

FoamMelt® FIT25 Melter

Improved Foam Process Control

FoamMelt FIT25 melters deliver high-quality expanded adhesive on demand for a variety of bonding, sealing, and gasketing applications.

Nordson has extensive experience in expanding or “foaming” adhesives, delivering numerous benefits to our customers in various markets and applications. Foamed adhesives excel in gap filling, can enhance bonding, and even support sustainability goals through reduced adhesive and energy consumption. The Nordson FoamMelt FIT25 melter is available in standard and enhanced versions providing improved foam process control and product serviceability in a system that melts adhesive, introduces inert gas, and delivers high-quality low-to-medium viscosity foamed material.

The Standard FoamMelt FIT25 melter uses proven Nordson Automatic Density Control technology to achieve the required foam density reduction. It features a Manual Density Controller that employs a density sensor to regulate gas injection to achieve and maintain the desired foam density reduction.

The Enhanced FoamMelt FIT25 melter utilizes a Nordson TruFlow™ Meter to enable closed-loop gas control to achieve the more precise control of foam density reduction. A proprietary closed-loop control algorithm compares measured material flow to the theoretical and continually adjusts metering gas injection to achieve and maintain the desired foam density reduction.

Both Nordson solutions utilize adhesive recirculation combined with accurate temperature, pressure, and gas injection control to deliver consistent quality foamed adhesive throughout the entire production cycle without the need to purge static material; the system is ready to work when you are. Additionally, the color touchscreen provides an intuitive user-interface that displays system status, facilitates operation, and simplifies training. Screens can easily be navigated to quickly transition between start-up and production parameters, while included fieldbus communication simplifies machine integration.

Features

- Touchscreen with integrated PLC
- System status “at a glance”
- Updated user machine interface
- Multiple fieldbus communication protocols
- Independent control of process parameters
- Modern melter platform and chassis

Benefits

- Accurately control up to two recirculation loops
- Simplified set-up and operation
- Visual display, analysis, alerts and recipes
- Easily integrates into existing systems
- Improved and consistent foam quality
- Improved performance and serviceability



Foamed Adhesive

The Nordson® FoamMelt process dramatically improves the performance of most hot melt adhesives by mixing them with inert gas, creating a homogeneous solution under pressure. As the material is dispensed, the gas expands to create a closed-cell foam. The foamed material is applied like conventional dispensing systems but provides the following benefits.

- Increased open time produces longer, more useful beads and provides greater flexibility.
- Faster set time for increased line speeds and production rates can reduce labor and inventory cost.
- Volumetric increase for greater gap filling capabilities.
- Improved wetting increases the ability to bond impervious surfaces and enhances application versatility.
- Lower heat density reduces heat damage and improves operator safety.
- Reduced sagging or running for uniform adhesive thickness.
- Reduced adhesive consumption of up to 65 percent.
- Increased penetration creates stronger bonds and results in fewer rejects.

Intuitive Operation

The FoamMelt FIT25 utilizes advanced PLC controls, which improves productivity by providing a single user-friendly machine interface streamlining operation. The advanced PLC controls offer the following features:

- Easy-to-use setup and application wizards.
- Programmable and independent control of application parameters.
- Customization of most system settings with password protection.
- System diagnostics and status at a glance.
- Display and logging alarm / event history.
- Output contacts for System-Ready, Fault and Warning functions.
- Supports most commonly used communication protocols



Technology Delivers Performance



Sophisticated Pump Design - The patented two-stage gear pump is purpose-built to inject inert gas into solution with the hot melt adhesive. The special corrosion-resistant components used in the pump provide longer service life and reduced maintenance costs.



Automatic Density Control - The manual density controller features a simple, repeatable one-step setting for maintaining consistent foamed material density. A density sensor located in the filter/density controller automatically cycles gas flow to adjust the gas/adhesive mix. Automatic density control can achieve density reduction to within +/-2.5 percent of the desired value.



Closed-loop Density Control - The TruFlow Meter measures the actual material flow of solid and foamed adhesive. A PID control loop compares actual flow to the calculated pump rate and meters gas flow to achieve and maintain the gas/adhesive mix. Closed-loop density control is capable of density reduction to within +/-1.0 percent of the desired value.

Specifications

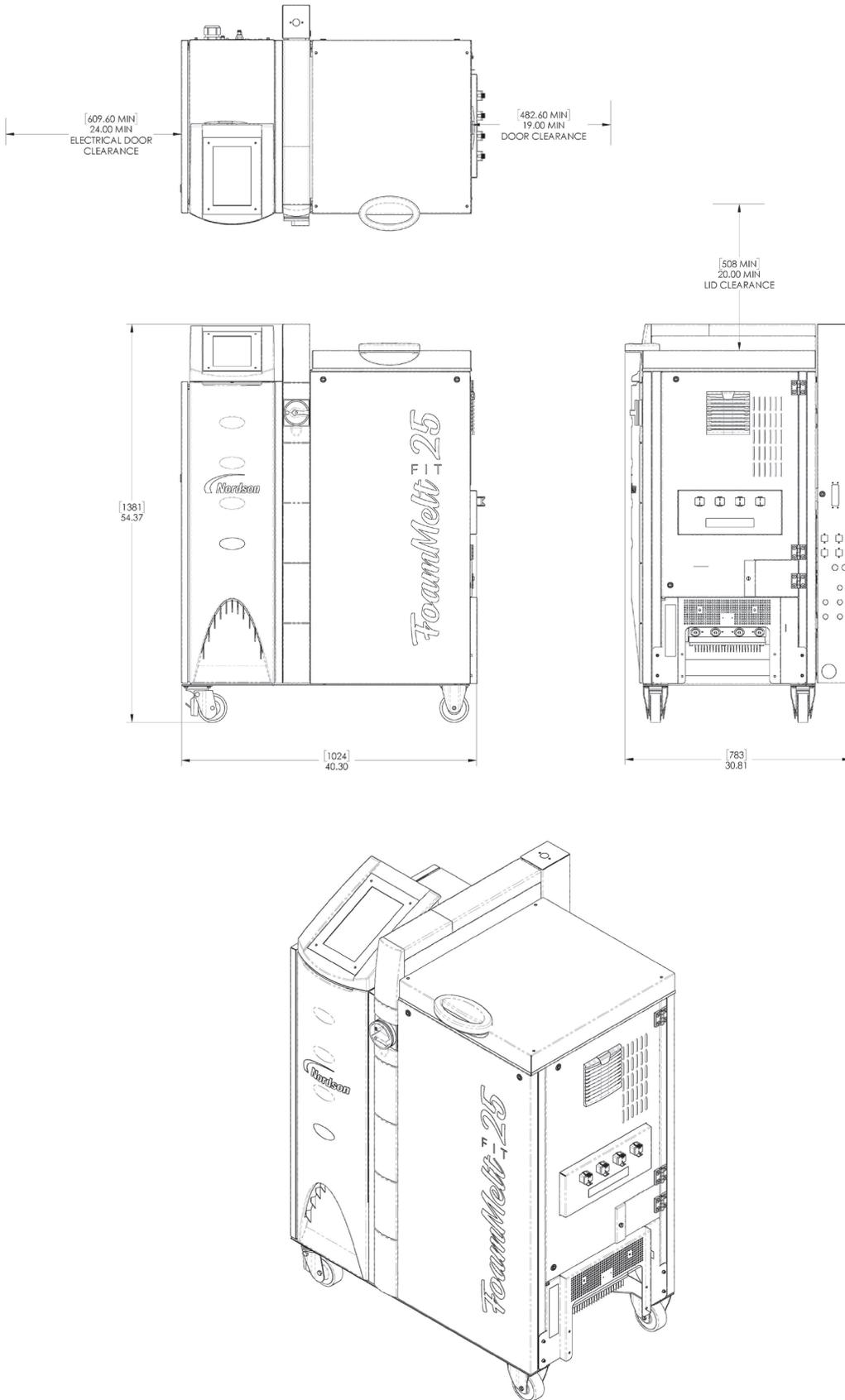
System Type	Release-coated grid and reservoir, Circulating gear pump
Holding Capacity	71 lbs (31 kg), 1526 in3 (25 L)
Number of Pumps	1 Single stream
Melt Rate ⁽¹⁾	100 lbs/hr (45.5 kg/hr)
Instantaneous Rate ⁽¹⁾⁽²⁾	75 lbs/hr (34 kg/hr) – High Output Pump
Maximum Working Hydraulic Pressure	1250 psi (86 bars/8.6 MPa)
Independent Temperature Control	Grid, reservoir, manifold, 4 hoses, 2 guns
Temperature Control Stability	± 1° C (2° F)
Temperature Control Method	PID
Operating Temperature Range	100° to 400° F (38° to 204° C)
Ambient Temperature Range	32° to 104° F (0° to 40° C)
Temperature Control Sensor	Nickel 120 Ohm RTD
Input/Output Capability	4 inputs/3 outputs
Ingress Protection Rating	IP32
Electrical Requirements	220-240VAC (3Ø without neutral) 50/60Hz, 400VAC (3Ø with neutral) 50Hz
Total System Power ⁽³⁾	70 Amps – 240VAC, 40 Amps – 400VAC
Viscosity Range ⁽¹⁾	1,000-40,000cps standard, 1,000-10,000cps enhanced
Gas Supply	Industrial grade nitrogen or carbon dioxide (30-50 psi)
Hose Hydraulic Ports	4 total, 2 input and 2 output
Weight	595 lbs (270 kg), when empty

Notes:

1. *Actual range is adhesive dependent. Lab testing recommended to determine adhesive performance.*
2. *Based on a 50 percent density reduction.*
3. *Includes applicator and total allowable hoses, guns, and auxiliary devices.*

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Dimensions



For more information, speak with your Nordson representative or contact your Nordson regional office.

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