

ROLLERS
SERIES 3500

Fixed drive conveyor roller



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Application area

Driven unit handling conveying, such as transport of cardboards, containers, barrels or tires.

Low-noise

The use of polyamide drive heads results in very quiet running.

Lateral loading

The tube ends are rounded, thereby allowing materials to be easily moved on from the side. Axial forces are removed through ball bearings and seals.

Robust construction

An axial fixation of the bearing assembly (bearing housing, ball bearing, seal) on the non-drive side can be accomplished in several ways. For the design with steel tube, the bearing assembly is pressed into the tube and then flanged. For the design with PVC tube, it is fitted with a groove inside the tube in which the press-in edge of the bearing housing engages. For the designs with PolyVee and round belt, the drive bearing assembly is also pressed into the tube and then flanged.

Modular construction

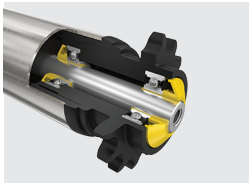
With a permanently installed bearing housing for a tube diameter of 50 and 60 mm, insertable polyamide drive heads, such as sprocket, toothed belt and flat belt heads, are interchangeable and can also be exchanged with friction heads. Numerous drive versions are available with flat, PolyVee, round or toothed belts as well as chains.

• Round belt drive head

With the round belt drive head, the drive section is separated from the conveying section, so that materials cannot be shifted due to batching belts. Since the drive head has a higher friction because of grooves in the metal tube, the result is a higher conveyance of the round belts. If the round belts should slip because of the application, then the wear of the belts on a round belt drive head is higher.

• PolyVee drive head

The nine grooves of the drive head allow the use of 2-rib, 3-rib or 4-rib PolyVee belts. Compared with a round belt, the use of a 2-rib belt allows transferring approximately twice the torque.



Technical data

General technical data	
Platform	1700
Max. load capacity	2000 N
Max. conveyor speed	2.0 m/sec (0.5 m/sec with chain)
Temperature range	–28 to +40 °C (rollers with toothed belt drive –5 to +40 °C) For rollers with PolyVee or round belt drive head in freezer area, oiled ball bearings are recommended. PVC tube: With increased ambient temperature (from +30 °C) and high continuous static load over hours, a permanent deformation of the rollers cannot be ruled out. - Minimum temperature: –5 °C
Material	
Tube	Zinc-plated steel, stainless steel, aluminum PVC: RAL7030 (stone gray) RAL5015 (sky blue)
Shaft	Uncoated steel, zinc-plated steel, stainless steel; tapered shaft-shuttle: Polyamide (antistatic design)
Bearing housing	Polyamide, RAL9005 (jet black)
Drive head	Polyamide, RAL9005 (jet black), sprockets also in uncoated steel (the sprocket heads including tube are zinc-plated after welding them on)
Seal	Polypropylene and polyamide on drive side each in RAL1021 (rape yellow)
Bearing version	Precision steel ball bearing 6002 2RZ, precision stainless steel ball bearing 6002 2RZ, bearing play each C3

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Design versions

Tube sleeves	PVC sleeve (page 31) PU sleeve (page 33) Lagging (page 34)
Anti-static version	(<10 ⁶ Ω) Standard design for rollers with grooves or tube sleeves, not for PVC tube
Special tube surface treatment	Carbonitriding Chrome-plating
Lubrication options for ball bearing	Greased for an ambient temperature from −5 to +40 °C (standard) Oiled for an ambient temperature from −28 to +20 °C
Shafts	The following are available in addition to the variants listed in the load capacity tables: <ul style="list-style-type: none">• With spring on both sides• With variable length• Different design of both shaft ends
Tube	The following are available in addition to the variants listed in the load capacity tables: <ul style="list-style-type: none">• With flanges welded on
Drives	The following are available in addition to the variants listed in the load capacity tables: <ul style="list-style-type: none">• The drive heads for round, PolyVee and toothed belt can be designed with an additional fixation for temperature-sensitive applications (freezer applications). This fixation is located inside the roller and creates a form-fit torque transfer between tube and drive head. Hence, damages to materials or collecting adhesive tape at the outside of interfering corners is being avoided.
Noise reduction	For tube with Ø 50 mm

Load capacities of series 3500 with screw-connected installation

The load capacity table refers to a temperature range of +5 to +40 °C.
The maximum static load at −28 °C to −6 °C measures 350 N.

Valid for the following shaft designs: female thread or male thread.

Bearing: 6002 2RZ.

Tube material	Ø Tube / thickness [mm]	Drive element	Ø Shaft [mm]	Maximum static load [N] for installation length [mm]						
				200	400	600	800	1000	1200	1400
Aluminum	50 x 1.5	PolyVee drive head	12, 14	350	350	350	350	350	255	190
		Round belt drive head	12, 14	350	350	350	350	350	255	190
PVC	50 x 2.8	Polymer sprocket head 1/2", T14	12	1060	185	75	40	–	–	–
		Polymer double sprocket head 1/2", T14		935	215	80	45	–	–	–
		Polymer sprocket head 1/2", T9 and T14	14	300	185	75	40	–	–	–
		Polymer sprocket head 1/2", T14		1060	185	75	40	–	–	–
		Polymer double sprocket head 1/2", T14		1475	215	80	45	–	–	–

Tube material	Ø Tube / thickness [mm]	Drive element	Ø Shaft [mm]	Maximum static load [N] for installation length [mm]						
				200	400	600	800	1000	1200	1400
	63 x 3	Polymer sprocket head 1/2", T14	14	2100	410	165	90	–	–	–
		Polymer double sprocket head 1/2", T14		1485	470	180	95	–	–	–
	40 x 1.5	Polymer double sprocket head 1/2", T14	12	800	770	685	655	640	630	620
		Polymer sprocket head 1/2", T9	14	300	300	300	300	300	300	300
Steel	50 x 1.5	Polymer toothed belt drive head 8, T18		800	800	800	800	800	800	600
		Polymer sprocket head 1/2", T14	12	1320	975	915	885	870	830	600
		Polymer double sprocket head 1/2", T14		935	770	685	655	640	630	620
		PolyVee drive head		350	350	350	350	350	350	350
		Round belt drive head		350	350	350	350	350	350	350
		Polymer flat belt drive head 38 mm	14	2000	1510	1405	1360	1220	830	601
		Polymer sprocket head 1/2", T9 and T14		300	300	300	300	300	300	300
		Polymer sprocket head 1/2", T13 and T14		1500	1500	1450	1405	1215	825	600
		Polymer double sprocket head 3/8", T20		1500	1500	1450	1405	1215	825	600
		Polymer toothed belt drive head 8, T18		1500	1500	1450	1405	1215	825	600
		Polymer double sprocket head 1/2", T14		1485	1222	1090	1040	1015	860	620
		PolyVee drive head		350	350	350	350	350	350	350
		Round belt drive head		350	350	350	350	350	350	350
		Welded steel sprocket head 1/2", T14		2000	2000	2000	1760	1120	775	565
		Welded steel double sprocket head 1/2", T14		2000	2000	2000	1760	1120	775	565
	60 x 1.5	Polymer sprocket head 1/2", T14	12	1320	975	915	885	870	860	855
		Polymer double sprocket head 1/2", T14		935	770	685	655	640	630	620
		Polymer flat belt drive head 38 mm	14	2000	1510	1405	1360	1340	1325	1055
		Polymer sprocket head 1/2", T9 and T14		300	300	300	300	300	300	300
		Polymer sprocket head 1/2", T14		1500	1500	1450	1405	1385	1370	1050
		Polymer double sprocket head 3/8", T20		1500	1500	1450	1405	1385	1370	1050
		Polymer toothed belt drive head 8, T18		1500	1500	1450	1405	1385	1370	1050
		Polymer double sprocket head 1/2", T14		1485	1220	1090	1040	1015	1000	990
		Welded steel sprocket head 1/2", T14		2000	2000	2000	2000	1960	1355	990
		Welded steel double sprocket head 1/2", T14		2000	2000	2000	2000	1960	1355	990

T = Number of teeth

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Load capacities of series 3500 with loose installation

The load capacity table refers to a temperature range of +5 to +40 °C.
The maximum static load at −28 °C to −6 °C measures 350 N.

Bearing: 6002 2RZ.

Tube material	Ø Tube / thickness [mm]	Shaft design	Drive element	Ø Shaft [mm]	Maximum static load [N] for installation length [mm]						
					200	400	600	800	1000	1200	1400
Steel	50 x 1.5	Spring-loaded shaft; fixed shaft; flatted shaft	PolyVee drive head	11 HEX	350	350	350	350	350	350	350
			Round belt drive head		350	350	350	350	350	350	350
	50 x 1.5	Tapered shaft-shuttle	PolyVee drive head	11 TH	350	350	350	350	350	350	350
			Round belt drive head		350	350	350	350	350	350	350

HEX = hexagon
TH = tapered hexagon

Dimensions

A sufficient axial play is already taken into account, so that the actual lane width between side profiles is required. The dimensions of the conveyor roller depend on the shaft version and the drive element.
Ordering dimensions for tube sleeves, e.g. PVC sleeves, see page 31, and for flanges see page 36.

RL = Reference length / ordering length
EL = Installation length, inside diameter between side profiles
AGL = Total length of shaft
U = Usable tube length: Length without bearing housing and for flanged metal tube without length of flanging

Ø Tube [mm]	Tube material	Ø Shaft [mm]	Drive element	EL [mm]	AGL [mm]	U [mm]
50 x 1.5	Aluminum	12, 14	PolyVee, round belt drive head	RL + 36	RL + 36	RL – 23
50 x 2.8	PVC	12	Polymer sprocket head 1/2", T14	RL + 40	RL + 40	RL – 12
			Polymer double sprocket head 1/2", T14	RL + 62	RL + 62	
		14	Polymer sprocket head 1/2", T9, T11 and T14	RL + 40	RL + 40	
			Polymer double sprocket head 1/2", T14	RL + 62	RL + 62	
63 x 3	PVC	14	Polymer sprocket head 1/2", T14	RL + 40	RL + 40	RL – 12
			Polymer double sprocket head 1/2", T14	RL + 62	RL + 62	
40 x 1.5	Steel	12	Polymer double sprocket head 1/2", T14	RL + 62	RL + 62	RL – 18
		14	Polymer sprocket head 1/2", T9 and T14	RL + 40	RL + 40	
			Polymer toothed belt drive head T8, T18			

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Ø Tube [mm]	Tube material	Ø Shaft [mm]	Drive element	EL [mm]	AGL [mm]	U [mm]
50 x 1.5	Steel	12	Polymer sprocket head 1/2", T14	RL + 40	RL + 40	RL – 19
			Polymer double sprocket head 1/2", T14	RL + 62	RL + 62	
			PolyVee, round belt drive head	RL + 36	RL + 36	
		14	Polymer flat belt drive head 38 mm	RL + 40	RL + 40	RL – 19
			Polymer sprocket head 1/2", T9, T11. T13 and T14			
			Polymer double sprocket head 3/8", T20			
			Polymer toothed belt drive head 8, T18			
			Polymer double sprocket head 1/2", T14	RL + 62	RL + 62	
			PolyVee, round belt drive head	RL + 36	RL + 36	
			Welded steel sprocket head 1/2", T14	RL + 40	RL + 40	
			Welded steel double sprocket head 1/2", T14	RL + 62	RL + 62	
60 x 1.5	Steel	12	Polymer sprocket head 1/2", T14	RL + 40	RL + 40	RL – 19
			Polymer double sprocket head 1/2", T14	RL + 62	RL + 62	
		14	Polymer flat belt drive head 38 mm	RL + 40	RL + 40	RL – 23
			Polymer sprocket head 1/2", T9, T11 and T14			
			Polymer double sprocket head 3/8", T20			
			Polymer toothed belt drive head 8, T18			
			Polymer double sprocket head 1/2", T14	RL + 62	RL + 62	
			Welded steel sprocket head 1/2", T14	RL + 40	RL + 40	
			Welded steel double sprocket head 1/2", T14	RL + 62	RL + 62	

T = Number of teeth

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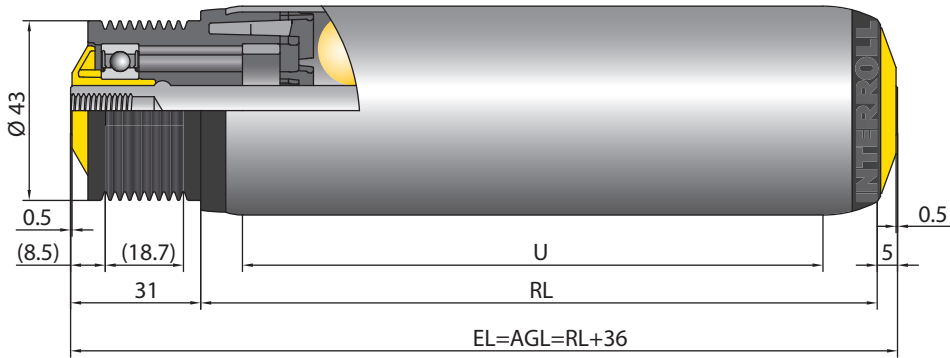
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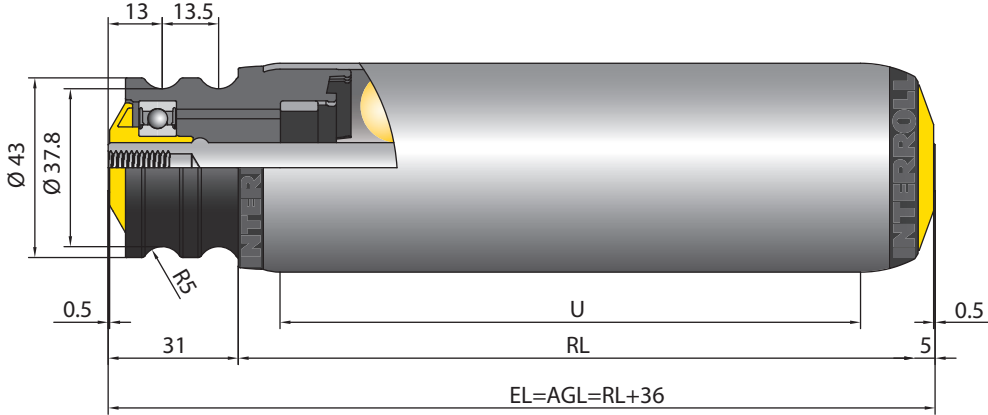
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PolyVee drive head and female threaded shaft

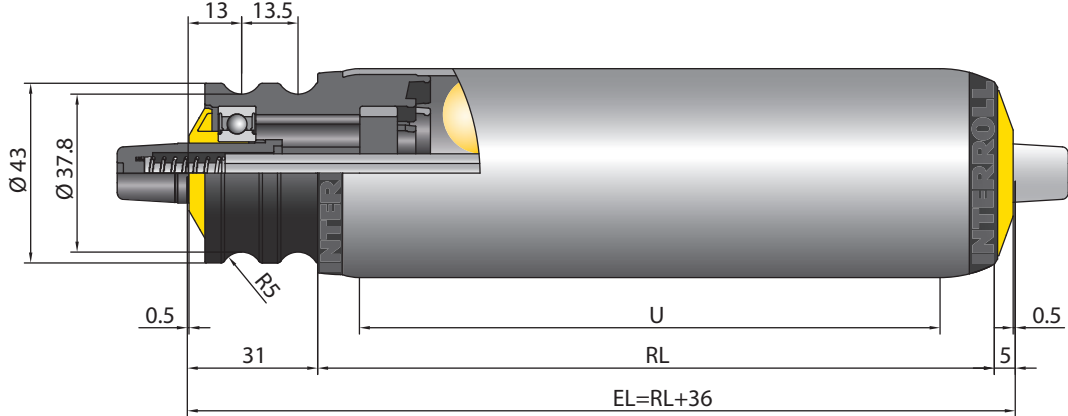


- PolyVee belt see page 238
- PolyVee tensioning device see page 238
- PolyVee finger guard see page 239

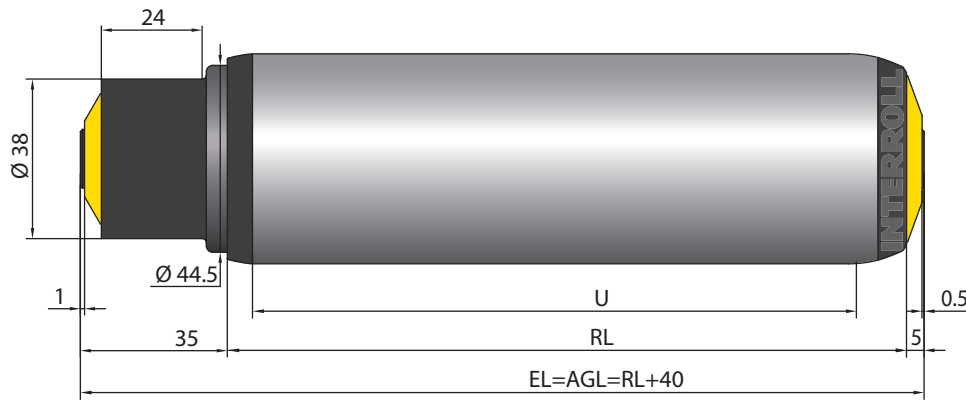
Round belt drive head and female threaded shaft



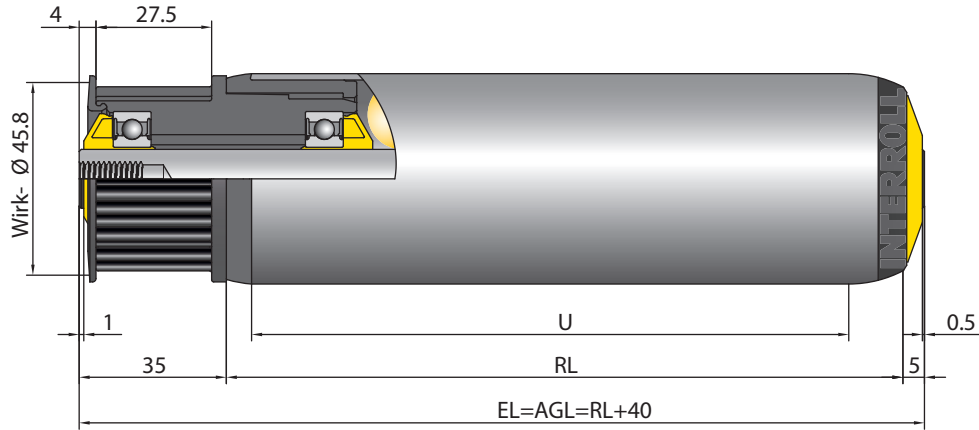
Round belt drive head and tapered shaft-shuttle



Flat belt drive head and female threaded shaft



Toothed belt drive head (8 pitch and 18 teeth)



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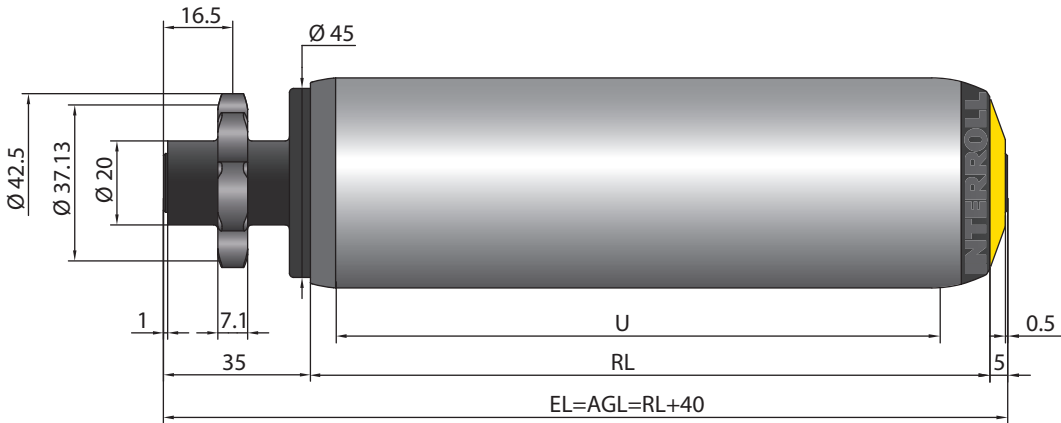


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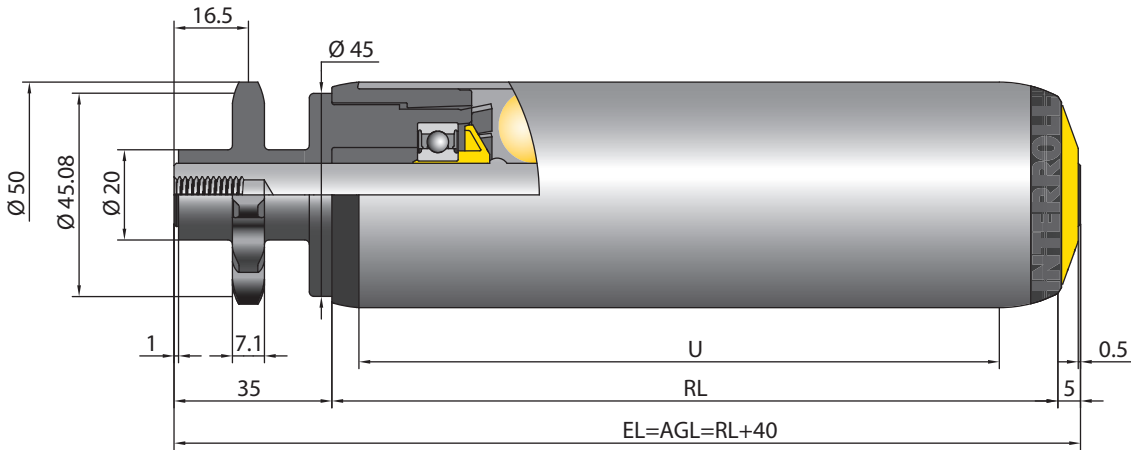
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Interroll recommends a max. belt width of 12 mm and a poly chain GT gearing.

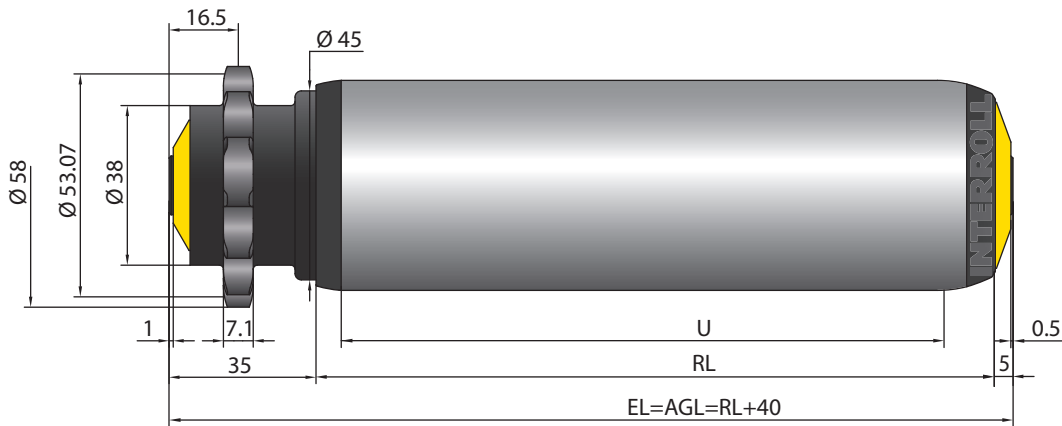
1/2" polymer sprocket head with 9 teeth



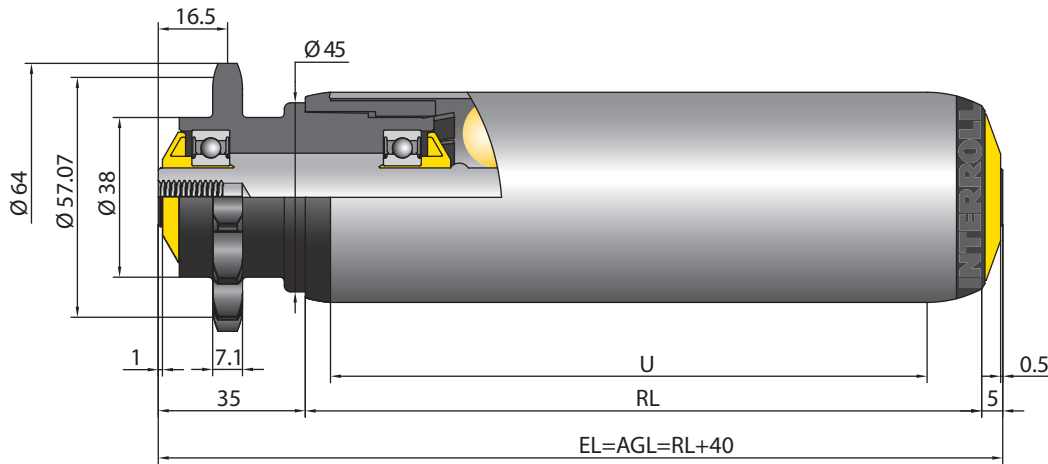
1/2" polymer sprocket head with 11 teeth



1/2" polymer sprocket head with 13 teeth



1/2" polymer sprocket head with 14 teeth



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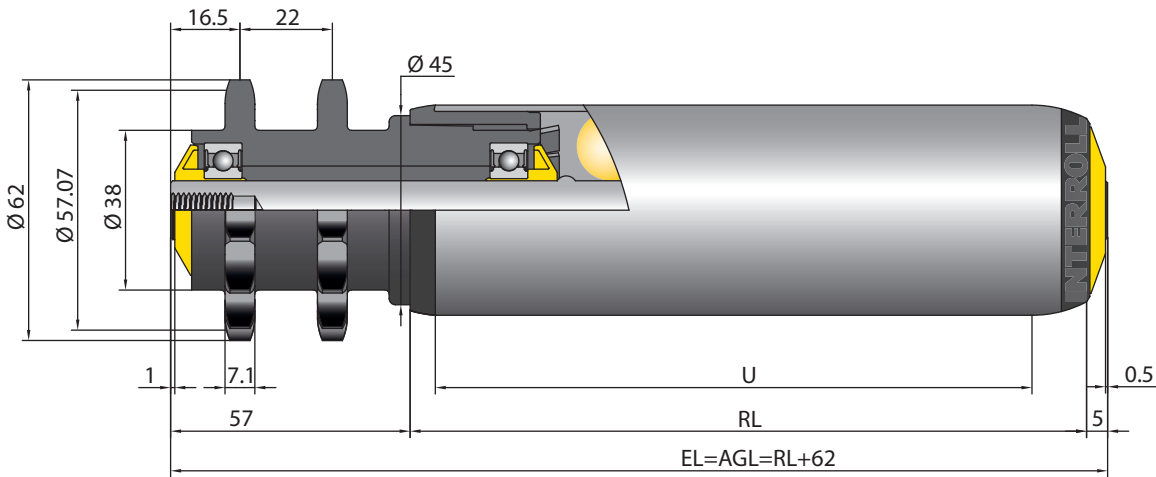
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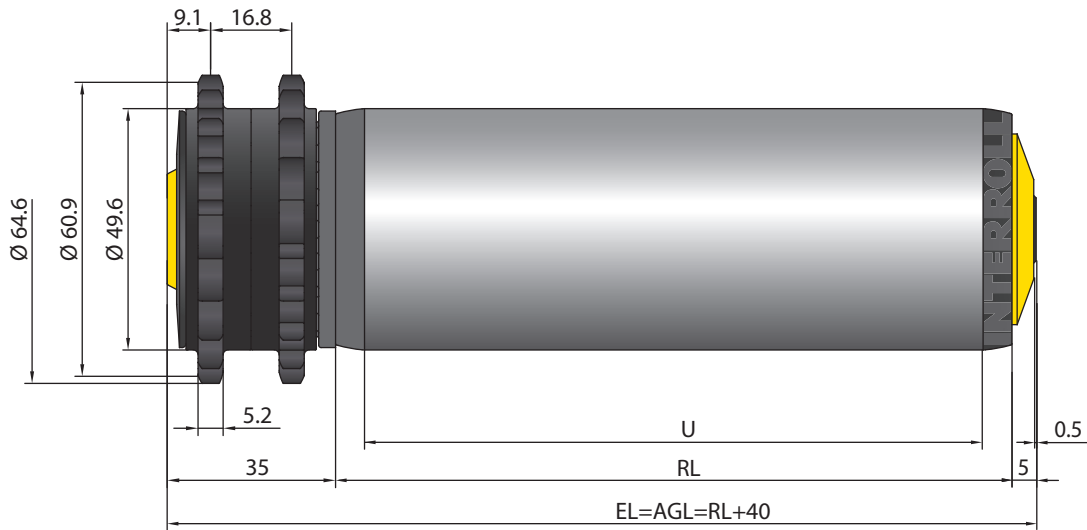
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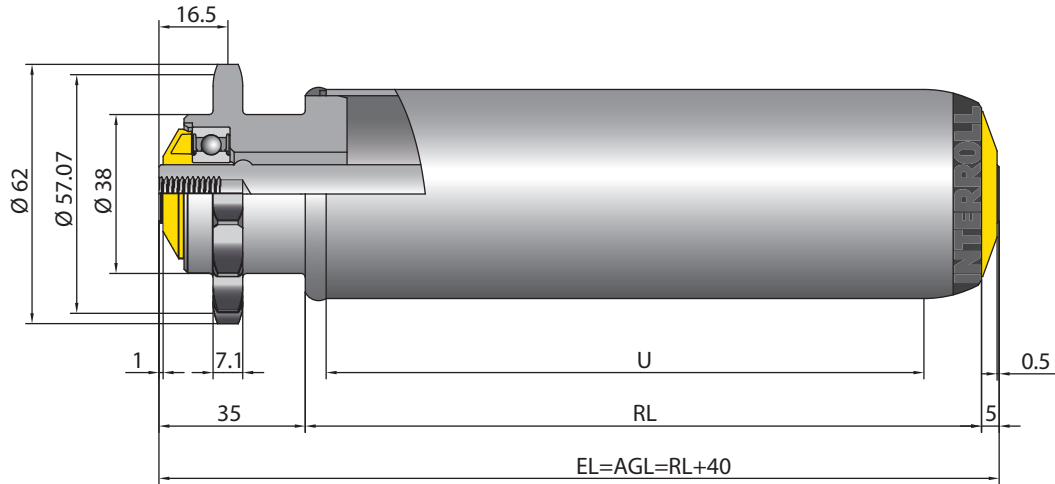
1/2" polymer double sprocket head with 14 teeth



3/8" polymer double sprocket head with 20 teeth



Welded 1/2" steel sprocket head with 14 teeth



Welded 1/2" steel double sprocket head with 14 teeth

