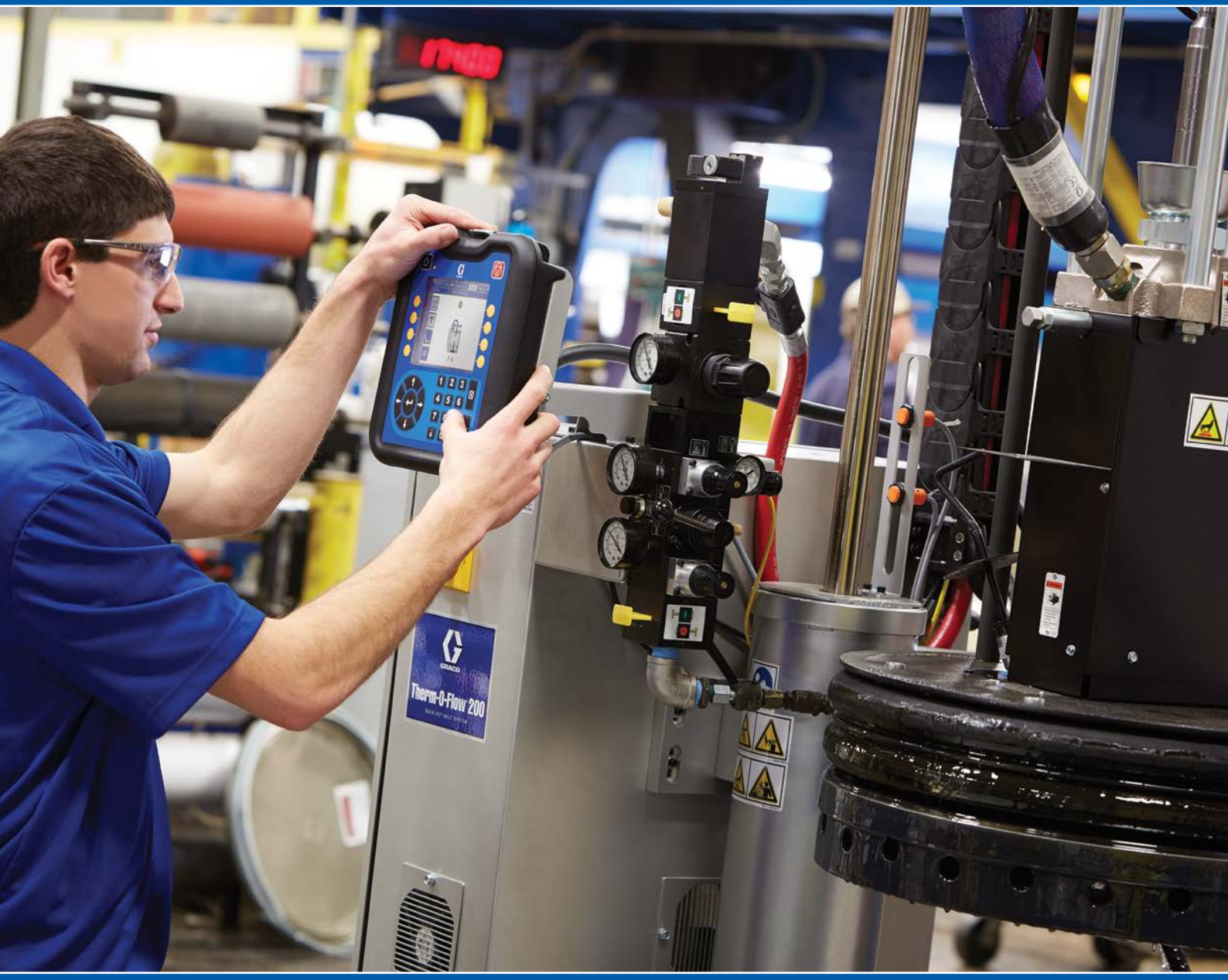
Therm-O-Flow®

Bulk Hot Melt Systems



PROVEN QUALITY. LEADING TECHNOLOGY.

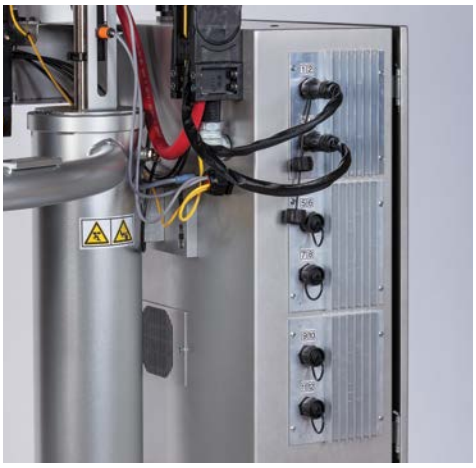
Therm-O-Flow. Any Hot Melt Material. Any Time.

Innovating technology on the market

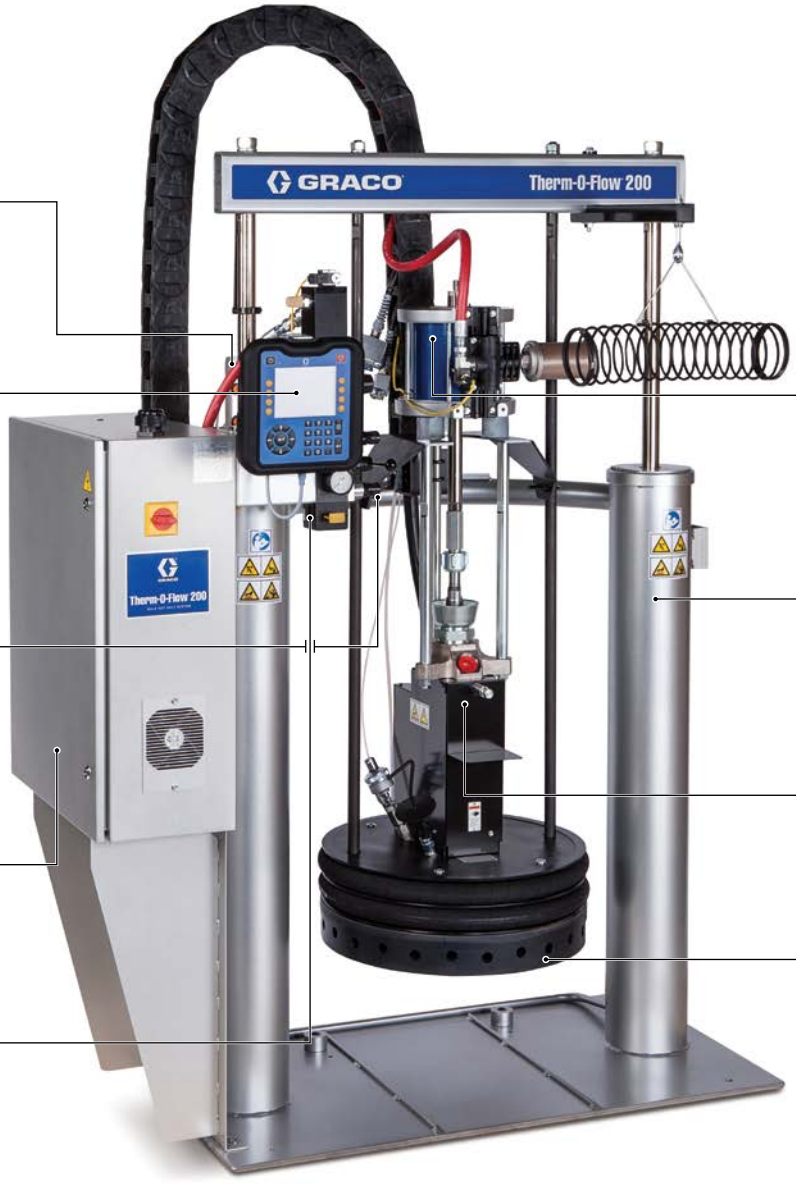
With it's suprisingly high throughput capability Therm-O-Flow® bulk hot melt systems from Graco provide a high performing industrial bulk melt systems to the market.

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

Graco offers a complete line of Therm-O-Flow bulk hot melt systems and "point of use" melt systems – each can be configured to fit your specific application.



Six connection points for the 12 customer defined heat zones



Low/Empty Level Sensors

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

Advanced Display Module

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

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 customer defined heat zones

Easy Access Air Controls

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

Optional Light Tower Accessory

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

Merkur® and NXT® Air Motor Technology

Provides quiet, reliable, efficient operation, along with the right amount of power for the application

Large Ram Cylinders

Increases pump loading and flow rate capability for high viscosity materials

Severe-Duty™ Check-Mate® Pump

For trouble-free long life and reliable material movement

Heated Platen

Smooth, finned or Mega-Flo options promote high melt rate and easy clean up

Caster Kit

Easy-to-manoeuver casters are sold as a kit for the 20 l (5 gallon) system

Therm-O-Flow 200 (55 gal)

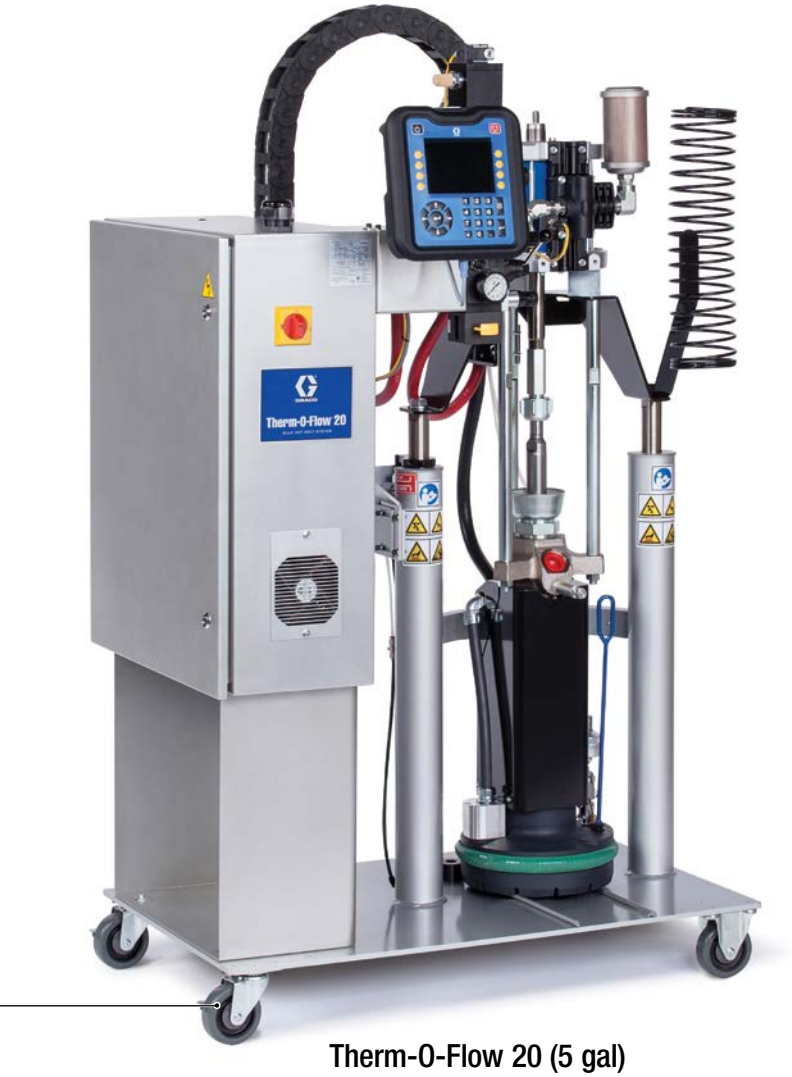
Improve Your Productivity and Throughput

Applications:

- Insulating glass
- Automotive interiors
- RV lamination
- Window manufacturing
- Cable manufacturing
- Furniture assembly
- Door lamination
- Book binding
- Tape and label manufacturing
- Solar panels
- Resin binding
- Advanced composites
- And more...

Materials:

- Butyl rubber
- Epoxies
- Ethylene vinyl acetate (EVA)
- Polyamide
- Polyurethane reactive (PUR)
- Pressure sensitive adhesives (PSA)
- Polyisobutylene (PIB)
- Prepreg resin mixes
- Warm melt sealers
- And others...



Therm-O-Flow 20 (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 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
- New packing and pump rod designs extend the maintenance cycle at least seven times
- Heated platens have cast-in heaters which never need to be replaced – and carry a lifetime warranty
- Material totalizers simplify preventive maintenance scheduling

Improve production capacity

- Patented Mega-Flo™ Platen offers greater throughput while reducing material waste compared to a standard finned platen
- Eliminates need for lengthy oven melting of solid or high viscosity resins — melts resins on demand, only what you need
- Automatic daily start up without delay — Therm-O-Flow is ready when the shift starts
- Use downloadable operating data to monitor and control your process, reducing unplanned downtime and increasing process efficiency

Reduce energy costs

- Temperature setback conserves energy during production breaks and prevents material charring
- Inactivity shut off 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 87 decibels

Advanced Controls

Mega-Flo platen: Industry-leading throughput

The patented Mega-Flo platen for 200 liter (55 gallon) drums assures smooth melting and consistent material output, no matter what the material

- Convex plate design wastes less material and saves money
- Non-stick PTFE-coated platens for easy maintenance
- Robust wiper seals protect moisture-sensitive material
- Melts through the thickest material with ease

Smooth platens

- Flat surface promotes even heating and minimizes material degradation
- Ideal for higher-cost materials with low flow rates

200 l (55 gal)

20 l (5 gal)

Finned platens

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

200 l (55 gal)

20 l (5 gal)

Intuitive and easy to use

Advanced Display Module

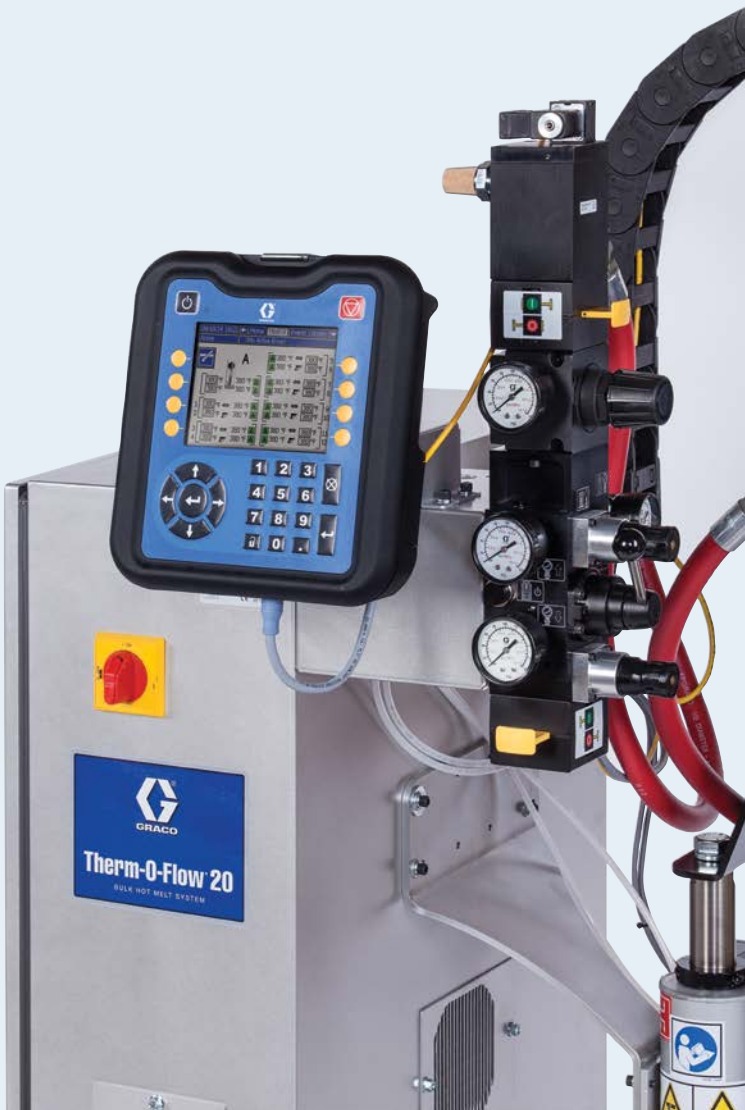
- Displays actual and set point temperatures for up to 12 zones per system (24 for tandem)
- Color coded run screen shows when each zone is ready
- Provides password protection for critical setup parameters
- Resettable material totalizer for job or daily material dispense tracking
- Material tracking and machine diagnostics can be downloaded to USB
- Provides programmable preventive maintenance schedule
- Languages supported: English, Spanish, German, French, Chinese, Japanese, Portuguese, Italian and Korean

Designed for easy service

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

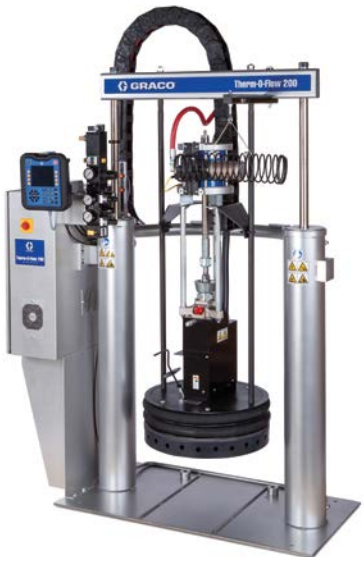
Automated process integration

- Discrete I/O feature provides remote control inputs and outputs for integration with other automated equipment



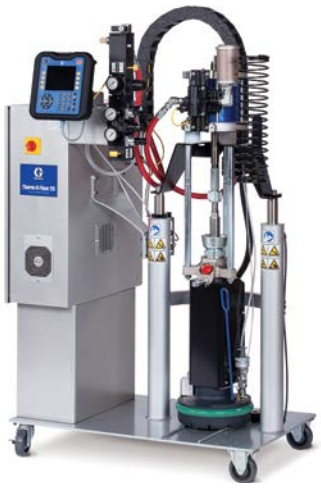
A Complete Line of Therm-O-Flow Systems

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



Therm-O-Flow 200

- The ultimate hot melt bulk system
- Highest throughput in the industry†
- Provides accurate temperature control of four, eight or 12 customer defined heat zones
- Main unit easily integrates with a second Therm-O-Flow 200 or Therm-O-Flow 20 for tandem operation (up to 24 customer defined heat zones)
- Combine multiple Therm-O-Flow 200 units in parallel for even higher flow rates



Therm-O-Flow 20

- Perfect for 20 liter (5 gallon) applications in both low and high flow settings
- Provides accurate temperature control of four, eight or 12 customer defined heat zones
- Main unit easily integrates with a second Therm-O-Flow 200 or Therm-O-Flow 20 for tandem operation (up to 24 customer defined heat zones)
- Compact footprint lets you place unit near application [1x1m (3x3 ft) approx.]

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

Better performance, higher melt rates

Advanced air motor technology, a powerful piston pump and patented platen design results in throughput capability up to 200% greater than the competition.

MODEL	PUMP STYLE	CONTAINER SIZE	MAXIMUM MELT RATE	MAXIMUM FLOW RATE	VISCOSITY
Therm-O-Flow 20	2-ball (15:1)	20 l (5 gal)	0.6 kg/min* (1.3 lb/min)	4 kg/min* (9 lb/min)	Low to medium
Therm-O-Flow 20	Check-Mate Priming Piston	20 l (5 gal)	0.7 kg/min* (1.5 lb/min)	5.4 kg/min* (12 lb/min)	Low to ultra high
Therm-O-Flow 200 w/Mega-Flo plate**	Check-Mate Priming Piston	200 l (55 gal)	5 kg/min* (11 lb/min)	5.4 kg/min* (12 lb/min)	Low to ultra high

** Will vary depending on type of material, results based on typical PSA ** Other plates also available.*

Point-of-Use Resin Heating

Industry Snapshot: Advanced Composites Applications

Demand for advanced composites is growing on a global scale. The industry wants faster cycle rates, higher capacity, and is turning to faster curing resins to speed turnaround times.

Benefits of point-of-use resin heating

1. **Heat only the resin you need – when you need it**

   Therm-O-Flow provides precise thermal control with individual heat zones.

2. **Reduce resin waste**

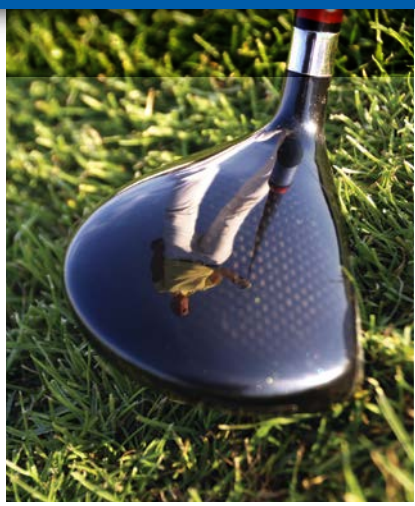
   Therm-O-Flow eliminates the need for conventional ovens or drum heaters, which can cause material degradation from heat aging.

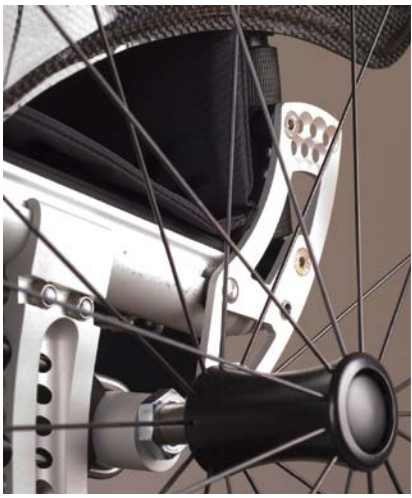
3. **Improve logistics**

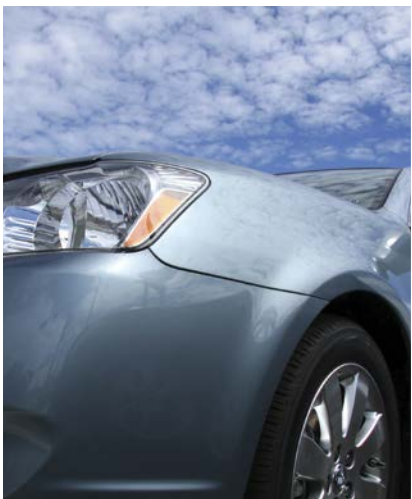
   Therm-O-Flow delivers material directly to metering and dispensing systems – creating a “just in time” ready supply of thermally conditioned resins.

4. **Faster cycle times**

   Manufacturers can use innovative, faster-curing resins for decreased curing times – a key requirement for fast cycle rate mass production.







Technical Specifications

	THERM-O-FLOW 200 (ALL)	THERM-O-FLOW 20 (23:1, 36:1, 70:1)	THERM-O-FLOW 20 (15:1)
Displacement pump effective area			
Merkur and NXT	8 cm^2 (1.24 in^2)	8 cm^2 (1.24 in^2)	
President®			
Volume per cycle			
Merkur and NXT	192 cm^3 (11.7 in^3)	192 cm^3 (11.7 in^3)	
President®			
Fluid flow at 60 cpm	10.6 lpm (2.8 U.S. gpm)	10.6 lpm (2.8 U.S. gpm)	3.41 lpm (0.9 U.S. gpm)
Max. fluid working pressure			
T15 (President 4.25 in)			125 bar (1800 psi, 12.6 MPa)
T23 (Merkur 6.0 in)	159 bar (2300 psi, 15.9 MPa)	159 bar (2300 psi, 15.9 MPa)	
T36 (Merkur 7.5 in)	207 bar (3000 psi, 20.7 MPa)	207 bar (3000 psi, 20.7 MPa)	
T70 (NXT 6500)	207 bar (3000 psi, 20.7 MPa)	207 bar (3000 psi, 20.7 MPa)	
Max. air input pressure (pumps)			
T15 (President 4.25 in)			8.3 bar (120 psi, 0.8 MPa)
T23 (Merkur 6.0 in)	7 bar (100 psi, 0.7 MPa)	7 bar (100 psi, 0.7 MPa)	
T36 (Merkur 7.5 in)	5.7 bar (82 psi, 0.57 MPa)	5.7 bar (82 psi, 0.57 MPa)	
T70 (NXT 6500)	2.9 bar (43 psi, 0.29 MPa)	2.9 bar (43 psi, 0.29 MPa)	
Max. pump operating temperature	204°C (400°F)	204°C (400°F)	204°C (400°F)
Air motor piston effective area			
T15 (President 4.25 in)			90 cm^2 (14 in^2)
T23 (Merkur 6.0 in)	182 cm^2 (28.3 in^2)	182 cm^2 (28.3 in^2)	
T36 (Merkur 7.5 in)	285 cm^2 (44.2 in^2)	285 cm^2 (44.2 in^2)	
T70 (NXT 6500)	545 cm^2 (84.5 in^2)	545 cm^2 (84.5 in^2)	
Stroke length	120 mm (4.75 in)	120 mm (4.75 in)	102 mm (4 in)
Air inlet size	3/4 npsm(f)	3/4 npsm(f)	3/4 npsm(f)
Pump fluid outlet size			
Merkur & NXT	1 in npt(f)	1 in npt(f)	
President			1/2 in npt(f)
Wetted parts	Carbon steel; brass chrome; zinc; nickel plating; stainless steel (304, 316, 440, and 17-4 PH); alloy steel; ductile iron; PTFE	Same as TOF 200	Carbon steel; chrome
Weight	739 kg (1630 lb)	381 kg (840 lb)	381 kg (840 lb)
Height (fully raised)	279 cm (110 in)	187 cm (73.5 in)	187 cm (73.5 in)
Footprint (width x depth)	1498.6 x 939 mm (59 x 37 in)	1016 x 914 mm (40 x 36 in)	1016 x 914 mm (40 x 36 in)
Instruction manuals			
Therm-O-Flow 200	334130		
Therm-O-Flow 20		334129	
Therm-O-Flow 20 15:1			334129
Therm-O-Flow NXT Air Motor	311238	311238	
President Air Motor			306982
Two-ball pump			307431
Check-Mate 800 Displacement Pump	334127	334127	
Hot Melt Manual Dispense Gun	311209	311209	
Therm-O-Flow Automatic Dispense Valves	310538	310538	
Endure Automatic Dispense Valves	309376	309376	
Pneumatic requirements			
Compressed air (typical)	700-1400 l/min (25-50 scfm)	700-1400 l/min (25-50 scfm)	700-1400 l/min (25-50 scfm)
Supply voltage (as selected)	220/240V 3-ph & 50/60 Hz 380/400V 3-ph & 50/60 Hz 470/490V 3-ph & 50/60 Hz 600V 3-ph & 50/60 Hz	220/240V 3-ph & 50/60 Hz 380/400V 3-ph & 50/60 Hz 470/490V 3-ph & 50/60 Hz 600V 3-ph & 50/60 Hz	220/240V 3-ph & 50/60 Hz 380/400V 3-ph & 50/60 Hz 470/490V 3-ph & 50/60 Hz 600V 3-ph & 50/60 Hz
Peak consumption*			
With Mega-Flo platen	30.2 KVa		
With standard platen	27.1 KVa	8.7 KVa	6.4 KVa
With smooth platen	27.1 KVa	8.7 KVa	6.4 KVa

*Therm-O-Flow machines and complete configured packages carry the CE mark. * Includes platen, pump and a 5KVa transformer for the 230 volt hoses and accessories.*

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

MAILING ADDRESS
P.O. Box 1441
Minneapolis, MN 55440-1441
Tel: 612-623-6000
Fax: 612-623-6777

AMERICAS

MINNESOTA
Worldwide Headquarters
Graco Inc.
88-11th Avenue N.E.
Minneapolis, MN 55413

EUROPE

BELGIUM
European Headquarters
Graco BVBA
Industrieterrein-Oude Bunders
Slakweidestraat 31
3630 Maasmechelen,
Belgium
Tel: 32 89 770 700
Fax: 32 89 770 777

ASIA PACIFIC

AUSTRALIA
Graco Australia Pty Ltd.
Suite 17, 2 Enterprise Drive
Bundoora, Victoria 3083
Australia
Tel: 61 3 9468 8500
Fax: 61 3 9468 8599

CHINA
Graco Hong Kong Ltd.
Shanghai Representative Office
Building 7
1029 Zhongshan Road South
Huangpu District
Shanghai 200011
The People's Republic of China
Tel: 86 21 649 50088
Fax: 86 21 649 50077

INDIA
Graco Hong Kong Ltd.
India Liaison Office
Room 432, Augusta Point
Regus Business Centre 53
Golf Course Road
Gurgaon, Haryana
India 122001
Tel: 91 124 435 4208
Fax: 91 124 435 4001

JAPAN
Graco K.K.
1-27-12 Hayabuchi
Tsuzuki-ku
Yokohama City, Japan 2240025
Tel: 81 45 593 7300
Fax: 81 45 593 7301

KOREA
Graco Korea Inc.
Shinhan Bank Building
4th Floor #1599
Gwanyang-Dong, Dongan-Ku,
Anyang-si, Korea 431-060
Tel: 82 31 476 9400
Fax: 82 31 476 9801

Graco is certified ISO 9001.

Europe
+32 89 770 700
FAX +32 89 770 777
WWW.GRACO.COM