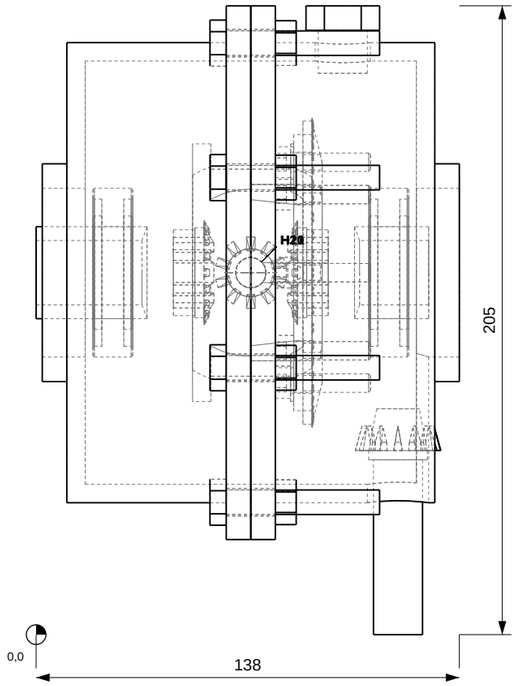
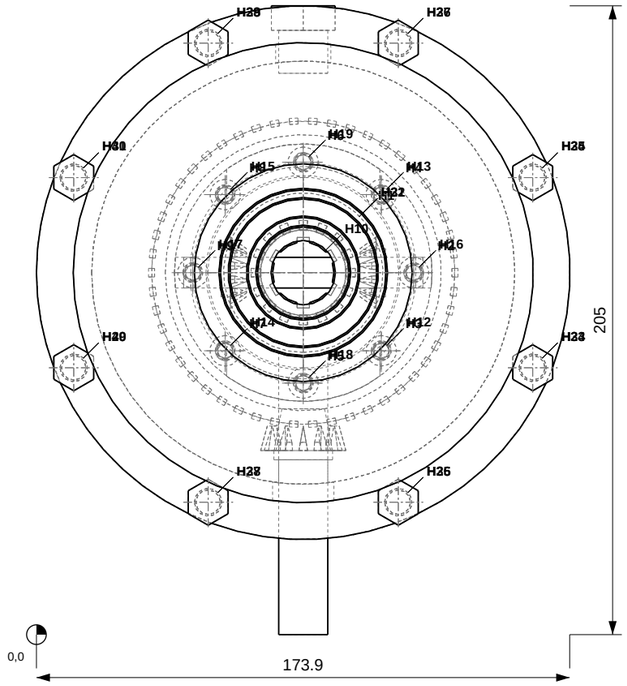
FRONT VIEW



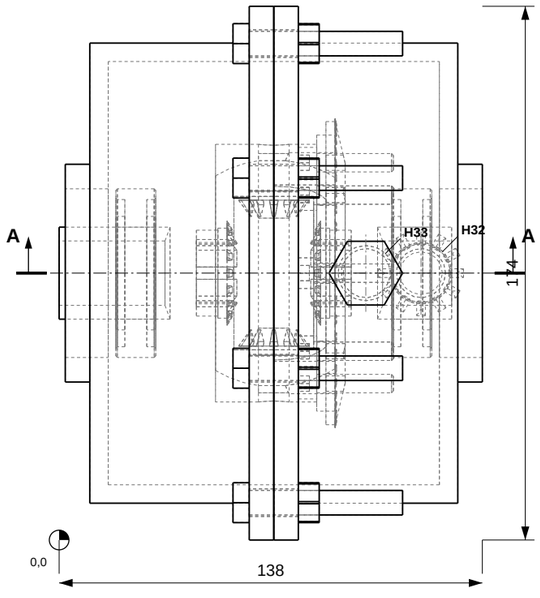
LEFT SIDE VIEW



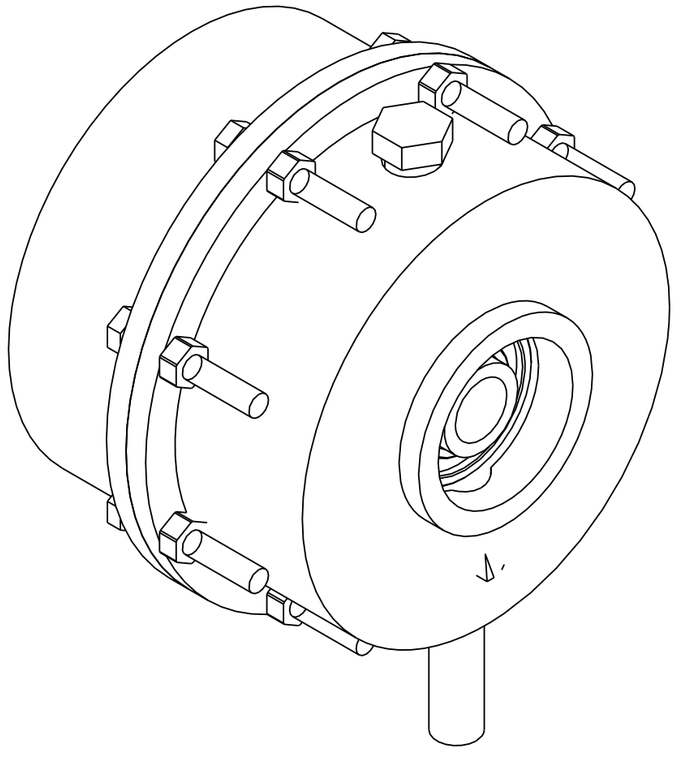
DRIVING DIMENSIONS

Parameter	Value	Unit
Module	2	mm
Ring teeth	50	teeth
Pinion teeth	12	teeth
Side gear teeth	16	teeth
Spider teeth	10	teeth
Face ring	14	mm
Face small	8	mm
Cross pin dia	10	mm
Spline bore	20	mm
N spline	6	mm
Hub d	30	mm
Ring bolts	8	
Ring bolt pcd	72	mm
Carrier r	42	mm
Casing radius	75	mm
Case wall	6	mm
Case half len	60	mm
N case bolts	8	mm

TOP VIEW



ISOMETRIC



PARTS LIST

Pos	Part	Qty	Standard / mass
1	ring_gear	1	217.1 g
2	carrier	1	550.6 g
3	Socket head cap screw M6x25	8	ring_bolt
4	pinion	1	124.0 g
5	cross_pin	1	48.1 g
6	spider_gear_1	1	7.3 g
7	spider_gear_2	1	7.3 g
8	side_gear_l	1	26.5 g
9	side_gear_r	1	26.5 g
10	Deep groove ball bearing 6006	2	bearing
11	casing_left	1	2322.0 g
12	casing_right	1	2280.6 g
13	filler_plug	1	45.6 g
14	Hexagon head bolt M8x50	8	case_bolt

NOTES

1. Bearing 6006 (left hub): life 6,923 h is below 10,000.0 h - 6206 would give about 22,035 h
2. Bearing 6006 (right hub): life 6,923 h is below 10,000.0 h - 6206 would give about 22,035 h
3. Gear pinion: tooth bending stress 302.1 MPa too high - increase module or face width
4. Gear pinion: contact stress 1322 MPa above ~470 MPa - wider face, larger gears or hardened steel (e.g. 42CrMo4 induction hardened)
5. Gear pinion: 12 teeth undercut at 20° - use ≥ 17 teeth or a profile shift
6. Gear spider: tooth bending stress 1283.2 MPa too high - increase module or face width
7. Gear spider: contact stress 3418 MPa above ~470 MPa - wider face, larger gears or hardened steel (e.g. 42CrMo4 induction hardened)

TITLE

Open bevel gear differential

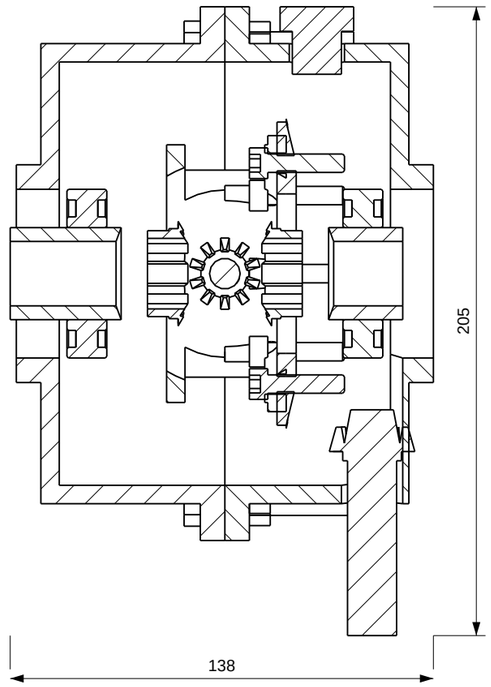
LUXXO

DRAWN BY Luxxo AI design engineer	DATE 2026-11-14	PROJECTION ISO first angle [|O] -O
MATERIAL Steel (S235)	GENERAL TOLERANCE ISO 2768-m ± 0.1 mm	MASS (calc.) 6.24 kg
SCALE 1 : 2	SHEET 1 / 2 A3	DRAWING No. LX-38FE2D-v1

Dimensions in mm · unspecified tolerances ISO 2768-m · surface Ra 3.2 unless noted · break sharp edges 0.5 × 45° · machining

Hidden lines omitted · not to scale

SECTION A-A



A-A (1 : 2) cutting plane y = 0 mm, viewed from the front

HOLE TABLE (X / Y from datum 0,0 of the view F / S / T on sheet 1)

Tag	Ø	X	Y	Depth	View	Thread / fit / note
H1	Ø52	87	118	THRU	S	Bored
H2	Ø5	123	118	THRU	S	M6-6H, tap drill Ø5
H3	Ø5	112.5	92.5	THRU	S	M6-6H, tap drill Ø5
H4	Ø5	112.5	143.5	THRU	S	M6-6H, tap drill Ø5
H5	Ø5	87	82	THRU	S	M6-6H, tap drill Ø5
H6	Ø5	87	154	THRU	S	M6-6H, tap drill Ø5
H7	Ø5	61.5	92.5	THRU	S	M6-6H, tap drill Ø5
H8	Ø5	61.5	143.5	THRU	S	M6-6H, tap drill Ø5
H9	Ø5	51	118	THRU	S	M6-6H, tap drill Ø5
H10	Ø21	87	118	THRU	S	M24-6H, tap drill Ø21
H11	Ø10	70	118	THRU	F	Drilled
H12	Ø6.6	112.5	92.5	THRU	S	Ø6.6 H13 for M6 (ISO 273 medium)
H13	Ø6.6	112.5	143.5	THRU	S	Ø6.6 H13 for M6 (ISO 273 medium)
H14	Ø6.6	61.5	92.5	THRU	S	Ø6.6 H13 for M6 (ISO 273 medium)
H15	Ø6.6	61.5	143.5	THRU	S	Ø6.6 H13 for M6 (ISO 273 medium)
H16	Ø6.6	123	118	THRU	S	Ø6.6 H13 for M6 (ISO 273 medium)
H17	Ø6.6	51	118	THRU	S	Ø6.6 H13 for M6 (ISO 273 medium)
H18	Ø6.6	87	82	THRU	S	Ø6.6 H13 for M6 (ISO 273 medium)
H19	Ø6.6	87	154	THRU	S	Ø6.6 H13 for M6 (ISO 273 medium)
H20	Ø10	70	118	THRU	F	Drilled

+ 21 more holes - full list in the app

FITS & TOLERANCES (ISO 286)

Feature	Size	Max / min	Fit
bearing seat	Ø30 k6	30.015 / 30.002	H7/k6 transition
bearing bore	Ø55 H7	55.03 / 55.0	H7/k6 transition
cross pin	Ø10 m6	10.015 / 10.006	H7/m6 transition
Housing bore for bearing 6006 (H31)	Ø55 H7	55.03 / 55.0	H7/h6 clearance

ENGINEERING CHECKS (simplified hand calculations)

!! left hub: 6006: P = 2600 N, C = 13.8 kN → L10 = 149.5 mil. rev = 6,923 h at 360 rpm (need 10,000.0 h)

!! right hub: 6006: P = 2600 N, C = 13.8 kN → L10 = 149.5 mil. rev = 6,923 h at 360 rpm (need 10,000.0 h)

!! pinion: m2 z12 b14: Ft = 1583 N, tooth root σF = 302.1 MPa (allow ~120), contact σH = 1322 MPa (limit ~470)

!! spider: m2 z10 b8: Ft = 4000 N, tooth root σF = 1283.2 MPa (allow ~120), contact σH = 3418 MPa (limit ~470)

TITLE

Open bevel gear differential

LUXXO

DRAWN BY Luxxo AI design engineer	DATE 2026-11-14	PROJECTION ISO first angle [|O] -O
MATERIAL Steel (S235)	GENERAL TOLERANCE ISO 2768-m ± 0.1 mm	MASS (calc.) 6.24 kg
SCALE 1 : 2	SHEET 2 / 2 A3	DRAWING No. LX-38FE2D-v1

Section hatching per ISO 128-50 · hole coordinates from the datum symbol · fits ISO 286-2 · weld symbols ISO 2553 · weld preparation EN ISO 9692-1