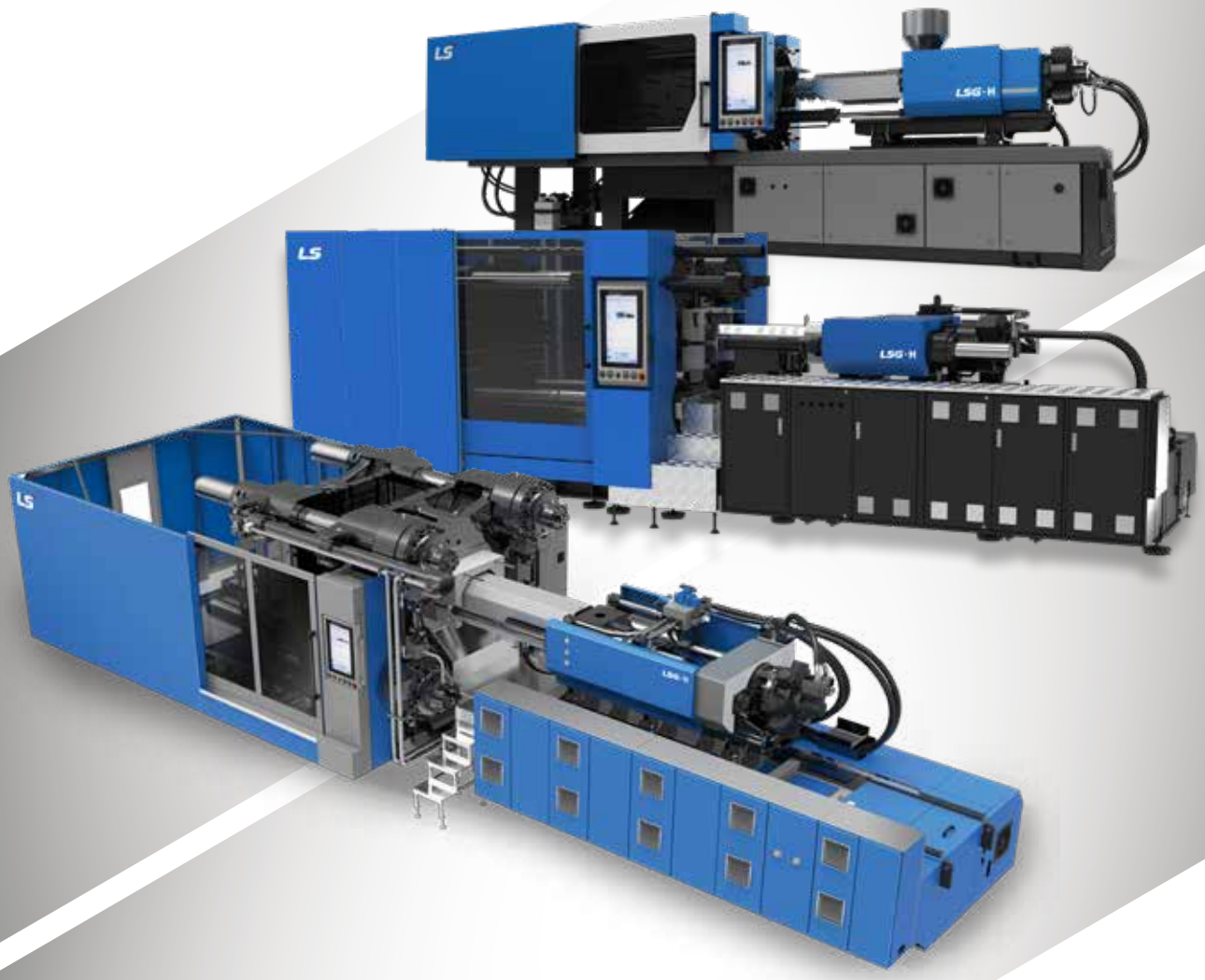
Hybrid Injection Molding Machine 100~3500 (US Tons)

# LSG-H SERIES



LS Mtron

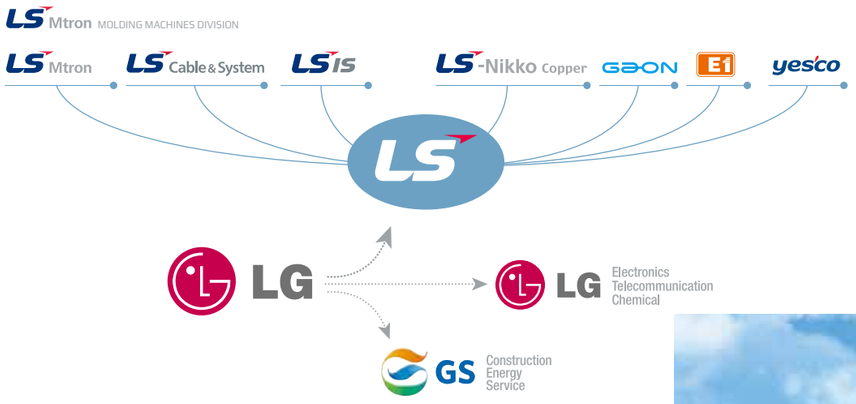
LS Mtron

Injection Molding Machine

## About LS Mtron

LS Mtron, a subsidiary of the LS Group, a conglomerate based in South Korea, employs over 25,000 people and reports annual revenues exceeding USD 30 billion, with profits around USD 1 billion. The Injection Molding Machines division of LS Mtron (LS IMM) was established in 1969 by the South Korean tech behemoth LG Corporation, known as one of the largest plastic molders globally. Initially created to meet its demand for injection molded parts for their renowned TVs, appliances, electronics, and other products, LS IMM now manufactures approximately 3,000 machines annually. These machines cater not only to LS and LG-related companies but also to a global clientele of molders.

Originating with the invention of Korea's first Injection Molding Machines, LS IMM is celebrated for its commitment to quality, customer service, and rapid delivery times. Leveraging the collective capabilities of the LS Group's companies, LS IMM addresses several global supply chain challenges. This synergy enables LS IMM to offer custom molding machines to its customers in North America within just 100 days from casting to shipment, with the possibility of even quicker delivery times from its pre-stocked inventory.




# INNOVATIVE
# TECHNOLOGY PARTNER

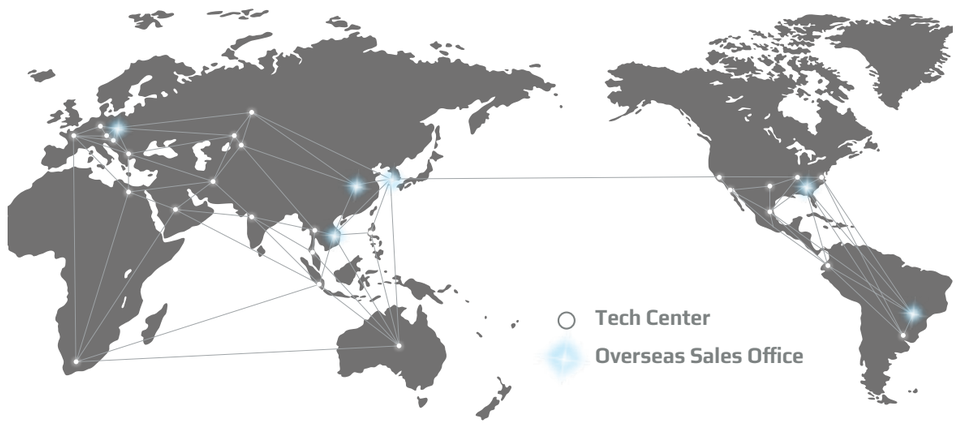








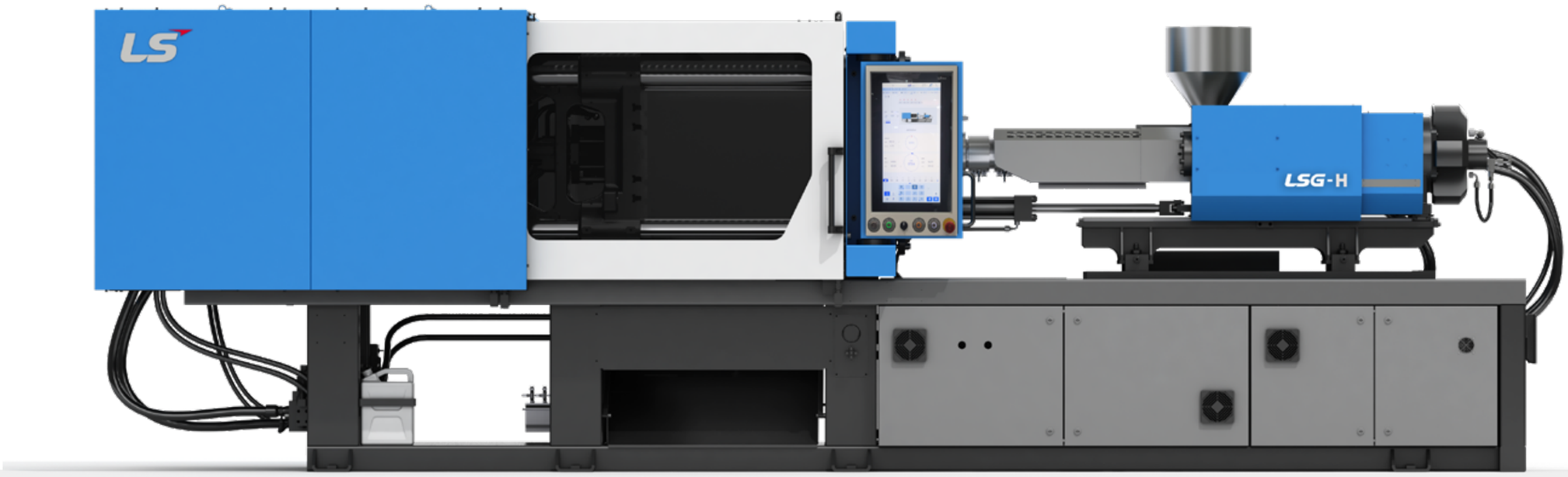

## *Integrated **ONE Solution***
## *Smart Machine for Industry 4.0*
## *Delivering **Value***

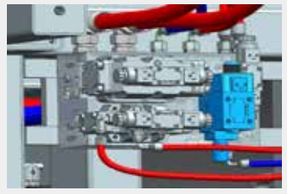


Compact Hybrid Injection Molding Machine

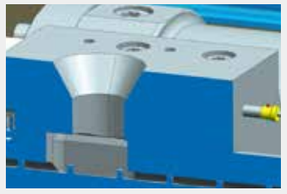
# LSG-H 100~420 (US Tons)

Fast Cycle Time | High Precision | Easy and Convenient Maintenance | Large Mold Weight Capacity | High Durability

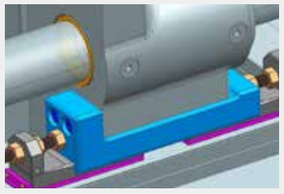


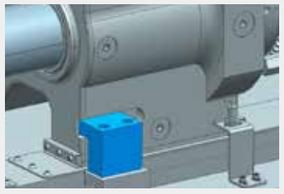
Oil Braking Circuit for Enhanced Clamp Accuracy



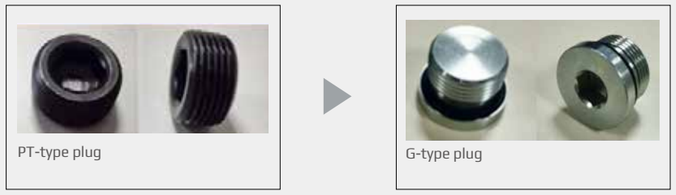
Optimal Barrel Temperature Sensor Positions



Graphite Impregnated Moving Platen Carriers



Moving Platen Adjustable Stopper




All Machine Hydraulic Fittings Changed from PT-Type to G-Type

# LSG-H

## Clamping and Injection Unit Matrix

| Model | LSG 100H | LSG 120H | LSG 150H | LSG 190H | LSG 240H | LSG 310H | LSG 360H | LSG 420H |
|---|---|---|---|---|---|---|---|---|
| i2.2 | 28Y<br>32A<br>36B | 28Y<br>32A<br>36B | | | | | | |
| i3.2 | 32Y<br>36A<br>40B | 32Y<br>36A<br>40B | 32Y<br>36A<br>40B | | | | | |
| i4.8 | | 36Y<br>40A<br>45B | 36Y<br>40A<br>45B | 36Y<br>40A<br>45B | | | | |
| i6.7 | | | 40Y<br>45A<br>50B | 40Y<br>45A<br>50B | 40Y<br>45A<br>50B | | | |
| i9.6 | | | | 45Y<br>50A<br>55B | 45Y<br>50A<br>55B | 45Y<br>50A<br>55B | 45Y<br>50A<br>55B | |
| i13.5 | | | | | 50Y<br>55A<br>60B | 50Y<br>55A<br>60B | 50Y<br>55A<br>60B | 50Y<br>55A<br>60B |
| i19.9 | | | | | | 60Y<br>65A | 60Y<br>65A | 60Y<br>65A<br>70B<br>75BB |



## Standard/Optional Equipment

| | Standard Features | Optional Equipment |
|---|---|---|
| Clamping Unit | Vertical & Horizontal T-Slots (Includes T-Clamps) | Daylight Extension |
| | Automatic Lubrication System | Tapped Hole Pattern on Platens |
| | Greaseless Composite Material Moving Platen Carriers | Locate Ring (Non-Standard Size) |
| | Automatic Mold Height Adjustment | Hydraulic Core Pulls A/B/C/D Modes |
| | Automatic Clamping Force Adjustment | Additional Hyd. Core Pulls |
| | High-Speed Mold Open/Close Circuit | Hydraulic Valve Gates |
| | Mold Protect Mode | Pneumatic Valve Gates |
| | Digital Position Sensor | Water Manifold Non-Standard Type |
| | Air Eject (STA 2) | Pneumatic Core Valves |
| | Hyd. Core Pulls (STA 1 / MOV 1) A/C Modes | Insulator Boards |
| | Hydraulic Ejector Forward Holding Circuit with Valve | Temp. Sensor for Cooling Water Manifolds |
| | Ejector Return Confirmation | Mechanical Safety Device (Drop Bar) |
| | Safety Gate & Covers | |
| | Water Manifolds (LSG*100H~420H)<br>• In/Out Port (10) Zones (+1 for Feed Throat), Port Size 10mm, PT<br>• Ball Valves Included | |
| | Locate Ring 4" Inner Diameter | |
| | Valve Gate (1) Zone (Interface Only - 24VDC or 110VAC) | |
| | Spring Mold Close/Open Mode | |
| | Robot Mounting Pattern | |
| Injection Unit | Anti-Wear Screw & Barrel (AW1 - Up to 20% GF) | Various Screw and Barrel Designs (Anti-Wear/Anti-Corrosion, Mixing, etc.) |
| | Closed Loop Control for Injection Process | Non-Standard Nozzle Option |
| | Ceramic Heater Bands for Barrel | Pneumatic Shut-Off Nozzle |
| | Cable Heater for Nozzle Zone | Hopper Slide Drain Port |
| | Pre-Heating Temperature Control | Cooling Fan for Barrel Temperature Control |
| | Removable Nozzle Tip (R1/2" x D7/32" x L100mm) with 7/8-14 Thread | High-Speed Injection Option |
| | Nozzle Retract Timing Selector (Sprue Break) | Barrel Heater Insulation Cover |
| | Screw Back Pressure Regulator | Flow Meter for Hopper Temperature Control |
| | Screw Cold Start Prevention | |
| | Screw Tip (for General Resins, Non-Return Valve Type) | |
| | Injection Speed & Pressure Control Device | |
| | Feed Throat Temperature Control Device | |
| | LM Guides for Injection Unit and Carriage | |
| | Screw 1st and 2nd Retract | |
| | Heater Thermocouples (J-Type) | |
| | Hyd. Oil Filtration System | |
| | Hyd. Oil Level and Temperature Sensors | |
| Control System - US Standard Features | Main Power 480V / 3P / 60Hz | Alternate Main Power Options (575V, 240V, etc.) |
| | Closed Loop Control System | Euromap 73 (Safety Fence Interface) |
| | Energy Saving Servo-Hydraulic System | Robot Interface E12 |
| | PID Temperature Control | Interface for Additional Valve Gates |
| | Graphs for Injection Speed & Pressure | Integrated Hot Runner System |
| | Automatic Motor Power Off | Air Conditioning Unit In Control Cabinet |
| | Automatic Purging Program | Additional Single-Phase Outlets (110V) |
| | Back Pressure Relief Circuit | Additional Three-Phase Outlets (240V, 480V) |
| | Emergency Stop Switches | Gas Injection Interlock Circuit |
| | Three-Color Alarm Light & Buzzer | Uninterrupted Power Supply (UPS) for Controller |
| | Hydraulic Oil Pre-Heat Function | Additional Programmable I/O |
| | Robot Interface E67 | CE Marking |
| | ANSI Safety Standard | UL/CSA Certified Electric Parts |
| | Motion/No Motion Key Switch | Safety Label Language (Spanish/French/etc.) |
| | Nozzle Safety Cover with Interlock | RFID Passkey System for Security Login |
| | USB Port (Molding Data Transfer, Screen Shot, etc.) | Barcode Scanning System for Mold Data Retrieval |
| | KEBA 18.5" Touchscreen Controller | |
| | MIOSHA 2nd Power Disconnect | |
| | Dual 110V Convenience Outlet at Operator Station (Single Phase) | |
| | Internal Lights for Control Cabinet & Cabinet Door Hinges | |
| | Programmable I/O (8 Inputs / 8 Outputs) | |
| | Valve Gate (Interface Only / 1 Zone DC24V or AC220V) | |
| | Ethernet Port for Remote Monitoring | |
| | Wi-Fi Router for Remote Service | |
| | Ejector Check Valve | |
| | Core Pressure Release | |
| | Barrel Cover | |
| | Oil Temperature Display | |
| | Pre-Heating Control for Barrel | |
| | Automatic Power Shut-Down Circuit | |
| | Production Counter | |
| Genral | Leveling Pads | |
| | Basic Tool Kit Package | |
| | Spare Parts Package (Screw Tip, Heater Bands, Thermocouples) | |

Compact Hybrid Injection Molding Machine

# LSG-H

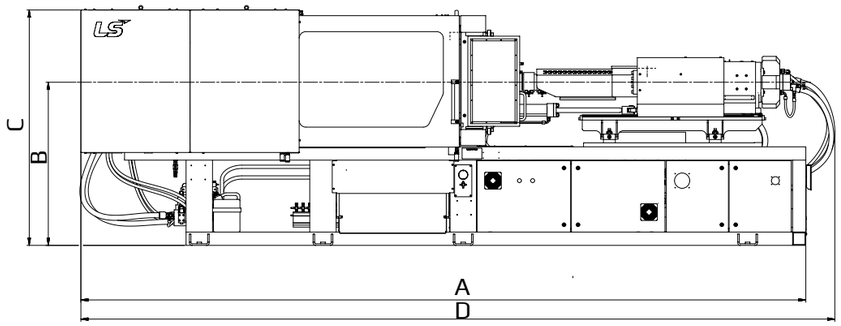


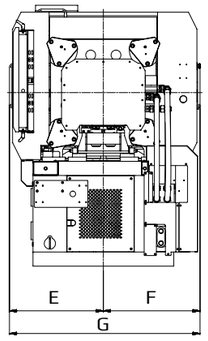
## Specification (US Ton)

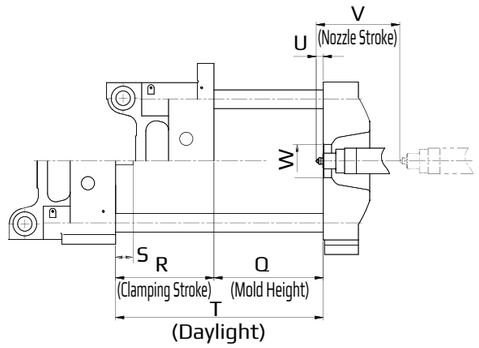
| Model | | | Unit | LSG 100H | | | LSG 120H | | | LSG 150H | | | LSG 190H | | | LSG 240H | | | LSG 310H | | | LSG 360H | | | LSG 420H | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Injection Unit | Injection Unit Code | | | i2.2 | | | i3.2 | | | i4.8 | | | i6.7 | | | i9.6 | | | i13.5 | | | i13.5 | | | i19.9 | | | |
| | Screw Type | | | Y | A | B | Y | A | B | Y | A | B | Y | A | B | Y | A | B | Y | A | B | Y | A | B | Y | A | B | BB |
| | Screw Diameter | | in | 1.10 | 1.26 | 1.42 | 1.26 | 1.42 | 1.57 | 1.42 | 1.57 | 1.77 | 1.57 | 1.77 | 1.97 | 1.77 | 1.97 | 2.17 | 1.97 | 2.17 | 2.36 | 1.97 | 2.17 | 2.36 | 2.36 | 2.56 | 2.76 | 2.95 |
| | | | mm | 28 | 32 | 36 | 32 | 36 | 40 | 36 | 40 | 45 | 40 | 45 | 50 | 45 | 50 | 55 | 50 | 55 | 60 | 50 | 55 | 60 | 60 | 65 | 70 | 75 |
| | Screw Stroke | | in | 5.63 | | | 6.38 | | | 7.87 | | | 8.74 | | | 9.76 | | | 12.01 | | | 12.01 | | | 12.99 | | | |
| | Calculated Injection Volume | | in³ | 5.4 | 7.0 | 8.9 | 7.9 | 10.1 | 12.4 | 12.4 | 15.3 | 19.4 | 17.0 | 21.5 | 26.6 | 24.1 | 29.7 | 35.9 | 36.5 | 44.2 | 52.6 | 36.5 | 44.2 | 52.6 | 57 | 67 | 77 | 89 |
| | | | cm³ | 88.0 | 115.0 | 146.0 | 130.0 | 165.0 | 204.0 | 203.6 | 251.3 | 318.1 | 279.0 | 353.1 | 435.9 | 394.4 | 486.9 | 589.2 | 598.9 | 724.6 | 862.4 | 598.9 | 724.6 | 862.4 | 933 | 1095 | 1270 | 1458 |
| | Injection Capacity | PS | oz | 2.86 | 3.73 | 4.73 | 4.23 | 5.36 | 6.61 | 6.61 | 8.16 | 10.33 | 9.06 | 11.47 | 14.16 | 12.81 | 15.81 | 19.14 | 19.45 | 23.53 | 28.01 | 19.45 | 23.53 | 28.01 | 30.30 | 35.56 | 41.24 | 47.35 |
| | | | g | 81 | 106 | 134 | 120 | 152 | 187 | 187 | 231 | 293 | 257 | 325 | 401 | 363 | 448 | 542 | 551 | 667 | 793 | 551 | 667 | 793 | 858 | 1007 | 1168 | 1341 |
| | Injection Pressure | | Psi | 35,267 | 27,001 | 21,335 | 35,446 | 28,007 | 22,686 | 33,714 | 27,308 | 21,577 | 34,206 | 27,027 | 21,892 | 34,557 | 27,991 | 23,133 | 32,042 | 26,481 | 22,251 | 32,042 | 26,481 | 22,251 | 30,342 | 25,854 | 22,292 | 19,419 |
| | | | Mpa | 243.2 | 186.2 | 147.1 | 244.4 | 193.1 | 156.4 | 232.5 | 188.3 | 148.8 | 235.9 | 186.4 | 150.9 | 238.3 | 193.0 | 159.5 | 220.9 | 182.6 | 153.4 | 220.9 | 182.6 | 153.4 | 209 | 178 | 154 | 134 |
| | Injection Rate | | in³/sec | 5.3 | 6.9 | 8.7 | 6.5 | 8.3 | 10.2 | 6.9 | 8.5 | 10.8 | 8.6 | 10.8 | 13.4 | 10.7 | 13.3 | 16.0 | 14.5 | 17.5 | 20.8 | 14.5 | 17.5 | 20.8 | 19 | 22 | 26 | 30 |
| | | | cm³/sec | 86.5 | 112.9 | 142.9 | 107.4 | 135.9 | 167.8 | 112.9 | 139.4 | 176.4 | 140.5 | 177.8 | 219.5 | 176.0 | 217.3 | 263.0 | 237.3 | 287.2 | 341.8 | 237.3 | 287.2 | 341.8 | 312 | 367 | 425 | 488 |
| | Injection Speed | | in/sec | 5.51 | | | 5.28 | | | 4.37 | | | 4.41 | | | 4.37 | | | 4.76 | | | 4.76 | | | 4.37 | | | |
| | | | mm/sec | 140.0 | | | 134.0 | | | 111.0 | | | 112.0 | | | 111.0 | | | 121.0 | | | 121.0 | | | 111.0 | | | |
| | Plasticizing Capacity | PS | oz/sec | 0.6 | 0.8 | 1.0 | 0.7 | 0.9 | 1.1 | 0.8 | 1.0 | 1.4 | 1.1 | 1.3 | 1.8 | 1.1 | 1.3 | 1.7 | 1.4 | 1.7 | 2.1 | 1.4 | 1.7 | 2.1 | 1.9 | 2.3 | 2.6 | 3.3 |
| | | | g/sec | 16.0 | 21.7 | 28.4 | 19.0 | 24.2 | 31.8 | 22.9 | 28.5 | 38.7 | 30.0 | 37.9 | 49.7 | 30.8 | 38.0 | 48.6 | 39.8 | 48.1 | 60.9 | 39.8 | 48.1 | 60.9 | 54 | 64 | 74 | 92 |
| | Screw Speed | | rpm | 340 | | | 290 | | | 260 | | | 255 | | | 195 | | | 195 | | | 195 | | | 175 | | | |
| Clamping Unit | Clamping Force | | US Ton (kN) | 99 (883) | | | 121 (1079) | | | 154 (1373) | | | 187 (1668) | | | 243 (2158) | | | 309 (2747) | | | 364 (3237) | | | 419 (3728) | | | |
| | Tie-Bar Distance (H x V) | | in | 14.6 x 14.6 | | | 16.2 x 16.2 | | | 18.1 x 18.1 | | | 20.1 x 20.1 | | | 22.0 x 22.0 | | | 24.2 x 24.2 | | | 26.4 x 26.4 | | | 28.0 x 28.0 | | | |
| | | | mm | 370 x 370 | | | 410×410 | | | 460×460 | | | 510×510 | | | 560×560 | | | 615×615 | | | 670 x 670 | | | 710×710 | | | |
| | Platen Dimensions (H x V) | | in | 21.7 x 21.7 | | | 24.0 x 24.0 | | | 27.2 x 27.2 | | | 29.5 x 29.5 | | | 32.9 x 32.9 | | | 35.8 x 35.8 | | | 39.8 x 39.8 | | | 41.7 x 41.7 | | | |
| | | | mm | 550 x 550 | | | 610 x 610 | | | 690 x 690 | | | 750 x 750 | | | 835 x 835 | | | 910 x 910 | | | 1010 x 1010 | | | 1060 x 1060 | | | |
| | Daylight | | in (mm) | 26.8 (680) | | | 31.9 (810) | | | 35.4 (900) | | | 38.4 (975) | | | 43.7 (1110) | | | 47.6 (1210) | | | 54.3 (1380) | | | 57.5 (1460) | | | |
| | Mold Height | Min | in (mm) | 5.5 (140) | | | 5.9 (150) | | | 7.1 (180) | | | 7.1 (180) | | | 7.9 (200) | | | 9.8 (250) | | | 9.8 (250) | | | 11.8 (300) | | | |
| | | Max | in (mm) | 13.8 (350) | | | 17.7 (450) | | | 19.7 (500) | | | 20.5 (520) | | | 23.6 (600) | | | 25.6 (650) | | | 28.3 (720) | | | 29.5 (750) | | | |
| | Max.Mold Weight | | US Ton (ton) | 0.69 (0.6) | | | 0.85 (0.8) | | | 1.08 (1) | | | 1.31 (1.2) | | | 1.7 (1.5) | | | 2.16 (2) | | | 2.55 (2.3) | | | 2.93 (2.7) | | | |
| | Ejector Force | | US Ton (kN) | 3.5 (31) | | | 4.2 (37) | | | 4.2 (37) | | | 5.8 (52) | | | 6.8 (61) | | | 6.8 (61) | | | 7.7 (69) | | | 10 (88) | | | |
| | Ejector Stroke | | in (mm) | 3.9 (100) | | | 3.9 (100) | | | 4.7 (120) | | | 5.5 (140) | | | 5.9 (150) | | | 6.7 (170) | | | 6.7 (170) | | | 7.9 (200) | | | |
| | DRY CYCLE (EUROMAP 6) | | sec | 2.4 | | | 2.4 | | | 2.5 | | | 2.7 | | | 2.9 | | | 3.5 | | | 4.0 | | | 4.5 | | | |
| General | Oil Capacity | | gal (l) | 47.5 (180) | | | 47.5 (180) | | | 55.5 (210) | | | 66 (250) | | | 79.2 (300) | | | 132.1 (500) | | | 132.1 (500) | | | 171.7 (650) | | | |
| | Pump Motor Capacity | | kW | 16 | | | 20 | | | 20 | | | 24 | | | 34 | | | 36 | | | 36 | | | 48 | | | |
| | Barrel Heating Capacity | | kW | 5.5 | | 6.2 | 6.2 | | 6.8 | 9.7 | | 10.9 | 10.9 | | 12.1 | 12.8 | | 14 | 16.1 | | 17.7 | 16.1 | | 17.7 | 19.3 | | 23.6 | |
| | Machine Size (L x W x H) | | ft | 14.7 x 3.9 x 5.3 | | | 15.6 x 4.1 x 5.5 | | | 16.7 x 4.3 x 5.8 | | | 18.2 x 4.4 x 6.0 | | | 19.9 x 4.7 x 6.3 | | | 22.0 x 5.3 x 6.9 | | | 23.0 x 5.6 x 7.2 | | | 24.2 x 5.9 x 7.2 | | | |
| | | | m | 4.49 x 1.18 x 1.61 | | | 4.77 x 1.24 x 1.68 | | | 5.09 x 1.31 x 1.78 | | | 5.54 x 1.35 x 1.84 | | | 6.06 x 1.44 x 1.92 | | | 6.72 x 1.62 x 2.10 | | | 7.00 x 1.72 x 2.19 | | | 7.38 x 1.80 x 2.28 | | | |
| | Machine Weight | | US Ton (TTL) | 3.3 | | | 5.0 | | | 5.5 | | | 6.4 | | | 8.3 | | | 12.1 | | | 13.8 | | | 16.5 | | | |
| | | | Ton (TTL) | 3.0 | | | 4.5 | | | 5.0 | | | 5.8 | | | 7.5 | | | 11.0 | | | 12.5 | | | 15.0 | | | |

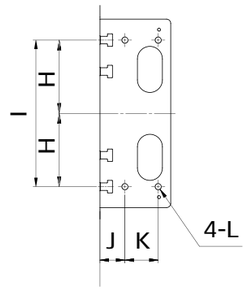
# LSG-H

## General Layout Drawing

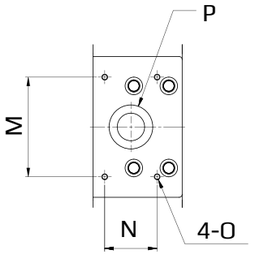



Robot Mounting Pattern

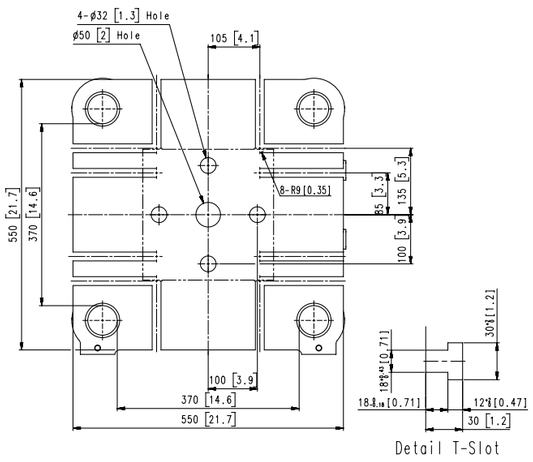



Hopper Mounting Pattern

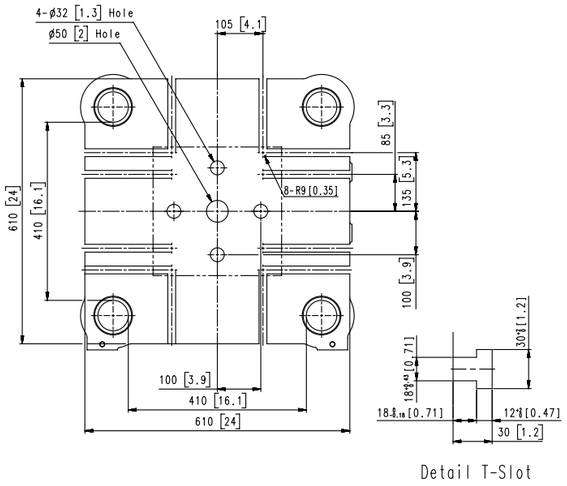
| | LSG 100H | LSG 120H | LSG 150H | LSG 190H | LSG 240H | LSG 310H | LSG 360H | LSG 420H |
|---|---|---|---|---|---|---|---|---|
| A | 174.94 | 186.17 | 198.77 | 215.91 | 236.20 | 258.46 | 274.15 | 287.94 |
| B | 45.31 | 45.11 | 47.28 | 48.27 | 50.04 | 53.90 | 56.15 | 56.74 |
| C | 63.75 | 63.83 | 66.90 | 69.66 | 73.60 | 78.92 | 84.04 | 84.04 |
| D | - | - | 199.76 | 224.54 | 242.70 | 268.12 | 281.91 | 302.71 |
| E | 23.29 | 24.47 | 25.45 | 26.24 | 28.01 | 31.36 | 33.53 | 35.81 |
| F | 24.07 | 25.26 | 26.63 | 27.82 | 29.59 | 32.94 | 35.11 | 35.81 |
| G | 47.36 | 49.72 | 52.09 | 54.06 | 57.60 | 64.30 | 68.63 | 71.63 |
| H | 6.50 | 6.50 | 7.49 | 6.90 | 7.88 | 10.44 | 11.82 | 11.82 |
| I | 13.00 | 13.00 | 14.97 | 13.79 | 15.76 | 20.88 | 23.64 | 23.64 |
| J | 1.77 | 1.77 | 1.97 | 2.36 | 2.36 | 2.36 | 3.15 | 3.15 |
| K | 1.97 | 1.97 | 1.97 | 3.15 | 3.15 | 3.15 | 3.94 | 3.94 |
| L | M16 | M16 | M16 | M16 | M16 | M20 | M20 | M20 |
| M | 6.70 | 6.70 | 6.70 | 6.70 | 6.70 | 6.70 | 6.70 | 6.70 |
| N | 3.55 | 3.55 | 3.55 | 3.55 | 3.55 | 3.55 | 3.55 | 3.55 |
| O | M10 | M10 | M10 | M10 | M10 | M12 | M12 | M12 |
| P | Ø2.36 | Ø2.95 | Ø2.95 | Ø2.95 | Ø2.95 | Ø2.94 | Ø2.94 | Ø2.94 |
| Q | 5.51~13.78 | 5.90~17.72 | 7.09~19.68 | 7.09~20.47 | 7.87~23.62 | 9.84~25.59 | 9.84~28.35 | 11.81~29.53 |
| R | 13.00 | 14.18 | 15.76 | 17.93 | 20.09 | 22.06 | 26.00 | 27.97 |
| S | 3.94 | 3.94 | 4.73 | 5.52 | 5.91 | 6.70 | 6.70 | 7.88 |
| T | 26.79 | 31.91 | 35.46 | 38.42 | 43.73 | 47.67 | 54.37 | 57.52 |
| U | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 | 1.97 |
| V | 10.05 | 11.62 | 13.40 | 16.35 | 17.73 | 19.50 | 19.50 | 21.08 |
| W | Ø3.94 | Ø3.94 | Ø3.94 | Ø3.94 | Ø3.94 | Ø3.94 | Ø3.94 | Ø3.94 |

## Moving Platen Drawing

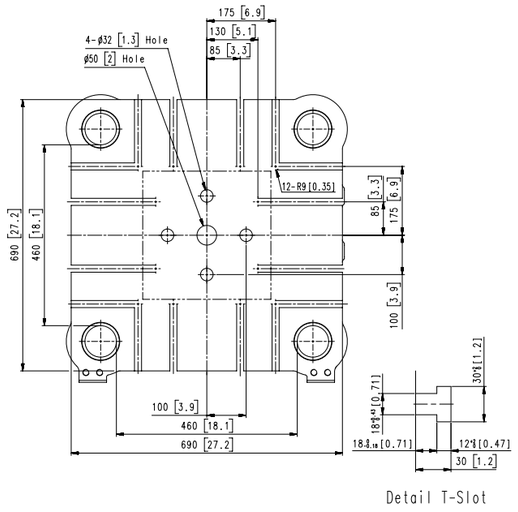
### LSG 100H



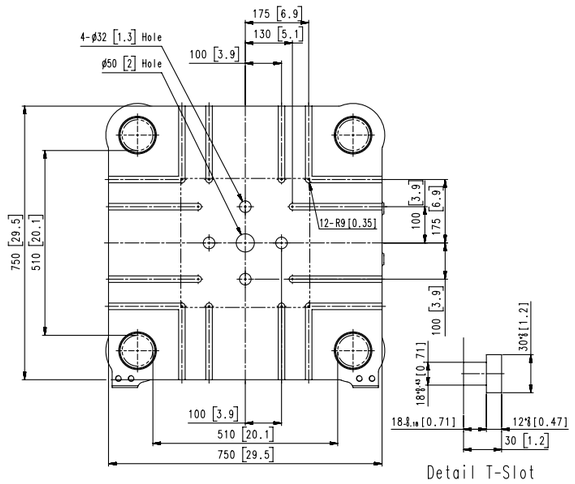

### LSG 120H



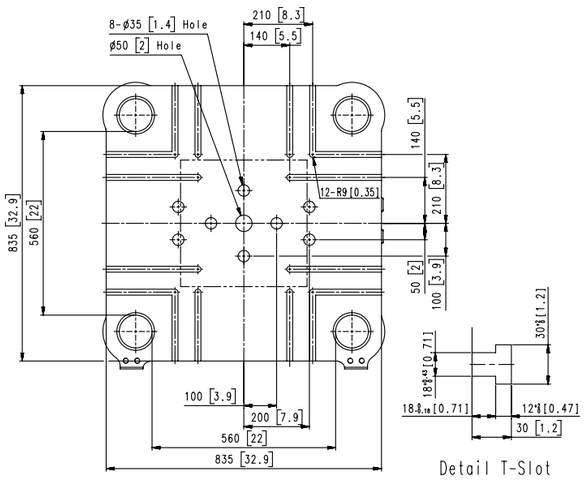

### LSG 150H



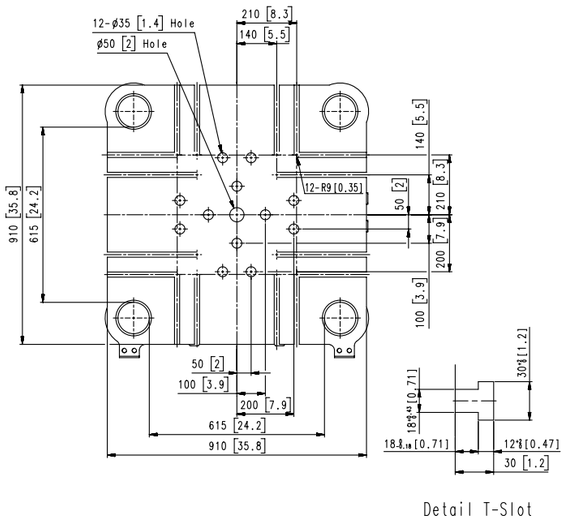

### LSG 190H



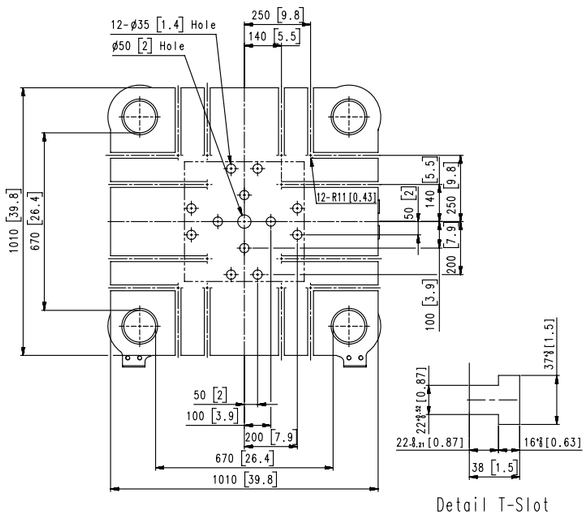

### LSG 240H



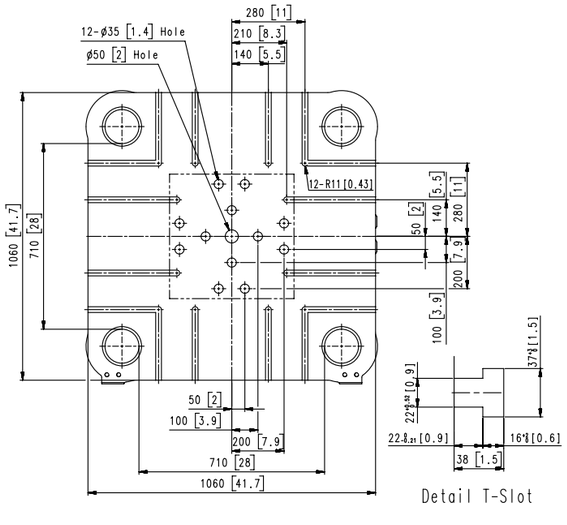

### LSG 310H




### LSG 360H




### LSG 420H




**Notes:** Dimensions in ( ) are in Inches.
Tapped Hole Pattern Available

## Mid-Sized Hydraulic Injection Molding Machine

# LSG-H 500~1100 (US Tons)

Energy Saving | Fast Dry Cycle Time | Large Plasticizing Capacity | Low Noise Level | 0.07% Weight Deviation






### Barrel Unit
- High Performance Plasticizing Unit



### Quick-Change Barrel System
- Easy Screw and Barrel Changes



### Oil Leak Prevention
- Injection Oil Pressure Line Simplification
- High-Pressure Hosing



### Tie-Bar Nut Simultaneous Movement
- Quick and Precise Clamping
- Shorter Cycle Times



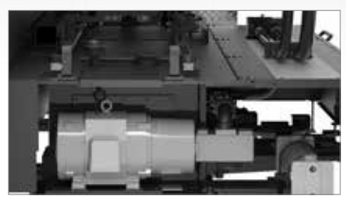
### Compact Booster Cylinder
- Small Profile
- Easy to Adjust Position



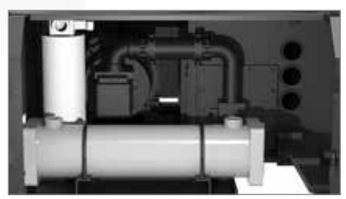
### Digital Position Encoder
- Precise Control
- Extremely Accurate



### KEBA Controller
- Real-Time Data Setting and Operation
- User-Friendly Controls



### Circulation Pump
- More Efficient Cooling
- Quick Response

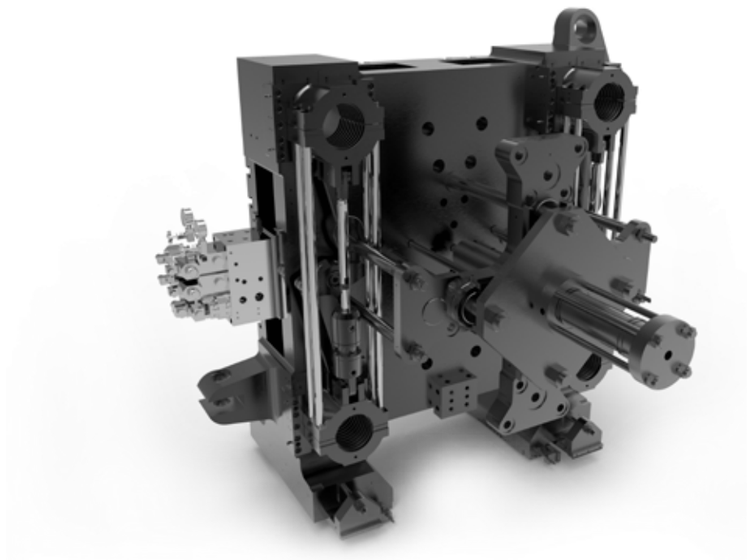


### Cooler
- Excellent Heat Exchange

# Advanced Productivity

## Quick Clamping Unit for Faster Cycle Times

- Shortens Clamping Time
- Half-Nut Locking System Prevents Clamping Errors
- Proportional Valve for High-Speed Mold Open & Close (1,000mm/sec)
- Clamping Noise Minimization



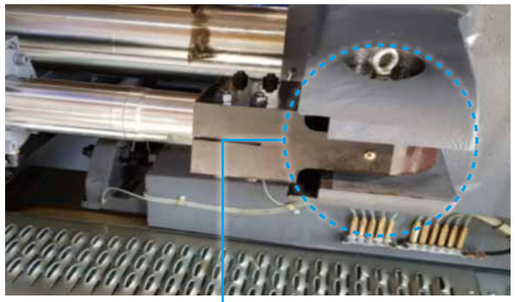


Max 1,000 mm/sec

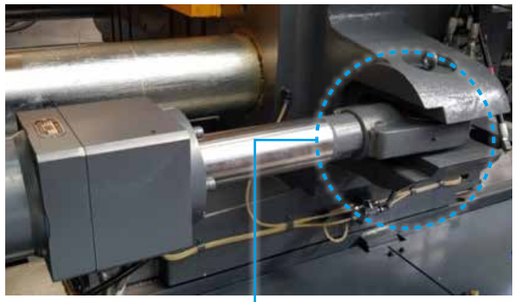
# Improved Mold Opening and Closing Speed

## High Mold Opening & Closing Speed: Booster Cylinder Versatile Rod Structure

- Standardized Components
- Easy Position Deviation Control and Maintenance
- Improved Booster Cylinder for Faster Movement



< Before > Hinge Type



< After > Rod End Type

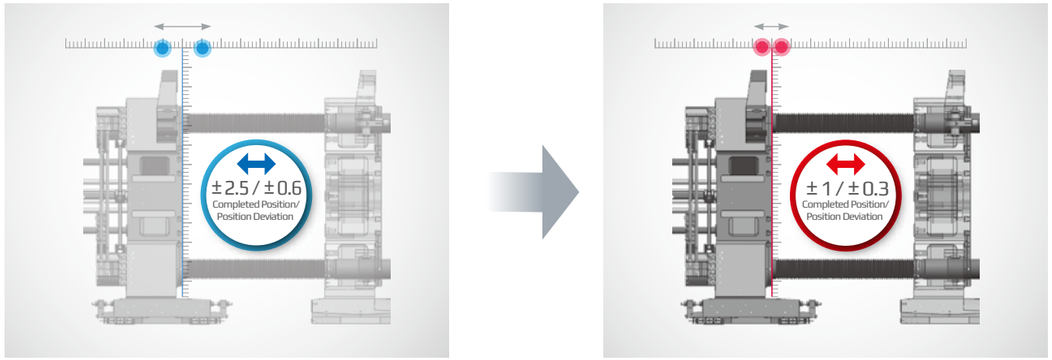
# Mold Opening and Closing Speed Upgrade

## Shortened Mold Open & Close Times with Improved Booster Cylinder

| Model | Mold Closing Speed (mm/sec) | | Mold Opening Speed (mm/sec) | |
|---|---|---|---|---|
| | Previous | New | Previous | New |
| LSG 500H | 866 | 1,000 | 800 | 888 |
| LSG 600H | 816 | 1,000 | 833 | 1,000 |
| LSG 700H | 766 | 1,000 | 750 | 823 |
| LSG 900H | 650 | 1,000 | 566 | 983 |
| LSG 1100H | 650 | 1,000 | 566 | 983 |

* 1,000 mm/sec is equivalent to 39.37in/sec

# Advanced Position Repeatability




< Before > < After >

## High Performance Electric Proportional Valve

- Precise Oil Flow Control
- Max Oil Capacity 180 → 1,000 l/min
- Hysteresis 1 → below 0.1%
- Repeatability 0.5 → below 0.05%



## SSI Type with High Precision Digital Sensor

- Resolution 1μm
- Repeatability accuracy ±0.001%
- Straight accuracy ±0.001%



## Injection Unit Move by LM Guide

- Easy Nozzle Center Positioning
- Minimize Frictional Force
- High Precise Movement Control





# New Injection Unit

## Easy Screw Changes

### Variable Clamping and Injection Unit Matrix



- Screw Size Change Possible by only Barrel Assembly Change and Nozzle Cylinder Adjustment
- Easy Modulation: Simple Procedure to Adjust Up or Down Machine injection Specifications

**LSG-H Mid-sized Hydraulic Machine Matrix**

| Model | LSG 500H | LSG600H | LSG 700H | LSG 900H | LSG 1100H |
|---|---|---|---|---|---|
| i27 | 65Y<br>70A*<br>80B | 70A*<br>80B | | | |
| i33 | 70Y<br>75A*<br>85B | 70Y<br>75A*<br>85B | 75A*<br>85B | | |
| i54 | | 85Y<br>90A*<br>100B | 85Y<br>90A*<br>100B | 90A*<br>100B | 90A*<br>100B |
| i90 | | | 95Y<br>105A*<br>115B | 95Y<br>105A*<br>115B | 95Y<br>105A*<br>115B |

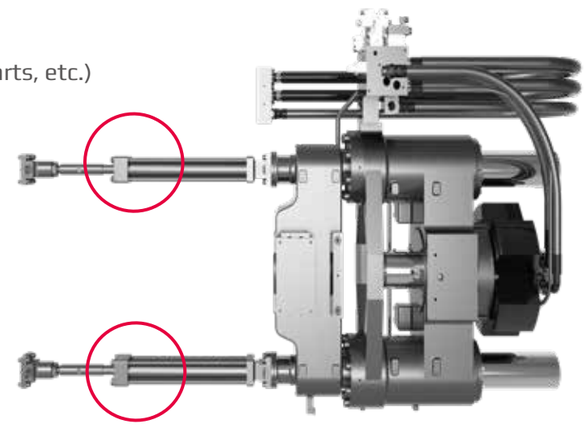
## Moment Zero

### Moment Zero Nozzle Touch Design

- Superior Platen Parallelism
- Prevents Resin Leaks
- Increases Part Life (Cylinder, Plasticizing Parts, etc.)

### Customer Benefits

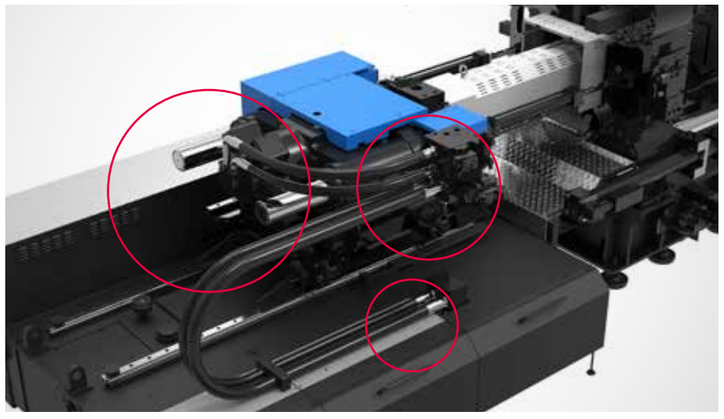
- Easy to Replace Barrel Assembly
- Increased Screw and Barrel Life
- Easy Transition to Different Molds



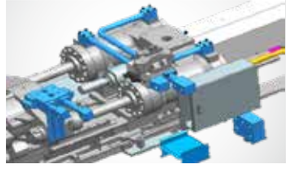
# Convenience of Maintenance

## Simplification of Injection Unit Hydraulic Lines

- Elimination of Welded Piping by Using High-Pressure Hosing
- Charging Servo Motor for Quality Stability
- Prevents Oil Leaks and Improves Appearance



< Before >

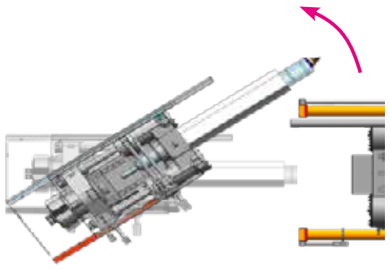


< After >

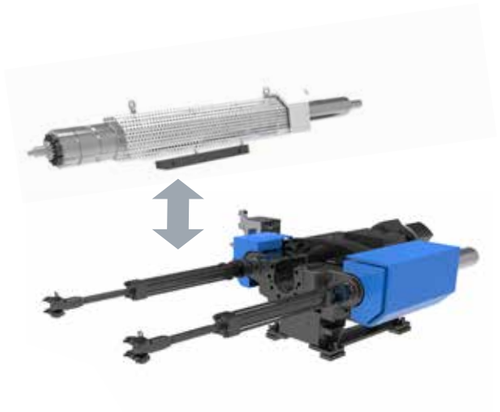


## Quick Barrel Change System

- Barrel Lifts Up for Easy Replacement - No Injection Unit Rotation Required
- Longer Screw & Barrel Life



< Before > Injection Unit Rotation Required to Change Barrel



< After > Barrel Asembly Easily Removed for Maintenance or Replacement



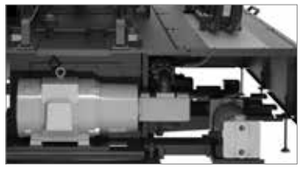
# Efficient & Advanced Cooling System

## Circulation / Pressure Rising Motor Pump

- Improves Durability of Motor
- Decreases Motor Noise During Pressure Increase
- Increasing Cooling Efficiency and Quick Response

## Cooling System

- Excellent Heat Exchanging Capabilities
- Oil Cleaning System for Smoother Running
- Minimizes Usage of Cooling Water

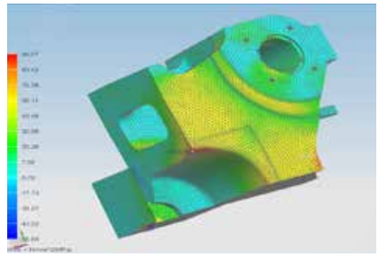


## Economizing Cooling Water Usage

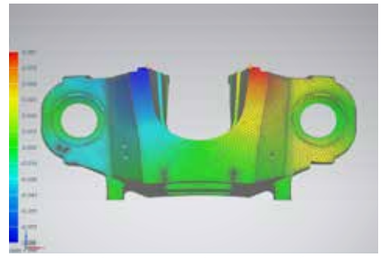
- Optimizes Flow Rate Discharge to Limit the Increase in Operating Oil Temperature
  - More than 30% Savings in Water Used for Oil Cooling
  - Lower Oil Temperature Makes for Better Machine Performance

# Outstanding Durability

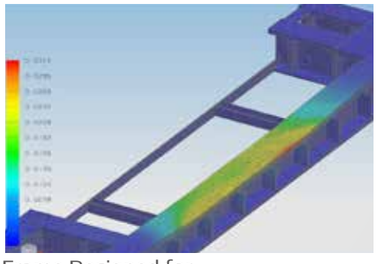
## Machine Life Extension through Durability and Stable Injection Molding



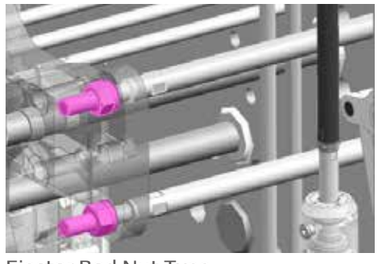
Maximum Force - Minimum Platen Deformation



Simulated Structural Design of Injection Molded Part



Frame Designed for Minimal Deformation



Ejector Rod Nut Type

## Standard/Optional Equipment

| | Standard Features | Optional Equipment |
|---|---|---|
| Clamping Unit | Vertical & Horizontal T-Slots (Includes T-Clamps) | Daylight Extension |
| | Automatic Lubrication System | Tapped Hole Pattern on Platens |
| | Greaseless Composite Material Moving Platen Carriers | Locate Ring (Non-Standard Size) |
| | Automatic Mold Height Adjustment | Additional Hyd. Core Pulls |
| | Automatic Clamping Force Adjustment | Hydraulic Valve Gates |
| | High-Speed Mold Open/Close Circuit | Pneumatic Valve Gates |
| | Mold Protect Mode | Additional Air Eject Circuits |
| | Clamping Pressure Holding Circuit | Water Manifold Non-Standard Type |
| | Digital Position Sensor | Tie-Bar Puller (LSG900H~1100H) |
| | Lock-Nut Simultaneous Movement | Safety Foot Board (LSG-500H~900H) |
| | Air Eject (STA 1 / MOV 1) | Pneumatic Core Valves |
| | Hyd. Core Pulls (STA 1 / MOV 1) A/B/C/D Modes | Insulator Boards |
| | Eject During Mold Open | Temp. Sensor for Cooling Water Manifolds |
| | Multi-Eject and Vibratory Eject | Mechanical Safety Device (Drop Bar) |
| | Ejector Return Confirmation | Rotary Table for Multi-Shot Applications |
| | Safety Gate & Covers | |
| | Access Door Behind Clamp for Service | |
| | Safety Foot Board in Mold Area (LSG-1100H) | |
| | OP-Side Automatic Safety Door | |
| | Water Manifolds (LSG-500H~1100H)<br>• In/Out Port (10) Zones (+1 for Feed Throat), Port Size 10mm,<br>• PT 1", Ball Valves Included | |
| | Locate Ring 4" / 5" (Dual Type) | |
| | Valve Gate (1) Zone (Interface Only - 24VDC or 110VAC) | |
| | Spring Mold Close/Open Mode | |
| | Robot Mounting Pattern | |
| Injection Unit | Anti-Wear Screw & Barrel (AW1 - Up to 20% GF) | Various Screw and Barrel Designs (Anti-Wear/Anti-Corrosion, Mixing, etc.) |
| | Closed Loop Control for Injection Process | Non-Standard Nozzle Option |
| | Ceramic Heater Bands for Barrel | Electric Screw Drive |
| | Cable Heater for Nozzle Zone | Hyd. Shut-Off Nozzle |
| | Pre-Heating Temperature Control | Pneumatic Shut-Off Nozzle |
| | Removable Nozzle Tip (R1/2" x D7/32" x L100mm) with 7/8-14 Thread | Hopper Slide Drain Port |
| | Nozzle Retract Timing Selector (Sprue Break) | Cooling Fan for Barrel Temperature Control |
| | Screw Back Pressure Regulator | Hopper Access Ladder |
| | Screw Cold Start Prevention | Hopper Platform |
| | Screw Tip (for General Resins, Non-Return Valve Type) | High-Speed Injection Option |
| | Injection Speed & Pressure Control Device | Injection Compression (Coining) |
| | Feed Throat Temperature Control Device | Barrel Heater Insulation Cover |
| | Nozzle Retract Sensor | Flow Meter for Hopper Temperature Control |
| | LM Guides for Injection Unit and Carriage | Mold Open and Close During Screw Recovery |
| | Screw 1st and 2nd Retract | |
| | Heater Thermocouples (J-Type) | |
| | Hyd. Oil Filtration System | |
| | Hyd. Oil Level and Temperature Sensors | |
| | Injection Unit Dual Pull-In Cylinders | |

| | Standard Features | Optional Equipment |
|---|---|---|
| Control System - US Standard Features | Main Power 480V / 3P / 60Hz | Alternate Main Power Options (575V, 240V, etc.) |
| | Closed Loop Control System | Euromap 73 (Safety Fence Interface) |
| | Energy Saving Servo-Hydraulic System | Robot Interface E12 |
| | PID Temperature Control | Interface for Additional Valve Gates |
| | Graphs for Injection Speed & Pressure | Integrated Hot Runner System |
| | Automatic Motor Power Off | Air Conditioning Unit In Control Cabinet |
| | Automatic Purging Program | Additional Single-Phase Outlets (110V) |
| | Back Pressure Relief Circuit | Additional Three-Phase Outlets (240V, 480V) |
| | Emergency Stop Switches | Gas Injection Interlock Circuit |
| | Three-Color Alarm Light & Buzzer | Uninterrupted Power Supply (UPS) for Controller |
| | Hydraulic Oil Pre-Heat Function | Additional Programmable I/O |
| | Robot Interface E67 | CE Marking |
| | Core Pull or Eject During Mold Open | UL/CSA Certified Electric Parts |
| | ANSI Safety Standard | Safety Label Language (Spanish/French/etc.) |
| | Motion/No Motion Key Switch | RFID Passkey System for Security Login |
| | Nozzle Safety Cover with Interlock | Barcode Scanning System for Mold Data Retrieval |
| | USB Port (Molding Data Transfer, Screen Shot, etc.) | |
| | KEBA 18.5" Touchscreen Controller | |
| | MIOSHA 2nd Power Disconnect | |
| | Dual 110V Convenience Outlet at Operator Station (Single Phase) | |
| | Internal Lights for Control Cabinet & Cabinet Door Hinges | |
| | Programmable I/O (8 Inputs / 8 Outputs) | |
| | Valve Gate (Interface Only / 1 Zone DC24V or AC220V) | |
| | Ethernet Port for Remote Monitoring | |
| | Wi-Fi Router for Remote Service | |
| | Ejector Check Valve | |
| | Barrel Cover | |
| | Oil Temperature Display | |
| | Pre-Heating Control for Barrel | |
| | Automatic Power Shut-Down Circuit | |
| | Production Counter | |
| Genral | Leveling Pads | |
| | Basic Tool Kit Package | |
| | Spare Parts Package (Screw Tip, Heater Bands, Thermocouples) | |

Mid-Sized Hydraulic Injection Molding Machine

# LSG-H

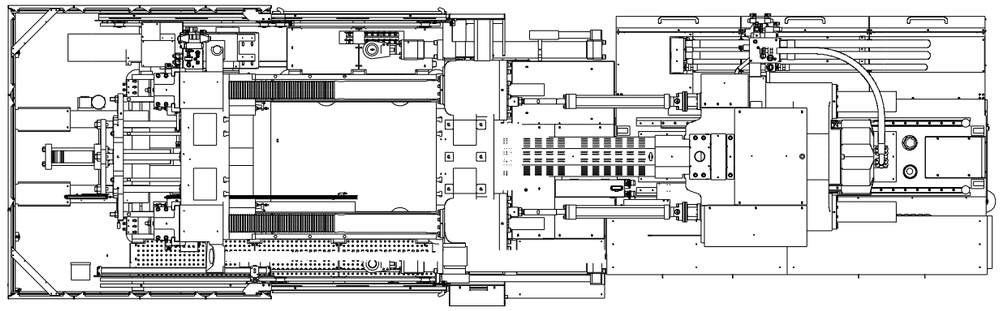


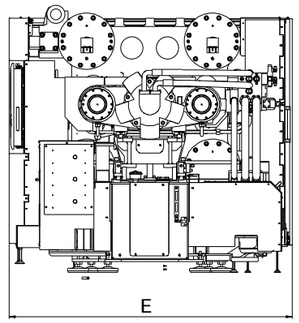
## Specification (US Ton)

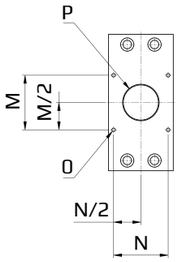
| Model | | | Unit | LSG 500H | | | LSG 600H | | | LSG 700H | | | LSG 900H | | | LSG 1100H | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Injection Unit | Injection Unit Code | | | i27 | | | i33 | | | i54 | | | i90 | | | i90 | | |
| | Screw Type | | | Y | A | B | Y | A | B | Y | A | B | Y | A | B | Y | A | B |
| | Screw Diameter | | in | 2.56 | 2.76 | 3.15 | 2.76 | 2.95 | 3.35 | 3.35 | 3.54 | 3.94 | 3.74 | 4.13 | 4.53 | 3.74 | 4.13 | 4.53 |
| | | | mm | 65 | 70 | 80 | 70 | 75 | 85 | 85 | 90 | 100 | 95 | 105 | 115 | 95 | 105 | 115 |
| | Screw Stroke | | in | 15.2 | | | 16.4 | | | 19.5 | | | 22.9 | | | 22.9 | | |
| | Calculated Injection Volume | | in³ | 78 | 90 | 118 | 97 | 112 | 144 | 171 | 192 | 237 | 251 | 306 | 367 | 251 | 306 | 367 |
| | | | cm³ | 1,277 | 1,481 | 1,934 | 1,596 | 1,832 | 2,354 | 2,807 | 3,147 | 3,886 | 4,109 | 5,020 | 6,021 | 4,109 | 5,020 | 6,021 |
| | Injection Capacity | PS | oz | 43 | 50 | 65 | 53 | 61 | 79 | 94 | 105 | 130 | 138 | 168 | 202 | 138 | 168 | 202 |
| | | | g | 1,213 | 1,407 | 1,837 | 1,516 | 1,740 | 2,236 | 2,667 | 2,990 | 3,692 | 3,904 | 4,769 | 5,720 | 3,904 | 4,769 | 5,720 |
| | Injection Pressure | | Psi | 31,547 | 27,166 | 20,766 | 31,291 | 27,251 | 21,221 | 29,086 | 26,967 | 21,847 | 30,608 | 25,032 | 20,894 | 30,608 | 25,032 | 20,894 |
| | | | Mpa | 218 | 187 | 143 | 216 | 188 | 146 | 201 | 186 | 151 | 211 | 173 | 144 | 211 | 173 | 144 |
| | Injection Rate | | in³/sec | 24 | 28 | 37 | 30 | 35 | 45 | 41 | 46 | 57 | 49 | 60 | 72 | 49 | 60 | 72 |
| | | | cm³/sec | 401 | 466 | 608 | 496 | 570 | 732 | 678 | 760 | 938 | 807 | 986 | 1,180 | 807 | 986 | 1,180 |
| | Injection Speed | | in/sec | 4.7 | | | 5.0 | | | 4.6 | | | 4.4 | | | 4.4 | | |
| | | | mm/sec | 120 | | | 128 | | | 118 | | | 112 | | | 112 | | |
| | Plasticizing Capacity | PS | oz/sec | 2.08 | 2.68 | 3.25 | 2.61 | 3.00 | 3.56 | 3.56 | 3.99 | 4.52 | 3.95 | 4.97 | 5.54 | 3.95 | 4.97 | 5.54 |
| | | | g/sec | 59 | 76 | 92 | 74 | 85 | 101 | 101 | 113 | 128 | 112 | 141 | 157 | 112 | 141 | 157 |
| | Screw Speed | | rpm | 180 | 180 | 160 | 180 | 170 | 150 | 150 | 140 | 125 | 125 | 120 | 110 | 125 | 120 | 110 |
| Clamping Unit | Clamping Force | | US Ton (kN) | 496 (4415) | | | 606 (5396) | | | 717 (6377) | | | 937 (8339) | | | 1158 (10301) | | |
| | Tie-Bar Distance (H x V) | | in | 32.7 x 32.7 | | | 35.5 x 35.5 | | | 39.4 x 39.4 | | | 43.3 x 43.3 | | | 55.2 x 49.3 | | |
| | | | mm | 830 x 830 | | | 900 x 900 | | | 1,000 x 1,000 | | | 1,100 x 1,100 | | | 1,400 x 1,250 | | |
| | Platen Dimensions (H x V) | | in | 47.3 x 47.3 | | | 53.2 x 53.2 | | | 56.7 x 56.7 | | | 62.3 x 62.3 | | | 76.8 x 70.9 | | |
| | | | mm | 1,200 x 1,200 | | | 1,350 x 1,350 | | | 1,440 x 1,440 | | | 1580 x 1580 | | | 1,950 x 1,800 | | |
| | Daylight | | in (mm) | 57.1 (1450) | | | 63 (1600) | | | 70.9 (1800) | | | 88.7 (2250) | | | 94.6 (2400) | | |
| | Mold Height | Min | in (mm) | 13.8 (350) | | | 15.8 (400) | | | 17.7 (450) | | | 19.7 (500) | | | 23.6 (600) | | |
| | | Max | in (mm) | 31.5 (800) | | | 37.4 (950) | | | 43.3 (1100) | | | 51.2 (1300) | | | 59.1 (1500) | | |
| | Max.Mold Weight | | US Ton (ton) | 5 (4.5) | | | 6 (5.5) | | | 7.2 (6.5) | | | 9.3 (8.5) | | | 11.5 (10.5) | | |
| | Ejector Force | | US Ton (kN) | 14.7 (130.5) | | | 14.7 (130.5) | | | 20.5 (182.5) | | | 27.2 (242.3) | | | 27.2 (242.3) | | |
| | Ejector Stroke | | in (mm) | 8.3 (210) | | | 8.3 (210) | | | 10 (255) | | | 10.8 (275) | | | 10.8 (275) | | |
| | DRY CYCLE (EUROMAP 6) | | sec | 3.3 | | | 3.3 | | | 3.3 | | | 4.0 | | | 4.4 | | |
| General | Oil Capacity | | gal (l) | 184.9 (700) | | | 248.3 (940) | | | 282.7 (1070) | | | 356.6 (1350) | | | 356.6 (1350) | | |
| | Pump Motor Capacity | | kW | 75.4(42.4 + 22 + 11) | | | 85.6(52.6 + 22 + 11) | | | 106(52.6 + 42.4 + 11) | | | 116.2(52.6 + 52.6 + 11) | | | 116.2(52.6 + 52.6 + 11) | | |
| | Barrel Heating Capacity | | kW | 25.2 | | | 29.2 | | | 42.3 | | | 60.8 | | | 60.8 | | |
| | Machine Dimensions (L x W x H) | | ft | 23.6 x 7.9 x 7.2 | | | 24.6 x 8.5 x 7.9 | | | 27.6 x 8.9 x 8.2 | | | 32.1 x 9.8 x 8.9 | | | 32.1 x 10.8 x 9.2 | | |
| | | | m | 7.2 x 2.4 x 2.2 | | | 7.5 x 2.6 x 2.4 | | | 8.4 x 2.7 x 2.5 | | | 9.8 x 3.0 x 2.7 | | | 9.8 x 3.3 x 2.8 | | |
| | Machine Weight | | US Ton (TTL) | 15.4+6.1 | | | 18.2+9.4 | | | 23.1+11 | | | 30.9+14.3 | | | 43+15.4 | | |
| | | | Ton (TTL) | 14+5.5 | | | 16.5+8.5 | | | 21+10 | | | 28+13 | | | 39+14 | | |

# LSG-H

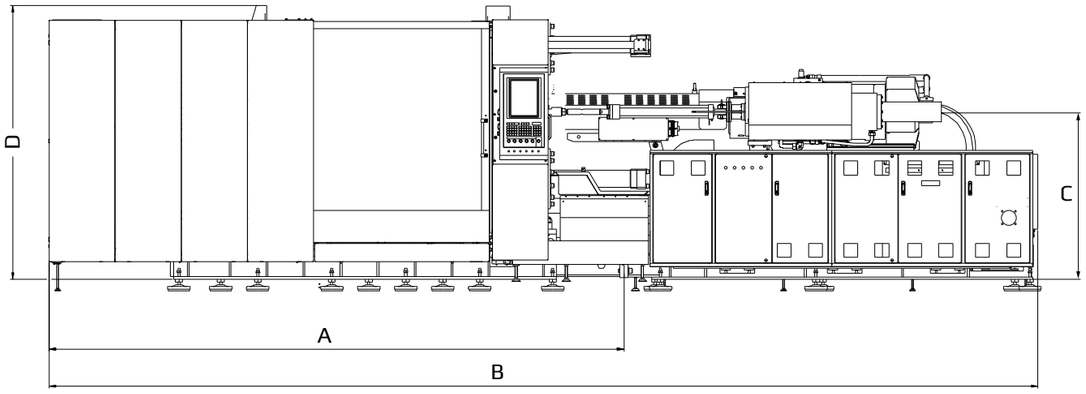
## General Layout Drawing

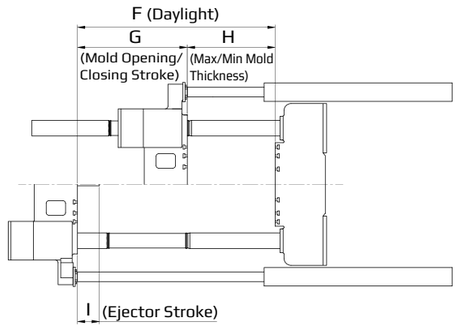


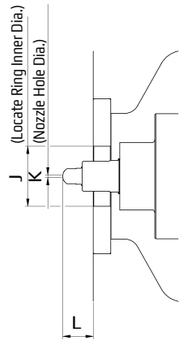



Hopper Mounting Pattern



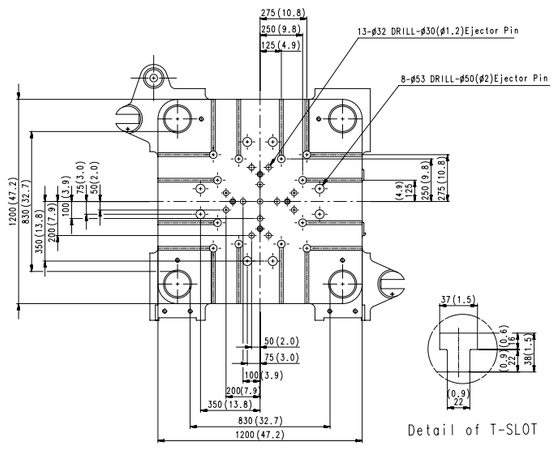




| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LSG 500H | 4,040 | 7,180 | 1,285 | 2,190 | 2,355 | 1,450 | 650~1100 | 350~800 | 210 | Φ100 | Φ5 | 50 | 160 | 160 | 4-M12Dp25 | Φ68 |
| LSG 600H | 4,330 | 7,530 | 1,450 | 2,385 | 2,440 | 1,600 | 650~1200 | 400~950 | 210 | Φ100 | Φ5 | 50 | 160 | 160 | 4-M12Dp25 | Φ73 |
| LSG 700H | 4,795 | 8,335 | 1,450 | 2,425 | 2,650 | 1,800 | 700~1350 | 450~1100 | 255 | Φ100 | Φ5 | 50 | 160 | 160 | 4-M12Dp25 | Φ88 |
| LSG 900H | 5,615 | 9,725 | 1,500 | 2,610 | 2,970 | 2,250 | 950~1750 | 500~1300 | 275 | Φ120 | Φ5 | 50 | 160 | 160 | 4-M12Dp25 | Φ103 |
| LSG 1100H | 5,635 | 9,745 | 1,530 | 2,760 | 3,235 | 2,400 | 900~1800 | 600~1500 | 275 | Φ120 | Φ5 | 50 | 160 | 160 | 4-M12Dp25 | Φ103 |

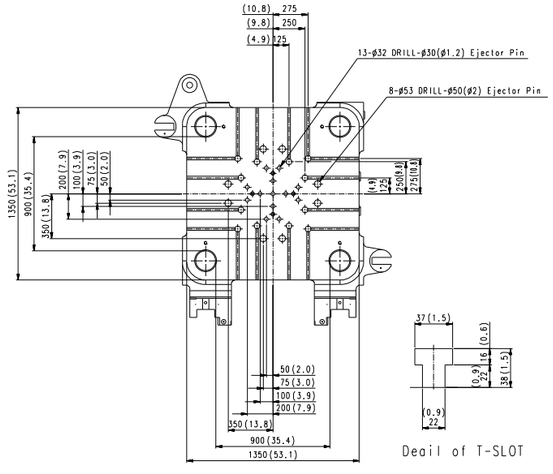
# LSG-H

## Moving Platen Drawing

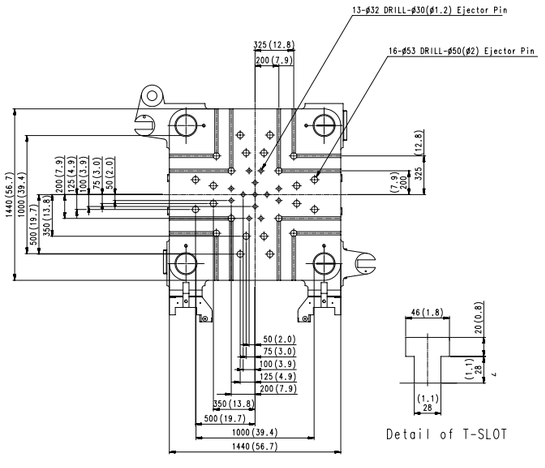
### LSG 500H



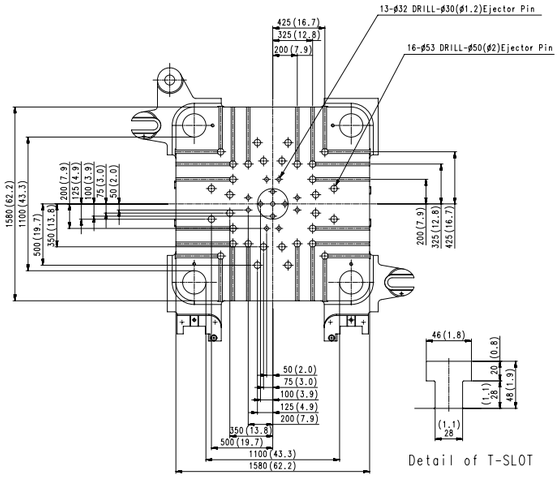

### LSG 600H



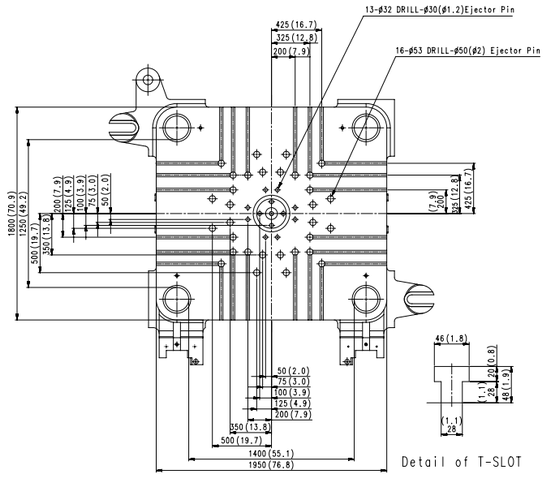

### LSG 700H




### LSG 900H




### LSG 1100H

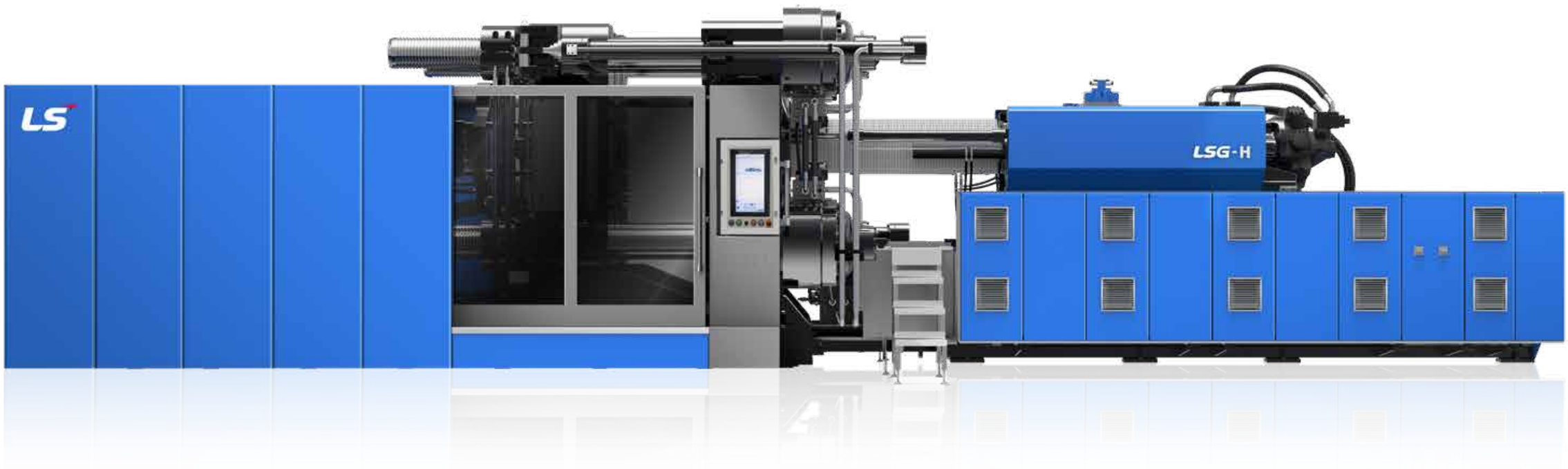



**Notes:** Dimensions in ( ) are in Inches
Tapped Hole Pattern Available

## Large-Tonnage Hybrid Injection Molding Machine

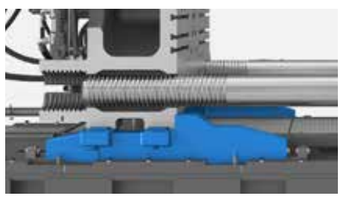
# LSG-H 1500~3500 (US Tons)

Energy Saving | Dry Cycle Time Improvement | Excellent Plasticization | Low Noise Level | Large Mold Weight Capacity | User-Friendly Controller

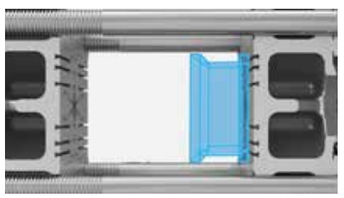





Leak Preventing Clamping Cylinder Design



Greaseless Sliding Bushings



Heavy Mold Capacity



Tie-Bar Pulling System Option



SSI Type High Precision
- Digital Encoder
- Large Capacity Electronic Proportional Valve



Precision KEBA Controller

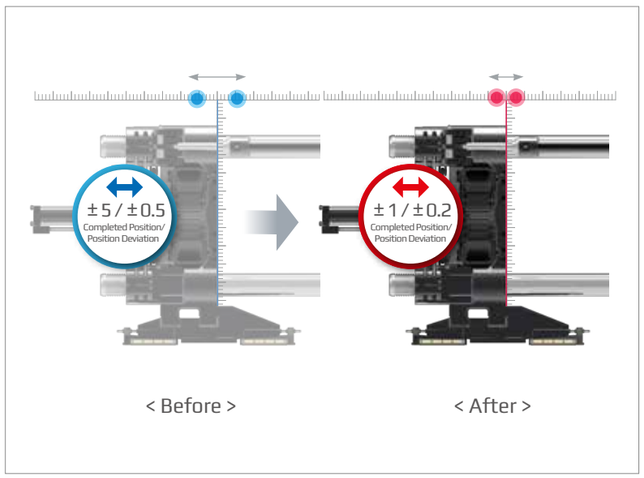
# Advanced Repeatability of Mold Open and Close Positions

### High Precision Digital Position Sensor



### High Performance Large Capacity Electromagnetic Proportional Valve

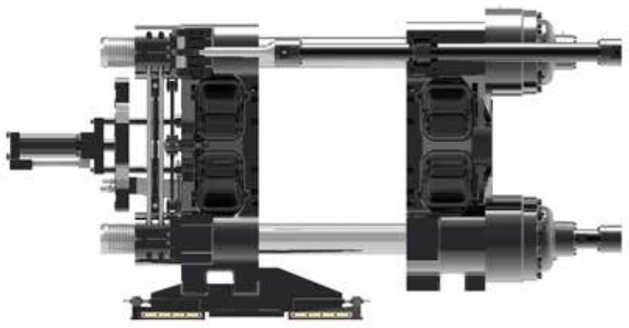





# High Performance Clamp Mechanism

### Tie Bar New Structure

- New Tie Bar Structure
- Integrated Potentiometer



### Improvement in Structure Rigidity and Durability

- Long sliding support of 2% of clamping force for heavy molds
- High Rigidity / Optimized Design
- No Moving Platen Tiebar Bushings

### Applied Lubrication - Free Sliding

- Friction and Wear Minimization
- Shock and Vibration Resistant
- Reduces Maintenance Time & Cost



# Improve Productivity by Reducing Cycle Time

### Improvements to the Mold Opening / Closing Cylinder

- Increased Mold Opening and Closing Speed
- High functional sealing
- New Rod End Bearing and Pin Assembly Design for Improved Cylinder Durability



### Improved Clamping Cylinder Design

- Cutting Edge Seal Technology for Leak Prevention
- Maintains Pressure During Boosting for Power Saving
- Oil Temperature Maintenance Improvement
- Packing cover separation structure application



### Half Nut Design Improvement

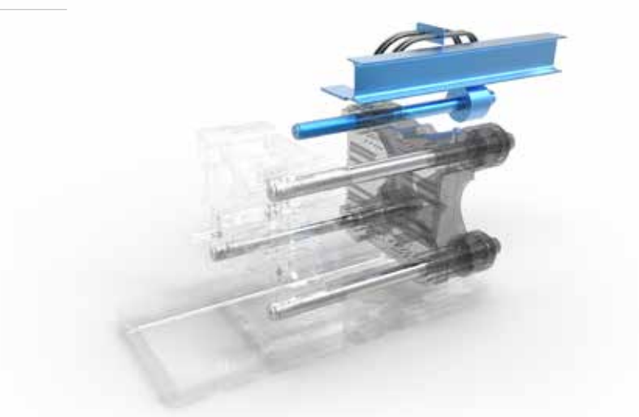
- Faster Locking for Cycle Time Reduction
- New Thread Design for Superior Hold
- Stable Half Nut Locking



# Tie Bar Pulling System

### Tie Bar Puller Device Option

- One-Touch Tie Bar Retraction
- Easy Mold Changes under Low Ceilings
- Investment Cost Reduction

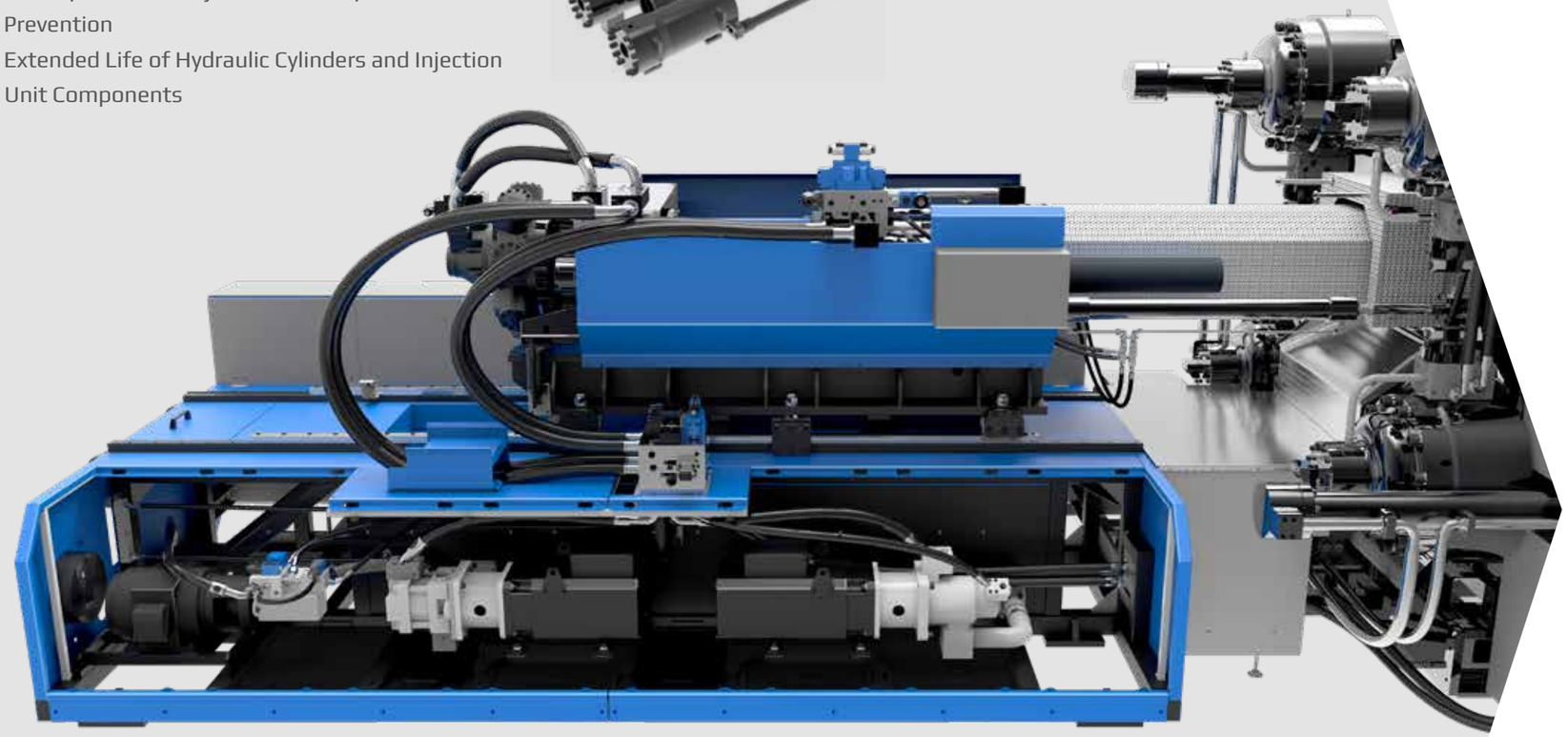


# Injection Unit Innovations

## Injection Unit Movement by Dual Cylinder



- Dual Cylinders for Injection Stability and Resin Leak Prevention
- Extended Life of Hydraulic Cylinders and Injection Unit Components



## Easy Modulation Between Screw and Barrels

- Various Options for Shot Size on Same Injection Unit
- High Performance Plasticization

| Model | LSG 1500H | LSG 1800H | LSG 2000H | LSG 2300H | LSG 2800H | LSG 3100H | LSG 3500H |
|---|---|---|---|---|---|---|---|
| i118 | 105Y<br>115A*<br>125B | 105Y<br>115A*<br>125B | 105Y<br>115A*<br>125B | 105Y<br>115A*<br>125B | | | |
| i151 | 115Y<br>125A*<br>140B | 115Y<br>125A*<br>140B | 115Y<br>125A*<br>140B | 115Y<br>125A*<br>140B | 115Y<br>125A*<br>140B | 115Y<br>125A*<br>140B | |
| i220 | 125Y<br>140A*<br>160B | 125Y<br>140A*<br>160B | 125Y<br>140A*<br>160B | 125Y<br>140A*<br>160B | 125Y<br>140A*<br>160B | 125Y<br>140A*<br>160B | 125Y<br>140A*<br>160B |
| i324 | | | | | 140Y<br>160A*<br>180B | 140Y<br>160A*<br>180B | 140Y<br>160A*<br>180B |

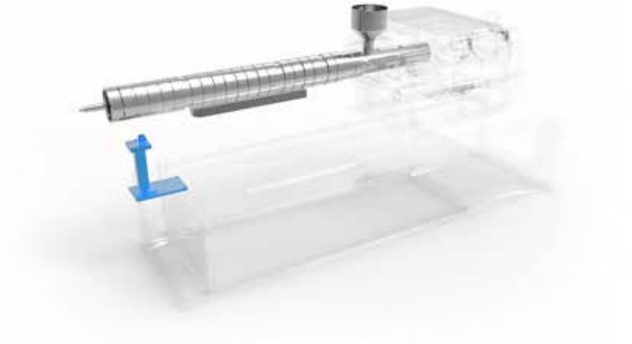
## Injection Unit LM Guides

- Accurate Movement Ensures Centered Nozzle Touch



## Barrel Support Option

- Barrel Support Available for Sag Prevention
- Screw & Barrel Life Extension



# Easy Maintenance

## Hydraulic Oil Control and Seal Improvement

- New Oil Tank Internal Structure for Improved Cleanliness
- Epoxy Coating inside Tank also Prevents Rust
- Single Circulation Precision Filtering Device
- Independent Cooling System for Stable Oil Temperature
- Separation return port partition with oil inlet of the oil tank

# CSI 4.0*

## Connected Smart Injection 4.0 option

LS-Mtron's CSI 4.0 is a solution that can help customers quickly respond to the 4th industrial revolution and digital transformation.
The solution starts with accurate data collection, transforming this data into meaningful information, and using data processing technology to improve processes through intelligent applications of AI.

## SMART PRODUCTION

SMART PRODUCTION



| | |
|---|---|
| **Smart Monitoring** | 24/7 Mobile Access From Anywhere |
| **Smart Production Control** | Real-Time Monitoring Control |
| **Smart Mold Recongnition** | RFID check and Immediate Upload of Molding Parameters via QR Code |
| **Smart Equipment Control** | Real-time Monitoring |
| **Smart Data interface** | Data Transfer to Customer Monitoring Systems |

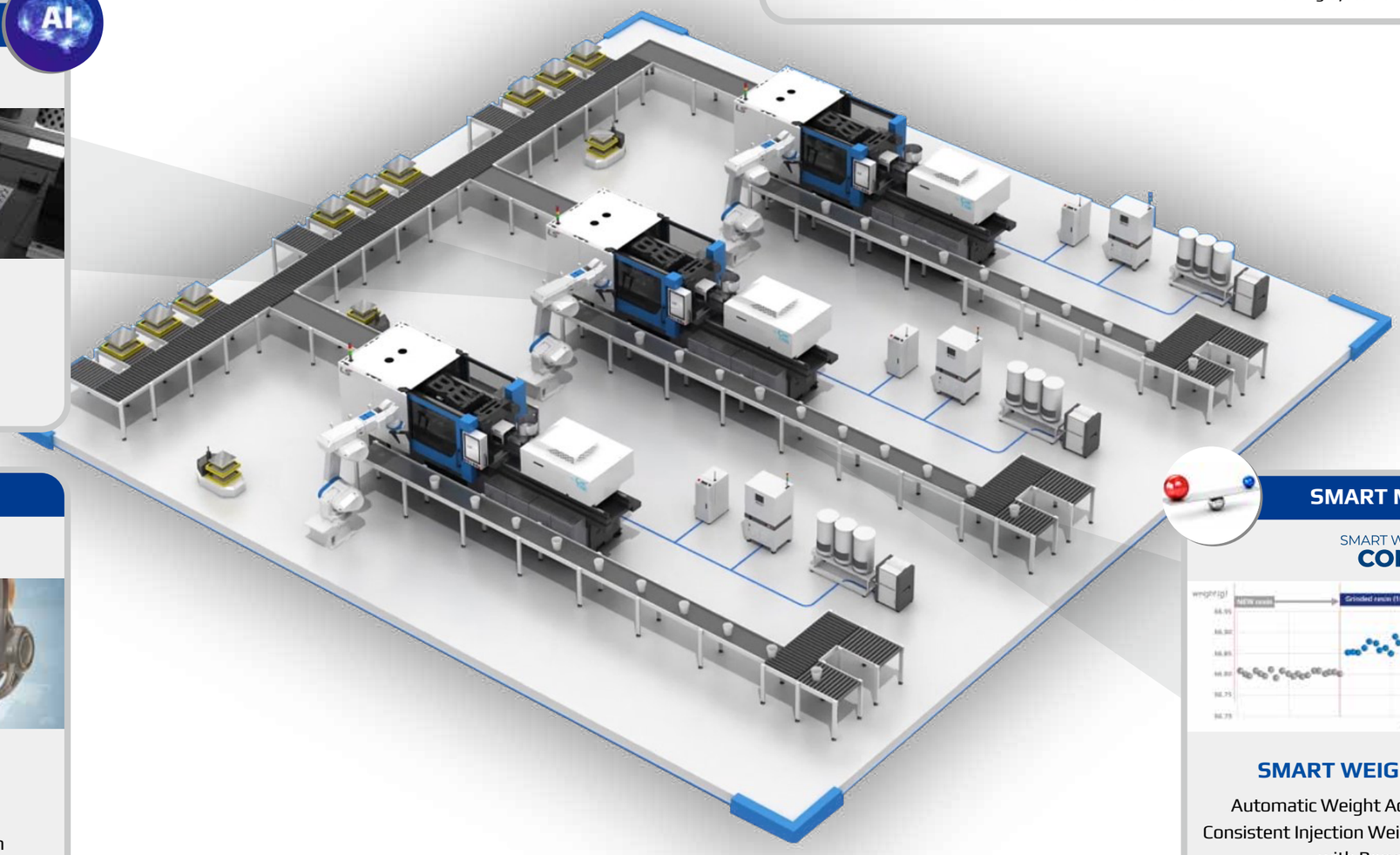
## AI

AI INJECTION SYSTEM




### AI Injection System

AI Molding Assistant
AI Weight Control
Smart Injection Molding Machine



## SMART SERVICE

SMART REMOTE SERVICE



### SMART REMOTE SERVICE

Remotely Monitor

Access and Troubleshoot Machines in Use at Customer Sites

## SMART MACHINE

SMART WEIGHT CONTROL




### SMART WEIGHT CONTROL

Automatic Weight Adjustment Maintains Consistent Injection Weight even when Blending with Recycled Resin

# LSG-H

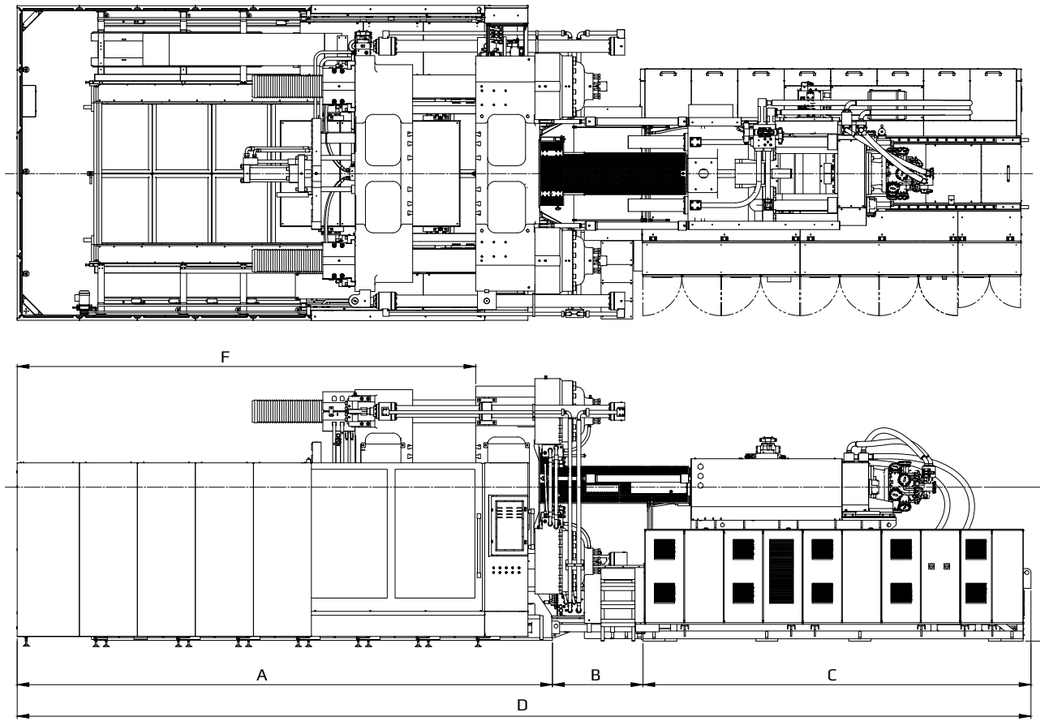


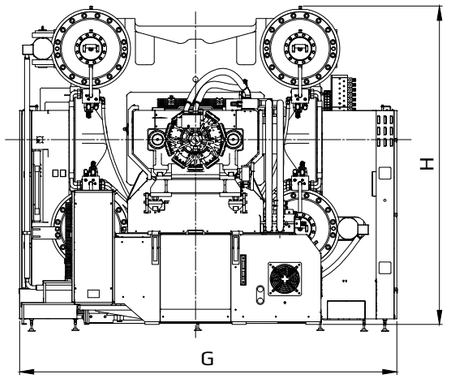
## Specification (US Ton)

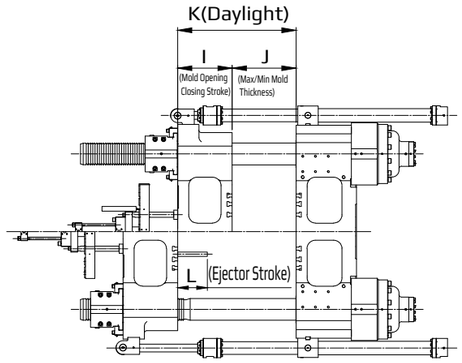
| Model | | | LSG 1500H | | | LSG 1800H | | | LSG 2000H | | | LSG 2300H | | | LSG 2800H | | | LSG 3100H | | | LSG 3500H | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Injection Unit | Injection Unit Code | | i120 | | | i120 | | | i150 | | | i150 | | | i215 | | | i215 | | | i324 | | |
| | Screw Type | | Y | A | B | Y | A | B | Y | A | B | Y | A | B | Y | A | B | Y | A | B | Y | A | B |
| | Screw Diameter | in | 4.13 | 4.53 | 4.92 | 4.13 | 4.53 | 4.92 | 4.53 | 4.92 | 5.51 | 4.53 | 4.92 | 5.51 | 4.92 | 5.51 | 6.30 | 4.92 | 5.51 | 6.30 | 5.51 | 6.30 | 7.09 |
| | | mm | 105 | 115 | 125 | 105 | 115 | 125 | 115 | 125 | 140 | 115 | 125 | 140 | 125 | 140 | 160 | 125 | 140 | 160 | 140 | 160 | 180 |
| | Screw Stroke | in | 24.9 | | | 24.9 | | | 27.1 | | | 27.1 | | | 30.5 | | | 30.5 | | | 34.6 | | |
| | Calculated Injection Volume | in³ | 334 | 401 | 473 | 334 | 401 | 473 | 436 | 515 | 646 | 436 | 515 | 646 | 580 | 728 | 951 | 580 | 728 | 951 | 826 | 1079 | 1366 |
| | | cm³ | 5477 | 6570 | 7762 | 5477 | 6570 | 7762 | 7141 | 8437 | 10583 | 7141 | 8437 | 10583 | 9511 | 11930 | 15582 | 9511 | 11930 | 15582 | 13547 | 17693 | 22393 |
| | Injection Capacity PS | oz | 183.5 | 220.2 | 260.1 | 183.5 | 220.2 | 260.1 | 239.3 | 282.7 | 354.6 | 239.3 | 282.7 | 354.6 | 318.7 | 399.8 | 522.2 | 318.7 | 399.8 | 522.2 | 454.0 | 592.9 | 750.4 |
| | | g | 5,203 | 6,242 | 7,374 | 5,203 | 6,242 | 7,374 | 6,784 | 8,015 | 10,054 | 6,784 | 8,015 | 10,054 | 9,035 | 11,334 | 14,803 | 9,035 | 11,334 | 14,803 | 12,870 | 16,808 | 21,273 |
| | Injection Pressure | Psi | 30,177 | 25,157 | 21,293 | 30,177 | 25,157 | 21,293 | 29,425 | 24,905 | 19,854 | 29,425 | 24,905 | 19,854 | 32,253 | 25,712 | 19,686 | 32,253 | 25,712 | 19,686 | 34,064 | 26,085 | 20,609 |
| | | Mpa | 208 | 173 | 147 | 208 | 173 | 147 | 203 | 172 | 137 | 203 | 172 | 137 | 222 | 177 | 136 | 222 | 177 | 136 | 235 | 180 | 142 |
| | Injection Rate | in³/sec | 50 | 60 | 70 | 50 | 60 | 70 | 51 | 60 | 76 | 51 | 60 | 76 | 65 | 82 | 107 | 65 | 82 | 107 | 86 | 112 | 142 |
| | | cm³/sec | 814 | 977 | 1,154 | 814 | 977 | 1,154 | 835 | 987 | 1,238 | 835 | 987 | 1,238 | 1,068 | 1,339 | 1,749 | 1,068 | 1,339 | 1,749 | 1,404 | 1,834 | 2,322 |
| | Injection Speed | in/sec | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.6 | 3.6 | 3.6 |
| | | mm/sec | 94 | 94 | 94 | 94 | 94 | 94 | 80 | 80 | 80 | 80 | 80 | 80 | 87 | 87 | 87 | 87 | 87 | 87 | 91 | 91 | 91 |
| | Plasticizing Capacity PS | oz/sec | 4.8 | 5.8 | 7.1 | 4.8 | 5.8 | 7.1 | 5.2 | 6.3 | 6.4 | 5.2 | 6.3 | 6.4 | 6.5 | 8.2 | 9.1 | 6.5 | 8.2 | 9.1 | 9.4 | 12.3 | 15.0 |
| | | g/sec | 135 | 165 | 202 | 135 | 165 | 202 | 146 | 179 | 182 | 146 | 179 | 182 | 184 | 233 | 258 | 184 | 233 | 258 | 266 | 350 | 424 |
| | Screw Speed | rpm | 115 | 115 | 115 | 115 | 115 | 115 | 102 | 102 | 75 | 102 | 102 | 75 | 105 | 96 | 76 | 105 | 96 | 76 | 110 | 103 | 80 |
| Clamping Unit | Clamping Force | US Ton (kN) | 1543 (13729) | | | 1764 (15691) | | | 1984 (17652) | | | 2315 (20594) | | | 2756 (24517) | | | 3086 (27459) | | | 3527 (31381) | | |
| | Tie-Bar Distance (H x V) | in | 58.5 x 50.6 | | | 61.9 x 57.1 | | | 73.7 x 63.4 | | | 75.6 x 63.4 | | | 80 x 63.4 | | | 86.3 x 69 | | | 89.4 x 74.9 | | |
| | | mm | 1485 x 1285 | | | 1570 x 1450 | | | 1870 x 1610 | | | 1920 x 1610 | | | 2030 x 1610 | | | 2190 x 1750 | | | 2270 x 1900 | | |
| | Platen Dimensions (H x V) | in | 80.6 x 75.6 | | | 85.1 x 82.3 | | | 99.3 x 91.4 | | | 103.6 x 93.8 | | | 109.1 x 95 | | | 118.6 x 102.8 | | | 122.5 x 111.1 | | |
| | | mm | 2045 x 1920 | | | 2160 x 2090 | | | 2520 x 2320 | | | 2630 x 2380 | | | 2770 x 2410 | | | 3010 x 2610 | | | 3110 x 2820 | | |
| | Daylight | in (mm) | 98.4 (2500) | | | 126 (3200) | | | 129.9 (3300) | | | 137.8 (3500) | | | 145.7 (3700) | | | 153.5 (3900) | | | 161.4 (4100) | | |
| | Mold Height Min | in (mm) | 23.6 (600) | | | 29.6 (750) | | | 29.6 (750) | | | 31.5 (800) | | | 31.5 (800) | | | 35.5 (900) | | | 39.4 (1000) | | |
| | Mold Height Max | in (mm) | 59.1 (1500) | | | 59.1 (1500) | | | 63 (1600) | | | 67 (1700) | | | 70.9 (1800) | | | 74.9 (1900) | | | 78.8 (2000) | | |
| | Max.Mold Weight | US Ton (ton) | 31 (28) | | | 35 (32) | | | 40 (36) | | | 46 (42) | | | 55 (50) | | | 62 (56) | | | 71 (64) | | |
| | Ejector Force | US Ton (kN) | 28 (245) | | | 40 (353) | | | 40 (353) | | | 40 (353) | | | 55 (490) | | | 55 (490) | | | 66 (588) | | |
| | Ejector Stroke | in (mm) | 9.9 (250) | | | 13.8 (350) | | | 13.8 (350) | | | 13.8 (350) | | | 15.8 (400) | | | 15.8 (400) | | | 19.7 (500) | | |
| | DRY CYCLE (EUROMAP 6) | sec | 5.1 | | | 5.3 | | | 6.1 | | | 6.4 | | | 6.8 | | | 7.2 | | | 8.2 | | |
| General | Oil Capacity | gal (l) | 396 (1500) | | | 396 (1500) | | | 396 (1500) | | | 396 (1500) | | | 528 (2000) | | | 528 (2000) | | | 793 (3000) | | |
| | Pump Motor Capacity | kW | 60.5+48.1+11=119.6 | | | 60.5+48.1+11=119.6 | | | 60.5+48.1+11=119.6 | | | 60.5+48.1+11=119.6 | | | 52.6 x 2+48.1+11=164.3 | | | 52.6 x 2+48.1+11=164.3 | | | 52.6 x 3+48.1+11=216.9 | | |
| | Barrel Heating Capacity | kW | 68.9 | | | 68.9 | | | 81.0 | | | 81.0 | | | 92.6 | | | 92.6 | | | 145 | | |
| | Machine Size (L x W x H) | ft | 37.7 x 12.1 x 9.5 | | | 40.7 x 12.1 x 10.5 | | | 41.3 x 13.1 x 11.2 | | | 42.3 x 13.1 x 11.5 | | | 47.9 x 14.4 x 11.8 | | | 48.9 x 15.1 x 12.5 | | | 54.1 x 15.4 x 13.5 | | |
| | | m | 11.5 x 3.7 x 2.9 | | | 12.6 x 3.8 x 3.2 | | | 12.6 x 4.0 x 3.4 | | | 12.9 x 4.0 x 3.5 | | | 14.6 x 4.4 x 3.6 | | | 14.9 x 4.5 x 3.8 | | | 16.5 x 4.7 x 4.1 | | |
| | Machine Weight | US Ton (TTL) | 72 | | | 80 | | | 94 | | | 110 | | | 132 | | | 149 | | | 183 | | |
| | | Ton (TTL) | 65 | | | 73 | | | 85 | | | 100 | | | 120 | | | 135 | | | 166 | | |

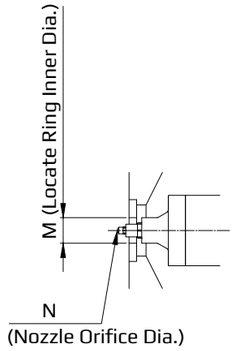
# LSG-H

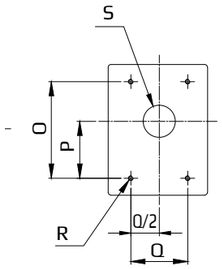
## General Layout Drawing



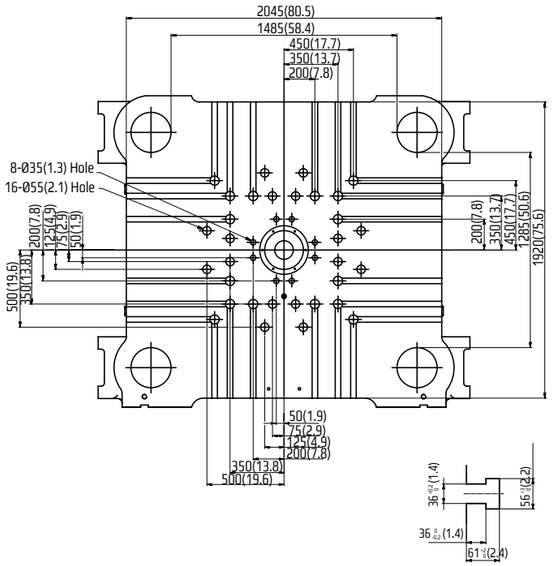

Hopper Mounting Pattern

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LSG 1500H | 5,409 | 1,142 | 4,920 | 11,471 | 1,469 | 4,546 | 3,635 | 2,795 | 1,000 - 1,900 | 600 - 1,500 | 2,500 | 250 | 120 | Φ6 | 340 | 170 | 200 | 4-M16 Dp32 | Φ113~120 |
| LSG 1800H | 6,479 | 1,137 | 4,920 | 12,545 | 1,469 | 5,393 | 3,707 | 2,928 | 1,700 - 2,450 | 750 - 1,500 | 3,200 | 350 | 120 | Φ6 | 340 | 170 | 200 | 4-M16 Dp32 | Φ113~120 |
| LSG 2000H | 6,533 | 1,147 | 4,920 | 12,600 | 1,469 | 5,590 | 3,987 | 3,042 | 1,700 - 2,550 | 750 - 1,600 | 3,300 | 350 | 120 | Φ6 | 340 | 200 | 200 | 4-M16 Dp32 | Φ113~138 |
| LSG 2300H | 6,788 | 1,147 | 4,920 | 12,855 | 1,469 | 5,815 | 3,987 | 3,317 | 1,800 - 2,700 | 800 - 1,700 | 3,500 | 350 | 120 | Φ6 | 340 | 200 | 200 | 4-M16 Dp32 | Φ113~138 |
| LSG 2800H | 7,242 | 1,466 | 5,920 | 14,628 | 1,509 | 6,209 | 4,490 | 3,474 | 1,900 - 2,900 | 800 - 1,800 | 3,700 | 400 | 120 | Φ8 | 340 | 200 | 200 | 4-M16 Dp32 | Φ120~158 |
| LSG 3100H | 7,615 | 1,376 | 5,920 | 14,911 | 1,509 | 6,492 | 4,494 | 3,691 | 2,000 - 3,000 | 900 - 1,900 | 3,900 | 400 | 120 | Φ8 | 340 | 200 | 200 | 4-M16 Dp32 | Φ120~158 |
| LSG 3500H | 8,263 | 2,077 | 6,140 | 16,480 | 1,509 | 7,081 | 4,699 | 3,928 | 2,100 - 3,100 | 1,000 - 2,000 | 4,100 | 500 | 120 | Φ8 | 290 | 150 | 200 | 04-M16 Dp32 | Φ138~178 |

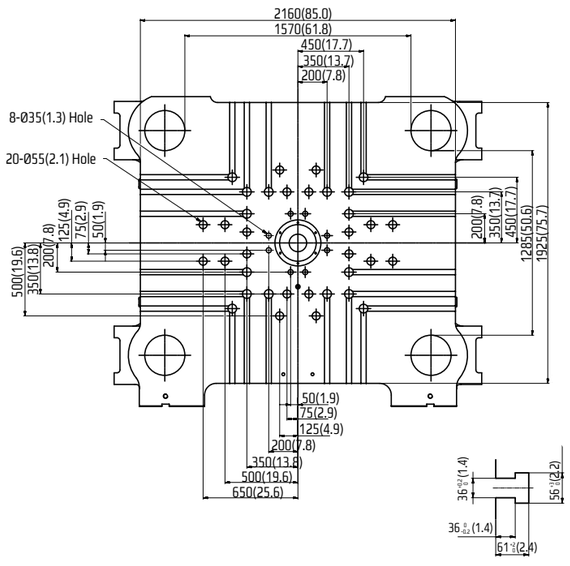
# LSG-H

## Moving Platen Drawing

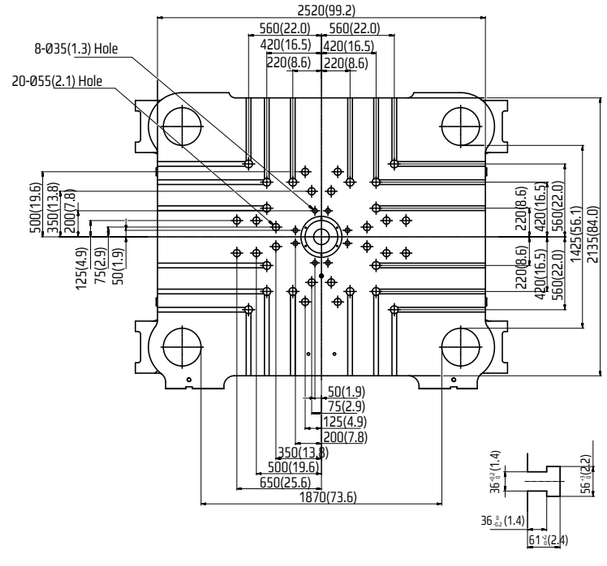
### LSG 1500H



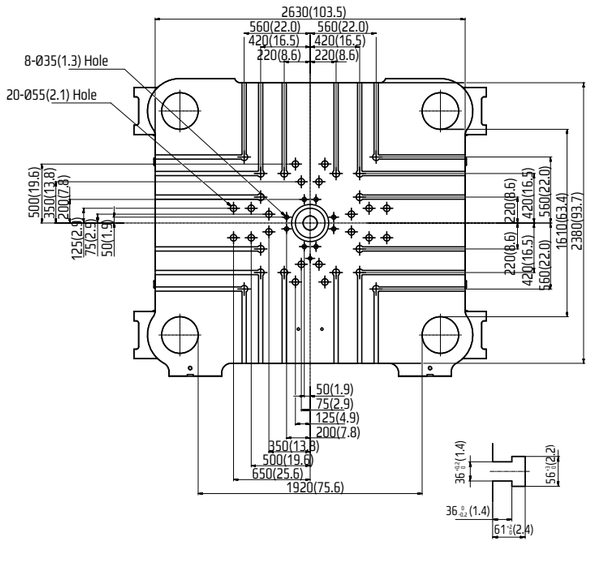

### LSG 1800H



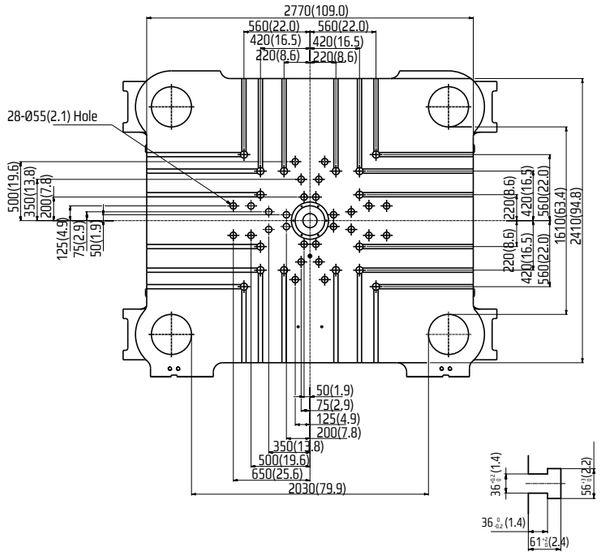

### LSG 2000H



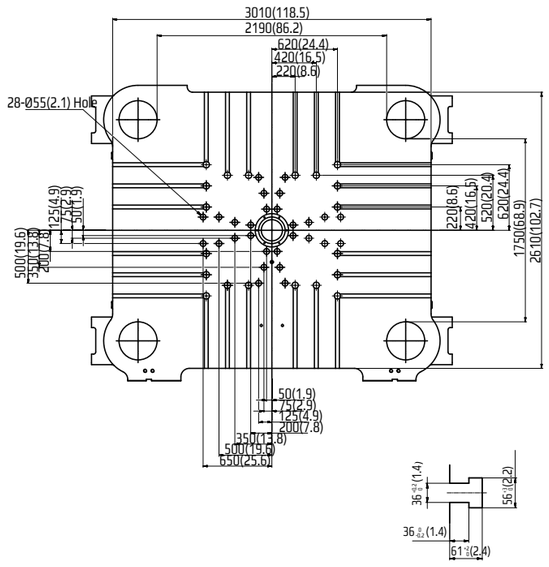

### LSG 2300H



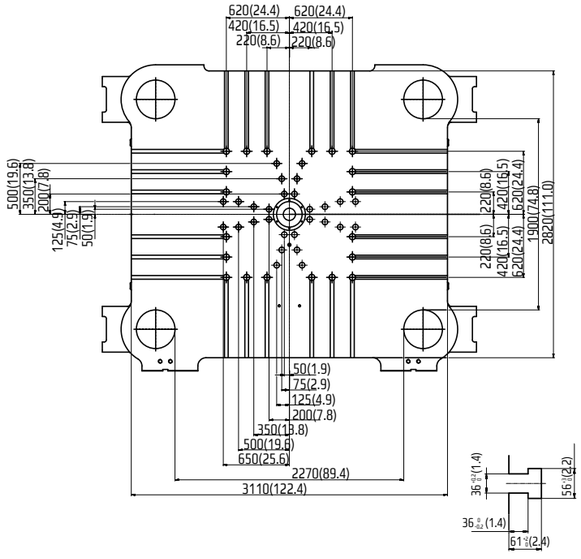

### LSG 2800H




### LSG 3100H




### LSG 3500H



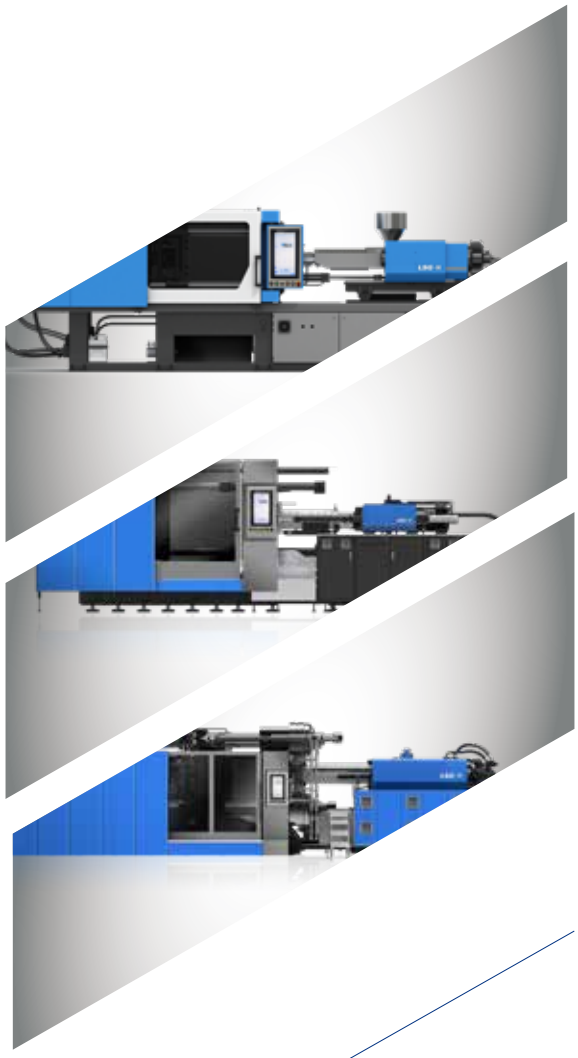

**Notes:** Dimensions in ( ) are in Inches
Tapped Hole Pattern Available

# LSG-H

## Standard/Optional Equipment

| | Standard Features | Optional Equipment |
|---|---|---|
| Clamping Unit | Vertical & Horizontal T-Slots (Includes T-Clamps) | Daylight Extension |
| | Automatic Lubrication System | Tapped Hole Pattern on Platens |
| | Greaseless Composite Material Moving Platen Carriers | Locate Ring (Non-Standard Size) |
| | Automatic Mold Height Adjustment | Additional Hyd. Core Pulls |
| | Automatic Clamping Force Adjustment | Hydraulic Valve Gates |
| | High-Speed Mold Open/Close Circuit | Pneumatic Valve Gates |
| | Mold Protect Mode | Additional Air Eject Circuits |
| | Clamping Pressure Holding Circuit | Water Manifold Non-Standard Type |
| | Digital Position Sensor | Tie-Bar Puller |
| | Lock-Nut Simultaneous Movement | Pneumatic Core Valves |
| | Air Eject (STA 1 / MOV 1) | Insulator Boards |
| | Hyd. Core Pulls (STA 1 / MOV 1) A/B/C/D Modes | Temp. Sensor for Cooling Water Manifolds |
| | Eject During Mold Open | Mechanical Safety Device (Drop Bar) |
| | Hydraulic Ejector Forward Holding Circuit with Valve | Rotary Table for Multi-Shot Applications |
| | Multi-Eject and Vibratory Eject | |
| | Ejector Return Confirmation | |
| | Safety Gate & Covers | |
| | Access Door Behind Clamp for Service | |
| | Safety Foot Board in Mold Area | |
| | OP-Side Automatic Safety Door | |
| | Water Manifolds<br>• In/Out Port (24) Zones (+1 for Feed Throat), Port Size 12mm,<br>• PT 1 1/4", Ball Valves Included Moving (12) / Stationary (12) | |
| | Locate Ring 4" / 5" (Dual Type) | |
| | Valve Gate (1) Zone (Interface Only - 24VDC or 110VAC) | |
| | Spring Mold Close/Open Mode | |
| | Robot Mounting Pattern | |
| Injection Unit | Daylight Extension | Various Screw and Barrel Designs (Anti-Wear/Anti-Corrosion, Mixing, etc.) |
| | Tapped Hole Pattern on Platens | Non-Standard Nozzle Option |
| | Locate Ring (Non-Standard Size) | Electric Screw Drive |
| | Additional Hyd. Core Pulls | Hyd. Shut-Off Nozzle |
| | Hydraulic Valve Gates | Pneumatic Shut-Off Nozzle |
| | Pneumatic Valve Gates | Hopper Slide Drain Port |
| | Additional Air Eject Circuits | Cooling Fan for Barrel Temperature Control |
| | Water Manifold Non-Standard Type | Hopper Access Ladder |
| | Tie-Bar Puller | Hopper Platform |
| | Pneumatic Core Valves | High-Speed Injection Option |
| | Insulator Boards | Injection Compression (Coining) |
| | Temp. Sensor for Cooling Water Manifolds | Barrel Heater Insulation Cover |
| | Mechanical Safety Device (Drop Bar) | Flow Meter for Hopper Temperature Control |
| | Rotary Table for Multi-Shot Applications | Mold Open and Close During Screw Recovery |
| | Screw 1st and 2nd Retract | |
| | Heater Thermocouples (J-Type) | |
| | Hyd. Oil Filtration System | |
| | Hyd. Oil Level and Temperature Sensors | |
| | Injection Unit Dual Pull-In Cylinders | |

| | Standard Features | Optional Equipment |
|---|---|---|
| Control System - US Standard Features | Main Power 480V / 3P / 60Hz | Alternate Main Power Options (575V, 240V, etc.) |
| | Closed Loop Control System | Euromap 73 (Safety Fence Interface) |
| | Energy Saving Servo-Hydraulic System | Robot Interface E12 |
| | PID Temperature Control | Interface for Additional Valve Gates |
| | Graphs for Injection Speed & Pressure | Integrated Hot Runner System |
| | Automatic Motor Power Off | Air Conditioning Unit In Control Cabinet |
| | Automatic Purging Program | Additional Single-Phase Outlets (110V) |
| | Back Pressure Relief Circuit | Additional Three-Phase Outlets (240V, 480V) |
| | Emergency Stop Switches | Gas Injection Interlock Circuit |
| | Three-Color Alarm Light & Buzzer | Uninterrupted Power Supply (UPS) for Controller |
| | Hydraulic Oil Pre-Heat Function | Additional Programmable I/O |
| | Robot Interface E67 | CE Marking |
| | Core Pull or Eject During Mold Open | UL/CSA Certified Electric Parts |
| | ANSI Safety Standard | Safety Label Language (Spanish/French/etc.) |
| | Motion/No Motion Key Switch | RFID Passkey System for Security Login |
| | Nozzle Safety Cover with Interlock | Barcode Scanning System for Mold Data Retrieval |
| | USB Port (Molding Data Transfer, Screen Shot, etc.) | |
| | KEBA 18.5" Touchscreen Controller | |
| | MIOSHA 2nd Power Disconnect | |
| | Dual 110V Convenience Outlet at Operator Station (Single Phase) | |
| | Internal Lights for Control Cabinet & Cabinet Door Hinges | |
| | Programmable I/O (8 Inputs / 8 Outputs) | |
| | Valve Gate (Interface Only / 1 Zone DC24V or AC220V) | |
| | Ethernet Port for Remote Monitoring | |
| | Wi-Fi Router for Remote Service | |
| | Ejector Check Valve | |
| | Core Pressure Release | |
| | Barrel Cover | |
| | Oil Temperature Display | |
| | Pre-Heating Control for Barrel | |
| | Automatic Power Shut-Down Circuit | |
| | Production Counter | |
| Genral | Leveling Pads | |
| | Basic Tool Kit Package | |
| | Spare Parts Package (Screw Tip, Heater Bands, Thermocouples) | |



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