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LATHRUP INDUSTRIES, INC.
42300 W. NINE MILE RD, NOVI MI 48375
PHONE (248) 349-1009
FAX (248) 349-1062

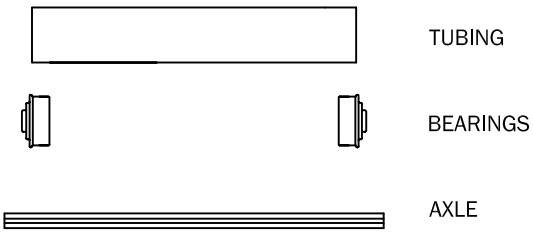
ROLLER SELECTION GUIDELINES

INTRODUCTION

The information contained in the following pages will assist you through the selection and proper application of a Lathrup Industrial Roller. Roller capacity charts containing important information for bearing ratings, axle deflection, tube strength, and uniform loads are included for your guidance. For specifications falling outside the above parameters or for special applications not listed, please contact your local Lathrup representative.

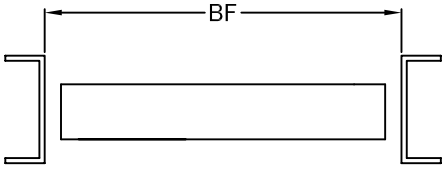
ROLLER ELEMENTS

Lathrup's industrial rollers are actually assemblies comprised of three components: tube, bearings, axle.



BF OR BETWEEN FRAME DIMENSION

The length of industrial rollers is described in terms of BF, the dimension between the frame.



Any unsupported span between the frame rail and the bearing is to be avoided to minimize axle deflection, which affects bearing capacities. For this reason, we manufacture our rollers based on the BF, the dimension between the frames.

Each manufacturer's bearings have their own unique design and bearing cone projection. For this reason, when you wish to replace another manufacturer's industrial roller with a Lathrup Industrial Roller, the roller tube length is not required. What we do require is the frame thickness, the BF dimension, or the overall cone dimension (OAC) if the BF cannot be determined. This insures that the overall length of the replacment roller will not be too long or too short when assembled into the existing frame.

DIAMETER AND GAUGE

Diameter refers to the outside diameter of the tubing used to manufacture the roller. (i.e. 1.90" diameter, 2_1/2 " diameter, etc.)

Gauge is the thickness of the tubing wall. Gauge is also expressed in its decimal equivalent.

i.e. 9 ga. = .148" wall thickness
11 ga. = .120" wall thickness
12 ga. = .109" wall thickness
14 ga. = .083" wall thickness

TYPES OF BEARINGS

Bearings can be classified into three groups: precision, semi-precision, and non-precision bearings.

Precision Bearings

- suitable for speeds above 400 RPM and heavier loads.
- contains ball retainers with balls and raceways which are hardened and ground.
- normally shielded and sealed.

Semi-Precision Bearings

- suitable for speeds up to 400 RPM.
- hardened steel balls and raceways.
- contains ball retainers, also known as "cages" to separate the balls.

Non-Precision Bearings

- for moderate speeds and loads.
- machined or stamped outer race.
- hardened steel balls and raceways.
- also known as "full compliment" which means they do not have a ball retainer.

BEARING BREAKDOWN

Races

The balls of a bearing come in contact with inner and outer surfaces otherwise known as races. Both races of semi-precision and non-precision bearings are hardened steel. The inner race is machined. The outer is machined or stamped. The precision bearing is made of a higher quality steel and is machined, treated to a uniform hardness, then ground to a fine finish.

Balls

The balls in a precision bearing are hardened chrome alloy steel.

The balls in non-precision and semi-precision bearings are hardened steel.

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ROLLER SELECTION GUIDELINES

BEARING BREAKDOWN

Ball Retainer

To minimize noise and reduce contact friction, a ball retainer, or "cage," is used. The ball retainer reduces friction by seperating the balls from each other. When friction is reduced, higher operating speeds can be obtained.

Shields and Seals

To prevent contaminants from entering the bearing, shields and seals are used. The shield can be used by itself or with a seal. Often made of steel, the shield will provide protection for the seal, if a seal is used. Seals, being made out of different material such as teflon, felt, rubber, nylon, and mylar, can withstand temperatures up to 225°F. The seal also acts as a retainer to help keep grease in the bearing.

LUBRICATION

There are three options of lubrication for semi-precision and non precision bearings: oiled, grease packed, or regreasable. The standard lubrication for precision bearings is grease.

Oiled

Gravity applications that have a low friction resistance are where oiled bearings are commonly used, with a temperature range of 0° to 200°F for standard oil.

Grease Packed

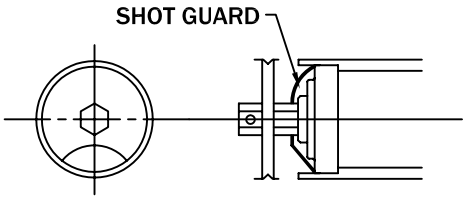
Higher humidity and powered applications are where grease packed bearings are used, with a temperature range of -10° to +225°F for standard grease.

Regreasable

The regreasable and grease packed bearings have the same properties except that the regreasable bearing can accept more grease through a grease fitting at the end of the axle.

SHOT GUARDS

In applications where excessive contaminants exist, shot guards can be used to help keep the bearings clean. Made of steel, shot guards require the tube of a roller to be counterbored so that the shot guard and bearing can be set back marginally inside the tube.



BEARING LIFE AND LOAD RATING

Precision, semi-precision, and non-precision bearings vary based on a given load rating over a certain period of time or number of revolutions.

The life of a bearing is affected by lubrication, humidity, temperature, load type and duration, RPM, material of the balls and races, and if the races are machined or not. The method of rating differs somewhat for non-precision bearings than for precision and semi-precision bearings. Journal bearings are rated on a PV factor, which is based on the type of material. The equation is the rated pressure times velocity.

Non-Precision Bearings

It is difficult to determine the load rating of a non-precision bearing because the materials used are not machined or as sufficient as those used in semi-precision and precision bearings. Nevertheless, non-precision bearings are efficient in applications where speeds and loads are moderate. Plus, they are a provident alternative to precision bearings.

Semi-Precision and Precision Bearings

It is easier to determine the load rating of a precision bearing because it is built with higher quality materials that are machined, and with more accurate tolerances. A semi-precision bearing is rated like a precision bearing because they both have ball retainers. However, the semi-precision bearing does not have ground races or bearing type steel.

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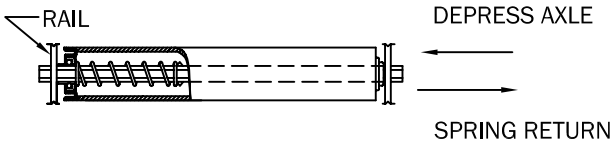
ROLLER SELECTION GUIDELINES

AXLE FABRICATION

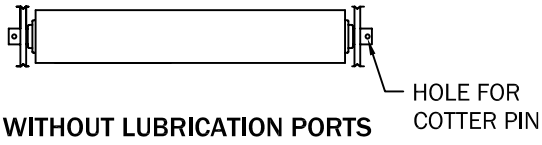
Spring Retained

A spring retained axle has (2) pairs of upsets, or "dimples". When a roller is assembled into a frame, the spring tension created between the dimples and bearing forces the axle back to its original position in the roller after installed. To install a spring retained roller, insert one end of the axle into the frame. By depressing the free end, it can then be dropped into the other frame. Removal of the roller is just as easy. Hex sizes for spring retained axles are 5/16", 7/16", and 11/16".

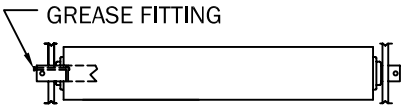


Pin Retained

Pin retained axles have holes at each end so that a cotter pin can be inserted after positioning the axle in the frame. This type of axle can also be modified for pressure lubrication of bearings. We offer pin retained axles in hex sizes of 5/16" to 1 1/16", and in round sizes of 1/4" to 1_7/16".



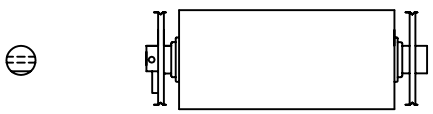
WITHOUT LUBRICATION PORTS



WITH LUBRICATION PORTS

Keeper Bar Retained

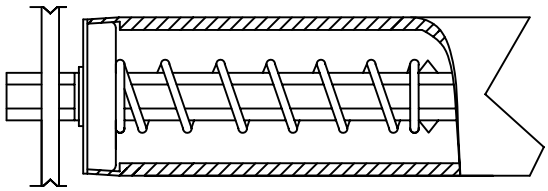
These axles only have one cotter pin hole along with a machined flat on the same end. A keeper bar is welded to the frame which prevents the axle from rotating and keeps it in the frame. This application is used only on round shafts that are 1 inch diameter and larger.



ROLLER FABRICATION

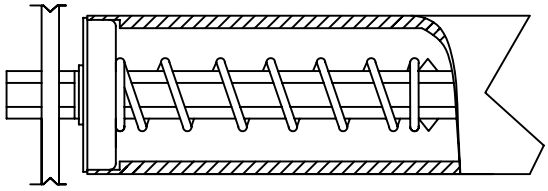
Crimped

This is where the tube of the roller is crimped down over the bearing, holding it in place. The bearings cannot be replaced when the tube is crimped over them.



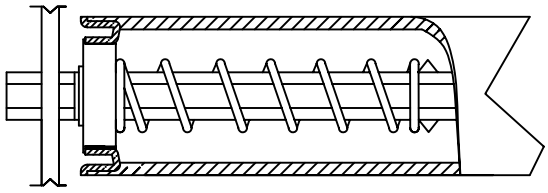
Counterbored

This is where the tube of the roller is counterbored to the proper inside diameter for the bearing to be press fit into place, or slip fit for large diameter rollers.



Adapter

This is where the bearing is first press fit into an adapter, and then the adapter is press fit into the tube.



CAPACITY OF ROLLERS

The capacity of a single roller, or the maximum load it can support, is based on these factors:

- axle deflection
- tube deflection
- bearing capacity
- bearing offset (the distance from the sideframe to the center of the balls)

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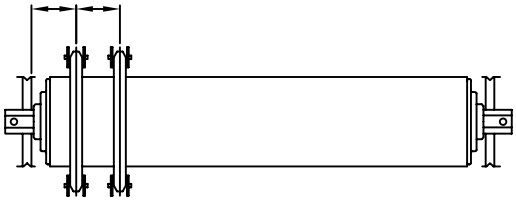
ROLLER SELECTION GUIDELINES

ROLLER OPTIONS AVAILABLE

Rollers with Sprockets

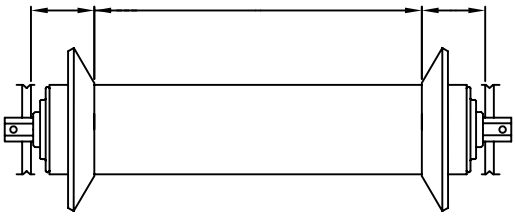
In a Chain Driven Live Roller Conveyor (CDLR), the number of teeth on a sprocket, size of chain, and location of where the sprockets are to be welded are required. Single or Multiple type A sprockets per roller can be added. These sprockets can be purchased separately also.



Roller Dia.	Sprocket Size	Roller Dia.	Sprocket Size	Roller Dia.	Sprocket Size
1.9"	40A18 50A15 60A13	2_9/16"	40A22 50A18 60A15 80A13	4 in"	60A22 80A17 100A14
2_1/2"	40A22 50A17 60A15	3_1/2"	60A20 80A16 100A13		

Rollers with Flanges

To guide the product being conveyed, we can weld flanges to the roller tube. For flanges to be added, information regarding the location and quantity per roller is required.



ROLLER SELECTIONS

When calculating the required roll capacity, use only 2/3 of the rollers under the product. This is done because the conveying surface of products is not perfectly flat.

Because it isn't reasonable to use smaller rollers for a heavier product, try using the following guidelines:

Roll Diameter & Axle	Max. Product Weight
1" O.D. - 5/16" hex	300 lbs.
1_3/8" O.D. - 5/16" hex	600 lbs.
1.9" O.D. - 7/16" hex	1500 lbs.
2_1/2" O.D. - 11/16" hex	3500 lbs.
3_1/2" O.D. - 1_1/16" hex	6000 lbs.
3_1/2" O.D. - 1_7/16" hex	10,000 lbs.
4" O.D. - 1_7/16" hex	15,000 lbs.

SPECIAL ROLLER INFORMATION

To meet the needs of special roller requests, we need the following information regarding your order.

Flanges on Rollers

1) What type of flange?
2) How many flanges on a roller?
3) Location of flanges on a roller?

Sprockets on Rollers

1) What type of sprockets?
2) How many sprockets per roller?
3) Location of sprockets on roller?
4) Size of chain?
5) Number of teeth on the sprocket?

Special Coverings on Rollers

1) What type of covering?
2) How thick?
3) What durometer or hardness?
4) The finish?

Special Bearings in Rollers

1) What type of bearing?
2) What manufacturer?
3) With or without axle?
4) Axle construction?

Special Diameters and Wall Thicknesses

1) What is the construction?
2) The material of the tube?
(Stainless steel, aluminum, etc.)

Hardened Rollers

1) What is the case hardened depth?
2) Rockwell hardness?

NOTE:

A sketch or drawing may be submitted to help us accurately quote your requirements.

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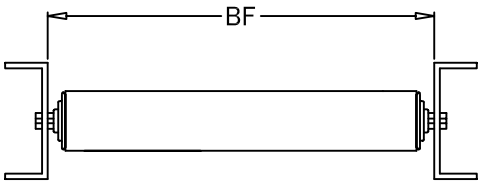
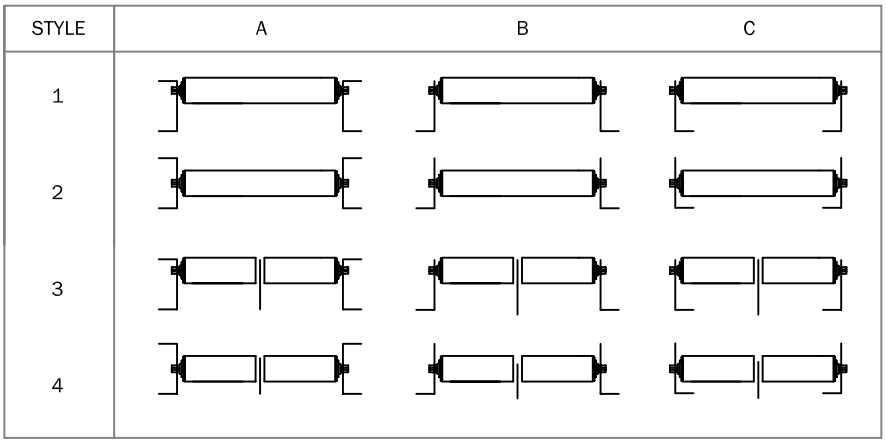
GRAVITY ROLLER CONVEYOR





Side Frame	Frame Capacity (lbs.) 5' Support	10' Support
L 2 x 1_1/2 x 3/16	850	200
[2_1/2 x 1 x 12 GA.	1,300	350
L 2_1/2 x 2 x 3/16	1,700	420
L 2_1/2 x 2 x 1/4	2,000	550
[3 x 4.1#	5,800	1,400
L 3 x 2 x 3/16	2,100	580
L 3 x 2 x 1/4	2,800	960
[3_1/2 x 1_1/2 x 10 GA.	3,300	1,200
[4 x 5.4#	10,000	3,300
L 4 x 3 x 5/16	6,500	2,900
[5 x 1_1/2 x 7 GA.	6,800	3,400
[5 x 6.7#	16,000	6,600
L 5 x 3_1/2 x 5/16	10,000	5,000
[5_1/2 x 1_1/2 x 10 GA.	5,500	2,400
[6 x 8.2#	22,000	11,000
[8 x 11.5#	43,000	21,000
[10 x 15.3#	71,000	35,000
[10 x 20.0#	83,000	41,000
[12 x 20.7#	113,000	56,000
[15 x 40.0#	180,000	92,000

Standard Information

Wide variety of side frames built to specified width and length requirements. Additional frames are available.

Rigid welded construction.

Gravity rollers from 1" through 4" diameter.

Roller spacing: 1_1/2", 3", 4", and 6" are typical. Other spacings are available.

Other Options

Gravity Curves with Straight or Tapered Rollers

Gravity Spurs

"H" Type Leg Supports

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GRAVITY ROLLERS

Tube Diameter & Wall Thickness	Axle Size	BEARING OPTIONS: Precision	Semi-Precision	Non-Precision	Shielded	Sealed	Regreasable	AXLE RETENTION: Spring	Pin	BETWEEN FRAME RANGES (INCHES) SPRING/PIN	ROLLER CAPACITY (LBS.) AT OPTIMUM B.F.
1" O.D. x 16 Ga.	5/16" Hex			□				□	□	6-39/3-39	60
1.38" O.D. x 18 Ga.	1/4" Rd.			□				□		7-28/N.A.	120
1.38" O.D. x 18 Ga.	5/16" Hex			□				□	□	7-28/3-28	120
1.38" O.D. x 3/16" Wall	7/16" Hex			□				□	□	7-39/3-39	150
1.90" O.D. x 16 Ga.	5/16" Hex			□				□	□	7-39/3-39	260
1.90" O.D. x 16 Ga.	7/16" Hex			□		□		□	□	7-63/3-63	260
1.90" O.D. x 9 Ga.	7/16" Hex		□	□	□	□		□	□	7-63/3-63	300/260/585/180
2.00" O.D. x 11 Ga.	11/16" Hex	□			□	□		□	□	8-63/3-63	3064
2.25" O.D. x 13 Ga.	7/16" Hex			□		□		□	□	7-63/3-63	290
2.50" O.D. x 14 Ga.	7/16" Hex			□		□		□	□	7-63/3-63	290
2.50" O.D. x 11 Ga.	11/16" Hex		□	□	□	□	□	□	□	7-72/3-99	580/650/700
2.56" O.D. x 7 Ga.	11/16" Hex		□	□	□	□	□	□	□	7-72/3-99	580/650/2226
3.50" O.D. x 7 Ga.	11/16" Hex			□		□		□	□	7-72/3-99	580
3.50" O.D. x .300" Wall	1_1/16" Hex		□	□	□	□	□		□	N.A./4-120	1040/4130
4.00" O.D. x 1/2" Wall	1_1/16" Hex		□	□	□	□	□		□	N.A./4-120	1040/4130
4.00" O.D. x 1/2" Wall	1_7/16" Rd.	□			□	□			■	N.A./4-130	6172

■ Keeper Bar Retained (See Page 23)

Standard Information

Gravity Rollers from 1" through 4" Diameter

Pin or Spring Retained Axle

Various Bearing Options

Quick Delivery

Other Options

Tapered Rollers

Heat-Treated Rollers

Urethane Coated Rollers

Ultrex-Sleeved Rollers

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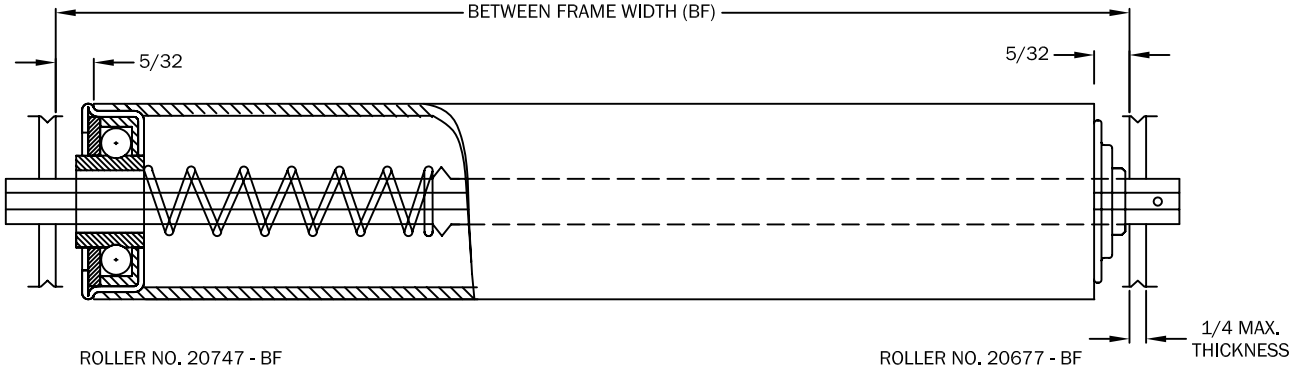
1.0" DIA. x 16 GA. (.065) ROLLER
5/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	1" x .065"	L102152	1/4	SL



TUBE: 1" O.D. x 16 GA. (.065")
AXLE: 5/16" HEX
BEARING NO.: L102152 - PLAIN
SPRING: #11372
PIN: #101136
WEIGHT (LBS.): 0.18 + 0.08 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
20747-BF	L102152 - PLAIN	SPRING	6-39
20677-BF	L102152 - PLAIN	PIN	3-39

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102152	BF	BEARING NO. L102152
7	60	25	60
9	60	27	60
11	60	29	60
13	60	31	60
15	60	33	60
17	60	35	60
19	60	37	60
21	60	39	60
23	60		

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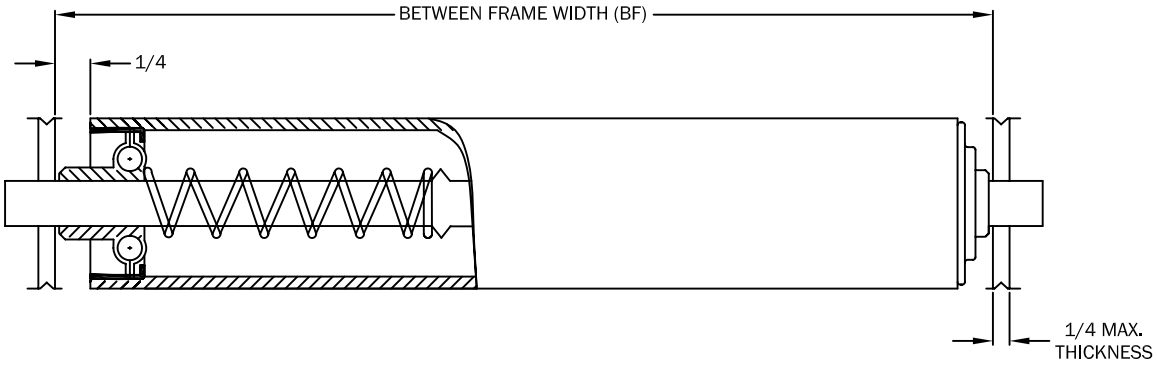
1_3/8" DIA. x 18 GA. (.049) ROLLER
1/4 ROUND AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	1_3/8" x .049"	L102151	1/4	SL



TUBE: 1_3/8" O.D. x 18 GA. (.049")
AXLE: 1/4" ROUND
BEARING NO.: L102151 - PLAIN
SPRING: #25279
WEIGHT (LBS.): 0.13 + 0.07 x BF
ROLLER NO.: 25904 - BF
BF RANGE: 7 - 28

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102151	BF	BEARING NO. L102151
7	120	18	52
8	120	19	49
9	110	20	47
10	98	21	44
11	88	22	42
12	80	23	40
13	74	24	39
14	68	25	37
15	63	26	35
16	59	27	34
17	55	28	33

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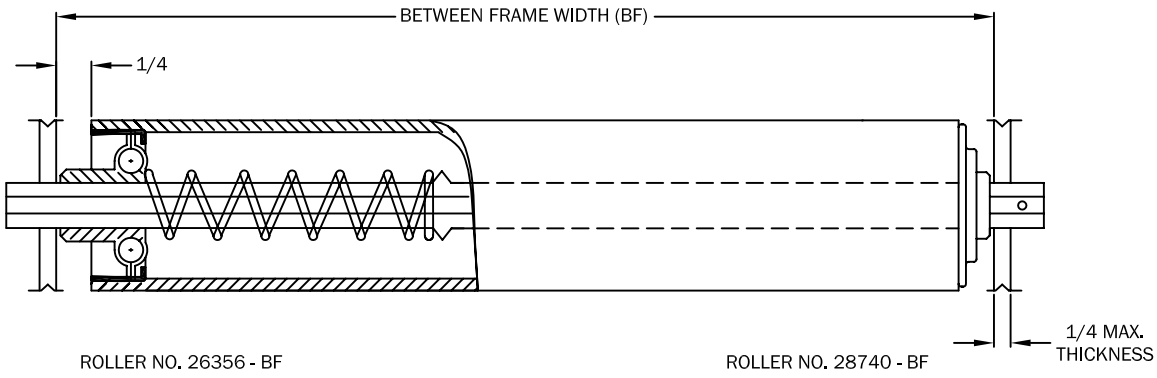
1_3/8" DIA. x 18 GA. (.049) ROLLER
5/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	1_3/8" x .049"	L102228	1/4	SL



ROLLER NO. 26356 - BF

ROLLER NO. 28740 - BF

TUBE: 1_3/8" O.D. x 18 GA. (.049")
AXLE: 5/16" HEX
BEARING NO.: L102228 - PLAIN
SPRING: #11372
PIN: #101136
WEIGHT (LBS.): 0.13 + 0.07 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
28740-BF	L102228 - PLAIN	PIN	3-28
26356-BF	L102228 - PLAIN	SPRING	7-28

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102228	BF	BEARING NO. L102228
7	120	18	120
8	120	19	120
9	120	20	120
10	120	21	119
11	120	22	114
12	120	23	109
13	120	24	104
14	120	25	99
15	120	26	96
16	120	27	92
17	120	28	88

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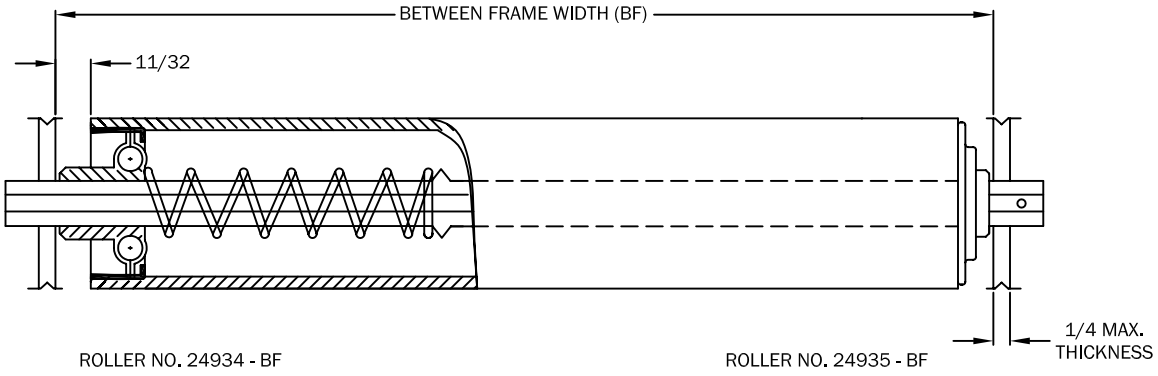
1_3/8" DIA. x 3/16 WALL ROLLER
7/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	1_3/8" x 3/16" WALL	L102126	1/4	SL



TUBE: 1_3/8" O.D. x 3/16" WALL (.188")
AXLE: 7/16" HEX
BEARING NO.: L102126 - PLAIN
SPRING: #11375
PIN: #101010
WEIGHT (LBS.): 0.10 + 0.25 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
24934-BF	L102126 - PLAIN	SPRING	7-39
24935-BF	L102126 - PLAIN	PIN	3-39

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102126	BF	BEARING NO. L102126
7	150	25	150
9	150	27	150
11	150	29	150
13	150	31	150
15	150	33	150
17	150	35	150
19	150	37	150
21	150	39	150
23	150		

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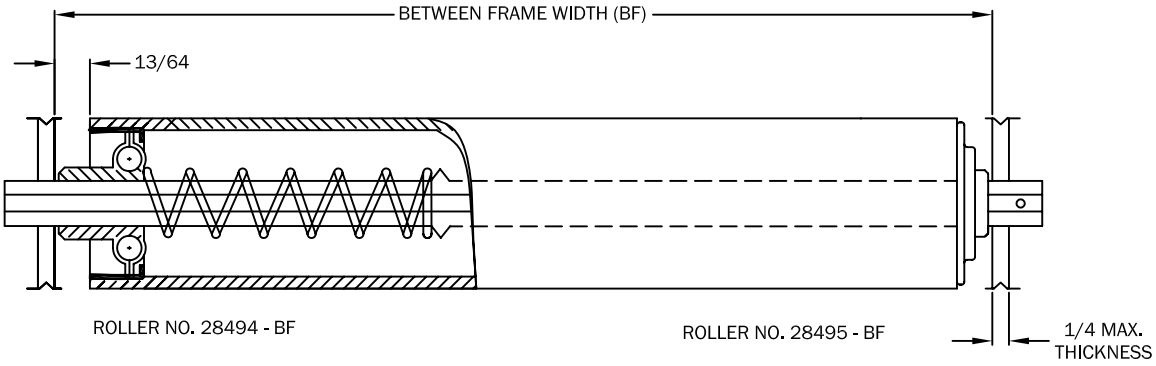
1.9" DIA. x 16 GA. (.065) ROLLER
5/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	1.9" x .065"	L102248	1/4	SL



TUBE: 1.9" O.D. x 16 GA. (.065")
AXLE: 5/16" HEX
BEARING NO.: L102248 - PLAIN
SPRING: #11372
PIN: #101136
WEIGHT (LBS.): 0.33 + 0.13 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
28494-BF	L102248 - PLAIN	SPRING	7-39
28495-BF	L102248 - PLAIN	PIN	3-39

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102248	BF	BEARING NO. L102248
7	260	25	137
9	260	27	126
11	260	29	117
13	260	31	110
15	233	33	103
17	204	35	97
19	182	37	91
21	164	39	87
23	149		

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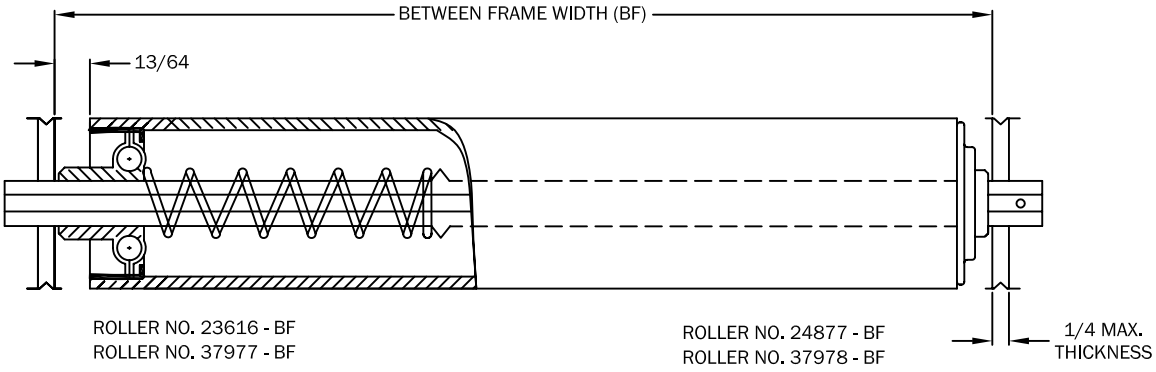
1.9" DIA. x 16 GA. (.065) ROLLER
7/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	1.9" x .065"	L102279	1/4	SL



TUBE: 1.9" O.D. x 16 GA. (.065")
AXLE: 7/16" HEX
SPRING: #11375
PIN: #101010
WEIGHT (LBS.): 0.35 + 0.15 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
23616-BF	L102154 - PLAIN	SPRING	7-63
24877-BF	L102154 - PLAIN	PIN	3-63
37977-BF	L102279 - SEAL	SPRING	7-63
37978-BF	L102279 - SEAL	PIN	3-63

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102279 L102154	BF	BEARING NO. L102279 L102154
7	260	37	260
10	260	40	260
13	260	43	260
16	260	46	260
19	260	49	244
22	260	52	230
25	260	55	217
28	260	58	206
31	260	61	195
34	260	63	189

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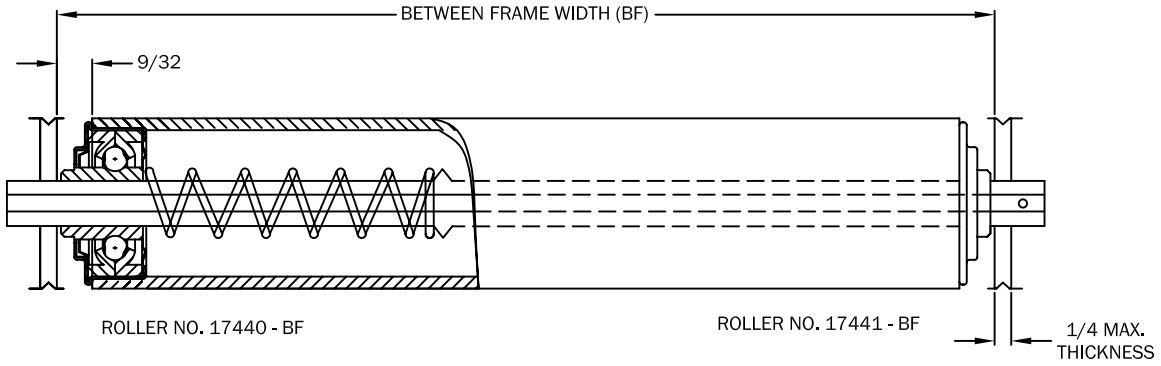
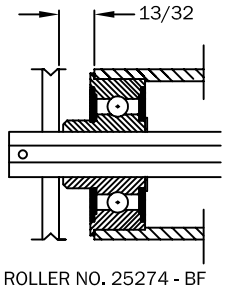
1.9" DIA. x 9 GA. (.145) ROLLER
7/16 HEX AXLE

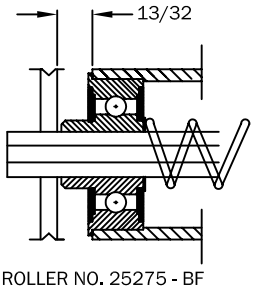
HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	1.9" x .145"	L102095	1/4	SL





ROLLER NO. 25274 - BF



ROLLER NO. 25275 - BF

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO.		BF	BEARING NO.	
	L102095	L102155		L102095	L102155
7	300	585	39	241	178
11	300	585	43	218	161
15	300	492	47	199	147
19	300	380	51	183	135
23	300	310	55	170	125
27	300	261	59	158	116
31	300	226	63	148	109
35	270	199			

TUBE: 1.9" x 9 GA. (.145")
AXLE: 7/16" HEX
SPRING: #11375
PIN: #101010
WEIGHT (LBS.): 0.37 + 0.27 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
17440-BF	L102095 - SHIELDED	SPRING	7-63
17441-BF	L102095 - SHIELDED	PIN	3-63
25275-BF	L102155 - SEAL/SHIELD	SPRING	7-63
25274-BF	L102155 - SEAL/SHIELD	PIN	3-63

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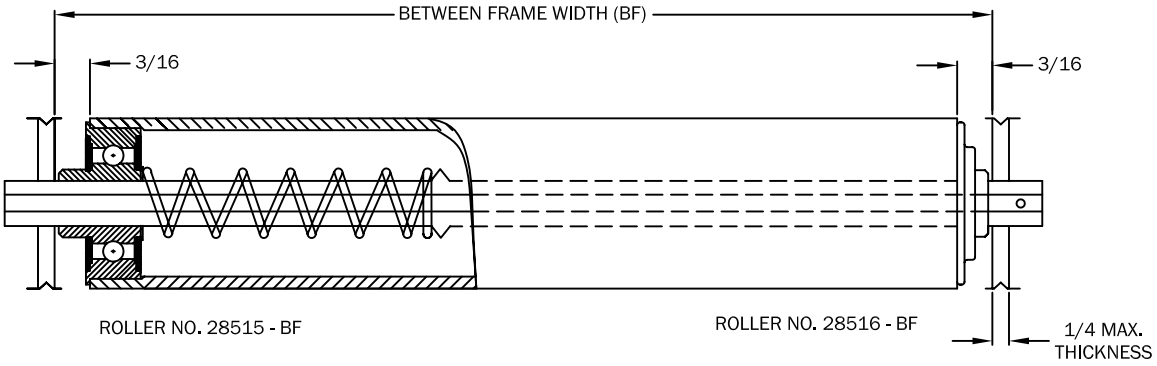
2" DIA. x 11 GA. (.120) ROLLER
11/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	2" x .120"	L102191	1/4	SL



TUBE: 2" O.D. x 11 GA. (.120")
AXLE: 11/16" HEX
BEARING NO.: L102191 - SHIELD
SPRING: #11388
PIN: #101011
WEIGHT (LBS.): 0.73 + 0.32 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
28515-BF	L102191 - SHIELD	SPRING	8-63
28516-BF	L102191 - SHIELD	PIN	3-63

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102191	BF	BEARING NO. L102191
7	3064	37	696
10	2766	40	642
13	2083	43	597
16	1665	46	557
19	1391	49	522
22	1191	52	492
25	1044	55	463
28	927	58	440
31	835	61	416
34	759	63	403

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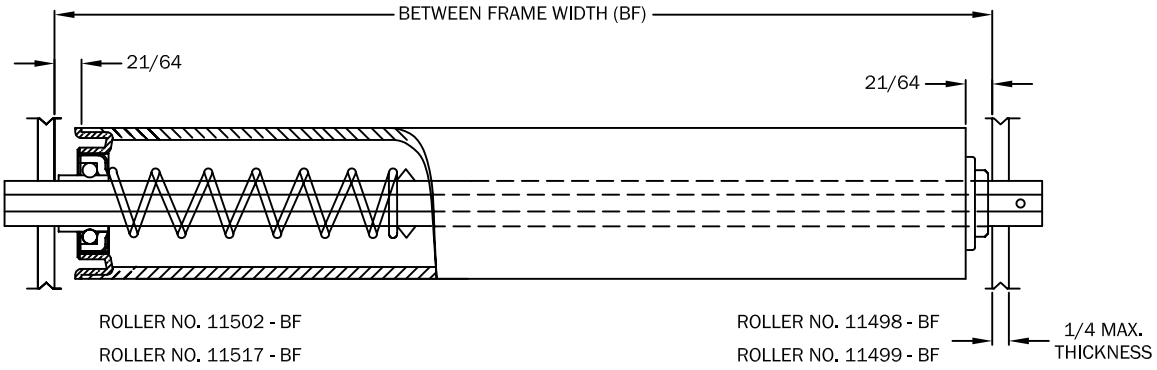
2.25" DIA. x 13 GA. (.095) ROLLER
7/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	2_1/4" x .095"	L102052	1/4	SL



TUBE: 2_1/4" O.D. x 13 GA. (.095")
AXLE: 7/16" HEX
BEARING ADAPTER NO.: #102057
SPRING: #11375
PIN: #101010
WEIGHT (LBS.): 0.62 + 0.23 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
11502-BF	L102052 - PLAIN	SPRING	7-63
11498-BF	L102052 - PLAIN	PIN	3-63
11517-BF	L102053 - SEAL	SPRING	7-63
11499-BF	L102053 - SEAL	PIN	3-63

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102052 L102053	BF	BEARING NO. L102052 L102053
7	290	37	240
10	290	40	222
13	290	43	206
16	290	46	188
19	290	49	176
22	290	52	169
25	290	55	160
28	290	58	152
31	288	61	144
34	262	63	139

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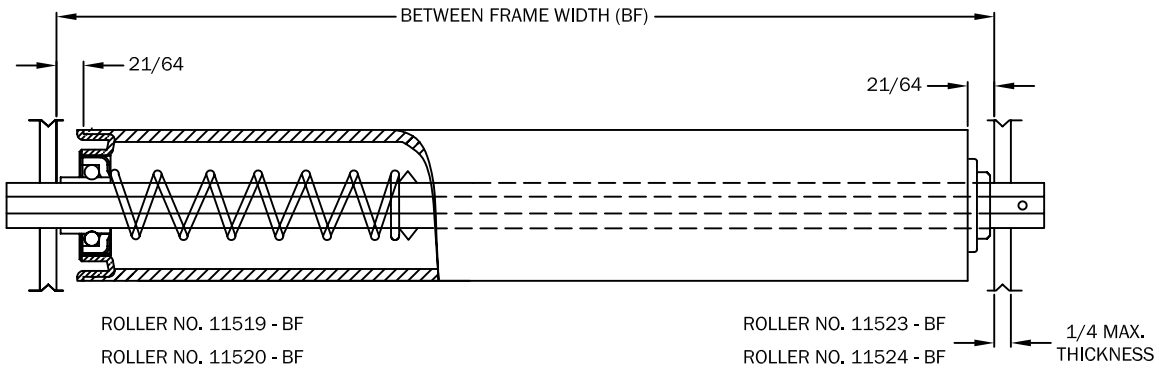
2.50" Dia. x 14 GA. (.083) Roller
7/16 Hex Axle

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	2_1/2" x .083"	L102052	1/4	SL



TUBE: 2_1/2" O.D. x 14 GA. (.083")
AXLE: 7/16" HEX
BEARING ADAPTER NO: #102058
SPRING: #11375
PIN: #101010
WEIGHT (LBS.): 0.60 + 0.25 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
11519-BF	L102052 - PLAIN	SPRING	7-63
11523-BF	L102052 - PLAIN	PIN	3-63
11520-BF	L102053 - SEALED	SPRING	7-63
11524-BF	L102053 - SEALED	PIN	3-63

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102052 L102053	BF	BEARING NO. L102052 L102053
7	290	37	240
10	290	40	222
13	290	43	206
16	290	46	188
19	290	49	176
22	290	52	169
25	290	55	160
28	290	58	152
31	288	61	144
34	262	63	139

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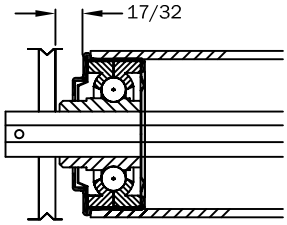
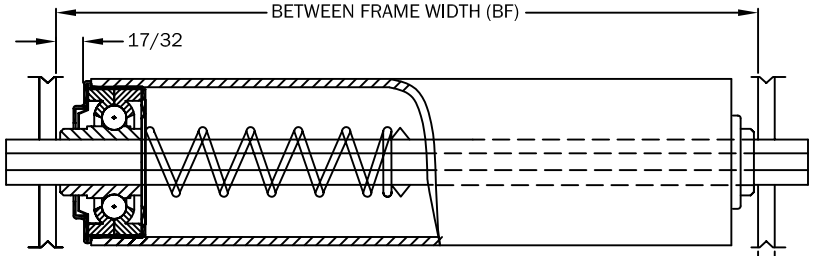
2.50" DIA. x 11 GA. (.120) ROLLER
11/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	2_1/2" x .120"	L102041	3/8	SL



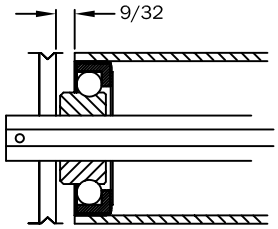
ROLLER NO. 15677 - BF



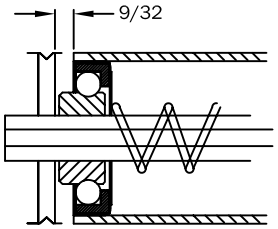
ROLLER NO. 15678 - BF

3/8 MAX. THICKNESS

ROLLER NO.	BEARING NO.	RETAINED	BF
15678-BF	L102041 - SEAL	SPRING	8-72
15677-BF	L102041 - SEAL	PIN	3-99
11547-BF	L102054 - PLAIN	SPRING	7-72
11581-BF	L102054 - PLAIN	PIN	3-99
23417-BF	L102139 - SEAL	SPRING	8-72
23418-BF	L102139 - SEAL	PIN	3-99



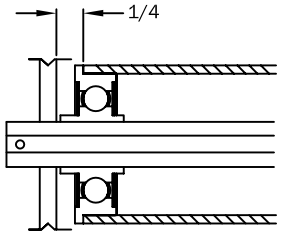
ROLLER NO. 11581 - BF



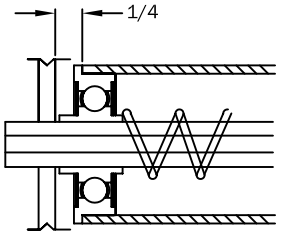
ROLLER NO. 11547 - BF

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO.			BF	BEARING NO.		
	L102041	L102054	L102139		L102041	L102054	L102139
7	580	650	700	55	580	650	700
11	580	650	700	59	558	650	700
15	580	650	700	63	522	650	657
19	580	650	700	67	490	618	617
23	580	650	700	71	462	582	582
27	580	650	700	75	436	551	550
31	580	650	700	79	414	507	506
35	580	650	700	83	393	459	458
39	580	650	700	87	375	417	416
43	580	650	700	91	358	381	380
47	580	650	700	95	343	349	348
51	580	650	700	99	329	321	320



ROLLER NO. 23418 - BF



ROLLER NO. 23417 - BF

TUBE: 2_1/2" O.D. x 11 GA. (.120")
AXLE: 11/16" HEX
SPRING: #11388
PIN: #101011
WEIGHT (LBS.): 1.25 + 0.37 x BF
OPTION: GALVANIZED TUBE

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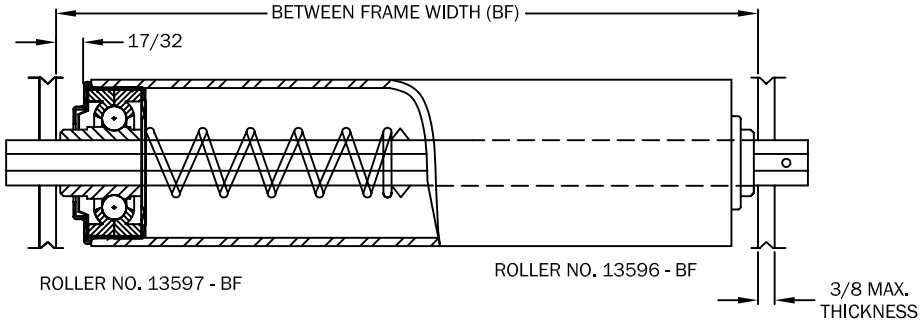
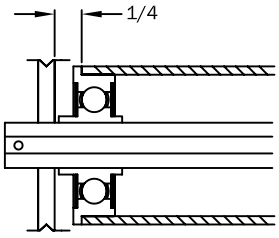
2.56" DIA. x 7 GA. (.180) ROLLER
11/16 HEX AXLE

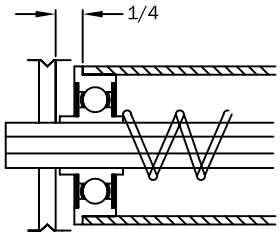
HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	2.56" x .180"	L102041	3/8	SL





ROLLER NO. 23420 - BF



ROLLER NO. 23419 - BF

TUBE: 2_9/16" O.D. x 7 GA. (.180")
AXLE: 11/16" HEX
SPRING: #11388
PIN: #101011
WEIGHT (LBS.): 1.05 + 0.51 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
13597-BF	L102041 - SEAL	SPRING	8-72
13596-BF	L102041 - SEAL	PIN	3-99
23419-BF	L102139 - SEAL	SPRING	8-72
23420-BF	L102139 - SEAL	PIN	3-99

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO.		BF	BEARING NO.	
	L102041	L102139		L102041	L102139
7	580	2226	55	580	754
11	580	2226	59	558	702
15	580	2226	63	522	657
19	580	2226	67	490	617
23	580	1907	71	462	582
27	580	1614	75	436	550
31	580	1398	79	414	506
35	580	1234	83	393	458
39	580	1104	87	375	416
43	580	969	91	358	380
47	580	885	95	343	348
51	580	814	99	329	320

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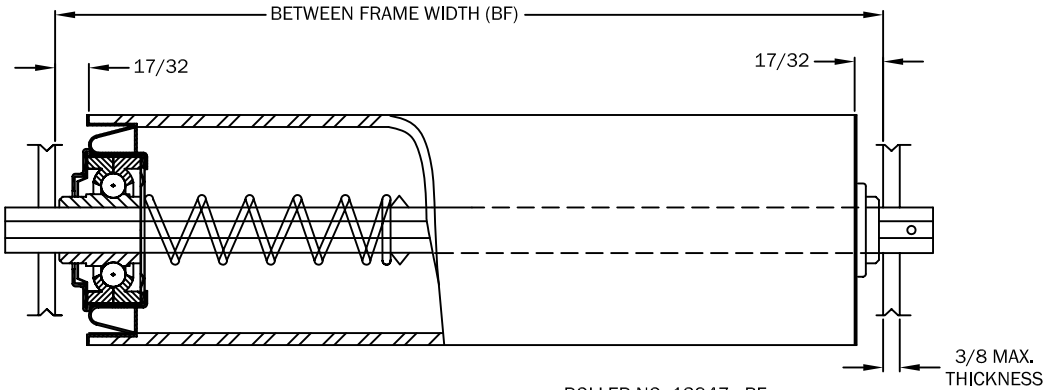
3.50" DIA. x 7 GA. (.180) ROLLER
11/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	15"	3_1/2" x .180"	L102041	3/8	SL



ROLLER NO. 13948 - BF

ROLLER NO. 13947 - BF

TUBE: 3_1/2" O.D. x 7 GA. (.180")
AXLE: 11/16" HEX
BEARING NO.: L102041 - SEAL
BEARING ADAPTER NO.: #102080
SPRING: #11388
PIN: #101011
WEIGHT (LBS.): 1.74 + 0.65 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
13948-BF	L102041 - SEAL	SPRING	7-72
13947-BF	L102041 - SEAL	PIN	3-99

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102041	BF	BEARING NO. L102041
7	580	55	580
11	580	59	558
15	580	63	522
19	580	67	490
23	580	71	462
27	580	75	436
31	580	79	414
35	580	83	393
39	580	87	375
43	580	91	358
47	580	95	343
51	580	99	329

LATHRUP INDUSTRIES, INC.
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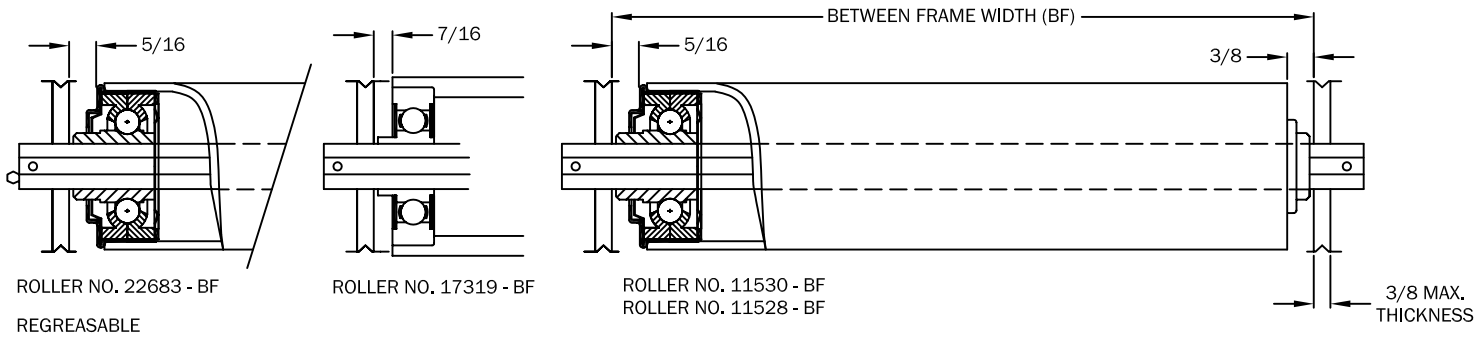
3.50" DIA. x .300 WALL ROLLER
1_1/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	39	3.50" x .300"	L102060	3/8	PR



ROLLER NO. 22683 - BF
REGREASABLE

ROLLER NO. 17319 - BF

ROLLER NO. 11530 - BF
ROLLER NO. 11528 - BF

ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102060 L102061 L102086	BEARING NO. L102101	BF	BEARING NO. L102060 L102061 L102086	BEARING NO. L102101
7	1040	4130	67	1040	1841
12	1040	4130	72	1040	1709
17	1040	4130	77	1040	1596
22	1040	4130	82	1040	1496
27	1040	4130	87	1040	1408
32	1040	3989	92	1040	1330
37	1040	3419	97	1040	1260
42	1040	2992	102	1040	1197
47	1040	2659	107	1040	1140
52	1040	2393	112	1040	1088
57	1040	2176	117	1040	1041
62	1040	1994	120	1040	1014

TUBE: 3_1/2" O.D. x .300" WALL
AXLE: 1_1/16" HEX
PIN: #101009
WEIGHT (LBS.): 3.10 + 1.13 x BF

ROLLER NO.	BEARING NO.	RETAINED	BF
11530-BF	L102061 - SEAL/SHIELD	PIN	4-120
11528-BF	L102060 - PLAIN	PIN	4-120
17319-BF	L102101 - SEAL/SHIELD	PIN	4-120
22683-BF	L102086 - SEAL	PIN	4-120

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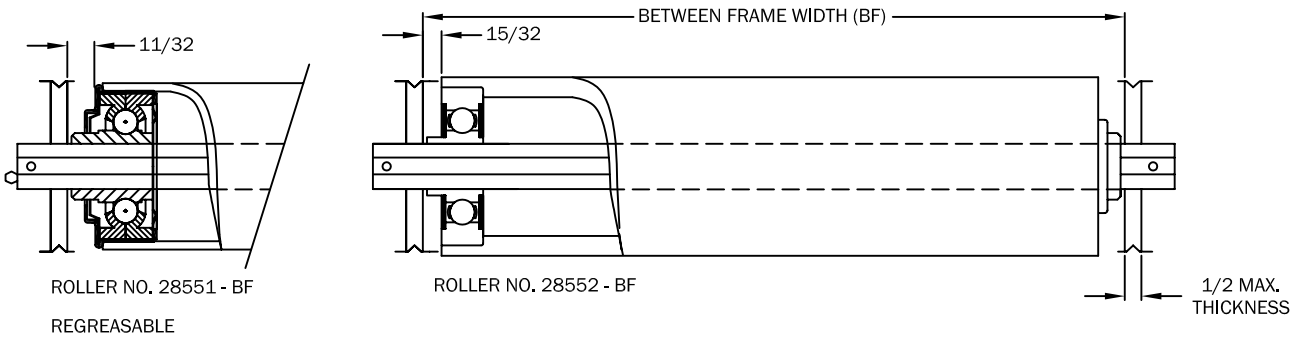
FAX (248) 349-1062

4" DIA. O.D. x .500 ROLLER
1_1/16 HEX AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	45	4" x .500"	L102101	1/2	PR



ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L102101	BEARING NO. L102086	BF	BEARING NO. L102101	BEARING NO. L102086
7	4130	1040	67	1841	1040
12	4130	1040	72	1709	1040
17	4130	1040	77	1596	1040
22	4130	1040	82	1496	1040
27	4130	1040	87	1408	1040
32	3989	1040	92	1330	1040
37	3419	1040	97	1260	1040
42	2992	1040	102	1197	1040
47	2659	1040	107	1140	1040
52	2393	1040	112	1088	1040
57	2176	1040	117	1041	1040
62	1994	1040	120	1014	1040

TUBE: 4" O.D. x .500" WALL
AXLE: 1_1/16" HEX
PIN: #101009
WEIGHT (LBS.): 2.66 + 1.80 x BF

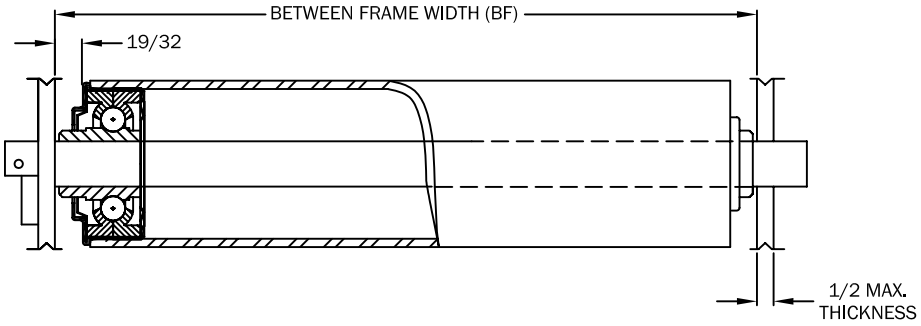
ROLLER NO.	BEARING NO.	RETAINED	BF
28552-BF	L102101 - SEAL	PIN	4-120
28551-BF	L102086 - SEAL/SHIELD	PIN	4-120

LATHRUP INDUSTRIES, INC.
42300 W. NINE MILE RD, NOVI MI 48375
PHONE (248) 349-1009
FAX (248) 349-1062

4" DIA. O.D. x .500 ROLLER
1_7/16 ROUND AXLE

HOW TO ORDER:

TYPICAL SPECIFICATION:	BF	ROLLER	BEARING	FRAME THICKNESS	AXLE CONSTRUCTION
TYPICAL EXAMPLE:	45	4" x .500"	L24862	1/2	PR



ROLLER CAPACITY CHART (LBS.)

BF	BEARING NO. L24862	BF	BEARING NO. L24862
7	6172	67	5287
12	6172	72	4909
17	6172	77	4581
22	6172	82	4294
27	6172	87	4041
32	6172	92	3816
37	6172	97	3615
42	6172	102	3434
47	6172	107	3271
52	6172	112	3122
57	6172	117	2986
62	5729	120	2910

TUBE: 4" O.D. x .500" WALL
AXLE: 1_7/16" ROUND - NOTCHED FOR KEEPER BAR
BEARING ASSEMBLY NO.: #24862 - SEAL/SHIELD
BEARING NO.: 102147
PIN NO.: #101009
WEIGHT (LBS.): 1.71 + 2.02 x BF
ROLLER NO.: 24875-BF
BF RANGE: 4 - 130

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