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I N T E R R O L L  
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A R T

At first glance, industrial products and works of art would appear to have little, if anything, in common. However, when one considers that creativity, optimisation, finetuning and the pursuit of perfection are qualities associated with both disciplines and that each project is driven initially by an idea, a moment of inspiration, a seed that requires nurturing, then one will recognise that artist and entrepreneur often share the same traits.

In combination, inspired, provocative art and innovative, state-of-the-art products provide a company with those distinctive contours, that unique cultural identity that no balance sheet, no income statement can capture.

It is precisely these intangibles, however, that have the capacity to infuse all aspects of life, lingering in the minds of staff and capturing the imagination of the public. Art has a positive influence

on the work environment and the internal processes governing these structures.

Each moment of interaction, even if controversial, generates dynamism, openness and creativity; it kindles a spark of innovation, rouses venturesome spirits and shows ways of breaking the shackles of convention and charting new territory.

The declared purpose of Interroll Corporate Art is to channel this immense creative potential, to create a dialogue that embraces art and business as vehicles of communication and to establish an environment in which the spirit of thought is allowed to flourish.

The mission: to accompany, advise and act.





Directory

	Series	Description	Max. load capacity	Conveyor speed	Standard diameter	Polyurethane sleeve	PVC sleeve	Grooves	Page
Platform 1100									14 – 23
	1100	Light conveyor roller	78 lbs.	15 fpm	.62", .75", .78", 1.12", 1.18" & 1.9"	1.9"	1.9"		18
	2190	Plastic conveyor wheels	25 lbs.	60 fpm	1.9"				22
Platform 1200									24 – 31
	1200	Steel conveyor roller	600 lbs.	160 fpm	.75", 1.0", 1.38", 1.9", 2.5"	1.9"	1.9"		28
	2200	Steel conveyor wheels	150 lbs.	160 fpm	1.9"				31
Platform 1500									32 – 39
	1520	Journal Bearing Conveyor Roller	45 lbs	50 fpm	1.12", 1.9", 2.5"	1.9"			36
	2570	Omniwheel	25 lbs per pair	40 fpm	1.9"				38
	2580	Omniwheel	75 lbs per pair	40 fpm	3.15"				38
Platform 1700									40 – 73
	1700	Universal conveyor roller	450 lbs.	393 fpm	1.38", 1.9", 50 mm, 2.5", 3.5"	1.9"	1.9"	1.9" & 2.5"	42
	1700 KXO	Tapered universal conveyor roller	112 lbs.	236 fpm	1.9"			1.9"	71
	3500	Fixed drive conveyor roller	126 lbs.	393 fpm	1.9"	1.9"	1.9"		52
	3500 KXO	Tapered fixed drive conveyor roller	112 lbs.	236 fpm	1.9"				69
	3800	Friction conveyor roller	78 lbs.	98 fpm	1.9"	1.9"	1.9"		60
Platform 1450									74 – 89
	1450	Heavy duty conveyor roller	1,124 lbs.	157 fpm	2.5", 3.5"				78
	1800	Precision roller	1,772 lbs.	500 fpm	2.5", 3.5"				81
	3950	Heavy duty conveyor roller	1,124 lbs.	157 fpm	3.5"				86
Accessories									90 – 100
	2370	Polypropylene conveyor wheels	25 lbs.		1.5"				92
	2800	Omnimat	11 lbs.		1.89"				96
	5500	Ball transfer unit	112 lbs.						97
	5000	Steel ball transfer unit	4,496 lbs.						100
Key to efficient materials handling									1 – 13

## The Key to Efficient Materials Handling

The issue of materials flow is of vital importance within today's fast-paced business environment. The areas of production and sales are faced with complex procurement and distribution networks, highly diversified product ranges and customer requirements that call for tailor-made solutions. Against the backdrop of shorter innovation cycles, increasingly complex manufacturing processes and new channels of distribution, materials flow has become a critical factor of success. Globalization has brought about substantial changes when it comes to the handling and delivery of goods – with far reaching consequences for companies' logistical processes. "Internet fulfillment" has forced companies to embrace the values of customer-oriented flexibility and greater efficiency.

The products of the Interroll Group play a pivotal role in helping companies meet the new challenges of materials handling. Our main focus within the Drives and Rollers unit is on the individual parts which make up an overall product offering that is more than convincing. Components are, in fact, our core competence. As an integral part of Interroll's cutting edge solutions, our conveyor rollers contribute to the overall efficiency and quality of materials handling – in all industries, throughout the world. Conveyor rollers, multi-directional Omniwheels and ball transfer units – Interroll Drives and Rollers stands for poetry in motion.

Our systems move, convey, accumulate, feed and turn, in all variations, whether motorized or in the form of gravity rollers accumulating conveyor systems or tapered rollers.

Interroll components form the basis for efficient materials handling. Furthermore, we consider ourselves your partner and therefore offer you the best possible service in regard to delivery schedules, reliability and advice to support your market position and ensure top performance. To achieve this, our machines are always of the latest standards and new methods are used to continually adapt our organization to the growing market. This ensures the excellence of the total package: innovative products of top quality, best possible service with high availability and absolute delivery reliability.

**Interroll Drives & Rollers.  
A Business Unit of the  
Interroll Worldwide Group.**

[www.interroll.com](http://www.interroll.com)

## General Technical Information

This catalog contains an overview of conveyor components that provide the optimum solution for virtually all materials handling and storage problems.

To select the conveyor component to match the particular application, the following questions have to be answered beforehand:

- How long, wide and tall are the materials to be conveyed?
- How much do the items weigh?
- What are the characteristics of the items?
- How is the base surface constructed?
- Are there any special ambient conditions that have to be taken into account (i.e., wetness, extreme temperatures, chemical influences)?
- Does the conveyor system, and hence the conveyor surface, have to be anti-static?
- Will the conveyor system be driven or are the items going to run on gravity conveyors?

To insure that items are conveyed smoothly on roller conveyors, they must be supported by at least three rollers at all times.

The length of the rollers (roller length = "RL") is normally equal to item width plus 2.0".

The weight of the items being conveyed must be distributed over a sufficient number of load-bearing rollers so that the permissible load capacity of the individual rollers is not exceeded. In specific

cases, this may mean the items have to be supported by more than three rollers.

The condition of the base surface of the items is also important. Cardboard boxes, for example, adapt very well to rollers, so the weight of the items is distributed evenly. Compared to plastic totes, however, cardboard boxes are likely to have a higher starting resistance. For this reason, it is advisable to select a roller spacing that is closer together than that allowed by the maximum load bearing capacity. When conveying pallets, it is only about two thirds of the rollers under the items that are normally bearing the load – due to the specific properties of a pallet.

To insure reliable operation, even under unfavorable conditions, the bearings of most Interroll conveyor rollers are protected against splashes of water. In damp areas, stainless steel ball bearings or specially sealed ball bearings should be selected.

Quiet running is achieved by using bearing housings and seals made of polymer in conjunction with precision ball bearings. All grooved rollers are constructed so as to prevent electrostatic charges. For other types of rollers, there are likewise special designs available.

Where there are operating conditions requiring special arrangements, please consult us for advice.

**All dimensions in inches unless otherwise noted.**

## The Platform

In the layout of our catalog, it is very important to us that our customers find the contents clearly arranged and easy to understand, since this product information is put together with them in mind. The material for shafts and tubes are identical for a large number of our roller series. Essential differences are found, however, in the bearing assemblies and materials used. A bearing assembly is always the basis for the various roller platform and characterizes our product according to application and use in the handling of materials. There are five platforms upon which all our components are based. We have used these to redesign this catalog from the standpoint of application.

A bearing assembly essentially determines the technical parameters of a platform and significantly influences the function of the products. The bearings employed in a platform are always identical; only structural shapes may vary. The materials for the bearing housing, as well as for the seal, are always identical within a series. The variations within a platform arise from the combination of different shaft and tube dimensions as well as from the different materials.

As an example and for better understanding, here is a brief description of Platform 1700, the components of which are the basis for the Interroll conveyor roller series listed below:

- Universal conveyor roller Series 1700
- Fixed drive conveyor roller Series 3500
- Friction accumulating conveyor roller Series 3800
- Tapered conveyor roller Series 1700 KXO and 3500 KXO
- 24 V DC RollerDrive

All ball bearings of this platform are based on the precision ball bearing 6002; only polyamide and polypropylene are used as technopolymers. The characteristics, and thus also the applications of the aforementioned conveyor rollers, are identical and they are, therefore, shown together in a platform.



## The Load Capacity of Interroll Conveyor Rollers

The load capacity of Interroll conveyor rollers depends on the load capacity of the roller components: tube, shaft and bearings.

To determine the load capacity of rollers, the load capacities of the individual assemblies are compared and calculated in combination.

The load capacity of the weakest assembly determines the load capacity of the entire roller.

The permissible loads for each roller are shown in the tables for the corresponding roller series. Roller load capacity is largely influenced by roller length, load distribution and shaft attachment.

In the design of conveyor sections, care should be taken that the load capacity of driven rollers is restricted to the permitted forces for drive chains, toothed belts or carrier forces of friction rollers.

## Standard Assemblies for Rollers

### Standard types of tubes

#### **Steel tube**

As a tube material, steel has the greatest rigidity and resistance to deflection. If the tube has to be protected against corrosion, galvanized steel tube, or even better, stainless steel tube should be used. Sprockets can be welded onto the tube. The welded steel tube used for Interroll conveyor rollers is manufactured in accordance with ASTM standards with controlled tolerances specified by Interroll. Interroll recommends that the system installer perform test runs to check individual applications. There are also other types available: tubes with round belt grooves, tubes with PVC or polyurethane sleeves, etc.

#### **Aluminium tube**

Compared with steel tube, aluminum tube is not quite as strong and has only about one third of the flexural strength. An aluminum tube, however, weighs only 36% of a comparable steel tube. Moreover, it is not susceptible to corrosion.

#### **Polyvinyl Chloride (PVC) tube**

Although not able to withstand the same loads as a steel tube of comparable diameter, PVC tubes offer a series of substantial advantages:

- sound insulation
- high impact resistance
- lightweight
- corrosion proof
- easy to clean



### **Standard types of shaft**

Our steel shafts are manufactured from cold drawn steel. Additionally, stainless steel and aluminum shafts are available.

All shafts are sawn and milled so that the shaft ends obtain an optimum result. This avoids problems when mounting the rollers, such as those arising from deformed shaft ends that have been rough cut.

For threaded holes, the centering holes are made in an initial work step to ensure precision centering of the threaded hole in the shaft.

In the catalog, spring loaded shafts and female threaded shafts are primarily shown. The spring loaded shaft is the simplest type of shaft and is extremely easy and quick to install and remove.

The use of female threaded shafts results in a very stable frame construction as compared to spring loaded shaft designs. The roller shafts and side channels stabilize each other. When compared to loose fitting rollers, the rollers can be subjected to higher loads.

### **Axial tolerances**

All conveyor rollers must be constructed with axial play. Interroll recommends a total axial play of .12".

For rollers with female threaded shafts, the axial play results from the shaft protrusion beyond the roller body. Due to the addition of tolerances, the play of .12" cannot always be maintained in every case. However, axial play that does not impair the function of the roller and is correctly installed and applied is guaranteed. The play of .06" per roller end should, therefore, only be used as a reference value.

For conveyor side channels made of aluminum, the female threaded shafts should always be selected with the largest possible diameter and the smallest possible thread. This ensures that the front face of the shaft is so large that the shaft's penetration in the aluminum side channel is reduced.

### Standard types of bearing

For many Interroll conveyor rollers there are various bearings available. All lubricants used in our ball bearings are silicone free.

#### Interroll bearing

This is a ball bearing developed by Interroll that has smoothly rolled race grooves, is of very simple design and has a comparatively high load capacity.

Compared with the precision ball bearings, the Interroll bearing is much less sensitive to potential bearing distortion. Alongside the precision ball bearing, this is the standard bearing for Interroll conveyor rollers.

#### Interroll bearing made of stainless steel

This bearing is a precision stainless steel ball bearing that features rubberized steel sealing discs on both sides. Because of the non-corrosive properties, this version of the bearing has a lower load capacity.



### DIN precision bearing

This type of bearing is the standard DIN deep groove ball bearing in series 60 and 62. All precision ball bearings are specified over the DIN standard in order to guarantee an optimum and reliable functioning of our products. This includes bearing play, lubrication and sealing. Precision ball race, maximum load capacities and service life, plus low noise operation are the outstanding advantages of this type of bearing.

The bearing type 6002 2RZ belonging to the platform 1700 is also available made in stainless steel. The load capacity is the same as it is for the standard version. All precision bearings used are sealed in the 2RZ versions.

This is a precision ball bearing developed by Interroll that features rubberized steel sealing discs on both sides.

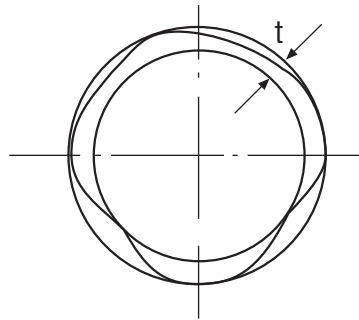
These sealing discs form a narrow sealing gap and make no contact.

This considerably improves the sealing of the bearing and insures that the grease remains inside the bearing at high speeds.

## Concentricity

Interroll produces rollers from tubes following ASTM standards. This norm accepts certain divergence in the concentricity. Specifications on concentricity of tubes, all points of the measure surface have to be situated inside of two concentric cylinders. The center, respective to the axis of this cylinder is situated on the reference axis. The cylinders have as distance between them the measurement "t".

For example, according to specifications radial run-out (t) – .012" i.e. the pointer of a dial gauge can move within an area of .012".

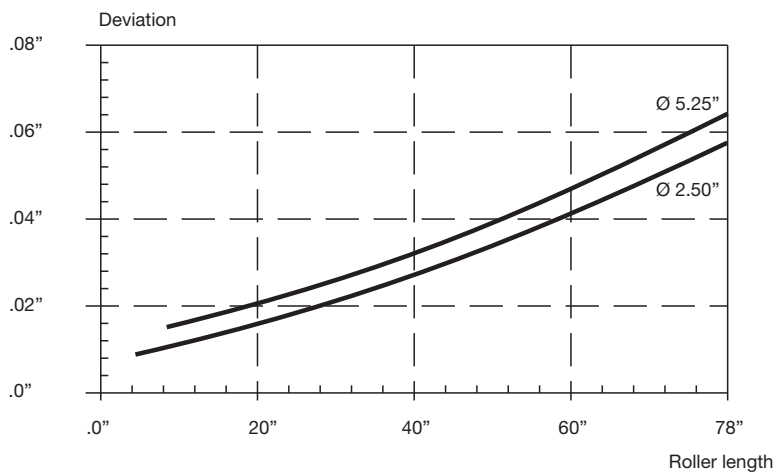


The diagram determines the standard values for the maximum radial run-out of an Interroll conveyor roller. The given data is based on measured values. Please note that for the tube area alone the concentricity tolerances are partly higher, so that in some cases the above mentioned data can be exceeded.

Rollers with polymer tubes should not exceed a given length, otherwise the radial run-out is proportionally larger. The following tube lengths should not be exceeded:

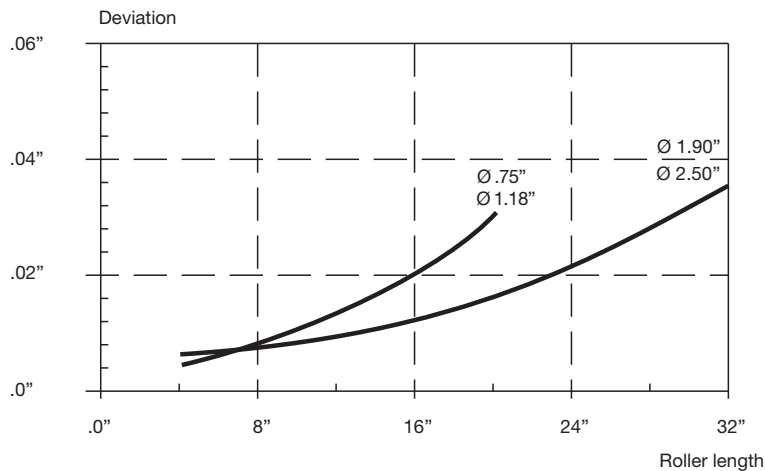
Tube Diameter	Tube Length
.787"	15.75"
1.18"	19.68"
1.90"	23.62"
2.50"	31.50"
3.50"	39.37"

#### Concentricity deviations for rollers with steel tube



The diagrams that follow indicate approximate values that can be expected for the maximum concentricity deviation of a complete Interroll conveyor roller. The figures stated are based on measurements. Please keep in mind that for Interroll specified steel tube, much higher concentricity tolerances are possible. In some instances the approximate figures listed in the diagrams will be exceeded.

#### Concentricity deviations for rollers with PVC-Copolymer tube





## Different Types of Industrial Plastics

On virtually all conveyor elements, Interroll uses parts made of industrial plastics.

These plastics have many advantages over steel:

- Sound insulation
- Suitable for packaged foods
- Easy to clean
- High impact resistance
- Corrosion proof
- Lightweight
- High quality design

### Properties and applications for the industrial plastics used most frequently **Polyamide (PA) Nylon**

- Excellent mechanical properties
- High resistance to wear
- Low friction
- Scarcely any material fatigue
- Good resistance to chemicals
- Applications: sprocket heads, seals and bearing housings

### **Polypropylene (PP)**

- Low specific weight
- High resistance to heat
- Good resistance to chemicals
- Non-hygroscopic
- Applications: wheels, seals and bearing housings

### **Polyvinylchloride (rigid PVC)**

- Scratch proof
- Impact resistance
- Good resistance to chemicals
- Applications: tubes for PVC rollers

### **Polyoxymethylene (POM) Acetal**

- Excellent mechanical properties
- High resistance to wear
- Low friction
- High dimensional stability
- Scarcely any water absorption
- Use for parts with special precision requirements
- Applications: toothed belt heads and journal bearings

## Types of Drive

### Gravity conveyor rollers

In many cases products need not be conveyed on driven rollers; they can be transported on gravity conveyors. It is very important that conveyor rollers function with the lowest possible friction and least starting resistance.

### Driven rollers

Driven rollers are used in many applications and are available in many different designs. The drive can be chain or toothed belts, or with frictional drive using round or flat belts. Positive drive rollers allow no slip between the roller and drive and are subject to sudden "start and stop." The use of chain frequently creates noise, which can be considerably reduced when using a polyamid drive material instead of steel. Sprockets made of steel or plastic are both very strong. The weakest component of the drive arrangement is the chain. The chain's breaking load determines the maximum possible driving length of the conveyor.

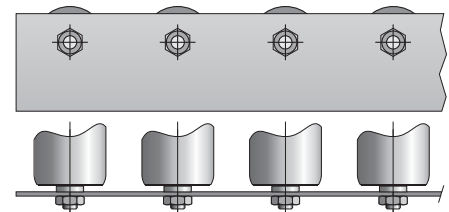
The use of frictionally engaged "slip" drives adds additional load on the rollers due to the pressure necessary to produce torque. For that reason friction drives are normally used only for the handling of light and medium weight goods.

### Positive drives

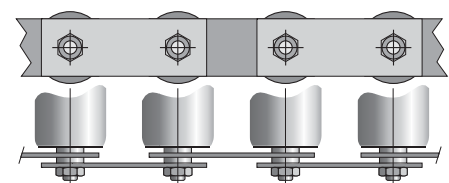
Interroll uses three types of positive drives:

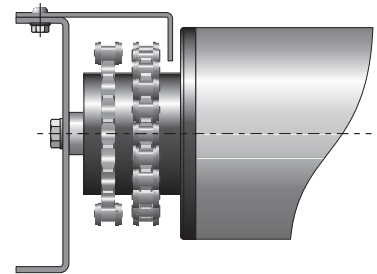
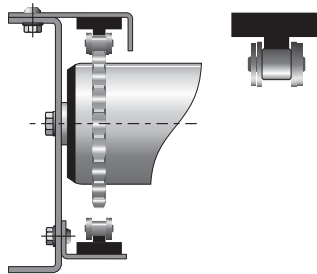
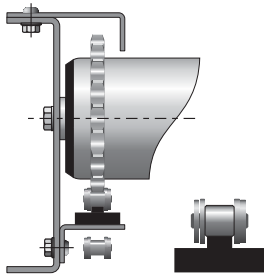
- tangential drive roller by chain
- roller to roller drive by chain

Tangential drive



Roller to roller drive





### Tangential drive

The tangential chain drive is efficient and easy to build. The length of chain is shorter than for roller to roller drive. This single chain powers all the rollers of one section. The chain engages the corresponding sprocket wheels, and is supported by a chain guiding profile made of low friction plastic, transferring the necessary driving force to a single roller sprocket tooth. The driving chain can be positioned to drive over or under the roller sprockets. The drive station must be installed to maintain the tension in the chain as tight as possible and is often equipped with a device for automatic adjustment of chain tension. Tension rollers at the drive station need to withstand normal conveyor loads plus extra vector forces. These forces should be considered carefully during roller selection. The length of conveyor, powered by a single drive unit, is determined by the breaking load of the chain, and by the weight of the load to be conveyed. In comparison to roller to roller conveyor, the tangential drive is easy to assemble.

### Roller to roller drive

Assembly is relatively easy, but a certain number of restrictions must be considered when using this drive design. Chain guidance is not necessary, but roller spacing (distance from roller to roller) must be held to strict tolerances.

The maximum length of a conveyor powered with a single drive unit is calculated by the breaking load of the chain. The chain has to withstand the highest load at the drive. The drive unit should always be located in the middle of the conveyor, in order to optimize the tensile strength of the chain. Verify the load capacity of the rollers installed near the drive unit since those rollers function as pressure rollers.

### Roller pitch

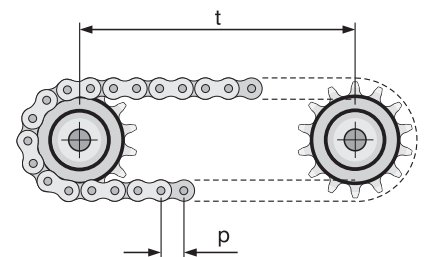
The possible roller pitch "t" for roller to roller drive is a multiple of the half chain pitch "p" of the corresponding chain, thus:

$$t = K p / 2 \text{ [inch]}$$

K = whole number  
t min. = Max Sprocket Dia.

The total number of the chain links is given by the sum of the number of teeth "Z" of the sprocket and "K"; it should be an even number, otherwise an offset connecting link must be used. Interroll recommends the following tolerances for roller pitch "t":

Chain pitch (#)	P (inch)	Tolerance for "t" (inch)	Breaking load (lbs)
35	.375	+0 /-.015	2,100
40	.500	+0 /-.025	3,700
50	.625	+0 /-.030	6,100
60	.750	+0 /-.032	8,500
80	1.00	+0 /-.039	14,500





## Metric Conversion Chart

When You Know	Multiply By	To Find
Length		
Inches	25.4	Millimeters
Millimeters	.04	Inches

### Mass

Pounds	.4536	Kilograms
Kilograms	2.20	Pounds
Pounds	4.448	Newtons
Newtons	.2248	Pounds

### Speed

Feet per minute	.00508	Meters per second
Meters per second	196.74	Feet per minute

### Temperature

Degrees Farenheit	Subtract 32, multiply by 5, divide by 9	Degrees Celcius
Degrees Celcius	Multiply by 9, divide by 5, add 32	Degrees Farenheit

### Common Roller Tube Wall Thicknesses

Gauge	Decimal Equivalent in Inches	Nominal Metric Equivalent in Millimeters
20	.035	
18	.049	1.25
16	.065	1.5
14	.083	2.0
11	.120	3.0
10	.134	





# P L A T F O R M 1 1 0 0

	Description	Series	Page
Platform 1100	Light conveyor roller	1100	18
	Plastic conveyor wheels	2190	22



Max. load capacity	Conveyor speed	Standard diameter	Polyurethane sleeve	PVC sleeve
78 lbs.	15 fpm	.62", .75", .78", 1.12", 1.18" & 1.9"	1.9"	1.9"
25 lbs.	60 fpm	1.9"		



## Platform 1100

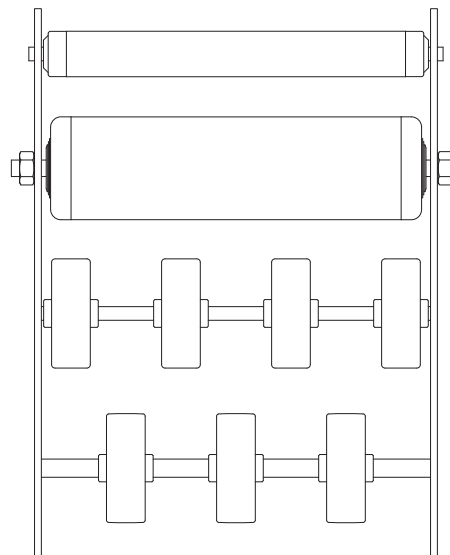
**Series 1100**  
**Series 2190**

Platform 1100 is based on a plastic ball bearing with stainless balls. The outer ring and cone of the bearing are made of polypropylene or POM. The bearings are lubricated. The materials used are an ideal combination for easy and especially quiet running conveyor rollers for gravity systems. The components of Platform 1100 are not suitable for use as driven elements.

### **Material properties of Platform 1100:**

- Maximum recommended conveying speed 15 fpm
- Temperature range – 23°F to 104°F
- Polypropylene is resistant to watery solutions of acids, alkali and salts
- Polypropylene is non-hygroscopic

## Platform 1100

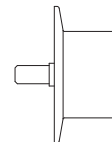


Series 1100  
Diameter .75"  
Spring loaded  
Page 19

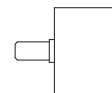
Series 1100  
Diameter 1.9"  
Threaded  
Page 20

Series 2190  
Diameter 1.9"  
Page 22

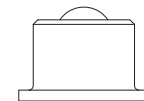
## Platform peripheral equipment



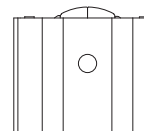
Series 2370  
Flanged conveyor  
wheels  
Page 92



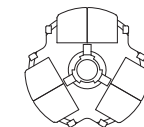
Series 2370  
Conveyor wheels  
Page 92



Series 5500  
Ball transfer units  
Page 97



Series 2800  
Omnimat  
Page 96



Series 2500  
Omniwheels  
Page 38



## Light Conveyor Roller Series 1100

### Features

- Special ball bearing developed by Interroll – made of polypropylene with stainless steel, non corroding balls
- Rounded roller ends for easy sliding of items onto the conveyor, laterally
- Especially quiet running
- Good starting and running properties
- Integrated sealing in front of ball bearing to protect against coarse dirt and splashes of water
- Low cost

### Load capacity

- Up to 78 lbs.

### Dimensions

#### Tube

- Highly impact-resistant, special PVC in grey with an outer diameter of .78" (20 mm), 1.18" (30 mm) or 1.9"
- Galvanized steel with an outer diameter of 1.9"
- Stainless steel with an outer diameter of .62" (16 mm), .75" or 1.9"
- Aluminum with an outer diameter of .75", 1.12" (30 mm) or 1.9"

#### Shaft

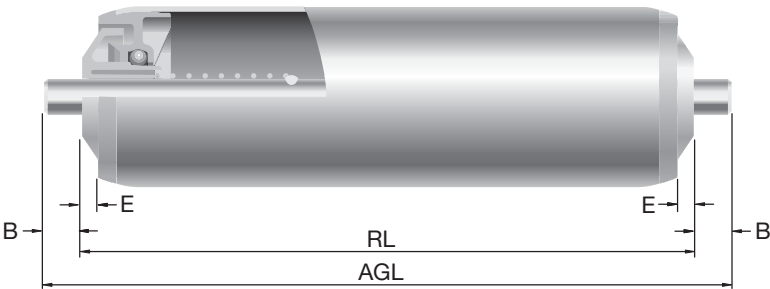
- Steel, stainless or aluminum
- Spring loaded shafts with diameters of .192", .250", .312", .312" hex or .437" hex
- Male threaded shafts with a diameter of .192" (10-32), .250" (1/4-20) and .312" (5/16-18)
- Female threaded shafts with a diameter of .437" hex (1/4-20 x 5/8D)

#### Bearing

- Stainless steel balls roll between bearing housing and seal made of polypropylene



Spring loaded shaft



Series 1100

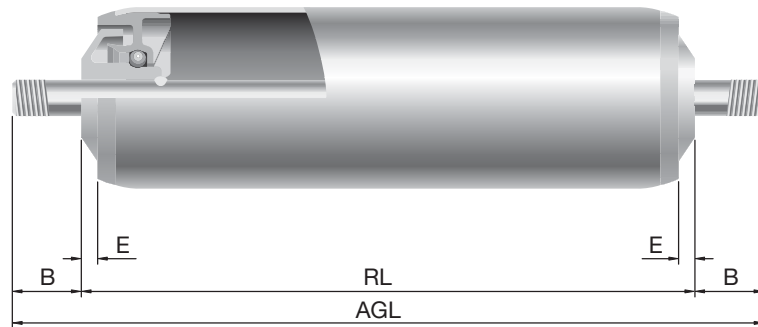
Series 1100

Shaft Diameter	Roller Diameter	RL = BF – Inches	E Dimension	B Dimension	AGL = RL+ Inches	Minimum Roller Length
.192	.62	.12	.08	.56	1.12	3.25
.250	.75	.12	.08	.56	1.12	3.25
.312	1.12 & 1.18	.12	.08	.56	1.12	3.25
.312 hex	1.12 & 1.18	.12	.08	.56	1.12	3.75
.437 hex	1.9	.12	.19	.56	1.12	4.25

Tube	Tube size	Shaft material	Spring loaded shaft				
			.192	.250	.312	.312 hex	.437 hex
PVC	.78 x .060	Steel	1.101.V20.C03				
	.78 x .060	Aluminum	1.101.V20.A03				
	.78 x .060	Stainless	1.101.V20.S03				
	1.18 x .070	Steel	1.105.V30.C00	1.107.V30.C03	1.109.V30.C13	1.111.V30.C20	
	1.9 x .110	Stainless	1.182.V50.S13			1.183.V50.C20	1.133.V50.S40
Galvanized	1.9 x .065	Steel	1.172.G49.C13			1.173.G49.C20	1.131.G40.C40
Stainless	.62 x .035	Steel	1.113.S16.C00				
	.62 x .035	Stainless	1.113.S16.S00				
	.75 x .035	Stainless	1.101.S19.S03				
	1.9 x .065	Stainless	1.131.S49.S40				
Aluminum	.75 x .035	Aluminum	1.101.A21.A03				
	.75 x .035	Stainless	1.101.A21.S03				



## Male threaded shaft



## Series 1100

Shaft Diameter	Roller Diameter	RL = BF – Inches	E Dimension	B Dimension	AGL = RL+ Inches	Minimum Roller Length
.250	1.12 & 1.18	.12	.08	.75	1.50	3.00
.312	1.12 & 1.18	.12	.08	.75	1.50	3.00
.312	1.9	.12	.19	.75	1.50	3.25

Tube	Tube size	Shaft Material	Male threaded shaft	
			.250 Threaded 1/4-20	.312 Threaded 5/16-18
PVC	1.18 x .070	Steel	1.107.V30.C02	1.109.V30.C12
	1.9 x .110	Steel		1.182.V50.C12
Aluminum	1.12 x .050	Stainless	1.107.A29.S02	1.109.A29.S12
Steel	1.9 x .065	Steel		1.172.G49.C12
Stainless	1.9 x .065	Stainless		1.172.S49.S12



## Series 1100

Load capacity in lbs.

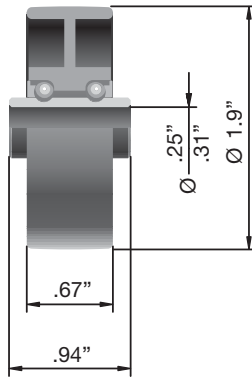
Tube Dia. In. Material Shaft Dia. RL Inches	0.62 SS All	0.75 Alu Al	0.75 SS All	0.78 PVC All	1.12 Alu All	1.18 PVC All	1.9 Alu .312 Dia.	1.9 SS All	1.9 Steel All	1.9 PVC All
4	15	20	25	20	27	27	79	79	79	40
8	15	20	25	11	27	27	79	79	79	40
12	15	20	25	5	24	16	79	79	79	40
16	15	20	25		27	5	79	79	79	40
20	10	18	22		27	2	79	79	79	36
24		11	15		27		77	79	79	20
28		7	10		27		65	79	79	
32					27		56	79	79	
36					27		52	79	79	
40							45	79	79	
44							43	79	79	
48							38	79	79	

If a load remains stationary for longer periods, the maximum static load capacity may not be exceeded.  
This is approximately 50 % of the load levels specified in the table.  
The maximum permissible conveyor speed is 15 fpm.

## Options

Material	Description
Soft PVC	Sleeve for 1.9 – Hardness, 63 shore A, thickness .08, grey
Polyurethane	Sleeve for 1.9 – Hardness, 80 shore A, thickness .12, orange





# Plastic Conveyor Wheels Series 2190

### Features

- Low-noise running
- Made of impact-resistant plastic
- Color: standard version white and black, stainless steel version grey
- Double row ball race
- Bearing: steel or stainless steel balls on plastic hub
- Load capacity: 25 lbs. dynamic

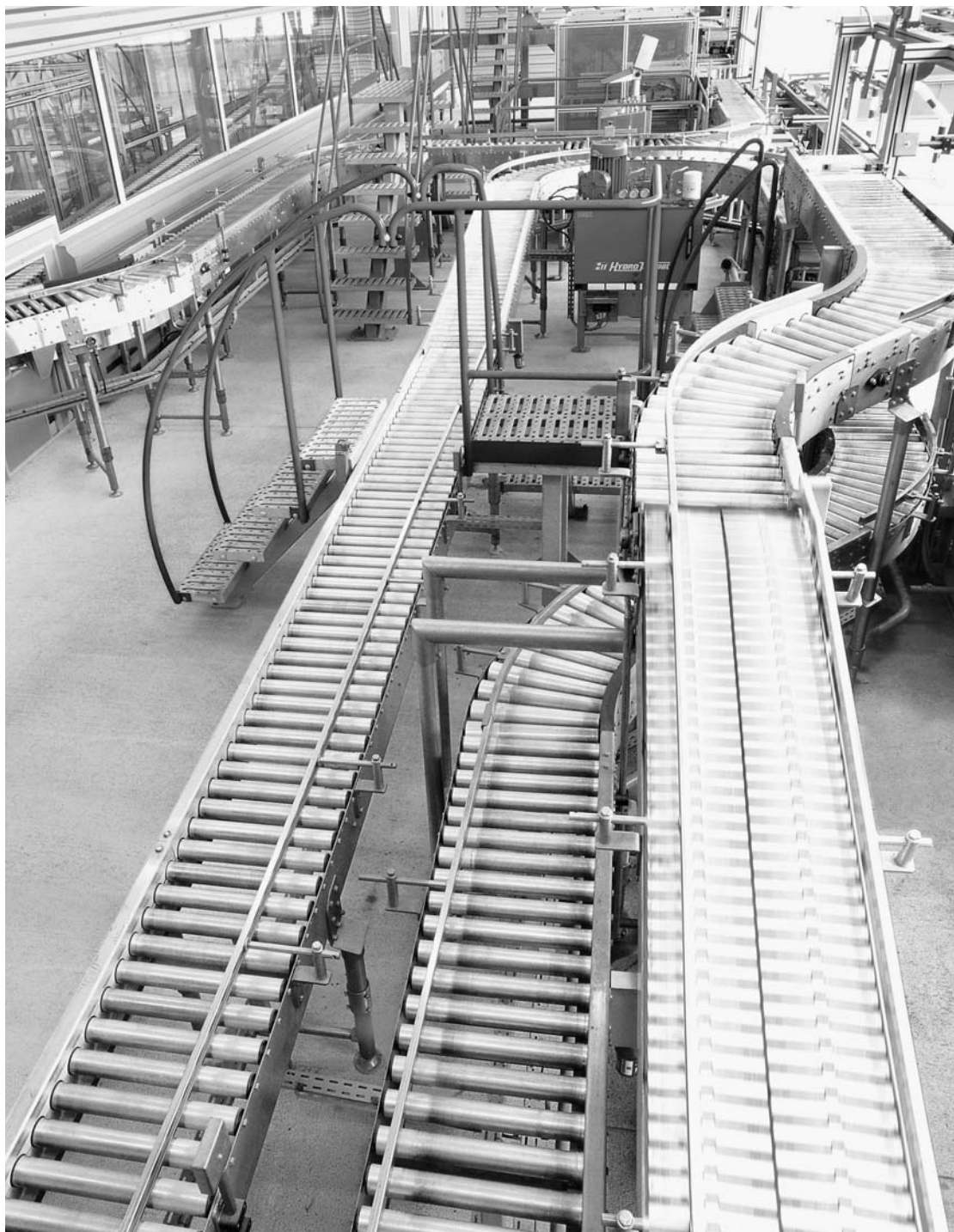
### Dimensions

- Wheel diameter 1.9"
- Hub width .94"
- Hub bore .25" or .31"

### Options

- Rubber tire, part number 2100

Standard parts numbers (without rubber tire)	Balls	Bore diameter in inches
2190	Carbon steel	.25
2191	Stainless	.25
2192	Carbon steel	.31
2193	Stainless	.31





# P L A T F O R M 1 2 0 0

	Description	Series	Page
Platform 1200	Steel conveyor roller	1200	28
	Steel conveyor wheels	2200	31



Platform 1200



Max. load capacity dynamic	Conveyor speed	Standard diameter	Polyurethane sleeve	PVC sleeve
600 lbs.	160 fpm	.75", 1.0", 1.38", 1.9", 2.5"	1.9"	1.9"
150 lbs.	160 fpm	1.9"		



## Platform 1200

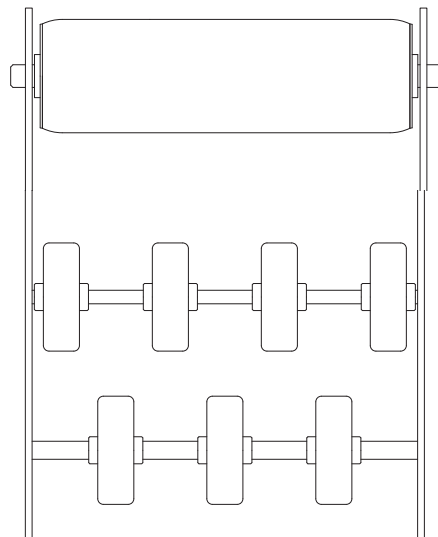
**Series 1200**  
**Series 2200**

The solid steel rollers and conveyor wheels of Platform 1200 are intended for use under extreme temperatures where the limit values for plastics are exceeded. The pressed bearing shells and inner rings of the metal ball bearings are hardened and have zinc plating. The shape of the ball bearing is specifically designed for conveyor rollers and can tolerate greater bearing distortion than a comparable precision ball bearing. However, conveying speeds are thereby limited.

### **Material properties of Platform 1200:**

- Maximum recommended conveying speed is 160 fpm
- Temperature range 18°F to 104°F
- Lightly oiled lubrication as standard, greased version available

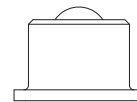
### Platform 1200



Series 1200  
Diameter 1.9  
Page 28

Series 2200  
Steel conveyor  
wheels  
Page 31

### Platform peripheral equipment



Series 5000  
Ball transfer units  
Page 100



## **Steel Conveyor Roller Series 1200**

### **Features**

- Metal ball bearings specifically developed for use in conveyor rollers, pressed and hardened
- Secured bearing seat
- Rounded roller ends for easy sliding of items onto the conveyor, laterally
- Roller completely antistatic
- Particularly suitable for very high or very low temperatures
- Maximum conveyor speed 160 fpm

### **Load capacity**

- Up to 600 lbs.

### **Dimensions**

#### **Tube**

- Galvanized steel with an outer diameter of 1.0", 1.38", 1.9" and 2.5"

#### **Shaft**

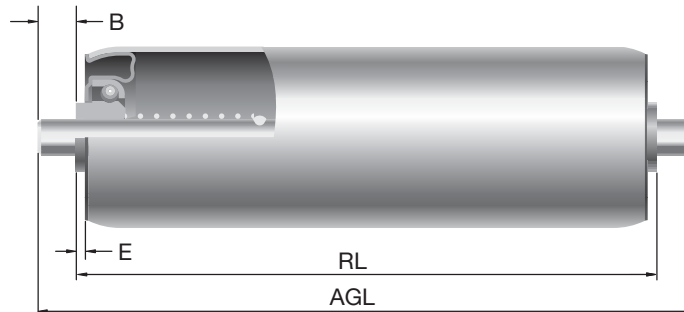
- Mill finish steel
- Spring loaded shaft, diameter .250" or .312", .437" or .687" hexagonal

#### **Bearing**

- Metal ball bearing, pressed and hardened
- Steel balls run in hardened, zinc plated steel housing
- Temperature range 18°F to 104°F



### Spring loaded shaft



## Series 1200

Shaft Diameter	Roller Diameter	RL = EL - inches	E Dimension	B Dimension	AGL = EL + inches	Minimum Roller Length
.250	1.0	.12	.06	.56	1.12	3.00
.250	1.38	.12	.17	.56	1.12	3.50
.312 hex	1.0	.12	.06	.56	1.12	3.00
.312 hex	1.38	.12	.17	.56	1.12	3.50
.437 hex	1.9	.12	.11	.56	1.12	3.88
.687 hex	2.5	.12	.38	.75	1.50	5.25

Roller	Tube size	Spring-loaded shaft			
		.250	.312 hex	.437 hex	.687 hex
Galvanized steel	1.0 x .049	1.210.G25.C03	1.211.G25.C20		
	1.38 x .049	1.212.G36.C03	1.213.G36.C20		
	1.9 x .065			1.233.G48.C40	
Steel, mill finish	2.5 x .120				1.226.C66.C66





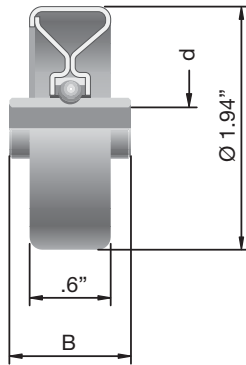
Series 1200

Load capacity in lbs.

Tube Dia. In. Material Gauge Shaft Dia. RL Inches	1 Steel 18 .25/.312	1.38 Steel 18 .312	1.9 Steel 16 .437	2.5 Steel 11 .687
4	25	65	225	600
8	25	65	225	600
12	25	65	225	600
16	25	65	225	600
20	25	65	225	600
24	25	65	225	600
28	20	65	225	500
32	15	60	225	500
36	10	60	194	400
40	5	40	110	350
44	5	30	70	300
48	5	10	56	300

Options

Material	Description
Soft PVC	Sleeve for 1.9 – Hardness, 63 shore A, thickness .08, grey
Polyurethane	Sleeve for 1.9 – Hardness, 80 shore A, thickness .12, orange



## Steel Conveyor Wheels Series 2200

### Features

- Made of zinc plated steel
- Single row ball race
- Good running stability
- Bearing: steel balls on zinc plated steel hub
- Long service life due to hardened ball running surfaces
- Load capacity: up to 100 lbs.

### Dimensions

- Wheel diameter 1.94"
- Weight: .132 lbs.

### Option

- Rubber tire, part number 2100

Standard part number (without tire)	Hub width (B)	Bore diameter (d)	Capacity
2220	.81	.31	50 lbs
2225	.88	.31	100 lbs
2263	.81	.25	100 lbs





# P L A T F O R M 1 5 0 0

	Description	Series	Page
Platform 1500	Journal Bearing Conveyor Roller	1520	36
	Omniwheel	2570	38
	Omniwheel	2580	38



Max. load capacity dynamic	Conveyor speed	Standard diameter	PVC sleeve
45 lbs	50 fpm	1.12", 1.9", 2.5"	1.9"
25 lbs per pair	40 fpm	1.9"	
75 lbs per pair	40 fpm	3.15"	



## Platform 1500

Series 1520

Series 2500

All bearings of Platform 1500 are journal bearings and always consist of a plastic bearing (POM, or POM + PTFE) paired with a stainless steel screw.

The materials and respective surfaces of the bearing pair are precisely matched to one another so that the bearing points can run dry without lubrication.

This assembly combined with a PVC tube provides a completely rust proof roller.

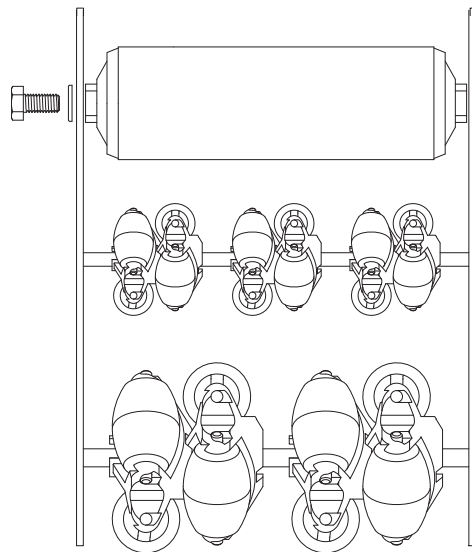
All roller housings of Platform 1500 are sealed; no liquids or other foreign bodies can penetrate the roller.

The materials used allow cleaning with conventional cleaning agents. The versions within Platform 1500 are designed for use in hygienic areas.

### Material properties of Platform 1500:

- Maximum conveyor speed up to 50 fpm
- Temperature range: -23 °F to 104 °F
- POM is resistant to most solvents and watery alkaline solutions
- POM is not resistant to acids

## Platform 1500

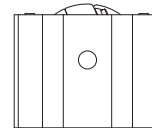


Series 1520  
Journal bearing  
roller  
Page 36

Series 2570  
Omnivheels  
Page 38

Series 2580  
Omnivheels  
Page 38

## Platform peripheral equipment



Series 2800  
Omnimat  
Page 96



## Journal Bearing Conveyor Roller Series 1520

### Features

- Roller without shaft
- Enclosed roller interior. Penetration of water, bacteria, etc., is thus prevented
- Roller housing made of POM rotates as a journal bearing on a screwed in stainless steel screw
- Rounded roller ends of easy sliding of items onto the conveyor laterally
- Secured bearing seat with form fitted connection to tube

### Load capacity

- Up to 45 lbs. for maximum conveyor speed of 50 fpm

### Dimensions Tube

- Highly impact resistant PVC in grey with an outer diameter of 1.12", 1.9" or 2.5"
- Stainless steel with an outer diameter of 1.9"
- Aluminum with an outer diameter 1.12"

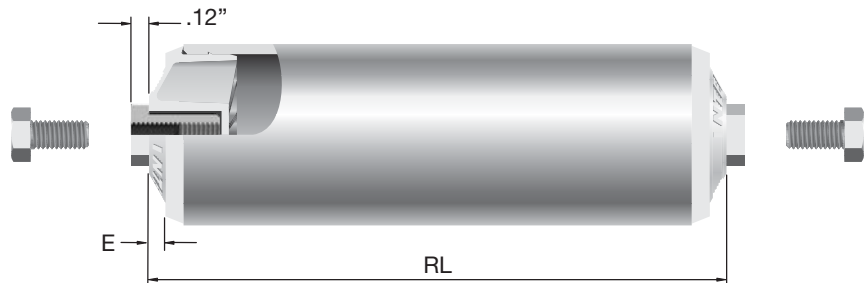
### Shaft

- Stainless steel screw for 1.12" diameter, 1/4-20 x 3/4 D, outer diameter .375"
- Stainless steel screw for 1.9", 2.5" diameter, 5/16-18 x 7/8 D, outer diameter .510"

### Bearing

- Enclosed journal bearing housing made of POM

## Stub shaft



## Series 1520

Shaft Diameter	Roller Diameter	RL = BF – inches	E Dimension	Minimum Roller Length
.370	1.12	.37	.08	2.75
.500	1.9	.37	.19	2.75
.500	2.5	.37	.19	2.75

Roller	Tube size	Shaft .370	Shaft .500
PVC	1.18 x .070	1.505.V31.N89	
	1.9 x .110		1.521.V50.N90
	2.5 x .125		1.527.V64.N90
Stainless	1.9 x .065		1.519.S49.N90
Aluminum	1.12 x .050	1.505.A31.N89	

## Options

Material	Description
Soft PVC	Sleeve for 1.9 – Hardness, 63 shore A, thickness .08 grey



# Omniwheel Series 2500

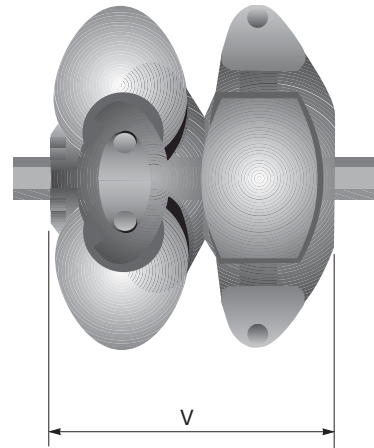
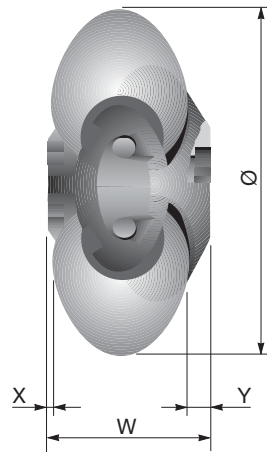
### Features

- Conveyance in any direction possible
- Simply designed crossings and switches
- Version driven in one direction possible with hexagonal shaft
- Wheels can be coupled to one another
- Easy to assemble
- Can be used in a dusty environment
- Can be used in a moist environment (stainless steel journal)
- Base of the conveyed items must be flat and sturdy
- Corrosion resistant
- Load capacity per pair:  
Series 2570 25 lbs  
Series 2580 75 lbs.

### Dimensions

- Outer diameter of 1.9" and 3.15"
- Hub bores:  
Series 2570: .312" and .312" hex  
Series 2580: .500" and .437" hex

Standard part numbers	Standard diameter in inches	Bore diameter in inches
2570	1.9	.312
2571	1.9	.312 hex
2580	3.15	.500
2581	3.15	.437 hex



## Series 2500

Roller Diameter	Material Wheel body	Material Spool	Hub bore	Load capacity	X	Y	W	V
1.9	Polyamide	Polyamide	.312	25 lbs	.118	.118	.846	1.57
1.9	Polyamide	Polyamide	.312 hex	25 lbs	.118	.118	.846	1.57
3.15	Polyamide	Polyamide	.500	75 lbs	.157	.157	1.34	2.56
3.15	Polyamide	Polyamide	.437 hex	75 lbs	.157	.157	1.34	2.56

### Design information

The load capacity of the multi-directional Omniwheels is utilized to the full if interacting Omniwheels have exactly the same level, and if the surfaces coming into contact with the Omniwheels are smooth.

If operating conditions are not ideal, a corresponding number of extra Omniwheels must be used so that there is always adequate contact between the items being conveyed and the load bearing Omniwheels.



# P L A T F O R M 1 7 0 0



	Description	Series	Page	
Platform 1700	Universal conveyor roller	1700	42	
	Tapered universal conveyor roller	1700 KXO	71	
	Fixed drive conveyor roller	3500	52	
	Tapered fixed drive conveyor roller	3500 KXO	69	
	Friction conveyor roller	3800	60	



Max. load capacity dynamic	Conveyor speed	Standard diameter	Grooves	Polyurethane sleeve	PVC sleeve
450 lbs.	393 fpm	1.38", 1.9", 50 mm, 2.5", 3.5"	1.9" & 2.5"	1.9"	1.9"
112 lbs.	236 fpm	1.9"	1.9"		
240 lbs.	393 fpm	1.9"		1.9"	1.9"
112 lbs.	236 fpm	1.9"			
78 lbs.	98 fpm	1.9"		1.9"	1.9"



## Platform 1700

**Series 1700**

**Series 1700 KXO**

**Series 3500**

**Series 3500 KXO**

**Series 3800**

Platform 1700 is the basis for several roller series that are used in the field of container conveyance technology as well as in limited applications for pallets. The bearing assembly is designed as sealed precision ball bearings, 6002 and 6003. Alternatively, the Interroll ball bearing (page 7) can be used for the ball bearing 6002 with the same outer diameters. The ball bearings are lubricated with silicone free grease.

The roller housings and drive heads of Platform 1700 are manufactured from a high strength polyamide or POM and are form fitted into the tubes in the standard versions. The bearing seat of the ball bearings in the roller housings is secured through the snap edge; the integrated seal is fixed in the inner ring of the ball bearing. The polypropylene seal has three functions:

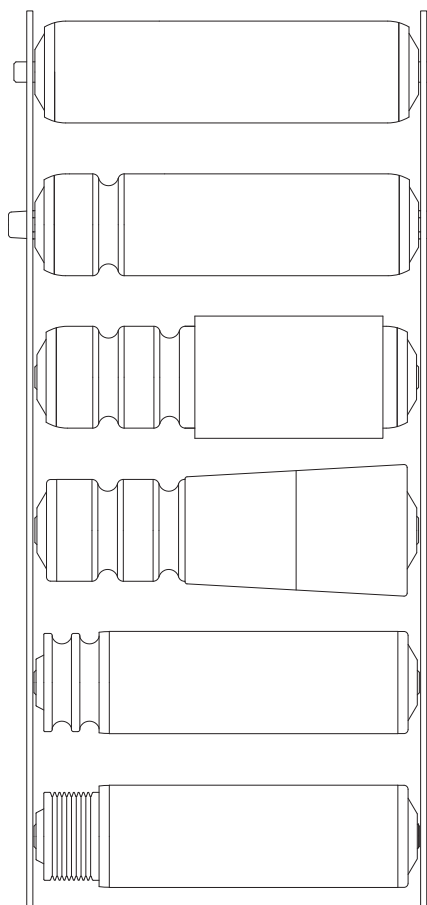
- Protecting the ball bearing from coarse dirt and splashing water
- Compensating for the different diameters of shaft and inner ring of ball bearing
- Dissipating the axial forces in the ball bearing

The bearing design, comprised of polyamide roller housings, steel ball bearings and a polypropylene seal, results in an extremely low noise conveyor wheel that is also able to bear high loads. All roller versions of Platform 1700 have a very wide range of application and have been produced for many years in large quantities.

### **Material properties of Platform 1700**

- Maximum conveyor speed 197 fpm for Interroll ball bearings and up to 393 fpm for precision ball bearings (depending on RL)
- Temperature range 23 °F to 104 °F
- Polyamide is resistant to oils, petrol and alcohol
- Polyamide is not resistant to acids
- Polypropylene is resistant to watery solutions of acids, alkali and salts
- Polypropylene is non-hygroscopic

## Platform 1700



Series 1700  
Universal conveyor  
roller  
Page 46

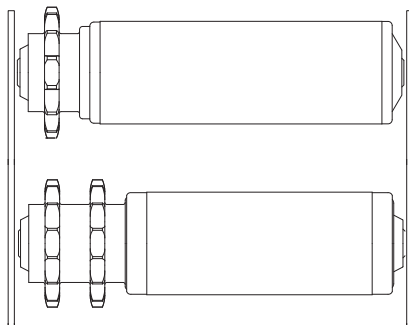
Series 1700  
Universal conveyor  
roller  
with Taperhex  
shaft  
Page 48

Series 1700  
Universal conveyor  
roller  
with sleeve  
Page 49

Series 1700 KXO  
Universal conveyor  
roller  
with tapered  
elements  
Page 72

Series 3500  
Fixed drive roller  
Poly-O  
Page 54

Series 3500  
Fixed drive roller  
Poly-Vee  
Page 56



Series 3500 / 3800  
Fixed drive roller /  
Friction roller  
One Polyamide  
sprocket  
Page 57/63

Series 3500 / 3800  
Fixed drive roller /  
Friction roller  
Two Polyamide  
sprockets  
Page 58/64

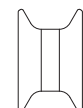
## Platform peripheral equipment



Series 2610  
Pressure roller  
Page 95



Series 2611  
Pressure roller  
Page 95



Round belt roller  
Page 95



## **Universal Conveyor Roller Series 1700**

### **Features**

- The roller for virtually any application
- Many different types of ball bearings available
- Low noise running due to the use of polyamide bearing housings and seals
- Secured bearing seat
- Integrated seal in front of the ball bearing to protect against coarse dirt, and water repelling groove to protect the ball bearing against splashes of water
- Rounded roller ends for easy sliding of items onto the conveyor laterally

### **Load capacity**

- Up to 450 lbs.
- Up to 67 lbs. with grooves



## Dimensions

### Tube

- Highly impact resistant grey PVC with an outer diameter of 1.9", 2.5" or 3.5"
- Galvanized steel with an outer diameter of 1.38", 1.9", 50 mm or 2.5"
- Stainless steel with an outer diameter of 1.9"
- Aluminum with an outer diameter of 1.9"
- Polyethylene (anti-litho) with an outer diameter of 1.9"
- Soft PVC sleeve for 1.9"
- Polyurethane sleeve for 1.9"
- Grooves for tubes, 1.9" and 2.5"

### Shaft

- Mill finish steel or stainless steel
- Spring loaded shaft, diameter .312" or .437" hex
- Taperhex shafts
  - .437" Taperhex Gold (metal shuttle)
  - .437" Taperhex Black (technopolymer)
- Female threaded shaft
  - .437" hex 5/16-18 x 5/8 D
  - .500" Ø 5/16-18 x 5/8 D
  - .500" Ø M8-1.25 x 5/8 D

## Bearing

- Bearing housing made of polyamide (black)
- Bearing seal made of polypropylene (yellow)
- Types of bearing:
  - Interroll ball bearing
  - Interroll stainless steel ball bearing
  - Precision ball bearing 6002 2RZ

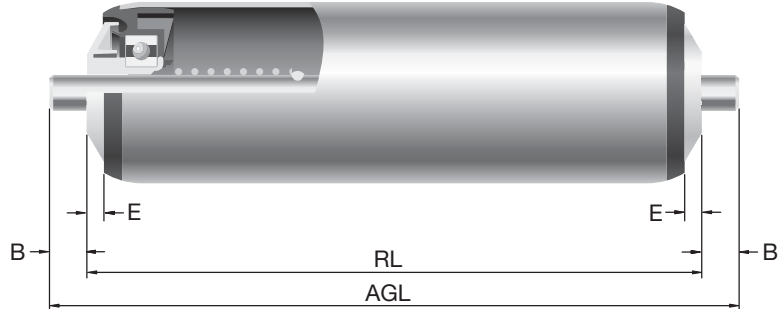
## Conveyor speeds

- Rollers with precision ball bearing – 393 fpm
- Rollers with Interroll ball bearing – 158 fpm





### Spring loaded shaft



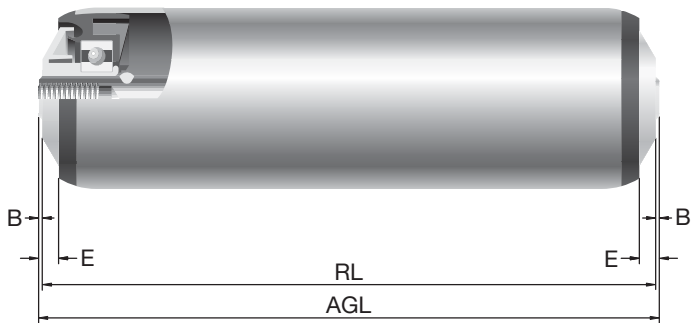
### Series 1700

Shaft Diameter	Roller Diameter	RL = BF - inches	E Dimension	B Dimension	AGL = EL + inches	Minimum Roller Length
.312 hex	1.38	.12	.19	.56	1.12	3.50
.437 hex	1.9 & 2.5	.12	.19	.56	1.12	4.25
.500	1.9 & 2.5	.12	.19	.56	1.12	4.25

Tube	Tube size	Type of bearing	Spring loaded shaft		
			.312 hex	.437 hex	.500
PVC	1.9 x .110	ITRL ball bearing		1.704.R83.M70	1.705.R83.M75
	2.5 x .125	Stainless steel bearing		1.759.R84.X62	1.760.R84.L57
Galvanized steel	1.38 x .049	Precision ball bearing	1.457.G38.Z62		
Galvanized steel	1.9 x .065	ITRL ball bearing		1.701.R81.M70	1.702.R81.M75
	1.9 x .065	Precision ball bearing		1.775.R81.M70	1.776.R81.M75
	50 mm x 1.5 mm	Precision ball bearing		1.7AE.G50.M70	
	2.5 x .083	ITRL ball bearing		1.707.W71.M70	1.708.W71.M75
	2.5 x .083	Precision ball bearing		1.775.W71.M70	1.782.W72.M75
Stainless steel	1.9 x .065	Stainless steel bearing		1.750.R82.X62	1.751.R82.L57
Aluminum	1.9 x .065	Precision ball bearing		1.775.R79.M70	1.776.R79.M75
Polyethylene	1.9 x .110	Precision ball bearing		1.778.J44.M70	1.779.J44.M75
Galvanized with 1 groove	1.9 x .065	Precision ball bearing		1.775.K35.M70	1.776.K35.M75
Galvanized with 2 grooves	1.9 x .065	Precision ball bearing		1.775.H56.M70	1.776.H56.M75
Galvanized with 1 groove	2.5 x .083	Precision ball bearing		1.781.B20.M70	1.782.B20.M75
Galvanized with PVC sleeve	1.9 x .065	ITRL ball bearing		1.701.K38.M70	1.702.K38.M75
Galvanized with Polyurethane sleeve	1.9 x .065	ITRL ball bearing		1.701.J76.M70	1.702.J76.M75
Galvanized with 2 grooves & PVC sleeve	1.9 x .065	Precision ball bearing		1.775.H58.M70	1.776.H58.M75
Galvanized with 2 grooves & Polyurethane sleeve	1.9 x .065	Precision ball bearing		1.775.H57.M70	1.776.H57.M75



Female threaded shaft



Series 1700

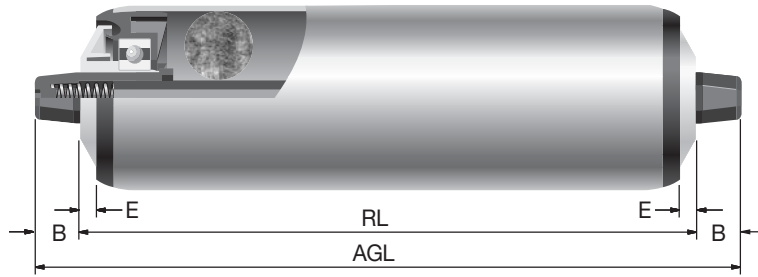
Shaft Diameter	Roller Diameter	RL = BF – inches	E Dimension	B Dimension	AGL = EL + inches	Minimum Roller Length
.437 hex	1.9 & 2.5	.12	.19	.06	.12	2.50
.500	1.9 & 2.5	.12	.19	.06	.12	2.50

Tube	Tube size	Type of bearing	Female threaded shaft	
			.437 hex 5/16-18 x 5/8 D	.500 5/16-18 x 5/8 D
Galvanized steel	1.9 x .065	ITRL ball bearing	1.701.R81.G16	1.702.R81.M73
	1.9 x .065	Precision ball bearing	1.775.R81.G16	1.776.R81.M73

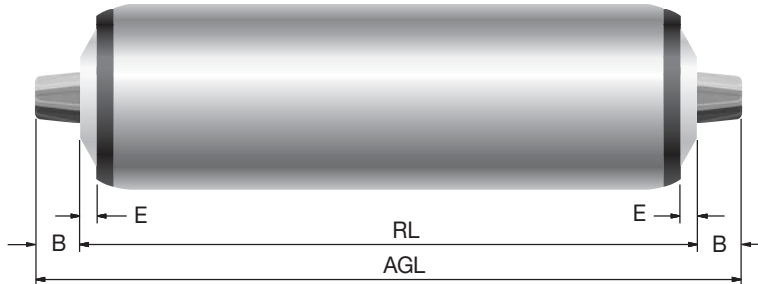
Series 1700



Taperhex black shaft



Taperhex gold shaft



## Series 1700

Shaft Diameter	Roller Diameter	RL = BF - inches	E Dimension	B Dimension	AGL = EL + inches	Minimum Roller Length	Maximum Roller Length
.437	1.9 & 2.5	.12	.19	.51	1.02	4.25	40
Taperhex Black							
.437	1.9 & 2.5	.12	.19	.71	1.42	4.25	55
Taperhex Gold							

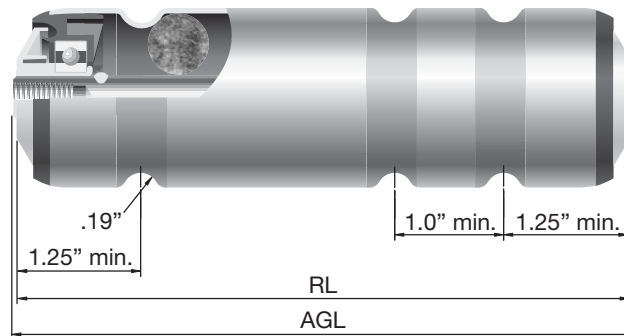
Tube	Tube size	Type of bearing	Taperhex shaft	
			.437 Taperhex Gold	.437 Taperhex Black
Galvanized	1.9 x .065	Precision ball bearing	1.770.R81.U05	1.770.R81.V8T
	2.5 x .083	Precision ball bearing	1.768.W71.U05	1.768.W71.V8T
Galvanized with 1 groove	1.9 x .065	Precision ball bearing	1.770.K35.U05	1.770.K35.V8T
Galvanized with 2 grooves	1.9 x .065	Precision ball bearing	1.770.H56.U05	1.770.H56.V8T
Galvanized with PVC sleeve	1.9 x .065	Precision ball bearing	1.770.K38.U05	1.770.K38.V8T
Galvanized with Polyurethane sleeve	1.9 x .065	Precision ball bearing	1.770.J76.U05	1.770.J76.V8T
Galvanized with 2 grooves & PVC sleeve	1.9 x .065	Precision ball bearing	1.770.H58.U05	1.770.H58.V8T
Galvanized with 2 grooves & Polyurethane sleeve	1.9 x .065	Precision ball bearing	1.770.H57.U05	1.770.H57.V8T

This roller is ideal for all motor driven applications, especially if low noise is required simultaneously with high output. The spring loaded tapered shaft allows the roller to be mounted free of play in conveyor profiles with .437" hexagonal holes. The roller is thus fixed in position just as a bolted in roller with female threaded shaft.

### Additional properties

- The roller is installed by compressing both shaft ends

- Shuttles are aligned opposite to one another
- Installation of the roller in the conveyor profile is the same as for standard spring loaded shafts
- Taperhex shaft locks into frame holes, insuring no frame wear
- Bearing version 6002 2RZ, greased
- Shaft shuttle made of conductive material in order to disperse static charge (Taperhex Black)
- Maximum Load
  - Taperhex Black – 79 lbs.
  - Taperhex Gold – 240 lbs.



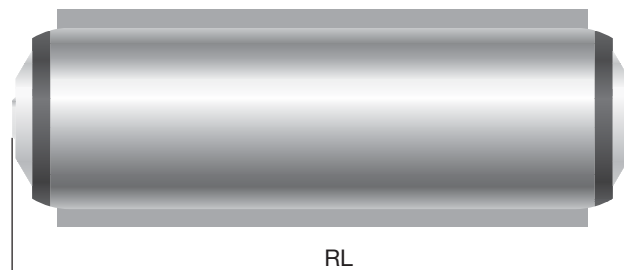
## Series 1700 With grooves

### Version for round belt drive Series 1700 with grooves

- To prevent electrostatic charges, an antistatic roller version is supplied as standard
- The load capacity per roller is limited to 67 lbs. due to the driving force of the

round belt. The actual load capacity of the roller with steel tube falls below this value only at lengths greater than 55"

- It is advisable to select a type of shaft that is protected against torsion (i.e., female threaded shaft)



## Series 1700 With PVC or Polyurethane sleeve

### 1.9" steel roller version with PVC sleeve, Series 1700

In order to transport sensitive goods or lower the noise level (from conveyed goods on the roller), steel rollers covered with a soft PVC sleeve in grey are used. The sleeve has a 63 shore A hardness and is .08" thick.

### 1.9" steel roller version with Polyurethane sleeve, Series 1700

When additional durability is required, consider steel rollers covered with a Polyurethane sleeve. As a standard, this sleeve is orange has a 80 shore A hardness and is .12" thick.



**Series 1700**  
**Interroll ball bearing**  
**(commercial)**  
**load capacity in lbs.**

Tube Dia. In. Material Gauge Shaft Dia. RL Inches	1.9 + 50 mm Steel/SS 16 .437	1.9 + 50 mm Steel/SS 16 .500	1.9 PVC .437	2.5 Steel 14 .437	2.5 Steel 14 .500	2.5 PVC .437	2.5 PVC .500
8	360	360	200	360	360	360	360
12	360	360	140	360	360	270	270
16	360	360	75	360	360	164	164
24	347	360	25	333	360	79	79
32	263	311	20	250	293	45	45
40	200	200		203	236	27	27
48	115	115		104	200	18	18
56	70	70		124	124		
62	47	47		83	83		

**Series 1700**  
**Stainless steel bearing**  
**load capacity in lbs.**

Tube Dia. In. Material Gauge Shaft Dia. RL Inches	1.9 + 50 mm Steel/SS 16 .437	1.9 + 50 mm Steel/SS 16 .500	1.9 PVC .437	2.5 Steel 14 .437	2.5 Steel 14 .500	2.5 PVC .437	2.5 PVC .500
8	180	180	200	180	180	180	180
12	180	180	140	180	180	135	135
16	180	180	75	180	180	82	82
24	173	180	25	167	180	39	39
32	132	155	20	125	146	23	23
40	100	100		101	118	14	14
48	57	57		52	100	9	9
56	35	35		62	62		
62	24	24		42	42		

**Series 1700**  
**Precision bearing**  
**load capacity in lbs.**

Tube Dia. In. Material Gauge Shaft Dia. RL Inches	1.38 Steel 18 .312/.471	1.9 + 50 mm Steel/SS 16 .437	1.9 + 50 mm Steel/SS 16 .500	1.9 PVC .437	2.5 Steel 14 .437	2.5 Steel 14 .500	2.5 PVC .437	2.5 PVC .500
8	100	450	450	200	450	450	360	360
12	100	450	450	140	450	450	270	270
16	75	344	403	75	338	392	164	164
24	75	230	270	25	223	259	79	79
32	65	176	207	20	167	196	45	45
40	60	144	169		135	158	27	27
48	50	115	115		113	133	18	18
56		70	70		99	115		
62		47	47		83	83		





## Fixed Drive Conveyor Roller Series 3500

### Features

- Series 3500 conveyor rollers are based on the Series 1700 universal conveyor roller
- At the non-drive end there are Series 1700 roller housings. The drive end features Poly-Vee, Poly-O or sprockets, made of plastic.
- Sprockets made of highly abrasion resistant and resilient polyamide feature extremely good sound absorption compared with steel sprockets
- Poly-Vee head is made of polyamide for standard 2 rib belts
- Poly-O head for standard round belts with a diameter of 3/16"

### Load capacity

- Up to 126 lbs.

### Dimensions

#### Tube

- Highly impact resistant grey PVC with an outer diameter of 1.9"
- Galvanized steel with an outer diameter of 1.9"
- Stainless steel with an outer diameter of 1.9"

#### Shaft

- Mill finish steel or stainless
- Spring loaded shaft, .437" hex
- Female threaded 5/16-18 x 5/8, diameter .500"

#### Bearing

- Bearing housing made of polyamide (black)
- Bearing seal (yellow) made of polyamide for the drive end and polypropylene for the non-driven end
- Types of bearing
  - Interroll ball bearing
  - 6002 2RZ

#### Chain drive element

- Single or double sprocket head made of high quality polyamide 6.6
  - Chain size, number of teeth:  
#40-9 or #40-14



#### **Poly-O head drive element**

- Round belt head made of polyamide with two running grooves
- Belt diameter 3/16"
- Center spacing of belts .531"

#### **Poly-Vee belt drive element**

- Drive head made of polyamide with 9 grooves for flexible V-ribbed belts
- Pitch .092" (2.34 mm)
- Belts with a maximum of 4 ribs

#### **Drive solutions**

##### **Series 3500/3800**

The drive elements of the Conveyor Roller Series 3500 (fixed drive) and Series 3800 (friction drive) are dimensioned for container transport. The sprocket heads are made from polyamide.

In the tube, a roller housing made of polyamide is mounted. On one hand this enables fixed drive, but at the same time can also be used as friction drive. One should always bear in mind that at speeds above 98 fpm, the noise of chain drives tends to increase to an unacceptable level. For this reason, we recommend the alternative drives using V-ribbed belts or round belts for high speeds.

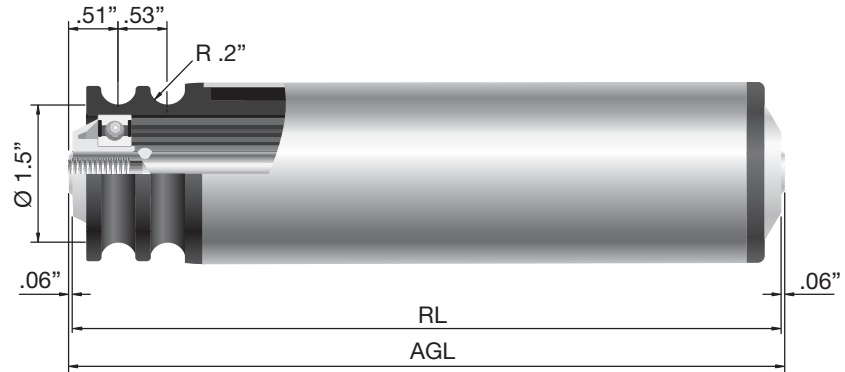
The drive solutions featuring Poly-Vee belt heads and Poly-O heads are designed for speeds of up to 393 fpm with a maximum RL of 39.37". Even when using elastic belts with only 2 ribs, the Poly-Vee head enables transfer of twice the amount of torque as that delivered by comparable round belts. These belts are flexible and are used with an initial tension of 1 – 3 %.

These two drive solutions are only possible for fixed drive. They allow a separation between conveying area and drive since the belts run directly on the side of the profile.

Drive heads for chain driven rollers are available in fixed drive and friction drive versions. Since the roller housings installed in the tube are identical for both roller series, the drive heads can also be exchanged at a later time if required.



## Female threaded shaft



## Series 3500

Poly-O head with female threaded shaft			Female threaded shaft
Tube	Tube size	Type of bearing	.500" 5/16-18 x 5/8 D
Galvanized	1.9 x .065	Precision ball bearing	3.550.F31.M73
Galvanized with PVC sleeve	1.9 x .065	Precision ball bearing	3.550.K38.M73
Galvanized with Polyurethane sleeve	1.9 x .065	Precision ball bearing	3.550.J76.M73

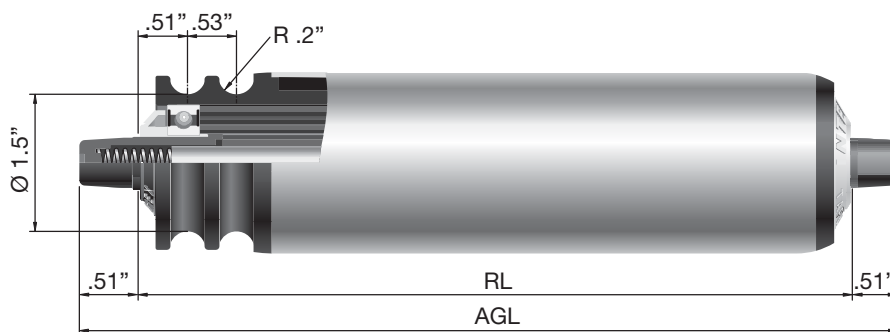
### Poly-O head with two grooves, R = .2"

The drive head is pressed directly into the tube with a correspondingly long press fit. Only fixed drive is therefore possible for this roller.

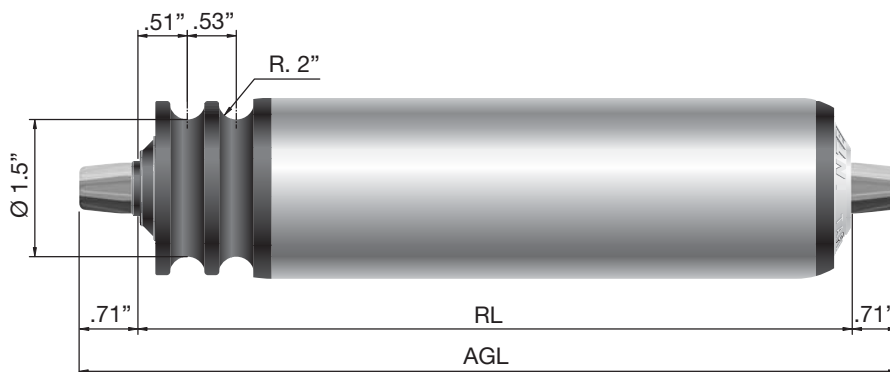
### Additional properties:

- The drive components work as close together as possible on the profile
- Spatially separated drive and conveying areas (important in the case of soiling by the conveyed items)
- Standard O-rings
- No deformation of the tubes due to the grooving process
- No shifting of lightweight conveyed items due to out of round O-rings
- Max. load of 79 lbs.

**Taperhex black shaft**



**Taperhex gold shaft**



## Series 3500

**Poly-O head with two grooves and Taperhex shaft**

Tube	Tube size	Type of bearing	.437" Taperhex Gold	.437" Taperhex Black
Galvanized	1.9 x .065	Precision ball bearing	3.870.F31.U05	3.870.F31.V8T
Galvanized with PVC sleeve	1.9 x .065	Precision ball bearing	3.870.K38.U05	3.870.K38.V8T
Galvanized with Polyurethane sleeve	1.9 x .065	Precision ball bearing	3.870.J76.U05	3.870.J76.V8T

### Poly-O head with two grooves, R = .2", and tapered shaft shuttle

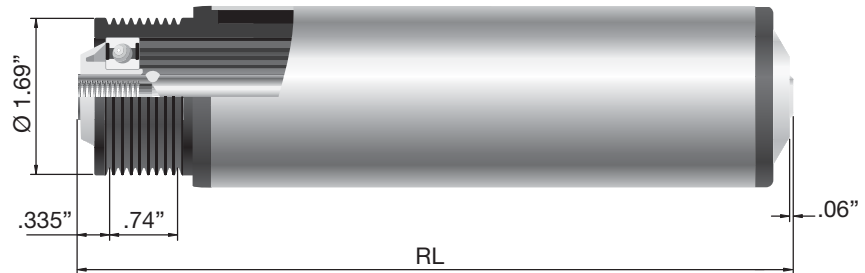
In addition to the properties listed above, this version features further advantages for the user:

This roller is ideal for all motor driven applications, especially if low noise is required simultaneously with high output. Both the Taperhex Gold and the Taperhex Black style shafts allow the roller to be mounted free of play in conveyor profiles with .437" hexagonal holes. The roller is fixed in position just as a bolted in roller with female threaded shaft.

### Features:

- Taperhex Gold shuttle made of brass plated metal
- Taperhex Black shuttle made of conductive material in order to disperse static charge
- Both shaft ends are inserted by pressing in
- Shuttles are aligned opposite to one another
- Installation costs same as standard spring loaded shafts
- Very low noise running
- No wear due to play free seat of the shuttle in the profile
- Bearing version 6002 2RZ, greased
- Maximum load
  - Taperhex Black – 78 lbs.
  - Taperhex Gold – 240 lbs.

### Female threaded shaft



## Series 3500

Poly-Vee head with female threaded shaft			Female threaded shaft
Tube	Tube size	Type of bearing	.500" 5/16-18 x 5/8 D
Galvanized	1.9 x .065	Precision ball bearing	3.876.F31.M73
Galvanized with PVC sleeve	1.9 x .065	Precision ball bearing	3.876.K38.M73
Galvanized with Polyurethane sleeve	1.9 x .065	Precision ball bearing	3.876.J76.M73

### Poly-Vee head with 9 grooves

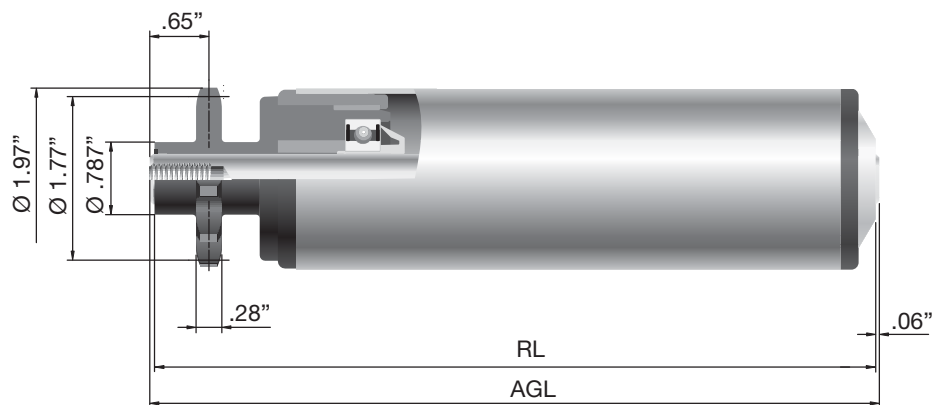
The drive head is pressed directly into the tube with a correspondingly long press fit; therefore only fixed drive is possible for this roller.

### Additional properties:

- The drive components work as close together as possible on the profile
- Spatially separated drive and conveying areas (important in the case of soiling by the conveyed items)
- Flexible standard V-ribbed belts, initial tension 1 – 3 %
- Belts with up to 4 ribs can be used (2 x 4 ribs + 1 groove spacing)
- Even when using elastic belts with only 2 ribs, a transfer of twice the amount of torque as that delivered by comparable round belts is possible
- Bearing version 6002 2RZ, greased
- Maximum load of 78 lbs.



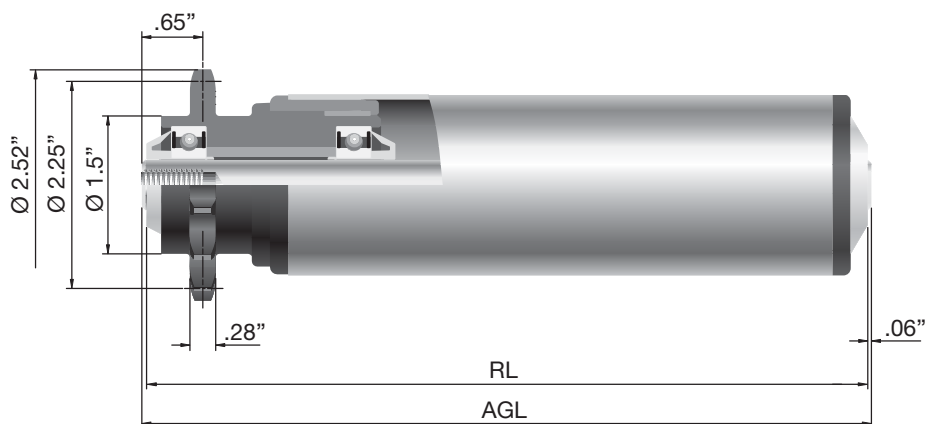
1 polyamide sprocket 1/2", Teeth = 11  
Female threaded shaft



## Series 3500

1 polyamide sprocket #40-9			Female threaded shaft
Tube	Tube size	Type of bearing	.500" 5/16-18 x 5/8 D
Galvanized steel	1.9 x .065	Precision ball bearing	3.511.G01.M92
Aluminum, mill finish	1.9 x .065	Precision ball bearing	3.511.A01.M92
Stainless steel	1.9 x .065	Precision ball bearing	3.511.S01.M92

1 polyamide sprocket 1/2", Teeth = 14  
Female threaded shaft

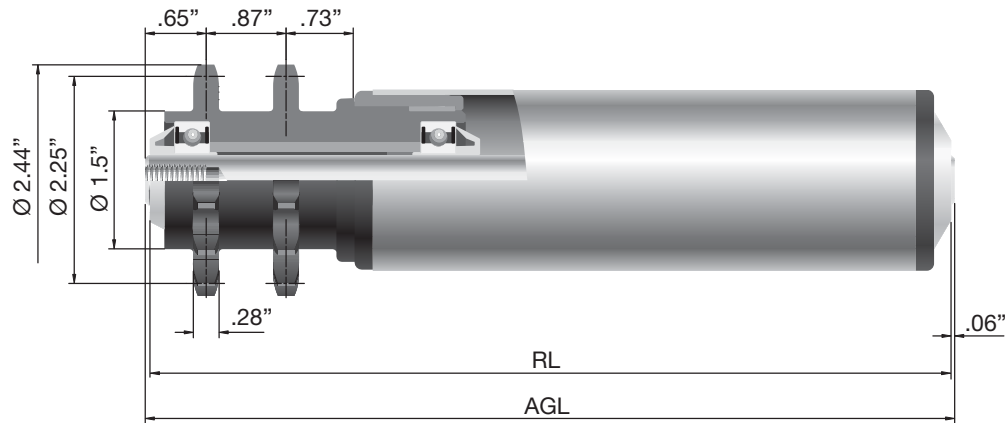


1 polyamide sprocket #40-14			Female threaded shaft
Tube	Tube size	Type of bearing	.500" 5/16-18 x 5/8 D
Galvanized steel	1.9 x .065	Precision ball bearing	3.512.G02.T20
Aluminum, mill finish	1.9 x .065	Precision ball bearing	3.512.A02.T20
Stainless steel	1.9 x .065	Precision ball bearing	3.512.S02.T20





2 polyamide sprockets 1/2", Teeth = 14  
Female threaded shaft



Series 3500

2 polyamide sprockets #40-14			Female threaded shaft
Tube	Tube size	Type of bearing	.500" 5/16-18 x 5/8 D
Galvanized steel	1.9 x .065	Precision ball bearing	3.513.G02.T20
Aluminum, mill finish	1.9 x .065	Precision ball bearing	3.513.A02.T20
Stainless steel	1.9 x .065	Precision ball bearing	3.513.S02.T20



## Series 3500 Direct Drive

Series 3500 direct drive  
sprocket driven roller  
load capacity in lbs.

Tube Dia. In. Material Gauge Shaft Dia. Sprocket RL Inches	1.9 Steel 16 .5 1-#40-9	1.9 Steel 16 .5 1-#40-14	1.9 Steel 16 .5 2-#40-14
8	67.5	126	126
16	68	126	126
20	68	126	126
24	68	126	126
28	68	126	126
32	68	126	126
36	68	126	126
40	68	126	126
44	68	126	126
52	65	104	104
60	56	65	65



## Friction Accumulating Conveyor Roller Series 3800

### Friction drive

The roller series 3800 offers the option of cost-effectively running an accumulating conveyor with limited back pressure, since comparatively few drives are required.

Between the roller liner and the drive element is a friction clutch. The driving force of the clutch depends on the load, amounting to approximately 4 % – 6 % of the load of the conveyed items.

In accumulating mode, by means of a pneumatic stopper for example, the drive element in the friction clutch can rotate although the roller liner is blocked by the stationary conveyed items. It is therefore not necessary to shut off the drive for accumulating mode. The conveyor can continue to run.

Depending on the total weight of the backlogged conveyor items, the back pressure can be considerable. Please consider the drive system as a whole when dimensioning the blocking device. The friction clutch of the roller series 3800 is designed as a slide bearing with the material combinations of polyamide/polyamide (roller housing/drive head). In the roller housing are grease pockets to ensure that the clutch is lubricated throughout its service life.

### Features

- Conveying and accumulating via a friction clutch between drive element and sliding bush
- The driving force of the roller is load dependent and adjusts automatically
- Friction accumulating conveyor rollers with single friction and Series 3500 conveyor rollers have the same dimensions. Therefore, they can easily be combined with one another and can be converted to the relevant type of drive at any time (friction/fixed drive)
- At the non-drive end there are Series 1700 roller housings. The drive end is supplied with polyamide 6.6 sprockets
- Sprockets manufactured from highly abrasion-resistant and resilient polyamide feature extremely good sound absorption compared with steel sprockets
- The load capacity of the roller depends on the amount of accumulating in proportion to total operating time

**Load capacity**

- Up to 78 lbs.

**Dimensions****Tube**

- Galvanized steel with an outer diameter of 1.9"
- Stainless steel with an outer diameter of 1.9"
- Aluminum with an outer diameter of 1.9"

**Shaft**

- Mill finish steel
- Female threaded shaft
  - .500" 5/16-18 x 5/8 D

**Bearing**

- Bearing housing made of polyamide (black)
- Bearing seal (yellow) made of polyamide for the drive end and polypropylene for the non drive end
- Precision ball bearing 6002 2RZ

**Chain drive element**

- Single or double sprocket head made of high quality polyamide 6.6
- Dimensions: 1/2" x 5/16"
- Number of teeth (plastic): 9 or 14





## Series 3800

### Design information

#### System description

The friction conveyor rollers are driven by a continuously running roller chain. The drive element is connected to the body of the roller via a friction bush (slide bearing bush).

The drive is therefore affected by the friction inside the friction bush. The materials of the two friction surfaces (polyamide/polyamide) and the lubricant used are crucial to the operation of the roller.

If the items being conveyed are stopped (accumulating mode), the roller body remains stationary, and only the drive element continues to rotate. The driving force of the rollers (depending on the load) results in appropriate back pressure being applied to the items, and this pressure accumulates in proportion to the length of the pile up.

As soon as the conveyor section is released again, the rollers, and hence the items, start moving again.

#### Driving force

The driving force produced by the friction roller regulates itself in relation to the weight of the conveyed items.

**The driving force depends on many different factors, such as the condition of the underside of the items, moisture, temperature, grease, proportion of accumulation in relation to total operating time, etc.**

**Some of these factors have a considerable effect on the performance and service life of the roller. Accumulating mode should only be employed as long as is necessary. If no transport will occur in the foreseeable future, the drive should be shut off. No energy is then spent, and the service life and performance of the conveyor system is raised.**

**We will gladly advise you regarding your specific application. We also recommend that you conduct a performance test using genuine items.**

The driving forces indicated below are therefore not binding and are given for a standard climate (65 % relative humidity and a temperature of 68 °F).

The values indicated also refer to a situation where the conveyed items are centered on the rollers. They will change considerably if the center of gravity of the load is off center, and they will drop even more the further away the center of gravity of the load is from the drive element. Flat, sturdy item undersides are ideal, which means each roller takes an equal share of the load.

Under the aforementioned conditions, the following values for driving force at the conveyor roller can be assumed:

- **4 to 6%** of the roller driving force, assuming a **single friction clutch** and roller outer diameter of **1.90"**

The permissible conveyor speed is 98 fpm.

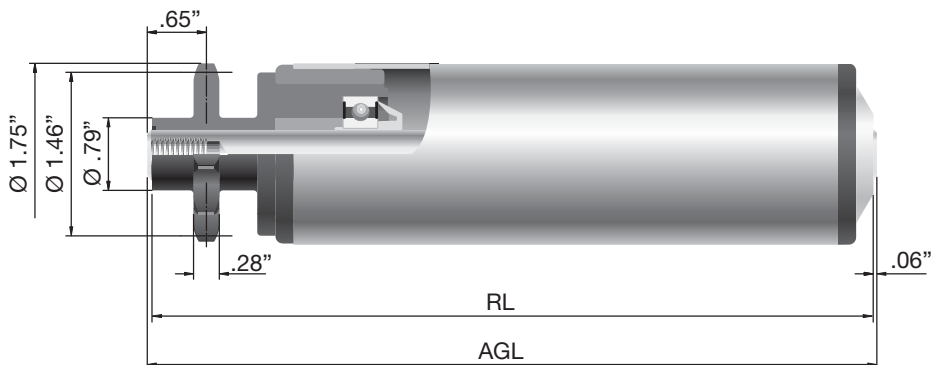
For further design information, please refer to the section "Types of Drive" on page 11.

#### General Information

Flanges or other lateral guides are not recommended for friction rollers. The driving force of the friction clutch may not be able to overcome the static friction generated.

Accumulation in curves should always be avoided with friction rollers. If accumulation is to occur in curves, this is only possible with systems not having back pressure, such as RollerDrive.

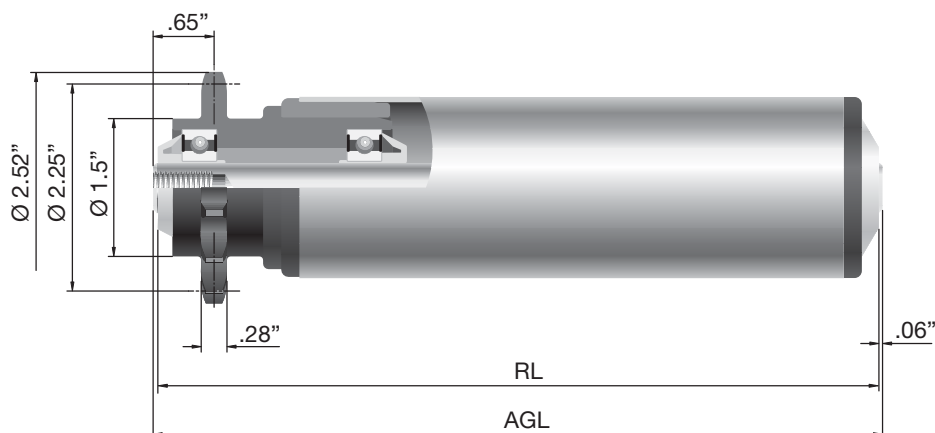
1 #40 polyamide sprocket, 9 teeth  
Female threaded shaft



Series 3800

1 polyamide sprocket #40 – 9			Female threaded shaft
Tube	Tube size	Type of bearing	.500" 5/16-18 x 5/8 D
Galvanized steel	1.9 x .065	Precision ball bearing	3.801.G01.M92
Aluminum, mill finish	1.9 x .065	Precision ball bearing	3.801.A01.M92
Stainless steel	1.9 x .065	Precision ball bearing	3.801.S01.M92

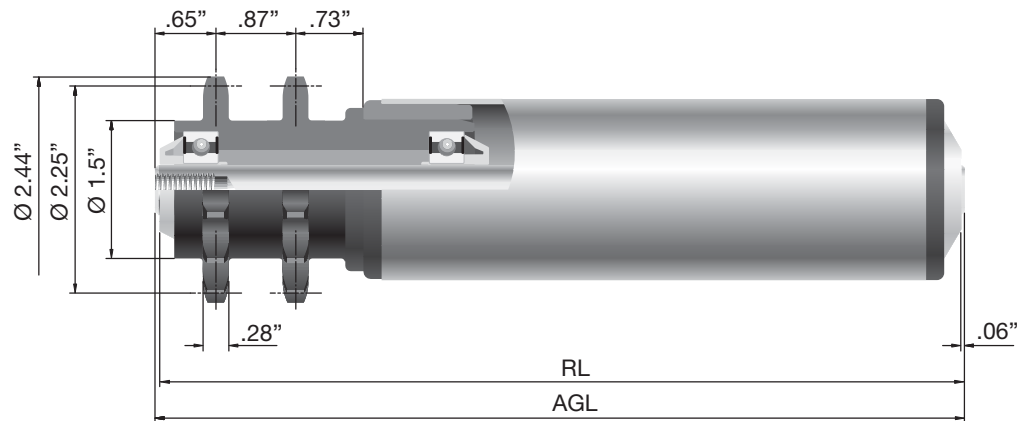
1 #40 polyamide sprocket, 14 teeth  
Female threaded shaft



1 polyamide sprocket #40 – 14			Female threaded shaft
Tube	Tube size	Type of bearing	.500" 5/16-18 x 5/8 D
Galvanized steel	1.9 x .065	Precision ball bearing	3.802.G01.M92
Aluminum, mill finish	1.9 x .065	Precision ball bearing	3.802.A01.M92
Stainless steel	1.9 x .065	Precision ball bearing	3.802.S01.M92



2 #40 polyamide sprockets, 14 teeth  
Female threaded shaft



Series 3800

2 polyamide sprockets #40 – 14			Female threaded shaft
Tube	Tube size	Type of bearing	.500" 5/16-18 x 5/8 D
Galvanized steel	1.9 x .065	Precision ball bearing	3.803.G02.T20
Aluminum, mill finish	1.9 x .065	Precision ball bearing	3.803.A02.T20
Stainless steel	1.9 x .065	Precision ball bearing	3.803.S02.T20





## **Tapered Conveyor Rollers Series 1700-KXO Series 3500-KXO**

Only tapered conveyor rollers can insure that the items are conveyed reliably in curves. The different conveying speeds around the circumference of the tapered rollers allow an optimal transport. The alignment of the conveyed items within the side walls is thereby retained, so that side guides are not absolutely necessary. Compared with straight sections, curved sections require greater installation lengths (assuming item dimensions are identical).

For reliable handling, the actual clear width of the conveyor should be approximately 2" larger than the calculated width. RL should be selected accordingly (see catalog, page 68)

### **Features of Series 1700-KXO tapered universal conveyor rollers**

- Series 1700-KXO tapered conveyor rollers are based on the Series 1700 universal conveyor roller
- Tapered tube made of black polypropylene parts; abrasion resistant, sound absorbent, impact resistant, weather resistant and temperature resistant
- Lightweight, hence good starting and running properties
- Cover on side with large diameter

### **Features of Series 3500-KXO tapered fixed drive conveyor roller**

- Series 3500-KXO tapered conveyor rollers are based on the Series 3500 fixed drive conveyor roller
- Tapered tube made of black polypropylene parts; abrasion resistant, sound absorbent, impact resistant, weather resistant and temperature resistant

### **Load capacity**

- 112 lbs.



## Dimensions

### Tube

- Tapered segments made of polypropylene on a cylindrical inner tube made of galvanized steel with an outer diameter of 1.9". The tapered elements are available for roller lengths (RL) of 9.84" (250 mm) to 35.43" (900 mm)
- Grooves for round belts on an extended inner tube

### Shaft

- Mill finish steel
- Female threaded shaft  
5/16-18 x 5/8 D, diameter .500"
- Spring loaded shaft .437" hex

## Bearing

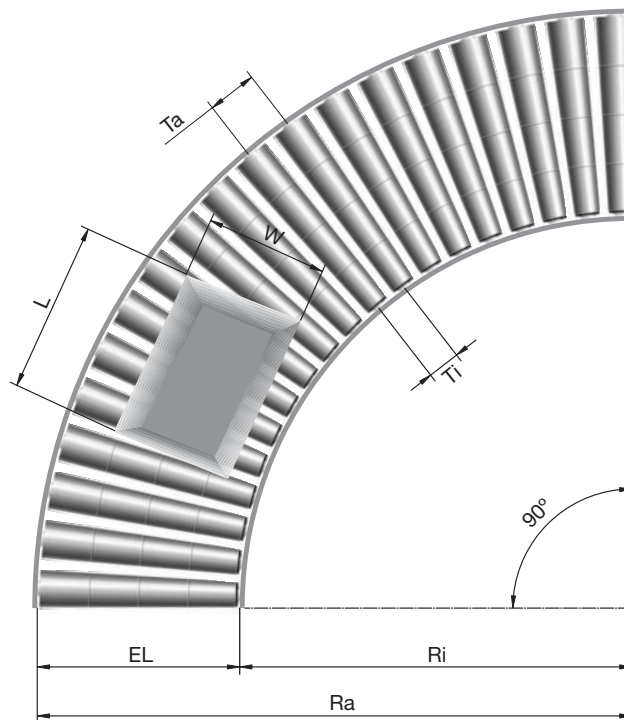
- Bearing housing made of polyamide (black)
- Bearing seal made of polypropylene (yellow)
- Types of bearing:
  - Interroll ball bearing
  - Interroll stainless steel ball bearing
  - Precision ball bearing 6002 2RZ



## Design information

### Non-driven roller curves

The nominal dimension of the curve inside radius  $R_i$  is **31.50"** (800 mm) for roller lengths (RL) of 11.81" (300 mm), 15.75" (400 mm), 19.69" (500 mm) etc., and **33.46"** (850 mm) for roller lengths of 9.84" (250 mm), 13.78" (350 mm), 17.72" (450 mm) etc. The curve inside radius is measured from the inner edge of the inside supporting profile (i.e. from the beginning of installation length (between frame)).



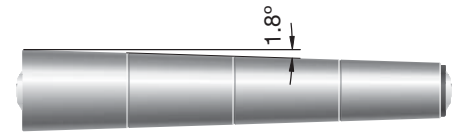
### Driven curves with RollerDrive

For driven roller curves, RollerDrive has proven itself the most inexpensive and elegant solution of all well-known drive types. These curves are quiet, compact and exhibit a modern, straightforward construction.

As over-dimensioned components, standard O-rings are preferably used in combination with the fixed drive roller series 3500 with drive head. Due to the projecting end of the drive head, inner curve radii of  $R_i$  30.31" (770 mm) and 32.28" (820 mm) result.

In the dimensioning of the RollerDrive, it is important to use the mean diameter of the tapered segments for calculating the required torque and the conveyor speed. The installation length should be calculated so that the conveyed items do not contact the side profiles during transport. For this, the following steps are necessary:

- Calculation of the minimum outer radius  $R_a$  or the minimum between frame



- $R_a = \sqrt{(R_i + W)^2 + (L/2)^2} + 50$
- between frame min. =  $R_a - R_i$
- Adapting of the between frame minimum to the standard length (next larger size in 1.97" (50 mm) increments)
  - 11.26" (286 mm), 13.23" (336 mm),
  - 15.20" (386 mm) ... 36.85" (936 mm)
  - 9.84" (250 mm), 11.81" (300 mm),
  - 13.78" (350 mm) ... 35.43" (900 mm)
 for gravity rollers)
- Calculation of actual  $R_a$  with selected standard between frame
  - $R_a = \text{between frame} + R_i$

The roller pitch is generally dependent upon the properties and condition of the conveyed item and should be selected so that safe transport is insured.

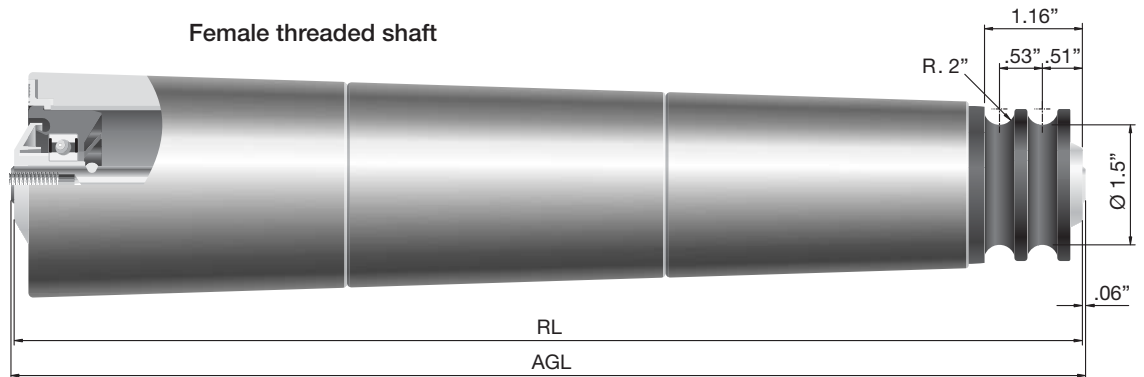
In selecting the smallest possible roller pitch ( $T_i$ ), the diameter of the tapered elements must be taken into account so that these do not contact each other. Otherwise any  $T_i$  value can be selected. The only restriction to observe is that the first or last roller has a ratio to the total angle of the curve of approximately  $T_i/2$  and that any standard belt lengths are also considered.

Roller pitch  $T_a$ , measured at the inner edge of the outer profile can be calculated with the following formula:

- $$T_a = \frac{T_i \times R_a}{R_i}$$



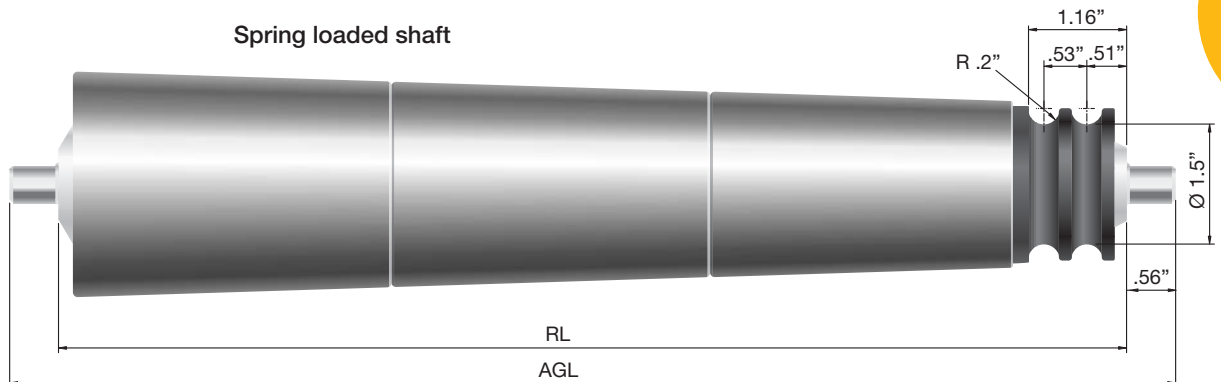
Female threaded shaft



## Series 3500-KXO

Tube	RL Range	Type of bearing	Female threaded shaft
			.500" 5/16-18 x 5/8 D
Tapered segments on galvanized steel tube with Poly-O head	9.52 – 12.27"	Precision ball bearing	3.376.T12.M73
	13.47 – 16.22"	Precision ball bearing	3.376.T14.M73
	17.41 – 20.17"	Precision ball bearing	3.376.T18.M73
	21.37 – 24.13"	Precision ball bearing	3.376.T22.M73
	25.32 – 28.07"	Precision ball bearing	3.376.T26.M73
	29.27 – 32.02"	Precision ball bearing	3.376.T32.M73
	33.22 – 35.97"	Precision ball bearing	3.376.T36.M73

Spring loaded shaft

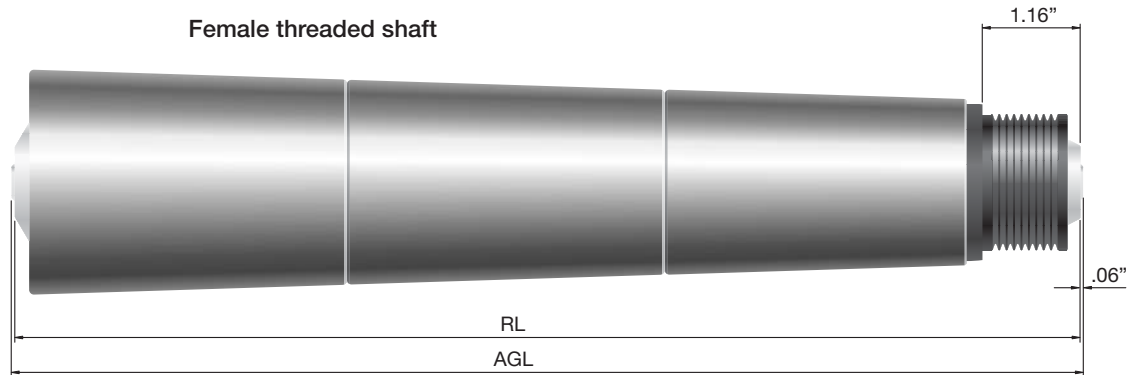


Tube	RL Range	Type of bearing	Spring loaded shaft
			.437" hex
Tapered segments on galvanized steel tube with Poly-O head	9.52 – 12.27"	Precision ball bearing	3.350.T12.M70
	13.47 – 16.22"	Precision ball bearing	3.350.T14.M70
	17.41 – 20.17"	Precision ball bearing	3.350.T18.M70
	21.37 – 24.13"	Precision ball bearing	3.350.T22.M70
	25.32 – 28.07"	Precision ball bearing	3.350.T26.M70
	29.27 – 32.02"	Precision ball bearing	3.350.T32.M70
	33.22 – 35.97"	Precision ball bearing	3.350.T36.M70





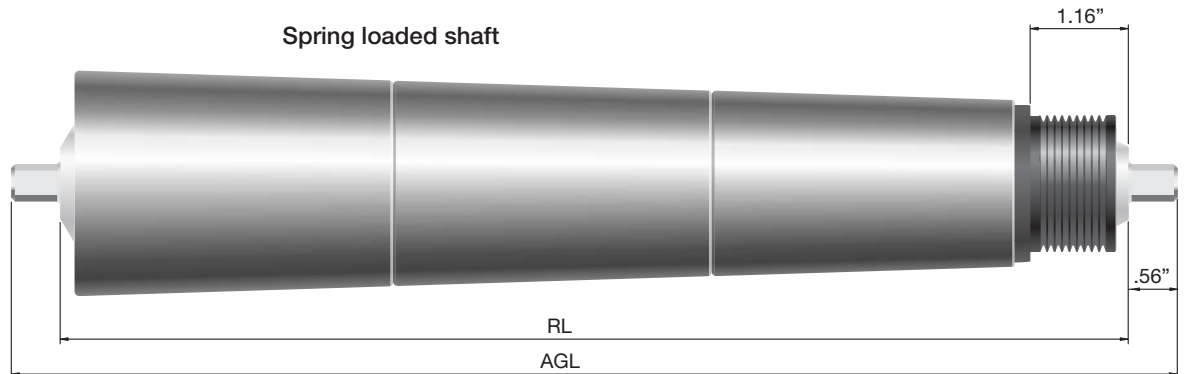
Female threaded shaft



## Series 3500-KXO

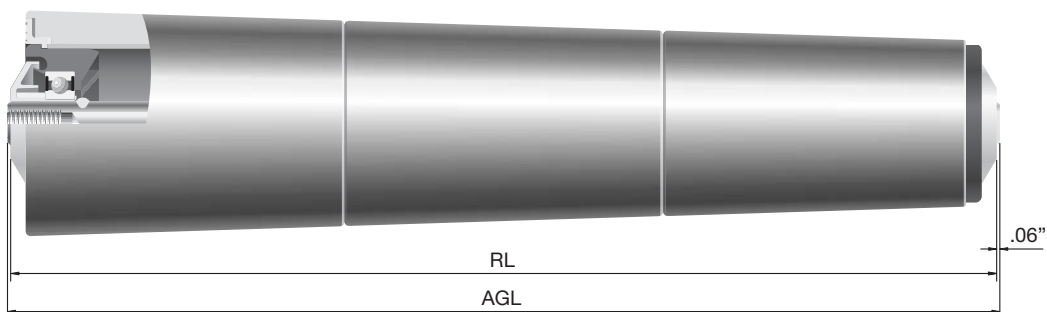
Tube	RL Range	Type of bearing	Female threaded shaft
Tapered segments on galvanized steel tube with Poly-Vee head	9.52 – 12.27"	Precision ball bearing	.500" 5/16-18 x 5/8 D
	13.47 – 16.22"	Precision ball bearing	3.276.T12.M73
	17.41 – 20.17"	Precision ball bearing	3.276.T14.M73
	21.37 – 24.13"	Precision ball bearing	3.276.T18.M73
	25.32 – 28.07"	Precision ball bearing	3.276.T22.M73
	29.27 – 32.02"	Precision ball bearing	3.276.T26.M73
	33.22 – 35.97"	Precision ball bearing	3.276.T32.M73
			3.276.T36.M73

Spring loaded shaft



Tube	RL Range	Type of bearing	Spring loaded shaft
Tapered segments on galvanized steel tube with Poly-Vee head	9.52 – 12.27"	Precision ball bearing	.437" hex
	13.47 – 16.22"	Precision ball bearing	3.250.T12.M70
	17.41 – 20.17"	Precision ball bearing	3.250.T14.M70
	21.37 – 24.13"	Precision ball bearing	3.250.T18.M70
	25.32 – 28.07"	Precision ball bearing	3.250.T22.M70
	29.27 – 32.02"	Precision ball bearing	3.250.T26.M70
	33.22 – 35.97"	Precision ball bearing	3.250.T32.M70
			3.250.T36.M70

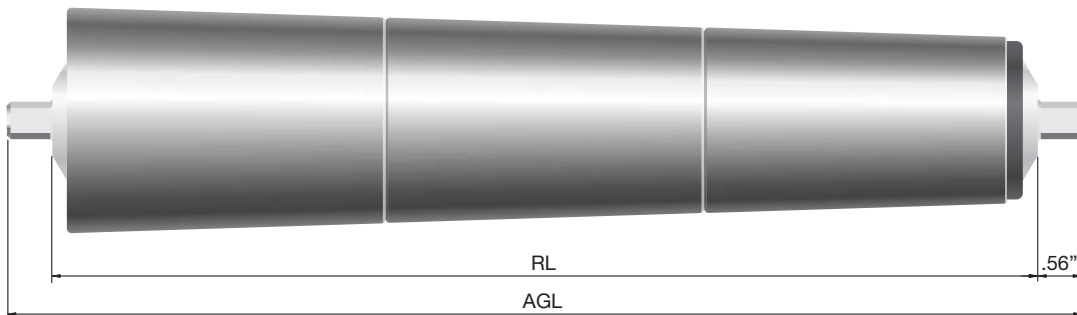
### Female threaded shaft



Tube	RL Range	Type of bearing	Female threaded shaft
			.500" 5/16-18 x 5/8 D
Tapered segments on galvanized steel tube	9.52 – 12.27"	Precision ball bearing	1.7PG.T12.M73
	13.47 – 16.22"	Precision ball bearing	1.7PG.T14.M73
	17.41 – 20.17"	Precision ball bearing	1.7PG.T18.M73
	21.37 – 24.13"	Precision ball bearing	1.7PG.T22.M73
	25.32 – 28.07"	Precision ball bearing	1.7PG.T26.M73
	29.27 – 32.02"	Precision ball bearing	1.7PG.T32.M73
	33.22 – 35.97"	Precision ball bearing	1.7PG.T36.M73

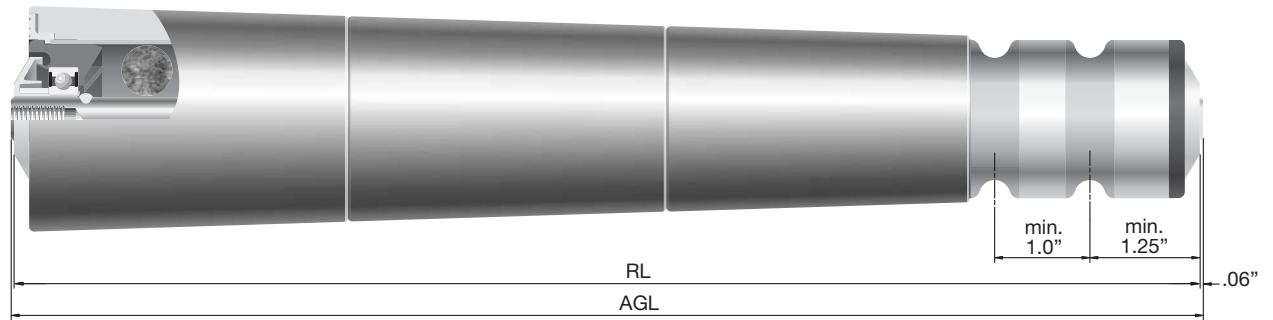
## Series 1700-KXO

### Spring loaded shaft



Tube	RL Range	Type of bearing	Spring loaded shaft
			.437" hex
Tapered segments on galvanized steel tube	9.52 – 12.27"	Precision ball bearing	1.7PE.T12.M70
	13.47 – 16.22"	Precision ball bearing	1.7PE.T14.M70
	17.41 – 20.17"	Precision ball bearing	1.7PE.T18.M70
	21.37 – 24.13"	Precision ball bearing	1.7PE.T22.M70
	25.32 – 28.07"	Precision ball bearing	1.7PE.T26.M70
	29.27 – 32.02"	Precision ball bearing	1.7PE.T32.M70
	33.22 – 35.97"	Precision ball bearing	1.7PE.T36.M70

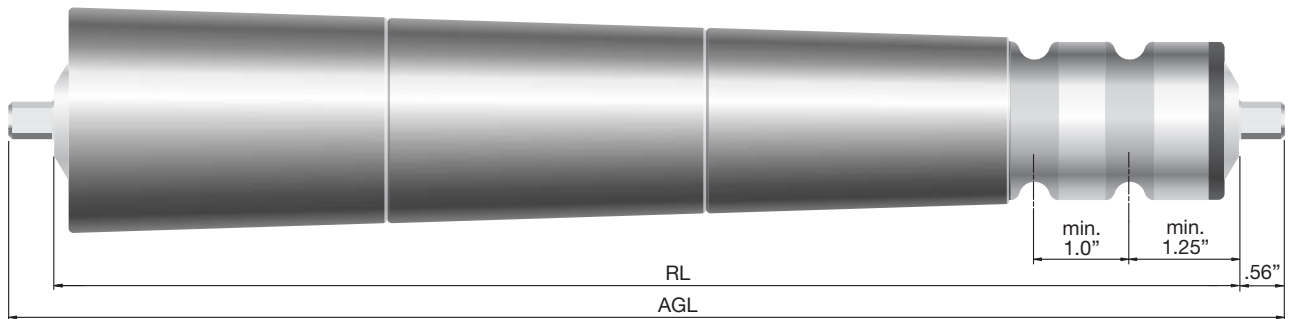
### Female threaded shaft



### Series 1700-KXO

Tube	RL Range	Type of bearing	Female threaded shaft
Tapered segments on galvanized steel tube with 2 grooves	12.96 – 16.91	Precision ball bearing	.500\"
	16.92 – 20.86	Precision ball bearing	5/16-18 x 5/8 D
	20.87 – 24.81	Precision ball bearing	1.7PG.P41.M73
	24.82 – 28.76	Precision ball bearing	1.7PG.K11.M73
	28.77 – 32.71	Precision ball bearing	1.7PG.K14.M73
	32.72 – 36.66	Precision ball bearing	1.7PG.K84.M73
	36.67 – 40.61	Precision ball bearing	1.7PG.M52.M73
			1.7PG.B78.M73
			1.7PG.H04.M73

### Spring loaded shaft



Tube	RL Range	Type of bearing	Spring loaded shaft
Tapered segments on galvanized steel tube with 2 grooves	12.96 – 16.91	Precision ball bearing	.437\" hex
	16.92 – 20.86	Precision ball bearing	1.7PE.P41.M70
	20.87 – 24.81	Precision ball bearing	1.7PE.K11.M70
	24.82 – 28.76	Precision ball bearing	1.7PE.K14.M70
	28.77 – 32.71	Precision ball bearing	1.7PE.K84.M70
	32.72 – 36.66	Precision ball bearing	1.7PE.M52.M70
	36.67 – 40.61	Precision ball bearing	1.7PE.B78.M70
			1.7PE.H04.M70





# P L A T F O R M 1 4 5 0

	Description	Series	Page
Platform 1450	Heavy duty conveyor roller	1450	78
	Precision roller	1800	81
	Heavy duty conveyor roller	3950	86



Max. load capacity  
dynamic

Conveyor  
speed

Standard diameter

1124 lbs.

157 fpm

2.5", 3.5"

1772 lbs.

500 fpm

2.5", 3.5"

1124 lbs.

157 fpm

3.5"



## Platform 1450

**Series 1450**  
**Series 1800**  
**Series 3950**

### Platform 1450

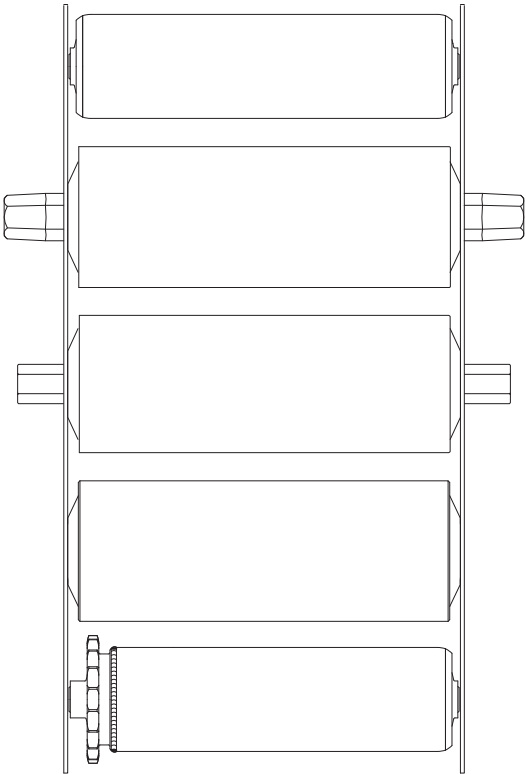
The construction, dimensioning and materials of the Platform 1450 are designed for the highest loads from heavy individual weights. In the 1450 and 3950 series, bearing housings for the 2.5" diameter are made of polypropylene and housings for the 3.5" diameter are made of polyamide. In the 1800 series, the bearings are housed in a sintered iron housing.

The bearings are 6205 ZZ.

### Material properties of Platform 1450

- Temperature range
  - 2.5" - 14 to 176 °F
  - 3.5" - 4 to 212 °F
- Polypropylene is resistant to alkalis and acids
- Polypropylene has poor resistance to chlorinated solvents
- Polyamide is resistant to oils, petrol and alcohol
- Polyamide is not resistant to acids

### Platform 1450



Series 1450  
Heavy duty conveyor  
roller  
Page 79

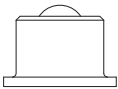
Series 1450  
Heavy duty conveyor  
roller  
Page 80

Series 1800  
Precision roller  
Page 83

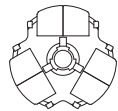
Series 1800  
Precision roller  
Page 82

Series 3950  
Heavy duty conveyor roller  
Steel sprocket  
Page 88

### Platform peripheral equipment



Series 5000  
Ball transfer  
units  
Page 100



Series 2580  
Omnivheels  
Page 38



## Heavy duty Conveyor Roller Series 1450

### Features

- Suitable for heavy conveyed items, particularly for transport of pallets and containers
- Rounded roller end for easy sliding of items onto the conveyor laterally
- Secured bearing seat
- Low noise running through use of plastic bearing housings and seals
- Sealing lips in front of the ball bearing as protection against dust or splashing water
- Maximum conveyor speed 393 fpm

### Load capacity

- Up to 1,124 lbs.

### Dimensions

#### Tube

- Mill finish steel with a 2.5" or 3.5" outer diameter
- Galvanized steel with a outer diameter of 2.5"

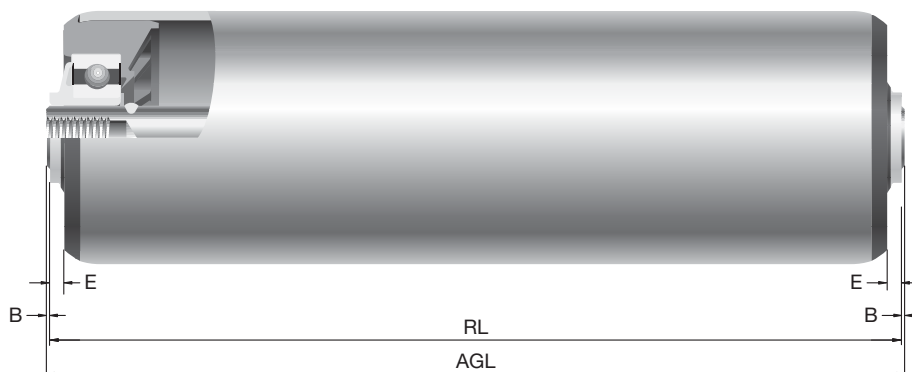
#### Shaft

- Mill finish steel
- Female threaded shaft (1/2-13 x .75 D), .787" hex for 3.5" outer diameter
- Spring loaded shaft, .687" hex for 2.5" or 3.5" outer diameter
- Taperhex shaft, .687" hex for 2.5" outer diameter

#### Bearing

- Bearing housing made of polypropylene (black) or polyamide (black)
- Bearing seal made of black or yellow polyamide
- Type of bearing:
  - Precision ball bearing 6205 ZZ

## Female threaded shaft

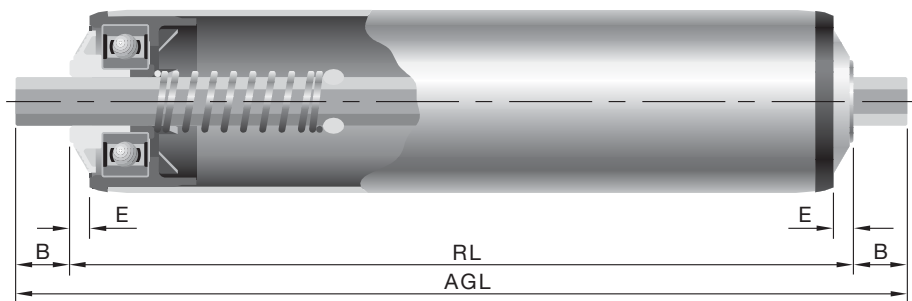


## Series 1450

Shaft Diameter	Roller Diameter	RL = BF - inches	E Dimension	B Dimension	AGL = RL + inches	Minimum Roller Length
.787	3.5	.12	.19	.06	.12	3.00

Tube	Tube size	Type of bearing	.787 (1/2-13 x .75 D)
Steel, mill finish	3.5 x .120	Precision ball bearing	1.455.J8B.P20

## Spring loaded shaft

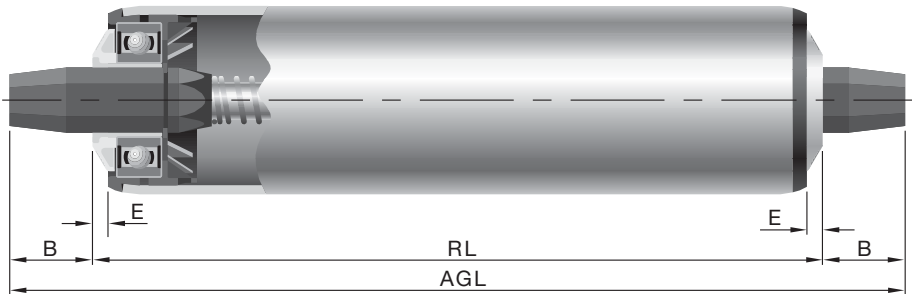


Shaft Diameter	Roller Diameter	RL = BF - inches	E Dimension	B Dimension	AGL = RL + inches	Minimum Roller Length
.687	2.5 & 3.5	.12	.19	.75	1.50	4.88

Tube	Tube size	Type of bearing	.687 hex
Steel, mill finish	2.5 x .120	Precision ball bearing	1.462.P08.W54
Galvanized steel	2.5 x .120	Precision ball bearing	1.462.P09.W54
Steel, mill finish	3.5 x .120	Precision ball bearing	1.45Z.J8B.W54



Taperhex shaft



Shaft Diameter	Roller Diameter	RL = BF – inches	E Dimension	B Dimension	AGL = RL + inches	Minimum Roller Length
.687	2.5	.12	.19	1.00	2.00	12.00

Series 1450

Tube	Tube size	Type of bearing	.687 hex
Steel, mill finish	2.5 x .120	Precision ball bearing	1.465.P08.Y69
Galvanized steel	2.5 x .120	Precision ball bearing	1.465.P09.Y69

Load capacity in lbs.,  
based on a conveyor  
speed of 400 fpm

Tube Dia. Shaft Dia. RL Inches	2.5 .687 hex	2.5 .687 Taperhex	3.5 .687 hex	3.5 .787
8	800	720	1124	1124
12	800	720	1124	1124
16	800	720	1124	1124
24	800	720	1124	1124
32	800	720	1124	1124
40	675	607	913	1124
48	575	517	771	1122
55	512	460	682	1000



## Series 1800

### Features

- Designed for heavy duty applications requiring high load capacity and durability
- Suitable for high speed powered installations where low noise levels are required
- Typical applications include parts handling equipment, automated guided vehicles, transfer machines, high speed packaging lines and belt conveyors
- Maximum conveyor speed 500 fpm

### Load capacity

- Up to 1,013 lbs.

### Dimensions

#### Tube

- Galvanized steel with an outer diameter of 2.5"
- Mill finish steel with an outer diameter of 2.5" or 3.5"

### Shaft

- Mill finish steel
- Spring loaded, .687" hex for 2.5" outer diameter
- Female threaded shaft (3/8-16 x 3/4 D or 5/16-18 x 3/4 D) .687" hex, diameter .787" or .984"

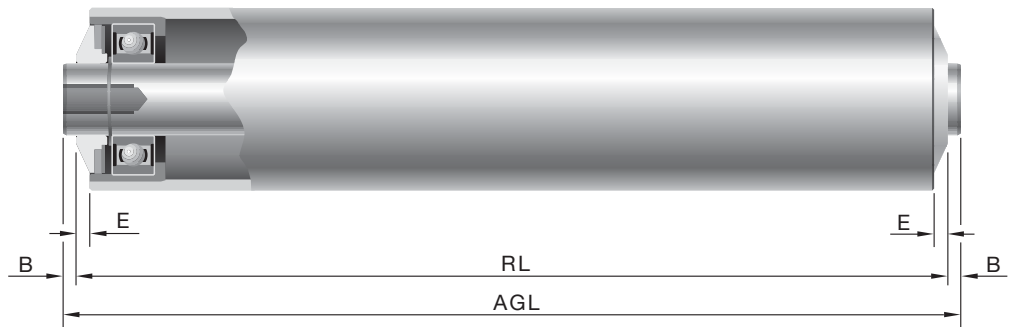
### Bearing

- Bearing housing made of sintered iron to extremely tight tolerances
- Bearing is protected from contaminants by the use of an external dirtguard, with polyester felt contact seals
- Type of bearing:
  - Precision ball bearing 6204 ZZ or 6205 ZZ





Female threaded shaft



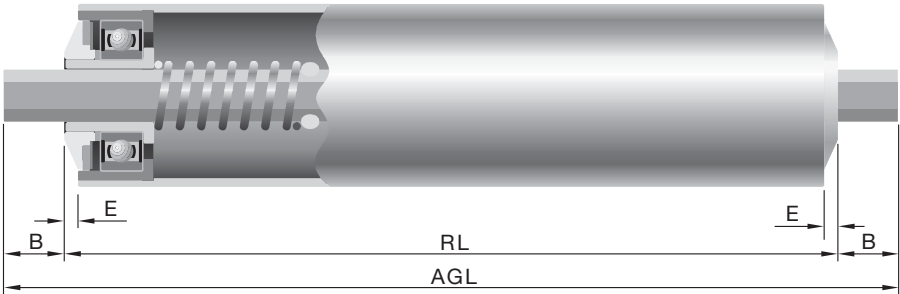
Series 1800

Shaft Diameter	Roller Diameter	RL = BF – inches	E Dimension	B Dimension	AGL = RL + inches	Minimum Roller Length
.687 hex	2.5 & 3.5	.12	.19	.06	.12	2.88
.787	2.5 & 3.5	.12	.19	.06	.12	2.88
.984	2.5 & 3.5	.12	.19	.06	.12	2.88

Tube	Tube size	Type of bearing	.687 hex shaft 3/8-16 x 3/4 D	.787 shaft 3/8-16 x 3/4 D	.984 shaft 5/16-18 x 3/4 D
Galvanized steel	2.5 x .120	Precision ball bearing	1.825.Z36.C64	1.826.Z36.B55	1.827.Z36.R71
Steel, mill finish	2.5 x .120	Precision ball bearing	1.825.Z35.C64	1.826.Z35.B55	1.827.Z35.R71
	3.5 x .180	Precision ball bearing	1.843.Z64.C64		1.844.Z64.R71



Spring loaded shaft



Series 1800

Shaft Diameter	Roller Diameter	RL = BF - inches	E Dimension	B Dimension	AGL = RL + inches	Minimum Roller Length
.687 hex	2.5 & 3.5	.12	.19	.75	1.50	5.25

Tube	Tube size	Type of bearing	.687 hex shaft
Galvanized steel	2.5 x .120	Precision ball bearing	1.825.Z36.R62
Steel, mill finish	2.5 x .120	Precision ball bearing	1.825.Z35.R62
	3.5 x .120	Precision ball bearing	1.847.Z64.R62



**Series 1800**

**Load capacity in lbs.,  
based on a conveyor  
speed of 400 fpm**

Tube Dia. In. Material Gauge Shaft Dia. RL Inches	2.5 Steel 11 .687	2.5 Steel 11 .787	2.5 Steel 11 .984	3.5 Steel 7 .687	3.5 Steel 7 .984
8	1772	1772	1772	1772	1772
12	1772	1772	1772	1772	1772
16	1772	1772	1772	1772	1772
24	1772	1772	1772	1772	1772
32	1772	1772	1772	1772	1772
36	1772	1772	1772	1772	1772
40	1572	1772	1772	1772	1772
44	1294	1394	1772	1572	1772
48	932	1032	1394	1294	1394
52	687	787	1032	932	1032
60	514	614	787	687	787





## Heavy-duty Conveyor Roller Series 3950

### Features

- Very sturdy roller
- Sprockets made of steel
- Drive element is welded to the tube
- At the non drive end there are Series 1450 roller housings
- Ball bearing is well protected by an integrated bearing seal

### Load capacity

- Up to 1,124 lbs.

### Dimensions

#### Tube

- Mill finish steel with a 3.5" outer diameter

### Shaft

- Mill finish steel
- Female threaded shaft (1/2-13 x .75 D) diameter .787"

### Bearing

- Bearing housing (black, non-drive end) and bearing seal (yellow) made of polyamide
- Type of bearing:
  - Precision ball bearing 6205 ZZ

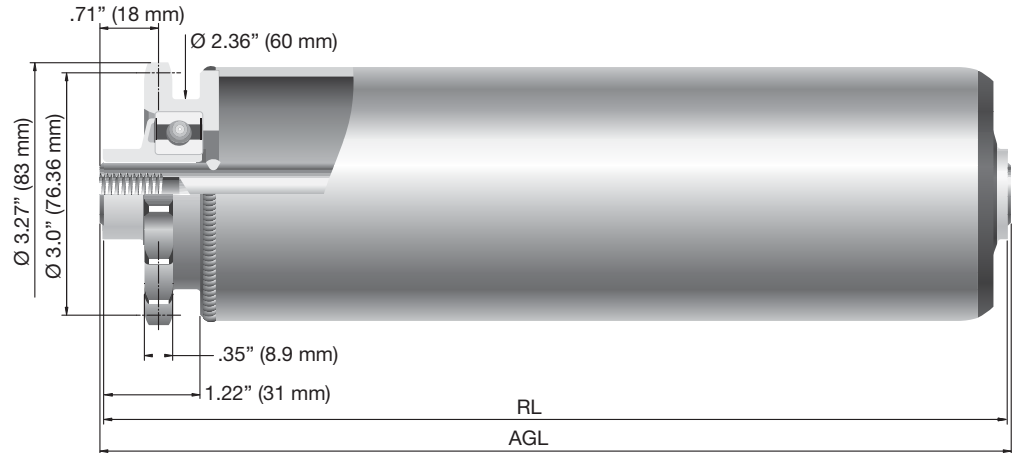
### Chain drive element

- Single or double sprocket head made of steel (welded to the tube)
- Dimensions: 5/8" x 3/8"
- Number of teeth: 15 or 18

### Design information

- See chapter "Types of Drive", page 11

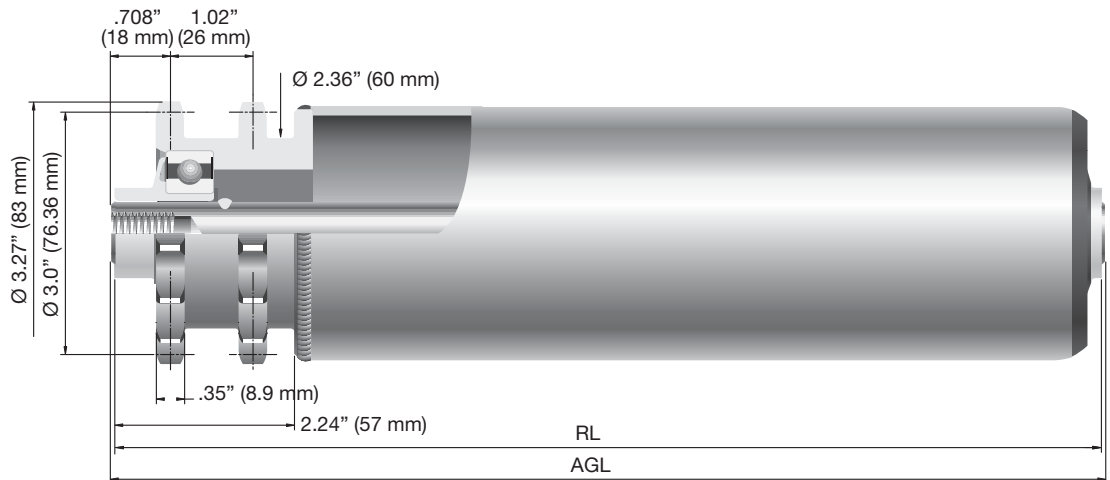
**1 steel sprocket 5/8", Teeth = 15**  
**Female threaded shaft**



**Series 3950**

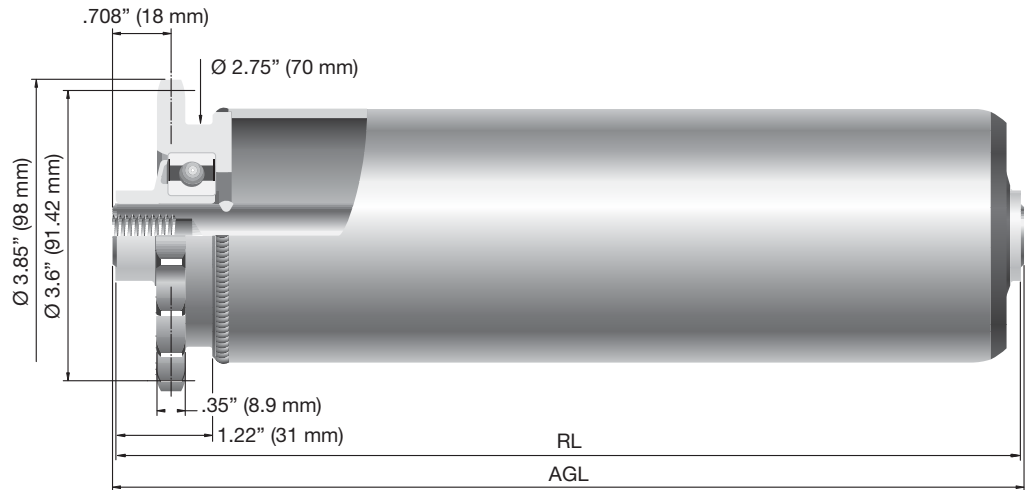
Tube	Tube size	Type of bearing	Female threaded shaft, .787 1/2-13 x .75 D
Steel, mill finish	3.5 x .120	Precision ball bearing	3.952.J2A.P18

**1 steel sprocket 5/8", Teeth = 15**  
**Female threaded shaft**



Tube	Tube size	Type of bearing	Female threaded shaft, .787 1/2-13 x .75 D
Steel, mill finish	3.5 x .120	Precision ball bearing	3.952.J2B.P19

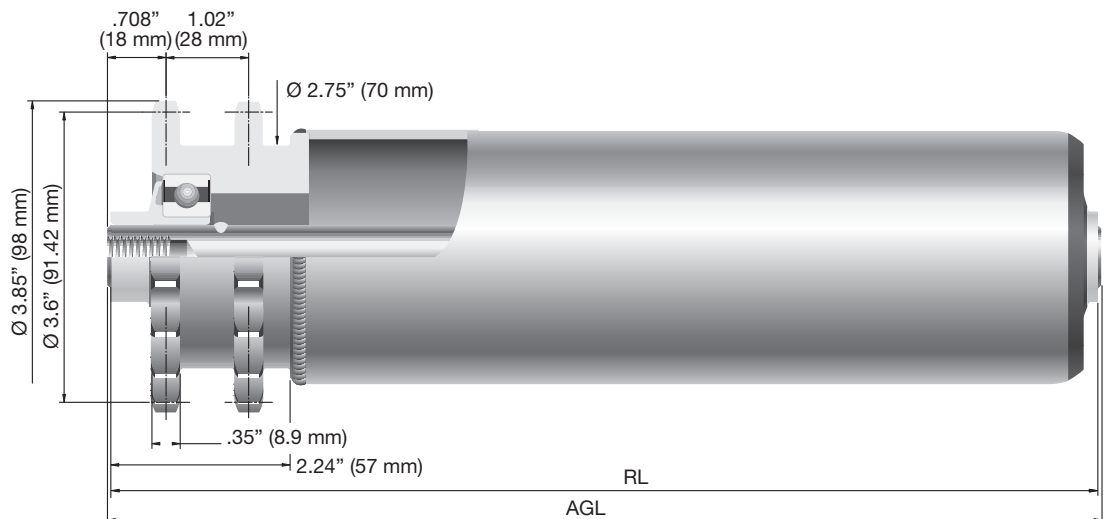
**1 steel sprocket 5/8", Teeth = 18**  
**Female threaded shaft**



**Series 3950**

Tube	Tube size	Type of bearing	Female threaded shaft, .787 1/2-13 x .75 D
Steel, mill finish	3.5 x .120	Precision ball bearing	3.952.J2C.P18

**2 steel sprockets 5/8", Teeth = 18**  
**Female threaded shaft**



Tube	Tube size	Type of bearing	Female threaded shaft, .787 1/2-13 x .75 D
Steel, mill finish	3.5 x .120	Precision ball bearing	3.952.J2D.P19



Series 3950

Load capacity in (lbs.)

Assumptions:  
dynamic load, area load

	1 or 2 steel sprockets
	Steel tube
	Precision ball bearing
	Fixed shaft Ø .787 (1/2-13 x .75 D)
	Tube size 89 x 3 mm
EL	
8"	1124
16"	1124
24"	1124
32"	1124
40"	1124
48"	1124
55"	1124
63"	1124



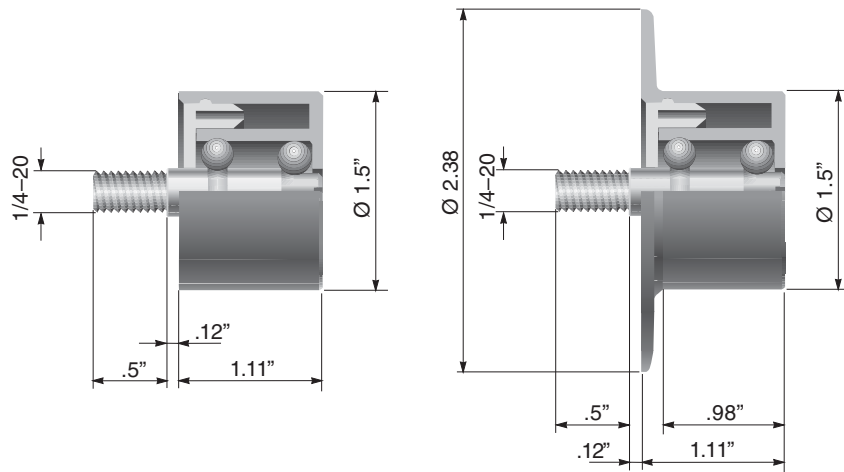


# A C C E S S O R I E S

	Description	Series	Page
Accessories	Polypropylene conveyor wheels	2370	92
	Omnimat	2800	96
	Ball transfer unit	5500	97
	Steel ball transfer unit	5000	100



Max. load capacity dynamic	Conveyor speed	Standard diameter	
25 lbs.		1.5"	
11 lbs.		1.89"	
112 lbs.			
4,496 lbs.			



## Polypropylene Conveyor Wheels Series 2370

### Features

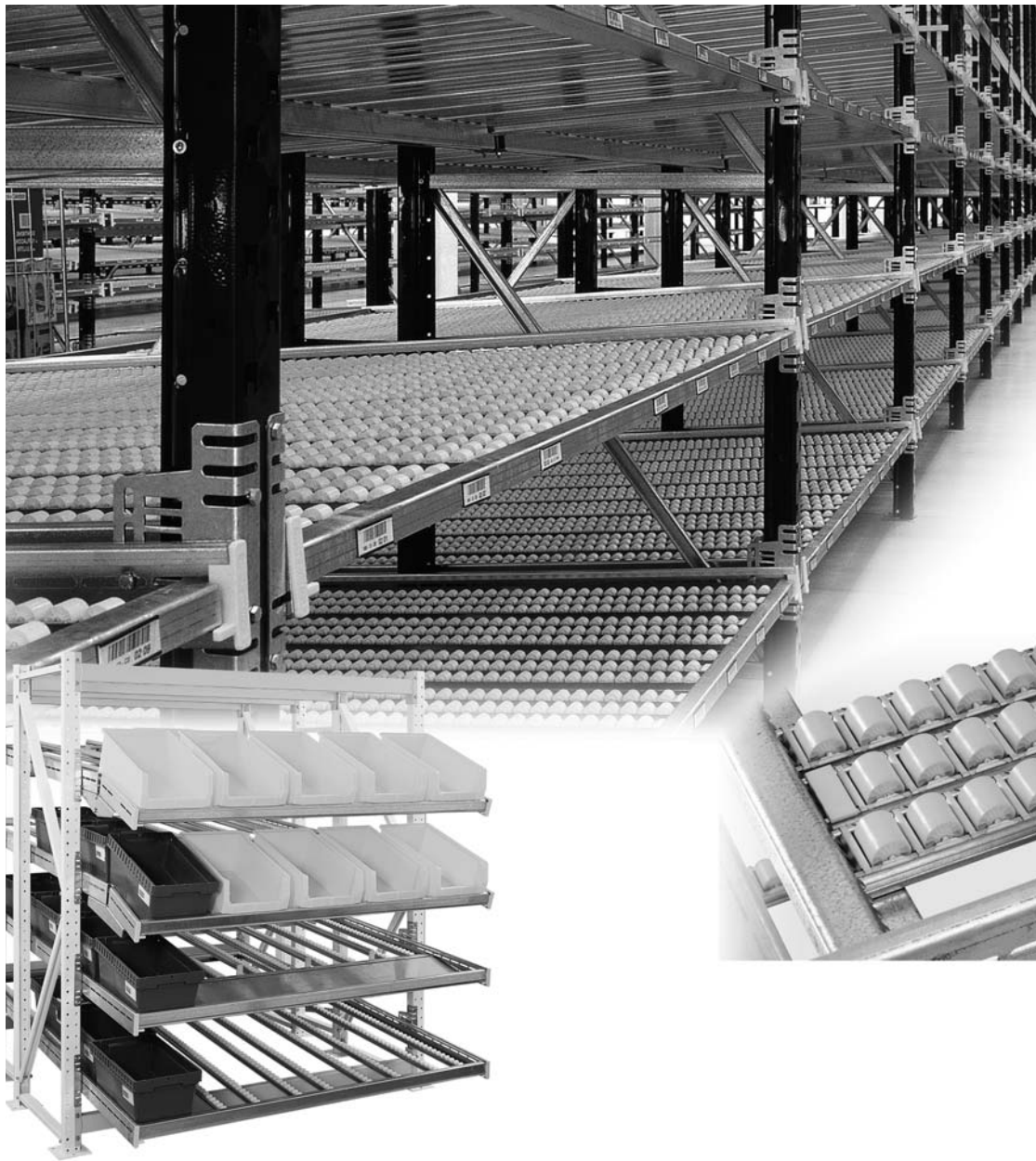
- Suspended on the profile
- Available with 2.38" (60 mm) diameter flange
- Low noise operation
- Made of impact resistant polypropylene
- Color:
  - Carbon steel ball version – black
  - Stainless steel ball version – grey
- Excellent running properties due to double ball race
- Bearing: steel or stainless steel balls on zinc plated steel pin
- Simple assembly
- Load capacity:
  - Static – 11 lbs.
  - Dynamic – 25 lbs.

### Dimensions

- Wheel diameter 1.5" (38 mm)
- Flange diameter 2.38" (60 mm)
- Wheel width 1.1" (28 mm)
- Zinc plated journal, 1/4-20
- Slot .078" (2 mm) for screwdriver
- Weight 1.59 oz (45 g) or 1.73 oz (49 g) for flanged version

### Standard part number

2374 – Flanged version, carbon steel balls
2375 – Flanged version, stainless steel balls
2376 – Non flanged, carbon steel balls
2379 – Non flanged version, stainless steel balls





## Belt Wheels Series 2600

### Features

- Belt pressure rollers for flat belts
- Precision ball bearings with spacing tube
- Spacing tube for fixed screw connections
- Tapered running surface for belt guidance
- Suspended on the profile
- Optionally with stainless steel precision ball bearings
- Belt widths 20 mm (.787") to 30 mm (1.18")
- With 50 mm (1.97") flange

### Dimensions

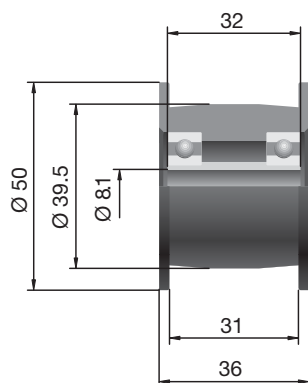
- Effective diameter 39.5 mm (1.56"), 22.15 mm (.872") for article 2610
- Flange diameter 50 mm (1.97"), 32 mm (1.26") for article 2610
- Wheel width 36 mm (1.42")

### Belt wheels K 212 for round belts

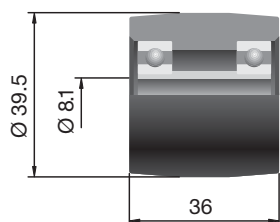
- Slide bearing
- Drive shaft 25 mm (.984")
- Polyamide

### Dimensions

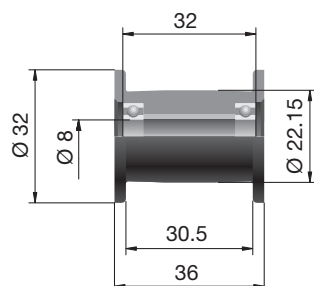
- Effective diameter 30.4 mm (1.2")
- Outer diameter 50 mm (1.97")
- Wheel width 31.5 mm (1.24")



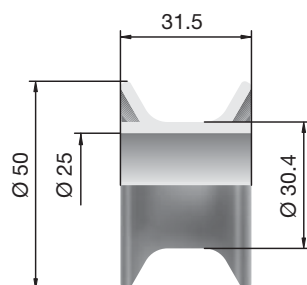
Part #	Function	Ball bearing	Material	Colour	Load capacity in lbs.	Max. speed in fpm
2601	Pressure roller	6000 ZZ	PA6.6	Black	562	492
2606	Pressure roller	6000 ZZ stainless	PA6.6	White	562	492



Part #	Function	Ball bearing	Material	Colour	Load capacity in lbs.	Max. speed in fpm
2611	Pressure roller	6000 ZZ	PA6.6	Black	562	492

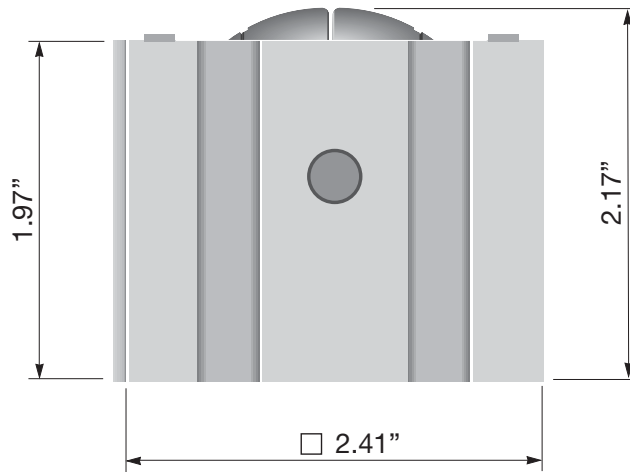


Part #	Function	Ball bearing	Material	Colour	Load capacity in lbs.	Max. speed in fpm
2610	Pressure roller	W688 ZZ stainless	POM	Grey	45	492



Part #	Function	Ball bearing	Material	Colour	Load capacity in lbs.	Max. speed in fpm
K212	Belt wheel	Slide bearing	PA6	Grey	225	236

All drawing dimensions on this page are in metric-mm



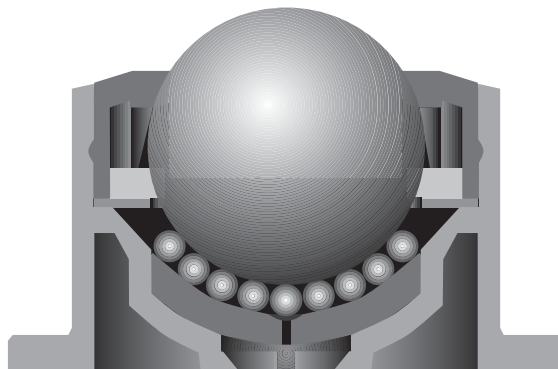
## Omnimat Module Series 2800

### Features

- Ideal components for constructing switching or assembly tables
- Lateral dovetailing profiles ensure a fixed, form fitted connection
- Equipped with a pair of omniwheels Series 2570, diameter 1.89" (48 mm) and stainless steel shaft, diameter .315" (8 mm)
- Corrosion proof due to use of technopolymers and stainless steel materials
- Journal bearing
- Conveyance in any direction possible
- Base of conveyed items must be flat and sturdy
- Load capacity: 11 lbs. per module

### Standard part number

2800



## Ball Transfer Units Series 5500

### Features

- Conveyance in any direction possible
- Simply designed crossings and switches
- Smooth running balls
- Housing made of polyamide
- Ball cup for support balls made of hardened steel
- In operation, the support balls circulate under the main ball so that the items being conveyed are provided with constant support
- Protection against dust and splashes of water due to felt seal (in steel balls)
- Base of the conveyed items must be flat and sturdy
- Load capacity: up to 112 lbs. per roller

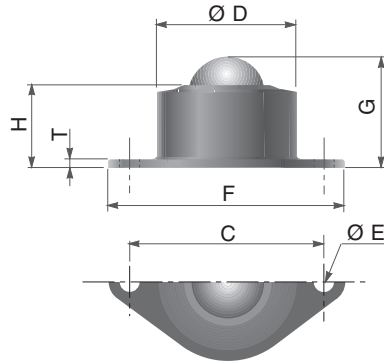
### Design information

The load capacity of the ball transfers is utilized to the full if the balls have exactly the same level.

If operating conditions are not ideal, a corresponding number of extra ball transfers must be used so that there is always adequate contact between the items being conveyed and the load bearing ball transfers.



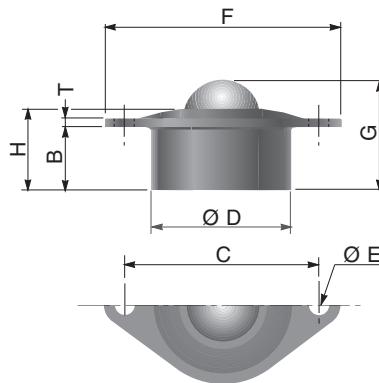
### Series 5500 with bottom flange



Part #	Material Main ball	Ball diameter	D	G	H	T	F	C	E	Net weight – lbs.	Load capacity – lbs.
5500	Steel	1.0	1.73	1.38	1.02	.12	2.91	2.36	.28	.24	112
5505	Stainless	1.0	1.73	1.38	1.02	.12	2.91	2.36	.28	.24	112
5520	Plastic	1.0	1.73	1.38	1.02	.12	2.91	2.36	.28	.112	45

### Series 5500

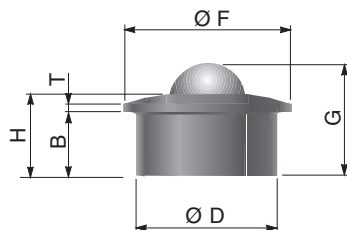
### Series 5500 with inverted top flange



Part #	Material Main ball	Ball diameter	D	G	H	B	T	F	C	E	Net weight – lbs.	Load capacity – lbs.
5501	Steel	1.0	1.73	1.38	1.02	.77	.12	2.91	2.36	.28	.24	112
5506	Stainless	1.0	1.73	1.38	1.02	.77	.12	2.91	2.36	.28	.24	112
5521	Plastic	1.0	1.73	1.38	1.02	.77	.12	2.91	2.36	.28	.112	45



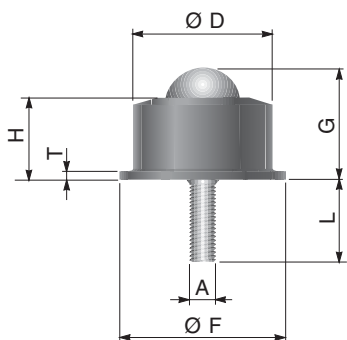
### Series 5500 with top flange



### Series 5500

Part #	Material Main ball	Ball diameter	D	G	H	B	T	F	Net weight – lbs.	Load capacity – lbs.
5503	Steel	1.0	1.73	1.38	1.02	.77	.12	2.05	.236	112
5508	Stainless	1.0	1.73	1.38	1.02	.77	.12	2.05	.236	112
5522	Plastic	1.0	1.73	1.38	1.02	.77	.12	2.05	.09	45

### Series 5500 with stud mount (5/16-18 threads)



Part #	Material Main ball	Ball diameter	D	G	H	T	F	Net weight – lbs.	Load capacity – lbs.
5594	Steel	1.0	1.73	1.38	1.02	.12	2.05	.258	112
5524	Stainless	1.0	1.73	1.38	1.02	.12	2.05	.258	112
5514	Plastic	1.0	1.73	1.38	1.02	.12	2.05	.130	45



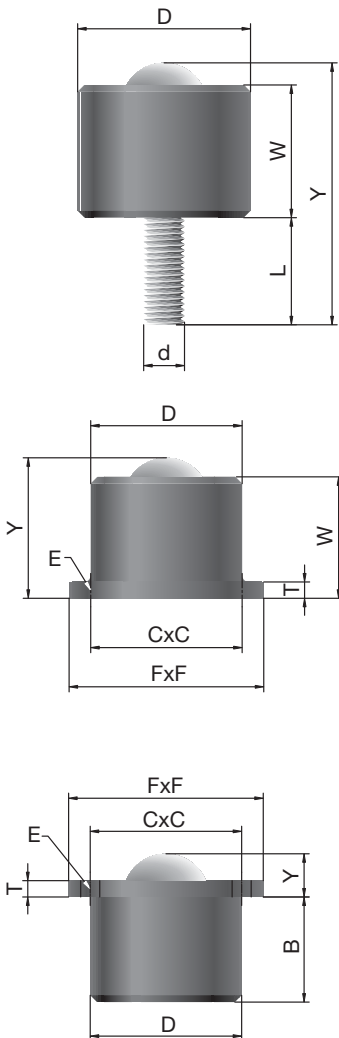


## Steel Ball Transfer Units Series 5000

The functioning of the Interroll ball transfer units is largely influenced by the precision of the assembly and the calculations for spacing or load. The height, in particular, is to be set with the utmost accuracy.

The main ball is available from 1/2" to 2" with a load capacity of 78 to 787 lbs. These can be delivered as top or bottom flanged versions or with threaded studs.

The main ball rotates on many smaller circulating balls, which likewise spin on a hardened, mushroom shaped steel table.



### Series 5000 with stud mount

Part #	Ball diameter	Y	W	D	L	d	Load capacity in lbs.	Net weight in lbs.
5014	.5	1.41	.75	.81	.65	M8	77	.1
5015	1.0	2.85	1.91	1.75	1.00	M12	297	1.1
5016	1.0	3.03	2.07	2.00	1.00	M12	704	1.3
5017	1.5	4.50	2.89	2.38	1.62	M20	2,200	2.6
5018	2.0	6.26	4.30	4.00	2.00	M24	4,400	12.1

### Series 5000 with bottom flange

Part #	Ball diameter	Y	W	D	FXF	CXC	T	E	Load capacity in lbs.	Net weight in lbs.
5019	.5	.87	.66	.94	1.75 dia.	1.37 pcd	.13	2 x .14	77	.17
5020	1.0	1.63	1.40	1.75	2.25 sq	1.75 sq	.19	4 x .22	297	1.1
5021	1.0	1.75	1.50	2.00	3.00 sq	2.28 sq	.25	4 x .28	704	1.8
5022	1.5	2.43	1.87	2.37	3.00 sq	2.28 sq	.50	4 x .28	2,200	2.83
5023	2.0	3.87	3.31	4.31	5.00 sq	4.00 sq	.59	4 x .40	4,400	12.3

### Series 5000 with top flange

Part #	Ball diameter	Y	W	D	FXF	CXC	T	E	Load capacity in lbs.	Net weight in lbs.
5024	.5	.44	.44	.94	1.75 dia.	1.37 pcd	.13	2 x .14	77	.17
5025	1.0	.41	1.22	1.79	2.25 sq	1.75 sq	.19	4 x .22	297	1.0
5026	1.0	.50	1.25	2.00	3.00 sq	2.28 sq	.25	4 x .28	704	1.8
5027	1.5	1.05	1.37	2.37	3.00 sq	2.28 sq	.37	4 x .28	2,200	2.8
5028	2.0	1.31	2.56	4.31	5.00 sq	4.00 sq	.59	4 x .40	4,400	12.9