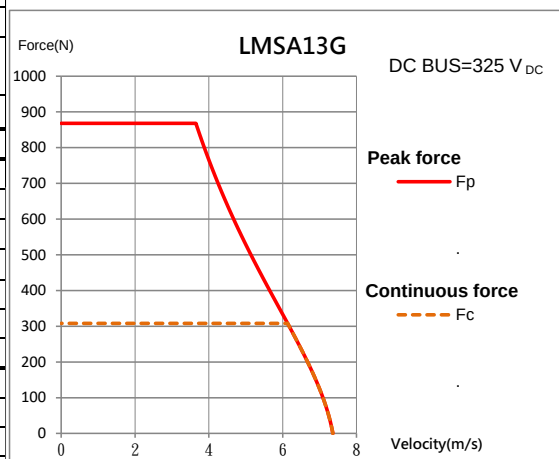
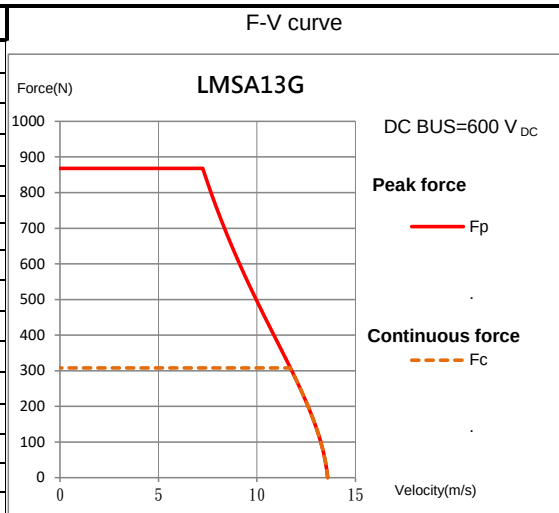


LMSA13G

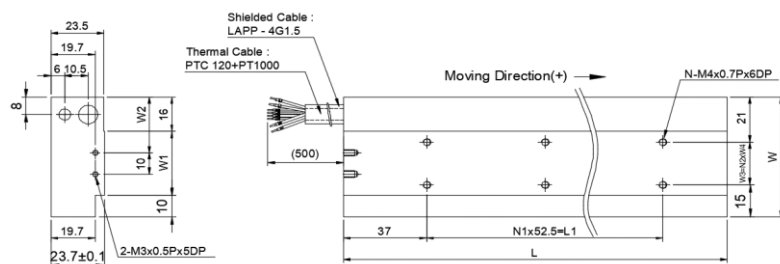
## Linear Motor

| Electrical specifications         |            |                 |                                            |
|-----------------------------------|------------|-----------------|--------------------------------------------|
|                                   | Symbol     | Unit            |                                            |
| Continuous force                  | $F_c$      | N               | 308                                        |
| Continuous current                | $I_c$      | $A_{rms}$       | 6.3                                        |
| Peak force (1s)                   | $F_p$      | N               | 868                                        |
| Peak current (1s)                 | $I_p$      | $A_{rms}$       | 19                                         |
| Ultimate force (0.5s)             | $F_u$      | N               | 1138                                       |
| Ultimate current (0.5s)           | $I_u$      | $A_{rms}$       | 31.7                                       |
| Force constant                    | $K_f$      | $N/A_{rms}$     | 48.6                                       |
| Attraction force                  | $F_a$      | N               | 1444                                       |
| Max. winding temperature          | $T_{max}$  | °C              | 120                                        |
| Electrical time constant          | $K_e$      | ms              | 4.4                                        |
| Resistance (line to line · 25°C)  | $R_{25}$   | $\Omega$        | 2.8                                        |
| Resistance (line to line · 120°C) | $R_{120}$  | $\Omega$        | 3.9                                        |
| Inductance (line to line)         | L          | mH              | 12.4                                       |
| Pole pair pitch                   | $2\tau$    | mm              | 30                                         |
| Minimum bending radius of cable   | $R_{bend}$ | mm              | 69                                         |
| Back emf constant(line to line)   | $K_v$      | $V_{rms}/(m/s)$ | 28.1                                       |
| Motor constant (25°C)             | $K_m$      | $N/\sqrt{W}$    | 23.7                                       |
| Thermal resistance                | $R_{th}$   | °C/W            | 0.41                                       |
| Thermal time constant             | $t_{th}$   | s               | 2290                                       |
| Thermal switch                    |            |                 | 1 x Pt1000 + 1 x (3 PTC SNM 120 In Series) |
| Max. DC bus voltage               |            | $V_{DC}$        | 750                                        |

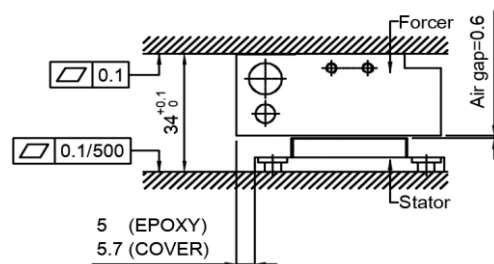


|                     |    |        | Mechanical specifications |     |    |
|---------------------|----|--------|---------------------------|-----|----|
|                     |    | Symbol | Unit                      |     |    |
| Mass of forcer      |    | $M_f$  | kg                        | 2.1 |    |
| Unit mass of stator |    | $M_s$  | kg                        | 2.7 |    |
|                     |    |        |                           |     |    |
|                     |    |        |                           |     |    |
|                     |    |        |                           |     |    |
|                     |    |        |                           |     |    |
| L                   | mm | 328    | W3                        | mm  | 20 |
| L1                  | mm | 262.5  | W4                        | mm  | 20 |
| W                   | mm | 56     | N                         | mm  | 12 |
| W1                  | mm | 30     | N1                        | mm  | 5  |
| W2                  | mm | 26     | N2                        | mm  | 1  |

## Focer dimensions

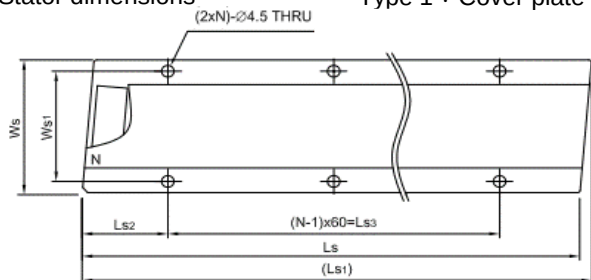


### Mounting tolerance



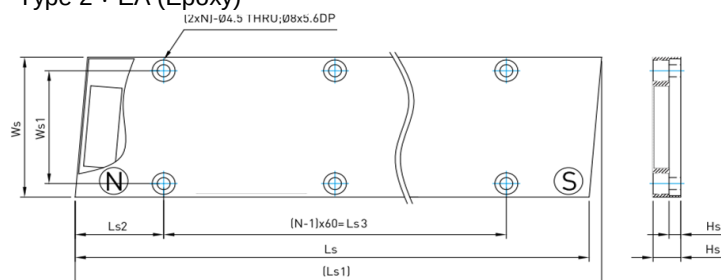
## Stator dimensions

## Type 1 : Cover plate



|             | LS  | LS1    | LS2 | LS3 | WS       | WS1 | HS  | HS1 | N |
|-------------|-----|--------|-----|-----|----------|-----|-----|-----|---|
| LMSA1S1(EA) | 120 | 124.36 | 31  | 60  | 50.6(52) | 42  | 9.7 | 4   | 2 |
| LMSA1S2(EA) | 180 | 184.36 | 31  | 120 | 50.6(52) | 42  | 9.7 | 4   | 3 |
| LMSA1S3(EA) | 300 | 304.34 | 31  | 240 | 50.6(52) | 42  | 9.7 | 4   | 5 |

## Type 2 : EA (Epoxy)



Except dimensions, all the specifications in the table are in  $\pm 10\%$  of tolerance

Version: 1.00

This drawing is only for reference, detail dimensions please refer to approval drawing.

Date: 2023/3/29