

**Self-lubricating Bushings:**

A self-lubricating sintered bushing is a metallic component with high porosity (20-25% in volume), impregnated with a mineral based lubricant oil (non FDA/NSF). The oil contained in the porosity provides a constant lubrication between bearing and shaft, so the system does not need any additional external lubricant. Self-lubrication allows this type of sliding bushing to work under hydrodynamic conditions, resulting in a very low friction coefficient.

Self-lubricating sintered bushings have some advantages compared to other types of dry sliding bushings:

- Reliability. The constant oil presence eliminates the risk of seizure, and allows the bearing to work during thousands of hours without wear.
- Economy. Maintenance-free, no need for lubricants.
- Temperature range: -20°C to +110°C
- Performance. Able to work under loads of up to 10 N/mm<sup>2</sup>, and speeds up to 5 m/s. The maximum working PV is in the range of 30 psi·in/s, but it can be surpassed in special cases. The dimensional precision is very high (up to IT 5 in diameter), and produce extremely low noise.

**Mounting:**

Shaft hardness:	> 20 HRC
Surface roughness:	< 0,3 Ra
Shaft tolerance:	f7/g6
Housing tolerance:	H7

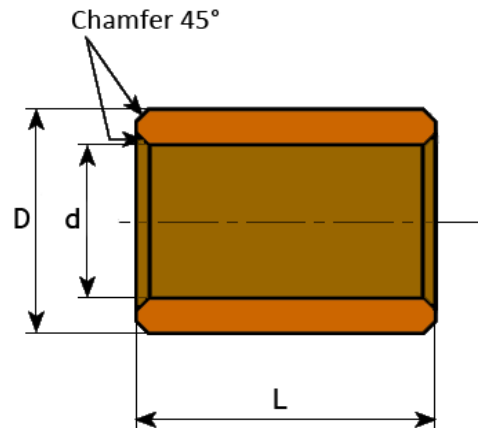
**Typical tolerance of the inside bore after mounting:**

Cylindrical bushing	H7
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**See the following pages for dimensions.**

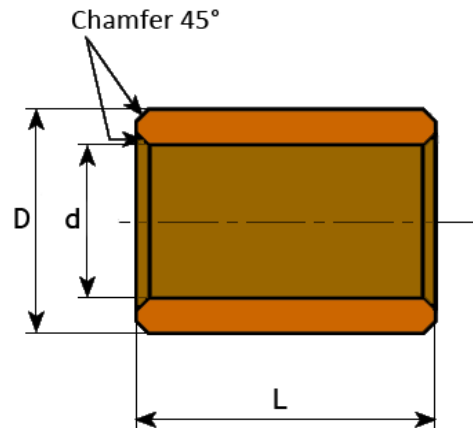
## BNZ bushing

Self-lubricating, cylindrical.



### Diameter before fitting

d (mm)	tolerance G7 (µm)	D (mm)	tolerance s7 (µm)	L = Available lengths, tolerance js13
2	+12 / +2	5	+31 / +19	2 - 3
3	+12 / +2	6	+31 / +19	4 - 5 - 6 - 10
4	+16 / +4	6	+31 / +19	5 - 8 - 10
4	+16 / +4	7	+38 / +23	4 - 8 - 12
4	+16 / +4	8	+38 / +23	4 - 5 - 6 - 8 - 10 - 12
5	+16 / +4	8	+38 / +23	5 - 8 - 10 - 12 - 15 - 16
5	+16 / +4	9	+38 / +23	4 - 5 - 8
5	+16 / +4	10	+38 / +23	5 - 6 - 8 - 10 - 12 - 15
6	+16 / +4	9	+38 / +23	4 - 6 - 10 - 12 - 16
6	+16 / +4	10	+38 / +23	4 - 5 - 6 - 10 - 12 - 15 - 16
6	+16 / +4	12	+46 / +28	5 - 6 - 8 - 10 - 12 - 15 - 16
7	+20 / +5	10	+38 / +23	5 - 8 - 10
8	+20 / +5	10	+38 / +23	6 - 10 - 15
8	+20 / +5	11	+46 / +28	6 - 8 - 12 - 16 - 20
8	+20 / +5	12	+46 / +28	6 - 8 - 10 - 12 - 15 - 16 - 20
8	+20 / +5	14	+46 / +28	8 - 10 - 12 - 15 - 16 - 20
9	+20 / +5	12	+46 / +28	6 - 10 - 14
9	+20 / +5	14	+46 / +28	10 - 12 - 15 - 20
10	+20 / +5	13	+46 / +28	10 - 12 - 15 - 16 - 20 - 25
10	+20 / +5	14	+46 / +28	8 - 10 - 16 - 20 - 25
10	+20 / +5	15	+46 / +28	10 - 12 - 15 - 16 - 20 - 25
10	+20 / +5	16	+46 / +28	8 - 10 - 12 - 15 - 16 - 20 - 25
10	+20 / +5	18	+46 / +28	10 - 12 - 15 - 20 - 25
12	+24 / +6	14	+46 / +28	10 - 12 - 15 - 20
12	+24 / +6	15	+46 / +28	10 - 12 - 15 - 16 - 20 - 25
12	+24 / +6	16	+46 / +28	8 - 10 - 12 - 15 - 16 - 20 - 25
12	+24 / +6	17	+46 / +28	12 - 15 - 16 - 20 - 25
12	+24 / +6	18	+46 / +28	8 - 10 - 12 - 15 - 16 - 20 - 25 - 30
12	+24 / +6	20	+56 / +35	12 - 15 - 20 - 25 - 30
14	+24 / +6	18	+46 / +28	10 - 14 - 15 - 18 - 20 - 22 - 25 - 28
14	+24 / +6	20	+56 / +35	10 - 12 - 14 - 15 - 18 - 20 - 22 - 25 - 28 - 30
14	+24 / +6	22	+56 / +35	15 - 20 - 25 - 30

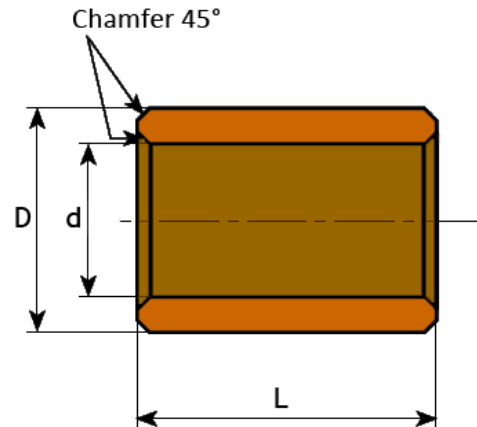


### Diameter before fitting

d (mm)	tolerance G7 (µm)	D (mm)	tolerance s7 (µm)	L = Available lengths, tolerance js13
15	+24 / +6	18	+46 / +28	15 - 20 - 25 - 30
15	+24 / +6	19	+56 / +35	10 - 15 - 16 - 20 - 25 - 32
15	+24 / +6	20	+56 / +35	10 - 12 - 15 - 20 - 25 - 30
15	+24 / +6	21	+56 / +35	10 - 15 - 16 - 20 - 25 - 32
15	+24 / +6	22	+56 / +35	15 - 16 - 20 - 25 - 30
16	+24 / +6	20	+56 / +35	12 - 15 - 16 - 20 - 25 - 30 - 32
16	+24 / +6	22	+56 / +35	12 - 15 - 16 - 20 - 25 - 30 - 32 - 35
17	+24 / +6	22	+56 / +35	15 - 20 - 25 - 30 - 35
18	+24 / +6	22	+56 / +35	12 - 15 - 18 - 20 - 22 - 25 - 28 - 30 - 36
18	+24 / +6	24	+56 / +35	12 - 18 - 22 - 28 - 30 - 36
18	+24 / +6	25	+56 / +35	16 - 18 - 20 - 22 - 25 - 28 - 30 - 35 - 36
20	+28 / +7	24	+56 / +35	16 - 20 - 25 - 32
20	+28 / +7	25	+56 / +35	15 - 16 - 20 - 25 - 30 - 32 - 35
20	+28 / +7	26	+56 / +35	15 - 16 - 20 - 25 - 30 - 32 - 35 - 40
20	+28 / +7	27	+56 / +35	16 - 20 - 25 - 32
20	+28 / +7	28	+56 / +35	16 - 20 - 25 - 30 - 32 - 35 - 40
20	+28 / +7	30	+56 / +35	20 - 25 - 30 - 35 - 40
22	+28 / +7	27	+56 / +35	15 - 18 - 20 - 22 - 25 - 28 - 30 - 35 - 36 - 40
22	+28 / +7	28	+56 / +35	18 - 20 - 22 - 25 - 28 - 30 - 35 - 36 - 40
22	+28 / +7	29	+56 / +35	18 - 22 - 28 - 36
25	+28 / +7	30	+56 / +35	20 - 25 - 30 - 32 - 35 - 40
25	+28 / +7	32	+68 / +43	20 - 25 - 30 - 32 - 35 - 40 - 45
25	+28 / +7	35	+68 / +43	25 - 30 - 35 - 40 - 45 - 50
28	+28 / +7	32	+68 / +43	20 - 22 - 25 - 28 - 32 - 36 - 40
28	+28 / +7	33	+68 / +43	20 - 22 - 25 - 28 - 32 - 36 - 40 - 45
28	+28 / +7	35	+68 / +43	25 - 30 - 35 - 40 - 45 - 50
28	+28 / +7	36	+68 / +43	22 - 28 - 36 - 45
30	+28 / +7	35	+68 / +43	20 - 25 - 30 - 35 - 40 - 45 - 50
30	+28 / +7	38	+68 / +43	20 - 24 - 25 - 30 - 35 - 38 - 40 - 45 - 50
30	+28 / +7	40	+68 / +43	20 - 25 - 30 - 35 - 40 - 45 - 50
32	+34 / +9	38	+68 / +43	20 - 25 - 32 - 40 - 50
32	+34 / +9	40	+68 / +43	20 - 25 - 30 - 32 - 35 - 40 - 45 - 50
35	+34 / +9	40	+68 / +43	20 - 25 - 30 - 35 - 40 - 45 - 50
35	+34 / +9	41	+68 / +43	25 - 35 - 40

## BNZ bushing

Self-lubricating, cylindrical.



### Diameter before fitting

d (mm)	tolerance G7 (µm)	D (mm)	tolerance s7 (µm)	L = Available lengths, tolerance js13
35	+34 / +9	44	+68 / +43	22 - 28 - 35
35	+34 / +9	45	+68 / +43	25 - 30 - 35 - 40 - 45 - 50 - 60
36	+34 / +9	42	+68 / +43	22 - 28 - 36 - 45
36	+34 / +9	45	+68 / +43	22 - 28 - 36 - 45
38	+34 / +9	44	+68 / +43	25 - 35 - 45
40	+34 / +9	45	+68 / +43	35 - 40 - 45 - 50
40	+34 / +9	46	+68 / +43	25 - 30 - 32 - 40 - 50
40	+34 / +9	50	+68 / +43	25 - 32 - 40 - 45 - 50 - 60
45	+34 / +9	51	+83 / +53	28 - 36 - 45 - 56
45	+34 / +9	55	+83 / +53	30 - 35 - 40 - 45 - 50 - 55 - 60
45	+34 / +9	56	+83 / +53	28 - 36 - 45 - 56
45	+34 / +9	60	+83 / +53	40 - 45 - 50 - 60
50	+34 / +9	56	+83 / +53	32 - 40 - 50 - 63
50	+34 / +9	60	+83 / +53	32 - 40 - 45 - 50 - 60
55	+40 / +10	65	+83 / +53	40 - 55 - 70
60	+40 / +10	70	+89 / +59	50 - 60 - 90 - 120
60	+40 / +10	72	+89 / +60	50 - 60 - 70
60	+40 / +10	80	+89 / +61	90 - 120
63	+40 / +10	70	+89 / +62	40 - 50
70	+40 / +10	80	+89 / +63	90 - 120
80	+66 / +12	100	+125 / +71	80 - 120
100	+66 / +12	120	+125 / +72	80 - 120