 mm	913	78 lbs	61 lbs
A5201-6	12 mm	32 mm	15.87 mm	913	78 lbs	61 lbs
A5202-6	15 mm	35 mm	15.87 mm	855	85 lbs	68 lbs
A5203-6	17 mm	40 mm	17.46 mm	855	85 lbs	68 lbs
A5204-6	20 mm	47 mm	20.63 mm	672	100 lbs	83 lbs
A5205-6	25 mm	52 mm	20.63 mm	583	127 lbs	110 lbs
A5206-6	30 mm	62 mm	33 mm	502	150 lbs	133 lbs

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Plastic Raceways Availability and Material Selection

Availability

Some bearings listed on data sheets may not be in inventory. Some may require a minimum order, and delivery could range from 3 to 6 weeks. **Check with KMS for item availability and delivery.**

Standard Material

The standard KMS Plastic Ball Bearings are produced with Acetal plastic raceways and cages, and are fitted with 316 stainless balls. Acetal, (trade name Celcon® or Delrin®) is a general purpose engineering polymer used for mechanical components. Acetal is the first choice for plastic bearing races due to its chemical resistance, ease of molding/machining, and general affordability. Standard temperature range for Acetal is 180° to 220° F. For higher temperature capability consult KMS.

Standard Sizes

KMS Bearings. Inc., produces *plastic ball bearings* in many standard industrial sizes. These standards provide an opportunity to try a plastic ball bearing in an existing application or prototype. Customers with high volume quantities are encouraged to explore avenues that can utilize the many benefits of plastic, ie; molding features that can reduce parts and assembly time through product integration.

When Acetal doesn't work.							
When Acetal is not the ideal choice, KMS has developed alternative materials to suit most requirements.							
For: Increased Chemical Resistance	Use: Polypropylene, UHMW, Kynar®, Valox®						
For: Higher Heat Capacity	Use: PEEK®, Vespel®, Valox®, 316 Stainless						
For: Greater Strength	Use: Kynar®,Vespel®, 316 Stainless						

Materials for races, cages and balls.											
	Acetal	Polypro	Vespel®	PEEK®	Valox®	Kynar®	UHMW	Glass	SS316	SS302	Torlon®
Raceways	*	♦	♦	♦	♦	♦	♦				
Cages	*	•	♦	♦	♦	♦					
Balls	О							•	•	О	o
◆ standard race material ◇ Special order, races & cage • Standard ball type o Special order, balls											

Technical information listed is for reference only. KMS Recommends testing in actual environment to be encountered.



Plastic Raceways Availability and Material Selection (cont'd)

How	to	ord	er/	sne	cify	
11011	<i>i</i>	UI U		JPC	CII Y .	

Call or Fax KMS to check availability on a specific size and material.

Prefix: Raceway Materials

A = Acetal P = Polypropylene UH = UHMW - PE Valox® K = Kynar® PK = PEEK®

Suffix: Ball Type

Example: AR4-6 = Standard R4 Bearing, Acetal races & cage, fitted with 316 Stainless Balls.

Value Engineering = Less Cost

Many times a bearing is mounted into another part, such as a plastic pulley, sprocket, wheel or mounted block. Utilizing the design concept of a *plastic ball bearing*, KMS Bearings, Inc. can integrate the mating component as the raceway of the bearing, ie: pulley as the outer ring, or the shaft as the inner ring. The end result is fewer parts, reduced assembly time, and overall lower cost.

Special Bearings & Sizes - Variations - Engineering & Prototyping Plastic Ball Bearings "Ten Good Reasons To Use," ETC...

For additional information on the above topics see directory.

• Information presented is believed to be accurate at the time of publication but is subject to change without notice.





WHY AISI 316 STAINLESS?

KMS Bearings Inc., manufactures radial ball bearings utilizing type 316 stainless which provides superior corrosion resistance when compared to conventional 440 stainless bearings. AISI 316 is more resistant to atmospheric and general corrosive conditions than any of the other standard stainless steels. 316 stainless is widely used in the food and medical industries. Bearings produced from this type of steel can run in liquids or can run dry at slow speeds.

BEARING CONSTRUCTION

Machined semi-precision rings, polymer cages, and grade 100 type 316 stainless balls are used in the manufacture of KMS Stainless Ball Bearings. Rings are machined from solid rod stock to produce true running concentric bearings. This type of bearing is intended primarily to reduce friction and permit free movement of turning parts. They are best suited for moderate loads and slow speeds.



MATERIALS

RINGS:

AISI 316 stainless, non-magnetic, unground semi-precision.

BALLS

Standard balls are AISI 316. When necessary, other types of balls are available on a special order basis.

BALL RETAINER (CAGE):

Standard ball retainers are acetal. For increased chemical compatibility polypropylene can be provided. When higher heat capability is required, bearings can be manufactured with either a high temperature polymer cage or without a cage.

SHIELDS/SEALS:

Open design is standard. Polymer shields and seals can be provided on a special order basis.

LUBRICATION:

KMS supplies the bearings with a light proprietary oil that reduces friction and noise, and is non contaminating in most applications. When necessary, special order lubricants can be provided.

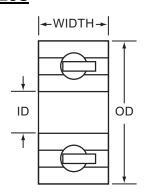
TEMPERATURE: 180°F

For higher temperature capability consult KMS.



Single Row 316 Stainless Raceways Inch Sizes





Standard Plastic is Acetal

PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SSR4-6	1/4 in	5/8 in	0.196 in	2352	78 lbs	51 lbs
SSR4A-6	1/4 in	3/4 in	7/32 in	2352	78 lbs	51 lbs
SSR4AW-6	1/4 in	3/4 in	9/32 in	2352	78 lbs	51 lbs
SSR6-6	3/8 in	7/8 in	7/32 in	1600	126 lbs	99 lbs
SSR6A-6	3/8 in	7/8 in	9/32 in	1600	126 lbs	99 lbs
SSR8-1/2-6	1/2 in	1 1/8 in	1/4 in	1142	165 lbs	129 lbs
SSR8-5/8-6	5/8 in	1 1/8 in	1/4 in	1142	165 lbs	129 lbs
SSR8A-3/8-6	3/8 in	1 1/8 in	3/8 in	1142	165 lbs	129 lbs
SSR8A-1/2-6	1/2 in	1 1/8 in	3/8 in	1142	165 lbs	129 lbs
SSR10A-6	5/8 in	1 3/8 in	3/8 in	1069	207 lbs	165 lbs
SSR10B-3/8-6	3/8 in	1 3/8 in	7/16 in	1069	207 lbs	165 lbs
SSR10B-1/2-6	1/2 in	1 3/8 in	7/16 in	1069	207 lbs	165 lbs
SSR10B-5/8-6	5/8 in	1 3/8 in	7/16 in	1069	207 lbs	165 lbs
SSR12-5/16W-6	3/4 in	1 5/8 in	5/16 in	840	234 lbs	198 lbs
SSR12-7/16W-6	3/4 in	1 5/8 in	7/16 in	840	234 lbs	198 lbs
SSR16-1-6	1 in	2 in	1/2 in	729	276 lbs	240 lbs
SSR16-1-1/4-6	1 1/4 in	2 in	1/2 in	729	276 lbs	240 lbs
SSR18-6	1 1/8 in	2 1/8 in	1/2 in	729	276 lbs	240 lbs
SSR20-6	1 1/4 in	2 1/4 in	1/2 in	729	276 lbs	240 lbs

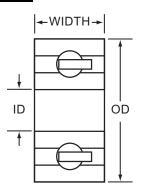
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- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
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Single Row 316 Stainless Raceways

Metric Sizes





600 Series

Standard Plastic is Acetal

PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SS624-6	4 mm	13 mm	5 mm	2352	78 lbs	51 lbs
SS634-6	4 mm	16 mm	5 mm	2352	78 lbs	51 lbs
SS625-6	5 mm	16 mm	5 mm	2352	78 lbs	51 lbs
SS635-6	5 mm	19 mm	6 mm	2352	78 lbs	51 lbs
SS606-6	6 mm	17 mm	6 mm	2352	78 lbs	51 lbs
SS626-6	6 mm	19 mm	6 mm	2352	78 lbs	51 lbs
SS636-6	6 mm	22 mm	7 mm	1600	126 lbs	99 lbs
SS607-6	7 mm	19 mm	6 mm	1600	126 lbs	99 lbs
SS627-6	7 mm	22 mm	7 mm	1600	126 lbs	99 lbs
SS637-6	7 mm	26 mm	9 mm	1600	126 lbs	99 lbs
SS608-6	8 mm	22 mm	7 mm	1600	126 lbs	99 lbs
SS628-6	8 mm	24 mm	8 mm	1600	126 lbs	99 lbs
SS638-6	8 mm	28 mm	9 mm	1142	165 lbs	129 lbs
SS609-6	9 mm	24 mm	7 mm	1600	126 lbs	99 lbs
SS629-6	9 mm	26 mm	7 mm	1600	126 lbs	99 lbs
SS639-6	9 mm	30 mm	10 mm	1142	165 lbs	129 lbs

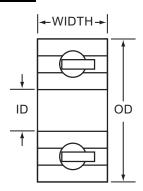
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Single Row 316 Stainless Raceways

Metric Sizes





6000 Series

Standard Plastic is Acetal

PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SS6000-6	10 mm	26 mm	8 mm	1600	126 lbs	99 lbs
SS6001-6	12 mm	28 mm	8 mm	1142	165 lbs	129 lbs
SS6002-6	15 mm	32 mm	9 mm	1142	165 lbs	129 lbs
SS6003-6	17 mm	35 mm	10 mm	1069	207 lbs	138 lbs
SS6004-6	20 mm	42 mm	12 mm	840	234 lbs	156 lbs
SS6005-6	25 mm	47 mm	12 mm	729	276 lbs	183 lbs
SS6006-6	30 mm	55 mm	13 mm	729	276 lbs	183 lbs
SS6007-6	35 mm	62 mm	14 mm	630	295 lbs	196 lbs

6200 Series

Standard Plastic is Acetal

PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SS6200-6	10 mm	30 mm	9 mm	1142	165 lbs	129 lbs
SS6201-6	12 mm	32 mm	10 mm	1142	165 lbs	129 lbs
SS6202-6	15 mm	35 mm	11 mm	1069	207 lbs	165 lbs
SS6203-6	17 mm	40 mm	12 mm	1069	207 lbs	165 lbs
SS6204-6	20 mm	47 mm	14 mm	840	234 lbs	198 lbs
SS6205-6	25 mm	52 mm	15 mm	729	276 lbs	240 lbs
SS6206-6	30 mm	62 mm	16 mm	729	276 lbs	240 lbs

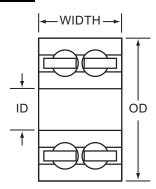
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Double Row 316 Stainless Raceways

Inch Sizes





Standard Plastic is Acetal

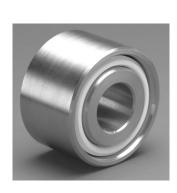
PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY		
SSR4DR-6	1/4 in	5/8 in	3/8 in	1881	117 lbs	76 lbs		
SSR4ADR-6	1/4 in	3/4 in	3/8 in	1881	117 lbs	76 lbs		
SSR6DR-6	3/8 in	7/8 in	7/16 in	1280	189 lbs	148 lbs		
SSR8DR-3/8-6	3/8 in	1 1/8 in	7/16 in	913	247 lbs	193 lbs		
SSR8DR-1/2-6	1/2 in	1 1/8 in	7/16 in	913	247 lbs	193 lbs		
SSR10BDR-3/8-6	3/8 in	1 3/8 in	7/16 in	855	310 lbs	247 lbs		
SSR10BDR-1/2-6	1/2 in	1 3/8 in	7/16 in	855	310 lbs	247 lbs		
SSR10BDR-5/8-6	5/8 in	1 3/8 in	7/16 in	855	310 lbs	247 lbs		
SSR12DR	3/4 in	1 5/8 in	5/8 in	672	351 lbs	298 lbs		
SSR16DR-1-6	1 in	2 in	3/4 in	583	414 lbs	360 lbs		
SSR16DR-1-1/4-6	1 1/4 in	2 in	3/4 in	583	414 lbs	360 lbs		
SSR18DR-6	1 1/8 in	2 1/8 in	3/4 in	583	414 lbs	360 lbs		
SSR20DR-6	1 1/4 in	2 1/4 in	3/4 in	583	414 lbs	360 lbs		

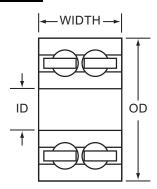
- Some bearings listed on data sheets may not be in inventory. Some may require minimum order, and delivery could range from 6 to 8 weeks. Check with KMS for item availability and delivery.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
- Information presented is believed to be accurate at the time of publication but is subject to change without notice.



Double Row 316 Stainless Raceways

Metric Sizes





Standard Plastic is Acetal

PART NUMBER	ID	OD	WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SS5200-6	10 mm	30 mm	14.28 mm	913	247 lbs	193 lbs
SS5201-6	12 mm	32 mm	15.87 mm	913	247 lbs	193 lbs
SS5202-6	15 mm	35 mm	15.87 mm	855	310 lbs	247 lbs
SS5203-6	10 mm	40 mm	17.46 mm	855	310 lbs	247 lbs
SS5204-6	20 mm	47 mm	20.63 mm	672	351 lbs	298 lbs
SS5205-6	25 mm	52 mm	20.63 mm	583	414 lbs	360 lbs
SS5206-6	30 mm	62 mm	23.81 mm	583	414 lbs	360 lbs

- Some bearings listed on data sheets may not be in inventory. Some may require minimum order, and delivery could range from 6 to 8 weeks. Check with KMS for item availability and delivery.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
- Information presented is believed to be accurate at the time of publication but is subject to change without notice.



316 Stainless Raceways Availability and Material Selection

Availability

Some bearings listed on data sheets may not be in inventory. Some may require a minimum order, and delivery could range from 6 to 8 weeks. **Check with KMS for item availability and delivery.**

Material Selection

KMS Stainless bearings are produced with a type AISI 316 grade stainless for raceways and balls. 316 Stainless has superior corrosion resistance. 316 Stainless is used extensively in food, medical and hostile chemical environments. 316 Stainless provides superior corrosion resistance when compared to conventional standard 440 Stainless.

General Information

A KMS 316 Stainless ball bearing should only be used when a conventional 440 Stainless or a KMS Plastic ball bearing are unsuitable.

Reasons for use are:

- Environment corrodes 440 SS.
- Needs to be non-magnetic.
- Can run without lube (slow speeds).
- Hygienic

- Excessive load for Plastic ball bearing
- Can run in liquids.
- FDA & NSF approved materials
- Can run in high temperature (without cage or with high temperature polymer cage)

Value Engineering = Less Cost

Only a KMS 316 Stainless ball bearing can offer you value that far exceeds its steel or 440 SS counterpart. True value is achieved by extending bearing life and offering qualities of being non-magnetic and non-contaminating in food, medical and photo environment. Evolve from your standard steel bearing to a KMS Plastic or 316 Stainless Bearing by giving us a call. We will analyze your application and find your true value solution.

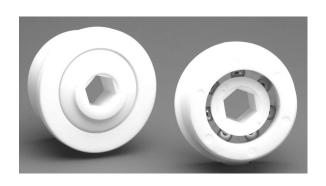
Special Bearings & Sizes - Variations - Engineering & Prototyping Plastic Ball Bearings "Ten Good Reasons To Use," ETC...

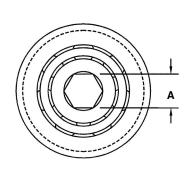
For additional information on the above topics see directory.

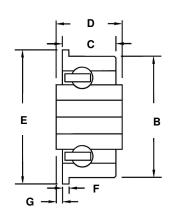
Information presented is believed to be accurate at the time of publication but is subject to change without notice.



Plastic Raceways Single Row - Hex Bore







Single Row

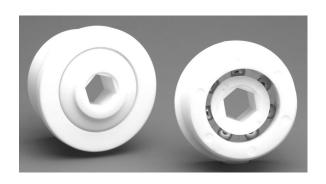
Standard Plastic is Polypropylene

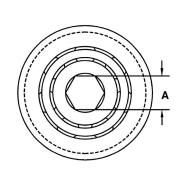
PART NUMBER	A HEX	В	С	D	Е	F	G	MAXIMUM RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
CB312-1.0SR-6	5/16 in	1.0 in	.84 in	.47 in	1.16 in	.12 in	.12 in	1600	42 lbs	33 lbs
CB437-1.5SR-6	7/16 in	1.50 in	.70 in	.93 or.60 in	1.56 in	.10 in	.12 in	1069	69 lbs	46 lbs
CB437-1.6SR-6	7/16 in	1.60 in	.70 or 1.10 in	.60 in	1.80 in	.10 in	.12 in	1069	69 lbs	46 lbs
CB437-1.78SR-6	7/16 in	1.78 in	1.10 in	.60 in	1.86 in	.10 in	.12 in	1069	69 lbs	46 lbs
CB437-1.87SR-6	7/16 in	1.87 in	.70 in	.60 in	2.00 in	.10 in	.12 in	1069	69 lbs	46 lbs
CB437-2.05SR-6	7/16 in	2.056 in	.70 in	.60 in	2.32 in	.10 in	.12 in	729	92 lbs	61 lbs
CB687-2.05SR-6	11/16 in	2.056 in	.70 in	.60 in	2.32 in	.10 in	.12 in	729	92 lbs	61 lbs
CB437-2.26SR-6	7/16 in	2.260 in	.70 in	.60 in	2.37 in	.10 in	.12 in	729	92 lbs	61 lbs
CB687-2.26SR-6	11/16 in	2.260 in	.70 in	.60 in	2.37 in	.10 in	.12 in	729	92 lbs	61 lbs

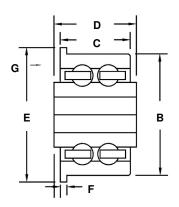
- For Delivery see Availability and Material Selection Page.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
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Plastic Raceways Double Row - Hex Bore







Double Row

Standard Plastic is Polypropylene

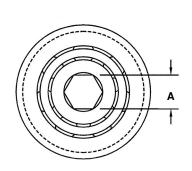
PART NUMBER	A HEX	В	С	D	Е	F	G	MAXIMUM RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
CB312-1.0DR-6	5/16 in	1.0 in	.84 in	.47 in	1.16 in	.12 in	.06 in	1280	60 lbs	43 lbs
CB437-1.5DR-6	7/16 in	1.50 in	.70 in	.93 in	1.56 in	.10 in	.12 in	855	85 lbs	68 lbs
CB437-1.6DR-6	7/16 in	1.60 in	.70 or 1.10 in	.93 in	1.80 in	.10 in	.12 in	855	85 lbs	68 lbs
CB437-1.78DR-6	7/16 in	1.78 in	1.10 in	.93 in	1.86 in	.10 in	.12 in	855	85 lbs	68 lbs
CB437-1.87DR-6	7/16 in	1.87 in	.70 in	.93 in	2.00 in	.10 in	.12 in	855	85 lbs	68 lbs
CB437-2.05DR-6	7/16 in	2.056 in	.70 in	.93 in	2.32 in	.10 in	.12 in	672	100 lbs	83 lbs
CB687-2.05DR-6	11/16 in	2.056 in	.70 in	.93 in	2.32 in	.10 in	.12 in	672	100 lbs	83 lbs
CB437-2.26DR-6	7/16 in	2.260 in	.70 in	.93 in	2.37 in	.10 in	.12 in	672	100 lbs	83 lbs
CB687-2.26DR-6	11/16 in	2.260 in	.70 in	.93 in	2.37 in	.10 in	.12 in	672	100 lbs	83 lbs

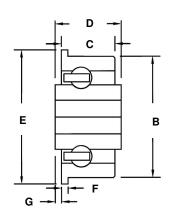
- For Delivery see Availability and Material Selection Page.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
- Information presented is believed to be accurate at the time of publication but is subject to change without notice.



316 Stainless Raceways Single Row - Hex Bore







Single Row

Standard Plastic is Polypropylene

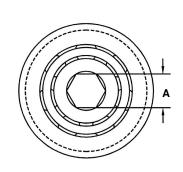
PART NUMBER	A HEX	В	С	D	Е	F	G	MAXIMUM RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SSCB312-1.0SR-6	5/16 in	1.00 in	0.84 in	.47 in	1.16 in	.12 in	.12 in	1600	126 lbs	99 lbs
SSCB437-1.5SR-6	7/16 in	1.50 in	0.70 in	.93 or.60 in	1.56 in	.10 in	.12 in	1069	207 lbs	165 lbs
SSCB437-1.6SR-6	7/16 in	1.60 in	0.70 in	.60 in	1.80 in	.10 in	.12 in	1069	207 lbs	165 lbs
SSCB437-1.78SR-6	7/16 in	1.78 in	1.10 in	.60 in	1.86 in	.10 in	.12 in	1069	207 lbs	165 lbs
SSCB437-1.87SR-6	7/16 in	1.87 in	0.70 in	.60 in	2.00 in	.10 in	.12 in	1069	207 lbs	165 lbs
SSCB437-2.05SR-6	7/16 in	2.056 in	0.70 in	.60 in	2.32 in	.10 in	.12 in	840	234 lbs	198 lbs
SSCB687-2.05SR-6	11/16 in	2.056 in	0.70 in	.60 in	2.32 in	.10 in	.12 in	840	234 lbs	198 lbs
SSCB437-2.26SR-6	7/16 in	2.260 in	0.70 in	.60 in	2.37 in	.10 in	.12 in	840	234 lbs	198 lbs
SSCB687-2.26SR-6	11/16 in	2.260 in	0.70 in	.60 in	2.37 in	.10 in	.12 in	840	234 lbs	198 lbs

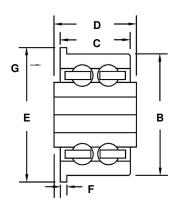
- For Delivery see Availability and Material Selection page.
- For Tube and Pipe fit see Availability and Material Selection page.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
- Information presented is believed to be accurate at the time of publication but is subject to change without notice.



316 Stainless Raceways Double Row - Hex Bore







Double Row

Standard Plastic is Polypropylene

PART NUMBER	A HEX	В	С	D	Е	F	G	MAXIMUM RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SSCB312-1.0DR-6	5/16 in	1.00 in	0.84 in	.47 in	1.16 in	.12 in	.12 in	1280	189 lbs	148 lbs
SSCB437-1.5DR-6	7/16 in	1.50 in	0.70 in	.93 or.60 in	1.56 in	.10 in	.12 in	855	310 lbs	247 lbs
SSCB437-1.6DR-6	7/16 in	1.60 in	0.70 in	.60 in	1.80 in	.10 in	.12 in	855	310 lbs	247 lbs
SSCB437-1.78DR-6	7/16 in	1.78 in	1.10 in	.60 in	1.86 in	.10 in	.12 in	855	310 lbs	247 lbs
SSCB437-1.87DR-6	7/16 in	1.87 in	0.70 in	.60 in	2.00 in	.10 in	.12 in	855	310 lbs	247 lbs
SSCB437-2.05DR-6	7/16 in	2.056 in	0.70 in	.60 in	2.32 in	.10 in	.12 in	672	351 lbs	298 lbs
SSCB687-2.05DR-6	11/16 in	2.056 in	0.70 in	.60 in	2.32 in	.10 in	.12 in	672	351 lbs	298 lbs
SSCB437-2.26DR-6	7/16 in	2.260 in	0.70 in	.60 in	2.37 in	.10 in	.12 in	672	351 lbs	298 lbs
SSCB687-2.26DR-6	11/16 in	2.260 in	0.70 in	.60 in	2.37 in	.10 in	.12 in	672	351 lbs	298 lbs

- For Delivery see Availability and Material Selection page.
- For Tube and Pipe fit see Availability and Material Selection page.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
- Information presented is believed to be accurate at the time of publication but is subject to change without notice.



Plastic & 316 Stainless Raceways - Single & Double Row Availability and Material Selection

General Information

KMS produces Conveyor type ball bearings that can be used in standard industrial tube and pipe sizes for use in conveyor systems.

Reasons for use are:

Corrosion Resistance	Low start up torque - means lower conveyor incline angles
Free turning	Hygienic
No-Lube	Can run in liquids
Light weight	Quiet running

Availability

Some bearings listed on data sheets may not be in inventory. Some may require a minimum order, and delivery could range from 3 to 6 weeks.

How to order/specify.

Call or fax KMS to check availability on a specific size or material.

Material Selection

The majority of KMS Conveyor ball bearings are produced with either polypropylene or 316 stainless races. They are cage type and are fitted with 316 Stainless balls. Polypropylene is a general purpose conventional plastic widely used for components in wet and hostile environments, while conforming to FDA, NSF, and UL Standards. AISI 316 stainless is used extensively in the food and medical industries.

Alternate materials are available. Consult with KMS for availability.

Guide for choosing bearing size to tube/pipe.							
TUBE SIZE AND DESCRIPTION	BEARING SELECTIONS						
1" PVC, 1" ID x 1.315 O.D., 1" PVC, sch. 40.	CB312-1.0 in Single Row (SR) Double row (DR), Plastic or 316 Stainless races.						
1-1/2 Schedule 80 PVC (.200 wall thickness)	CB437-1.5						
1-1/2 Schedule 40 PVC (.150 wall thickness) 1.9 Steel, 9 gauge (9 gauge = .148 wall)	CB437 - 1.6						
2.0 Steel 12 gauge(12 gauge = .109 wall)	CB437-1.78						
2.0 Steel (16 gauge = .065 wall thickness)	CB437-1.87						
2.0 PVC, Schedule 40 (.150 wall thickness) 2 1/2 Steel, 11 gauge (.120 wall thickness)	CB437 or 687 - 2.05 CB4376 or 687 - 2.26						
This bearing and tube guide is intended to be a practical guide for select	ction. Consult with tube/pipe manufacturer for actual dimensions held in production lots.						

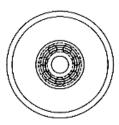


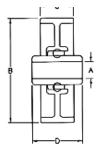
SKATEWHEEL BALL BEARINGS

Single Row Plastic Raceways

Inch Sizes







Standard Plastic is Acetal

PART NUMBER	А	В	С	D	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SW250	1/4 in	1.9 in	5/8 in	15/16 in	40 lbs	34 lbs
SW312	5/16 in	1.9 in	5/8 in	15/16 in	40 lbs	34 lbs

General Information

KMS Skatewheels feature a cage type ball bearing construction for the lightest weight and fastest spinning skatewheel available. When fitted with 316 stainless balls it is corrosion resistant, no-lube, and maintenance free.

Additional benefits include:

- Non-marking
- Freer-turning
- Wash down no rusting
- Lighter weight than standard steel skatewheels
- Wider contact surface better tracking
- No lube required

• Hygienic

Material Selection										
	Acetal	Polypro	316 Stainless	Carbon Chrome	Glass					
Races	•	♦								
Balls	•		О	•	0					
◆ = Standard Mate◇ = Special Order			o = Standard Balls • = Special Order	=						

How to order/specify.										
Call or fax KMS to check availability on a specific size and material.										
Prefix: Raceway materials										
A = Acetal	P = Polypropylene									
Suffix: Ball Type	Suffix: Ball Type									
-6 = 316 Stainless										

• Information presented is believed to be accurate at the time of publication but is subject to change without notice.

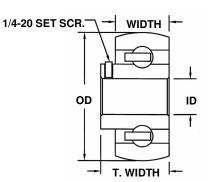
Example: ASW250-6 = SW250 Skatewheel, acetal plastic races, fitted with 316 stainless balls.



INSERT BALL BEARINGS

Plastic Raceways Single & Double Row





Single Row

Standard Plastic is Polypropylene

PART NUMBER	ID	OD	WIDTH	TOTAL WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
AIB204-1/2-6	1/2 in	1.850 ln	0.591 in	0.950 in	840	78 lbs	52 lbs
AIB204-5/8-6	5/8 in	1.850 in	0.591 in	0.950 in	840	78 lbs	52 lbs
AIB204-3/4-6	3/4 in	1.850 in	0.591 in	0.950 in	840	78 lbs	52 lbs
AIB205-5/8-6	5/8 in	2.047 in	0.709 in	1.060 in	729	92 lbs	61 lbs
AIB205-3/4-6	3/4 in	2.047 in	0.709 in	1.060 in	729	92 lbs	61 lbs
AIB205-1-6	1 in	2.047 in	0.709 in	1.060 in	729	92 lbs	61 lbs
AIB206-1-1/16-6	1 1/16 in	2.441 in	0.709 in	1.220 in	690	151 lbs	114 lbs
AIB206-1-1/8-6	1 1/8 in	2.441 in	0.709 in	1.220 in	690	151 lbs	114 lbs
AIB206-1-1/4-6	1 1/4 in	2.441 in	0.709 in	1.220 in	690	151 lbs	114 lbs
AIB206-1-3/16-6	1 3/16 in	2.441 in	0.709 in	1.220 in	690	151 lbs	114 lbs

Double Row

Standard Plastic is Polypropylene

PART NUMBER	ID	OD	WIDTH	TOTAL WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
AIB-1/2-DR	1/2 in	1.850 in	0.512 in	0.886 in	672	117 lbs	104 lbs
AIB-5/8-DR	5/8 in	1.850 in	0.512 in	0.886 in	672	117 lbs	104 lbs
AIB-3/4-DR	3/4 in	1.850 in	0.591 in	0.950 in	672	117 lbs	104 lbs
AIB-5/8L-DR	5/8 in	2.047 in	0.709 in	1.060 in	583 138 lbs		92 lbs
AIB-3/4L-DR	3/4 in	2.047 in	0.709 in	1.060 in	583	138 lbs	92 lbs
AIB-1-DR	1 in	2.047 in	0.709 in	1.220 in	583	138 lbs	92 lbs
AIB-1-1/8-DR	1 1/8 in	2.441 in	0.709 in	1.220 in	552	189 lbs	142 lbs
AIB-1-1/4-DR	1 1/4 in	2.441 in	0.709 in	1.220 in	552	189 lbs	142 lbs
AIB-1-3/16-DR	1 3/16 in	2.441 in	0.709 in	1.220 in	552	189 lbs	142 lbs

Open type standard.

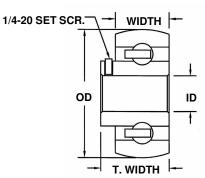
- Shielded type made to order.
- For Delivery see Availability and Material Selection Page.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
- Information presented is believed to be accurate at the time of publication but is subject to change without notice.



INSERT BALL BEARINGS

316 Stainless Raceways Single Row





Single Row

PART NUMBER	ID	OD	WIDTH	TOTAL WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SSIB204-1/2-6	1/2 in	1.850 in	0.591 in	0.950 in	840	234 lbs	156 lbs
SSIB204-5/8-6	5/8 in	1.850 in	0.591 in	0.950 in	840	234 lbs	156 lbs
SSIB204-3/4-6	3/4 in	1.850 in	0.591 in	0.950 in	840	234 lbs	156 lbs
SSIB205-3/4-6	3/4 in	2.047 in	0.709 in	1.060 in	729	276 lbs	183 lbs
SSIB205-1-6	1 in	2.047 in	0.709 in	1.060 in	729	276 lbs	183 lbs
SSIB206-1-1/16-6	1 1/16 in	2.441 in	0.709 in	1.060 in	690	378 lbs	285 lbs
SSIB206-1-1/8-6	1 1/8 in	2.441 in	0.709 in	1.220 in	690	378 lbs	285 lbs
SSIB206-1-1/4-6	1 1/4 in	2.441 in	0.709 in	1.220 in	690	378 lbs	285 lbs
SSIB206-1-3/16-6	1 3/16 in	2.441 in	0.709 in	1.220 in	690	378 lbs	285 lbs

Open type standard.

• Shielded type made to order.

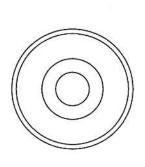
- For Delivery see Availability and Material Selection Page.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
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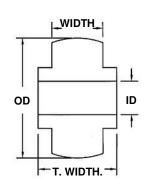


INSERT SLEEVE BEARINGS

Solid UHMW Plastic







PART NUMBER	ID	OD	WIDTH	TOTAL WIDTH	MAX. RPM WITH NO LOAD	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
SIB204-5/8	5/8 in	1.850 in	0.591 in	1.125 in	350	275 lbs	325 lbs
SIB204-3/4	3/4 in	1.850 in	0.591 in	1.125 in	350	275 lbs	325 lbs
SIB205-3/4	3/4 in	2.047 in	0.709 in	1.250 in	325	350 lbs	400 lbs
SIB205-7/8	7/8 in	2.047 in	0.709 in	1.250 in	325	350 lbs	400 lbs
SIB205-1	1 in	2.047 in	0.709 in	1.250 in	300	370 lbs	425 lbs
SIB206-1-1/8	1 1/8 in	2.441 in	0.709 in	1.250 in	285	450 lbs	500 lbs
SIB206-1-1/4	1 1/4 in	2.441 in	0.709 in	1.250 in	285	450 lbs	500 lbs
SIB206-1-3/16	1 3/16 in	2.441 in	0.709 in	1.250 in	285	450 lbs	500 lbs

- For Delivery see Availability and Material Selection Page.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
- Information presented is believed to be accurate at the time of publication but is subject to change without notice.



INSERT BALL BEARINGS

52100 Steel Raceways



Single Row

PART NUMBER	ID	OD	TOTAL WIDTH	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
STL204-IB-1/2	1/2 in	1.850 in		2220 lbs	1390 lbs
STL204-IB-5/8	5/8 in	1.850 in		2220 lbs	1390 lbs
STL204-IB-3/4	3/4 in	1.850 in	Consult KMS	2220 lbs	1390 lbs
STL205-IB-3/4	3/4 in	2.047 in	for	2430 lbs	1560 lbs
STL205-IB-1	1 in	2.047 in	in stock widths	2430 lbs	1560 lbs
STL206-IB-1-1/8	1 1/8 in	2.441 in	Widths	3490 lbs	2250 lbs
STL206-IB-1-1/4	1 1/4 in	2.441 in		3490 lbs	2250 lbs
STL206-IB-1-3/16	1 3/16 in	2.441 in		3490 lbs	2250 lbs

These 52100 steel bearings are not corrosion resistant. They offer only limited corrosion resistance when they are fitted into KMS plastic mounted block.

- For Delivery see Availability and Material Selection Page.
- Load & Speed calculations are for reference only. KMS recommends testing in actual environment to be encountered.
- Information presented is believed to be accurate at the time of publication but is subject to change without notice.



INSERT BEARINGS - Ball Bearing & Sleeve Type

Availability and Material Selection

Gen	eral Information									
	KMS produces Insert type bearings to fit KMS' mounted blocks as well as to fit standard industrial blocks. KMS' selection covers all application requirements. For example:									
For:	Superior corrosion resistance, low speed and load, low torque, no lube applications.	Use:	Plastic Raceway type - Insert ball bearing (AIB)							
For:	Benefits as above with higher load capability, higher torque, non-ball bearing type.	Use:	Solid Plastic Sleeve type - SIB series							
For:	Higher load, non-magnetic, free spinning ball bearing type, corrosion resistance.	Use:	316 Stainless Raceway - SSIB series ball bearing							
For:	Heavy duty applications where grease can be used for corrosion protection. Additional protection can be obtained by using a KMS plastic mounted block.	Use:	52100 Steel Raceways - STLIB series							

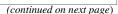
Availability

Some bearings listed on data sheets may not be in inventory. Some may require a minimum order, and delivery could range from 4 to 8 weeks. **Check with KMS for item availability and delivery.**

How to order/specify.									
Call or fax KMS to check availability on a specific size and material.									
Prefix: Standard & Special order materials									
A = Acetal P = Polypropylene	K = Kynar® PK = PEEK® UH = UHMW - PE SS = 316 Stainless								
Suffix: Ball Type									
-6 = 316 Stainless	-C = Ceramic	-T = Torlon®	-G = Glass						
Example: PIB-1-6 = Polypropylen	e Raceways, IB = Insert beari	ng, -1 = 1" bore, -6 = 316 Stainle	ess Balls.						

Material Selection

The standard KMS Insert ball bearings are produced with Acetal raceways and cages and are fitted with 316 Stainless balls. Acetal, (tradename Celcon® or Delrin®) is a general purpose engineering polymer widely used for mechanical components and machinery needing to comply to FDA, NSF, and UL Standards. Our stainless inserts are made from 316 stainless that is widely used in the food and medical industries.





INSERT BEARINGS - Ball Bearing & Sleeve Type

Availability and Material Selection

Whe	When Acetal doesn't work.									
Whe	When Acetal is not the ideal choice, KMS has alternate materials to suit most requirements.									
For:	Increasing chemical resistance. Use: *Polypropylene, UHMW, *Kynar®									
For:	Higher heat capacity.	Use:	*PEEK®, Vespel®, 316 Stainless							
For:	Greater strength with corrosion resistance.	Use:	*Kynar®, Vespel®, 316 Stainless							
For:	Greater strength without corrosion resistance.	Use:	52100 Steel							
*Spe	cial order materials - consult with KMS.									

Materia	Material for races and balls.													
	Acetal	Polypro	PEEK®	Kynar®	UHMW	Torlon®	SS316*	SS302*	Ceramic	Steel				
Races	◊	•	•	•	◊		♦			•				
Balls	o					О	•	0	О					
Solid Plastic	•	•			♦									

^{♦ =} Available for Races or Solid Type

o = Special Order Balls

*Stainless

♦ = Special Order

• = Available Balls - Stock

No Rust + No Lube + Hygienic = Less Cost

Most bearing failures today are caused by corrosion. A KMS *plastic or 316 stainless ball bearing* can be utilized in environments destructive to conventional bearings. They can operate in hostile environments such as sea water, film processing solutions, swimming pools, and in many cases the medium can be used as the cooling agent.

Special Bearings & Sizes - Variations - Engineering & Prototyping Plastic Ball Bearings "Ten Good Reasons To Use," ETC...

For additional information on the above topics see directory.

Information presented is believed to be accurate at the time of publication but is subject to change without notice.





WHY KMS Mounted Blocks and Bearings are Superior:

KMS Bearings, Inc. produces mounted blocks from PBT, an engineering polymer, that will never corrode or rust. When fitted with KMS' Plastic or AISI 316 Stainless insert ball bearings they provide superior corrosion resistance to any mounted unit offered today.

Thermoplastic Polyester (PBT) and AISI 316 Stainless are widely used in the food and medical industries. KMS mounted blocks and bearings can run in liquids or run dry at slow speeds.

A solid flat base prevents contaminants from entering the bottom of the housings. This flat surface cannot harbor objectionable dirt, mold or bacteria.

BLOCK CONSTRUCTION: Blocks are first molded from a high grade of glass filled thermoplastic polyester (PBT). The block's spherical bore is machined for concentricity and proper fit of the insert bearing. The last step in manufacturing is machining the solid base for flatness.

BEARING CONSTRUCTION: Machined semi-precision rings, polymer cages and AISI 316 Stainless balls are used in the manufacture of KMS Plastic & AISI 316 Stainless insert ball bearings. This type of bearing is intended primarily to reduce friction and permit free movement of turning parts. They are best suited for moderate loads and slow speeds.

MATERIALS:

RINGS: Plastic: Acetal

Stainless: AISI 316

BALLS: Standard balls are AISI 316. When necessary, other

types of balls are available on a special order basis.

BALL RETAINER (CAGE): Polymer

SHIELDS/SEALS:

Open design is standard. Polymer shield/seals can be provided on a special order basis.

LUBRICATION:

Plastic race type are supplied dry and AISI 316 Stainless race type come with a light non contaminating oil. When necessary, special order lubricants can be provided.

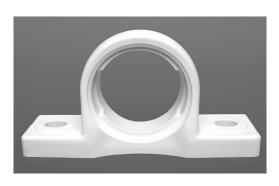
TEMPERATURE: In Air: 180°F; Submerged in Water: 120°F For higher temperatures consult KMS.

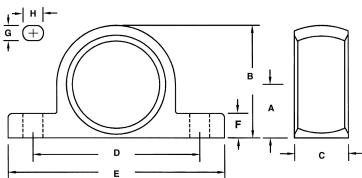
Ten Good Reasons For Use...

- 1. CORROSION RESISTANCE: Most bearings failures today are caused by corrosion. A KMS Block & Bearing can be utilized in environments destructive to conventional units.
- **2. LUBE FREE:** Plastic or AISI 316 Stainless can run without lubrication at slow speeds and low loads.
- **3. HYGIENIC:** Bearing inserts are made from Plastic or AISI 316 Stainless and are naturally clean because they do not corrode or require lubrication in certain applications. Housings have smooth surfaces and a solid base that does not harbor objectionable dirt, mold or bacteria.
- **4. WASH DOWN:** They can be washed down without the penalty of having to re-lube to prevent rust.
- **5. WILL NOT CHIP OR PEEL:** With cast iron housings if the paint is scratched or chipped it will rust. KMS housings are solid PBT Plastic.
- **6. REDUCED DOWNTIME:** Bearings and blocks with superior corrosion resistance will live longer requiring less frequent replacements.
- **7. NSF & FDA APPROVED MATERIALS:** AISI 316 Stainless, PBT and Acetal plastic are food and medical grade materials.
- **8. RUNS IN LIQUIDS:** Due to the materials used our bearings and housings can run in liquids.
- **9. CAN RUN DRY:** Plastic & AISI 316 Stainless do not require oil or grease for corrosion protection. Therefore, if the speed and load are low there is no need for lubrication.
- **10. LIGHTWEIGHT:** A KMS plastic housing fitted with a polymer race insert bearing is five (5) times lighter than conventional cast iron housing and steel bearing.



Plastic Pillow Block (PPL) Block Only





PART NUMBER	SHAFT SIZE REFERENCE	DIMENSION											
		A mm (inch)	B mm (inch)	C mm (inch)	D mm (inch)	E mm (inch)	F mm (inch)	G mm (inch)	H mm (inch)				
PPL204	1/2, 5/8, 3/4"	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)				
PPL205	3/4, 5/8, 1"	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)				
PPL206	1-1/8, 1-3/16, 1-1/4	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)				

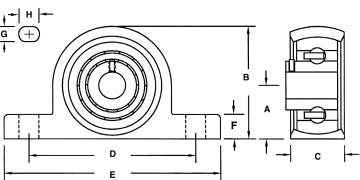
- Plastic Mounted Blocks are available with a variety of insert bearings to best suit your application.
- For delivery contact KMS, some sizes and types may not be in stock and may require a minimum order.
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PBT Polyester Plastic Pillow Block (PPL)

Fitted with Acetal Insert Bearings (AIB)



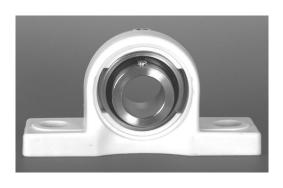


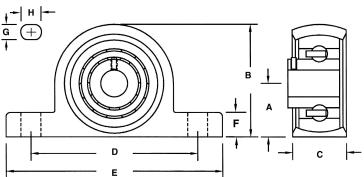
						DIME	NSION						
PART NUMBER	BORE SIZE	WIDTH OF INNER RING	A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	E mm (Inch)	F mm (Inch)	G mm (Inch)	H mm (Inch)	MAX. RPM (NO LOAD)	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
PPL204-AIB-1/2-6	1/2 in	0.591 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	840	78 lbs	52 lbs
PPL204-AIB-5/8-6	5/8 in	0.591 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	840	78 lbs	52 lbs
PPL204-AIB-3/4-6	3/4 in	0.591 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	840	78 lbs	52 lbs
PPL205-AIB-3/4-6	3/4 in	0.709 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	729	92 lbs	61 lbs
PPL205-AIB-5/8-6	5/8 in	0.709 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	729	92 lbs	61 lbs
PPL205-AIB-1-6	1 in	0.709 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	729	92 lbs	61 lbs
PPL206-AIB-1-1/8-6	1 1/8 in	0.709 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	690	151 lbs	114 lbs
PPL206-AIB-1-3/16-6	1 3/16 in	0.709 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	690	151 lbs	114 lbs
PPL206-AIB-1-1/4-6	1 1/4 in	0.709 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	690	151 lbs	114 lbs

- Plastic Mounted Blocks are available with a variety of insert bearings to best suit your application.
- For delivery contact KMS, some sizes and types may not be in stock and may require a minimum order.
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PBT Polyester Plastic Pillow Block (PPL) Fitted with SS316 Stainless Bearing



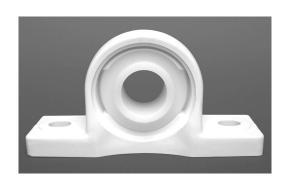


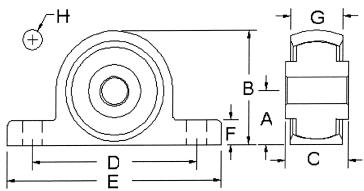
	BORE SIZE	WIDTH OF INNER RING	DIMENSION									->	0-11-10
PART NUMBER			A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	E mm (Inch)	F mm (Inch)	G mm (Inch)	H mm (Inch)	MAX. RPM (NO LOAD)	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
PPL204-SSIB-1/2-6	1/2 in	0.591 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	840	234 lbs	156 lbs
PPL204-SSIB-5/8-6	5/8 in	0.591 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	840	234 lbs	156 lbs
PPL204-SSIB-3/4-6	3/4 in	0.591 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	840	234 lbs	156 lbs
PPL205-SSIB-3/4-6	3/4 in	0.709 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	729	276 lbs	183 lbs
PPL205-SSIB-5/8-6	5/8 in	0.709 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	729	276 lbs	183 lbs
PPL205-SSIB-1-6	1 in	0.709 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	729	276 lbs	183 lbs
PPL206-SSIB-1-1/8-6	1 1/8 in	0.709 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	690	378 lbs	285 lbs
PPL206-SSIB-1-3/16-6	1 3/16 in	0.709 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	690	378 lbs	285 lbs
PPL206-SSIB-1-1/4-6	1 1/4 in	0.709 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	690	378 lbs	285 lbs

- Plastic Mounted Blocks are available with a variety of insert bearings to best suit your application.
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PBT Polyester Plastic Pillow Block (PPL) Fitted with Solid Insert Bearing (UHMW)





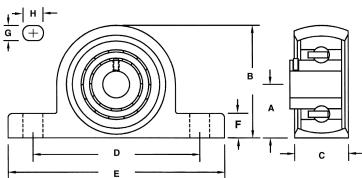
PART NUMBER	BORE SIZE	WIDTH OF INNER RING	DIMENSION										
			A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	E mm (Inch)	F mm (Inch)	G mm (Inch)	H mm (Inch)	MAX. RPM (NO LOAD)	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
PPL204-SIB-1/2-6	1/2 in	0.591 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	350	275 lbs	325 lbs
PPL204-SIB-5/8-6	5/8 in	0.591 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	350	275 lbs	325 lbs
PPL204-SIB-3/4-6	3/4 in	0.591 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	350	275 lbs	325 lbs
PPL205-SIB-3/4-6	3/4 in	0.709 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	300	350 lbs	400 lbs
PPL205-SIB-5/8-6	5/8 in	0.709 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	300	350 lbs	400 lbs
PPL205-SIB-1-6	1 in	0.709 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	300	350 lbs	400 lbs
PPL206-SIB-1-1/8-6	1 1/8 in	0.709 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	285	450 lbs	500 lbs
PPL206-SIB-1-3/16-6	1 3/16 in	0.709 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	285	450 lbs	500 lbs
PPL206-SIB-1-1/4-6	1 1/4 in	0.709 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	285	450 lbs	500 lbs

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PBT Polyester Plastic Pillow Block (PPL) Fitted with 52100 Steel Bearing





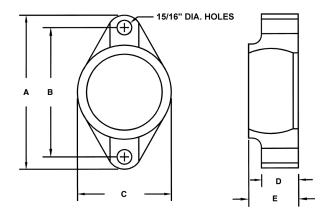
PART NUMBER	BORE SIZE				DIMEN	DYNAMIC	STATIC				
		A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	E mm (Inch)	F mm (inch)	G mm (inch)	H mm (inch)	LOAD CAPACITY	LOAD CAPACITY
PPL204-STL-1/2-6	1/2 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	2220 lbs	1390 lbs
PPL204-STL-5/8-6	5/8 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	2220 lbs	1390 lbs
PPL204-STL-3/4-6	3/4 in	33.3 (1.33)	65 (2.56)	38 (1.49)	95 (3.74)	127 (5.00)	14.2 (0.55)	11 (0.43)	14 (0.55)	2220 lbs	1390 lbs
PPL205-STL-3/4-6	3/4 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	2430 lbs	1560 lbs
PPL205-STL-5/8-6	5/8 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	2430 lbs	1560 lbs
PPL205-STL-1-6	1 in	36.5 (1.41)	71 (2.79)	38 (1.49)	105 (4.13)	140.5 (5.53)	14.5 (0.57)	11 (0.43)	14 (0.55)	2430 lbs	1560 lbs
PPL206-STL-1-1/8-6	1 1/8 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	3490 lbs	2250 lbs
PPL206-STL-1-3/16-6	1 3/16 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	3490 lbs	2250 lbs
PPL206-STL-1-1/4-6	1 1/4 in	42.9 (1.68)	84 (3.30)	46 (1.81)	119 (4.68)	163 (6.41)	17.8 (0.66)	14 (0.55)	18 (0.70)	3490 lbs	2250 lbs

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PBT Polyester 2-Bolt Flange (NFL) Block Only





PART NUMBER	SHAFT SIZE	DIMENSION									
	REFERENCE	A mm (inch)	B mm (inch)	C mm (inch)	D mm (inch)	E mm (inch)					
NFL204	1/2, 5/8, 3/4"	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)					
NFL205	3/4, 5/8, 1"	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)					
NFL206	1-1/8, 1-3/16, 1-1/4	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)					

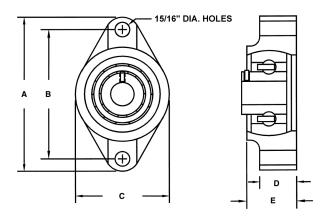
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PBT Polyester 2-Bolt Flange (NFL)

Fitted with Acetal Insert Bearings (AIB)





		DIMENSION							STATIC	
PART NUMBER	BORE SIZE	WIDTH OF INNER RING	A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	E mm (Inch)	MAX. RPM (NO LOAD)	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
NFL204-AIB-1/2-6	1/2 in	0.591 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	840	78 lbs	52 lbs
NFL204-AIB-5/8-6	5/8 in	0.591 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	840	78 lbs	52 lbs
NFL204-AIB-3/4-6	3/4 in	0.591 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	840	78 lbs	52 lbs
NFL205-AIB-3/4-6	3/4 in	0.709 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	729	92 lbs	61 lbs
NFL205-AIB-5/8-6	5/8 in	0.709 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	729	92 lbs	61 lbs
NFL205-AIB-1-6	1 in	0.709 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	729	92 lbs	61 lbs
NFL206-AIB-1-1/8-6	1 1/8 in	0.709 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	690	151 lbs	114 lbs
NFL206-AIB-1-3/16-6	1 3/16 in	0.709 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	690	151 lbs	114 lbs
NFL206-AIB-1-1/4-6	1 1/4 in	0.709 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	690	151 lbs	114 lbs

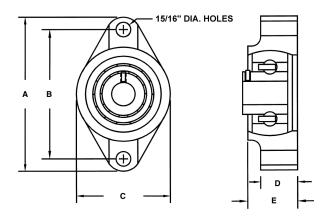
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PBT Polyester 2-Bolt Flange (NFL)

Fitted with SS316 Stainless Bearing





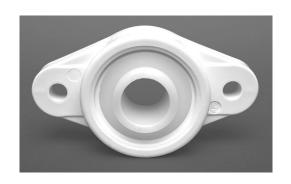
		DIMENSION WIDTH OF							STATIC	
PART NUMBER	BORE SIZE	INNER RING	A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	E mm (Inch)	MAX. RPM (NO LOAD)	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
NFL204-SSIB-1/2-6	1/2 in	0.591 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	840	234 lbs	156 lbs
NFL204-SSIB-5/8-6	5/8 in	0.591 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	840	234 lbs	156 lbs
NFL204-SSIB-3/4-6	3/4 in	0.591 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	840	234 lbs	156 lbs
NFL205-SSIB-3/4-6	3/4 in	0.709 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	729	278 lbs	183 lbs
NFL205-SSIB-5/8-6	5/8 in	0.709 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	729	278 lbs	183 lbs
NFL205-SSIB-1-6	1 in	0.709 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	729	278 lbs	183 lbs
NFL206-SSIB-1-1/8-6	1 1/8 in	0.709 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	690	378 lbs	285 lbs
NFL206-SSIB-1-3/16-6	1 3/16 in	0.709 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	690	378 lbs	285 lbs
NFL206-SSIB-1-1/4-6	1 1/4 in	0.709 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	690	378 lbs	285 lbs

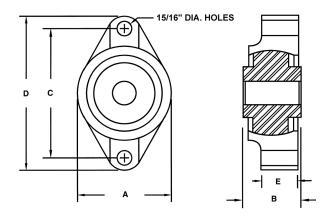
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PBT Polyester 2-Bolt Flange (NFL)

Fitted with Solid Insert Bearing (UHMW)





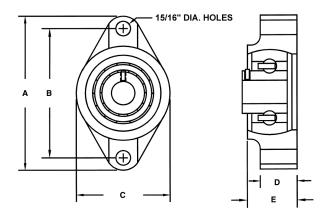
		DIMENSION WIDTH OF							STATIC	
PART NUMBER	BORE SIZE	INNER RING	A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	E mm (Inch)	MAX. RPM (NO LOAD)	DYNAMIC LOAD CAPACITY	STATIC LOAD CAPACITY
NFL204-SIB-1/2-6	1/2 in	0.591 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	350	275 lbs	325 lbs
NFL204-SIB-5/8-6	5/8 in	0.591 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	350	275 lbs	325 lbs
NFL204-SIB-3/4-6	3/4 in	0.591 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	350	275 lbs	325 lbs
NFL205-SIB-3/4-6	3/4 in	0.709 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	300	350 lbs	400 lbs
NFL205-SIB-5/8-6	5/8 in	0.709 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	300	350 lbs	400 lbs
NFL205-SIB-1-6	1 in	0.709 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	300	350 lbs	400 lbs
NFL206-SIB-1-1/8-6	1 1/8 in	0.709 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	285	450 lbs	500 lbs
NFL206-SIB-1-3/16-6	1 3/16 in	0.709 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	285	450 lbs	500 lbs
NFL206-SIB-1-1/4-6	1 1/4 in	0.709 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	285	450 lbs	500 lbs

- Plastic Mounted Blocks are available with a variety of insert bearings to best suit your application.
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PBT Polyester 2-Bolt Flange (NFL) Fitted with 52100 Steel Bearing





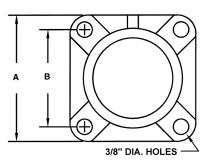
PART	BORE			DIMENSIC	N		DYNAMIC	STATIC
NUMBER	SIZE	A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	E mm (Inch)	LOAD CAPACITY	LOAD CAPACITY
NFL204-STL-1/2-6	1/2 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	2220 lbs	1390 lbs
NFL204-STL-5/8-6	5/8 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	2220 lbs	1390 lbs
NFL204-STL-3/4-6	3/4 in	113 (4.49)	90 (3.54)	64 (2.52)	11.4 (0.448)	26.5 (1.04)	2220 lbs	1390 lbs
NFL205-STL-3/4-6	3/4 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	2430 lbs	1560 lbs
NFL205-STL-5/8-6	5/8 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	2430 lbs	1560 lbs
NFL205-STL-1-6	1 in	131 (5.16)	99 (3.89)	69.5 (2.74)	13.5 (0.523)	29.1 (1.15)	2430 lbs	1560 lbs
NFL206-STL-1-1/8-6	1 1/8 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	3490 lbs	2250 lbs
NFL206-STL-1-3/16-6	1 3/16 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	3490 lbs	2250 lbs
NFL206-STL-1-1/4-6	1 1/4 in	148 (5.83)	117 (4.61)	80 (3.15)	13.3 (0.522)	30.5 (1.20)	3490 lbs	2250 lbs

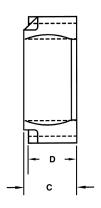
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PBT Polyester 4-Bolt Flange (FPL) Block Only







PART	PART SHAFT SIZE		DIMENSION							
NUMBER	REFERENCE	A mm (inch)	B mm (inch)	C mm (inch)	D mm (inch)					
FPL204	1/2, 5/8, 3/4"	86 (3.39)	63.5 (2.5)	27.8 (1.10)	14 (0.55)					
FPL205	3/4, 5/8, 1"	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)					
FPL206	1-1/8, 1-3/16, 1-1/4	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)					

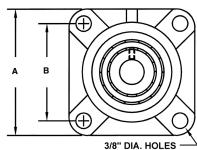
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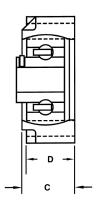


PBT Polyester 4-Bolt Flange (FPL)

Fitted with Acetal Insert Bearings (AIB)







		WIDTH OF	DIMENSION				WIDTH OF					DYNAMIC	STATIC
PART NUMBER	BORE SIZE	INNER RING	A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	MAX. RPM (NO LOAD)	LOAD CAPACITY	LOAD CAPACITY				
FPL204-AIB-1/2-6	1/2 in	0.591 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	840	78 lbs	52 lbs				
FPL204-AIB-5/8-6	5/8 in	0.591 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	840	78 lbs	52 lbs				
FPL204-AIB-3/4-6	3/4 in	0.591 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	840	78 lbs	52 lbs				
FPL205-AIB-3/4-6	3/4 in	0.709 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	729	92 lbs	61 lbs				
FPL205-AIB-5/8-6	5/8 in	0.709 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	729	92 lbs	61 lbs				
FPL205-AIB-1-6	1 in	0.709 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	729	92 lbs	61 lbs				
FPL206-AIB-1-1/8-6	1 1/8 in	0.709 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	690	151 lbs	114 lbs				
FPL206-AIB-1-3/16-6	1 3/16 in	0.709 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	690	151 lbs	114 lbs				
FPL206-AIB-1-1/4-6	1 1/4 in	0.709 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	690	151 lbs	114 lbs				

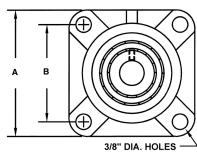
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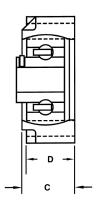


PBT Polyester 4-Bolt Flange (FPL)

Fitted with SS316 Stainless Bearing







		WIDTH OF	DIMENSION					DYNAMIC	STATIC
PART NUMBER	BORE SIZE	INNER RING	A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	MAX. RPM (NO LOAD)	LOAD CAPACITY	LOAD CAPACITY
FPL204-SSIB-1/2-6	1/2 in	0.591 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	840	234 lbs	156 lbs
FPL204-SSIB-5/8-6	5/8 in	0.591 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	840	234 lbs	156 lbs
FPL204-SSIB-3/4-6	3/4 in	0.591 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	840	234 lbs	156 lbs
FPL205-SSIB-3/4-6	3/4 in	0.709 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	729	278 lbs	183 lbs
FPL205-SSIB-5/8-6	5/8 in	0.709 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	729	278 lbs	183 lbs
FPL205-SSIB-1-6	1 in	0.709 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	729	278 lbs	183 lbs
FPL206-SSIB-1-1/8-6	1 1/8 in	0.709 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	690	378 lbs	285 lbs
FPL206-SSIB-1-3/16-6	1 3/16 in	0.709 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	690	378 lbs	285 lbs
FPL206-SSIB-1-1/4-6	1 1/4 in	0.709 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	690	378 lbs	285 lbs

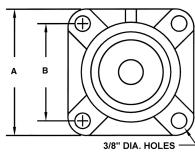
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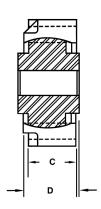


PBT Polyester 4-Bolt Flange (FPL)

Fitted with Solid Insert Bearing (UHMW)







		WIDTH OF		DIMENSION				DYNAMIC	
PART NUMBER	BORE SIZE	INNER RING	A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	MAX. RPM (NO LOAD)	LOAD CAPACITY	LOAD CAPACITY
FPL204-SIB-1/2-6	1/2 in	0.591 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	350	275 lbs	325 lbs
FPL204-SIB-5/8-6	5/8 in	0.591 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	350	275 lbs	325 lbs
FPL204-SIB-3/4-6	3/4 in	0.591 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	350	275 lbs	325 lbs
FPL205-SIB-3/4-6	3/4 in	0.709 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	300	350 lbs	400 lbs
FPL205-SIB-5/8-6	5/8 in	0.709 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	729	350 lbs	400 lbs
FPL205-SIB-1-6	1 in	0.709 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	729	350 lbs	400 lbs
FPL206-SIB-1-1/8-6	1 1/8 in	0.709 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	285	450 lbs	500 lbs
FPL206-SIB-1-3/16-6	1 3/16 in	0.709 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	285	450 lbs	500 lbs
FPL206-SIB-1-1/4-6	1 1/4 in	0.709 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	285	450 lbs	500 lbs

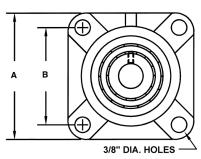
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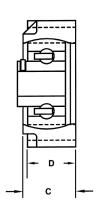


PBT Polyester 4-Bolt Flange (FPL)

Fitted with 52100 Steel Bearing





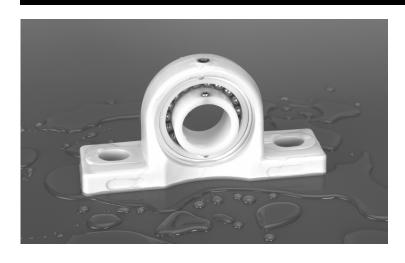


PART	BORE		DIME	NSION	DYNAMIC	STATIC	
NUMBER	SIZE	A mm (Inch)	B mm (Inch)	C mm (Inch)	D mm (Inch)	LOAD CAPACITY	LOAD CAPACITY
FPL204-STL-1/2-6	1/2 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	2200 lbs	1390 lbs
FPL204-STL-5/8-6	5/8 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	2200 lbs	1390 lbs
FPL204-STL-3/4-6	3/4 in	86 (3.39)	63.5 (2.50)	27.8 (1.10)	14 (0.55)	2200 lbs	1390 lbs
FPL205-STL-3/4-6	3/4 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	2430 lbs	1560 lbs
FPL205-STL-5/8-6	5/8 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	2430 lbs	1560 lbs
FPL205-STL-1-6	1 in	95 (3.74)	70 (2.75)	28 (1.10)	14 (0.55)	2430 lbs	1560 lbs
FPL206-STL-1-1/8-6	1 1/8 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	3490 lbs	2250 lbs
FPL206-STL-1-3/16-6	1 3/16 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	3490 lbs	2250 lbs
FPL206-STL-1-1/4-6	1 1/4 in	107 (4.21)	83 (3.26)	31.5 (1.24)	14.3 (0.56)	3490 lbs	2250 lbs

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ENGINEERING DATA - PBT PLASTIC BLOCKS



- Bakery Equipment
- Wash Down Conveyor
- Car Washes
- Marine
- Farming Equipment
- Swimming Pool Equipment
- Food Processing

PROPERTIES OF PBT

Properties	Unit	Test Method	
Mechanical			-
Tensile strength at yield	N/mm ²	ASTM D 638	115
at break	N/mm ²	ASTM D 638	-
Elongation at yield	%	ASTM D 638	3
at break	%	ASTM D 638	
Tensile modulus	N/mm ²	ASTM D 638	8000
Flexural yield strength	N/mm ²	ASTM D 790	-
Flexural yield strength	N/mm ²	ASTM D 790	170
Flexural modulus	N/mm ²	ASTM D 790	7000
Notched impact strength Charpy	K/m ²	DIN 53453	12
Notched impact strength IZOD	J/m	ASTM D 256	100
Hardness, H358/10	N/mm ²	DIN 53456	104
H358/60	N/mm ²	DIN 53456	101
Rockwell	_	ASTM D 785	L102
Thermal			
Oxygen index*	%	ASTM D 2863	19
Flame retardancy*	_	UL stand 94	94HB
(1/6 mm thickness)			
Heat resistance: Vicat, method B	°C	ASTM D 1525	210-215
Thermal conductivity	W/m ² C	ASTM C 177	0.19
Mould shrinkage flow	%	ASTM D 1299	0.4-0.6
Cross flow direction	%	ASTM D 1299	0.6-0.8
Physical	_		
Water absorption		ASTM D 570	
24 Hrs, 23°C	%		0.06

CHEMICAL RESISTANCE OF PBT

Chemical Media	°C	Immulation % Days	% Retention of strength
Acids			
10% Hydrochloric	23	30	89
	23	90	85
	23	180	82
10% Sulfuric	23	30	97
	23	90	94
	23	180	90
35% Sulfuric (battery)	23	30	97
	23	180	96
	66	30	84
	66	180	35
10% Acetic	23	30	89
	23	180	88
Bases			
5% Potassium Hydroxide	23	30	83
	23	90	10
10% Sodium Hydroxide	23	30	2
	23	180	-
10% Ammonium Hydroxide	23	30	90
	23	90	87
	23	180	58
Organic Solvents			
Ethyl Alcohol	23	30	99
	23	180	94
Methyl Alcohol	23	30	91
	23	180	76
Isopropyl-Alcohol	23	30	100
	23	180	100
Isopropyl-Alcohol &	23	30	93
Water (50:50)	23	180	96
Turpentine	23	180	92
	23	30	66
Acetone	23	180	63
	23	30	90



CUSTOM BEARINGS

OUR SPECIALTY

Special bearings are readily and inexpensively made from plastics. This allows engineers complete freedom to design the bearing around the device rather than attempting to design the device around a limited range of standard bearings. Consider the unconventional by calling KMS Bearings, Inc. We'll work with you to select the right design, size, and material to best suit the application.



CUSTOM MADE TO ORDER

Any of KMS' plastic bearings can be easily modified to better suit the application. For example, a standard size plastic bearing can be made from alternative plastics for increased strength, temperature capability or chemical resistance.

CUSTOM SIZE

Bearings made from plastics have added manufacturing flexibility to be easily modified in dimension. Our manufacturing processes allow us to either modify a mold tool or use

our machining capability to alter a bore size or an outside diameter. If the required size can not be produced by modifying a standard size, our CNC turning centers give us the ability to manufacture the bearing completely from scratch without tooling charges in all quantities.

SPECIAL BEARINGS IN LOW QUANTITIES

Unlike traditional bearing manufacturers we can offer special size and materials in low quantities. This manufacturing flexibility is achieved through the unique blending of machining, molding and CAD technologies.

PROTOTYPE & SAMPLES

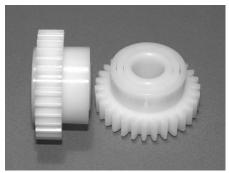
KMS wants you to feel confident before you commit to your production needs. We can supply test samples from our stock when available, or complete hand made specials for a nominal lot charge. Your confidence is our priority. To request prototypes or samples call, fax or email KMS with a completed Application Review (located on page 32.)

PRODUCT INTEGRATION

Many times a bearing is mounted into another part, such as plastic pulley, sprocket, wheel or a mounted block. Utilizing the design concept of a plastic ball bearing, KMS Bearings, Inc. can integrate the mating component as the raceway of the bearing, i.e.: pulley as the outer ring, or the shaft as the inner ring. The end result is fewer parts, reduced assembly time and overall lower cost. To follow are a few examples of actual integrated plastic race ball bearings.



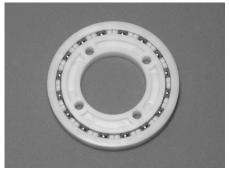
ARE OUR SPECIALTY



1) Integrated gear to outer ring, double row bearing design.



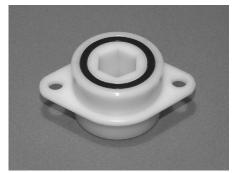
Integrated belt driven bearing assembly.



Integrated (4) mounting holes to inner with a standard outer ring.



4) Integrated flanged outer ring with 3 mounting holes.



Hex Bore inner ring, 2- hole flange outer ring.



7" inch diameter bearing, Integrated mounting holes for inner and outer.



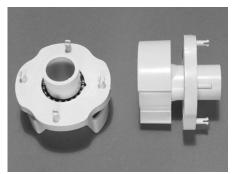
 One piece inner ring with two outer rings. Urethane tires mounted to outer rings.



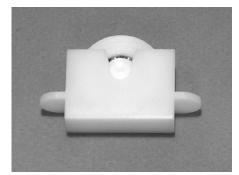
 Integrated self mounting bearing.
 Inner ring is solid, connecting to mounting bracket.



Outer ring of bearing is 2 hole mounting block.



 Outer ring features snap in mounting, inner ring serves as directional water nozzle.



 Integrated Bearing Assembly. Pulley ball bearing mounted into plastic bracket.



Pulley Ball Bearing. Inner ring features an integrated snap in fastener.

Information presented is believed to be accurate at the time of publication but is subject to change without notice.



Plastic Race Radial Ball Bearings Tolerances for Mounting & Interference Fits

	BORE	
MINIMUM	MAXIMUM	GENERAL TOLERANCE
0.000"	0.750"	+.003",0"
0.751"	1.250"	+.004",0"

WIDTH			
MAXIMUM DIAMETER	GERNERAL TOLERANCE		
3.000"	+/005"		
4.000"	+/008"		
5.000"	+/010"		

OUTSIDE DIAMETER			
MINIMUM	MAXIMUM	GENERAL TOLERANCE	
0.000"	1.000"	+.0",003"	
1.001"	1.625"	+.0",004"	
1.626"	2.000"	+.0",005"	
2.001"	3.000"	+.0",006"	

DIAMETRIC CLEARANCE "radial play"				
BORE (Maximum)	OUTSIDE DIAMETER (Maximum)	GENERAL TOLERANCE		
0.187"	1.000"	free turning to .008"		
0.500"	1.625"	free turning to .009"		
0.750"	2.000"	free turning to .010"		
1.250"	3.000"	free turning to .012"		

MOUNTING PRACTICE

PLASTIC RING CHARACTERISTICS

Plastic will expand and contract in proportion to the amount of interference pressure. Any press fit to the rings will reduce the diametric clearance in proportion to the amount of the interference fit. The maximum amount for overall interference fit for general practice should not exceed 1/2 of the nominal radial play dimension.

INTERFERENCE FITS

A typical application would be a press fit to one ring and a slip fit to the other. Using the above criteria, a bearing with .008" radial play would allow you to apply a maximum of .003" press fit to one ring and maximum of .001" slip fit the other. It is recommended that the customer measure the actual bearing to be used for calculating shaft and housing fits.

NOTE:These are general manufacturing tolerances. They may vary depending on material type and bearing design. For diameters larger than listed please contact KMS for engineering data and availability.



Chemical Compatibility

	ACETAL (POM)	POLYPRO- PYLENE	KYNAR® (PVDF)	VALOX® (PBT)	NYLON	PEEK®	TORLON®	VESPEL®	UHMW-PE
ACIDS WEAK 73 degrees	Α	А	А	Α	А	Α	А	А	А
ACIDS STRONG 73 degrees	U	А	А	L	U	L	L	L	L
ALKALIES, WEAK 73 degrees	А	А	А	L	A	A	L	А	А
ALKALIES, STRONG 73 degrees	U	А	L	А	А	А	L	А	А
HYDROCARBONS	А	А	А	L	Α	Α	А	А	L
KETONES	А	А	U	L	А	A	А	А	А
ETHERS	А	-	А	-	А	-	А	-	А
ESTERS	А	L	А	А	А	А	А	-	А
ALCOHOLS	А	А	L	L	А	-	L	-	А

A = ACCEPTABLE L = LIMITED U = UNACCEPTABLE - = NO RATING

This chart is for reference only, KMS recommends testing in actual chemical concentrations to be encountered. Information presented is believed to be accurate at the time of publication but is subject to change without notice.



316 Stainless Race Radial Ball Bearings Tolerances for Mounting & Interference Fits

BORE				
MINIMUM	MAXIMUM	GENERAL TOLERANCE		
0.000"	1.250"	+.003",0"		

WIDTH		
MAXIMUM GERNERAL		
DIAMETER	TOLERANCE	
2.500"	+/005"	

OUTSIDE DIAMETER			
MINIMUM MAXIMUM GENERAL TOLERANCE			
0.000"	2.500"	+.0",003"	

DIAMETRIC CLEARANCE "radial play"				
BORE (Maximum)	OUTSIDE DIAMETER (Maximum)	GENERAL TOLERANCE		
0.250"	1.000"	free turning to .007"		
0.500"	2.000"	free turning to .008"		
0.750"	2.500"	free turning to .010"		

MOUNTING PRACTICE

316 STAINLESS RING CHARACTERISTICS

AISI 316 stainless steel is a non hardenable food and medical grade stainless. KMS 316 stainless raceways are semi-precision machined rings from solid rod stock. This practice produces true running concentric bearings. Due to the tolerance range of a semi-precision bearing ring, it is recommended that the customer measure the actual bearing to be used for calculating shaft and housing fits.

INTERFERENCE FITS

A typical application would be a press fit to one ring and a slip fit to the other. The maximum press fit would be .001 and a slip fit would be maximum of a line to line fit to the actual dimension. For example, using the above criteria, a bearing with a 1/2" bore and a outside diameter of 1-3/8" would have a bore tolerance of +.003, -.0 and an outside diameter tolerance of +.0, -.003. The actual dimension of the inner ring is .501 and the outer ring is 1.374. To achieve a slip fit on the inner ring the shaft would have to be .500 to .501 and a press fit to the outer ring would require the housing to be 1.374 to 1.373.

NOTE: These are general manufacturing tolerances, They may vary depending on bearing design.



Corrosion Resistance for 316 Stainless

	MATERIALS:	316 STAINLESS	440C STAINLESS*	CHROME STEEL*		
~	Stream	Α	В			
WATER	Domestic Water	Α	В	D		
8	Sea Water	Α		D		
	Food Products	Α	В	-		
FOOD	Fruit & Veg. Juices	A	В			
Ш	Dairy Products	Α	С			
JOR	Hot Sulfite	В				
LIQUOR	Dye	D	D			
DS	HCL	-	-			
DILUTE ACIDS	H ₂ SO ₄	В	-			
UTE	HNO ₂	A	A			
	Phosphoric	В	•	-		
S	H₂SO ₄	A	•	-		
ACIDS	HNO ₂	.				
△	Phosphoric	A	.			
	Industrial Atmospheres	В	В	С		
	Salt Air	Α	С	С		
	Ammonia	A	С	В		
	Alkaline Salts	В	В	С		
	A = excellent, B = good, C = fair, D = poor, = Will not withstand conditions					

^{*} Please note that KMS does not manufacture bearings made from either 440c or Chrome steel. They are listed for comparison to 316 stainless only.

316 STAINLESS		
Carbon		

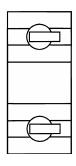
MATERIAL COMPOSITION*

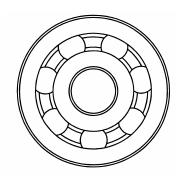
*ref per ASTM A276-89a

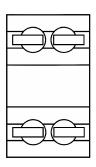
Material Conversion					
		(AGENCY)			
Material	AISI	Federal	ASTM	UNS	AMS
316 Stainless	Type 316	QQ-S-763E	A276-89a	S31603	5648G



APPLICATION REVIEW







- Information will enable us to provide you with the right material and design to be cost effective.
- Can we combine your components with our bearing for a one piece integral unit?

Company Name:		
Contact Person:		
Tel. #:		
Fax #:		
Application:		
Current Bearing:		
Size: I.D	O.D	WD
Speed:		
Is It Continous	or Ir	termittent
Temperature:		
Load: Radial		Axial
Any problems?		
Preferred Material?	□ Polymer	☐ Stainless
Quantity? Potential_		Existing
Target Cost? Budget		Existing

SK	ŒΤ	СН	ΥO	UR	ВЕ	ARI	NG	OF	R AF	PPL	.IC	ATIC	N	

Call, fax or email us with this information for an instant application review.

