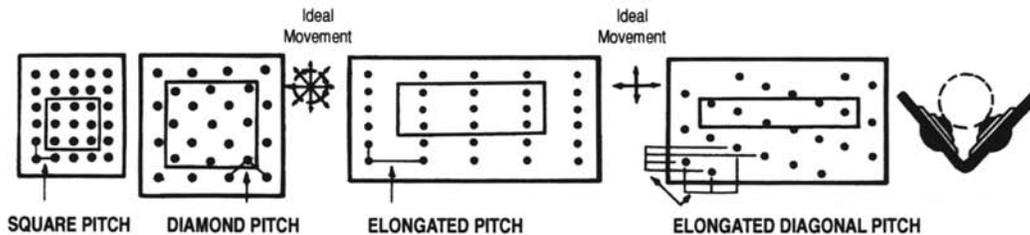


Ball transfers consist of a large ball seated on a quantity of small balls contained in a hemispherical cup. The actual number of small balls depends on the size of the ball transfer unit. The large ball thus rotates freely in any direction allowing load movement with minimum of effort. Many caster applications can be solved with ball transfer units.

### BALL TRANSFER ARRANGEMENT



### CAPACITY

To determine the capacity of the ball transfer required, the weight of the item to be conveyed should be divided by three (3). The result is the maximum capacity for any single ball transfer.

### SPACING OF BALL TRANSFERS

Pitch is determined by dividing the narrowest dimension by 3.5. This provides that there will be 3 ball transfers beneath the narrowest dimensions at any one time.

### SHOCK LOADS

When calculating loads, bear in mind the possibility of impact from dropping and incorrect levels. Spring loading will increase ball transfer life when the unit is subject to continuous harsh shock treatment. The shock will be absorbed by the springs but the article will move easily on the spring supported units. Shock loading can be further reduced by fitting pads under each unit.

### RETRACTABLE BALL UNITS

Ball units can be made to retract by means other than spring loading. Pneumatic or hydraulic cylinders and cam or levers can be fitted below units to enable them to be lifted. They can be programmed to operate in sequence with the movement of a machine.

### SELF LEVELING

Ball transfer units can be self-leveled by fitting rubber pads under each unit. This allows the unit to be compressed to the mean level, eliminating the possibility of excessive loading on a few units. Details are available on request.

### SELF LOCKING

Spring loaded ball transfer units permit an empty container to move freely into position. The unit kicks when a load is applied.

### TEMPERATURE

Ball transfer units can be used in applications where temperature range is between -20 deg. F to 175 deg. F continuous or 212 deg. F intermittent in extreme applications. Special seals may be required.

### LARGE BALLS

Nylon, Phenolic, bronze polypropylene and hollow steel balls are available.

### MOUNTING

Refer to the specific unit for mounting methods. Excessive tightening may cause damage.



## GENERAL INFORMATION

**CARBON TRANSFER** - All carbon steel with chassis zinc plated

**STAINLESS TRANSFERS** - Main and support balls - 440 Magnetic Stainless Steel  
 Cup - 410 Magnetic Stainless Steel  
 Cover - 302 Non-Magnetic Stainless Steel  
 The stud mounting cup, mounting screw and low profile mounting cup are zinc plated carbon steel.

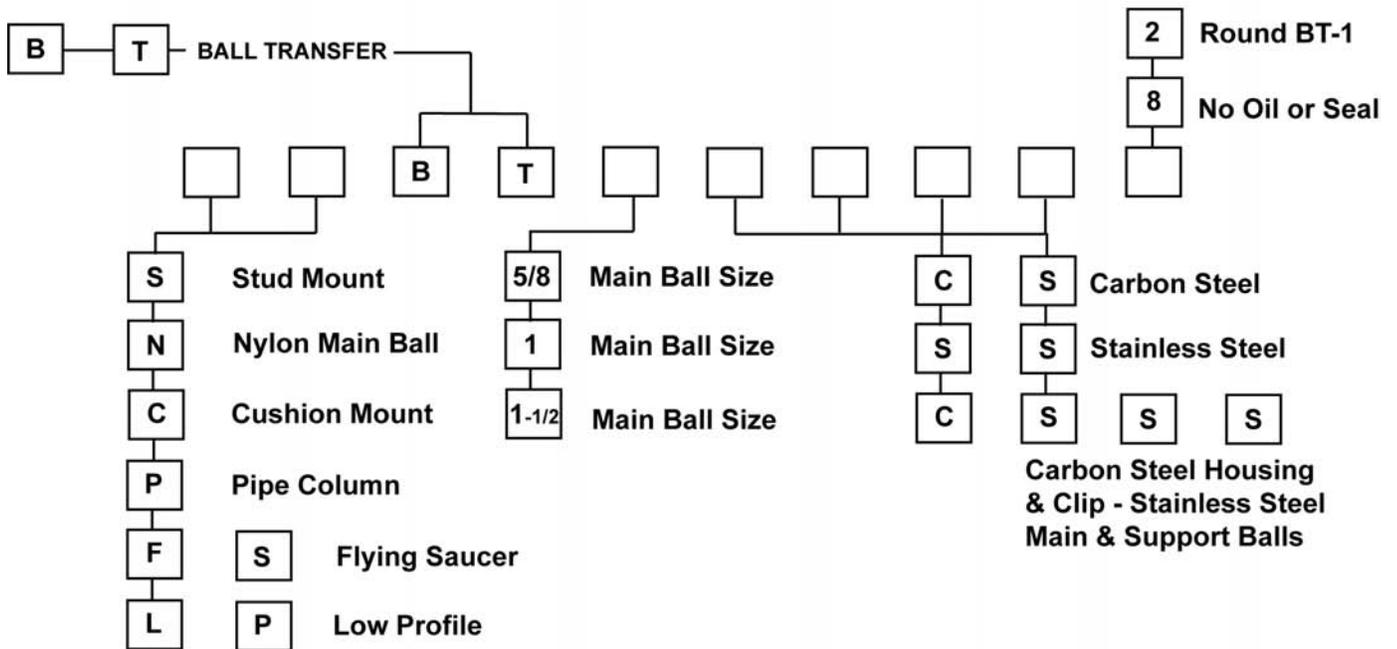
**NYLON MAIN BALL** - Approx. 1/2 load capacity of a steel ball.

**LUBRICATION** - Automotive Transmission Oil

**FOR UNEVEN SURFACES USE A 3:1 SAFETY FACTOR**

**FOR BEST PERFORMANCE, THE BALL TRANSFER SHOULD BE USED IN A BALL-UP POSITION.**

## PART NUMBERS



Example: Part Number for Stud Mounted Ball Transfer with 1 in. Main Ball made of Carbon Steel and 1/4-20 Thd. Stud



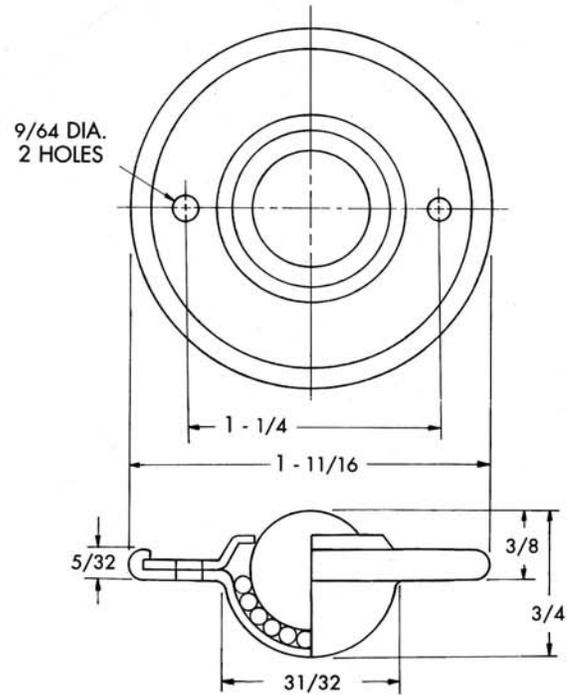


## FSBT - 5/8

5/8 diameter main ball rotates on 3/32 diameter support balls.

Available in all carbon steel or carbon steel housing and cover using nylon or stainless main ball.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
FSBT-5/8CS	CARBON STEEL	CARBON STEEL	20#
NFSBT-5/8CS	NYLON	CARBON STEEL	10#
FSBT-5/8CS/SS	STAINLESS	CARBON STEEL	20#

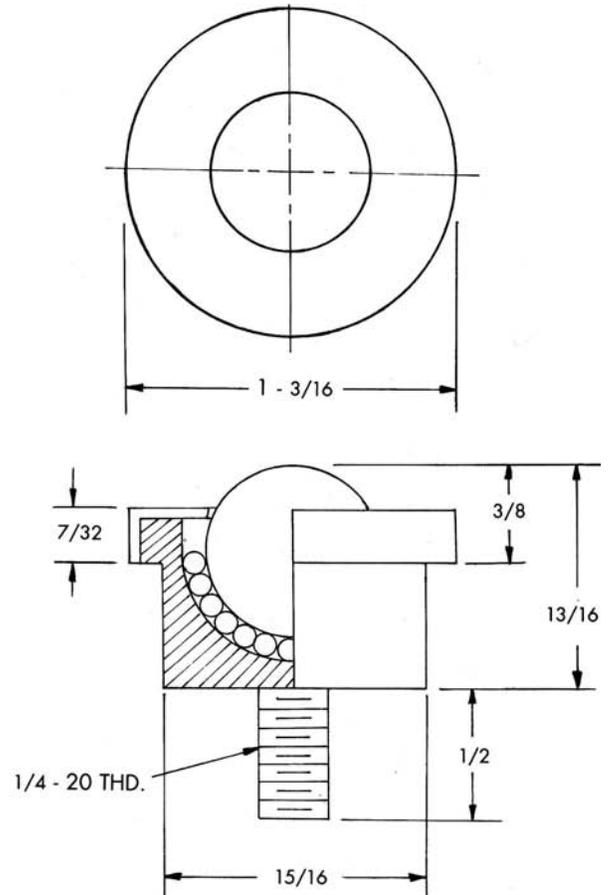


## SBT - 5/8

5/8 Diameter Main Ball rotates on 3/32 diameter support balls.

Available in all carbon steel or carbon steel housing and cover using nylon or stainless main ball.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
SBT-5/8CS	CARBON STEEL	CARBON STEEL	33#
NSBT-5/8CS	NYLON	CARBON STEEL	17#
SBT-5/8CS/SS	STAINLESS	CARBON STEEL	33#



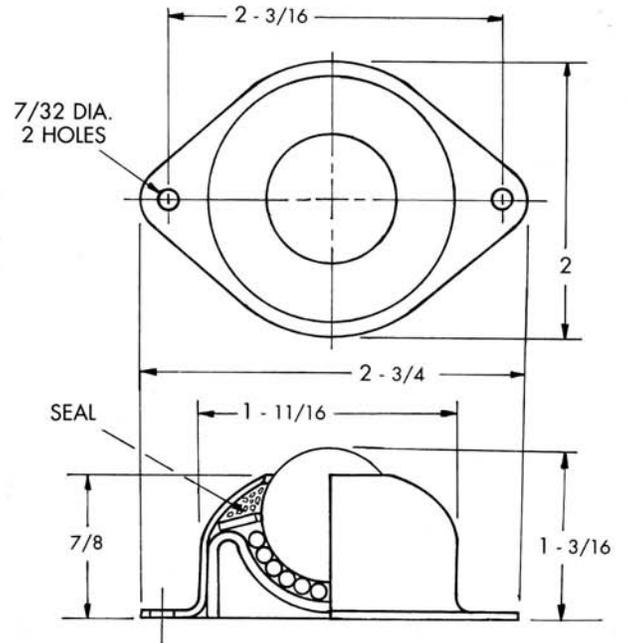


## BT - 1

### SEALED AND LUBRICATED FLANGE MOUNTED BALL TRANSFERS.

Two hole, Flange Mounted Ball Transfer, 1 inch Diameter main ball rotates on 80 - 1/8 inch Diameter support balls. Hardened ball cup and sealed protective cover assures low torque and long life.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
BT-1CS	CARBON STEEL	CARBON STEEL	75#
NBT-1CS	NYLON	CARBON STEEL	35#
BT-1CS/SS	STAINLESS	CARBON STEEL	75#
BT-1SS	STAINLESS	STAINLESS	75#

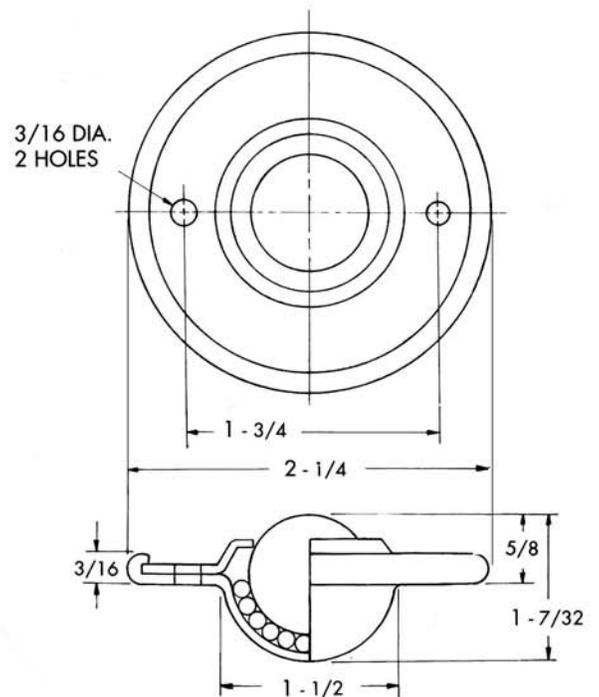


## FSBT - 1

1 diameter main ball rotates on 1/8 diameter support balls.

Available in all carbon steel or carbon steel housing and cover using nylon or stainless main ball.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
FSBT-1CS	CARBON STEEL	CARBON STEEL	75#
NFSBT-1CS	NYLON	CARBON STEEL	40#
FSBT-1CS/SS	STAINLESS	CARBON STEEL	75#



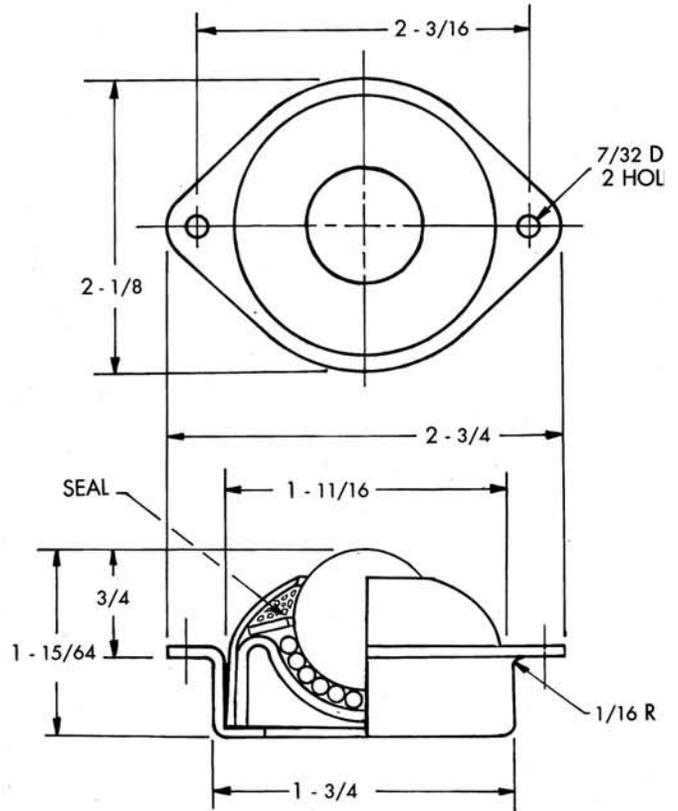


## LPBT - 1

Hudson Bearings designed this Low Profile Ball Transfer for applications where height is critical. By using a standard BT-1 Chassis we can supply this special unit at low cost.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
LPBT-1CS	CARBON STEEL	CARBON STEEL	75#
NLPBT-1CS	NYLON	CARBON STEEL	35#
LPBT-1CS/SS	STAINLESS	CARBON STEEL	75#
LPBT-1SS	STAINLESS	STAINLESS	75#

(MTG. CUP CARBON STEEL)



## SBT - 1

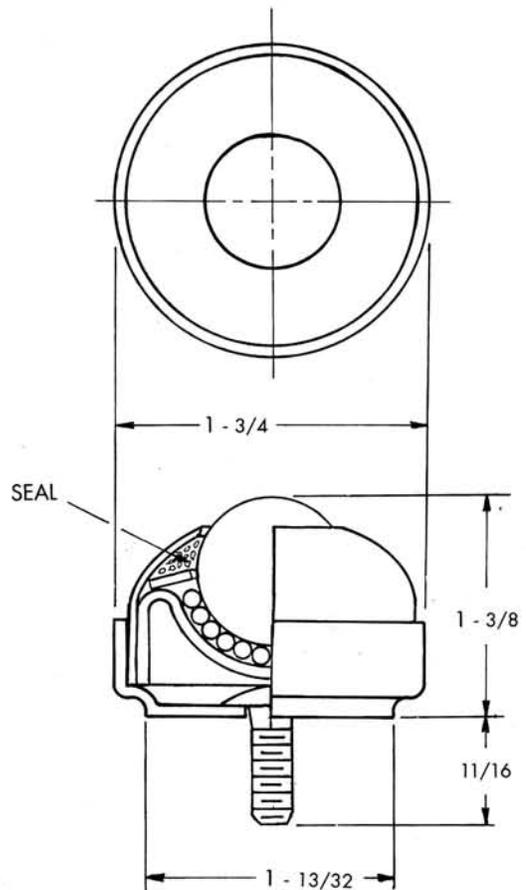
Available in 1/4 - 20; 5/16 - 18; 3/8 - 16 thread size

### SEALED AND LUBRICATED STUD TYPE BALL TRANSFERS.

By using a standard BT-1 chassis, Hudson can supply a stud type transfer with high load carrying capacity. 1 inch diameter main ball rotates on 80 - 1/8 inch diameter support balls. Hardened ball cup and sealed protective cover assures low torque and long life.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
SBT-1CS	CARBON STEEL	CARBON STEEL	75#
NSBT-1CS	NYLON	CARBON STEEL	35#
SBT-1CS/SS	STAINLESS	CARBON STEEL	75#
SBT-1SS	STAINLESS	STAINLESS	75#

(MTG. CUP & SCREW CARBON STEEL)



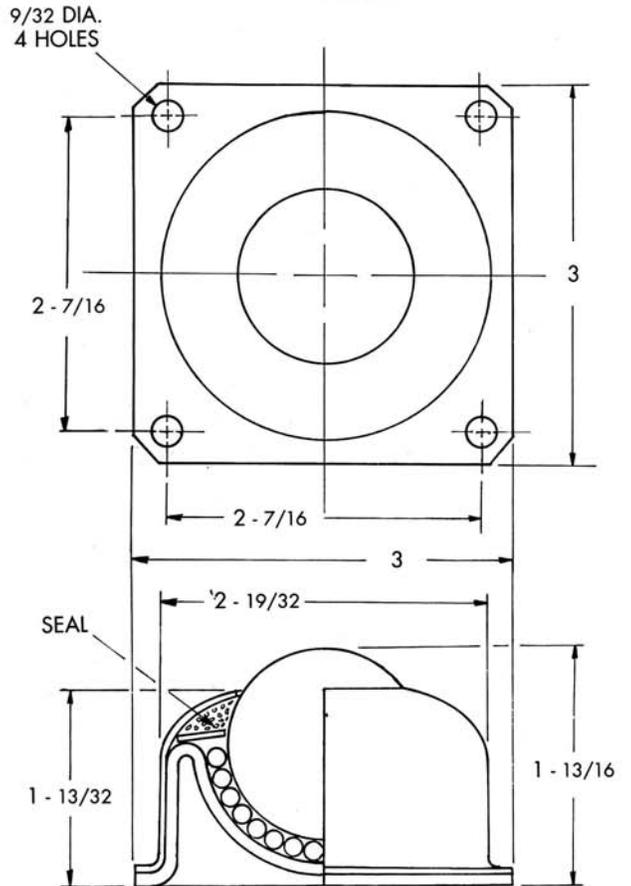


## BT - 1-1/2

### SEALED AND LUBRICATED HEAVY DUTY BALL TRANSFER.

The 1-1/2 inch diameter main ball rotates on 90 - 3/16 inch diameter support balls. Hardened ball cup and sealed cover assures low torque and long life.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
BT-1-1/2CS	CARBON STEEL	CARBON STEEL	250#
NBT-1-1/2CS	NYLON	CARBON STEEL	125#
BT-1-1/2CS/SS	STAINLESS	CARBON STEEL	250#
BT-1-1/2SS	STAINLESS	STAINLESS	250#



## CBT - 1-1/2

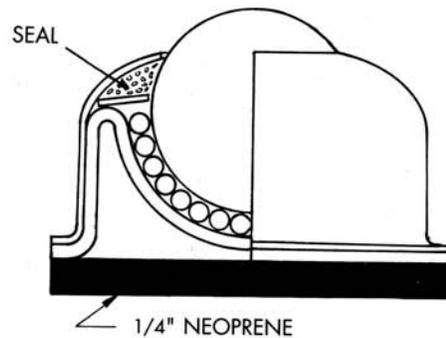
### SEALED AND LUBRICATED HEAVY DUTY CUSHION MOUNTED BALL TRANSFER.

1/4" thick Neoprene cushion permits vertical deflection which provides uniform load distribution when flatness cannot be maintained between load surface and supporting ball transfers.

CBT-1-1/2

AVAILABLE IN SAME MATERIAL AS BT-1-1/2 BUT WITH 1/4" THICK NEOPRENE CUSHION.

**SEE STANDARD BT - 1-1/2 FOR BALL TRANSFER DIMENSIONS**





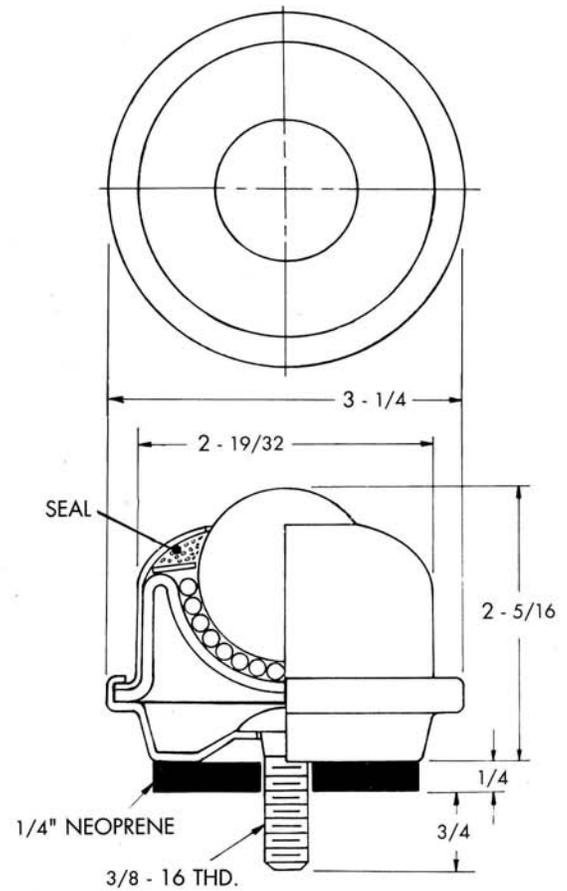
## CSBT - 1-1/2

### SEALED AND LUBRICATED HEAVY DUTY CUSHIONED STUD MOUNTED BALL TRANSFERS.

1/4" thick Neoprene cushion permits vertical deflection which provides uniform load distribution when flatness cannot be maintained between load surface and supporting ball transfers.

CSBT-1-1/2

AVAILABLE IN SAME MATERIAL AS SBT-1-1/2 BUT WITH 1/4" THICK NEOPRENE CUSHION.

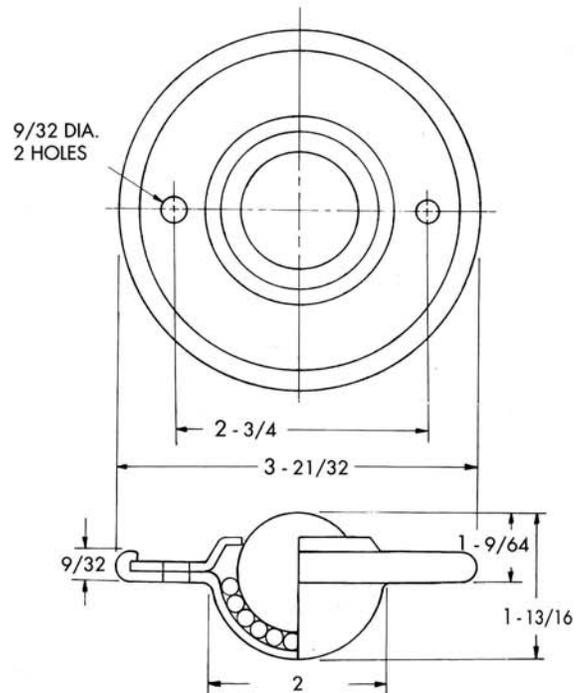


## FSBT - 1 1/2

1 1/2 diameter main ball rotates on 3/16 diameter support balls.

Available in all carbon steel or carbon steel housing and cover using nylon or stainless main ball.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
FSBT-1-1/2CS	CARBON STEEL	CARBON STEEL	200#
NFSBT-1-1/2CS	NYLON	CARBON STEEL	100#
FSBT-1-1/2CS/SS	STAINLESS	CARBON STEEL	200#





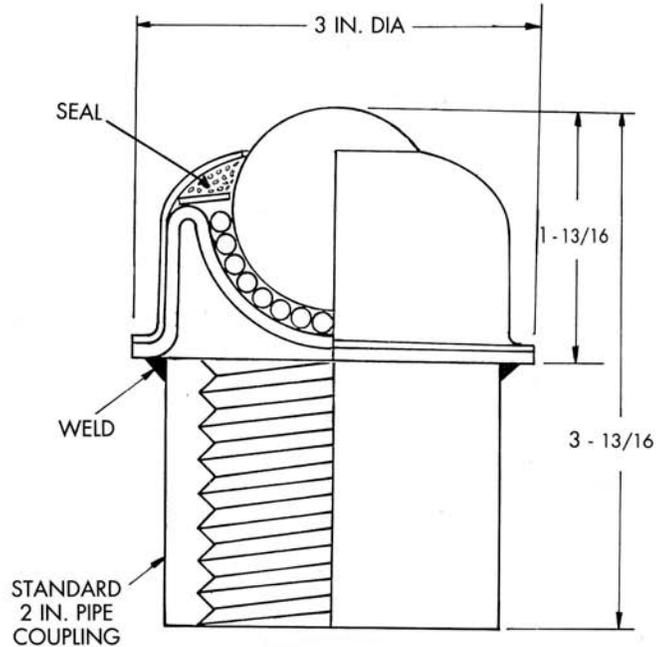
## PBT - 1-1/2

### SEALED AND LUBRICATED HEAVY DUTY COLUMN MOUNTED BALL TRANSFER.

In adapting a BT - 1-1/2 ball transfer and a 2 inch pipe coupling, Hudson Bearings has produced a unit that can be mounted on a 2 inch pipe pedestal for use in front of shears, breaks, etc.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
PBT-1-1/2CS	CARBON STEEL	CARBON STEEL	250#
NPBT-1-1/2CS	NYLON	CARBON STEEL	125#
PBT-1-1/2CS/SS	STAINLESS	CARBON STEEL	250#
PBT-1-1/2SS	STAINLESS	STAINLESS	250#

SEE STANDARD BT - 1-1/2 FOR BALL TRANSFER DIMENSIONS



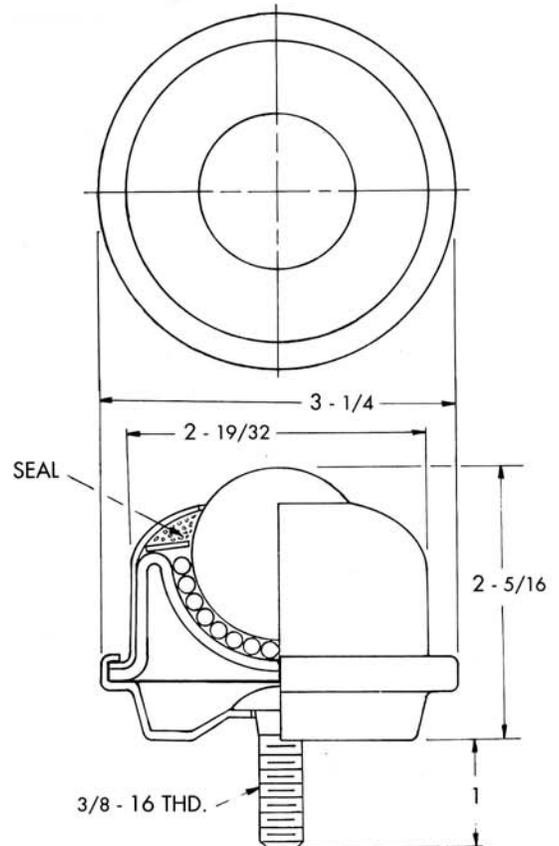
## SBT - 1-1/2

### SEALED AND LUBRICATED HEAVY DUTY STUD TYPE BALL TRANSFER

By using a standard BT - 1-1/2 inch chassis Hudson can supply a heavy duty stud type ball transfer.

PART NO.	BALL MATERIAL	HOUSING MAT.	LOAD CAP.
SBT-1-1/2CS	CARBON STEEL	CARBON STEEL	250#
NSBT-1-1/2CS	NYLON	CARBON STEEL	125#
SBT-1-1/2CS/SS	STAINLESS	CARBON STEEL	250#
SBT-1-1/2SS	STAINLESS	STAINLESS	250#

(MTG. CUP & SCREW CARBON)



## Serie 701

## Ball units with steel housing

Housing bright zinc plated steel or stainless steel. Steel, nylon (N) or stainless steel (R) load ball.



Ordering Number	Ball Ø			Dimensions				Hole Ø bolt hole spacing		piece weight	
	dw mm	D mm	D1 mm	H mm	h mm	a mm	b mm	mm	mm	kg	kg
with countersunk housing and flange fitting with fixing holes											
with steel ball											
<b>701-20/0-F2</b>	20	29	61	22	10	3	7	5	45	0,085	25
<b>701-25/0-F2</b>	25	38	73	30	14	3	8	5	56	0,170	55
<b>701-32/0-F2</b>	32	46	73	36	16	4	8	5	59	0,270	125
<b>701-40/0-F2</b>	40	56	89	46	22	6	13	7	70	0,515	140
<b>701-50/0-F3</b>	50	75	121	59	29	6	14	8	92	1,049	340
with nylon ball											
<b>701 N-20/0-F2</b>	20	29	61	22	10	3	7	5	45	0,085	20
<b>701 N-25/0-F2</b>	25	38	73	30	14	3	8	5	56	0,170	25
stainless steel housing and ball											
<b>701 R-20/0-F2</b>	20	29	61	22	10	3	7	5	45	0,085	25
<b>701 R-25/0-F2</b>	25	38	73	30	14	3	8	5	56	0,170	55
<b>701 R-32/0-F2</b>	32	46	73	36	16	4	8	5	59	0,270	125
<b>701 R-40/0-F2</b>	40	56	89	46	22	6	13	7	70	0,515	140
<b>701 R-50/0-F3</b>	50	75	121	59	29	6	14	8	92	1,049	340

F2 = 2 fixing holes; F3 = 3 fixing holes



## Serie 702

## Ball units with bolt fixing

Housing bright zinc plated or stainless steel. Steel, nylon (N) or stainless steel (R) load ball. Other bolt lengths available on request.



Ordering Number	Ball Ø		Dimensions				fixing bolt mm	piece weight	
	dw mm	D mm	H mm	h mm	a mm	b mm		kg	kg
with steel ball									
<b>702-19/1</b>	19	32,1	65,2	30,2	4,7	25,4	M8x35	0,080	20
<b>702-25/1</b>	25	39,7	82,7	39,7	6,3	33,4	M8x43	0,160	55
<b>702-40/1</b>	40	55,5	96,8	54,8	11,9	42,9	M10x42	0,490	140
with nylon ball									
<b>702 N-19/1</b>	19	32,1	65,2	30,2	4,7	25,4	M8x35	0,080	20
<b>702 N-25/1</b>	25	39,7	82,7	39,7	6,3	33,4	M8x43	0,150	25
stainless steel housing and ball									
<b>702 R-19/1</b>	19	32,1	75,2	30,2	4,7	25,4	M8x45	0,080	20
<b>702 R-25/1</b>	25	39,7	72,7	39,7	6,3	33,4	M8x43	0,150	55
<b>702 R-40/1</b>	40	55,5	86,8	54,8	11,9	42,9	M10x32	0,490	140



## EURO ball units with steel housing

Housing with separate hardened bearing cup, bright zinc plated or stainless steel. Steel support ball. Steel, nylon (N) or stainless steel (S/R) load balls.

Ordering Number	Ball Ø		Dimensions					Hole Ø		piece weight	
	dw mm	D mm	D1 mm	H mm	h mm	a mm	b mm	mm	bolt hole spacing mm	kg	kg
Basiseinheit/base unit/unité de base											
with steel ball, zinc plated housing											
<b>710-15/0</b>	15	24	31	21,0	9,5	2,8	6,3	-	-	0,043	60
<b>710-22/0</b>	22	36	45	30,0	9,8	2,8	5,5	-	-	0,132	160
<b>710-30/0</b>	30	45	55	37,0	13,8	4,0	8,3	-	-	0,278	300
<b>710-45/0</b>	45	62	75	53,5	19,0	4,0	10,0	-	-	0,725	610
with nylon ball, zinc plated housing											
<b>710 N-15/0</b>	15	24	31	21,0	9,5	2,8	6,3	-	-	0,028	10
<b>710 N-22/0</b>	22	36	45	30,0	9,8	2,8	5,5	-	-	0,096	20
<b>710 N-30/0</b>	30	45	55	37,0	13,8	4,0	8,3	-	-	0,182	25
with stainless steel ball, zinc plated housing											
<b>710 S-15/0</b>	15	24	31	21,0	9,5	2,8	5,3	-	-	0,043	60
<b>710 S-22/0</b>	22	36	45	30,0	9,8	2,8	5,5	-	-	0,132	160
<b>710 S-30/0</b>	30	45	55	37,0	13,8	4,0	8,3	-	-	0,278	300
<b>710 S-45/0</b>	45	62	75	53,5	19,0	4,0	10,0	-	-	0,725	610
stainless steel housing and ball											
<b>710 R-15/0</b>	15	24	31	21,0	9,5	2,8	6,3	-	-	0,043	38
<b>710 R-22/0</b>	22	36	45	30,0	9,8	2,8	5,5	-	-	0,132	100
<b>710 R-30/0</b>	30	45	55	37,0	13,8	4,0	8,3	-	-	0,278	200
<b>710 R-45/0</b>	45	62	75	53,5	19,0	4,0	10,0	-	-	0,725	250

## Serie 710/0



## EURO ball units with steel housing

Housing with separate hardened bearing cup, bright zinc plated or stainless steel. Steel support ball. Steel, nylon (N) or stainless steel (S/R) load balls.

Ordering Number	Ball Ø		Dimensions					Hole Ø		bolt hole spacing		piece weight	
	dw mm	D mm	D1 mm	H mm	h mm	a mm	b mm	mm	mm	kg	kg		
with steel ball, zinc plated housing													
<b>710-15/1</b>	15	24	31	21,0	9,5	2,8	6,3	3,5	29	0,043	60		
<b>710-22/1</b>	22	36	45	30,0	9,8	2,8	5,5	3,5	42	0,132	160		
<b>710-30/1</b>	30	45	55	37,0	13,8	4,0	8,3	3,5	51	0,278	300		
<b>710-45/1</b>	45	62	75	53,5	19,0	4,0	10,0	4,3	69	0,725	610		
with nylon ball, zinc plated housing													
<b>710 N-22/1</b>	22	36	45	30,0	9,8	2,8	5,5	3,5	42	0,096	20		
<b>710 N-30/1</b>	30	45	55	37,0	13,8	4,0	8,3	3,5	51	0,182	25		
with stainless steel ball, zinc plated housing													
<b>710 S-22/1</b>	22	36	45	30,0	9,8	2,8	5,5	3,5	42	0,132	160		
<b>710 S-30/1</b>	30	45	55	37,0	13,8	4,0	8,3	3,5	51	0,278	300		
stainless steel housing and ball													
<b>710 R-15/1</b>	15	24	31	21,0	9,5	2,8	6,3	3,5	29	0,043	38		
<b>710 R-22/1</b>	22	36	45	30,0	9,8	2,8	5,5	3,5	42	0,132	100		

## Serie 710/1

