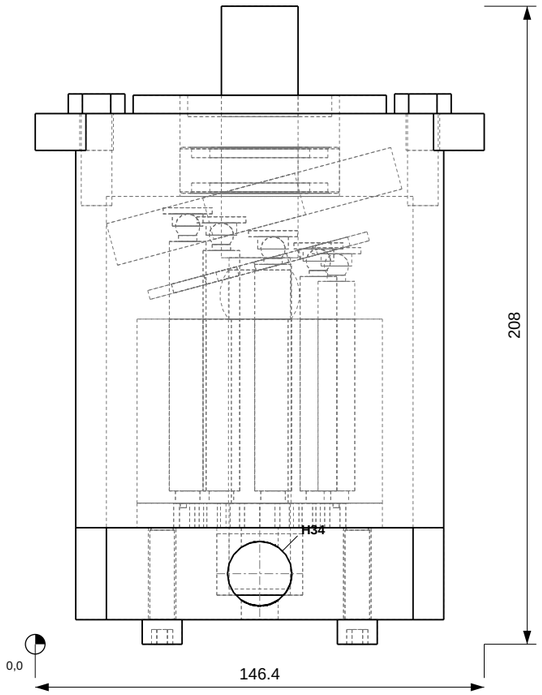
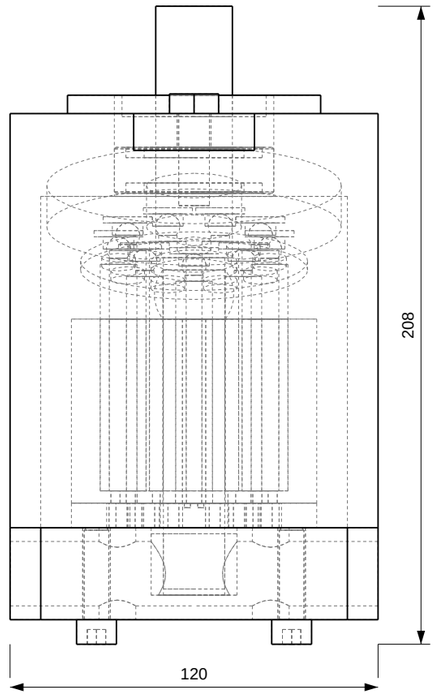
FRONT VIEW



LEFT SIDE VIEW



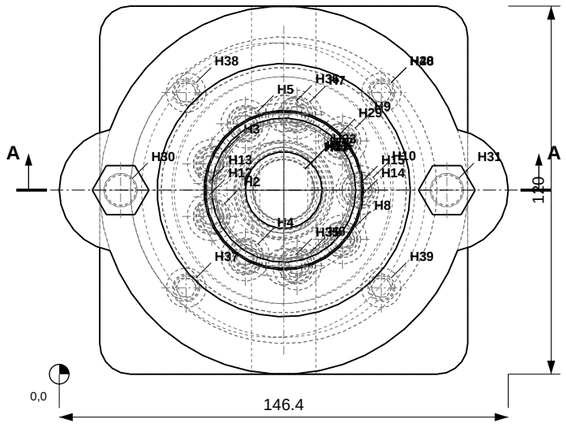
DRIVING DIMENSIONS

Parameter	Value	Unit
Barrel diameter	80	mm
Barrel length	60	mm
Pistons	9	
Piston bore	12	mm
Pitch circle	50	mm
Swash angle	15	deg
Shaft diameter	25	mm
Spline d	20	mm
House d	120	mm
House bore	100	mm
Valve t	8	mm
Cover t	30	mm
Flange t	12	mm
Bolt sp	106.4	mm
Pilot d	82.55	mm

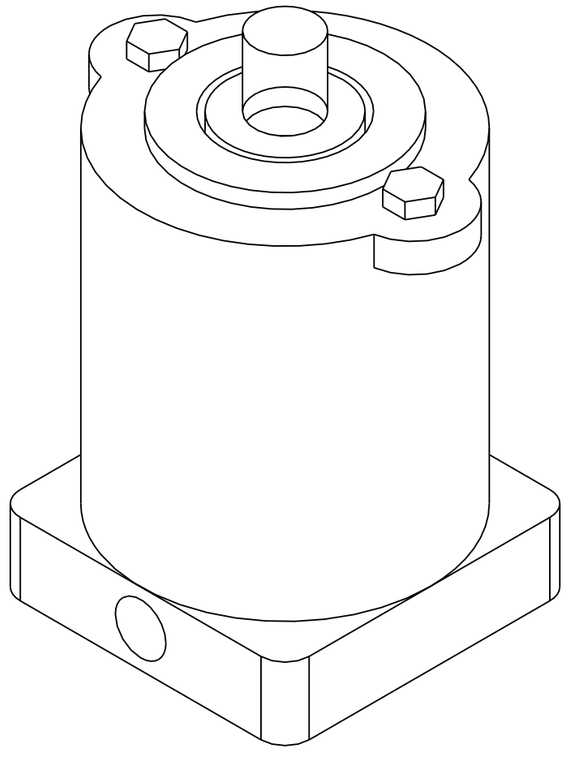
PARTS LIST

Pos	Part	Qty	Standard / mass
1	cylinder_barrel	1	1756.3 g
2	valve_plate	1	230.8 g
3	drive_shaft	1	578.7 g
4	piston_0	1	62.7 g
5	slipper_0	1	4.6 g
6	piston_1	1	64.1 g
7	slipper_1	1	4.6 g
8	piston_2	1	67.6 g
9	slipper_2	1	4.6 g
10	piston_3	1	71.5 g
11	slipper_3	1	4.6 g
12	piston_4	1	74.2 g
13	slipper_4	1	4.6 g
14	piston_5	1	74.2 g

TOP VIEW



ISOMETRIC



NOTES

1. Bearing 6205 (front): life 1,334 h is below 10,000.0 h - choose a larger bearing or reduce the load
2. Shaft drive shaft: safety 1.94 below 2.5 - increase to at least Ø22 mm or use a stronger steel (C45 / 42CrMo4)
3. Needle bearing modelled schematically
4. Valve plate timing/silencing groove geometry must be verified by flow simulation
5. S235 unsuitable for pistons/barrel/swashplate in service; use hardened steel/bronze
6. Stroke = 50*tan15° = 13.4 mm, displacement = 9*pi/4*12^2*13.4 = 13.6 cm3/rev
7. Drive speed 1500 rpm, pressure 160 bar -> torque ~35 Nm, power ~5.5 kW
8. Rear needle bearing modelled as a bronze/needle sleeve Ø20x Ø28x20 (HK2020 equivalent), housed in end cover
9. Housing bore Ø100, wall 10 mm; SAE-A pilot Ø82.55, bolt spacing 106.4 mm, bolts M10

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

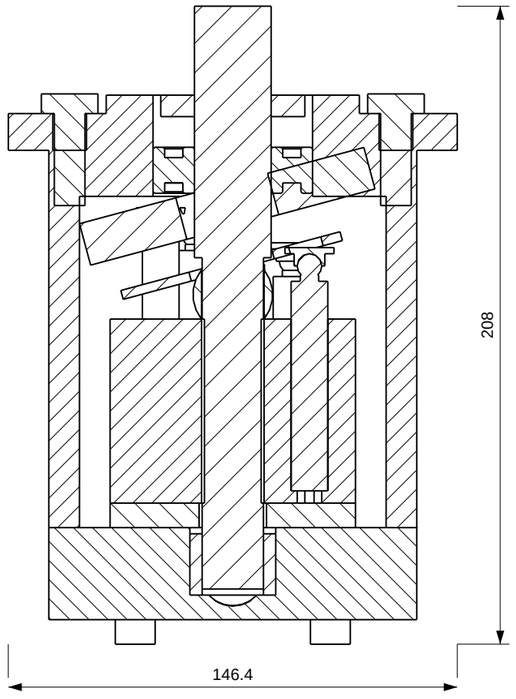
TITLE

Swashplate axial piston pump

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.) 12.43 kg
SCALE 1 : 2	SHEET 1 / 2 A3	DRAWING No. LX-38FE35-v1

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	Ø20.4	73.2	60	THRU	T	Drilled
H2	Ø12	49.7	51.4	THRU	T	Ø12 H7 (+0.018 / 0) piston bore
H3	Ø12	49.7	68.6	THRU	T	Ø12 H7 (+0.018 / 0) piston bore
H4	Ø12	60.7	38.3	THRU	T	Ø12 H7 (+0.018 / 0) piston bore
H5	Ø12	60.7	81.7	THRU	T	Ø12 H7 (+0.018 / 0) piston bore
H6	Ø12	77.5	35.4	THRU	T	Ø12 H7 (+0.018 / 0) piston bore
H7	Ø12	77.5	84.6	THRU	T	Ø12 H7 (+0.018 / 0) piston bore
H8	Ø12	92.4	43.9	THRU	T	Ø12 H7 (+0.018 / 0) piston bore
H9	Ø12	92.4	76.1	THRU	T	Ø12 H7 (+0.018 / 0) piston bore
H10	Ø12	98.2	60	THRU	T	Ø12 H7 (+0.018 / 0) piston bore
H11	Ø22	73.2	60	THRU	T	Ø22 H13 for M20 (ISO 273 medium)
H12	Ø2	48.3	57.8	1.5	T	M2.5-6H, tap drill Ø2.05
H13	Ø2	48.3	62.2	1.5	T	M2.5-6H, tap drill Ø2.05
H14	Ø2	98.1	57.8	1.5	T	M2.5-6H, tap drill Ø2.05
H15	Ø2	98.1	62.2	1.5	T	M2.5-6H, tap drill Ø2.05
H16	Ø31	-	-	THRU	-	Drilled
H17	Ø28	-	-	THRU	-	Drilled
H18	Ø11	-	-	THRU	-	Ø11 H13 for M10 (ISO 273 medium)
H19	Ø11	-	-	THRU	-	Ø11 H13 for M10 (ISO 273 medium)
H20	Ø11	-	-	THRU	-	Ø11 H13 for M10 (ISO 273 medium)

+ 21 more holes - full list in the app

FITS & TOLERANCES (ISO 286)

Feature	Size	Max / min	Fit
front bearing seat	Ø25 k6	25.015 / 25.002	H7/k6 transition
bearing housing	Ø52 H7	52.03 / 52.0	H7/k6 transition
piston bore	Ø12 H7	12.018 / 12.0	H7/f7 clearance

ENGINEERING CHECKS (simplified hand calculations)

!! front: 6205: P = 3000 N, C = 14.8 kN → L10 = 120.1 mil. rev = 1,334 h at 1500 rpm (need 10,000.0 h)

!! drive shaft: Ø20: T = 35 N·m, M = 90 N·m → σv = 120.9 MPa, safety 1.94 vs. Re 235 MPa (need 2.5), min. Ø21.8

Flat patterns: 4 DXF files (4 pcs) for laser cutting - download in the app.

TITLE

Swashplate axial piston pump

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.) 12.43 kg
SCALE 1 : 2	SHEET 2 / 2 A3	DRAWING No. LX-38FE35-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