



# PRECISION CYLINDRICAL ROLLERS & NEEDLE ROLLERS



**RGPBALLS**  
A WORLD OF SPECIAL BALLS

# COMPANY PROFILE

RGP INTERNATIONAL SRL, was founded in 1973 and is worldwide well known top player in the production of precision balls, cylindrical rollers and needles, ball transfers and different components for linear motion.

The specific strength and power of our Group is the widest range in the world of sizes, materials and grades completely available in one source of supply.

The Group is employing 420 people worldwide and the North Milan facility is employing 60 people and covers 10,000 square meters including headquarters, warehouses, logistic, workshop, quality control department.

The Company is ISO 9001:2008 as well as ISO 14001:2004 certified and our QC Dept is equipped with high tech control machines testing all technical features of our products and supplying raw material and 3.1 certificates for each batch inspected.

Our warehouses are constantly filled with more than 4,000 Tons of finished goods in order to satisfy in the shortest terms the requirements of our worldwide Customers.

RGP mission and goal is to guarantee all our Customers with the highest International Standards quality levels.

Our Engineers will be glad to suggest the most appropriate choice of materials for any specific applications.

## PRECISION CYLINDRICAL ROLLERS & NEEDLE ROLLERS

RGP manufactures precision cylindrical rollers & needle rollers according to UNI/DIN standards and even according to customer's drawing. They are available in a wide range of dimensions and precision grades, with gauges selected according to standard tolerance classes.

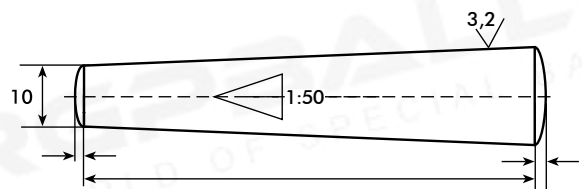
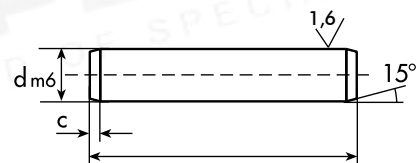
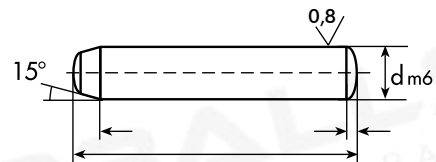
Main applications are in automotive industry, bearings industry, aeronautic industry, sliders, aeolic field, vibro finishing, etc. We are at complete disposal for any further details on this subject.

Type of available rollers:

- NRA rollers
- NRB rollers
- ZB rollers
- TR rollers
- TP rollers
- Rod ends rollers
- Conical rollers
- Special rollers on request
- Needle rollers according to UNI/DIN standards
- Needle rollers for burnishing / vibro finishing / polishing

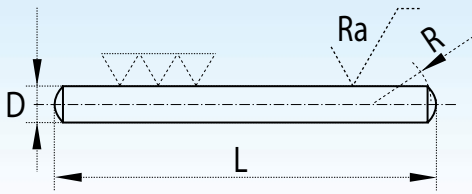
Materials:

- AISI52100/100Cr6/W 1.3505
- AISI304/W 1.4301
- AISI316/W 1.4401
- AISI420C/W 1.4034
- AISI430/W 1.4016
- AISI440C/W 1.4125
- Silicon Nitride Si3N4
- Aluminum Oxide Al2O3
- Tungsten Carbide

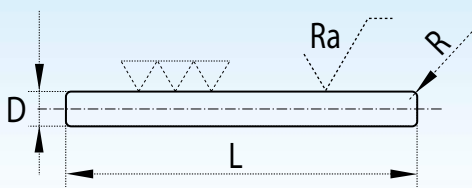


# CYLINDRICAL ROLLERS & NEEDLE ROLLERS

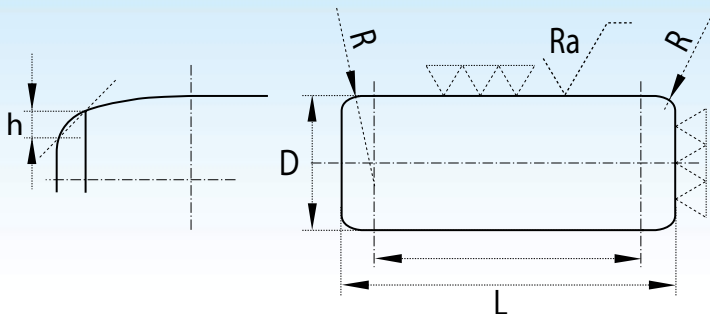
## “NRA” TYPE - ROUND ENDS



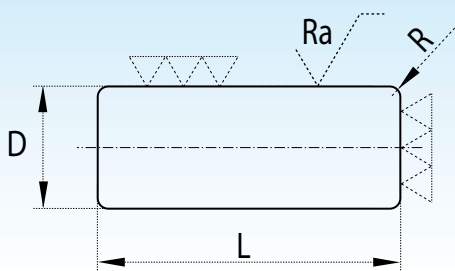
## “NRB” TYPE - FLAT ENDS



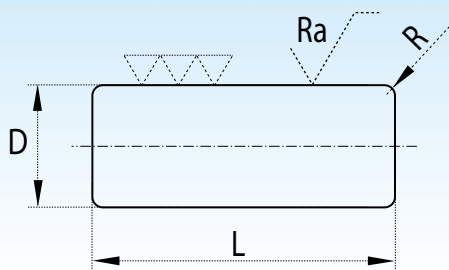
## “ZB” TYPE - LOGARITHMIC PROFILE



## “TR” TYPE - GROUND ENDS



## “TP” TYPE - FLAT UNGROUND ENDS



# TECHNICAL DATA

	"NRA" TYPE Round ends	"NRB" TYPE Flat ends	"ZB" TYPE Logarithmic profile	"TP" TYPE Flat unground ends	"TR" TYPE Ground ends
<b>Smaller diameter</b>	1 mm	1 mm	3 mm	3 mm	3 mm
<b>Larger diameter</b>	10 mm	10 mm	80 mm	80 mm	80 mm
<b>Diameter tolerance *</b>	+0/-10 µm	+0/-10 µm	+0/-10 µm	+0/-10 µm	+0/-10 µm
<b>Minimum length</b>	5,8 mm	5,8 mm	4 mm	4 mm	4 mm
<b>Maximum length</b>	59,8 mm	59,8 mm	120 mm	120 mm	120 mm

\* tolerances available on request -10/-20 µm ÷ -20/-30 µm

<b>LENGTH TOLERANCES</b>	0 ÷ 3 mm +0/-140 µm	0 ÷ 3 mm +0/-140 µm			
	3 ÷ 6 mm +0/-180 µm	3 ÷ 6 mm +0/-180 µm	3 ÷ 15 mm +0/-30 µm	3 ÷ 15 mm +0/-30 µm	3 ÷ 15 mm +0/-30 µm
	6 ÷ 10 mm +0/-220 µm	6 ÷ 10 mm +0/-220 µm	15 ÷ 50 mm +0/-50 µm	15 ÷ 50 mm +0/-50 µm	15 ÷ 50 mm +0/-50 µm
	10 ÷ 18 mm +0/-270 µm	10 ÷ 18 mm +0/-270 µm	> 50 mm +0/-80 µm	> 50 mm +0/-80 µm	> 50 mm +0/-80 µm
	18 ÷ 30 mm +0/-330 µm	18 ÷ 30 mm +0/-330 µm			
	30 ÷ 50 mm +0/-390 µm	30 ÷ 50 mm +0/-390 µm			
	> 50 mm +0/-460 µm	> 50 mm +0/-460 µm			

# MATERIALS

<b>TYPE</b>	<b>CHEMICAL COMPOSITION</b>						
	%C	%Si	%Mn	%P	%S	%Cr	%Ni
AISI 52100 – UNI 100Cr6 – W 1.3505	0,95-1,10	0,35 max	0,20-0,50	0,025 max	0,025 max	1,30-1,60	-
AISI 304 – WN 1.4301	0,080 max	0,75 max	2,00 max	0,045 max	0,030 max	18,00- 20,00	8,00-10,50
AISI 316 – WN 1.4401	0,080 max	1,00 max	2,00 max	0,045 max	0,030 max	16,00- 18,00	10,00- 14,00
AISI 420C – WN 1.4034	0,43-0,50	1,00 max	1,00 max	0,040 max	0,030 max	12,50- 14,50	-
AISI 430 – WN 1.4016	0,080 max	1,00 max	1,00 max	0,040 max	0,030 max	16,00- 18,00	-
AISI 440C – WN 1.4034	0,95-1,20	1,00 max	1,00 max	0,040 max	0,030 max	16,00- 18,00	-
Tungsten Carbide	-	-	-	-	-	-	-
Aluminum Oxide Al2O3	-	-	-	-	-	-	-
Silicon Nitride Si3N4	-	-	-	-	-	-	-

# PRECISION GRADES - TOLERANCES

GRADE	ROUNDNESS	ROUGHNESS	SORTING GROUPS
G 1 (solo ZB - TR - TP )	< 0,5 µm	< 0,10 µm	1,5 µm
G 2	< 1 µm	< 0,16 µm	2 µm
G 3	< 1,5 µm	< 0,30 µm	3 µm
G 5	< 2,5 µm	< 0,40 µm	5 µm



COMPOSITION %						HARDNESS
%N	%Mo	%WC	%Co	%Al2O3	%Si3N4	
-	-	-	-	-	-	60 - 66 HRC
0,100 max	-	-	-	-	-	25 - 39 HRC
-	2,00-3,00	-	-	-	-	25 - 39 HRC
-	-	-	-	-	-	52 - 60 HRC
-	-	-	-	-	-	75 - 95 HRC
-	0,75 max	-	-	-	-	57 - 65 HRC
-	-	93,00-95,00	5,00-7,00	-	-	90,0 - 91,5 HRA
-	-	-	-	99,3-99,6	-	1250 - 1700 HV
-	-	-	-	-	90,00-95,00	1400 - 1600 HV





## THE "RGP" GROUP

Founded in 1973 as manufacturers of precision cylindrical rollers & needle rollers, precision balls and ball transfer units.

- Headquarters in Italy on 10.000 square meters.
- 420 workers worldwide.
- ISO 9001 & ISO 14001 certified.





# NET WEIGHTS

Ø x L.	NET WEIGHT 1000 PCS/ KG.	Ø x L.	NET WEIGHT 1000 PCS/ KG.	Ø x L.	NET WEIGHT 1000 PCS/ KG.	Ø x L.	NET WEIGHT 1000 PCS/ KG.
1 x 5,8	0,036	3 x 5	0,27	4 x 19,8	1,95	7 x 7	2,08
1 x 6,8	0,042	3 x 9,8	0,54	4 x 21,8	2,15	7 x 10	2,98
1 x 7,8	0,048	3 x 11,8	0,65	4 x 23,8	2,38	8 x 8	3,10
1 x 9,8	0,060	3 x 13,8	0,76	4 x 25,8	2,55	8 x 12	4,69
1,5 x 5,8	0,080	3 x 15,8	0,87	4 x 27,8	2,74	9 x 9	4,42
1,5 x 6,8	0,094	3 x 17,8	0,99	4 x 29,8	2,95	10 x 10	6,07
1,5 x 7,8	0,108	3 x 19,8	1,10	4 x 34,8	3,40	11 x 11	8,08
1,5 x 9,8	0,136	3 x 21,8	1,21	4 x 39,8	3,90	11 x 15	11,03
1,5 x 11,8	0,164	3 x 23,8	1,32	5 x 5	0,76	12 x 12	10,50
1,5 x 13,8	0,191	3 x 25,8	1,43	5 x 8	1,21	12 x 18	15,57
2 x 6,8	0,164	3 x 27,8	1,54	5 x 15,8	2,43	14 x 14	16,67
2 x 7,8	0,191	3 x 29,8	1,65	5 x 19,8	3,05	14 x 20	23,85
2 x 9,8	0,24	3,5 x 11,8	0,91	5 x 21,8	3,36	15 x 15	20,51
2 x 11,8	0,29	3,5 x 13,8	1,04	5 x 23,8	3,67	16 x 16	25,04
2 x 13,8	0,34	3,5 x 15,8	1,19	5 x 25,8	3,98	17 x 17	29,90
2 x 15,8	0,39	3,5 x 17,8	1,34	5 x 27,8	4,29	18 x 18	35,46
2 x 17,8	0,44	3,5 x 19,8	1,51	5 x 29,8	4,60	19 x 19	41,71
2 x 19,8	0,49	3,5 x 21,8	1,64	5 x 34,8	5,40	20 x 20	48,67
2 x 21,8	0,54	3,5 x 23,8	1,85	5 x 39,8	6,15	20 x 30	73,00
2,5 x 7,8	0,30	3,5 x 25,8	1,95	5 x 49,8	7,50	21 x 30	81,06
2,5 x 9,8	0,38	3,5 x 27,8	2,10	5,5 x 8	1,47	22 x 22	64,77
2,5 x 11,8	0,45	3,5 x 29,8	2,25	6 x 6	1,31	24 x 36	127,24
2,5 x 13,8	0,53	3,5 x 34,8	2,65	6 x 8	1,71	25 x 25	95,10
2,5 x 15,8	0,61	4 x 6	0,58	6 x 17,8	3,95	25 x 36	136,95
2,5 x 17,8	0,69	4 x 8	0,78	6 x 21,8	4,83	26 x 26	107,00
2,5 x 19,8	0,76	4 x 11,8	1,16	6 x 23,8	5,28	28 x 28	134,33
2,5 x 21,8	0,84	4 x 13,8	1,36	6 x 25,8	5,71	30 x 30	164,36
2,5 x 23,8	0,92	4 x 15,8	1,55	6 x 39,8	8,83	30 x 48	262,97
2,8 x 7,8	0,30	4 x 17,8	1,75				



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