

Therm-O-Flow®

Bulk Melt Systems with NXT™ Technology



The Solution For All Your Bulk Melt Applications

- Exceptional performance with a range of materials any viscosity, any abrasiveness
- Offers the highest melt rates in the industry for improved production capacity
- Precise temperature control prevents material damage and results in better adhesive quality
- · Advanced control technology that is easy to use
- Custom-configured for your specific application

Therm-O-Flow. Any Material. Any Time.

The most advanced technology on the market

With melt rates that are at least 60 percent higher than the leading competitor, Therm-O-Flow® bulk melt systems from Graco® outperform the competition time after time. In fact, Therm-O-Flow solutions are the best performing industrial bulk melt systems on the market.

Therm-O-Flow's advanced temperature control virtually eliminates overshoot of temperature, resulting in better adhesive quality and reduced rework due to damaged material.

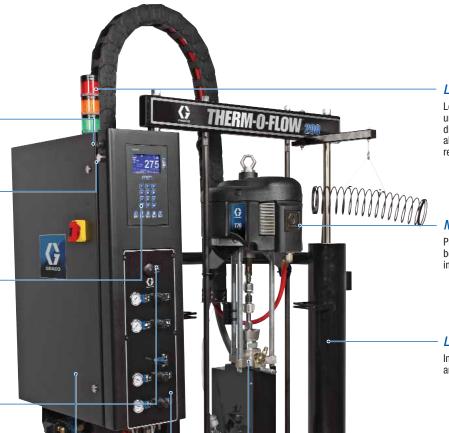
Graco offers a complete line of Therm-O-Flow bulk melt systems – each configured to fit your specific application.

Applications:

- · Insulating glass
- Automotive interiors
- RV lamination
- · Window manufacturing
- · Cable manufacturing
- · Furniture assembly
- Door lamination
- Bookbinding
- Tape and label manufacturing

Materials:

- Butyl Rubber
- Ethylene Vinyl Acetate (EVA)
- Polyamide
- Polyurethane Reactive (PUR)
- Pressure Sensitive Adhesives (PSA)
- Polyisobutylene (PIB)
- Warm Melt Sealers



Light Tower

Lets operator know the unloader status from a distance, indicating readiness, alarms and warnings to reduce downtime

NXT™ Air Motor

Provides quieter operation, better performance and improved efficiency

Large Ram Cylinders

Increases pump loading and flow rate capability

Severe-Duty Check-Mate® Pump

For trouble-free long life and reliable material movement with minimal pressure drop

Heated Platen

Provides industry-leading melt rates and easy cleanup

signaling maintenance crew

Maximizes productivity by

Maintenance Call

Ethernet Connection

Provides remote reporting

capabilities

Button

EasyKey™ Controls
Easy-to-use, eye-level
controls improve setup
and operation, speeding
up production

Integrated Drum Air Blow Off

Reduces downtime with quick, easy drum changes

Precision Temperature Control

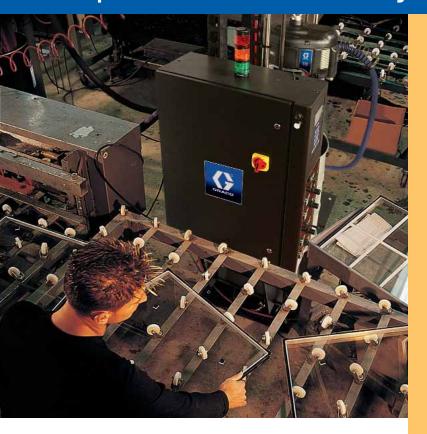
Ensures consistent processes with accurate temperature control of up to 12 zones

Easy Access Air Controls

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

Therm-0-Flow 200

Improve Your Productivity and Throughput





Therm-0-Flow 20

Improve process efficiency

- Automatic electric crossover eliminates downtime with tandem units
- Drum low and empty sensors signal when drum changes are needed
- Quick-change pump packings provide faster, easier maintenance
- New, extended-life packing cartridges are available for abrasive materials
- Heated platens have cast-in heaters which never need to be replaced – and carry a lifetime warranty
- Material totalizers simplify preventive maintenance scheduling
- Pump throat seals and plate seals are the only wear components on Therm-O-Flow and can be changed in less than one hour
- Self-diagnostics allow for predictive and preventative maintenance strategies – improving process availability

Improve production capacity

- Patented Mega-Flo[™] Platen offers industry-leading melt rates and reduces material waste
- 7-Day timer provides automatic daily startup Therm-0-Flow is ready when the shift starts
- Preventative maintenance warnings reduce unplanned downtime

Reduce energy costs

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

Support environmental initiatives

- Built-in runaway control automatically shuts down supply system in event of component failure
- The quiet, low-noise NXT Air Motor operates around 87 decibels, while other comparable motors operate up to 103 decibels

Advanced Controls

Intuitive and easy to use

EasyKey[™] Controls

- · Displays both actual and set point temperatures for up to eight zones at a time
- Large single temperature zone display can be read and monitored from up to 25 feet away
- · Material totalizer for preventative maintenance scheduling
- · Resettable material totalizer for job or daily material dispense totaling
- · Languages supported: English, Spanish, German, French, Chinese and Japanese

Designed for easy service

- · Integrated self-diagnostics and serviceable design make service quick and easy
- · Easy-to-read alarms include high and low temperature, drum low and drum empty, runaway, and more

Automates process information integration

- · Remote reporting through Ethernet connection includes material totalizers, setup replication, system alarm log, and temperature and volume recording
- Discrete I/O feature provides remote control inputs and outputs for automation and integration with other automated equipment

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No Active Errors

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manufacturing process

improvement initiatives such

Test Drive Therm-O-Flow's EasyKey Controls at www.graco.com!



Mega-Flo[™] offers industryleading melt rates for greater production capacity

The patented Mega-Flo platen for 55 gal (200 I) units provides the highest output per watt of power in the industry. No matter what the material, Mega-Flo assures smooth melting with the least amount of material degradation.

- Convex plate design wastes less material and saves money
- Non-stick PTFE-coated ram plates for easy maintenance
- · Improved wiper seals protect moisturesensitive material
- · Melts through the thickest material with ease

Smooth platens

- · Even surface heats less material for maximum efficiency
- · Ideal for higher-cost materials with low flow rates





5 gal (20 l)

Finned platens

· Provide highest melt rate for high flow and hard-to-melt materials





55 gal (200 l)

A Complete Line of Therm-O-Flow Systems

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



Therm-0-Flow 200

- · The ultimate hot melt bulk system
- Highest melt rate in the industry[†]
- Six to eight zones standard, up to 12 heat zones with an optional four-zone expansion box
- Main unit easily integrated with a second Therm-0-Flow 200 or Therm-0-Flow 20 for tandem operation



Therm-0-Flow 20/NXT

- Perfect for 5 gal (20 I) applications where high performance is still needed
- Double the power for high melt rate needs
- Allows accurate temperature control of six zones (standard). Up to 10 heat zones with an optional four-zone expansion box
- Main unit easily integrated with a second Therm-0-Flow 200 or Therm-0-Flow 20 for tandem operation



Therm-0-Flow 20/Mini-5

- Ideal for low to medium viscosity materials
- Double the power for high melt rate needs
- Allows accurate temperature control of four zones (standard). Up to eight heat zones with an optional four-zone expansion box
- Tandem capabilities with other Therm-O-Flow Mini-5's

Better performance, higher melt rates

Advanced NXT Air Motor technology, a powerful piston pump and patented platen design result in Therm-O-Flow melt rates being at least 60% higher than the competition.

MODEL	PUMP STYLE	CONTAINER SIZE	MAXIMUM Melt rate	MAXIMUM FLOW RATE	VISCOSITY
Therm-0-Flow 20	Mini-5 2-ball	5 gal (20 l)	1.3 lbs/min* (0.6 kg/min)	9 lbs/min* (4 kg/min)	Low to medium
Therm-0-Flow 20	Check-Mate Priming Piston	5 gal (20 l)	1.5 lbs/min* (0.7 kg/min)	12 lbs/min* (5.4 kg/min)	Low to ultra high
Therm-0-Flow 200 w/Mega-Flo plate**	Check-Mate Priming Piston	55 gal (200 l)	11 lbs/min* (5 kg/min)	12 lbs/min* (5.4 kg/min)	Low to ultra high

[†]Tested and compared to the leading competitor, using PSA and butyl

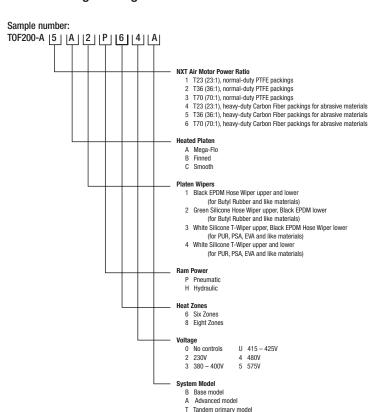
Therm-O-Flow Selection Guide

Therm-0-Flow 200 Features and Options

FEATURE	BASE Model	ADVANCED Model	TANDEM PRIMARY	TANDEM SECONDARY
EasyKey Interface	•	•	•	*
7-Day Timer	•	•	•	•
Material Totalizer	•	•	•	•
Temperature Standby	•	•	•	•
Inactivity Shut-off	•	•	•	•
Pump Runaway Control	•	•	•	•
Adjustable Heat Soak Timers	•	•	•	•
Integrated Self-Diagnostics	•	•	•	•
Drum Low & Empty Sensors & Alarm	Optional	•	•	•
Light Tower	Optional	•	•	*
Maintenance Call Button	Optional	•	•	*
Remote Control I/O	Optional	•	•	*
Remote Reporting	Optional	•	•	*
Drum Ram Post Saddle Clamps	Optional	Optional	Optional	Optional
Heavy Duty Drum Band Clamp	Optional	Optional	Optional	Optional
Fiber Drum Reinforcement Shell	Optional	Optional	Optional	Optional
Vent Hood Kit	Optional	Optional	Optional	Optional

^{*} Included in Tandem Primary

Custom design configuration for Therm-0-Flow 200



S Tandem secondary model



Select the specific air motor, platen, heat zone controls, hose/gun kits and accessories you need for your specific bulk melt application.

Many other options are available

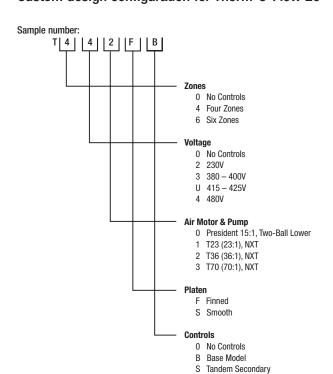
See your distributor for more detailed ordering information.

Therm-0-Flow 20 Features and Options

FEATURE	TOF20 MINI-5	T0F20	TOF20 TANDEM Primary	TOF20 TANDEM SECONDARY
Air Motor / Ratio	President® / 15:1	NXT / 23:1, 36:1, 70:1	15:1 / 23:1, 36:1, 70:1	15:1 / 23:1, 36:1, 70:1
Heat Zones	4	6	4 or 6	4 or 6
EasyKey Interface	•	•	•	-
7-Day Timer	•	•	•	•
Material Totalizer	•	•	•	•
Temperature Standby	•	•	•	•
Inactivity Shut-off	-	•	•	•
Pump Runaway Control	-	•	•	•
Adjustable Heat Soak Timers	•	•	•	•
Integrated Self-Diagnostics	•	•	•	•
Drum Low & Empty Sensors & Alarm	Optional	Optional	Required *	Required *
Light Tower	Optional	Optional	Optional	-
Maintenance Call Button	Optional	Optional	Optional	-
Remote Control I/O	Optional	Optional	Optional	-
Remote Reporting	Optional	Optional	Optional	-
Vent Hood Kit	Optional	Optional	Optional	Optional

^{*} Drum Low & Empty Sensor Kit is required for Tandem system operation.

Custom design configuration for Therm-0-Flow 20





Therm-O-Flow 20 with NXT air motor



Therm-O-Flow 20/Mini-5

Select the specific air motor, platen, heat zone controls, hose/gun kits and accessories you need for your specific bulk melt application.

Many other options are available

See your distributor for more detailed ordering information.

Advantages of Therm-O-Flow Technology

Improves process efficiency with tandem operation

Configure your Therm-O-Flow Systems to operate in tandem for better productivity and improved uptime.

- Automatic electric crossover eliminates downtime you get double the material volume before you need to change drums or pails
- No stopping production to change a drum or pail
- · Only one interface needed for two systems
- Many tandem combinations are available including:
 - Two Therm-0-Flow 200 units
 - One Therm-O-Flow 200 operating with one Therm-O-Flow 20
 - Two Therm-0-Flow 20 units
 - Two Therm-0-Flow 20/Mini-5 units

High output for improved production capacity

High melt rate, combined with the large number of heat zones and high pressure result in greater productivity and performance.

- · Allows use of multiple hoses and applicators
- · Long hose and drop lengths
- High flow rates even with high viscosity materials

Supports predictive diagnostics

 Self-diagnostics allows for advanced predictive and preventative maintenance strategies, letting you plan for maintenance around your production schedule

Durable, long-lasting NXT Technology

- The NXT air motor is proven to last 10 times longer than its predecessor, the Graco® King
- NXT air motor is the highest technology air motor on the market
- · Rugged body armor won't rust or dent
- · Modular design for easy maintenance

Easy to use

- Large graphic interface is intuitive and simple to use, resulting in reduced training and better equipment utilization
- · One-sided control and access
- · Easy maintenance
 - Separate pneumatic and electric controls
 - Quick electrical connections



Integrated drum air blow off valve reduces downtime with quick drum changes



Finned platens offer the highest melt rates and are ideal for high flow or hard-to-melt materials

Technical Specifications

Therm	-0-Flow 200	Therm-0-Flow 20	Therm-0-Flow 20/Mini-5
Displacement pump effective area	, ,	, ,	, ,
Volume per cycle	,	,	,
Pump cycles per 1 gal. (3.8 liters)			
Fluid flow at 60 cpm	om (10.6 lpm)	2.8 U.S. gpm (10.6 lpm)	0.9 U.S. gpm (3.41 lpm)
Max. fluid working pressure			
T15			1800 psi (12.4 MPa, 124 bar)
T23	MPa, 159 bar)	2300 psi (15.9 MPa, 159 bar)	
T36 3000 psi (20.7 f	MPa, 207 bar)	3000 psi (20.7 MPa, 207 bar)	
T70 3000 psi (20.7 ľ	MPa, 207 bar)	3000 psi (20.7 MPa, 207 bar)	
Max. air input pressure			
T15			100 psi (0.7 MPa, 7 bar)
T23 100 psi (0.	7 MPa, 7 bar)	100 psi (0.7 MPa, 7 bar)	
T36			
T70			
Max. pump operating temperature			400°F (204°C)
Air motor piston effective area	(/	()	(
T15			14 in² (90 cm²)
T23			(22 2)
T36	,	, ,	
T70	,	•	
Stroke length 4.75			4 in (102 mm)
Air inlet size	,	,	,
Pump fluid outlet size	,	• • • • • • • • • • • • • • • • • • • •	,
·	,		,
Wetted parts Carbon steel; brass chrome; zinc; and r		Same as 10F 200	
304, 316, 440, and 17-4 PH g			over SST; PTFE
alloy steel; duc		750 lb - (040 lb-)	CEO II (005 I)
Weight	, ,,	, ,,,	650 IDS (295 Kg)
Displacement pump weight	31 lbs (37 kg)	81 IDS (37 Kg)	
Instruction manuals Therm-0-Flow 200	211200		
Therm-0-Flow 200 Mini-5		211070	
			212004
Therm-0-Flow 20 15:1			
Therm-O-Flow NXT Air Motor			
President Air Motor			
Mini-5 pump			307431
Check-Mate 800 Displacement Pump			
Hot Melt Manual Dispense Gun			
Therm-0-Flow Automatic Dispense Valves	310538		310538
Endure Automatic Dispense Valves	309376	309376	310538
Power requirements			
Compressed air	scfm typical	25-50 scfm typical	25-50 scfm typical
Electricity voltage (as selected)	e & 50/60 Hz	220/240 3-phase & 50/60 Hz	220/240 3-phase & 50/60 Hz
380/400 3-phas	e & 50/60 Hz	380/400 3-phase & 50/60 Hz	380/400 3-phase & 50/60 Hz
415/425 3-phas	e & 50/60 Hz	415/425 3-phase & 50/60 Hz	415/425 3-phase & 50/60 Hz
470/490 3-phas	e & 50/60 Hz	470/490 3-phase & 50/60 Hz	470/490 3-phase & 50/60 Hz
575 3-phas	e & 50/60 Hz		
Peak consumption*			
With Mega-Flo melt grid	27.5 KVa		
With standard melt grid		8.7 KVa	6.4 KVa

Therm-0-Flow machines and complete configured packages carry the CE mark.

* Includes drum melt grid, pump and a 5KVa transformer for the 230 volt hoses and accessories.

Ordering Information



Therm-0-Flow 20 Mini-5

Accessories

288543 Therm-0-Flow 20 and Therm-0-Flow Mini-5 Hose Support Kit

Used for second hose exiting the pump.

255224 Easy Key Replacement Kit

Repair Kits

918439 Ram Repair Kit

Kit contains 0-rings, retaining rings, piston and bumper for 5 gal (20 l),

3 in (76 mm) dual post ram.

C31065 Wiper Seal Replacement Kit

Contains silicone coated round wiper seal with internal spring for 5

gal (20 I) ram plate.

918424 Pump Repair Kit

For heated President 15:1 pump



Therm-0-Flow 20

Accessories

255233 Drum Low and Empty Sensor Kit

288543 Therm-0-Flow 20 and Therm-0-Flow Mini-5 Hose Support Kit

Used for second hose exiting the pump.

253147 Easy Key Replacement Kit

Repair Kits

918439 Ram Repair Kit

Kit contains 0-rings, retaining rings, piston and bumper for 5 $\operatorname{\mathsf{gal}}$

(20 I), 3 in (76 mm) dual post ram.

C31065 Wiper Seal Replacement Kit

Contains silicone coated round wiper seal with internal spring for

5 gal (20 l) ram plate.

241782 Pump Repair Kit

For Check-Mate pump

288511 Finned Platen assembly

288512 Smooth Platen assembly



Therm-0-Flow 200

Accessories

253559 Drum Low and Drum Empty Sensor Kit

Signals when drum changes are needed.

233559 Vent Hood K

Exhaust material vapors with vent hood and facility ventilation system.

253147 Easy Key Replacement Kit

918397 Drum Clam Shell Used to reinforce fiber drums.

918395 Heavy Duty Drum Clamp

Centers, supports, and holds drum during ram removal.

C32463 Saddle Clamps. Centers drum on base for raising and lowering of rams.

115694 Drip Tray Shield

Used to retain any material drips from heated plates while changing drums.

234966 Hose Support Spring Kit. Mounts to cross bar on ram.

253283 Hose Hanger Spring Kit.

Mounted by customer to hang hose overhead without kinking.

15H367 Shield, Accessory, TOF 200



Accessories for all Therm-O-Flow units

Therm-O-Flow System Accessories

255372 4-zone Expansion Box

Adds 4 heated zones to a Therm-0-Flow 20 or 200 system

253547 Light Tower Kit

Indicates alarms and drum low/drum empty sensors to reduce downtime.

253548 Maintenance Call Button Kit

Signals maintenance crew to maximize productivity.

253567 Discrete I/O Kit

Discrete I/O feature provides remote control inputs and outputs for automation.

253566 Ethernet Connection Kit

 $\label{lem:lemote reporting through Ethernet connection includes material totalizers, setup$

replication, system alarm log, and custom language capability.

Applicators & Dispense Valves

249515	Manual Gun, Top Feed, 240V
249514	Manual Gun, Bottom Feed, 240V
249513	Manual Gun, Top Feed, Electric Switch, 240V
249512	Manual Gun, Bottom Feed, Electric Switch, 240V
297273	Manual Gun, Top Feed, Swirl, 0.030 Orifice, 240V
297274	Manual Gun, Bottom Feed, Swirl, 0.030 Orifice, 240V
297266	Automatic Swirl Dispense Valve, 0.030 Orifice, 240V

Air-Operated Heated Dispense Valve

297261	Automatic Swirl Dispense Valve, 0.030 Orifice, 240V
	Air Operated Snuff-Back Heated Dispense Valve
243694	Automatic Dispense Valve, 240V. Air Operated Heated Dispense Valve
244951	Automatic Dispense Valve, 240V. Air Operated High Flow Heated Dispense Valve
244909	Automatic Dispense Valve, 240V. Air Operated Snuff-Back Heated Dispense Valve
243701	45 in Distribution Header With Valve, 240V

Flow Control & Manifolds

243700	Heated Air Operated Mastic Pressure Regulator, 240
243656	23:1 Heated Pressure Compensator Valve, 240V
243657	51:1 Heated Pressure Compensator Valve, 240V
243697	Heated Distribution Manifold, 240V

Includes (2) 3/4 npt(f) inlet check valves, 1 npt 4-ported manifold, (2) 1 in npt(f) outlet gate valves, mounting bracket, 400w 230 VAC heaters, RTD sensor and

8 pin connector box.

289208 Compact Heated Regulator

Accessory Controllers and Cables

243698	2-Zone Accessory Control Box
243699	4-Zone Accessory Control Box
120409	8 ft cable, 16 pin to 16 pin extension cable. Runs between controller and heated hose.
196313	15 ft cable, 16 pin to 16 pin extension cable. Runs between controller and heated hose.
196314	25 ft cable, 16 pin to 16 pin extension cable. Runs between controller and heated hose.
196315	15 ft cable, 16 pin to 8 pin extension cable. Runs between controller and heated accessory.
196316	25 ft cable, 16 pin to 8 pin extension cable. Runs between controller and heated accessory.
196317	15 ft cable, 16 pin to (2) 8 pin extension cable. Runs between controller and heated devices.
196318	25 ft cable, 16 pin to (2) 8 pin extension cable. Runs between controller and heated devices.

Heated Hoses

C58942

A wide variety of heated hoses are available.

See Therm-O-Flow Configurator Form (684055) for available hoses. See Therm-O-Flow Configurator Form (684055) or SAE Buyer's Guide (303254) for additional ordering information.

120 volt AC solenoid kit for heated double-acting air-operated valves.

Miscellaneous Accessories

	Includes solenoid, 24 in high temp. Air tubes, air fittings and muffler.
C59038	24 volt DC solenoid kit for heated double-acting air-operated valves. Includes solenoid, 24 in high temp. Air tubes, air fittings and muffler.
243703	240 volt AC solenoid kit for heated double-acting air-operated valves. Includes solenoid, 24 in high temp. Air tubes, air fittings and muffler.



ABOUT GRACO

PROVEN QUALITY. LEADING TECHNOLOGY.

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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