

## Heavy-Duty Rod Ends PF with Integral Spherical Bearing

**Material rod end:** Alloyed, case-hardened steel (forged) quenched and tempered, bearing race hardened, ground and lapped. Thread rolled/cut, surface zinc-plated and chromatised.

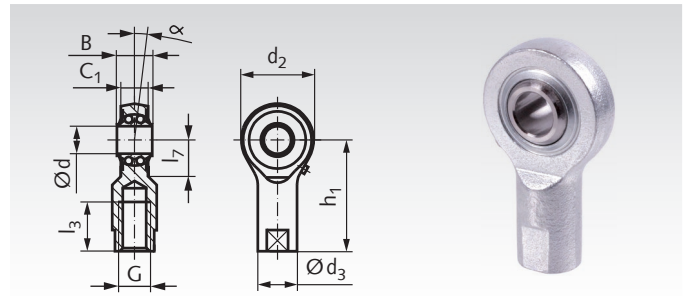
**Material inner ring:** Bearing steel hardened, precisely turned.

**Lubricant:** Aluminium-complex-soap-grease, approval according to NSF H1, -45°C to +120°C. Special grease if required.

Short design with internal thread.

Threaded bars with metric ISO thread and ISO fine thread page 556.

IR = Internal Right-hand thread. IL = Internal Left-hand thread.



Ordering Details: e.g.: Product No. 634 410 00, Rod End PF

Product No. IR	Product No. IL	d <sub>1</sub> <sup>1)</sup> mm	B <sup>h12</sup> mm	C <sub>1</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	h <sub>1</sub> mm	l <sub>3</sub> mm	l <sub>7</sub> mm	G mm	α °	Bearing loads [kN]		Calculation-Factors		Speed n <sub>max.</sub>	Weight g
												dynam. C	static C <sub>0</sub>	Y	Y <sub>0</sub>		
634 410 00	634 460 00	10	13	9	30	15	38	17	14,5	M8	7	2,6	1,0	1,90	1,81	1225	63
634 415 00	634 465 00	15	16,5	12	40	19	51	24	20	M12	7	5,0	1,9	2,30	2,41	1025	143
634 420 00	634 470 00	20	20,5	15	48	22	65	32	22	M16	6,5	6,1	3,0	2,34	2,45	850	223

<sup>1)</sup> Tolerance DIN 620.

\* in min<sup>-1</sup>

### Inner Rings - Tolerances DIN 620

Nominal dimension range of the bore d <sub>1</sub> mm		Tolerance in μm	
above	up to	min.	max.
0,6	2,5	-8	+1
2,5	10	-8	+1
10	18	-8	+1
18	30	-9	+1
30	50	-11	+1

### Rough Calculation for Rod Ends/Ball Bearing Type

- β = half the pivoting angle in °
- C = dynamic load rating in N
- C<sub>0</sub> = static load rating in N
- F<sub>a</sub> = axial load in N (F<sub>a</sub> ≤ 0.2 · F<sub>r</sub>)
- F<sub>r</sub> = radial load in N
- n = speed or pivoting frequency in min<sup>-1</sup>
- P = dynamic equivalent radial load in N  
(for self-aligning ball bearing P = F<sub>r</sub> + Y · F<sub>a</sub>)  
(for self-aligning roller bearing P = F<sub>r</sub> + 9.5 · F<sub>a</sub>)
- P<sub>0</sub> = Static equivalent radial load in N  
(for self-aligning ball bearing P<sub>0</sub> = F<sub>r</sub> + Y<sub>0</sub> · F<sub>a</sub>)  
(for self-aligning roller bearing P<sub>0</sub> = F<sub>r</sub> + 5 · F<sub>a</sub>)
- Y = axial factor, dynamic
- Y<sub>0</sub> = axial factor, static

#### Nominal Service Life L<sub>n</sub> (n)

Rotating:

$$L_{h_{rot}} = 10^6 \frac{\left(\frac{C}{P}\right)^z}{60 \cdot n} \text{ [h]}$$

Oscillating:

$$L_{h_{osz.}} = 10^6 \frac{\left(\frac{C}{P \sqrt[3]{\frac{\beta}{90}}}\right)^z}{60 \cdot n} \text{ [h]}$$

z = 3 for self-aligning ball bearing  
z = 3.33 for self-aligning roller bearing

Conditions:

Pivoting angle β ≥ 3°  
For pivoting angle β < 3° we recommend the use of rod ends with slide bearings.

Static load

stationary:

$$P_0 \leq C_0 \text{ [N]}$$



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