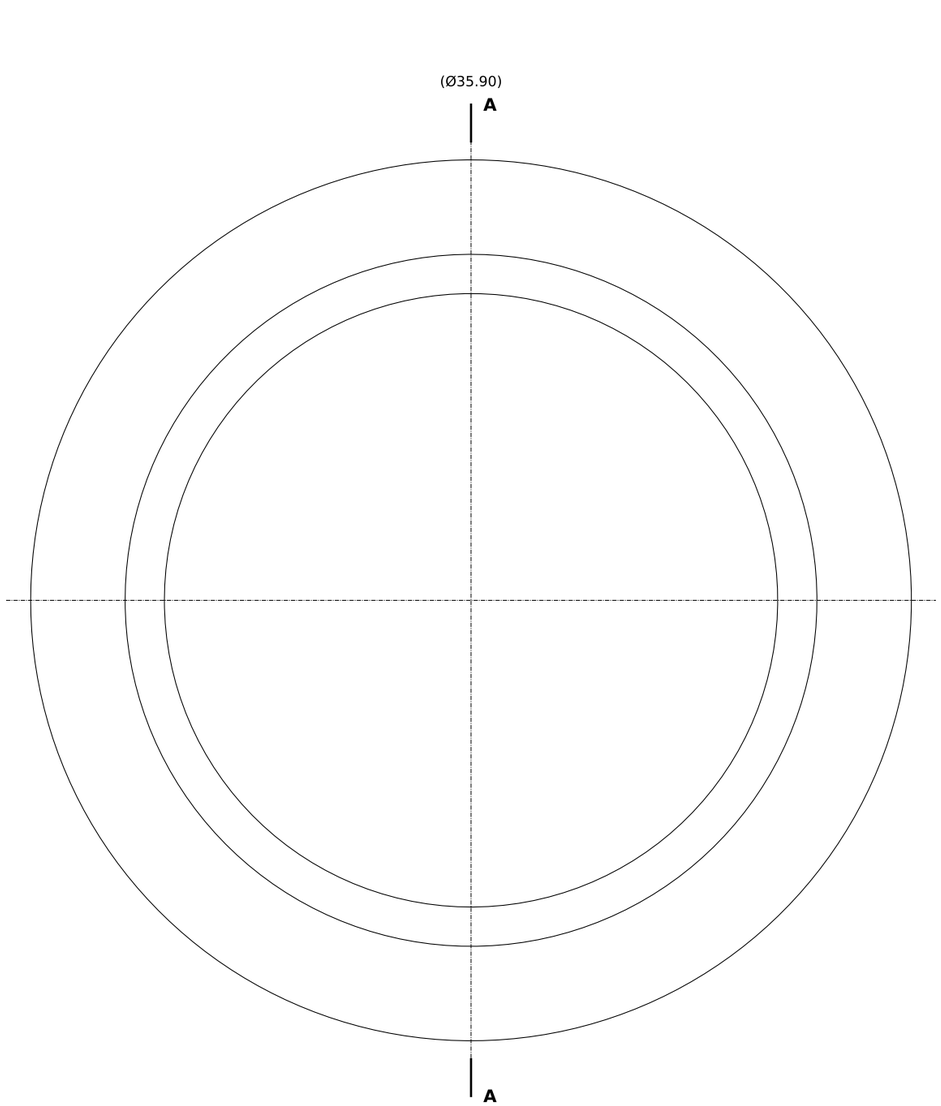
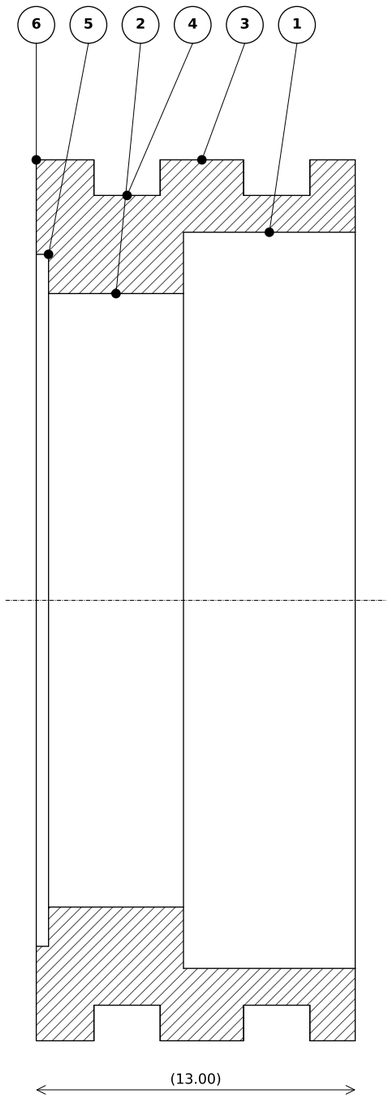


VIEW FROM THE INLET



SECTION A-A

REQUIREMENTS

1 A: bore Ø30 J6 (29.995–30.008), 7 deep to the cup's step; Ra 0.4; the bearing presses in against the step

2 Cup bore Ø25.0 ±0.1, 5.5 deep (the bearing's nut turns inside it); the step face perpendicular 0.005 to A

3 OD Ø35.90 ±0.02, coaxial Ø0.01 to A

4 2× O-ring grooves: bottom Ø33.00 ±0.03, width 2.70 +0.10/0, Ra 0.8, corners R0.2 max; centres 3.2 and 9.3 from the cup end (±0.05). For 33 × 2 FKM O-rings (20% squeeze in the Ø36.20 bore)

5 Both end faces: perpendicular 0.005 to A, parallel 0.005; length 12.50 ±0.02

6 Rim on the cup's front face: bore Ø28.2 +0.1/0, 0.5 ±0.05 high; it centres the preload shim

NOTES

1. Model is master: sizes not called out come from rear_cartridge.step, at the general tolerance.
2. Break sharp edges 0.1–0.3 unless noted. No burrs. No tool marks across sealing or seating faces.
3. Surface finish Ra 1.6 µm unless noted. Threads to ISO 965 (metric fine).
4. The preload shim (bought: DIN 988 20 × 28 × 1, A2, KIPP K1151.12028100) sits inside the rim on the cup's front face; the spring bears on it.
5. Bearing: SKF 71903 CE/HCP4A, the high-speed E design, PEEK cage (PEEK (TNHA), 150 C); rated 127,000 rpm oil-air, runs 86,000; its ring runs about 106 °C at full power against the rings' 150 °C.
6. Inspection report, CMM and material certificates are add-ons on the quote.

HIGHLAND Turbojet, 170 N class

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PART Rear bearing cartridge	PART NUMBER HL-TJ-23		REVISION A
MATERIAL Steel 4140 prehard, 28-32 HRC (ASTM A434 bar)			
FINISH None, as machined		HEAT TREAT None	
TOLERANCE UNLESS NOTED ±0.13 mm (±0.005 in) unless noted; angles ±0.5°			
QUANTITY 1 per engine	MASS 34.2 g		SCALE 4:1
UNITS mm	PROJECTION Third angle	DATE 2026-11-20	SHEET A3, 1 of 1