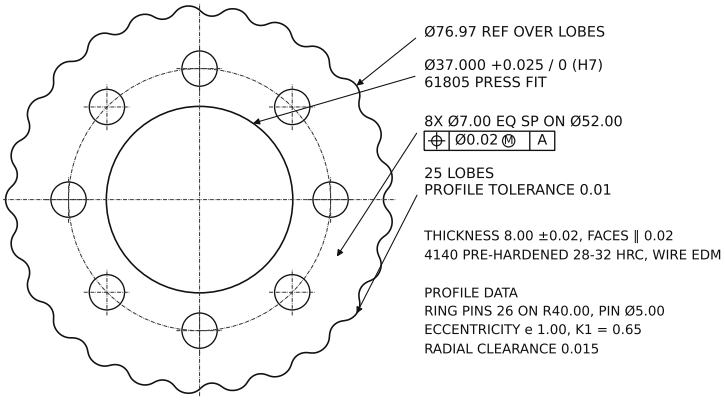
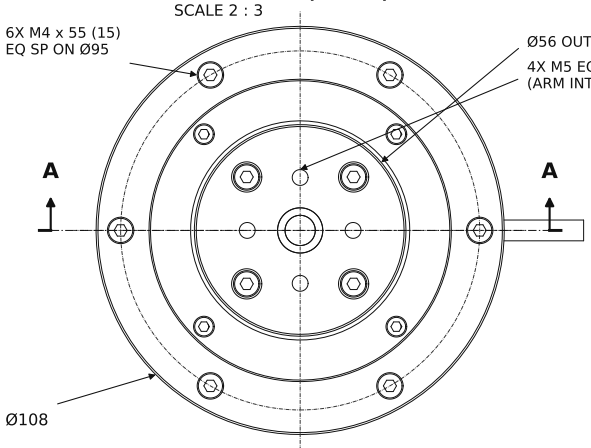
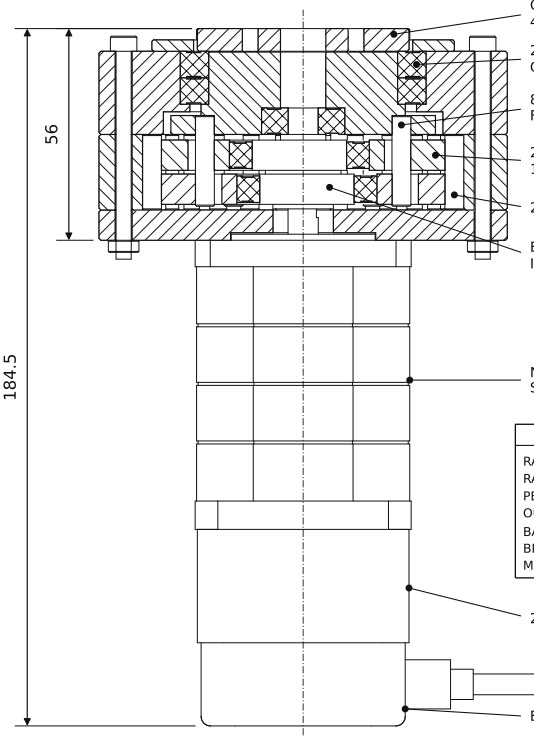


VIEW B - CYCLOIDAL DISC (ITEM 5)
SCALE 2 : 3

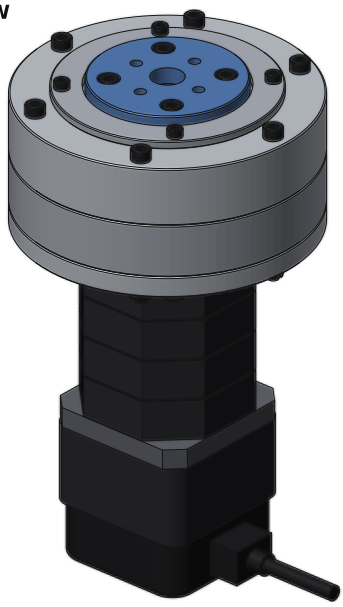


TOP VIEW
SCALE 1 : 2

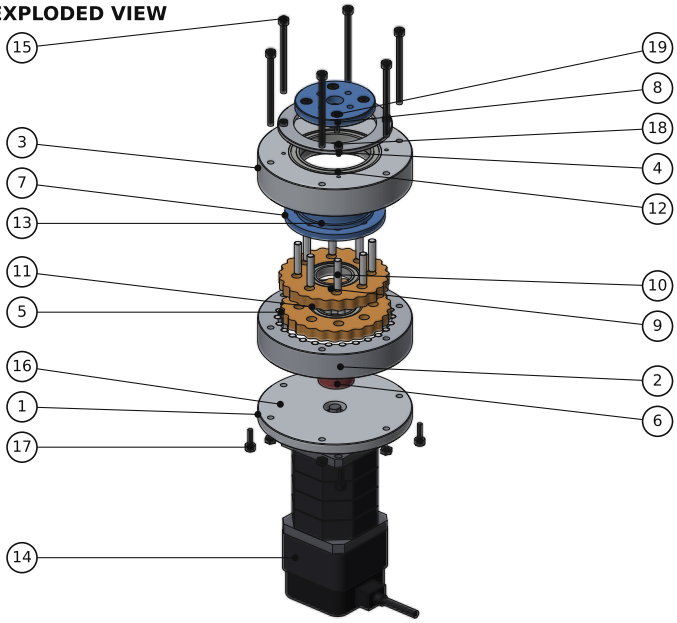


SECTION A-A
SCALE 1 : 2

ISOMETRIC VIEW
SHADED WITH EDGES



EXPLODED VIEW



DESIGN DATA
RATIO 25:1, OUTPUT REVERSED
RATED TORQUE 16 N·m
PEAK TORQUE 25 N·m
OUTPUT 108°/s @ 450 rpm IN
BACKLASH TARGET ≤ 3 arcmin
BRAKE 2 N·m STATIC, 24 V
MASS 1.76 kg (EXCL. MOTOR)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CYC-101	BASE PLATE (MOTOR ADAPTER), 6061-T6	1
2	CYC-102	PIN RING HOUSING, 6061-T6	1
3	CYC-103	TOP HOUSING, 6061-T6	1
4	CYC-104	BEARING CAP, 6061-T6	1
5	CYC-105	CYCLOIDAL DISC, 25 LOBES, 4140 28-32 HRC	2
6	CYC-106	ECCENTRIC SHAFT, e = 1.00, 4140	1
7	CYC-107	OUTPUT FLANGE, 7075-T6	1
8	CYC-108	OUTPUT PLATE (ARM INTERFACE), 7075-T6	1
9	ISO 8734 5x20	DOWEL PIN, HARDENED, D5 x 20, m6	26
10	ISO 8734 5x24	DOWEL PIN, HARDENED, D5 x 24, m6	8
11	61805-2RS	DEEP GROOVE BALL BEARING 25 x 37 x 7	2
12	61810-2RS	DEEP GROOVE BALL BEARING 50 x 65 x 7	2
13	608-2RS	DEEP GROOVE BALL BEARING 8 x 22 x 7	1
14	23E1KBK20-20	STEPPER MOTOR NEMA 23, CLOSED LOOP, 24 V BRAKE	1
15	ISO 4762 M4x55	SOCKET HEAD CAP SCREW M4 x 55	6
16	ISO 4032 M4	HEX NUT M4	6
17	ISO 4762 M4x12	SOCKET HEAD CAP SCREW M4 x 12	4
18	ISO 4762 M3x6	SOCKET HEAD CAP SCREW M3 x 6	4
19	ISO 4762 M4x10	SOCKET HEAD CAP SCREW M4 x 10	4

NOTES:
1. ALL DIMENSIONS IN MILLIMETERS. DO NOT SCALE DRAWING. BREAK SHARP EDGES 0.2 x 45°.
2. REAM ALL PIN HOLES IN ONE SETUP; PIN CIRCLE TRUE POSITION Ø0.01 TO HOUSING BORE.
3. ITEM 5: TWO IDENTICAL DISCS; SECOND DISC ROTATED 180° ABOUT ITS OWN AXIS AT ASSEMBLY.
4. ITEM 6: CAMS OFFSET +1.000 / -1.000 ±0.005, 180° APART. D-BORE 7.50 ACROSS FLAT.
5. ITEMS 9, 10: PRESS FIT. ITEMS 11-13: PRESS FIT; PRELOAD ITEM 12 PAIR WITH 0.05 SHIM.
6. LUBRICATE DISCS AND PINS WITH LITHIUM EP2 GREASE BEFORE CLOSING HOUSING.
7. ITEM 14 SHOWN AS ENVELOPE; VERIFY LENGTH, SHAFT FLAT AND ENCODER CPR FROM DATASHEET.
8. PRELIMINARY DESIGN ISSUE - NOT FOR PRODUCTION UNTIL PROTOTYPE TESTED.

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MILLIMETERS
GENERAL TOLERANCES ISO 2768-mK
LINEAR X.X ±0.1 X.XX ±0.05
ANGULAR ±0.5°
INTERPRET PER ISO 8015

FINISH AS MACHINED, BREAK EDGES

MATERIAL SEE BOM

THIRD ANGLE PROJECTION

	NAME	DATE
DRAWN	Ahmad Bitar	2026-11-05
CHECKED		
ENG APPR.		
MFG APPR.		
COMMENTS: PRELIMINARY ISSUE		

TITLE:
CYCLOIDAL REDUCER 25:1
SHOULDER JOINT ASSY

SIZE	DWG. NO.	REV
A	CYC-100	A

SCALE: 1:2 WEIGHT: 1.76 kg*

SHEET 1 OF 1 *EXCL. MOTOR