MG5

Non-contact thickness measuring solution for your production line.

No area is out of reach.

+1 613-287-0171
mategauge.com

LASER TRIANGULATION FOR NON-CONTACT THICKNESS MEASUREMENT

Sensors scan across the material at a sampling rate of 1-5 kHz. The thickness is determined from the distance of both measuring heads to each other and the difference of the measured individual distances to the material to be measured.

- Belt-driven, single actuator with built-in centering
- Edge-to-edge thickness measurement across individual plates or strips
- Alert system for sensor dirt accumulation
- Continuous "gauge and go" measurement system
- Automatic Thickness Reference (TR) for thermal expansion
- Easy calibration every 3 months using NIST-Traceable master block

Precise measurement is only half the equation. You also need actionable insights. The MG5 hardware is seamlessly powered by mgOS, our proprietary operating system designed to turn millions of data points into clear, operator-friendly visualizations.

INTELLIGENCE BUILT-IN: THE POWER OF mgOS

Whether you're upgrading existing systems or implementing new ones, the MG5 integrates with your systems through PLC connection and Ethernet ports. The Mate Gauge software filters and processes the thickness waveform to extract and record measurements and key performance indicators (KPIs). Measurement results are continuously published and displayed on a 15” HMI display.

Full thickness profile displayed:

- Strips/plates thickness measurement
- Strips/plates width measurement

Data Visualization:

- Real-time data visualizations designed for operator ease
- Touchscreen display

Custom App:

- Virtual Micrometer settings
- Ability to set thickness KPI's

Automation with PLC:

- Automatic changes in thickness, settings, and scan data

PDF and CSV Reporting

- Data file downloads for offline analysis
- Trend tracking over run-time

Alerts:

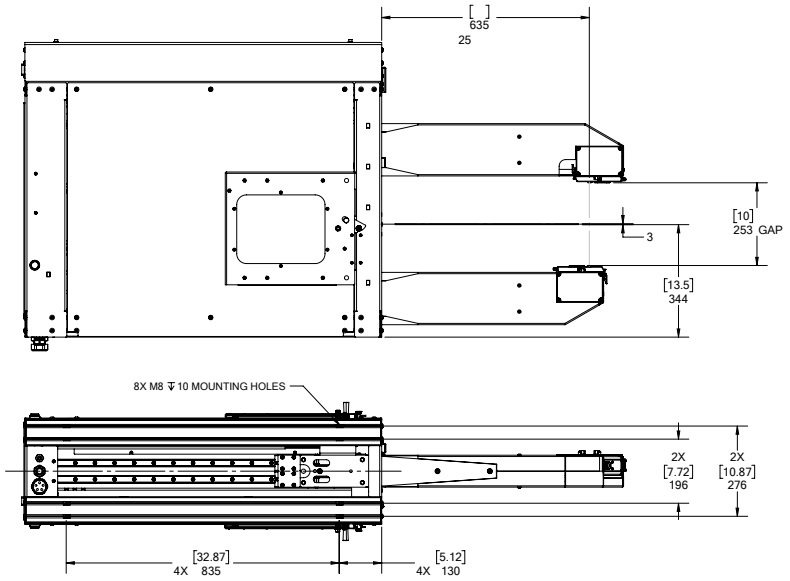
- Configurable alerts based on target specifications

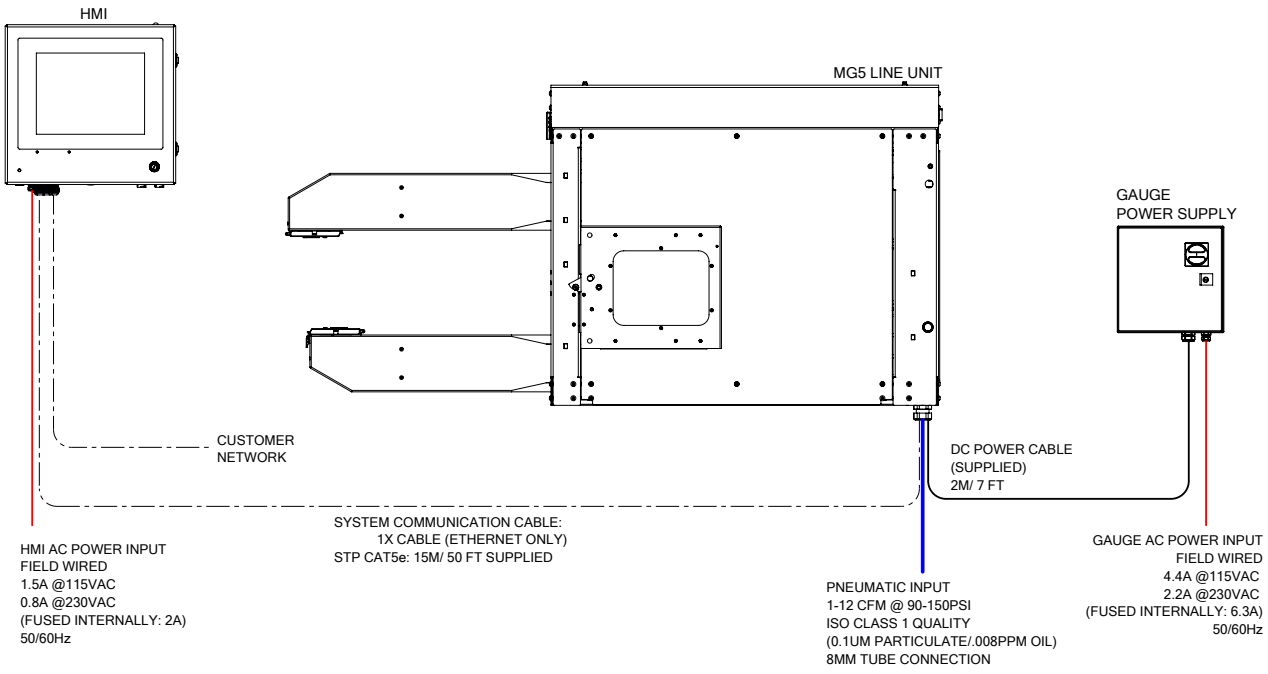
MG5 - SCHEMATICS

The following schematics illustrate the standard configuration of your Mate Gauge. This configuration includes the essential components and layout designed for general applications.

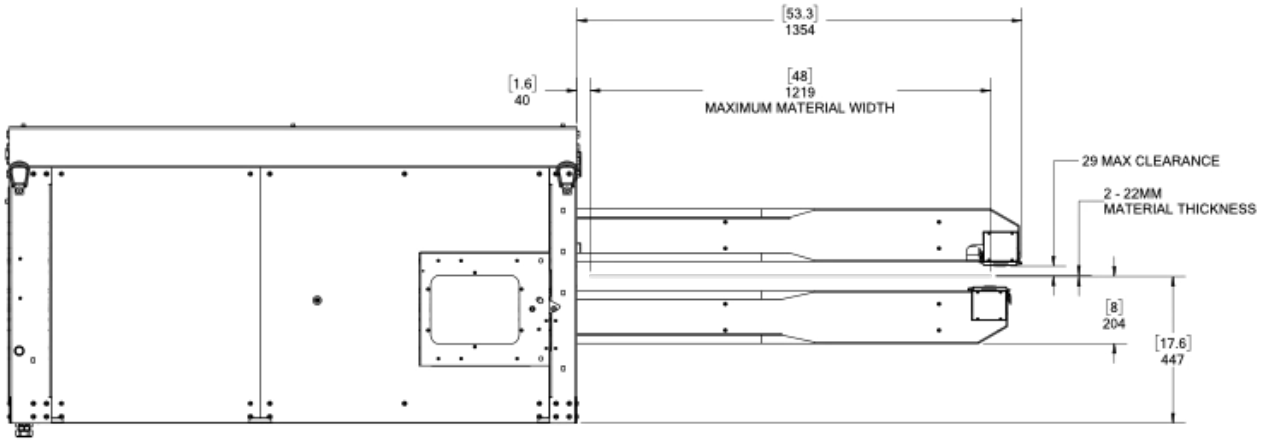
Different applications and sensors types require specific adjustments to the Mate Gauge configuration. We are committed to providing solutions tailored to your specific measurement needs.

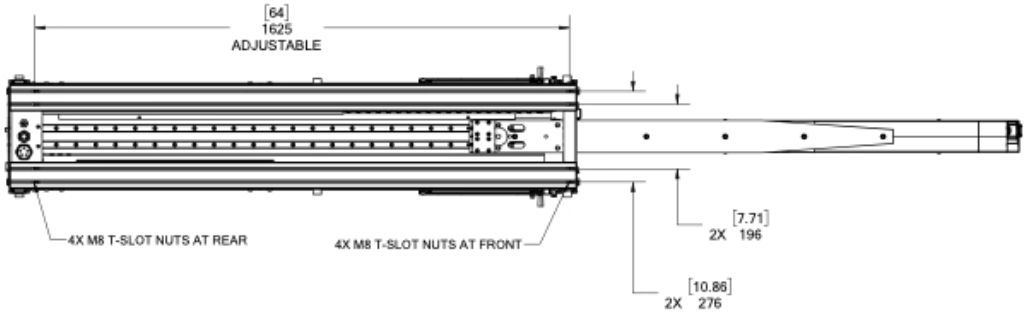
24" Stroke

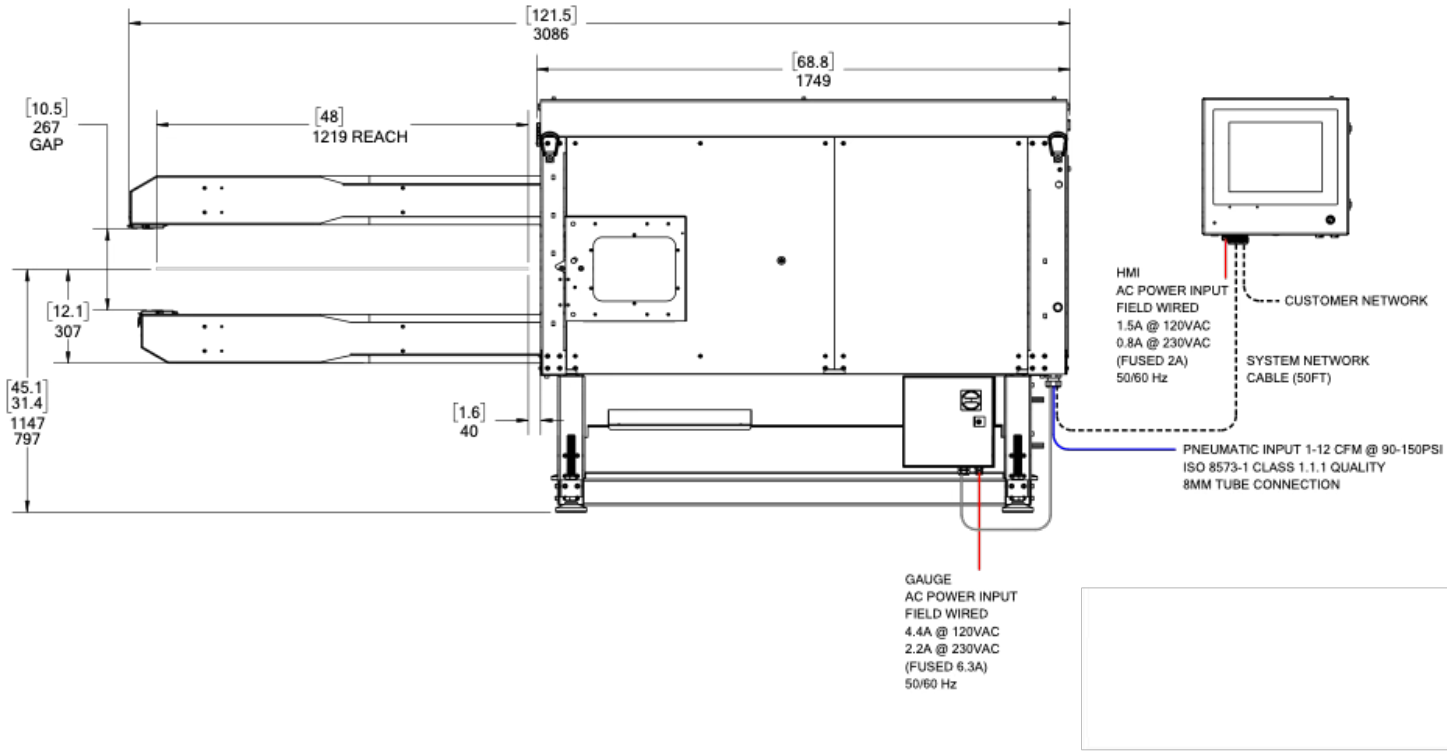




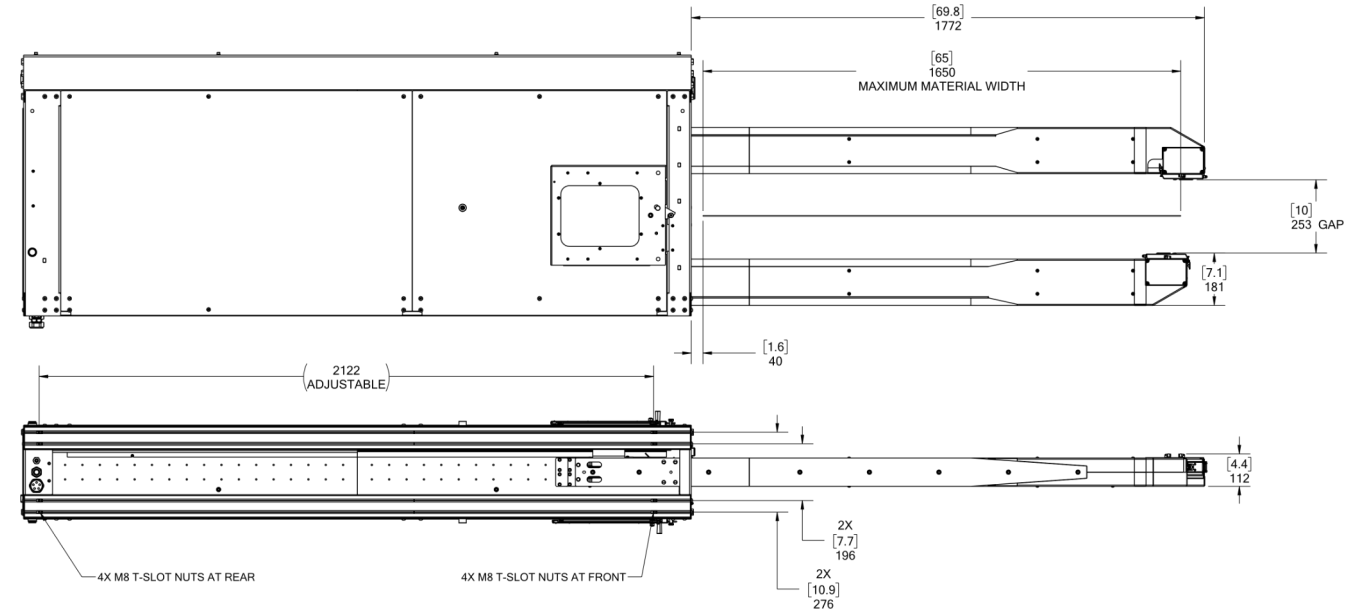
48" Stroke

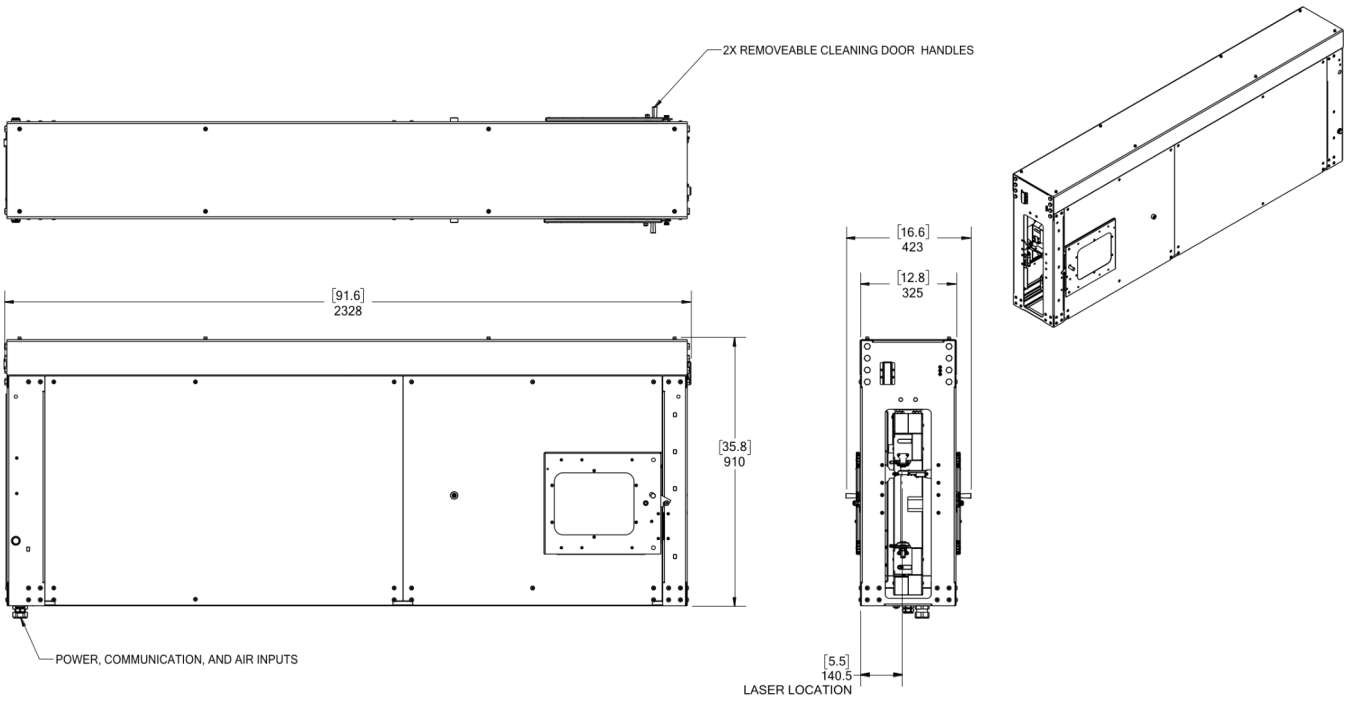

[53.3]
1354
[1.6]
40
[48]
1219
MAXIMUM MATERIAL WIDTH
29 MAX CLEARANCE
2 - 22MM
MATERIAL THICKNESS
[8]
204
[17.6]
447


[64]
1625
ADJUSTABLE
4X M8 T-SLOT NUTS AT REAR
4X M8 T-SLOT NUTS AT FRONT
[7.71]
2X 196
[10.86]
2X 276

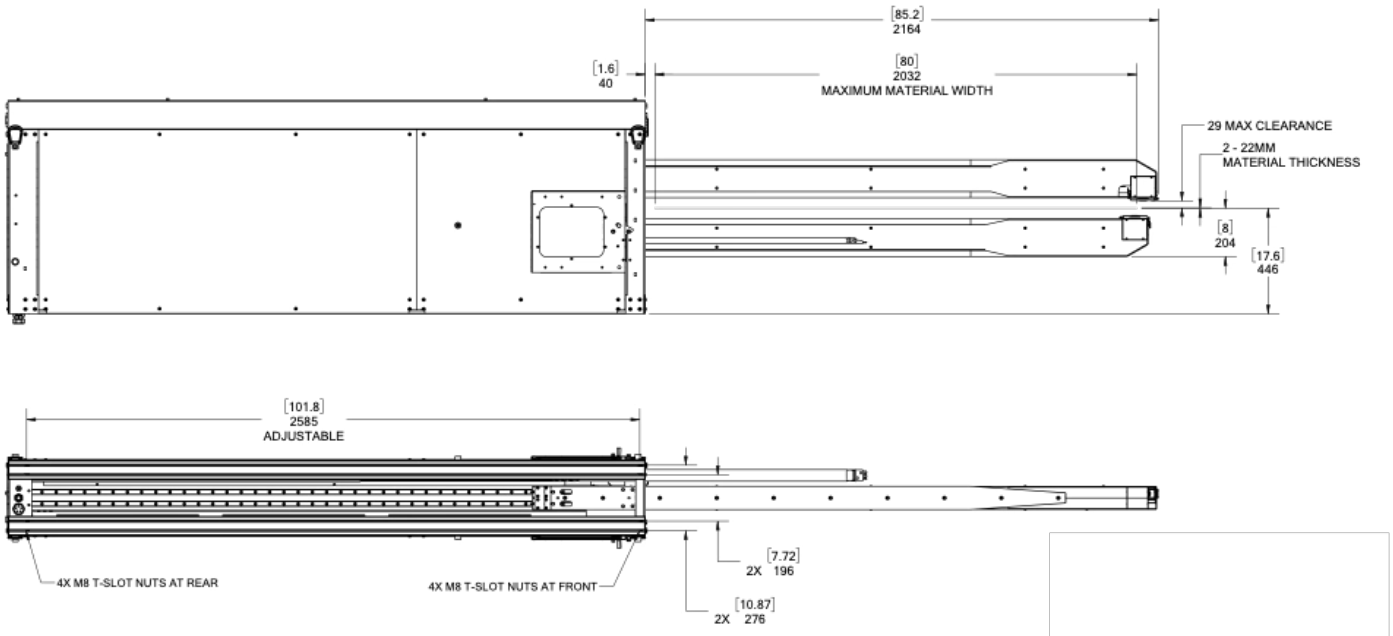

[121.5]
3086
[68.8]
1749
[10.5]
267
GAP
[48]
1219 REACH
[12.1]
307
[45.1]
[31.4]
1147
797
[1.6]
40
HMI
AC POWER INPUT
FIELD WIRED
1.5A @ 120VAC
0.8A @ 230VAC
(FUSED 2A)
50/60 Hz
CUSTOMER NETWORK
SYSTEM NETWORK
CABLE (50FT)
PNEUMATIC INPUT 1-12 CFM @ 90-150PSI
ISO 8573-1 CLASS 1.1.1 QUALITY
8MM TUBE CONNECTION
GAUGE
AC POWER INPUT
FIELD WIRED
4.4A @ 120VAC
2.2A @ 230VAC
(FUSED 6.3A)
50/60 Hz

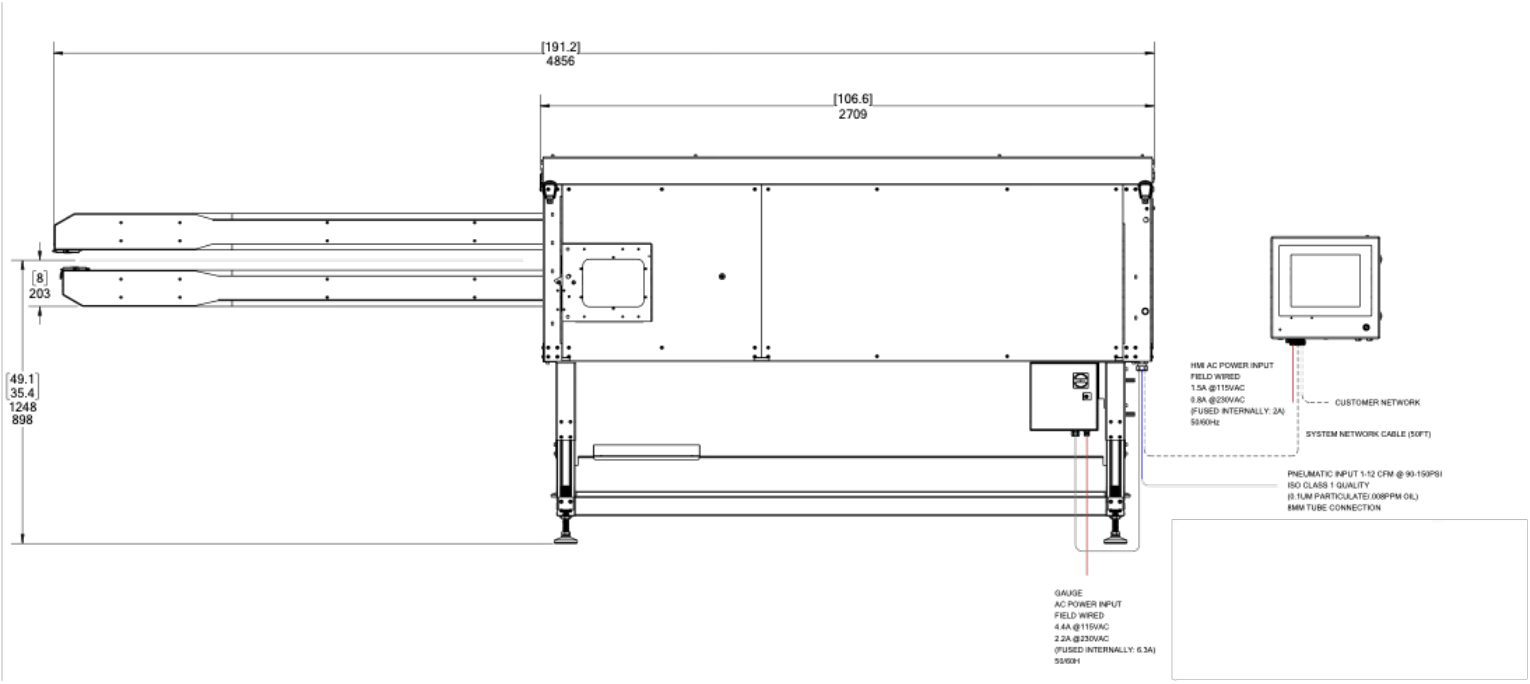
65" Stroke


[69.8]
1772
[65]
1650
MAXIMUM MATERIAL WIDTH
[10]
253 GAP
[7.1]
181
[1.6]
40
2122
ADJUSTABLE
[4.4]
112
2X
[7.7]
196
2X
[10.9]
276
4X M8 T-SLOT NUTS AT REAR
4X M8 T-SLOT NUTS AT FRONT

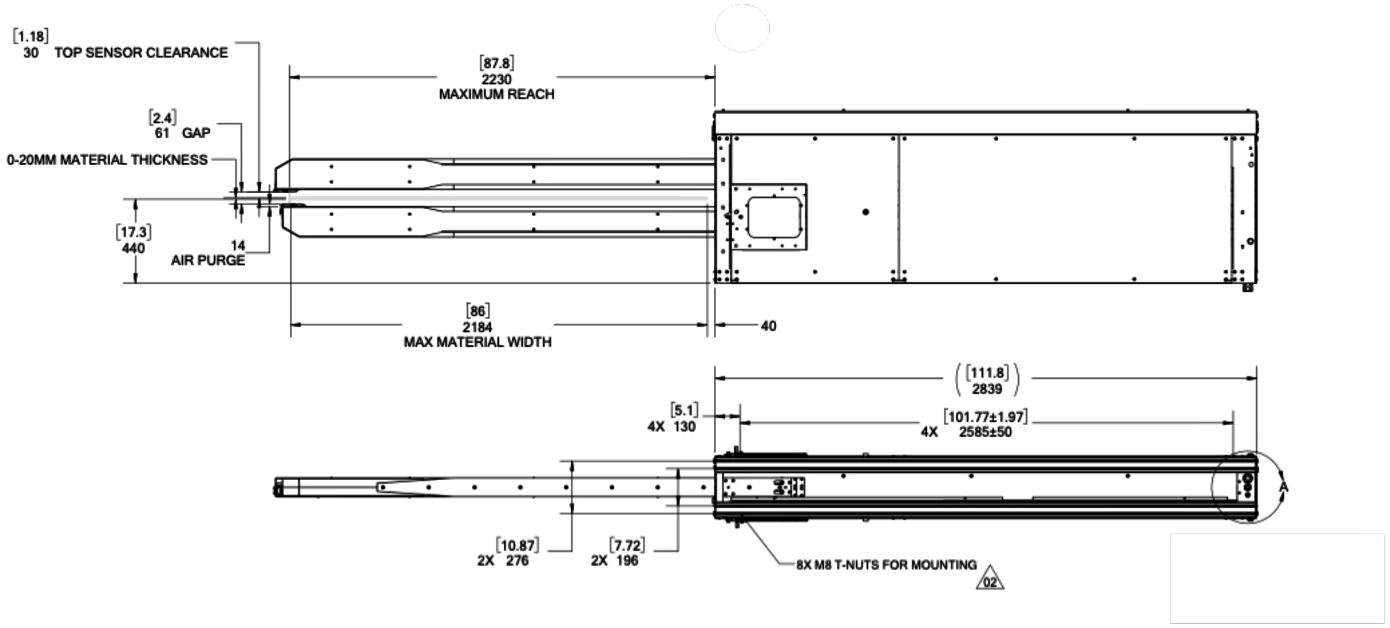

2X REMOVEABLE CLEANING DOOR HANDLES
[91.6]
2328
[35.8]
910
POWER, COMMUNICATION, AND AIR INPUTS
[16.6]
423
[12.8]
325
[5.5]
140.5
LASER LOCATION

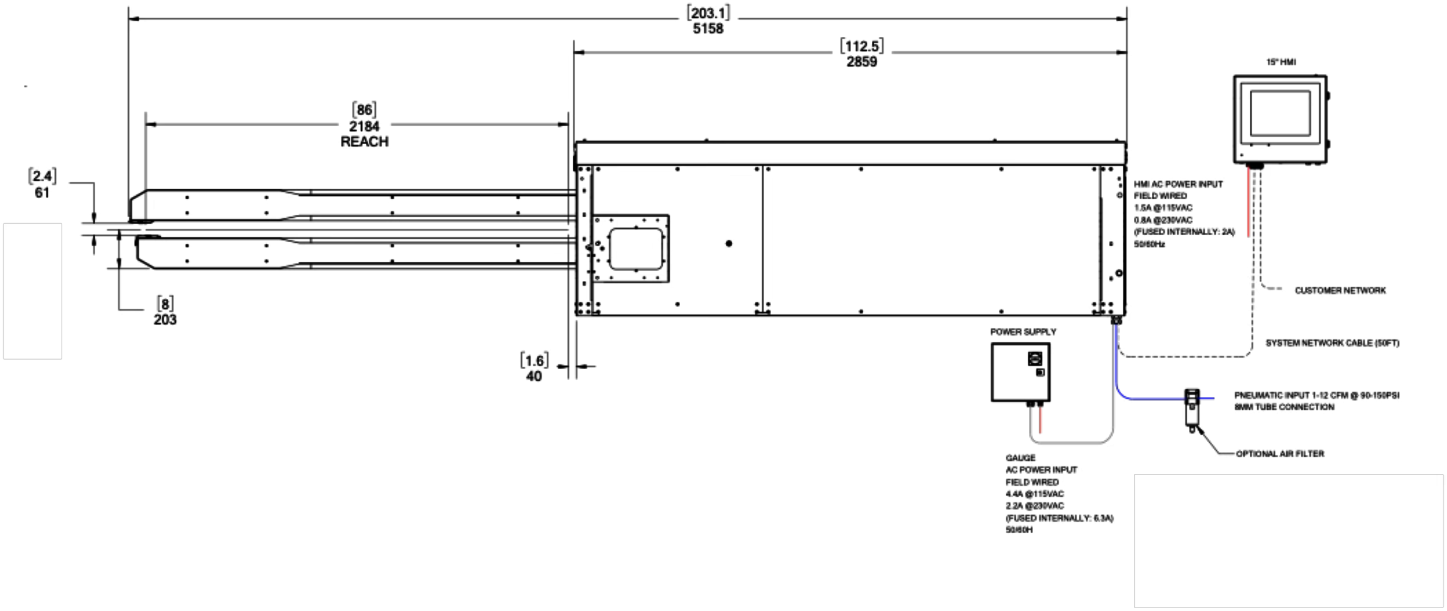
80" Stroke


[85.2]
2164
[1.6]
40
[80]
2032
MAXIMUM MATERIAL WIDTH
29 MAX CLEARANCE
2 - 22MM
MATERIAL THICKNESS
[8]
204
[17.6]
446
[101.8]
2585
ADJUSTABLE
4X M8 T-SLOT NUTS AT REAR
4X M8 T-SLOT NUTS AT FRONT
[7.72]
2X 196
[10.87]
2X 276


[191.2]
4856
[106.6]
2709
[8]
203
[49.1]
[35.4]
1248
898
HMI AC POWER INPUT
FIELD WIRED
1.5A @115VAC
0.8A @230VAC
(FUSED INTERNALLY: 2A)
50/60Hz
CUSTOMER NETWORK
SYSTEM NETWORK CABLE (50FT)
PNEUMATIC INPUT 1-12 CFM @ 90-150PSI
ISO CLASS 1 QUALITY
(0.1UM PARTICULATE/.008PPM OIL)
8MM TUBE CONNECTION
GAUGE
AC POWER INPUT
FIELD WIRED
4.4A @115VAC
2.2A @230VAC
(FUSED INTERNALLY: 6.3A)
50/60H

86" Stroke


[1.18]
30 TOP SENSOR CLEARANCE
[87.8]
2230
MAXIMUM REACH
[2.4]
61 GAP
0-20MM MATERIAL THICKNESS
[17.3]
440
14
AIR PURGE
[86]
2184
MAX MATERIAL WIDTH
40
([111.8])
2839
[5.1]
4X 130
[101.77±1.97]
4X 2585±50
A
[10.87]
2X 276
[7.72]
2X 196
8X M8 T-NUTS FOR MOUNTING
02


[203.1]
5158
[112.5]
2859
[86]
2184
REACH
[2.4]
61
[8]
203
[1.6]
40
15" HMI
HMI AC POWER INPUT
FIELD WIRED
1.5A @115VAC
0.8A @230VAC
(FUSED INTERNALLY: 2A)
50/60Hz
CUSTOMER NETWORK
SYSTEM NETWORK CABLE (50FT)
POWER SUPPLY
PNEUMATIC INPUT 1-12 CFM @ 90-150PSI
8MM TUBE CONNECTION
OPTIONAL AIR FILTER
GAUGE
AC POWER INPUT
FIELD WIRED
4.4A @115VAC
2.2A @230VAC
(FUSED INTERNALLY: 6.3A)
50/60H

MG5 - TECH SPECS

SENSORS	50mm Pro		150mm Pro	
Resolution	0.5 µm	[0.00002 in]	0.5 µm	[0.00002 in]
Accuracy (typical)	5 µm	[0.0002 in]	7 µm	[0.0003 in]
Stroke Range	0 to 2184 mm	[0 to 86 in]	0 to 2184 mm	[0 to 86 in]
Scanning Speed	150 mm/sec	[6 in/sec]	150 mm/sec	[6 in/sec]
Thickness Range	0 to 13 mm	[0 to 0.5 in]	0 to 51mm	[0 to 2 in]
Measurement Frequency	1 to 5 kHz			
Width Accuracy	0.1 mm			

STANDARD CONFIGS	Rated Scan Length	Maximum Reach
MG5-24	610 mm	635 (+/- 10) mm
MG5-48	1219 mm	1260 (+/- 10) mm
MG5-80	2032 mm	2072 (+/- 10) mm
MG5-86	2184 mm	2230 (+/- 10) mm

SUPPLY REQUIREMENTS	Value
Line Unit Power	4.4A @ 115V / 2.2A @ 230V
HMI Power	1.5A @ 115V / 0.75A @ 230V
Air Supply	1 - 12 CFM @ 90 - 150 PSI

ENVIRONMENTAL REQUIREMENTS	Value
Operating Temperature	5°C to 50°C [41°F to 120°F]
Humidity	80% at 31°C [88°F] - 50% at 40°C [104°F]

MATE GAUGE

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