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MOTOR SPECIFICATIONS:

|                      |         |                                                         |                         |
|----------------------|---------|---------------------------------------------------------|-------------------------|
| FRAME SIZE:          | NEMA 11 | ROTOR INERTIA (g-cm <sup>2</sup> /oz-in <sup>2</sup> ): | 12/6.5E-02 NOM          |
| STEP ACCURACY ( ° ): | ±0.09   | INSULATION CLASS:                                       | B (130°C)               |
| STEP ANGLE ( ° ):    | 1.8     | BEARINGS:                                               | ABEC 3, DOUBLE SHIELDED |
| INPUT VOLTAGE (VDC): | 15 - 30 | APPROVALS:                                              | CE, RoHS                |

GEARMOTOR SPECIFICATIONS:

|                                   |          |                              |                   |
|-----------------------------------|----------|------------------------------|-------------------|
| TEMP. RISE ( °C):                 | 80 MAX   | TOTAL WEIGHT (±10g/±0.35oz): | 217/7.65          |
| OPERATING AMB. TEMP. RANGE ( °C): | 0 to +85 | RELATIVE HUMIDITY RANGE (%): | 90 NON-CONDENSING |
| STORAGE TEMP. RANGE ( °C):        | 0 to +40 |                              |                   |

GEARHEAD SPECIFICATIONS:

|                                   |           |                          |          |
|-----------------------------------|-----------|--------------------------|----------|
| RATIO:                            | 4:1       | EFFICIENCY (%):          | 90       |
| MAX TORQUE CONTINUOUS (Nm/oz-in): | 0.5/70.8  | BACKLASH ( ° ):          | ≤1.2     |
| MAX TORQUE (Nm/oz-in):            | 0.8/113.3 | MAX RADIAL LOAD (N/lbf): | ≤20/4.49 |
| MAX INPUT SPEED (RPM):            | 6000      | MAX AXIAL LOAD (N/lbf):  | ≤20/4.49 |

NOTES, UNLESS OTHER WISE SPECIFIED:

1. THIS ASSEMBLY IS MANUFACTURED IN COMPLIANCE WITH THE CURRENT EU RoHS DIRECTIVE.
2. ALL SPECIFICATIONS AND OPERATING INSTRUCTIONS CAN BE FOUND AT APPLIED-MOTION.COM.

REVISIONS

| ECO # | REV. | DESCRIPTION           | DATE    | APPROVED  |
|-------|------|-----------------------|---------|-----------|
| 7935  | A    | INITIAL RELEASE       | 7/2/18  | J. KORDIK |
| 8161  | B    | REVISE FROM L1 TO L2  | 3/8/19  | J. KORDIK |
| 8758  | C    | REDRAWN IN SOLIDWORKS | 4/18/22 | L. LIU    |



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A MOONS' COMPANY

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THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS  
TOLERANCES:  
- ANGULAR: ± 0.5  
- ONE DECIMAL PLACE: ± 0.25  
- TWO DECIMAL PLACES: ± 0.13

MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME

DATE

DRAWN

PRE.CHECK

PRE.APPROVAL

FIN.CHECK

C. BREUNINGER

4/18/22

SAP: 4696351005847

ALT DWG. NO.:

ALT SAP:

TITLE:

INTEGRATED STEP-SERVO MOTOR WITH GEARHEAD

SIZE

DWG. NO.

REV

SCALE: 2:1

SHEET 1 OF 2

**B**

TSM11Q-2HM-G004

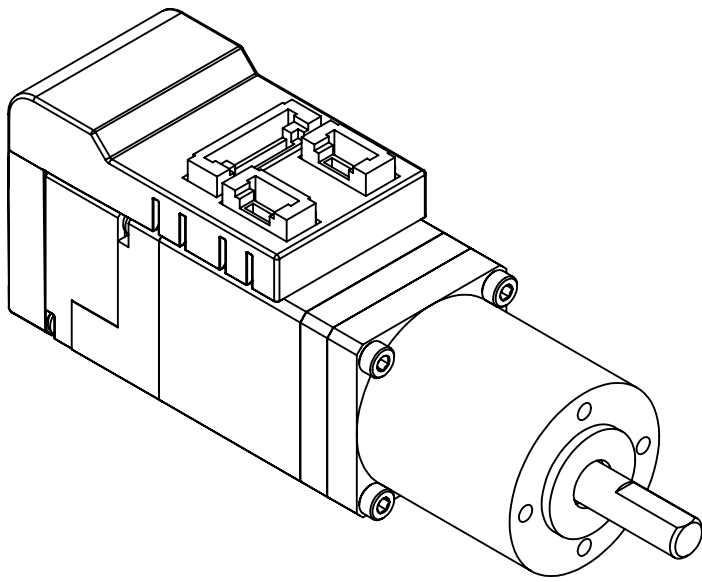
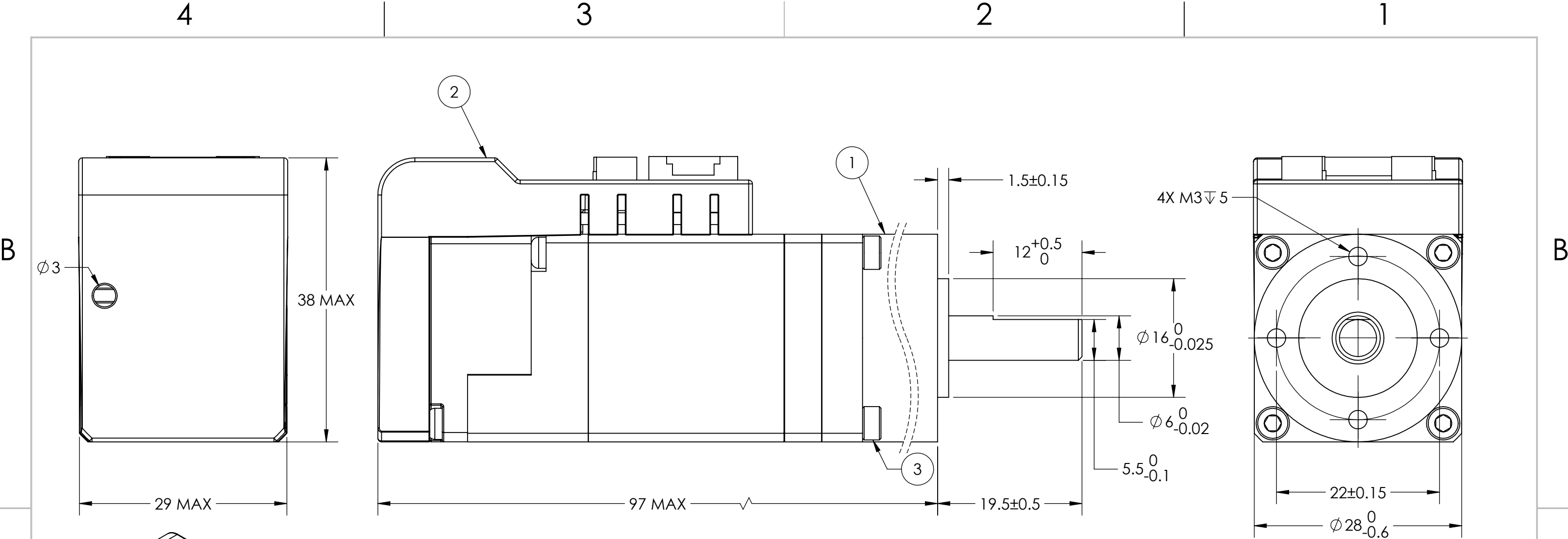
**C**

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| ITEM NO. | SAP PART NUMBER | PART NUMBER             | DESCRIPTION                                | QTY. |
|----------|-----------------|-------------------------|--------------------------------------------|------|
| 1        | 4332401001498   | 28PH004.00-L2           | PH GEARHEAD                                | 1    |
| 2        | 4696351003106   | TSM11Q-2RM-H01          | STEP-SERVO MOTOR                           | 1    |
| 3        | 4294404001453   | 91292A012 OR EQUIVALENT | M2.5X8MM STAINLESS STEEL SOCKET HEAD SCREW | 4    |

| GEARHEAD MATERIALS:  |                     |
|----------------------|---------------------|
| GEARTRAIN:           | Y100 (1144) STEEL   |
| HOUSING:             | 304 STAINLESS STEEL |
| INPUT/OUTPUT FLANGE: | LY12 ALUMINUM       |
| OUTPUT SHAFT:        | 40Cr STEEL          |
| PINION:              | Y100 (1144) STEEL   |

|                                                                                                                                               |                                                                                                                                                             |                    |           |               |                                                  |              |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------|---------------|--------------------------------------------------|--------------|-----|
|  <div>Applied Motion Products<br/>A MOONS' COMPANY</div> | THIRD ANGLE PROJECTION                                                                                                                                      |                    | NAME      | DATE          | TITLE: INTEGRATED STEP-SERVO MOTOR WITH GEARHEAD |              |     |
|                                                                                                                                               | UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS<br>TOLERANCES:<br>- ANGULAR: ± 0.5<br>- ONE DECIMAL PLACE: ± 0.25<br>- TWO DECIMAL PLACES: ± 0.13 | DRAWN              | Y. LAPNET | 4/18/22       |                                                  |              |     |
|                                                                                                                                               |                                                                                                                                                             | PRE.CHECK          |           |               |                                                  |              |     |
|                                                                                                                                               |                                                                                                                                                             | PRE.APPROVAL       |           |               |                                                  |              |     |
|                                                                                                                                               |                                                                                                                                                             |                    | FIN.CHECK | C. BREUNINGER |                                                  |              |     |
|                                                                                                                                               | MATERIAL                                                                                                                                                    | SAP: 4696351005847 |           |               | SIZE                                             | DWG. NO.     | REV |
| FINISH                                                                                                                                        | ALT DWG. NO.:                                                                                                                                               |                    |           | <b>B</b>      | TSM11Q-2HM-G004                                  | <b>C</b>     |     |
| DO NOT SCALE DRAWING                                                                                                                          | ALT SAP:                                                                                                                                                    |                    |           | SCALE: 2:1    |                                                  | SHEET 2 OF 2 |     |