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MOTOR SPECIFICATIONS:

|                      |         |                                                         |                         |
|----------------------|---------|---------------------------------------------------------|-------------------------|
| FRAME SIZE:          | NEMA 11 | ROTOR INERTIA (g-cm <sup>2</sup> /oz-in <sup>2</sup> ): | 8.97/4.9E-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): | 169/5.96          |
| 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.
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- CONNECTOR FOR POWER, I/O AND COMMUNICATION. USE INCLUDED CABLE 3004-319.

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    |

|                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                           |                    |               |         |                                                          |                 |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------|---------------|---------|----------------------------------------------------------|-----------------|--------------|
| <br><b>APPLIED MOTION PRODUCTS</b><br><small>A MOONS' COMPANY</small><br><b>PROPRIETARY AND CONFIDENTIAL</b><br>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APPLIED MOTION PRODUCTS. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF APPLIED MOTION PRODUCTS IS PROHIBITED. | THIRD ANGLE PROJECTION                                    |                    | NAME          | DATE    | TITLE:<br><b>INTEGRATED STEP-SERVO MOTOR W/ GEARHEAD</b> |                 |              |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS | DRAWN              | Y. LAPNET     | 4/18/22 |                                                          |                 |              |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | TOLERANCES:                                               | PRE.CHECK          |               |         |                                                          |                 |              |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | - ANGULAR: ± 0.5                                          | PRE.APPROVAL       |               |         |                                                          |                 |              |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | - ONE DECIMAL PLACE: ± 0.25                               | FIN.CHECK          | C. BREUNINGER | 4/18/22 | SIZE                                                     | DWG. NO.        | REV          |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | MATERIAL                                                  | SAP: 4696351005842 |               |         | <b>B</b>                                                 | TSM11Q-1RM-G004 | <b>C</b>     |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | FINISH                                                    | ALT DWG. NO.:      |               |         |                                                          |                 |              |
|                                                                                                                                                                                                                                                                                                                                                                                                                 | DO NOT SCALE DRAWING                                      | ALT SAP:           |               |         | SCALE: 2:1                                               |                 | SHEET 1 OF 2 |

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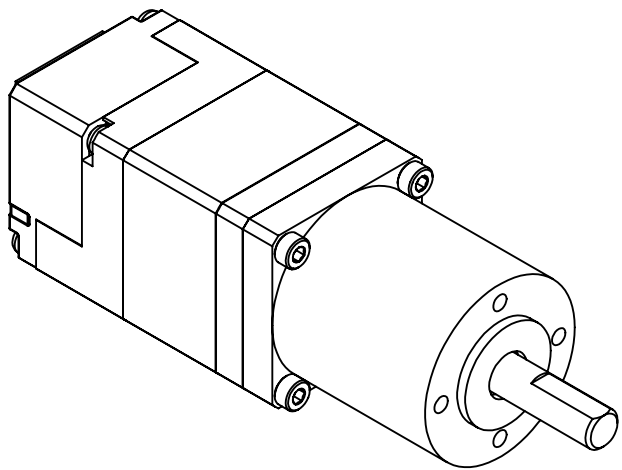
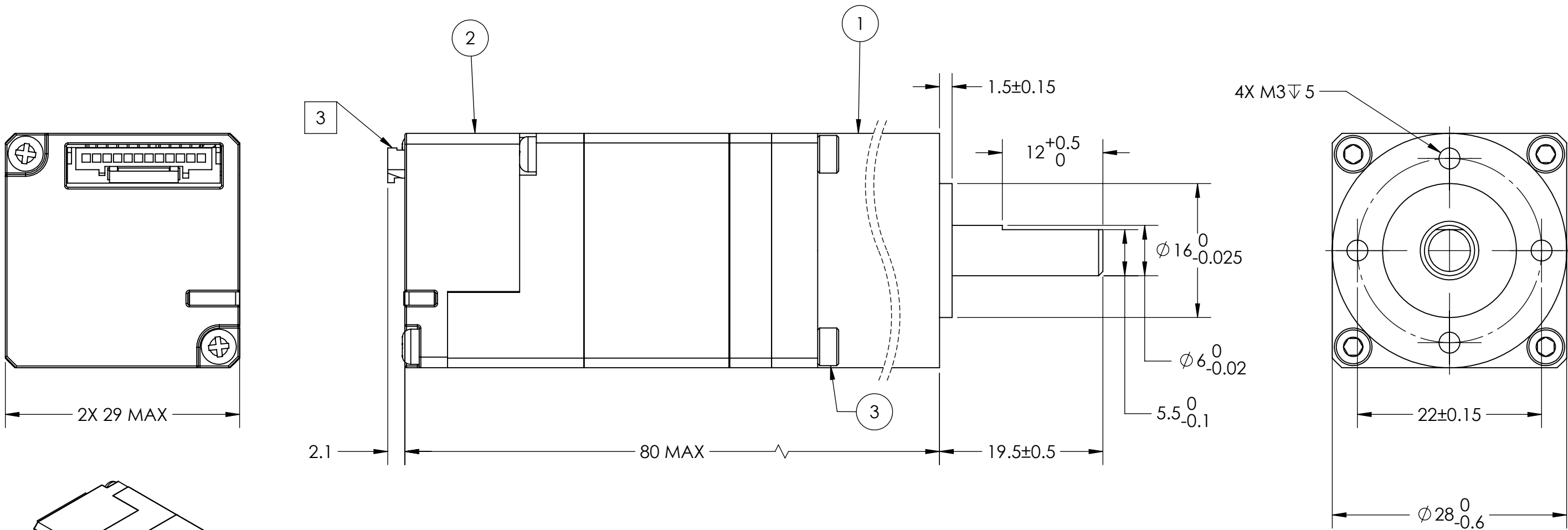
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| ITEM NO. | SAP PART NUMBER | PART NUMBER             | DESCRIPTION                                | QTY. |
|----------|-----------------|-------------------------|--------------------------------------------|------|
| 1        | 4332401001498   | 28PH004.00-L2           | PH GEARHEAD                                | 1    |
| 2        | 4696351002073   | TSM11Q-1RM              | 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><b>Applied Motion Products</b><br/>A MOONS' COMPANY</div> <div><b>PROPRIETARY AND CONFIDENTIAL</b></div> <div>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APPLIED MOTION PRODUCTS. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF APPLIED MOTION PRODUCTS IS PROHIBITED.</div> | THIRD ANGLE PROJECTION                                                                                                                                   |                    | NAME          | DATE    | TITLE: <b>INTEGRATED STEP-SERVO MOTOR W/ GEARHEAD</b> |                 |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                          | UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS 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 | 4/18/22 |                                                       |                 |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                          | MATERIAL                                                                                                                                                 | SAP: 4696351005842 |               |         | <b>B</b>                                              | TSM11Q-1RM-G004 | <b>C</b>     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                          | FINISH                                                                                                                                                   | ALT DWG. NO.:      |               |         |                                                       |                 |              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                          | DO NOT SCALE DRAWING                                                                                                                                     | ALT SAP:           |               |         | SCALE: 2:1                                            |                 | SHEET 2 OF 2 |  |

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