ROLLERS
SERIES 1700
Universal conveyor roller

Application area
Driven and non-driven conveying systems, such as transport of cardboards, containers, barrels, or wheels. Suitable for implementing gravity or push conveyors. Also usable as belt bearing roller (no deflection).

Highest reliability
This roller series has been proven millions of times. The roller offers a very high degree of functional dependability.

Low-noise
The use of precision ball bearings, Technopolymer bearing housings and seals result in very quiet running.

Good protection against dirt and water
The roller excels with a good protection against coarse dirt and dripping water. An integrated groove ensures that water can be rejected.

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.

Extremely soft starting
If an oiled precision ball bearing is used, the roller will start particularly easily.

Robust construction
To achieve a high axial load capacity, particularly of bearing housings, ball bearings and seal, the bearing housing is not only pressed into the tube for the versions with metal tube, but also flanged. The bearing assemblies of the PVC tubes are secured not only with a press fit, but also with an internal press-in edge.

Technical data

General technical data	
Platform	1700
Max. load capacity	2000 N
Max. conveyor speed	2.0 m/s
Temperature range	–5 to +40 °C with greased ball bearing –28 to +20 °C with oiled ball bearing 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) for tubes with Ø 50 mm
Shaft	Uncoated steel, zinc-plated steel, stainless steel; tapered shaft-shuttle: Polyamide (antistatic design)
Bearing housing	Polyamide, RAL9005 (jet black)
Seal	Polypropylene, RAL1021 (rape yellow)
Bearing version	Precision steel ball bearing 6002 2RZ, precision stainless steel ball bearing 6002 2RZ, bearing play each C3

Design versions

Tube sleeves	PVC sleeve (page 22) PU sleeve (page 24) Lagging (page 25)
Anti-static version	(< 10^6 Ω) Standard design for rollers with grooves or tube sleeves, cannot be used for PVC tube
Special tube surface treatment	Carbonitriding
Lubrication options for ball bearing	Greased for an ambient temperature from –5 to +40 °C 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: • 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: • With grooves, e.g. for guiding round belts (applies to metal tubes) • For tube with Ø 50 mm: Bearing housings that are not being flanged, can be used as an option • With flanges welded on
Noise reduction	For tube with Ø 50 mm

Load capacities of series 1700 with screw-connected installation

The following load capacity table refers to a temperature range from −5 to +40 °C and to a tube without grooves.
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]	Ø Shaft [mm]	Maximum static load [N] for installation length [mm]							
			200	300	400	600	800	1000	1300	1600
PVC	50 x 2.8	8, 10, 12, 14	660	275	150	65	35	–	–	–
	63 x 3.0	12, 14	1445	605	330	145	80	50	30	20
Steel	40 x 1.5	8, 10, 11 HEX, 12, 14	800	800	800	800	800	560	330	215
	50 x 1.5	8	915	885	870	860	855	850	660	430
		10	1790	1730	1700	1680	1665	1120	660	430
		11 HEX, 12, 14	2000	2000	2000	2000	1765	1120	660	430
	50 x 3	10	1790	1790	1700	1680	1665	1650	1200	790
		12, 14	2000	2000	2000	2000	2000	2000	1200	790
	51 x 2	12, 14	2000	2000	2000	2000	1875	1190	700	460
Steel	60 x 1.5	10	1790	1730	1705	1680	1665	1660	1155	760
		12, 14	2000	2000	2000	2000	2000	1965	1155	760
	60 x 2.0	12, 14	2000	2000	2000	2000	2000	2000	1500	985
	60 x 3.0	12, 14	2000	2000	2000	2000	2000	2000	2000	1405
	80 x 2.0	11 HEX, 12, 14	2000	2000	2000	2000	2000	2000	2000	2000
Aluminum	50 x 1.5	12, 14	2000	2000	2000	1060	590	375	219	145

HEX = hexagon

Load capacities of series 1700 with loose installation

The following load capacity table refers to a temperature range from −5 to +40 °C and to a tube without grooves.
The maximum static load at −28 °C to −6 °C measures 350 N.

Valid for the following shaft designs: spring-loaded shaft, fixed shaft or flatted shaft.

Bearing: 6002 2RZ.

Tube material	Ø Tube/thickness [mm]	Ø Shaft [mm]	Maximum static load [N] for installation length [mm]							
			200	300	400	600	800	1000	1300	1600
PVC	50 x 2.8	8, 10, 11 HEX, 12	660	275	150	65	35	–	–	–
	63 x 3.0	8	835	580	330	145	80	50	–	–
		10, 11 HEX, 12	1445	605	330	145	80	50	–	–
Steel	40 x 1.5	8	780	495	365	240	180	145	115	95
		10	800	800	800	620	475	395	320	215
		11 HEX, 12, 14	800	800	800	800	800	560	330	215
	50 x 1.5	8	735	465	340	220	165	130	100	70
		10	1630	1145	840	555	415	335	260	220
		11 HEX	2000	2000	1545	1030	785	645	515	430
		12	2000	2000	1805	1210	925	765	615	430
		14	2000	2000	2000	2000	1765	1130	660	430
	51 x 2	12	2000	2000	1770	1175	890	725	575	485
		14	2000	2000	2000	2000	1805	1510	905	595
	50 x 3	10	1630	1135	930	540	400	320	250	205
		11 HEX	2000	2000	1500	1155	870	700	550	460
		12	2000	2000	1750	990	745	600	470	390
		14	2000	2000	2000	2000	1700	1400	1150	790

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Tube material	Ø Tube/thickness [mm]	Ø Shaft [mm]	Maximum static load [N] for installation length [mm]							
			200	300	400	600	800	1000	1300	1600
Steel	60 x 1.5	10	1630	1135	830	540	405	325	250	205
		12	2000	2000	1755	1160	870	705	555	465
		11 HEX	2000	2000	1510	995	745	605	470	390
		14	2000	2000	2000	2000	1730	1430	1155	760
	60 x 2.0	11 HEX	2000	2000	1500	980	735	590	460	380
		12	2000	2000	1740	1140	855	690	540	445
		14	2000	2000	2000	2000	1670	1365	1090	924
	60 x 3.0	10	1630	1130	825	535	400	315	245	200
		11 HEX	1000	1000	1485	970	725	580	450	370
		12	2000	2000	1725	1130	840	675	525	430
		14	2000	2000	2000	2000	1615	1310	1030	860
	80 x 2.0	11 HEX	2000	2000	1475	960	715	570	440	355
		12	2000	2000	1710	1115	830	660	510	415
		14	2000	2000	2000	2000	1565	1255	975	800
Aluminum	50 x 1.5	8	745	470	345	230	175	140	110	90
		10	1630	1200	900	610	480	375	220	145
		11 HEX	2000	2000	1750	1060	590	375	220	145
		12, 14	2000	2000	2000	1060	590	375	220	145

HEX = hexagon

Load capacities of series 1700 with tapered shaft-shuttle

Bearing: 6002 2RZ.

Tube material	Ø Tube/thickness [mm]	Ø Shaft [mm]	Maximum static load [N] for installation length [mm]							
			200	300	400	600	800	1000	1300	1600
PVC	50 x 2.8	11 – 12 HEX	350	275	150	65	35	–	–	–
Steel	50 x 1.5	11 – 12 HEX	350	350	350	350	350	–	–	–

HEX = hexagon

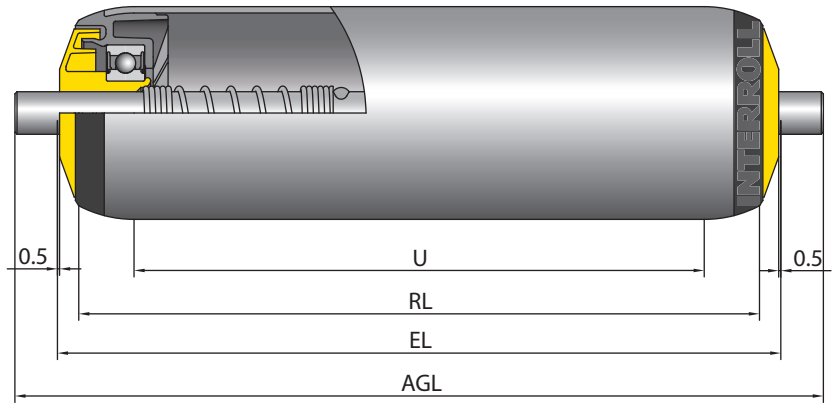
Dimensions

The dimensions of the conveyor roller depend on the shaft version. A sufficient axial play is already taken into account, so that only the actual lane width between side profiles is required for ordering.
Ordering dimensions for tube sleeves, e.g. PVC sleeves, see page 23, and for flanges see page 27.

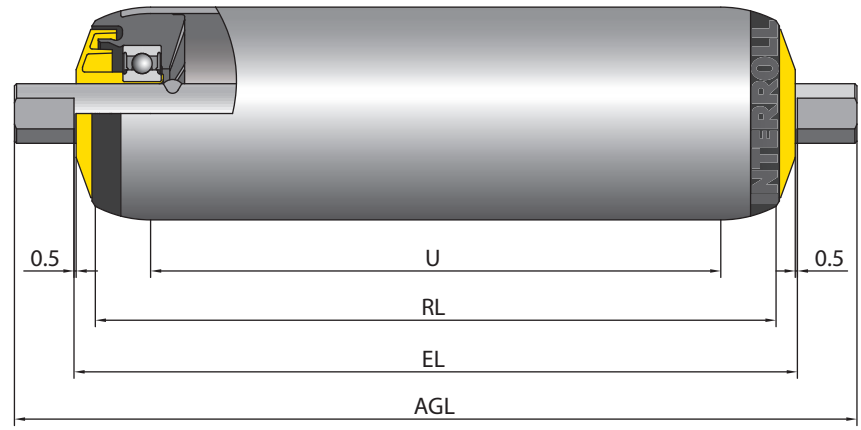
RL = Reference length/ordering length
EL = Installation length, inside diameter between side profiles
AGL = Total length of shaft
U = Usable tube length: Length without bearing housing and for flanged metal tube without length of flanging

Spring-loaded shaft and flat shaft

Spring-loaded shaft



Flat shaft



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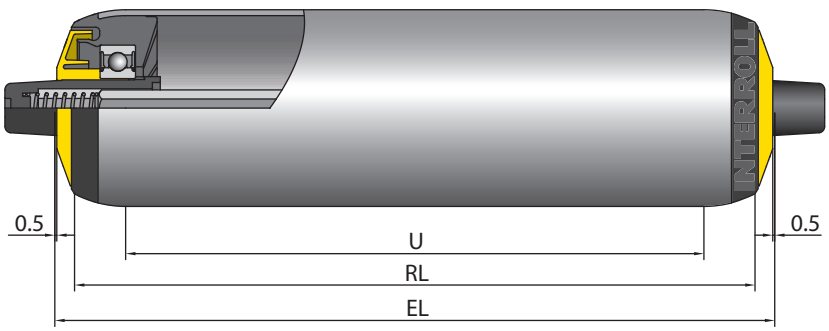
Ø Tube [mm]	Tube material	Ø Shaft [mm]	EL [mm]	AGL [mm]	U [mm]
50 x 2.8	PVC	8	RL + 10	RL + 26	RL – 12
		10		RL + 30	
		11 HEX		RL + 32	
		12		RL + 34	
63 x 3.0	PVC	8	RL + 10	RL + 26	RL – 12
		10		RL + 30	
		11 HEX		RL + 32	
		12		RL + 34	
40 x 1.5; 50 x 1.5	Aluminum/Steel	8	RL + 10	RL + 26	RL – 26
		10		RL + 30	
		11 HEX		RL + 32	
		12		RL + 34	
		14		RL + 38	
51 x 2	Steel	12	RL + 10	RL + 34	RL – 28
		14		RL + 38	
50 x 3; 60 x 1.5; 60 x 3.0	Steel	10	RL + 10	RL + 30	RL – 26
		11 HEX		RL + 32	
		12		RL + 34	
		14		RL + 38	
60 x 2.0; 80 x 2,0	Steel	11 HEX	RL + 10	RL + 32	RL – 26
		12		RL + 34	
		14		RL + 38	

HEX = hexagon

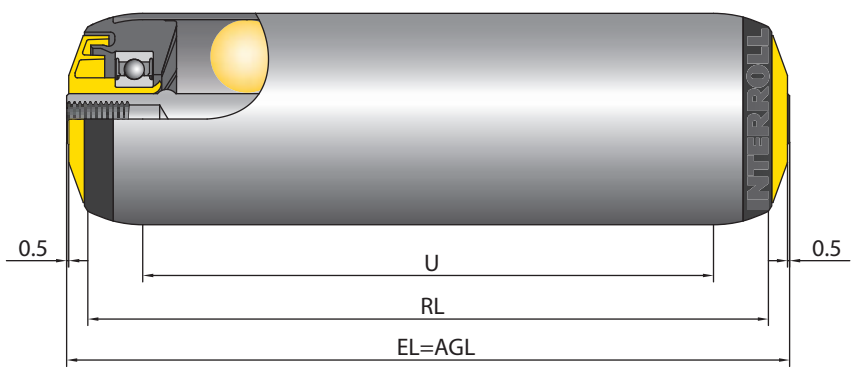
Tapered shaft-shuttle



Ø Tube [mm]	Tube material	Ø Shaft [mm]	EL [mm]	U [mm]
50 x 2.8	PVC	11 TH	RL + 10	RL – 12
50 x 1.5	Steel	11 TH	RL + 10	RL – 26

TH = tapered hexagon

Female threaded shaft



Ø Tube [mm]	Tube material	Ø Shaft [mm]	EL [mm]	AGL [mm]	U [mm]
50 x 2.8	PVC	8, 10, 12, 14	RL + 10	RL + 10	RL – 12
63 x 3.0	PVC	12, 14	RL + 10	RL + 10	RL – 12
40 x 1.5	Steel	8, 10, 11 HEX, 12, 14	RL + 10	RL + 10	RL – 26
50 x 1.5	Aluminum/Steel	8, 10, 11 HEX, 12, 14	RL + 10	RL + 10	RL – 26
50 x 3	Steel	10, 12, 14	RL + 10	RL + 10	RL – 12
51 x 2	Steel	12, 14	RL + 10	RL + 10	RL – 28
60 x 1.5	Steel	10, 12, 14	RL + 10	RL + 10	RL – 26
60 x 2.0; 60 x 3.0	Steel	12, 14	RL + 10	RL + 10	RL – 26
80 x 2.0	Steel	11 HEX, 12, 14	RL + 10	RL + 10	RL – 26

HEX = hexagon

Detailed product specifications are available on request.