



### **2.5.2 Series TOP**

#### **New thermoplastic polymer roller**

New, very flexible roller series, suitable in applications where a low weight is requested, corrosive material or environment is present, high humidity, smooth and low noise operation is necessary, or where low resistances and low energy consumption are researched.

TOP rollers are suitable for use in a wide variety of applications and products such as cement, coal, gravel, fertilisers, ports, chemicals and many others.

**Working temperature: -25 /+50 °C**





## 2 Rollers

### series TOP

#### Characteristics

##### Shell

- Outer shell: High Density Polyethylene (HDPE) tube, black colour, anti-corrosion to the main chemical aggressive elements. Extra deep press fit between the tube and the bearing housing.
- Reinforcing steel tube fitted inside the HDPE shell, for rollers lengths  $B > 600$ .

##### Bearing housings

Homopolymer Acetal Resin (POM), colour: yellow RAL 1018

High resistance techno-polymer moulded material, very robust, light, flexible, shock resistant and anti-corrosion to the main chemical aggressive elements.

##### Spindle

Diameters 20 & 25 in drawn steel, ground or fine calibrated to guarantee the best fit within bearings.

##### Bearings

Radial precision ball bearings series 6204 & 6205 increased internal clearance C3.

##### Sealing

Available in both hermetic (TOP/V) and contactless (TOP/C) executions, guaranteeing excellent performance in the presence of any kind of contaminant

- **TOP C1 & C2: Contactless execution**  
recommended where a very low resistance is preferable or requested, with outdoor normal environmental conditions.

Stoneguard & Covercap in POM, Labyrinth & Inner seal in PA6.

- **TOP V1 & V2: Hermetic execution**  
(hermetic seals same as PSV series rollers) recommended in presence of rain, water, salt water, high humidity, powder, sand, dust or dirty applications in general.

Stoneguard in POM, V-ring rubber sliding lip seal, Covercap in steel, Labyrinth & Inner seal in PA6.

##### Max lengths

Std. TOP roller max  $C=608$  mm;  
TOP rollers reinforced exec. max  $C=1608$ .

##### Lubrication

Life lubricated rollers assembled at the factory, with water repellent, anti rust, long life, high pressure, lithium grease NLGI grade 2 (or 3 on request). Special low temperature grease available on request for working temperatures below  $-20^{\circ}\text{C}$ .

##### Load capacity

See following tables of the different diameters and shafts.

##### Caution:

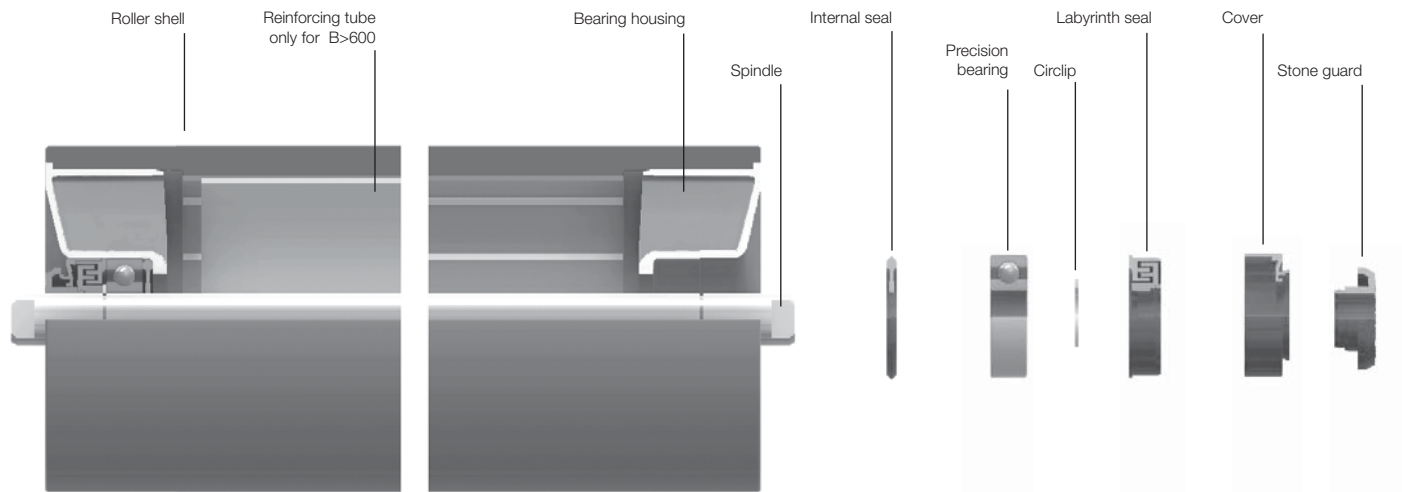
Before assembly carry TOP rollers (up to  $B=600$ ) into the conveyor, please store the rollers indoor or away from direct sun or heat sources, in order to avoid permanent deformation of the HDPE shell.

**Features and benefits.**

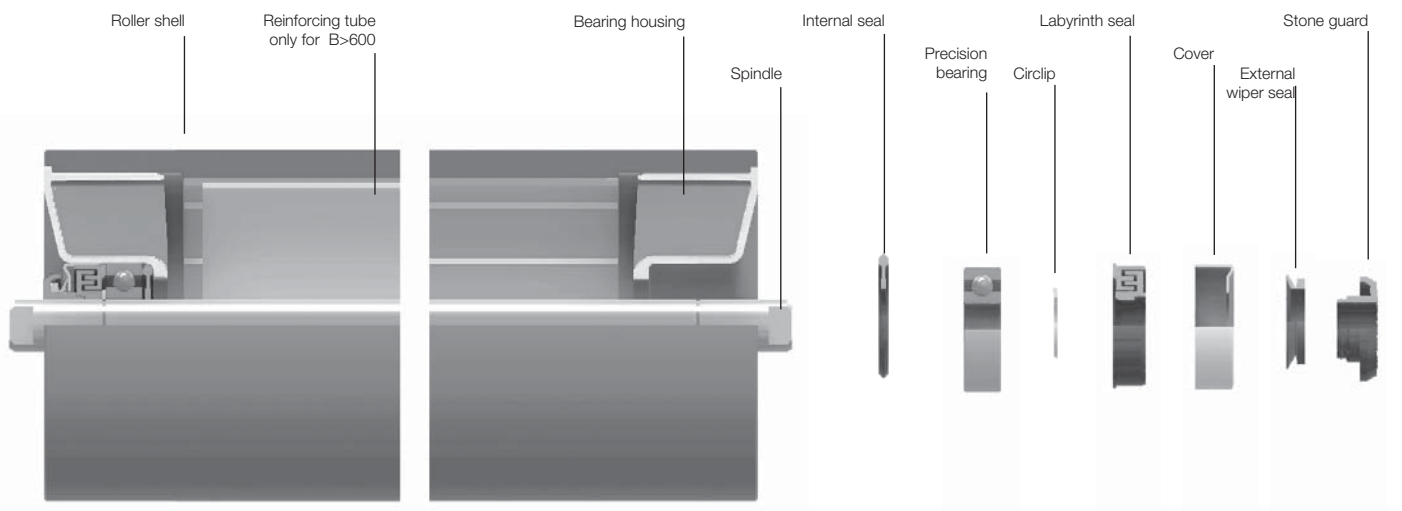
- lower weight with respect to a steel roller (about 50% for carry rollers). That means:
  - lower power consumption during start/stop operation of the belt conveyor and therefore reduction of power requirements on the plant;
  - easier mounting/maintenance operations, preventing back injuries of the operator and guaranteeing a safer intervention, especially in applications where roller mounting or replacement might be critical (suspended belt conveyor, difficult access, long conveyors etc.)
  - easier/cheaper transportation

- low level of abrasion and corrosion of the roller (wear resistant). That means:
  - longer life of the roller;
  - lower maintenance of the whole plant.
- belt friendly, since HDPE tube will not wear the belt
- high resistance to chemical agents. That means:
  - the roller will not rust
  - the roller is suitable for a wide variety of applications even very wet and aggressive
- low noise emission (due to polymers noise absorption)

- self-cleaning roller surface. That means:
  - prevention of build up of material, main cause of belt miss-tracking
  - less spillage from the belt
- low running resistance sealing system (contact-less execution). That means:
  - lower motor torque needed in conveyor starts
  - lower motor power size
  - reduction of energy consumption of the belt conveyor (added effect to that of the lower weight)
  - lower belt wear



TOP/C Contactless

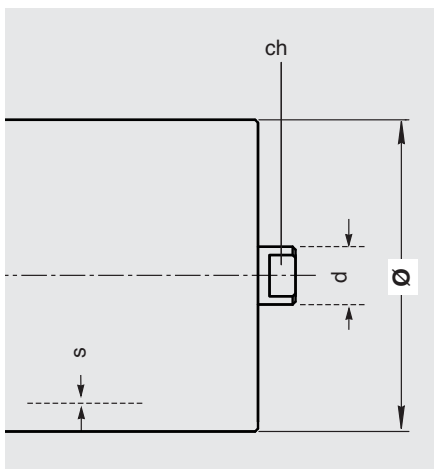


TOP/V Hermetic



## 2 Rollers

The table indicates the diameters of rollers in production.  
 Roller dimensions Ø89, 108, 133 acc. to DIN 15207 & ISO 1537  
 Roller diameters 102 (4"), 127 (5") acc. to CEMA C4 & C5.  
 Upon request rollers may be supplied with lengths and shaft extensions according to BS, JIS, AFNOR, FEM and other norms, or different shaft executions.

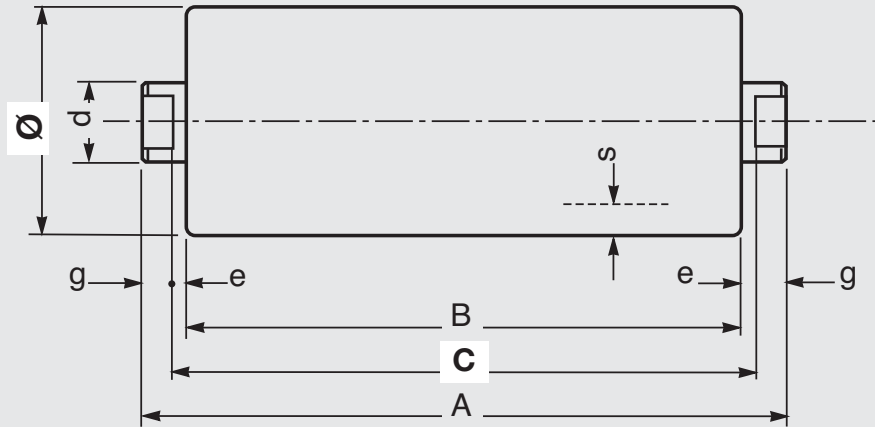
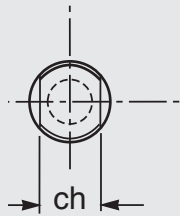


### Programme of production series TOP/C & TOP/V

roller type	ø mm	shell type	HDPE tube s	Inner steel tube (B>600)	spindle		bearings	notes Std. features
					d	ch		
TOP/C1 Contactless	89	PE NPE	9.0	Ø65x1.5	20	14	6204 C3	Tube HDPE black. POM brg. housings yellow RAL 1018 Spindle & inner steel tube (where present): steel S235JR (Fe360, St 37), open slots.
	108	PE NPE	9.5	Ø80x1.5				
TOP/V1 Hermetic	133	PE NPE	11.0	Ø108x2	25	18	6205 C3	
	102 (4")	PE NPE	9.5	Ø80x1.5				
TOP/C2 Contactless	127 (5")	PE NPE	10.5	Ø102x2	25	18	6205 C3	
	133	PE NPE	11.0	Ø108x2				

#### Options on request:

- Stainless steel shaft in AISI 304 or 316
- Stainless steel covercaps in AISI 304 (only for the TOP/V Hermetic executions)
- Stainless steel bearings in AISI 440
- Alternative shaft executions: See page 82-83



**series**

**TOP C/1**  
**TOP V/1**

**Ø 89PE**


**Ø 89NPE\***

Bearing 6204  
(20 x 47 x 14)

- d = 20
- ch = 14
- s = 9
- e = 4
- g = 9

- standard design
- TOP/C1 20F 89PE 323
- Contactless execution,
- HDPE shell
- TOP/V1 20F 89PE 473
- Hermetic execution, HDPE
- shell
- TOP/C1 20F 89NPE 708
- Contactless execution,
- reinforced shell HDPE+steel
- TOP/V1 20F 89NPE 708
- Hermetic execution,
- reinforced shell HDPE+steel

For special shaft executions see  
pages 80-82-83

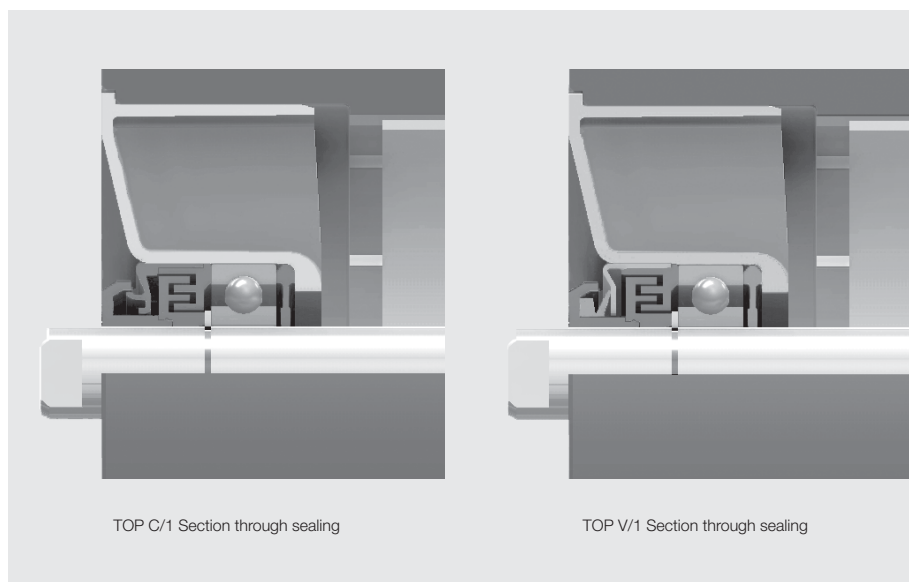
width mm	dimensions mm			weight Kg	load capacity daN					
arrangements 	B	C	A	rotating parts	belt speed m/s					
<b>168208258323388</b>	<b>735085386087087</b>	<b>5880895811581</b>	<b>4081608</b>		0,5	1	1,5	2	2,5	3

\* TOP rollers lengths with reinforcing internal steel tube



## 2 Rollers


series  
**TOP C/1**  
**TOP V/1**



**Ø 108PE**  
**Ø 108NPE\***

Bearing 6204  
 (20 X 47 X 14)

d = 20  
 ch = 14  
 s = 9,5  
 e = 4  
 g = 9

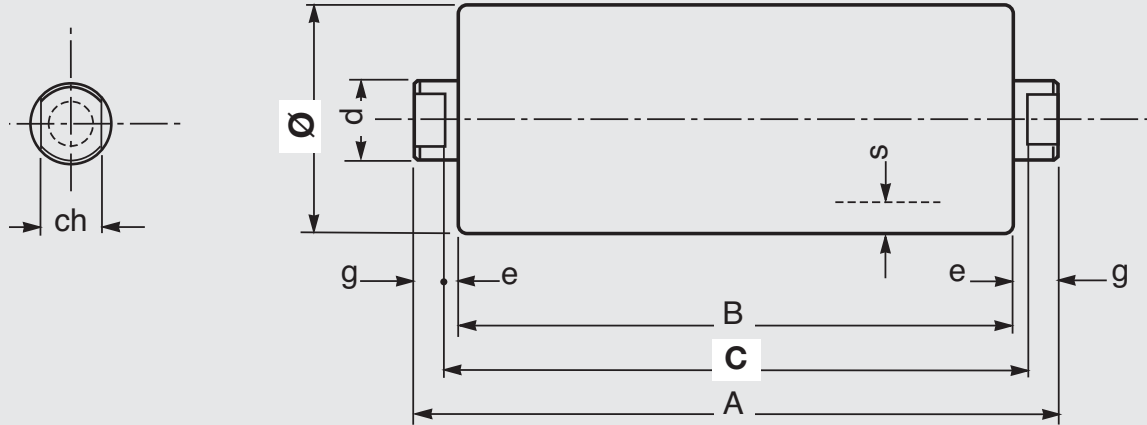
belt	roller												
	width mm			dimensions mm			weight Kg		load capacity daN				
arrangements 	B	C	A	rotating parts		belt speed m/s							
				parts	total	1	1.5	2	2.5	3	3,5		
	400	160	168	186	0,85	1,39	191	191	191	191	191	191	
	300	500	200	208	226	0,97	1,60	191	191	191	191	191	
	400	650	250	258	276	1,11	1,86	191	191	191	191	191	
	500	800	315	323	341	1,29	2,21	191	191	191	191	191	
300	650	1000	380	388	406	1,47	2,55	168	168	168	168	168	
	800	1200	465	473	491	1,71	3,00	132	132	132	132	132	
400		500	508	526	1,81	3,18	121	121	121	121	121	121	
	1400	530	538	556	1,89	3,34	113	113	113	113	113	113	
500	1000	600	608	626	2,09	3,71	98	98	98	98	98	98	
	1200	700	708	726*	4,06	5,93	80	80	80	80	80	80	
650		750	758	776*	4,34	6,34	73	73	73	73	73	73	
	1400	800	808	826*	4,63	6,75	68	68	68	68	68	68	
800		950	958	976*	5,49	7,98	55	55	55	55	55	55	
1000		1150	1158	1176*	6,63	9,61	42	42	42	42	42	42	
1200		1400	1408	1426*	8,06	11,66	32	32	32	32	32	32	
1400		1600	1608	1626*	9,20	13,30	25	25	25	25	25	25	

\* TOP rollers lengths with reinforcing internal steel tube

**Example of ordering**  
 TOP/C1 20F 108PE 323  
 Contactless execution,  
 HDPE shell  
 TOP/V1 20F 108PE 473  
 Hermetic execution, HDPE  
 shell

TOP/C1 20F 108NPE 708  
 Contactless execution,  
 reinforced shell HDPE+steel  
 TOP/V1 20F 108NPE 708  
 Hermetic execution,  
 reinforced shell HDPE+steel

For special shaft executions  
 see pages 80-82-83




series

**TOP C/1**  
**TOP V/1**

**Ø 133PE**  
**Ø 133NPE\***

Bearing 6204  
(20 x 47 x 14)

d = 20  
ch = 14  
s = 11  
e = 4  
g = 9

belt	roller					weight		load capacity						
	width mm			dimensions mm		Kg		daN						
arrangements 				B	C	A	rotating parts total		belt speed m/s					
									0,5	1	1.5	2	2.5	3
400				160	168	186	1,09	1,62	205	205	205	205	205	205
300 500				200	208	226	1,25	1,88	205	205	205	205	205	205
400 650				250	258	276	1,45	2,21	205	205	205	205	205	205
500 800				315	323	341	1,71	2,63	205	205	205	205	205	205
300 650 1000				380	388	406	1,97	3,05	168	168	168	168	168	168
800 1200				465	473	491	2,32	3,60	131	131	131	131	131	131
400				500	508	526	2,46	3,83	121	121	121	121	121	121
1400				530	538	556	2,58	4,03	113	113	113	113	113	113
500 1000				600	608	626	2,86	4,48	97	97	97	97	97	97
1200				700	708	726*	6,30	8,17	77	77	77	77	77	77
650				750	758	776*	6,77	8,76	71	71	71	71	71	71
1400				800	808	826*	7,23	9,35	65	65	65	65	65	65
800				950	958	976*	8,62	11,11	51	51	51	51	51	51
1000				1150	1158	1176*	10,47	13,45	38	38	38	38	38	38
1200				1400	1408	1426*	12,79	16,39	27	27	27	27	27	27
1400				1600	1608	1626*	14,64	18,74	20	20	20	20	20	20

\* TOP rollers lengths with reinforcing internal steel tube

**Example of ordering**  
standard design  
TOP/C1 20F 133PE 323  
Contactless execution,  
HDPE shell  
TOP/V1 20F 133PE 473  
Hermetic execution, HDPE  
shell

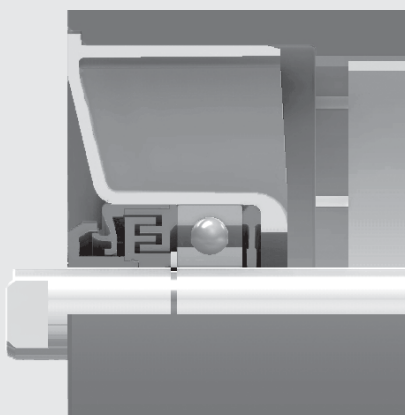
TOP/C1 20F 133NPE 708  
Contactless execution,  
reinforced shell HDPE+steel  
TOP/V1 20F 133NPE 708  
Hermetic execution,  
reinforced shell HDPE+steel

For special shaft executions  
see pages 80-82-83

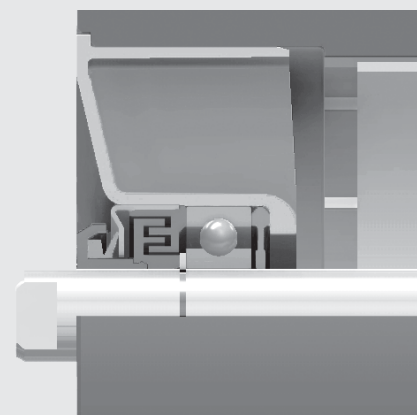


## 2 Rollers

series  
**TOP C/2**  
**TOP V/2**



TOP C/2 Section through sealing




TOP V/2 Section through sealing

**Ø 102PE**  
**Ø 102NPE\***

Bearing 6205  
 (25x52x15)

d = 25  
 ch = 18  
 s = 9,5  
 e = 4  
 g = 12

belt	roller						load capacity						
	width mm			dimensions mm			weight Kg		daN				
arrangements 	B	C	A	rotating parts		belt speed m/s							
				parts	total	1	1.5	2	2.5	3	3,5		
400	160	168	192	0,87	1,70	287	287	269	249	235	223		
300 500	200	208	232	0,97	1,96	287	287	268	249	234	223		
400 650	250	258	282	1,10	2,28	287	287	268	249	234	223		
500 800	315	323	347	1,28	2,70	287	287	268	249	234	222		
300 650 1000	380	388	412	1,45	3,13	287	287	268	249	234	222		
800 1200	465	473	497	1,67	3,68	250	250	250	249	234	222		
400	500	508	532	1,76	3,91	232	232	232	232	232	222		
1400	530	538	562	1,84	4,10	219	219	219	219	219	219		
500 1000	600	608	632	2,03	4,56	157	157	157	157	157	157		
1200	700	708	732*	3,98	6,90	200	200	200	200	200	200		
650	750	758	782*	4,26	7,37	184	184	184	184	184	184		
1400	800	808	832*	4,53	7,84	171	171	171	171	171	171		
800	950	958	982*	5,37	9,25	141	141	141	141	141	141		
1000	1150	1158	1182*	6,48	11,13	113	113	113	113	113	113		
1200	1400	1408	1432*	7,86	13,48	89	89	89	89	89	89		
1400	1600	1608	1632*	8,97	15,37	75	75	75	75	75	75		

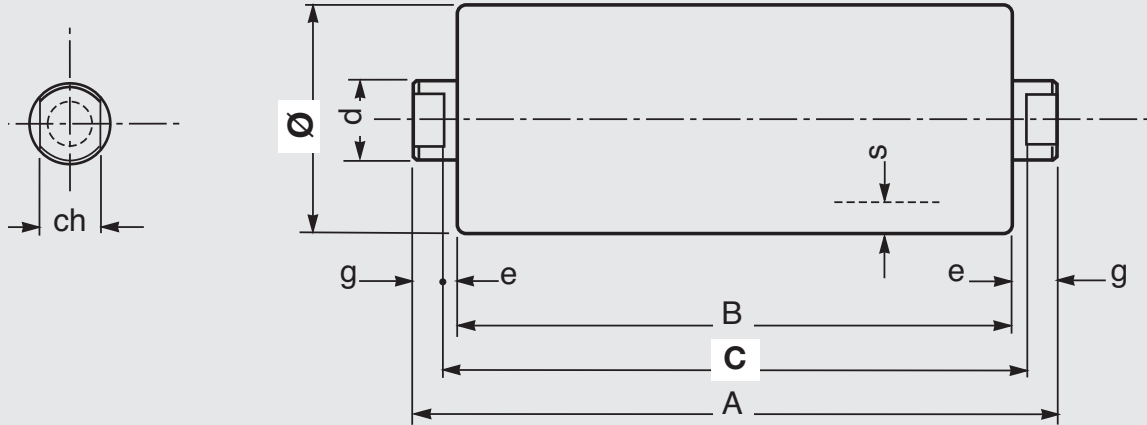
\* TOP rollers lengths with reinforcing internal steel tube

**Example of ordering**  
 standard design  
 TOP/C2 25F 102PE 323  
 Contactless execution,  
 HDPE shell  
 TOP/V2 25F 102PE 473  
 Hermetic execution, HDPE  
 shell

TOP/C2 25F 102NPE 708  
 Contactless execution,  
 reinforced shell HDPE+steel  
 TOP/V2 25F 102NPE 708  
 Hermetic execution,  
 reinforced shell HDPE+steel

For special shaft executions  
 see pages 80-82-83





series  
**TOP C/2**  
**TOP V/2**

**Ø 127PE**  
**Ø 127NPE\***


Bearing 6205  
(25 x 52 x 15)

d = 25  
ch = 18  
s = 10,5  
e = 4  
g = 12

**Example of ordering**  
standard design  
TOP/C2 25F 127PE 323  
Contactless execution,  
HDPE shell  
TOP/V2 25F 127PE 473  
Hermetic execution, HDPE  
shell

TOP/C2 25F 127NPE 708  
Contactless execution,  
reinforced shell HDPE+steel  
TOP/V2 25F 127NPE 708  
Hermetic execution,  
reinforced shell HDPE+steel

For special shaft executions  
see pages 80-82-83

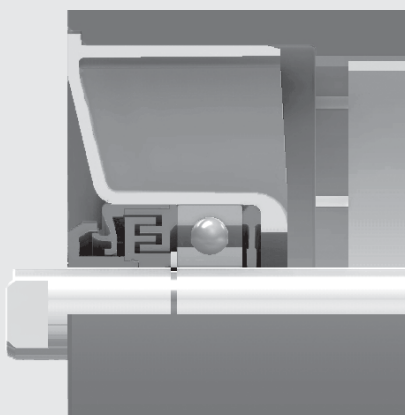
belt	roller			weight		load capacity					
	width mm	dimensions mm			Kg		daN				
arrangements 	B	C	A	rotating		belt speed m/s					
				parts	total	1	1,5	2	2,5	3	4
400	160	168	192	1,08	1,91	309	309	289	268	252	229
300 500	200	208	232	1,22	2,21	309	309	289	268	252	229
400 650	250	258	282	1,41	2,58	309	309	289	268	252	229
500 800	315	323	347	1,65	3,07	309	309	288	268	252	229
300 650 1000	380	388	412	1,88	3,56	309	309	288	267	251	228
800 1200	465	473	497	2,20	4,20	309	309	288	267	251	228
400	500	508	532	2,32	4,47	295	295	288	267	251	228
1400	530	538	562	2,43	4,69	276	276	276	267	251	228
500 1000	600	608	632	2,69	5,22	239	239	239	239	239	227
1200	700	708	732*	5,93	8,84	197	197	197	197	197	197
650	750	758	782*	6,36	9,47	182	182	182	182	182	182
1400	800	808	832*	6,79	10,09	169	169	169	169	169	169
800	950	958	982*	8,08	11,96	138	138	138	138	138	138
1000	1150	1158	1182*	9,80	14,46	109	109	109	109	109	109
1200	1400	1408	1432*	11,96	17,58	85	85	85	85	85	85
1400	1600	1608	1632*	13,68	20,07	70	70	70	70	70	70

\* TOP rollers lengths with reinforcing internal steel tube

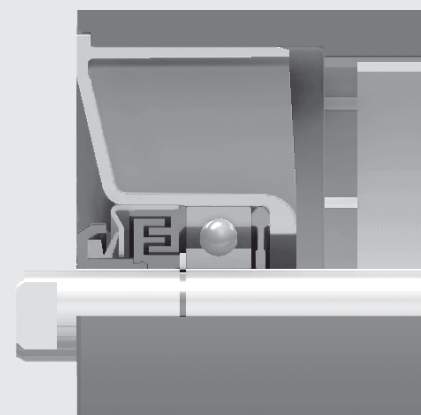


## 2 Rollers

series  
**TOP C/2**  
**TOP V/2**



TOP C/2 Section through sealing




TOP V/2 Section through sealing

**Ø 133PE**  
**Ø 133NPE\***

Bearing 6205  
 (25x52x15)

d = 25  
 ch = 18  
 s = 11  
 e = 4  
 g = 12

belt	roller						load capacity						
	width mm			dimensions mm			weight Kg		daN				
arrangements 	B	C	A	rotating parts		belt speed m/s							
				parts	total	1	1.5	2	2.5	3	4		
400	160	168	192	1,15	1,98	309	309	289	268	252	229		
300 500	200	208	232	1,31	2,30	309	309	289	268	252	229		
400 650	250	258	282	1,51	2,69	309	309	289	268	252	229		
500 800	315	323	347	1,77	3,20	309	309	288	268	252	229		
300 650 1000	380	388	412	2,04	3,71	309	309	288	267	251	228		
800 1200	465	473	497	2,38	4,39	309	309	288	267	251	228		
400	500	508	532	2,52	4,66	295	295	288	267	251	228		
1400	530	538	562	2,64	4,90	276	276	276	267	251	228		
500 1000	600	608	632	2,92	5,45	239	239	239	239	239	227		
1200	700	708	732*	6,36	9,28	197	197	197	197	197	197		
650	750	758	782*	6,83	9,94	182	182	182	182	182	182		
1400	800	808	832*	7,29	10,59	169	169	169	169	169	169		
800	950	958	982*	8,68	12,56	138	138	138	138	138	138		
1000	1150	1158	1182*	10,53	15,19	109	109	109	109	109	109		
1200	1400	1408	1432*	12,85	18,47	85	85	85	85	85	85		
1400	1600	1608	1632*	14,70	21,10	70	70	70	70	70	70		

\* TOP rollers lengths with reinforcing internal steel tube

**Example of ordering**  
 TOP/C2 25F 133PE 323  
 Contactless execution,  
 HDPE shell  
 TOP/V2 25F 133PE 473  
 Hermetic execution, HDPE  
 shell

TOP/C2 25F 133NPE 708  
 Contactless execution,  
 reinforced shell HDPE+steel  
 TOP/V2 25F 133NPE 708  
 Hermetic execution,  
 reinforced shell HDPE+steel

For special shaft executions  
 see pages 80-82-83