



Therm-O-Flow[®]

Bulk Warm Melt Systems



PROVEN QUALITY. LEADING TECHNOLOGY.

Therm-O-Flow Bulk Warm Melt Systems

Precision Temperature Control

Designed specifically for warm melt materials and temperature conditioning applications, Graco Therm-O-Flow Warm Melt Supply Systems deliver superior heat control and performance in a reliable, easy-to-use, easy-to-maintain package. Instead of investing in a custom solution or equipment meant for other applications, Graco Therm-O-Flow Warm Melt Supply Systems offer performance and flexibility at a reasonable price.



Low/Empty Level Sensors

Standard on every system. Adjustable, so you never run out of material unexpectedly.

Precision Temperature Control

Ensures consistent processes with accurate temperature control of up to 32 defined heat zones

Large Ram Cylinders

Increases pump loading and flow rate capability for high viscosity materials.

Check-Mate® Pump



Reliably moves material and requires little maintenance.

Integrated Drum Air Blow-Off

Reduces downtime with quick, easy drum changes

Optional Light Tower Accessory

Lets operator know the unloader status from a distance, indicating readiness, alarms and warnings.

Advanced Display Module

Easy-to-use, graphic-based control screens reduce training time. Data downloads allow for better process monitoring and control.

Easy Access Air Controls

Lets you control motor, ram and blow-off air independently

Pump + Platen Options

- Choose between ambient and heated pump and platen for greater application flexibility
- Minimizes leftover material and reduces waste
- Long-lasting, one-piece platen seals are easy to replace

Therm-O-Flow Warm Melt 200 L (55 gal)



For more durability with highly abrasive material, choose Elite construction.

Improve Your Productivity and Throughput

Applications:

- Window glazing
- Insulating glass
- Window manufacturing
- Automotive interiors
- Automotive structural and BIW applications
- Cable manufacturing
- Furniture assembly
- Door lamination
- Tape and label manufacturing
- Solar panels
- Advanced composites
- And more...

Materials:

- Warm melt sealers
- Urethanes
- Epoxies
- Prepreg resin mixes
- Structural adhesives
- Silicones
- Paraffin wax
- Thermal interface materials (TIMs)
- And others...



Therm-O-Flow Warm Melt 20 L (5 gal)

Why Therm-O-Flow?

Improve process efficiency

- Automatic electric crossover eliminates downtime with tandem units – you keep production running while you change drums or pails
- Sensors signal when drums are getting low or empty, and more material is needed
- Pump throat seals and plate seals are the only wear components on Therm-O-Flow and can be changed in less than one hour
- Check-Mate lowers are available in Severe Duty, MaxLife® or Elite construction for long life when moving non-abrasive, abrasive or highly abrasive material

Expand application flexibility

Therm-O-Flow Warm Melt offers greater application flexibility while configuring complex applications

- Eliminates need for add on heat controls — melts resins on demand, only what you need
- Automatic daily startup without delay — Therm-O-Flow Warm Melt is ready when the shift starts
- Use downloadable operating data to monitor and control your process, reducing unplanned downtime and increasing process efficiency

For applications involving TIMs and other highly abrasive materials, Therm-O-Flow options include pumps and lowers with Elite construction.



- With wear-resistant seals and surfaces, Elite Check-Mate Pumps can last 170 times longer than standard equipment*
- Elite Check-Mate Pumps with 100 cc lowers are proven to deliver 51,000 gallons (194,000 liters) of highly abrasive material across more than 1 million cycles

Reduce energy costs

- Temperature setback conserves energy during production breaks and prevents material charring
- Inactivity shutoff saves energy costs, promotes safety and prevents material charring

Support environmental initiatives

- Built-in runaway control automatically shuts down supply system in event of component failure or empty drum
- The quiet, low-noise NXT Air Motor operates around 90 decibels, while other comparable motors operate up to 103 decibels

**Data verified when pumping representative thermal interface material (TIM) in Graco test environment*

A Complete Line of Therm-O-Flow Systems

No matter what the application, Graco has a bulk warm melt solution



Therm-O-Flow Warm Melt 200 L

- The ultimate warm melt supply system
- Highest throughput in the industry
- Provides accurate temperature control for heat zones up to 32 zones
- Main unit easily integrates with a second Therm-O-Flow Warm Melt unit for tandem operation (up to 32 customer defined heat zones with expansion boxes)
- Combine multiple Therm-O-Flow Warm Melts units in parallel for even higher flow rates



Therm-O-Flow Warm Melt 20 L and 60 L

- Perfect for 5 gallon (20 liter) and 16 gallon (60 liter) applications in both low and high flow settings
- Provides accurate temperature control of heat zones up to 32 zones
- Main unit easily integrates with a second Therm-O-Flow Warm Melt unit for tandem operation (up to 32 customer defined heat zones)
- Compact footprint lets you place unit near application [45" x 20" (114.3 x 50.8 cm) approx.]

Better performance. More heat zones. More configurations.

Model	Pump Style	Container Size	Max Zones	Cycle Rate	Viscosity
Therm-O-Flow Warm Melt 20	Check-Mate Priming Piston Pump	5 gallons (20 liters)	32	60 CPM	Low to high
Therm-O-Flow Warm Melt 60	Check-Mate Priming Piston Pump	16 gallons (60 liters)	32	60 CPM	Low to high
Therm-O-Flow Warm Melt 200	Check-Mate Priming Piston Pump	55 gallons (200 liters)	32	60 CPM	Low to high

Components of the Therm-O-Flow Supply System



Major Components	Nozzle or Tip	Dispense Valves	Dispense Hoses	Fluid Regulators*	Metering System	Pipe Manifold**	Supply Hoses	Supply Pumps
Selection Factors	<ul style="list-style-type: none"> • Size, shape, and type of fluid flow pattern 	<ul style="list-style-type: none"> • Usage <ul style="list-style-type: none"> - Manual - Pneumatic - Robotic - Shot • Pressure • Volume 	<ul style="list-style-type: none"> • Viscosity • Volume • Length • Pressure • Flexibility • Chemical compatibility 	<ul style="list-style-type: none"> • Viscosity • Pressure • Volume • Chemical compatibility 	<ul style="list-style-type: none"> • Viscosity • Pressure • Flow rate • Dispense points • Level of fillers 	<ul style="list-style-type: none"> • Viscosity • Pressure • Location • Drops • Chemical compatibility 	<ul style="list-style-type: none"> • Viscosity • Volume • Length • Pressure • Chemical compatibility 	<ul style="list-style-type: none"> • Container size • Volume • Viscosity • Pump location • Chemical compatibility • Material abrasiveness
Equipment Options	<ul style="list-style-type: none"> • Nozzles • Tips • Extensions • Brushes 	<ul style="list-style-type: none"> • Mechanical gun • Pneumatic gun <ul style="list-style-type: none"> - Nozzle - Extrusion - Spray - Length - Orifice 	<ul style="list-style-type: none"> • Steel, SST • Pipe JIC • Flexible hoses <ul style="list-style-type: none"> - PTFE - Buna - Nylon - Moisture-Lok 	<ul style="list-style-type: none"> • Mastic regulator • Pressure compensating valve 	<ul style="list-style-type: none"> • Volume control • Continuous flow 	<ul style="list-style-type: none"> • Steel • SST • Pipe • Tubing • Sizes 	<ul style="list-style-type: none"> • Steel, SST • Pipe JIC • Flexible hoses <ul style="list-style-type: none"> - PTFE - Buna - Nylon - Moisture-Lok 	<ul style="list-style-type: none"> • Priming piston • Double ball • Ram mount • Single or dual wipers • Drum empty options • Auto crossover • Elite construction

*Not shown - fluid regulators are required for manual applications. For automated dispensing systems, metering systems are required.

**Not shown - pipe manifold is dependent on material and application.

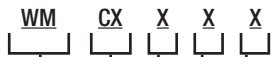
Technical Specifications

Therm-O-Flow Warm Melt	
Maximum Fluid Operating Temperature	158°F (70°C)
Maximum Air Motor Cycle Rate	60 cycles per minute
Air Inlet Size (Supply System)	3/4" npt (f)
Air Motor Sound	90 dBA at 100 psi
Ambient Operating Temperature Range (Supply System)	32–120°F (0–49°C)
Maximum Working Pressure	
36:1	3600 psi (28 MPa, 276 bar)
68:1	6800 psi (34 MPa, 375 bar)
Platen Wetted Materials	
5 gallon (20 liter)	Electroless nickel plated ductile iron, EPDM, PTFE coated aluminum, 6061 aluminum, Buna, Viton, Zinc plated steel, 316 stainless steel, 17-4 stainless steel
16 gallon (60 liter)	Electroless nickel plated ductile iron, EPDM, PTFE coated aluminum, 6061 aluminum, Buna, Viton, Zinc plated steel, 316 stainless steel, 17-4 stainless steel
55 gallon (200 liter)	319 cast aluminum, EPDM, Zinc plated carbon steel, 17-4 stainless steel
Electrical Requirements	
Heated 5 gallon (20 liter), 16 gallon (60 liter)	200-240 VAC, 1 phase, 50/60 Hz, 19 A 200-240 VAC, 3 phase, 50/60 Hz, 8 A 380-420 VAC, 3 phase (YN), 50/60 Hz, 8 A 480 VAC, 3 phase, 50/60 Hz, 4 A
Ambient 5 gallon (20 liter), 16 gallon (60 liter)	200-240 VAC, 1 phase, 50/60 Hz, 16 A 200-240 VAC, 3 phase, 50/60 Hz, 8 A 380-420 VAC, 3 phase (YN), 50/60 Hz, 8 A 480 VAC, 3 phase, 50/60 Hz, 4 A
Heated 55 gallon (200 liter)	200-240 VAC, 1 phase, 50/60 Hz, 28 A 200-240 VAC, 3 phase, 50/60 Hz, 16 A 380-420 VAC, 3 phase (YN), 50/60 Hz, 16 A 480 VAC, 3 phase, 50/60 Hz, 8 A
Ambient 55 gallon (200 liter)	200-240 VAC, 1 phase, 50/60 Hz, 16 A 200-240 VAC, 3 phase, 50/60 Hz, 8 A 380-420 VAC, 3 phase (YN), 50/60 Hz, 8 A 480 VAC, 3 phase, 50/60 Hz, 4 A
Fluid Outlet Size	
Check-Mate 200	1" npt (f)
Maximum Air Input Pressure Supply System	
5 gallon (20 liter)	150 psi (1.0 MPa, 10 bar)
16 gallon (60 liter)	150 psi (1.0 MPa, 10 bar)
55 gallon (200 liter)	120 psi (0.9 MPa, 9 bar)

Ordering Information

Selection of the Therm-O-Flow Warm Melt System

The Therm-O-Flow Warm Melt System provides the flexibility to configure a system to meet your specific needs. This includes different combinations of pump, ram sizes, platen, interface and power options.



WM = Therm-O-Flow Warm Melt System

Check-Mate Pump Options

	Size	Pump Material	Heated/Ambient
C1	36:1	CS	Ambient*
C2	36:1	CS	Heated ≤ 158F°
C3	36:1	CM	Ambient*
C4	36:1	CM	Heated ≤ 158F°
C5	68:1	CS	Ambient*
C6	68:1	CS	Heated ≤ 158F°
C7	68:1	CM	Ambient*
C8	68:1	CM	Heated ≤ 158F°
C9	36:1	EL	Heated ≤ 158F°

Rams Options

	Name	Ram Size	Drum Size
1	D60	3 in.	5 gal (20 L)
2	D200	3 in.	55 gal (200 L)
3	D200s	6.5 in.	55 gal (200 L)

Platen and Seal Options

	Platen Size	Platen Material	Seal Material	Wiper	Heated/Ambient
A	5 gal (20 L)	CST/AL	EPDM	Single Ring	Ambient
B	5 gal (20 L)	CST/AL	EPDM	Single Ring	Heated ≤ 158F°
C	16 gal (60 L)	CST/AL	PTFE Coated Nitrile	Single Flat	Ambient
D	16 gal (60 L)	CST/AL	PTFE Coated Nitrile	Single Flat	Heated ≤ 158F°
F	55 gal (200 L)	AL	EPDM	Double Ring	Ambient
G	55 gal (200 L)	AL	EPDM	Double Ring	Heated ≤ 158F°

Interface/Power Options

A system without an ADM option is only used as part of tandem system

	ADM	Power
1	ADM	240V
2	ADM	480V
3	No ADM	240V
4	No ADM	480V

KEY:

- CS = Carbon Steel Severe Duty
- CM = Carbon Steel MaxLife®
- CST/AL = Carbon Steel/Aluminium
- AL = Aluminium
- EL = Elite construction

* When the system is configured with an ambient pump, only an ambient platen is available. An ambient pump allows for additional accessory heat zones.



ABOUT GRACO

Founded in 1926, Graco is a world leader in fluid handling systems and components. Graco products move, measure, control, dispense and apply a wide range of fluids and viscous materials used in vehicle lubrication, commercial and industrial settings.

The company's success is based on its unwavering commitment to technical excellence, world-class manufacturing and unparalleled customer service. Working closely with qualified distributors, Graco offers systems, products and technology that set the quality standard in a wide range of fluid handling solutions. Graco provides equipment for spray finishing, protective coating, paint circulation, lubrication, and dispensing sealants and adhesives, along with power application equipment for the contractor industry. Graco's ongoing investment in fluid management and control will continue to provide innovative solutions to a diverse global market.

GRACO LOCATIONS

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SALES/ DISTRIBUTION/ SERVICE

Call today for product information or to request a demonstration.

800-746-1334 or visit us at www.graco.com/Therm-0-Flow.

Graco Inc. is registered to I.S. EN ISO 9001