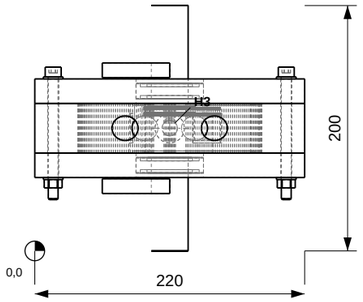
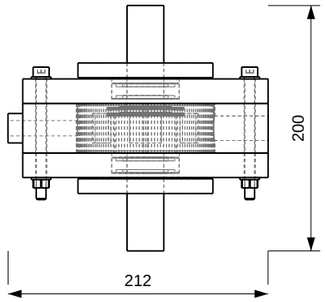
FRONT VIEW



LEFT SIDE VIEW



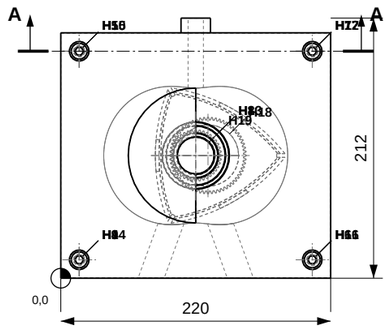
DRIVING DIMENSIONS

Parameter	Value	Unit
Generating radius	65	mm
Eccentricity	10	mm
Rotor width	40	mm
Apex clearance	1	mm
Flank mid radius	43	mm
Side clr	0.2	mm
Hous x	220	mm
Hous y	200	mm
End t	20	mm
Slot w	3	mm
Slot d	8	mm
Groove w	1.5	mm
Groove d	1.5	mm
Recess l	26	mm
Recess w	24	mm
Recess d	3	mm
M	1	mm
Stationary gear teeth	40	teeth

PARTS LIST

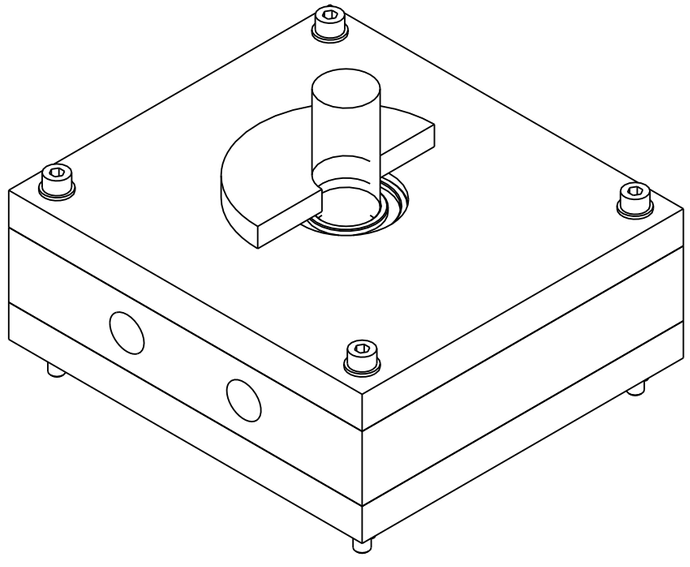
Pos	Part	Qty	Standard / mass
1	rotor_housing	1	9123.4 g
2	end_housing_front	1	6495.0 g
3	end_housing_rear	1	6495.0 g
4	rotor	1	1684.6 g
5	stationary_gear	1	33.5 g
6	eccentric_shaft	1	1405.7 g
7	Deep groove ball bearing 6006	2	bearing
8	counterweight_front	1	414.3 g
9	counterweight_rear	1	414.3 g
10	Plain washer M8	8	washer_top
11	Socket head cap screw M8x100	4	bolt
12	Hexagon nut M8	4	nut

TOP VIEW



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

ISOMETRIC



Hidden lines omitted · not to scale

NOTES

1. Bearing 6006 (front): life 270 h is below 3,000.0 h - choose a larger bearing or reduce the load
2. Bearing 6006 (rear): life 270 h is below 3,000.0 h - choose a larger bearing or reduce the load
3. Gear stationary gear: tooth bending stress 268.1 MPa too high - increase module or face width
4. Gear stationary gear: contact stress 997 MPa above ~470 MPa - wider face, larger gears or hardened steel (e.g. 42CrMo4 induction hardened)
5. The flank arc is an approximation of the true inner envelope. Compression ratio and exact clearance must be verified with the exact envelope curve.
6. The stationary gear wall is thin (bore 32 vs root Ø37.5).
7. Apex seals, side seals, cooling passages and lubrication are not modelled. S235 is unsuitable for the trochoid running surface, which needs a hard coating (e.g. Nikasil).
8. Tooth phase alignment of the gear mesh is not verified in the shown pose.
9. Rotor flanks are modelled as circular arcs through the apexes, with flank mid radius 43 mm. This approximates the inner envelope: apex tips sit at R-1 = 64 mm and the flank stays clear of the 55 mm housing waist.

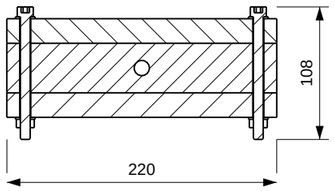
TITLE

Single-rotor Wankel engine

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 ± 0.2 mm	MASS (calc.) 26.56 kg
SCALE 1 : 5	SHEET 1 / 2 A3	DRAWING No. LX-38FE37-v1

SECTION A-A



A-A (1 : 5) cutting plane y = 85 mm, viewed from the front

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

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	Ø20	-	-	THRU	-	Drilled
H2	Ø20	-	-	THRU	-	Drilled
H3	Ø12.5	110	100	THRU	F	Drilled
H4	Ø9	15	15	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H5	Ø9	15	185	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H6	Ø9	205	15	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H7	Ø9	205	185	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H8	Ø55	110	100	THRU	T	Ø55 H7 (+0.030 / 0) bearing bore
H9	Ø9	15	15	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H10	Ø9	15	185	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H11	Ø9	205	15	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H12	Ø9	205	185	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H13	Ø55	110	100	THRU	T	Ø55 H7 (+0.030 / 0) Housing bore for bearing 6006 (H13)
H14	Ø9	15	15	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H15	Ø9	15	185	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H16	Ø9	205	15	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H17	Ø9	205	185	THRU	T	Ø9 H13 for M8 (ISO 273 medium)
H18	Ø50	120	100	THRU	T	Ø50 H7 (+0.025 / 0) rotor bore on lobe
H19	Ø32	110	100	THRU	T	Drilled

FITS & TOLERANCES (ISO 286)

Feature	Size	Max / min	Fit
main bearing seat	Ø30 k6	30.015 / 30.002	H7/k6 transition
bearing bore	Ø55 H7	55.03 / 55.0	H7/k6 transition
rotor bore on lobe	Ø50 H7	50.025 / 50.0	H7/f7 clearance
Housing bore for bearing 6006 (H13)	Ø55 H7	55.03 / 55.0	H7/h6 clearance

ENGINEERING CHECKS (simplified hand calculations)

!! front: 6006: P = 3000 N, C = 13.8 kN → L10 = 97.3 mil. rev = 270 h at 6000 rpm (need 3,000.0 h)

!! rear: 6006: P = 3000 N, C = 13.8 kN → L10 = 97.3 mil. rev = 270 h at 6000 rpm (need 3,000.0 h)

OK eccentric shaft: Ø30: T = 24 N·m, M = 90 N·m → σv = 34.8 MPa, safety 6.74 vs. Re 235 MPa (need 2.5), min. Ø21.6

!! stationary gear: m1 z40 b9.7: Ft = 600 N, tooth root σF = 268.1 MPa (allow ~120), contact σH = 997 MPa (limit ~470)

Flat patterns: 3 DXF files (5 pcs) for laser cutting - download in the app.

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