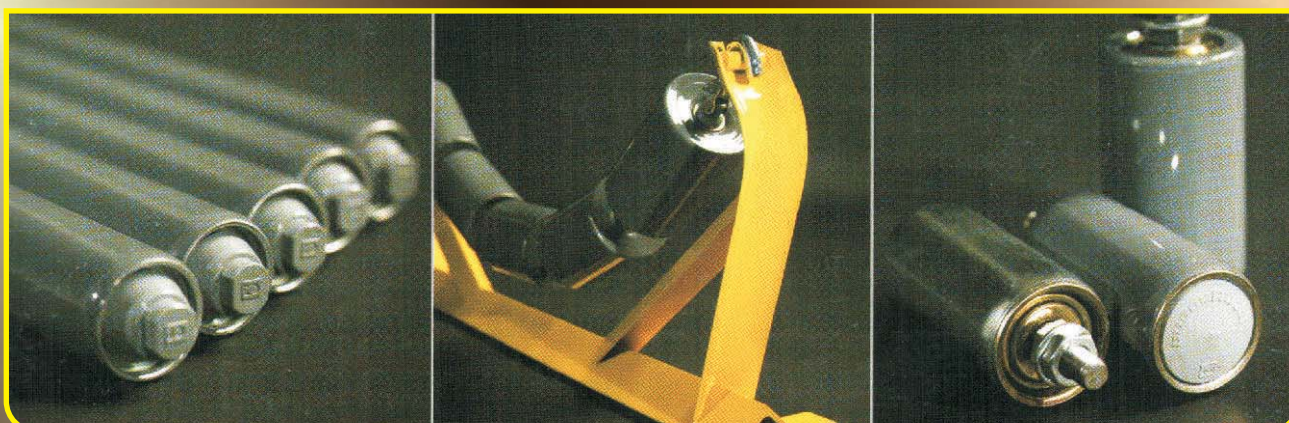
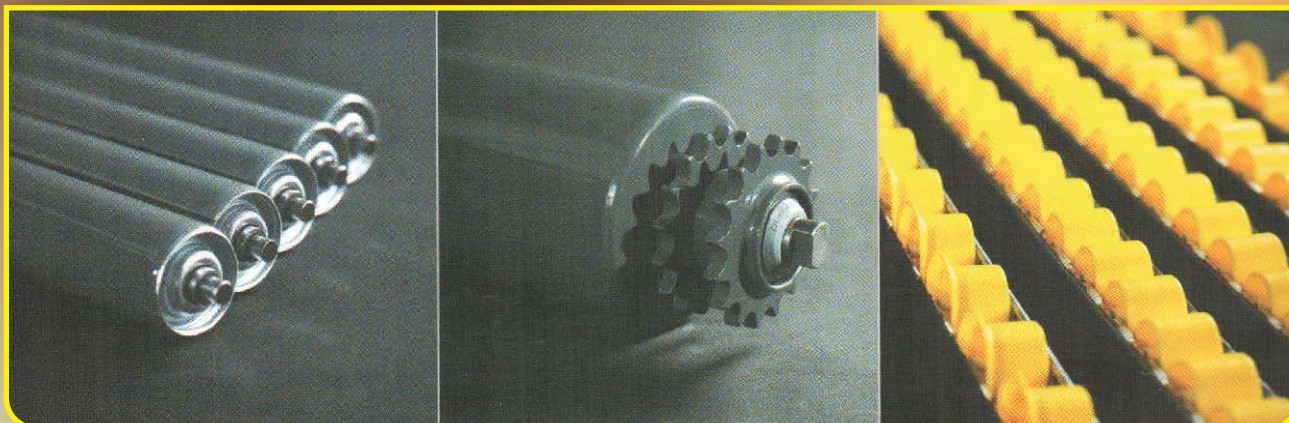
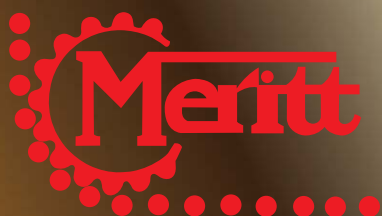


ROLLERS

Unit Handling



Bulk Handling Conveyors

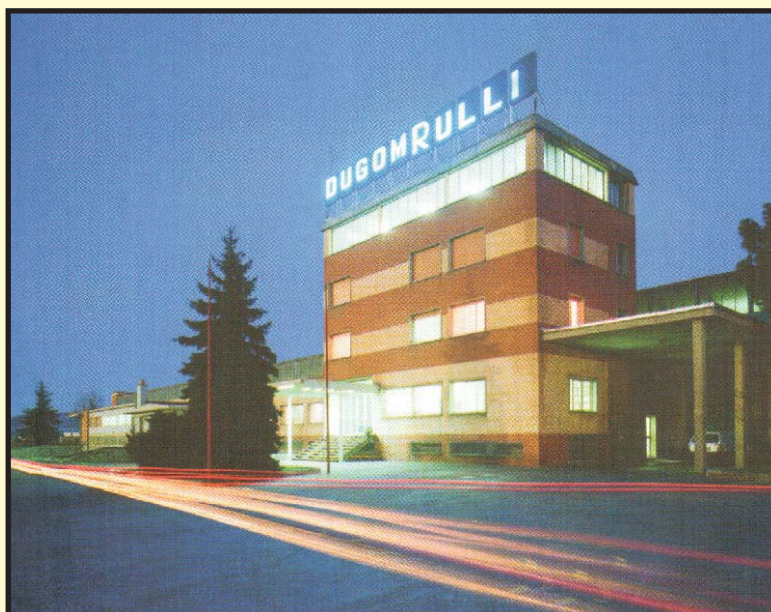


INTRODUCTION

Established in 1938, Dugomrulli started the production of conveyor components in the post-war years and quickly strengthened its position as a leading company in the field, specialising in the production of idlers, supports and other components for unit and bulk handling conveyors. The headquarters, covering a surface area of 17,000 m² and in close proximity to Bologna airport, are equipped with high yield automated production line. The Dugomrulli quality systems is certified as conforming to the EN ISO 9001-2000 STANDARD (Cart-04606-99-AQ-BOL-SINCERT).

The movement of material is an increasingly important factor in the success of any type of enterprise. The efficiency of these handling processes widely depends on equipment being suitable for the relevant application and the use of reliable and functional components. Dugomrulli offers a complete range of components for the handling and storage of UNIT LOADS and the handling of BULK materials, which are presented by details and exhaustive technical catalogues available upon request.

In this catalogue Dugomrulli presents rollers for the handling of UNIT HANDLING AND BULK HANDLING.



I N D E X

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**DESIGNATION OF
THE ROLLERS**

CODE :
INHIBITING:
PAINTING OR COATING:
EXECUTION:
LUBRICATION:
ATTACHMENT:
LENGTH

INHIBITING (*)	ZB	WHITE GALVANIZED
	ZN	HOT-DIP ZINC COATING
COATING (*)	GW	VALCANISED RUBBER COATING
	PG	RUBBER ENRICHED PVC COATING
	PV	PVC TUBULAR COATING
	RI	RIL SAN TREATED (GREY)
EXECUTION (*)	C4	DUST COVER LABYRINTH SEAL
	C6	ERMEX C6 SEAL
	HR	HARDENED SPROCKETS
	XA	S.S. SHAFT
	XP	ERMEX C6 SEAL WITH S.S. COVER
	XR	S.S. SHAFT AND TUBE
	XS	S.S. BALLS
GREASING (**)	XT	S.S. TUBE
	TN	FOR NORMAL TEMP. (-10°C +90°C)
	TB	FOR LOW TEMP. (-30°C -10°C)
	TE	FOR HIGH TEMP. (+90°C +150°C)
ATTACHMENT(*)	TM	FOR VERY HIGH TEMP. (+150°C +230°C)
	C.	ROLLER WITH OUT OF STANDARD MILED ATTACHMENT (ex. C14=CH14,C17=CH17)
	M.	SHAFT WITH TAPPED BORE (M8,M10 ETC)
	AF	FIXED SHAFT
	AP	FIXED EXTENDED SHAFT
	AS	ROLL WITHOUT SHAFT
	F.	THREADED SHAFT (Ex. F10,F12 ETC.)
LENGTH (mm)	FR	REMOVABLE SHAFT AND RADIAL BORES.
	L	LENGTH BETWEEN THE ATTACHMENT
	T	LENGTH OF THE TUBE
	A	LENGTH OF THE SHAFT
	LP	LENGTH OF THE FRAME
	H	WIDTH OF THE FRAME

The product are identified by using the above mentioned code which shows the meaning of the initials.
A standard product is completely defined by the code and the parameter.

EXAMPLE : 305013L1000

This refers to a diameter 60. series 305, spring loaded shaft idle roller, Length L 1000 and execution with natural tube.
The initials of the executions upon request may be added only if they are consistent among them and with the product, as indicated on the tables showing the characteristics of the products.

It is important to respect the sequence order of the initials.

**EXAMPLE : 305012,ZN,PV,L600
309018,RI,M10,L1208**

(*) Execution upon request.

(**) No indication means greasing for normal temperatures.

KEY TO SYMBOLS.

B	[m]	BELT WIDTH
E	[m]	CENTRE DISTANCE OF UPPER IDLERS
Er	[m]	CENTRE DISTANCE OF RETURN STATIONS
P	[Kg/m]	LINEAR WEIGHT OF BELT
Pe	[daN]	ACTUAL LOAD ON CARRYING IDLER
Pc	[daN]	COMPENSATED LOAD ON CARRYING IDLER
Pr	[daN]	COMPENSATED LOAD ON RETURN IDLER
Qm	[t/h]	MAXIMUM HOURLY CAPACITY OF CONVEYOR
S	[m²]	MAXIMUM SECTION OF HANDLED MATERIAL
Y	[Kg/m²]	SPECIFIC WEIGHT OF HANDLED MATERIAL
P	DEGREE	DYNAMIC SURCHARGE ANGLE OF HANDLE MATERIAL
v	[m/s]	BELT SPEED
Kp		LUMP CO-EFFICIENT
Ks		SERVICE CO-EFFICIENT
Pz	[mm]	MAXIMUM LUMP SIZE OF HANDLED MATERIAL
hg	[h/day]	DAILY OPERATING TIME
z		FACTOR OF MULTIPLY TO PASS FROM Kg TO daN
a1	ENVIRONMENT CONDITIONS	
a2		
a3		

CALCULATION OF LOAD ON IDLER:

To calculate the maximum loads on the rollers and the relative support elements based on the conveyor belt capacity, the following characteristics should be known or defined:

- material to be handled weight size and dynamic surcharge angle.
- belt conveyor hourly capacity speed distance of idlers and environmental conditions.

The relative calculations can be made using the formula:

$$S = \frac{Qm}{3.6 v y}$$

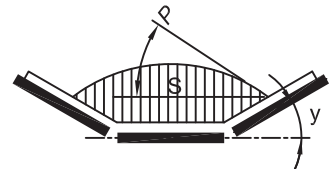
$$Pn = \left(\frac{Qm}{3.6 v} + p \right) \cdot E \cdot z$$

$$Pn = \left(\frac{Qm}{3.6 v} + p \right) \cdot E \cdot Kp \cdot Ks \cdot z$$

$$Pc = Pe \cdot Kp \cdot Ks$$

$$Pr = 2 \cdot p \cdot Er \cdot Ks \cdot z$$

$$Qm = 3.6 \cdot S \cdot v \cdot y$$



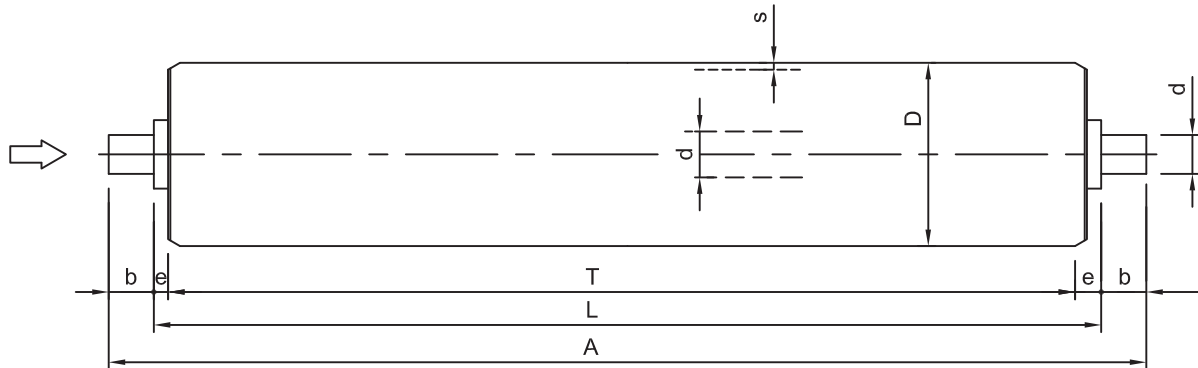
- maximum cross sectional area S on the belt of the material handled;
- belt width B;
- linear weight of belt P;
- actual load Pe on the idler;
- diameter of rollers D;
- load on the single rollers of an idler;
- dimensions of the roller support transoms;

The weight should be multiplied by an impact factor in order to calculate the lump size.

The value of the lump size is to be taken as the maximum.

STEEL IDLE ROLLERS type 305059 ZN

For straight and curved roller conveyors handling light and medium unit loads under fair environment conditions.
Steel tube, Greased and protected radial bearing with the case hardened and tempered races.
These rolls are normally supplied with natural pipe, lubricated for normal temperatures (-10°C + 90°C) and provided with spring loaded shaft for easy assembling on bored frames.



* Code *	* 305059 *
d	10
D	50
s	1.5
b	10
e	5
* Bearing *	Dugom
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a(Kg.)	0.0024
f (Kg)	0.132
Min. (L)	70
Max. (L)	1400
Execultions upon request	M6

RATED LOADS

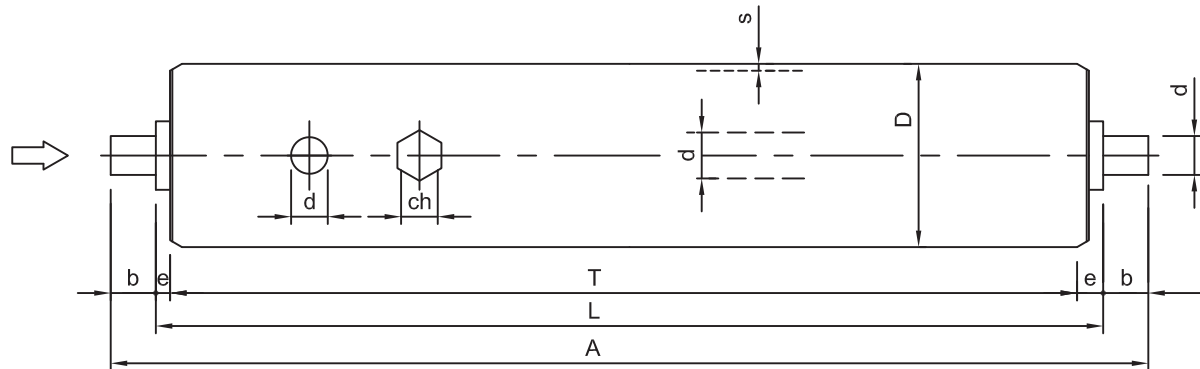
The following tables show that loads of the rollers for 10,000 hours according to speed length.

* Code *	* D *	* R.P.M. *							
		10	25	50	100	200	300	400	500
		V = (m/sec.)							
305059	50	0.026	0.065	0.131	0.262	0.524	0.785	1.047	1.309
L = (mm)		Load of the roll (N)							
≤ 400		560	354	251	177	125	102	89	79
500		560	354	251	177	125	102	89	79
600		560	354	251	177	125	102	89	79
800		560	354	251	177	125	102	89	79
1000		560	354	251	177	125	102	89	79
1200		435	354	251	177	125	102	89	79
1400		302	302	251	177	125	102	89	79
1600		183	183	183	177	125	102	89	79

Example : 305059 ZN, L400 → D50 / 10, hot dip zinc coating roll, length 400

STEEL IDLE ROLLERS type 306009 ZN

For straight and curved roller conveyors handling light and medium unit loads under fair environment conditions. Steel tube, Greased and protected radial bearing with the case hardened and tempered races. These rolls are normally supplied with natural pipe, lubricated for normal temperatures (-10°C + 90°C) and provided with spring loaded shaft for easy assembling on bored frames.



* Code *	* 306009 *
d	12
D	60
s	1.5
b	10
e	5
* Bearing * Dugom	
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a(Kg.)	0.0031
f (Kg.)	0.182
Min. (L)	70
Max. (L)	1800
Execultions upon request	M8

RATED LOADS

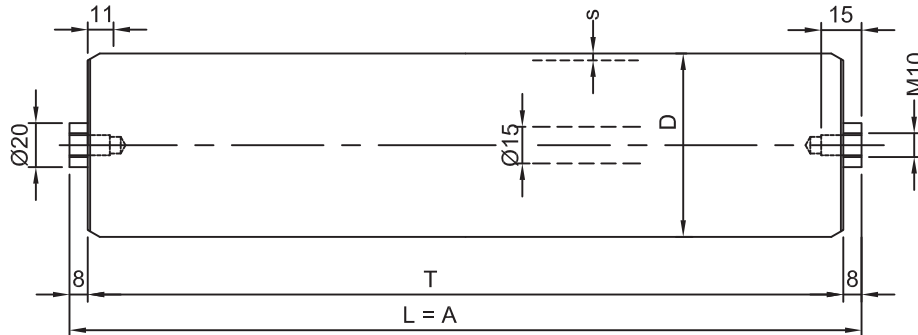
The following tables show that loads of the rollers for 10,000 hours according to speed length.

* Code *	* D *	* R.P.M. *							
		10	25	50	100	200	300	400	500
		V = (m/sec.)							
306009	60	0.031	0.079	0.157	0.314	0.628	0.942	1.257	1.571
L = (mm)		Load of the roll (N)							
≤ 600		1000	637	450	318	225	184	159	142
700		1000	637	450	318	225	184	159	142
800		1000	637	450	318	225	184	159	142
900		1000	637	450	318	225	184	159	142
1000		1000	637	450	318	225	184	159	142
1200		866	637	450	318	225	184	159	142
1400		643	637	450	318	225	184	159	142
1600		467	467	450	318	225	184	159	142
1800		298	298	298	298	225	184	159	142

Example : 306009 ZN, L600 → D60 / 12, hot dip zinc coating roll, length 600

STEEL IDLE ROLLERS type 308032 J ZN M10

There are suitable for straight and curved roller conveyors handling medium and heavy loads even in open air and unfavourable environment conditions. Steel tube, CH17 key attachment or M10 bored and tapped shaft for easy assembling on bored side frames. Precision radial rigid bearing type 6202 C3. In the normal execution the rollers are provided with a 5° protection for M10 bored and tapped shaft rollers and with a 6° (Ermex C6) for the roller with CH17 key attachment (see sec. C 01) For application that required a particular smoothness, they can be provided with 4° protections. These rolls are normally supplied with natural pipe, lubricated for normal temperatures (-10°C + 90°C) and provided with spring loaded shaft for easy assembling on bored frames.



* Code *	* 308032J M10*
D	76
s	3
* Bearing *	6202
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a(Kg.)	0.0068
f (Kg.)	0.342
Min. (L)	75
Max. (L)	2200

RATED LOADS

The following tables show the loads of the rollers for 10,000 hours according to speed length.

* Code *	* D *	* R.P.M. *								
		10	25	50	100	200	300	400	500	600
		V = (m/sec.)								
308032J M10	76	0.040	0.10	0.20	0.40	0.80	1.19	1.59	1.99	2.39
L = (mm)		Load of the roll (N)								
≤ 200		3800	3163	2510	1992	1581	1381	1255	1165	1096
400		3586	2985	2510	1992	1581	1381	1255	1165	1096
600		3064	2464	2117	1842	1581	1381	1255	1165	1096
800		2793	2193	1846	1571	1352	1246	1179	1131	1095
1000		2609	2009	1662	1387	1169	1063	995	948	911
1200		2464	1864	1517	1242	1023	917	850	802	766
1400		2336	1736	1389	1114	895	789	722	674	638
1600		2216	1616	1269	994	775	669	602	554	518
1800		2098	1498	1151	876	658	552	484	437	400
2000		1980	1380	1033	758	539	433	366	318	282
2200		1859	1259	857	637	418	312	245	197	161

Example : 308032J ZB M10, L1000 → D76 / 15, white galvanised roll, length 1000

PLASTIC IDLE ROLLERS TYPE 338 004

Due to their special characteristics, the plastic rollers are suited to uses that required lightness, noiseless to corrosion and to chemicals (see table). But they are contraindicated when static load over the limits of the table or temperature higher then 50° are expected. The use of PVC tubes sets further limitations to the possible maximum lengths.

When water washes are foreseen, it is advisable to request stainless steel shaft and stainless set bearing balls.

CHARACTERISTICS OF THE PLASTIC TUBES:

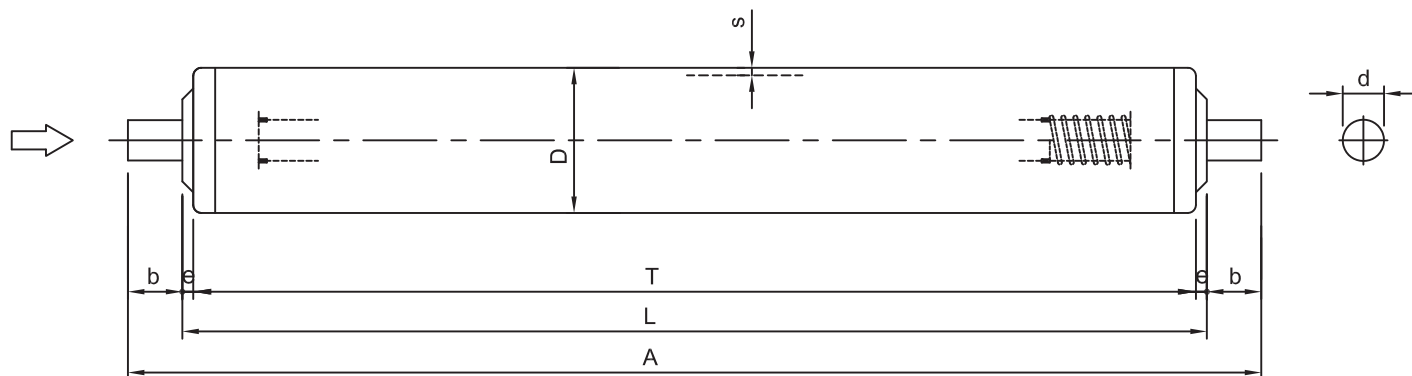
- * PVC tube 100/311 according to UNI 744-75. : Colour :- RAL 7030 Gray.
- * Density : 1.4 : 1.5Gm/Cm3 -DN 53479 : Tensile strength at break: 50MPa-DIN53455
- * Elongation at break :> 15% -DIN 53455 : Modules of elasticity : 3000 MPa -DIN 53455
- * Notched impact strength : 5.5Ki/m2 -DN 53453 : Shore hardness: 79 ShD
- * Fire behavior. V0 - UL 94 : Non toxicity: No
- * Resistance to chemicals: to be verified with the Dugomrulli Technical Department.
- * Working temperature: 0 +40°C : The roller bearing is XS execution are in Polypropylene.

The tube and the end caps the running surface of the bearing are make of plastic material.

Upon request the plastic roller can be supplied with plastic tube suitable for food stuff.

When water washes are foreseen is advisable to request stainless steel shaft and stainless steel bearing balls.

The normal execution provides spring loaded shaft for easy assembling onboard frames.



* Code *	* 338004 *
d	10
D	50
s	2.9
b	10
e	3.5
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a(Kg.)	0.0013
f (Kg)	0.055
Min. (L)	95
Max. (L)	800
Execultions upon request	M6

NOTE:

Also available :

a) steel tube & plastic bearing (series 338 AP)

b) stainless steel tube & SS Shaft

Example : 338004, L400 → D50 / 10, plastic roll, length 400

RATED LOADS

Rated loads for 10,000 hours at 10 RPM.

* Code *	* D / d *	
338004	50/10	
* L (Load of the roll (N) *		
	STATIC	DYNAMIC
≤ 100	100	200
200	100	200
300	100	200
400	100	200
500	100	200
600	100	146
700	100	106
800	80	80

LIGHT DUTY CHAIN-DRIVEN LIVE ROLLERS TYPE 318619

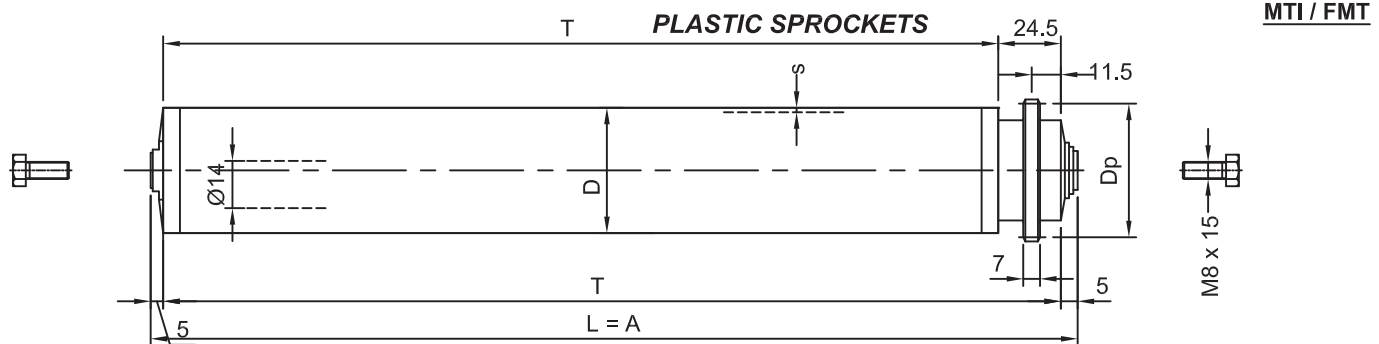
They are driven by a tangential chain and are suitable for the conveyance and accumulation of light loads, also with relatively high speed. They are provided with stabilized polyamide sprockets which have a special profile that always works in mesh with two teeth. In plants with superior tangential chain, the transmission rollers need a steel sprocket.

They are generally supplied with steel tube and, upon request, with PVC tube in Ø50 or Ø63mm. M8 bored and tapped shaft, complete with securing screws. They are suitable for environmental temperatures from -10° to +40°C.

FMT-MTI CONVERSION:

The chain-driven friction rollers with plastic sprockets can be easily converted into live rollers and vice versa by simply inserting or removing the tooth insert **Code : 114099**

This operation, which can be easily made even during the installation and without using any auxiliary tool, allows, even at last moment, a modification of the operating features of single conveyor sections. It is a particularly interesting possibility in case of complicated layouts, where it has not been possible to exactly determine the characteristics of the goods flow.



* Code *	CHAIN DRIVEN LIVE ROLLER * 318619 *
D	50
s	1.5
z	14
p"	1/2"
Dp	57.07
* Bearing *	6002
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a (Kg.)	0.003
f (Kg)	0.104
Min. (L)	105
Max. (L)	1200

RATED LOADS

MTI / FMT SERIES

The following tables show the loads of the rollers for 10,000 hours according to speed length.

* Code *	* D *	* R.P.M. *							
		10	25	50	75	100	150	200	300
		V = (m/sec.)							
318619	50	0.026	0.065	0.13	0.20	0.26	0.39	0.52	0.79
L = (mm)		Load of the roll (N)							
≤ 300		1066	915	647	528	457	374	323	264
400		1066	943	667	544	471	385	333	272
500		1066	960	679	554	480	392	339	277
600		1066	971	687	561	486	397	343	280
700		1066	979	693	565	490	400	346	283
800		1066	986	697	569	493	402	348	285
900		1066	990	700	572	495	404	350	286
1000		1066	994	703	574	497	406	351	287
1200		777	777	707	577	500	408	354	289

Example : 318619 ZN, L400 → MTI D50 / 14, Z14 1/2" M8 - Chain Driven Roller, Length 400

LIGHT DUTY CHAIN-DRIVEN FRICTION ROLLERS TYPE 333180

They are driven by a tangential chain and are suitable for the conveyance and accumulation of light loads, also with relatively high speed. They are provided with stabilized polyamide sprockets which have a special profile that always works in mesh with two teeth. In plants with superior tangential chain, the transmission rollers need a steel sprocket.

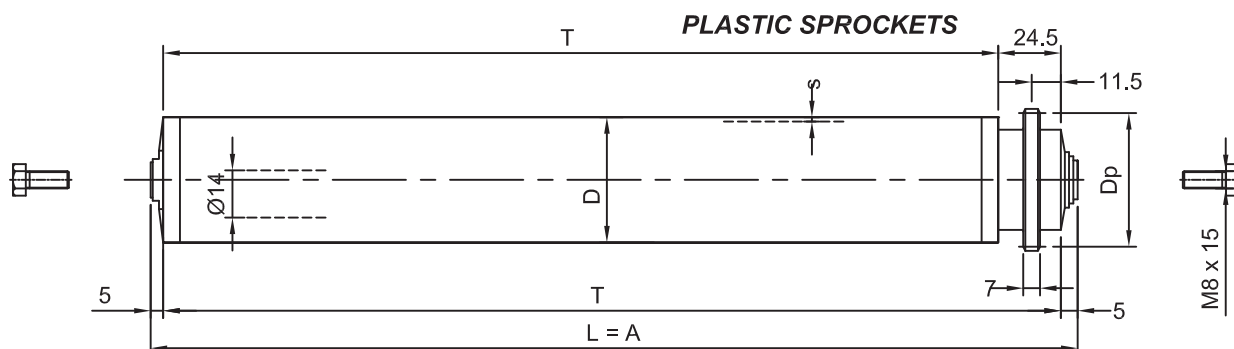
They are generally supplied with steel tube and, upon request, with PVC tube in Ø50 or Ø63mm. M8 bored and tapped shaft, complete with securing screws. They are suitable for environmental temperatures from -10° to +40°C.

FMT-MTI CONVERSION:

The chain-driven friction rollers with plastic sprockets can be easily converted into live rollers and vice versa by simply inserting or removing the tooth insert **Code : 114099**

This operation, which can be easily made even during the installation and without using any auxiliary tool, allows, even at last moment, a modification of the operating features of single conveyor sections. It is a particularly interesting possibility in case of complicated layouts, where it has not been possible to exactly determine the characteristics of the goods flow.

MTI / FMT



* Code *	CHAIN DRIVEN FRICTION ROLLER * 333180 *
D	50
s	1.5
z	14
p"	1/2"
Dp	57.07
* Bearing *	6002
Weight : Pr = L x a + f (Kg.)	
Weight per mm a (Kg.)	0.003
f (Kg)	0.104
Min. (L)	105
Max. (L)	1200

RATED LOADS

MTI / FMT SERIES

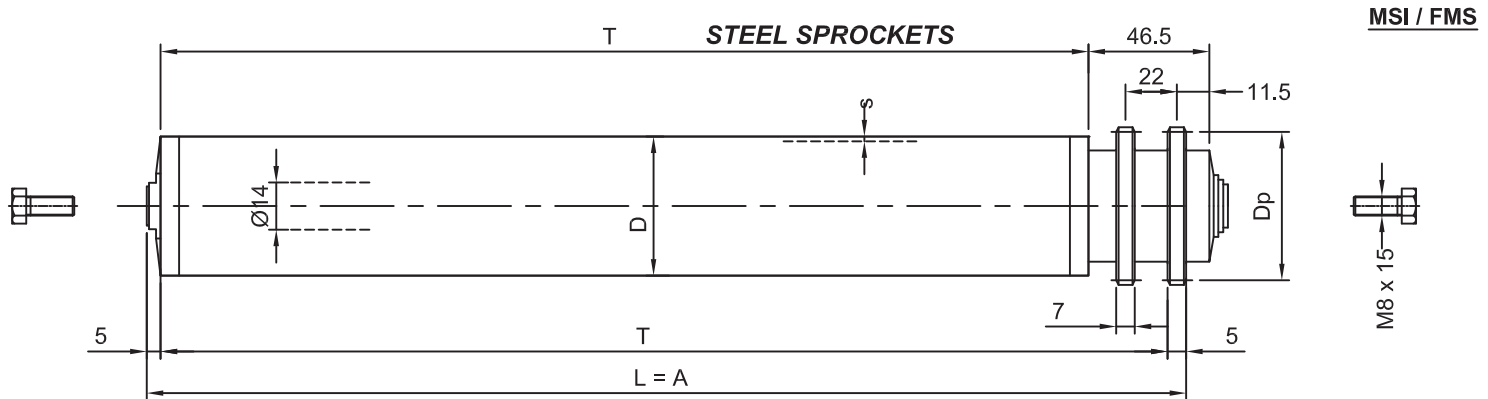
The following tables show the loads of the rollers for 10,000 hours according to speed length.

		* R.P.M. *						
* Code *	* D *	10	25	50	75	100	150	200
		V = (m/sec.)						
333180	50	0.026	0.065	0.13	0.20	0.26	0.39	0.52
L = (mm)		Load of the roll (N)						
≤ 600		497	361	316	301	293	285	282
700		497	361	316	301	293	285	282
800		497	361	316	301	293	285	282
900		497	361	316	301	293	285	282
1000		497	361	316	301	293	285	282
1200		366	361	316	301	293	285	282

Example : 333180 ZN, L400 → FMT D50 / 14, Z14 1/2" M8 - Chain Driven Roller, Length 400.

LIGHT DUTY CHAIN-DRIVEN LIVE ROLLERS TYPE 318379

They are driven by sequential chain links and are suitable for the conveyance and accumulation of light loads, also with relatively high speeds. They are provided with steel sprockets. They are generally supplied with steel tube and, upon request, with PVC tube in Ø50 or Ø63mm. M8 bored and tapped shaft, complete with securing screws. They are suitable for environmental temperatures from -10° to +40°C.



* Code *	CHAIN DRIVEN LIVE ROLLER * 318379*
D	50
s	1.5
z	14
p"	1/2"
Dp	57.07
* Bearing *	6002
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a (Kg.)	0.003
f (Kg)	0.641
Min. (L)	130
Max. (L)	1200

RATED LOADS

MSI / FMS SERIES

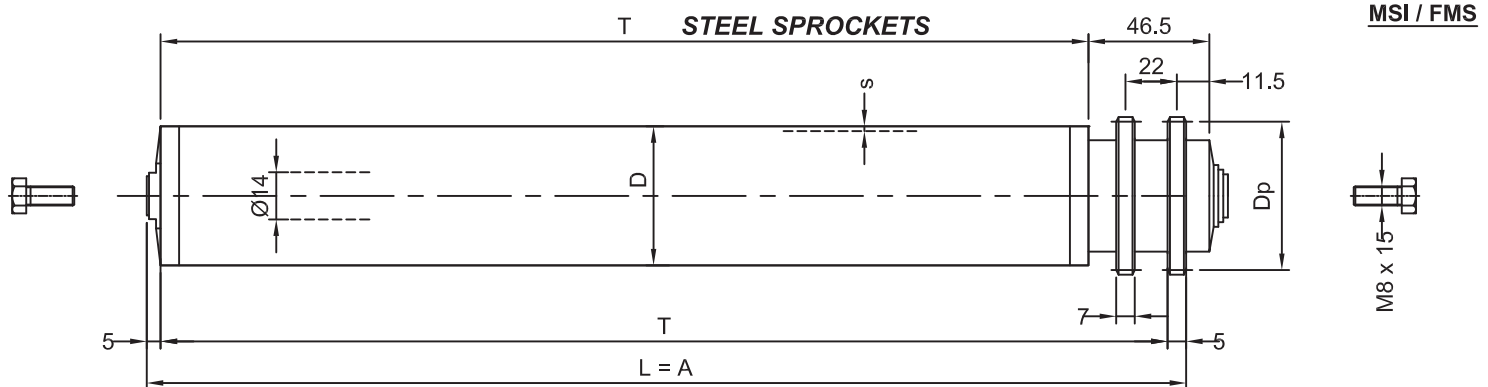
The following tables show the loads of the rollers for 10,000 hours according to speed length.

* Code *	* D *	* R.P.M. *							
		10	25	50	75	100	150	200	300
		V =(m/sec.)							
318379	50	0.026	0.065	0.13	0.20	0.26	0.39	0.52	0.79
L = (mm)		Load of the roll (N)							
≤ 300		1829	1829	1509	1318	1198	1046	951	830
400		1912	1912	1578	1378	1252	1094	994	868
500		1963	1963	1620	1415	1286	1123	1021	892
600		1998	1998	1649	1440	1309	1143	1039	907
700		2023	2023	1670	1459	1525	1158	1052	919
800		2042	2042	1685	1472	1338	1169	1062	927
900		1725	1725	1698	1483	1347	1177	1069	934
1000		1393	1393	1393	1393	1355	1184	1076	940
1200		958	958	958	958	958	958	958	948

Example : 318379 ZN, L400 → MSI D50 / 14, Z14 1/2" M8 - Chain Driven Roller, Length 400

LIGHT DUTY CHAIN-DRIVEN FRICTION ROLLERS TYPE 333197

They are driven by sequential chain links and are suitable for the conveyance and accumulation of light loads, also with relatively high speeds. They are provided with steel sprockets. They are generally supplied with steel tube and, upon request, with PVC tube in Ø50 or Ø63mm. M8 bored and tapped shaft, complete with securing screws. They are suitable for environmental temperatures from -10° to +40°C.



* Code *	CHAIN DRIVEN FRICTION ROLLER * 333197*
D	50
s	1.5
z	14
p"	1/2"
Dp	57.07
* Bearing *	6002
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a(Kg.)	0.003
f (Kg)	0.641
Min. (L)	130
Max. (L)	1200

RATED LOADS

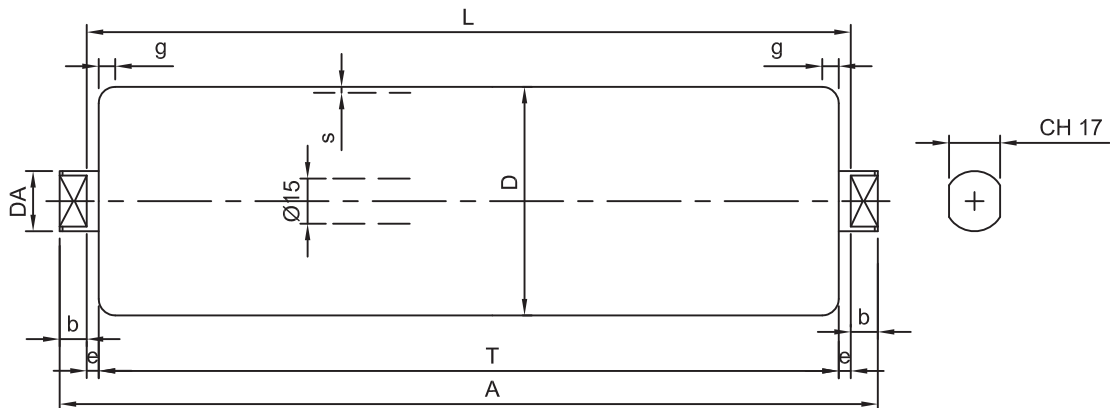
MSI / FMS SERIES The following tables show the loads of the rollers for 10,000 hours according to speed length.

* Code *	* D *	* R.P.M. *						
		10	25	50	75	100	150	200
		V = (m/sec.)						
333197	50	0.026	0.065	0.13	0.20	0.26	0.39	0.52
L = (mm)		Load of the roll (N)						
≤ 600		715	489	413	388	376	363	357
700		715	489	413	388	376	363	357
800		715	489	413	388	376	363	357
900		715	489	413	388	376	363	357
1000		715	489	413	388	376	363	357
1200		543	489	413	388	376	363	357

Example : 333197 ZN, L400 → FMS D50 / 14, Z14 1/2" M8 - Chain Driven Roller, Length 400

MEDIUM DUTY ROLLERS TYPE 307012

After many years of successful experience these rollers prove to be the most suitable for light and medium duty belt and gravity conveyors even in unfavorable environmental conditions. They are assembled on 6202 bearing, greased for life and protected by the very effective ERMEX C6 protections incorporating a waterproof wear recovering seal. Fitting on the conveyor is made by means of the bracket and transoms.



			ROLLER LENGTH (L)
	300	500	208
		600	233
	400	650	258
	450		280
	500		308
		800	323
300		1000	388
400			488
450			558
500			608
600			708
650			758
800			958
1000			1158

* Code *	* 307012 *
D	76
s	2
b	9
g	11
e	4
DA	20
B = BELT WIDTH	
* Bearing *	6202
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a(Kg.)	0.0051
f (Kg)	0.452
Min. (L)	70
Max. (L)	2200

RATED LOADS

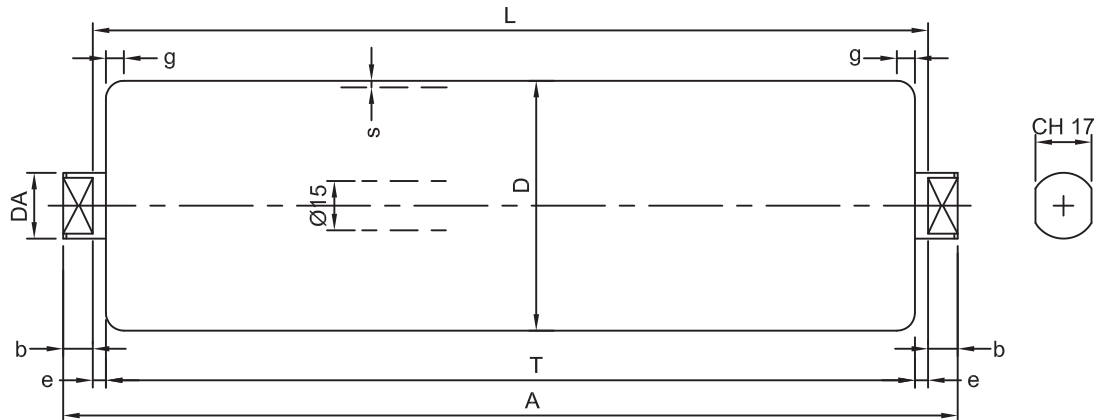
The following tables show the loads of the rollers for 10,000 hours according to speed length.

* Code *	* D *	* R.P.M. *										
		10	25	50	100	200	300	400	500	600	800	1000
		V = (m/sec.)										
307012	76	0.040	0.10	0.20	0.40	0.80	1.19	1.59	1.99	2.39	3.18	3.98
L = (mm)		Load of the roll (N)										
≤ 600		2000	1825	1448	1149	912	797	724	672	633	575	534
800		2000	1825	1448	1149	912	797	724	672	633	575	534
1000		2000	1660	1448	1149	912	797	724	672	633	575	534
1200		1809	1463	1263	1104	912	797	724	672	633	575	534
1400		1646	1300	1100	941	815	754	715	672	633	575	534
1600		1502	1156	956	797	671	610	571	543	522	492	470
1800		1367	1021	821	662	536	475	436	408	387	357	335
2000		1236	890	690	531	405	344	305	277	256	226	204
2200		1106	759	559	401	275	213	175	147	126	95	73

Example : 307012 → D76 / 15, Carrying Roll.
 307012 → D76 / 15, Return Roll.

HEAVY DUTY ROLLERS TYPE 308063S

These rollers are particularly designed for belt conveyors with medium loads and lump sizes even in unfavorable environmental conditions. They are assembled on 6202 precision bearing of leading brands, greased for life and protected by the very effective ERMEX C6 protections incorporating a waterproof wear recovering seal. Fitting on the conveyor is made by means of the bracket and transoms.



B	B	B	ROLLER LENGTH (L)
	300	500	208
		600	233
	400	650	258
	450		280
	500		308
		800	323
300		1000	388
		1200	473
400			488
450			558
500			608
600			708
650			758
800			958
1000			1158
1200			1408

* Code *	* 308063S *
D	89
s	3
b	9
g	5
e	4
DA	20
B = BELT WIDTH	
* Bearing *	6202
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a (Kg.)	0.0078
f (Kg)	0.543
Min. (L)	70
Max. (L)	2200

RATED LOADS

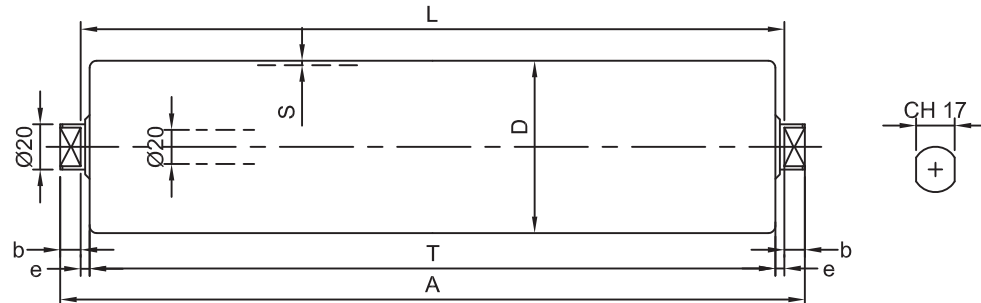
The following tables show the loads of the rollers for 10,000 hours according to speed length.

* Code *	* D *	* R.P.M. *										
		10	25	50	100	200	300	400	500	600	800	1000
		V = (m/sec.)										
308063S	89	0.047	0.12	0.23	0.47	0.93	1.40	1.86	2.33	2.80	3.73	4.66
L =(mm)		Load of the roll (N)										
≤ 200		3800	3163	2510	1992	1581	1381	1255	1165	1096	996	925
400		3586	2985	2510	1992	1581	1381	1255	1165	1096	996	925
600		3064	2464	2117	1842	1581	1381	1255	1165	1096	996	925
800		2793	2193	1846	1571	1352	1246	1179	1131	1095	996	925
1000		2609	2009	1662	1387	1169	1063	995	948	911	858	820
1200		2464	1864	1517	1242	1023	917	850	802	766	712	674
1400		2336	1736	1389	1114	895	789	722	674	638	585	547
1600		2216	1616	1269	994	775	669	602	554	518	464	427
1800		2098	1498	1151	876	658	552	484	437	400	347	309
2000		1980	1380	1033	758	539	433	366	318	282	229	191
2200		1859	1259	912	637	418	312	245	197	161	107	69

Example : 308063S → D89 / 15, Carrying Roll.
308063S → D89 / 15, Return Roll.

HEAVY DUTY ROLLERS TYPE 309016

The shell is made from steel tube with very close tolerances according to Dugomrulli standard specifications. The housing are made of stamped plate and welded to the tube. Welding is performed by special automatic machines which guarantee the perfect execution and centering of the rollers. Bearings are radial precision bearing of the leading brand names and are dimensioned for rated lives from 10,000 to 50,000 hours. Dugomrulli rollers are fitted with Ermex C6 seals, which protect bearings and lubricants grease from outside particles intrusion. The special compact design of these seals minimizes the distance between bearings and supports, hence increasing actual roller load capacity. They are designed specifically to withstand shocks, vibrations and great axial loads. These rollers are used on high speed continuously operating belt conveyors handling heavy materials even in unfavourable environment conditions. Also for conveyors handling very heavy unit loads in unfavourable environment conditions.



B	B	B	ROLLER LENGTH (L)
		400	168
		500	208
		600	233
	400	650	258
	500		308
		800	323
	600		360
	650	1000	388
	800	1200	473
400			488
		1400	538
500	1000	1600	608
		1800	678
600	1200		708
650		2000	758
800			958
1000			1158
1200			1408
1600			1808
2000			2208

* Code *	* 309016 *
D	89
s	3
b	9
e	4
B = BELT WIDTH	
* Bearing *	6204
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a (Kg.)	0.0089
f (Kg)	0.686
Min. (L)	115
Max. (L)	2600
Execultions upon request	CH14

RATED LOADS

The following tables show the loads of the rollers for 10,000 hours according to speed length.

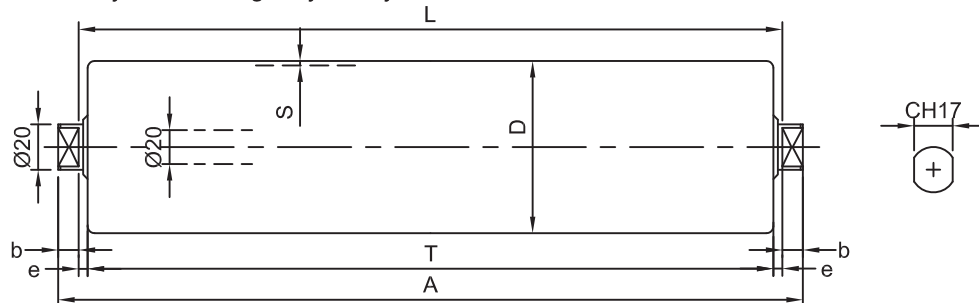
* Code *	* D *	* R.P.M. *									
		10	25	50	100	200	300	400	500	600	800
		V = (m/sec.)									
309016	89	0.047	0.12	0.23	0.47	0.93	1.40	1.86	2.33	2.80	3.73
L = (mm)		Load of the roll (N)									
≤ 400		6200	5150	4087	3244	2575	2249	2044	1897	1785	1622
600		5724	4757	4087	3244	2575	2249	2044	1897	1785	1622
800		5074	4107	3548	3105	2575	2249	2044	1897	1785	1622
1000		4661	3694	3135	2692	2340	2169	2044	1897	1785	1622
1200		4355	3388	2830	2386	2035	1864	1755	1678	1620	1534
1400		4104	3137	2578	2135	1783	1612	1504	1427	1368	1282
1600		3881	2914	2356	1913	1561	1390	1281	1204	1146	1060
2000		3474	2507	1948	1505	1153	982	874	797	738	652

Example : 309016 → D89 / 20, Carrying Roll.

309016 → D89 / 20, Return Roll.

HEAVY DUTY ROLLERS TYPE 309016

The shell is made from steel tube with very close tolerances according to Dugomrulli standard specifications. The housing are made of stamped plate and welded to the tube. Welding is performed by special automatic machines which guarantee the perfect execution and centering of the rollers. Bearings are radial precision bearing of the leading brand names and are dimensioned for rated lives from 10,000 to 50,000 hours. Dugomrulli rollers are fitted with Ermex C6 seals, which protect bearings and lubricants grease from outside particles intrusion. The special compact design of these seals minimizes the distance between bearings and supports, hence increasing actual roller load capacity. They are designed specifically to withstand shocks, vibrations and great axial loads. These rollers are used on high speed continuously operating belt conveyors handling heavy materials even in unfavourable environment conditions. Also for conveyors handling very heavy unit loads in unfavourable environment conditions.



B	B	B	ROLLER LENGTH (L)
		400	168
		500	208
		600	233
	400	650	258
	500		308
		800	323
	600		360
	650	1000	388
	800	1200	473
400			488
		1400	538
500	1000	1600	608
		1800	678
600	1200		708
650		2000	758
800			958
1000			1158
1200			1408
1600			1808
2000			2208

* Code *	* 309017 *
D	108
s	3.5
b	9
e	4
B = BELT WIDTH	
* Bearing *	6204
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a(Kg.)	0.0115
f (Kg)	0.746
Min. (L)	115
Max. (L)	2800
Executions upon request	CH14

RATED LOADS

The following tables show the loads of the rollers for 10,000 hours according to speed length.

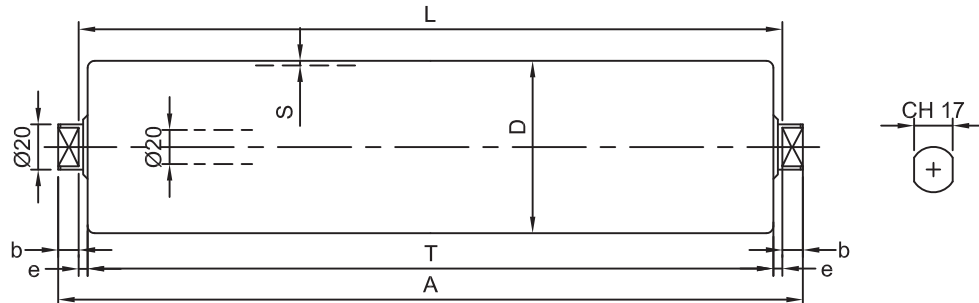
* Code *	* D *	* R.P.M. *									
		10	25	50	100	200	300	400	500	600	800
		V = (m/sec.)									
309017	108	0.057	0.14	0.28	0.57	1.13	1.70	2.26	2.83	3.39	4.52
L = (mm)		Load of the roll (N)									
≤ 400		6200	5150	4087	3244	2575	2249	2044	1897	1785	1622
600		5724	4757	4087	3244	2575	2249	2044	1897	1785	1622
800		5074	4107	3548	3105	2575	2249	2044	1897	1785	1622
1000		4661	3694	3135	2692	2340	2169	2044	1897	1785	1622
1200		4355	3388	2830	2386	2035	1864	1755	1678	1620	1534
1400		4104	3137	2578	2135	1783	1612	1504	1427	1368	1282
1600		3881	2914	2356	1913	1561	1390	1281	1204	1146	1060
2000		3474	2507	1948	1505	1153	982	874	797	738	652

Example : 309017 → D108 / 20, Carrying Roll.

309017 → D108 / 20, Return Roll.

HEAVY DUTY ROLLERS TYPE 309018

The shell is made from steel tube with very close tolerances according to Dugomrulli standard specifications. The housing are made of stamped plate and welded to the tube. Welding is performed by special automatic machines which guarantee the perfect execution and centering of the rollers. Bearings are radial precision bearing of the leading brand names and are dimensioned for rated lives from 10,000 to 50,000 hours. Dugomrulli rollers are fitted with Ermex C6 seals, which protect bearings and lubricants grease from outside particles intrusion. The special compact design of these seals minimizes the distance between bearings and supports, hence increasing actual roller load capacity. They are designed specifically to withstand shocks, vibrations and great axial loads. These rollers are used on high speed continuously operating belt conveyors handling heavy materials even in unfavourable environment conditions. Also for conveyors handling very heavy unit loads in unfavourable environment conditions.



B	B	B	ROLLER LENGTH (L)
		400	168
		500	208
		600	233
	400	650	258
	500		308
		800	323
	600		360
	650	1000	388
	800	1200	473
400			488
		1400	538
500	1000	1600	608
		1800	678
600	1200		708
650		2000	758
800			958
1000			1158
1200			1408
1600			1808
2000			2208

* Code *	* 309018 *
D	133
s	4
b	9
e	4
B = BELT WIDTH	
* Bearing *	6204
Weight : $Pr = L \times a + f$ (Kg.)	
Weight per mm a(Kg.)	0.0153
f (Kg)	0.936
Min. (L)	115
Max. (L)	2800
Executions upon request	CH14

RATED LOADS

The following tables show the loads of the rollers for 10,000 hours according to speed length.

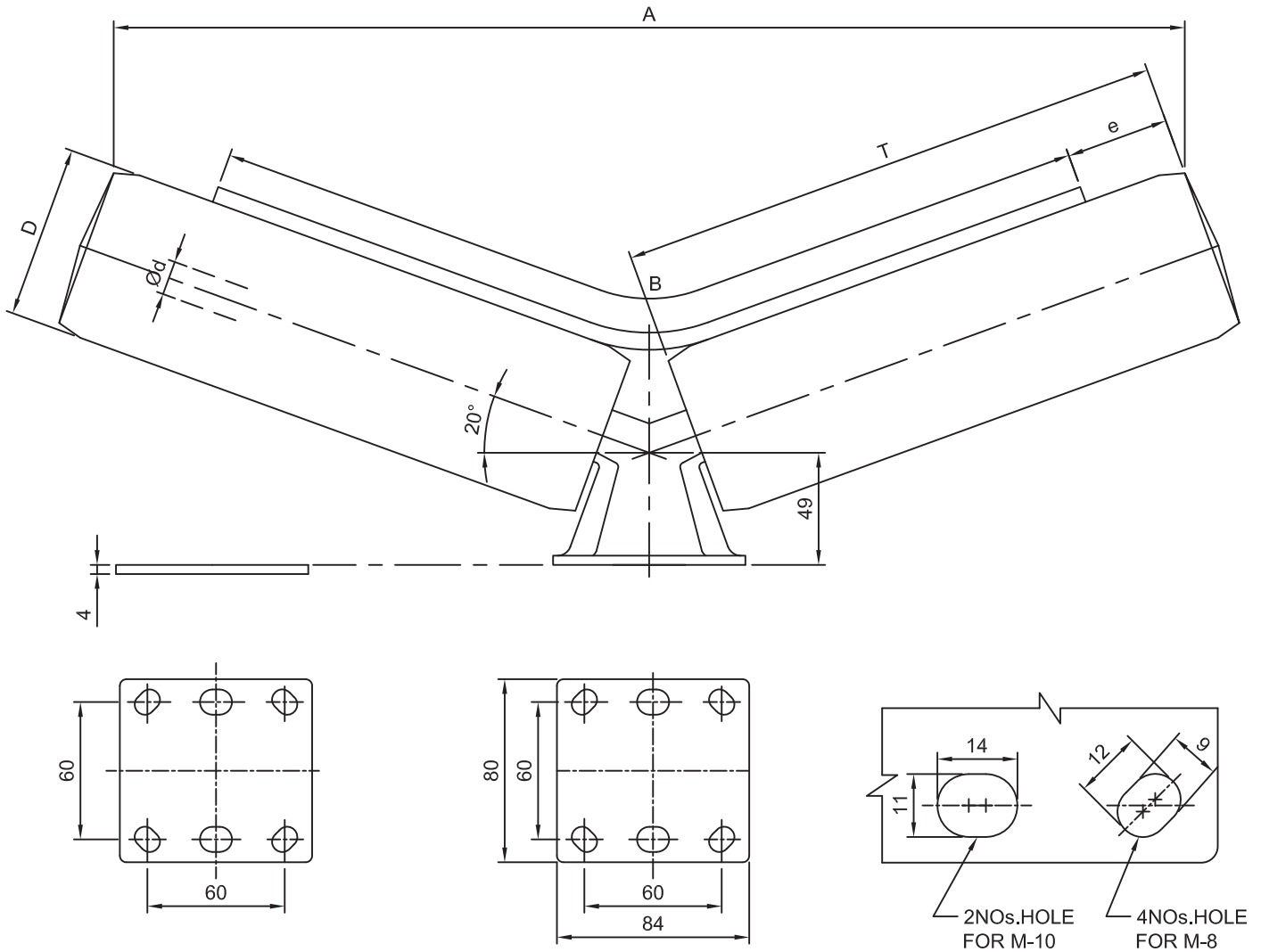
* Code *	* D *	* R.P.M. *									
		10	25	50	100	200	300	400	500	600	800
		V = (m/sec.)									
309018	133	0.070	0.17	0.35	0.70	1.39	2.09	2.79	3.48	4.18	5.57
L = (mm)		Load of the roll (N)									
≤ 400		6200	5150	4087	3244	2575	2249	2044	1897	1785	1622
600		5724	4757	4087	3244	2575	2249	2044	1897	1785	1622
800		5074	4107	3548	3105	2575	2249	2044	1897	1785	1622
1000		4661	3694	3135	2692	2340	2169	2044	1897	1785	1622
1200		4355	3388	2830	2386	2035	1864	1755	1678	1620	1534
1400		4104	3137	2578	2135	1783	1612	1504	1427	1368	1282
1600		3881	2914	2356	1913	1561	1390	1281	1204	1146	1060
2000		3474	2507	1948	1505	1153	982	874	797	738	652

Example : 309018 → D133 / 20, Carrying Roll.

309018 → D133 / 20, Return Roll.

CANTILEVER 2 ROLL IDLERS TYPE 314011

Rolls with hermetically sealed ends, lubricated for life and protected by ERMEX C6 seals.
 They are mounted on central support forming a very strong monolithic structure with Ø15mm shaft.
 The minimum distance in the center between the two rollers permits the use of externally flexible beltings.
 The idler has to be bolted to flat supporting base (made up of example of base attachment type 110080) and
 can be easily positioned for proper belt alignment.
 The table above shows the rated loads for 10,000Hr life, the weight and the assembling dimensions

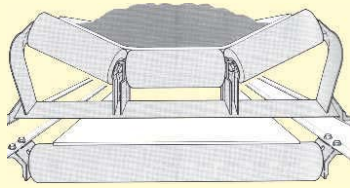


* Code *	D	d	T	A	C	e	WEIGHT (Kg,)	BELT SPEED (m/sec.)		
								1	1.5	2
314011										
Max.Load on 1 roll (dan)										
B 400	76	15	240	465	174	45	3.55	74	58	48
500	76	15	300	577	194	55	4.16	74	58	48
600	76	15	350	670	212	55	4.67	74	58	48

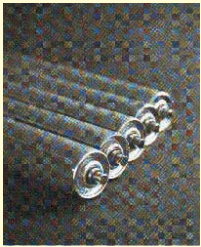
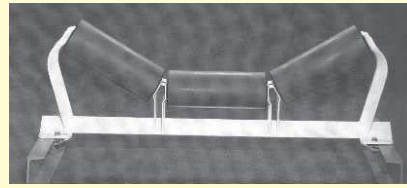
Example : 314011 → D76 /15, 2 Roll Idler..

1 daN = 1Kgf = 10 N

OTHER PRODUCTS



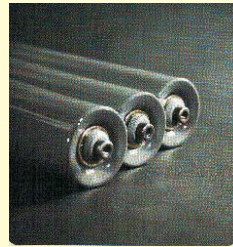
Bulk Handling Idlers



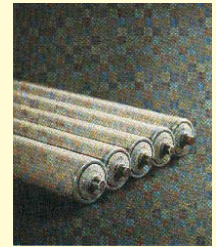
Light Duty Idle Rollers



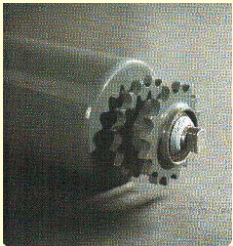
Medium Duty Idle Rollers



Heavy Duty Idle Rollers



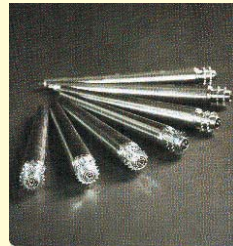
Plastic Idle Rollers



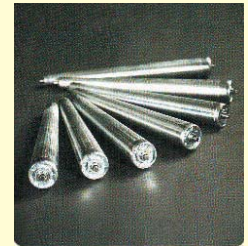
Chain Driven Live Rollers



Light Duty Chain-Driven Live and Friction Rollers



Chain Driven Rollers for Curved Sections



Idle Conical Rollers for Curved Sections



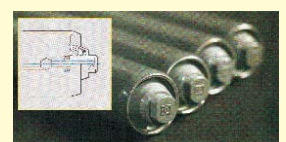
Tapered Rollers with Polypropylene Inserts



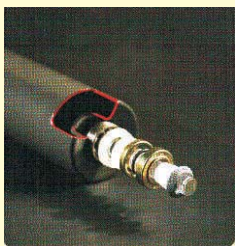
Rollers on Centers



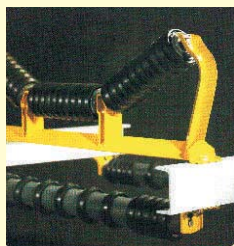
Bulk Handling Rollers



Bulk Handling Rollers



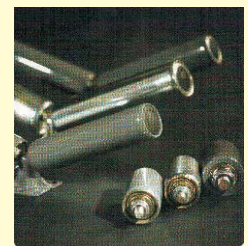
Heavy Duty Bulk Handling Rollers



Rubber Tread Rollers



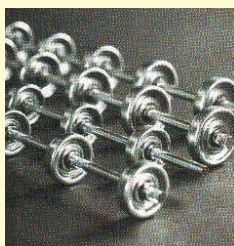
Transoms



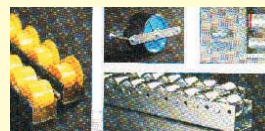
Cantiliver 2-Roll Idlers
Belt Guide Rollers



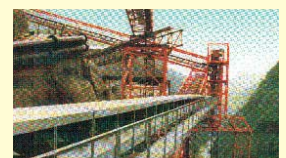
Belt-Driven Rollers for High Speed Conveyors



Skate Wheel

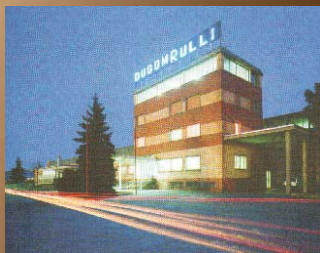


Components for Live Storages



Application

Sole Distributor :



Meritt

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DUGOMRULLI
ITALY

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