

HUDSON BEARINGS

Manufacturer of Quality Ball Transfers



Our **Expanded** Catalog of Quality

Ball Transfers

U.S. Made

Over 40 years of quality

In Stock

All products ready to ship

Innovative

New solutions to old challenges

Priced Right

To help you compete

Hudson Bearings is one of the oldest manufacturers of ball transfers in the United States and one of the most innovative. Unlike most of our competitors, we manufacture our broad and rapidly expanding product line in the USA. Our quality is unsurpassed and we pride ourselves on our extensive inventory. Whether it's 10 pieces or 10,000, our responsive staff ensures your product is on a truck the day we receive your order. Whether used in the traditional 'ball up' position for material handling or as a caster in the 'ball down' orientation for rolling applications such as retail store displays, Hudson is ready with the right product for your unique need.

New Products

Studded HDBT 1-3/16

10

Also available in stainless steel.

HD with Metal Cap

12

Also available in stainless steel.

Now Available in All Stainless Steel

MBT-1

11

MBT-5/8

11










SMBT-5/8

9

MBT-1

9

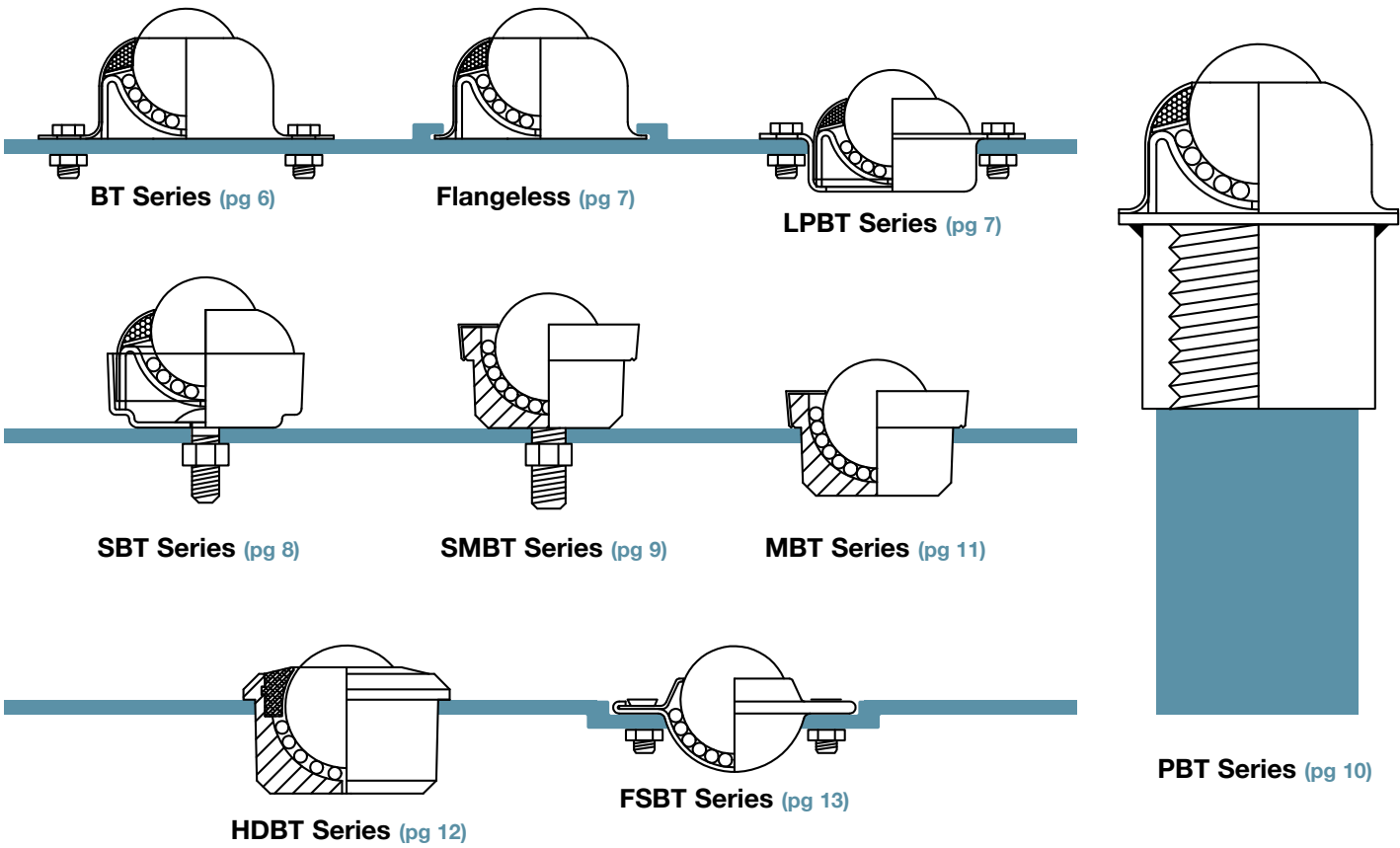
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Load Capacity

- Equal load distribution over many ball transfers is seldom, if ever achieved. Load distribution is governed by the flatness, hardness, and smoothness of the load surface in contact with the balls, the ball transfer installation height variance, and system deflection.
- **To avoid exceeding the rated capacity of any individual ball transfer unit, sufficient ball transfers should be provided to afford a safety factor of 3. For example: the number of units (75 lb. maximum capacity) required to support a load of 750 lbs. would be 10 units x 3, or 30 units to obtain smooth rolling motion under varying degrees of flatness and ball contact. This applies to both 'ball up' and 'ball down' positioning.**
- In addition, the force required to put a load in motion is reduced as the number of ball transfer units under a load is increased, thereby reducing the coefficient of friction.
- When calculating loads, the possibility of impact and unequal leveling should be considered. Self-leveling neoprene or rubber cushions placed under each unit can reduce these issues. We offer high-density neoprene cushions for several models of ball transfers in this catalog.

Typical Mounting Configurations

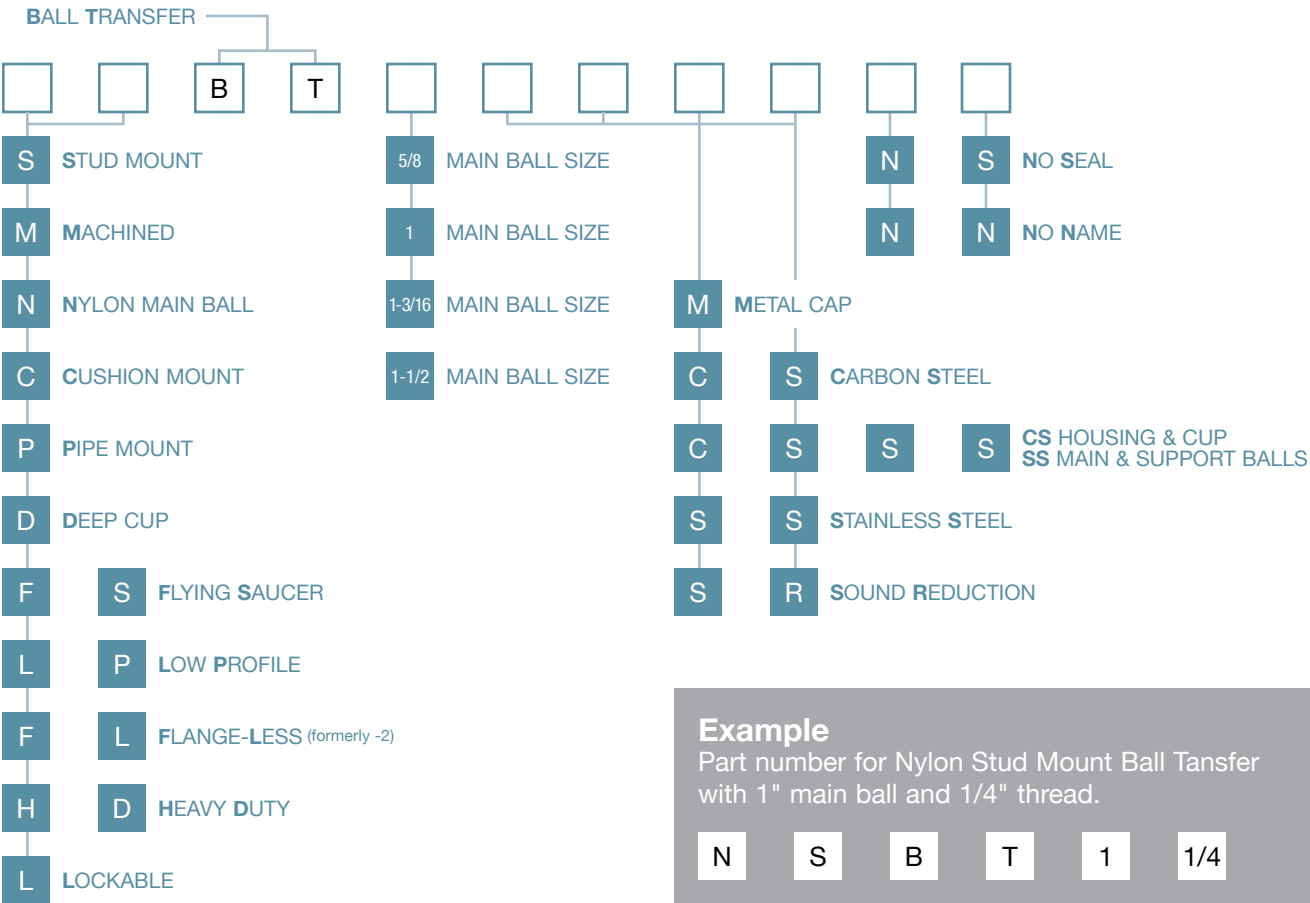


Arrangement

- Arrangement of the ball transfer units depends on the weight of the load, surface of the application and undersurface of the conveyed load. Determine the number of units required to support the load based on the considerations stated above. Once the number of ball transfer units has been calculated, these units should be arranged symmetrically under the load. **The minimum distance between ball transfers should be the length of the shortest dimension of the load divided by 2.5. This minimum spacing will support the conveyed article and prevent it from becoming unstable.**
- Our technical staff is available to assist you with mounting, loading, and spacing recommendations for your particular application.

Now offering the ability to add your company logo.
Call us for details: 860-739-6988.

Part Number Reference Guide



Example
Part number for Nylon Stud Mount Ball Transfer with 1" main ball and 1/4" thread.
N S B T 1 1/4



Ball transfer units enhance conveyor systems by allowing material to move omni-directionally with little effort.
Photos courtesy of Ashland Conveyor, Ashland, OH

Flange-Mounted Ball Transfers



BT-1 Series



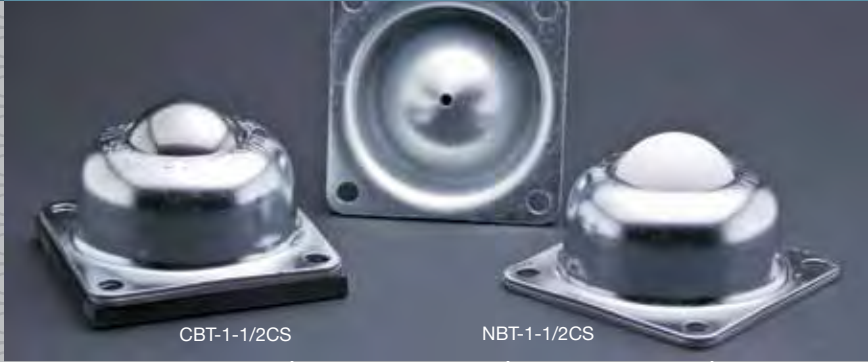
PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
BT-1CS	Carbon Steel	Carbon Steel	75 lbs.
NBT-1CS	Nylon	Carbon Steel	35 lbs.
BT-1CS/SS	Stainless Steel	Carbon Steel	75 lbs.
BT-1SS	Stainless Steel	Stainless Steel	75 lbs.

TWO-HOLE, FLANGE-MOUNTED, ALL-STEEL

- 1" Main ball rotates on eighty 1/8" support balls.
- Ball support cup is hardened and plated.
- Protective cover assures low torque and longevity.
- Available in stainless steel for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.

NOTE: Also available in recessed low-profile mounting style.
(Part number **LPBT-1** pg. 7)

BT-1-1/2 Series

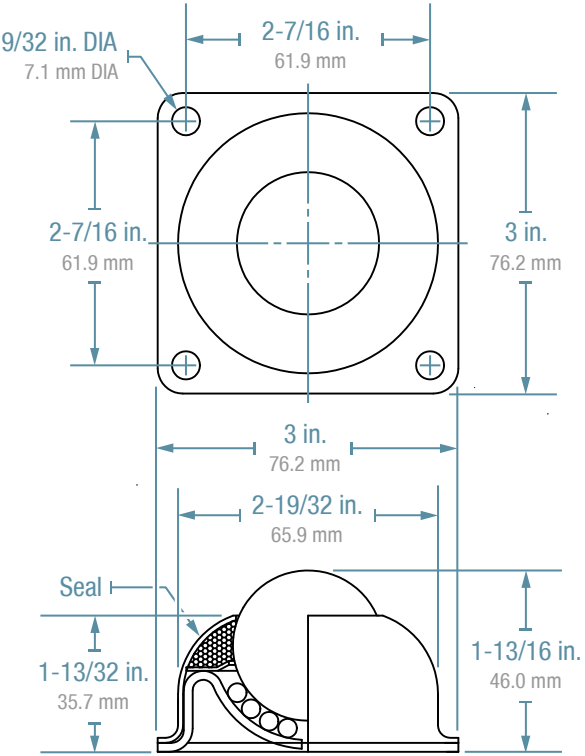
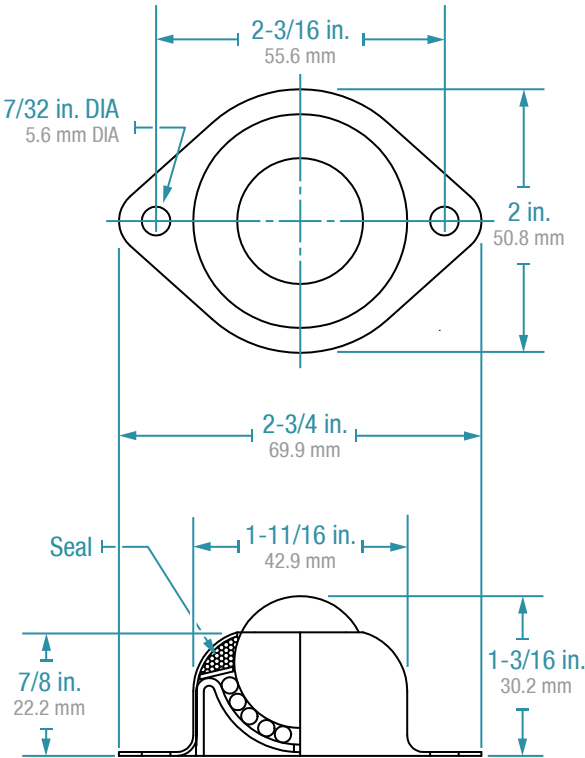


PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
BT-1-1/2CS	Carbon Steel	Carbon Steel	250 lbs.
NBT-1-1/2CS	Nylon	Carbon Steel	125 lbs.
BT-1-1/2CS/SS	Stainless Steel	Carbon Steel	250 lbs.
BT-1-1/2SS	Stainless Steel	Stainless Steel	250 lbs.

FOUR-HOLE, FLANGE-MOUNTED, ALL-STEEL

- 1-1/2" Main ball rotates on ninety 3/16" support balls.
- Ball support cup is hardened and plated.
- Protective cover assures low torque and longevity.
- Available in stainless steel for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.

NOTE: Neoprene cushion available to permit vertical deflection and assist with uniform load distribution (part number **CBT-1-1/2**).



Flange-Mounted Ball Transfers



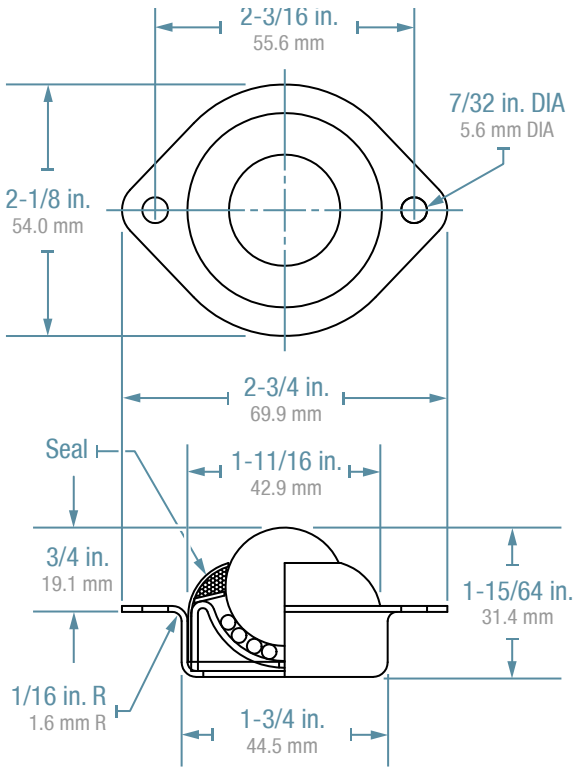
LPBT-1 Series



PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
LPBT-1CS	Carbon Steel	Carbon Steel	75 lbs.
NLPBT-1CS	Nylon	Carbon Steel	35 lbs.
LPBT-1CS/SS	Stainless Steel	Carbon Steel	75 lbs.
LPBT-1SS	Stainless Steel	Stainless Steel	75 lbs.

LOW PROFILE, TWO-HOLE, FLANGE-MOUNTED, ALL-STEEL

- Designed to be recessed into the surface of the application in a 1-3/4" hole.
- 1" Main ball rotates on eighty 1/8" support balls.
- Ball support cup is hardened and plated.
- Protective cover assures low torque and longevity.
- Available in stainless steel for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.



Flangeless Ball Transfers



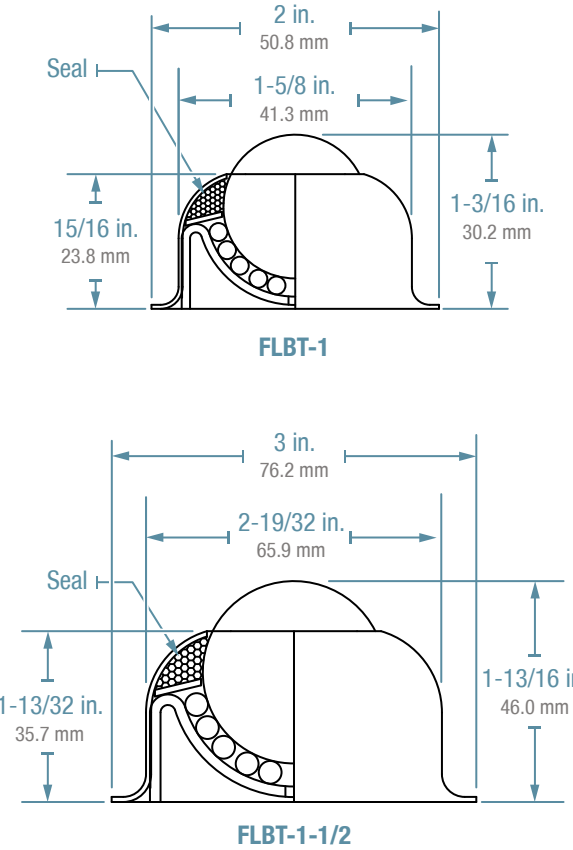
FLBT Series



PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
FLBT-1CS	Carbon Steel	Carbon Steel	75 lbs.
NFLBT-1	Nylon	Carbon Steel	35 lbs.
FLBT-1CS/SS	Carbon Steel	Stainless Steel	75 lbs.
FLBT-1-1/2CS	Carbon Steel	Carbon Steel	250 lbs.
NFLBT-1-1/2	Nylon	Carbon Steel	125 lbs.
FLBT-1-1/2CS/SS	Carbon Steel	Stainless Steel	250 lbs.

FLANGELESS, ALL-STEEL

- FLBT-1: 1" Main ball rotates on eighty 1/8" support balls.
- FLBT-1-1/2: 1-1/2" Main ball rotates on ninety 3/16" support balls.
- Ball support cup is hardened and plated.
- Protective cover assures low torque and longevity.
- Available in stainless steel for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.



Stud-Mounted Ball Transfers



SBT-1 Series



PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
SBT-1CS	Carbon Steel	Carbon Steel	75 lbs.
NSBT-1CS	Nylon	Carbon Steel	35 lbs.
SBT-1CS/SS	Stainless Steel	Carbon Steel	75 lbs.
SBT-1SS	Stainless Steel	Stainless Steel	75 lbs.

STUD-MOUNTED, ALL-STEEL

- Threaded stem sizes available: 1/4-20, 5/16-18, 3/8-16
- 1" Main ball rotates on eighty 1/8" support balls.
- Ball support cup is hardened and plated.
- Protective cover assures low torque and longevity.
- Available in stainless steel for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.

NOTE: Also available with a base to ball height of 1-17/32" in 1/4" stem only (part number **DSBT-1**).

SBT-1-1/2 Series

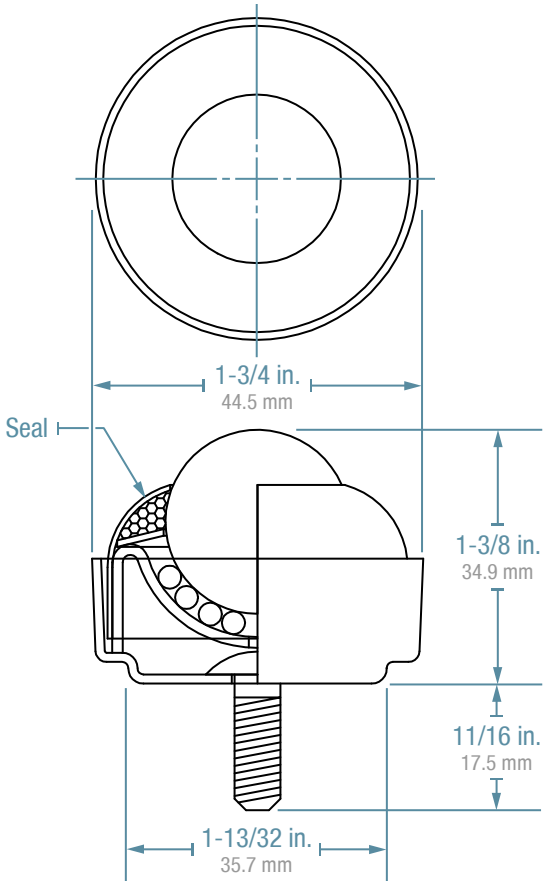


PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
SBT-1-1/2CS	Carbon Steel	Carbon Steel	250 lbs.
NSBT-1-1/2CS	Nylon	Carbon Steel	125 lbs.
SBT-1-1/2CS/SS	Stainless Steel	Carbon Steel	250 lbs.

STUD-MOUNTED, ALL-STEEL, FOR HEAVY-DUTY APPLICATIONS

- Threaded stem size: 3/8-16
- 1-1/2" Main ball rotates on (90) 3/16" support balls.
- Ball support cup is hardened and plated.
- Protective cover assures low torque and longevity.
- Available with stainless steel balls for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.

NOTE: Neoprene cushion available to permit vertical deflection and assist with uniform load distribution (part number **CSBT-1-1/2**).



Stud-Mounted, Machined Ball Transfers



SMBT-5/8 Series

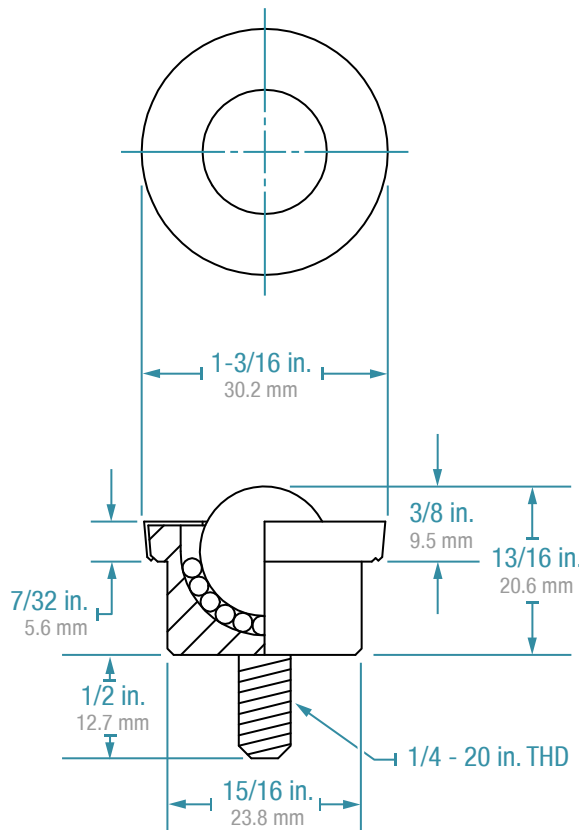


PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
SMBT-5/8CS	Carbon Steel	Carbon Steel	33 lbs.
NSMBT-5/8CS	Nylon	Carbon Steel	17 lbs.
SMBT-5/8CS/SS	Stainless Steel	Carbon Steel	33 lbs.
SMBT-5/8SS	Stainless Steel	Stainless Steel	33 lbs.

STUD-MOUNTED, SOLID MACHINED, ALL-STEEL

- Solid machined cup with integral 1/4-20 threaded stem, hardened and plated for longevity.
- 5/8" Main ball rotates on 3/32" support balls.
- Available in stainless steel for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.

Now available in all stainless. (part number **SMBT-5/8SS**).



SMBT-1 Series

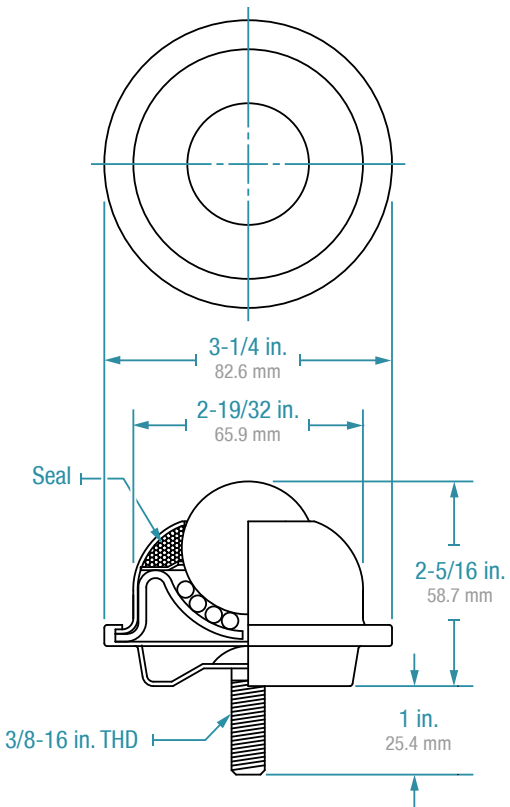
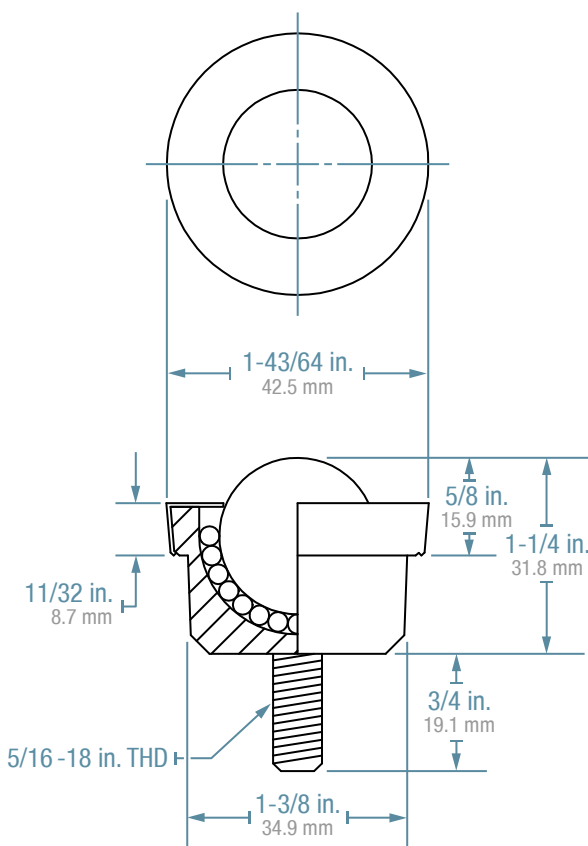


PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
SMBT-1CS	Carbon Steel	Carbon Steel	200 lbs.
NSMBT-1CS	Nylon	Carbon Steel	100 lbs.
SMBT-1CS/SS	Stainless Steel	Carbon Steel	200 lbs.
SMBT-1SS	Stainless Steel	Stainless Steel	200 lbs.

STUD-MOUNTED, SOLID MACHINED, ALL-STEEL

- Solid machined cup with integral 5/16-18 threaded stem, hardened and plated for longevity.
- 1" Main ball rotates on 1/8" support balls.
- Available in stainless steel for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.

Now available in all stainless. (part number **SMBT-1SS**).



Stud-Mounted Heavy-Duty Ball Transfers



NEW

SHDBT-1-3/16



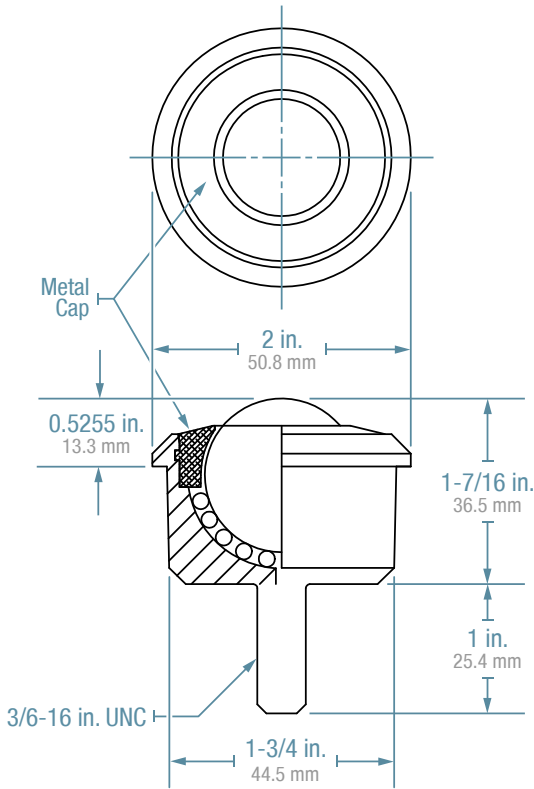
PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
SHDBT-1-3/16 CS	Carbon Steel	Carbon Steel	750 lbs.
SHDBT-1-3/16 CS/SS	Carbon Steel	Stainless Steel	750 lbs.
SHDBT-1-3/16 SS	Stainless Steel	Stainless Steel	750 lbs.

STUD MOUNTED, 750 LB. CAPACITY

- Metal-cap standard
- 1-3/16" Main ball rotates on 1/8" support balls.
- Ball support cup is machined from solid steel and is hardened and plated.
- Available in stainless steel for additional corrosion resistance.

Available with exterior sound reduction collar (SR)

- Nylon collar, recessed below the flange, reduces noise and vibration.



Pipe-Mounted Ball Transfers



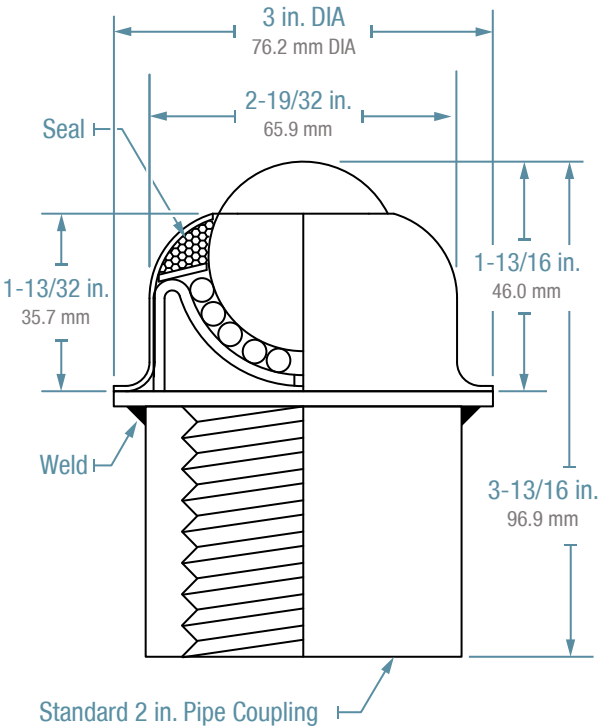
PBT-1-1/2 Series



PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
PBT-1-1/2CS	Carbon Steel	Carbon Steel	250 lbs.
NPBT-1-1/2CS	Nylon	Carbon Steel	125 lbs.
PBT-1-1/2CS/SS	Stainless Steel	Carbon Steel	250 lbs.

PIPE-MOUNTED

- Allows positioning on a 2" pipe pedestal in front of shears or press breaks.
- 1-1/2" Main ball rotates on (90) 3/16" support balls.
- Ball transfer unit is welded to a standard carbon steel 2" pipe coupling.
- Ball support cup is hardened and plated.
- Protective cover assures low torque and longevity.
- Available with stainless steel balls for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.



Drop-In Style Ball Transfers



MBT-5/8 Series

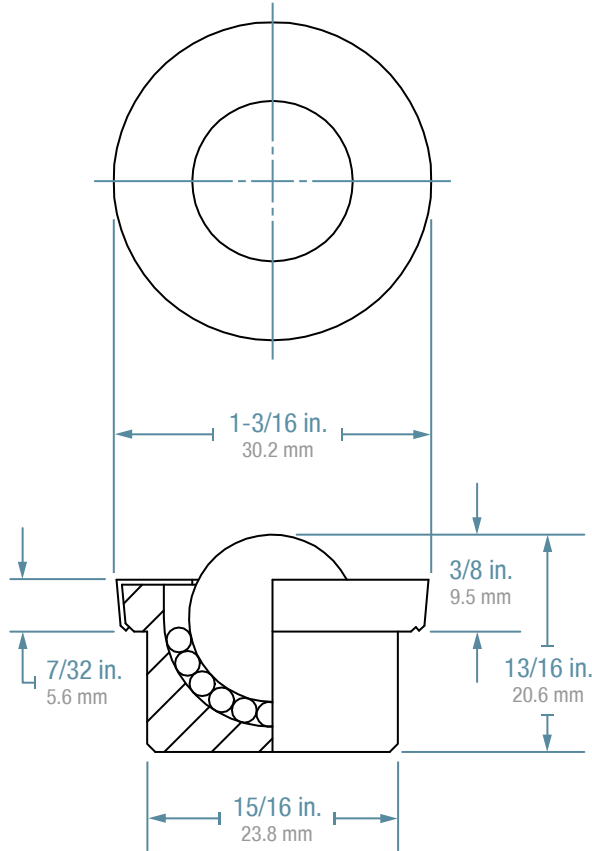


PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
MBT-5/8CS	Carbon Steel	Carbon Steel	33 lbs.
NMBT-5/8CS	Nylon	Carbon Steel	17 lbs.
MBT-5/8CS/SS	Stainless Steel	Carbon Steel	33 lbs.
MBT-5/8SS	Stainless Steel	Carbon Steel	33 lbs.

SOLID-MACHINED, ALL-STEEL

- Integral flange at top allows unit to be dropped into 1" diameter hole.
- 5/8" Main ball rotates on 3/32" support balls.
- Ball support cup is machined from solid steel and is hardened and plated.
- Plated steel cover.
- Available in stainless steel for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.

Now available in all stainless. (part number MBT-5/8SS).



MBT-1 Series

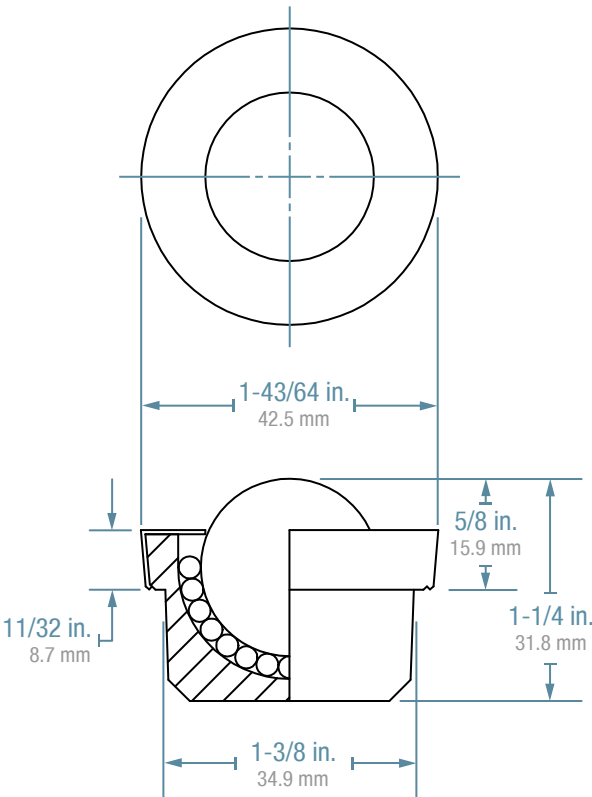


PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
MBT-1CS	Carbon Steel	Carbon Steel	200 lbs.
NMBT-1CS	Nylon	Carbon Steel	100 lbs.
MBT-1CS/SS	Stainless Steel	Carbon Steel	200 lbs.
MBT-1SS	Stainless Steel	Stainless Steel	200 lbs.

SOLID-MACHINED, ALL-STEEL

- Integral flange at top allows unit to be dropped into 1-3/8" diameter hole.
- 1" Main ball rotates on 1/8" support balls.
- Ball support cup is machined from solid steel and is hardened and plated.
- Plated steel cover.
- Available in stainless steel for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.

Now available in all stainless. (part number MBT-1SS).



Drop-In, Heavy Duty Ball Transfers



HDBT-1-3/16 Series



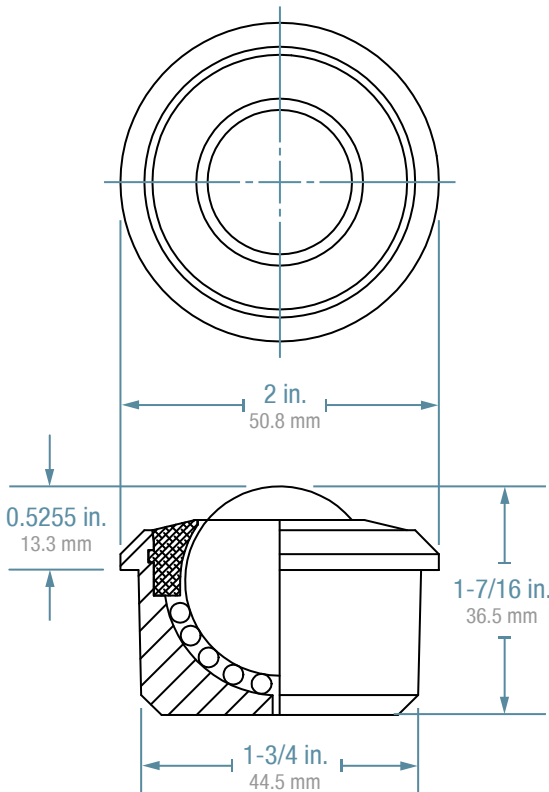
PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
HDBT-1-3/16CS	Carbon Steel	Carbon Steel	500
HDBT-1-3/16CS/SS	Carbon Steel	Stainless Steel	500
HDBT-1-3/16SS	Stainless Steel	Stainless Steel	500

500 LB. CAPACITY

- Integral flange at top allows unit to be dropped into 1-3/4" diameter hole.
- 1-3/16" Main ball rotates on 1/8" support balls.
- Ball support cup is machined from solid steel and is hardened and plated.
- Available in stainless steel for additional corrosion resistance.

Available with exterior sound reduction collar (SR)

- Nylon collar, recessed below the flange, reduces noise and vibration when the unit is installed in a metal application surface.
- Retaining ring is solid plastic.



HDBTM-1-3/16 Series



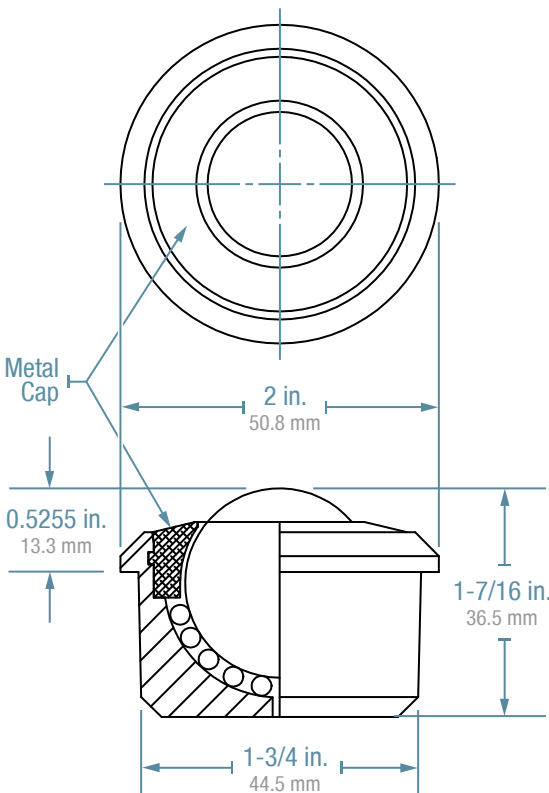
PART NUMBER	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
HDBTM-1-3/16CS	Carbon Steel	Carbon Steel	750
HDBTM-1-3/16CS/SS	Carbon Steel	Stainless Steel	750
HDBTM-1-3/16SS	Stainless Steel	Stainless Steel	750

750 LB. CAPACITY

- Metal cap for additional strength and durability.
- Integral flange at top allows unit to be dropped into 1-3/4" diameter hole.
- 1-3/16" Main ball rotates on 1/8" support balls.
- Ball support cup is machined from solid steel and is hardened and plated.
- Retaining ring is solid metal.
- Available in stainless steel for additional corrosion resistance.

Available with exterior sound reduction collar (SR)

- Nylon collar, recessed below the flange, reduces noise and vibration when the unit is installed in a metal application surface.



Flying Saucer Ball Transfers

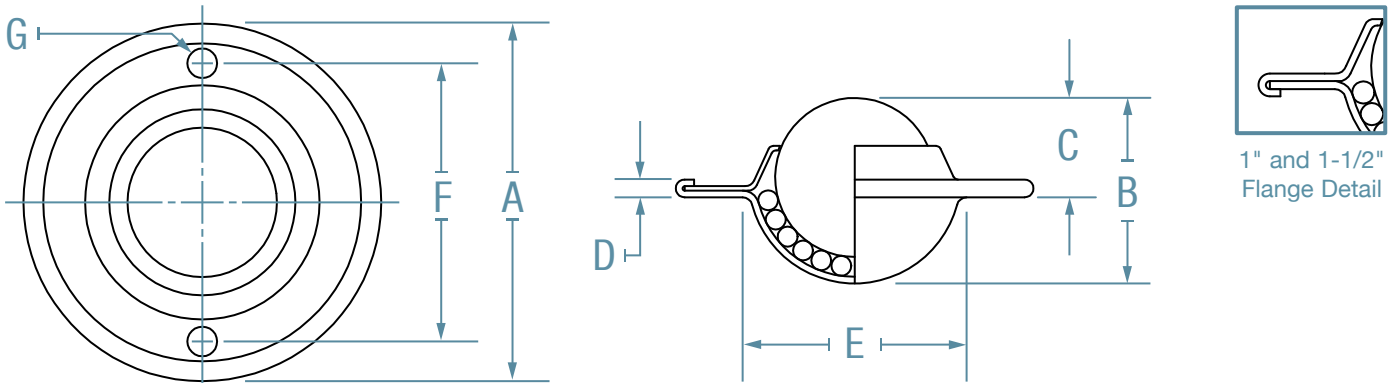


FSBT



VERSATILE, COMPACT, ALL-STEEL

- Can be recessed into the surface of the application forming a smooth, multi-directional rolling surface.
- Precision-formed steel housing.
- Integral mounting holes for ease of installation.
- Available with stainless steel balls for additional corrosion resistance.
- Nylon main ball is available for non-marking applications.



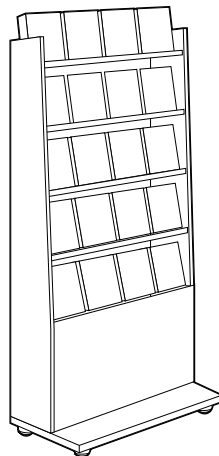
PART NUMBER	BALL MATERIAL	HOUSING MAT.	MAIN BALL	LOAD CAPACITY	A	B	C	D	E	F	G
FSBT-5/8CS	Carbon Steel	Carbon Steel	5/8" 15.9mm	20 lbs.	1-11/16" 42.9mm	3/4" 19.1mm	3/8" 9.5mm	5/32" 4.0mm	31/32" 24.6mm	1-1/4" 31.8mm	9/64" 3.6mm
NFSBT-5/8CS	Nylon	Carbon Steel	5/8" 15.9mm	10 lbs.	1-11/16" 42.9mm	3/4" 19.1mm	3/8" 9.5mm	5/32" 4.0mm	31/32" 24.6mm	1-1/4" 31.8mm	9/64" 3.6mm
FSBT-5/8CS/SS	Stainless	Carbon Steel	5/8" 15.9mm	20 lbs.	1-11/16" 42.9mm	3/4" 19.1mm	3/8" 9.5mm	5/32" 4.0mm	31/32" 24.6mm	1-1/4" 31.8mm	9/64" 3.6mm
FSBT-1CS	Carbon Steel	Carbon Steel	1" 25.4mm	75 lbs.	2-1/4" 57.2mm	1-7/32" 31.0mm	5/8" 15.9mm	3/16" 4.8mm	1-1/2" 38.1mm	1-3/4" 44.5mm	3/16" 4.8mm
NFSBT-1CS	Nylon	Carbon Steel	1" 25.4mm	40 lbs.	2-1/4" 57.2mm	1-7/32" 31.0mm	5/8" 15.9mm	3/16" 4.8mm	1-1/2" 38.1mm	1-3/4" 44.5mm	3/16" 4.8mm
FSBT-1CS/SS	Stainless	Carbon Steel	1" 25.4mm	75 lbs.	2-1/4" 57.2mm	1-7/32" 31.0mm	5/8" 15.9mm	3/16" 4.8mm	1-1/2" 38.1mm	1-3/4" 44.5mm	3/16" 4.8mm
FSBT-1-1/2CS	Carbon Steel	Carbon Steel	1-1/2" 38.1mm	200 lbs.	3-21/32" 92.9mm	1-13/16" 46.0mm	1-9/64" 29.0mm	9/32" 7.1mm	2" 50.8mm	2-3/4" 69.9mm	9/32" 7.1mm
NFSBT-1-1/2CS	Nylon	Carbon Steel	1-1/2" 38.1mm	100 lbs.	3-21/32" 92.9mm	1-13/16" 46.0mm	1-9/64" 29.0mm	9/32" 7.1mm	2" 50.8mm	2-3/4" 69.9mm	9/32" 7.1mm
FSBT-1-1/2CS/SS	Stainless	Carbon Steel	1-1/2" 38.1mm	200 lbs.	3-21/32" 92.9mm	1-13/16" 46.0mm	1-9/64" 29.0mm	9/32" 7.1mm	2" 50.8mm	2-3/4" 69.9mm	9/32" 7.1mm

Design & Materials

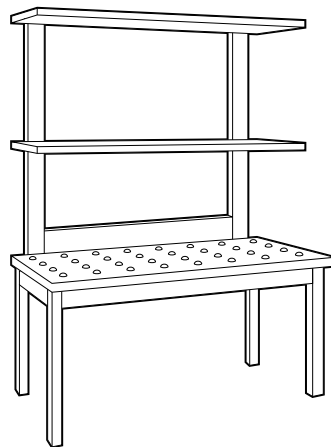
- We use minimum Grade 1000 carbon steel balls, higher than the competition. High grade main and support balls ensure rounder surfaces for smooth and consistent rolling.
- We use a higher number of support balls to ensure load capacities are met.
- In addition to the housing, support cups are zinc-plated to help retard rust and promote longer life of the ball transfer unit. All plating is RoHS compliant.
- Unique dual-radius cup design: support cups are dimpled to encourage support ball fluctuation rather than simple rotation. The result is less support cup wear and longer life.
- Foam seal helps wipe dirt particles away from main ball to promote easy rolling, as well as reduces contamination of support balls.
- Stainless Steel balls are manufactured from Series 400 stainless steel.
- Nylon main balls are machined, hardened, and non-marring.
- All carbon steel units are sealed and lubricated to ensure maximum life, unless otherwise specified.
- Many models are now available in all Stainless Steel (SS) for maximum corrosion resistance.
- Additional types of main balls, including non-magnetic and hollow, are available on a custom order basis.

Applications

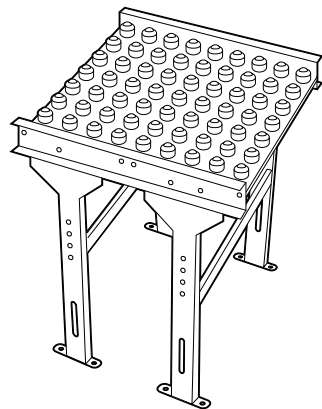
Ball transfers solve a variety of material handling and motion control challenges, whether used in the traditional 'ball up' position or as a caster in the 'ball down' orientation. Ball transfers offer advantages to traditional casters, such as lower profiles and omnidirectional movement, often at a lower cost.



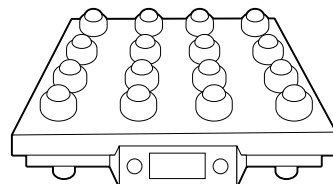
RETAIL STORE DISPLAY



WORKSTATIONS



MATERIAL HANDLING/CONVEYOR



WEIGHING SYSTEMS/SCALES

Manufacturing

- All products are made in the USA, in our East Lyme, Connecticut facility.
- Rigorous attention to detail and quality control ensures our customers receive the finest products available. That is why we have been proud to stamp our name on all our ball transfers for over forty years.
- In-house tool & die capability enables us to react quickly to our customers' needs.
- CNC manufacturing capability ensures the highest tolerances, and allows us to manufacture custom products at production prices

Customer Service

- We maintain a large finished goods inventory; all products are ready for immediate shipment.
- Our knowledgeable staff has extensive ball transfer and metal fabrication experience.
- No minimum order size.
- National network of manufacturers' representatives.
- We are very capable at exporting our products and ship to clients around the world on a regular basis, including the US government and military.
- For over forty years, we have built our reputation on quality and reliability. We wholeheartedly stand behind our products and service.

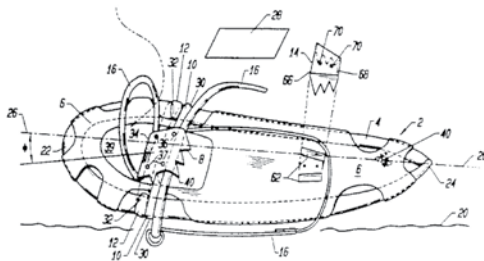
Common Applications

- Air Cargo
- Robotics
- Store Fixtures
- Laser & Plasma Cutters
- Medical Devices
- Shears
- Military Logistics
- Die Handling
- Glass & Metal Manufacturing
- Caster Substitution



East Lyme Manufacturing Plant

Hudson Bearings was an early pioneer in the ball transfer industry, fabricating its first products in 1969 and quickly gaining a reputation for quality and exemplary customer service. The business grew rapidly, resulting in a move to the current production facility in East Lyme, Connecticut and the acquisition of additional stamping and turning equipment. The business was eventually passed on to the next generation who oversaw an expansion of the heavy duty product line and new distribution channels.



Snow-Shoe Patent Drawing

Hudson Bearings was acquired by Jim Klingbeil Jr. and Donnie Bowman in 2009, with the goal of building a great company into an even better one. Both share a passion for American manufacturing and building quality companies. Jim was a cofounder of Atlas Snow-Shoe Company and has been awarded four U.S. utility patents for snowshoe innovations. Donnie has an extensive background in operations and sales management throughout the United States.

We remain committed to manufacturing all of our products in the U.S. and as such, have significantly enhanced our production capability with CNC manufacturing equipment.

Not only does this machinery produce higher tolerance ball transfers more consistently, it also greatly expands our ability to manufacture custom-dimension products.

While we pride ourselves on great products, we take even greater pride in our small, but dedicated staff. Their experience with metal forming runs deep and they excel at providing our customers with timely and cost competitive solutions. They take great satisfaction in exceeding expectations, day in and day out.

Our goal is to continually innovate and grow. We believe a company that is not trying to improve, grow, and innovate is a company that is in decline. This updated catalog reflects that goal, as does our enhanced website, new state of the art manufacturing equipment, expanded product offerings such as the Metal-cap HDBT and Studded HDBT, and most importantly, our renewed focus on our customers and their unique challenges. We look forward to helping you grow and improve your business.

Visit us at www.hudsonbearings.com.



CNC Lathe with Bar Feed

HUDSON BEARINGS

U.S. Made • Innovative • In Stock • Priced Right

Hudson Bearings has been manufacturing ball transfers since 1969 and provides the highest quality products, innovative designs and exemplary customer service. Our company manufactures all ball transfers in our own East Lyme, Connecticut facility, thus maintaining the highest quality control from raw materials through component manufacturing, assembly and shipment. Customer service includes immediate delivery from our huge inventory with no minimum order required. Please contact us for competitive pricing or assistance with specialized applications.



HDBTM-1-3/16CS

SHDBT-1-3/16

New Heavy-Duty Products
Studded HD and HD with Metal Cap.
See pages 10 and 12 for more details.

Lockable Ball Transfer Coming Soon!