

# InvisiPac<sup>®</sup>

TANK-FREE<sup>™</sup> HOT MELT DELIVERY SYSTEM

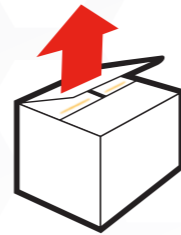
FOR CASE + CARTON PACKAGING

PROVEN QUALITY. LEADING TECHNOLOGY.

# Confidence is a reliable seal – every application, every time.



**Unplanned  
downtime**



**Pop-opens**



**Clogged  
nozzles**



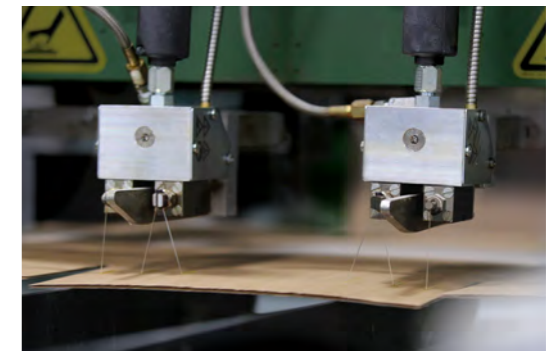
**Increasing  
adhesive costs**

## Are you experiencing these common end-of-line packaging problems?

If you're using tank-based hot melt delivery systems for your case & carton packaging line, it's likely that you are losing productivity (and a good amount of sleep) as a result.

At Graco, we understand that continued downtime in case or carton sealing applications can result in added costs or returned goods - leading to significant profit loss. This understanding, along developing revolutionary fluid dispense systems since 1926, has driven our efforts to develop the most reliable, most profitable hot melt adhesive systems available today.

To **improve profits and regain confidence**, experience the InvisiPac® difference for consistent sealing and increased uptime for end-of line packaging operations.



**InvisiPac®**  
TANK-FREE™ HOT MELT DELIVERY SYSTEM

**The most reliable, most profitable hot melt system**

# Keep your lines running + drive more profitability

With InvisiPac, you'll experience **far less downtime** and **produce more** with a better seal. You'll use **far less adhesive** and be able to drastically **reduce your spare parts inventory**. All delivering more profits to your bottom line. And have the data to prove it!

How? The difference is the technology. **No tank. Period.**

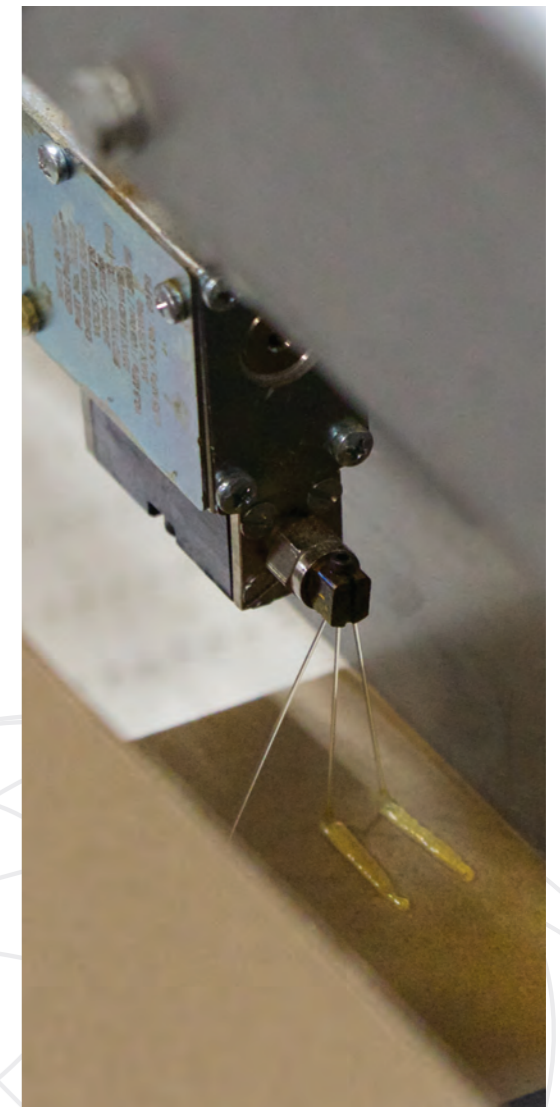
The innovative design, with **70% larger melting surface** than the closest competitor, melts your glue fast, and dispenses it immediately, controlling a consistent viscosity and dispensing exactly what is needed, down to the hundredth of a gram.



Increase your productivity

Save more money

Drive efficiencies with data



**Unmatched reliability.**

# Why InvisiPac is different...and better

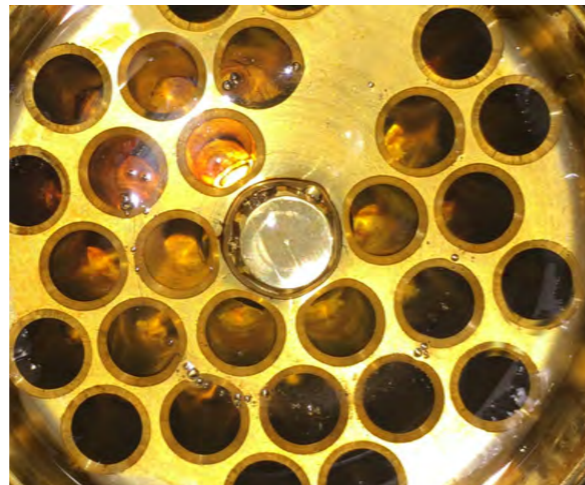
Tank based systems have long heat up times, causing operators to leave systems on exposing the adhesive to extended periods of heat. This degrades material quality and produces time consuming, plug-forming char. Tank based systems are also prone to thermal shock from large amounts of adhesive being dumped into the tank during refill. This causes temperature fluctuation, changing glue viscosity, causing inconsistencies in dispensing and uncontrolled glue waste.

## With InvisiPac:

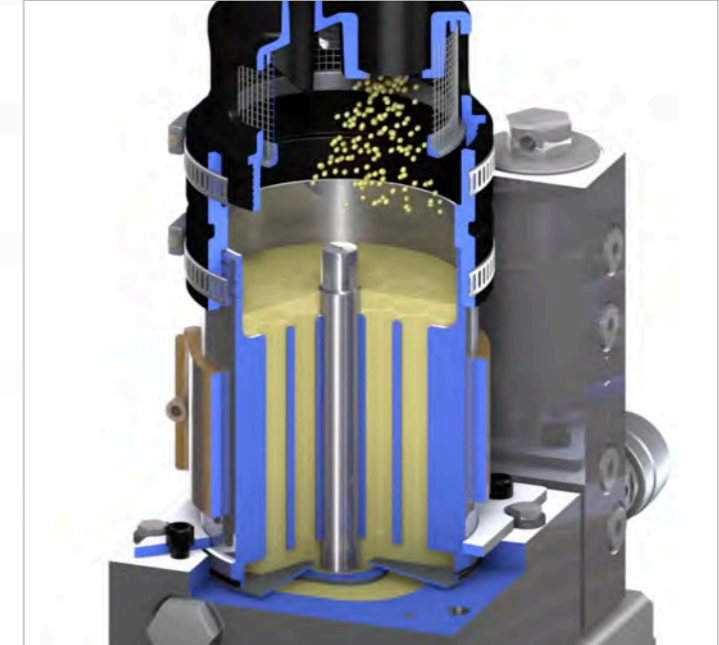
- 1** An ultrasonic sensor monitors glue in the melting chamber automatically adding glue.
- 2** With its efficient heat transfer design, glue melts quickly and maintains a consistent temperature.
- 3** Less time your glue cooks at high temperature means less char, less maintenance, less degradation and more uptime.

### More choices

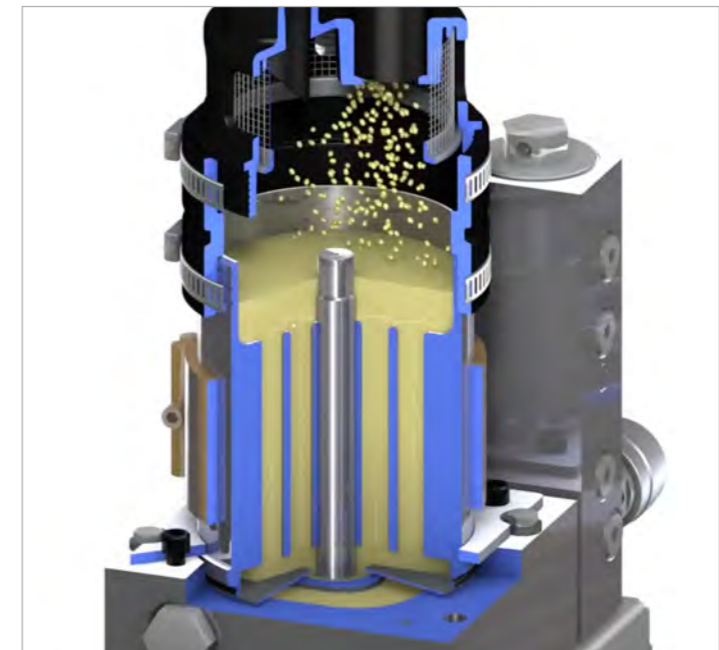
*You can use low-grade adhesives when it makes sense or high-grade adhesives to ensure premium performance.*



1



2



3



# The Tank-Free™ difference

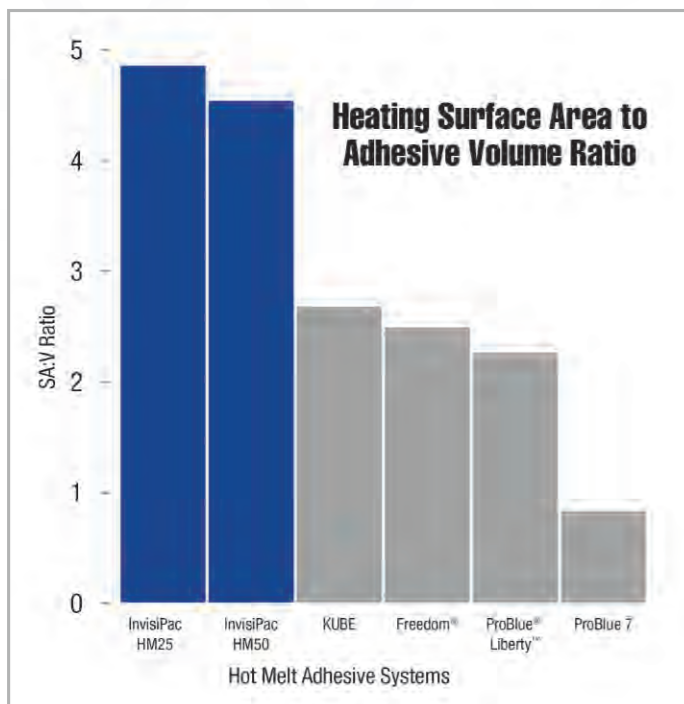
## Tank & Tank-Less Systems ▶

- Heat to operating temperature slowly due to low melting surface area
- Keep large quantities of adhesive at high temperatures
- Allow degradation of adhesive integrity
- Create char and cause plugged nozzle
- Exposure to burn hazards



Tankless

Tank



## InvisiPac's Tank-Free System ▶

- Heats to operating temperature quickly due to high melting surface area
- Maintains continuous flow of heated-on-demand adhesive
- Safeguards adhesive integrity
- Eliminates plugged nozzles by eliminating adhesive char
- Eliminates exposure to burn hazards



Tank-Free

# How InvisiPac works for you

1

**Automatic Feed System** with patented technology has a self-learning feed algorithm that takes the guess work out of filling your hot melt system. No more tuning or calibrating your fill hoping you get the right frequency.

3

**Advanced Display Module** provides an accurate control of the complete process (temperature, adhesive usage, dispense shot sizes, performance notifications).

4

**Superior heated hose design** is char resistant, reducing char buildup, resulting in more uptime and lower maintenance costs.

2

**Adhesive Melter** has innovative melting chambers that melt adhesive quickly and dispenses it immediately, eliminating adhesive char build up and maintains integrity of adhesive by not letting it sit at high temperatures for long periods of time.

5

**Plug-Free Applicators** have a free-flow manifold design and integrated module filtering that eliminates nozzle plugs and can operate up to 10,000 cycles per minute.



The hot melt system that runs reliably, unnoticed and invisible.

# The clear choice

## Increase your productivity.

### Eliminate Downtime

- No char, no nozzle plugs.
- No more time consuming tank scraping product maintenance

### Parts Last Longer

- Less plastic and built to last.
- 10+ years pump lifetime.
- 500 million + gun cycles.

### Improved Operator Safety

- Design eliminates burn hazard risks and keeps your employees safe.

## Save more money.

### Guaranteed Savings

- Use less material.
- Reduce maintenance and spare parts.

### Better Seal

- Reduce costly pop-opens by having glue do what it's suppose to do by not cooking it away and producing char.

### Use Less Energy

- Heats up in < 10 minutes and has an auto shut off after 1 hour idle time.

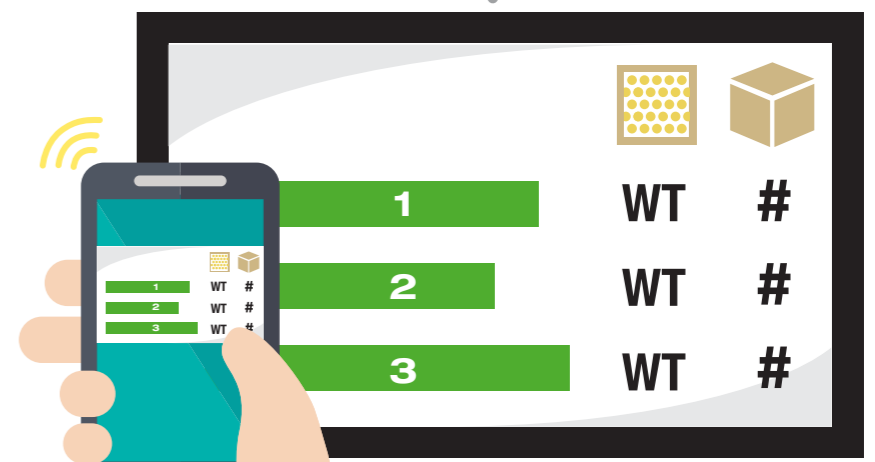
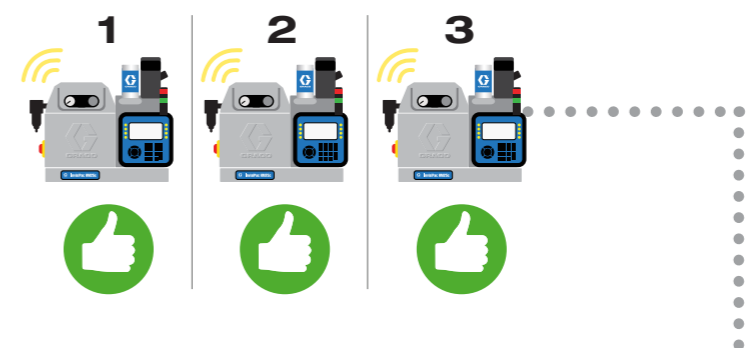
## Drive efficiencies with data.

### Know Your Glue Usage

- Measure the right amount of glue, control a consistent bead and track your usage grams per case, so you can put exactly what you need where you need it...and prove it.

### Optimize Your Lines

- View your lines performance and receive alerts maintaining your desired, optimal settings anywhere, anytime.



GET REAL TIME FEEDBACK

# HM25C: Compact reliability, significant profitability



*InvisiPac HM25C*

## New design for compact solutions

- Easily integrates into your existing packaging lines.
- 25 lb/hour (11.3 kg/hour) melt rate.
- Light tower alerts when material usage is out of desired range.
- 10 minute start up.
- Auto shut-off capability.
- Auto-tuning fill adjusts over time as conditions change reducing need for calibration.
- Connection for 8 zones
- Integrated material tracking



## InvisiPac Integrated Vacuum Feed

# Leading technology

### No thermal shocking

- Continuous supply of adhesive
- Level sensor maintains consistent melt rate
- Promotes consistent material usage

### Reliable performance

- Minimizes unplanned maintenance/shutdowns
- Removes the human factor

### Safety

- No exposure to molten hot melt adhesive



### 1 Shaker built into vacuum

Reduces air consumption by eliminating the need for an external shaker

### 2 Feeds from center of hopper

Ensures adhesive does not build up on one side

### 3 Vibration arms

Breaks up clumps and reduces adhesive bridging

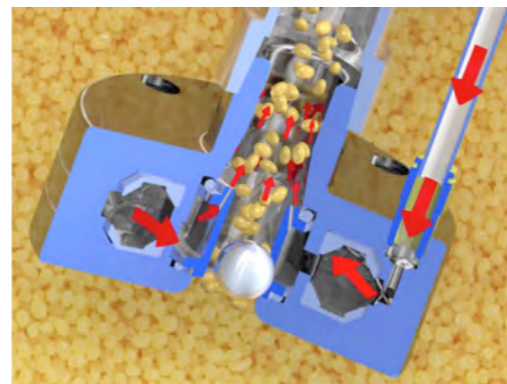
### 4 Fully enclosed hopper

Keeps adhesive free of debris and contaminants

### 5 Simple installation

Push to connect air line from InvisiPac system

Quick disconnect vacuum hose



Our feed system employs the Venturi effect\*

\*This is the reduction in pressure that results when pellets flows through a constricted section of a pipe, and their velocity must increase as it passes through a constriction in accordance with the principle of mass continuity.



# Maintain consistent temperature

## Superior heated hose design

Graco's char-resistant hose is designed to reduce adhesive char buildup, resulting in more uptime and lower maintenance costs. An additional silicone layer promotes even heating, eliminating hot and cold spots that cause char and skin formation

- Available in many lengths for easy installation
- Available in waterwash or standard platforms
- InvisiPac waterwash hoses for food-safe packaging operations are Rated to IPX6, an international standard for performance in waterwash applications



- ① *Built in over-temperature safety interlock*
- ② *Silicone insulating layer*
- ③ *Up to temperature in less than 10 minutes*



## InvisiPac Plug-Free Applicators

# Hassle-free operation

### Eliminate downtime due to plugged nozzles.

With the InvisiPac Plug-Free™ Hot Melt Adhesive Applicators, you'll experience a new era in hassle-free operation. With their innovative free-flow manifold design and integrated module filtering – you can eliminate nozzle plugs.



### Configurable

- Design options easily configures to meet application needs
- Can hook up to any existing hot melt systems for better control

### Module Filter

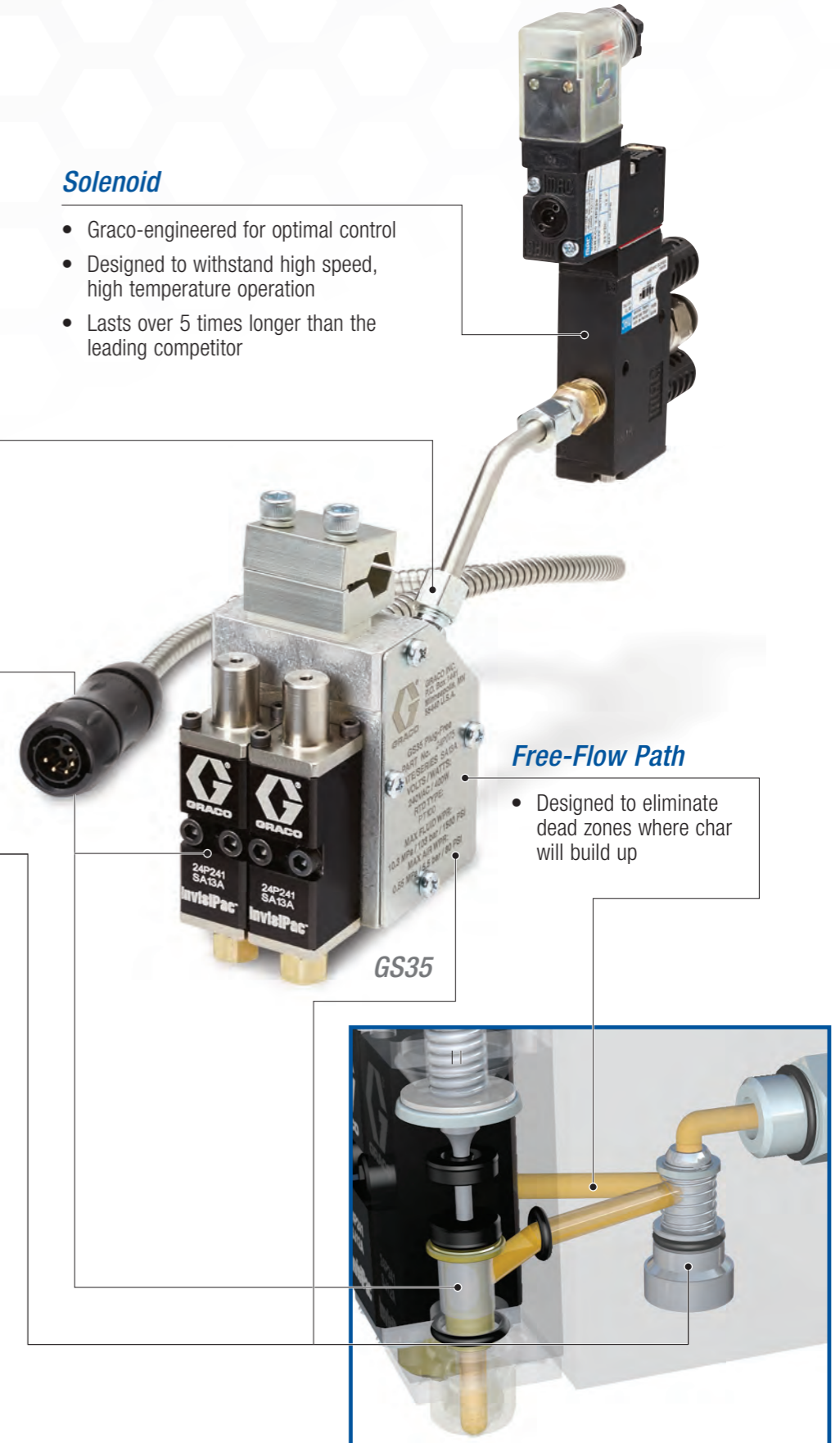
- Design protects ball and seat from debris and char
- Eliminates nozzle plugging when used with InvisiPac System

### Manifold

- Manifold filter traps debris and char so it's removed when you replace the filter
- Manifold filter is included in a heated zone, eliminating cold spots and ensuring consistent adhesive application
- Reaches operating temperature in less than 10 minutes

### Solenoid

- Graco-engineered for optimal control
- Designed to withstand high speed, high temperature operation
- Lasts over 5 times longer than the leading competitor



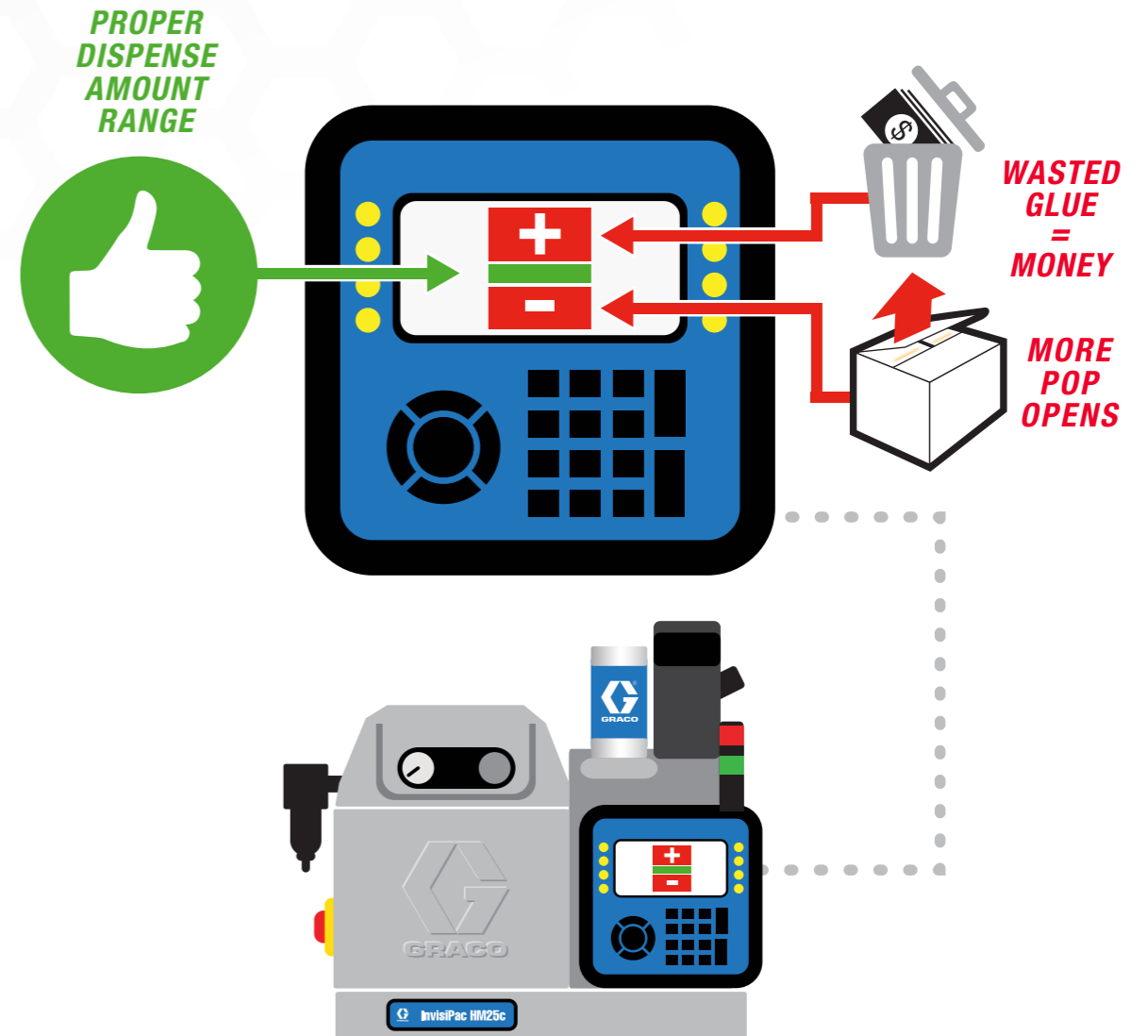
# Drive efficiencies with data

*With InvisiPac, you can track material usage and other production events*

- USB download of operating data, errors and event history
- Easily graph your adhesive consumption to track cost per unit, saving you money and ensuring quality
- Quantitatively analyze machine performance to improve preventative maintenance and reduce downtime
- Receive alerts when material usage is out of desired range and performance notifications on your lines.

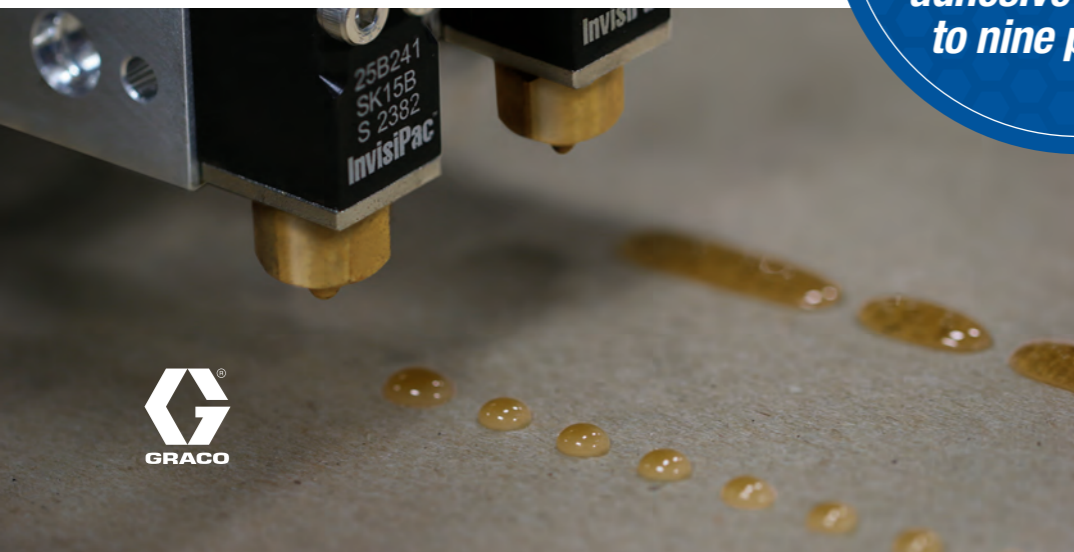
*“In the first 90 days, we’ve had zero errors and have gone from using 30 pounds of adhesive each day to nine pounds.”*

— PLANT MANAGER, WORLDWIDE MEAT PROCESSES



### Result:

- Less adhesive usage
- Less rework
- Less product returns due to pop-opens
- Equals more to your bottom line



## InvisiPac Pattern Control System

# Increase productivity

*Fast setup, easy programming, pattern storage* – it all adds up to increased productivity with the flexibility to adapt when you need to.

### *Easy pattern setup*

- See pattern definitions all on one page for a comprehensive view
- Eliminate the guesswork of pattern setup with on-screen pattern preview
- Copy, delete or name patterns so you can change quickly and keep your line running
- Clone one gun sequence to another when all you need is to repeat the job
- Save time by inserting or deleting beads without editing the rest of the pattern

### *Variable line speed compensation*

- Match adhesive output with line speed – put down less at slow speeds and more at high speeds – the right amount when and where you want it

### *Stitching*

- Save on adhesive consumption by changing solid beads to stitched beads
- Easily stitch individual beads or the entire pattern
- Turn stitching on or off with the push of a button
- Document the savings by integrating with your InvisiPac Hot Melt Delivery System

### *Operating modes*

- Time-based – for those cases where all you need is simple pattern control
- Distance-based at a fixed line speed or with an encoder – for when you need precise control or when you want to adjust to changing line speeds
- Not sure? Switch between modes without changing the program!

— NORTH AMERICAN KITTED CABINET MANUFACTURER

**“50% glue savings is awesome and programming patterns is unbelievably easy.”**



**Fast. Easy. Productive.**

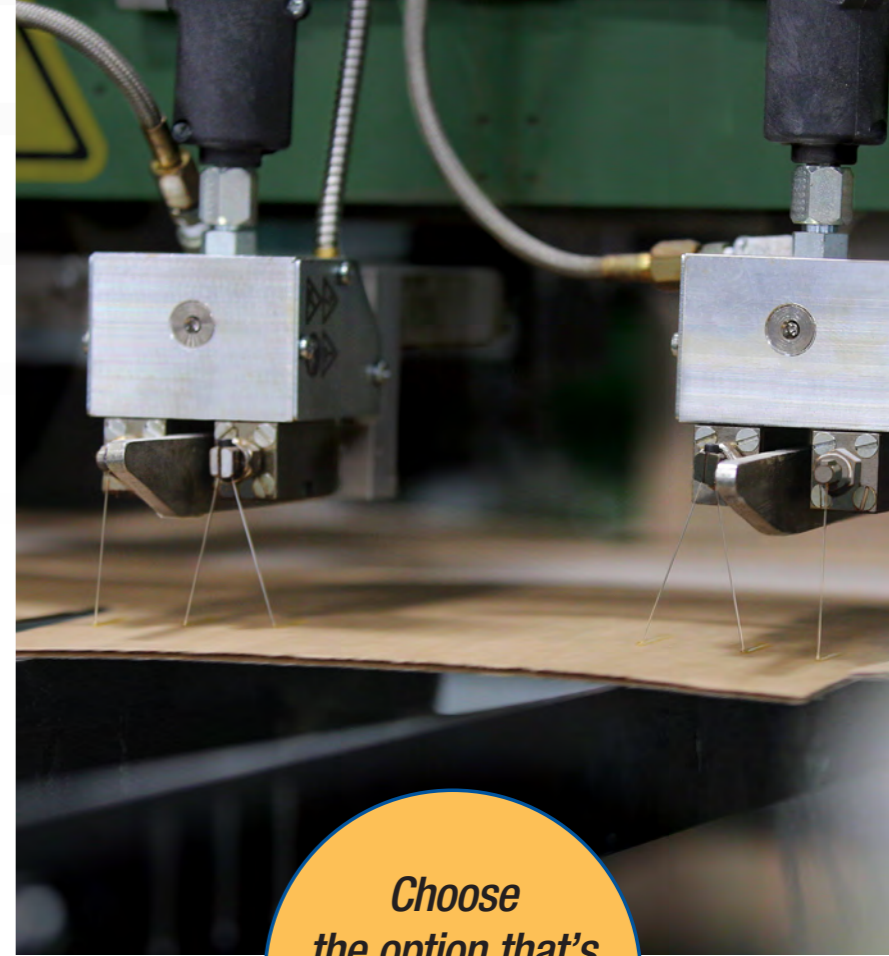


# The smart solution

*The data to make real-time decisions – wherever you are.*

With LineSite, you can track InvisiPac machines on the plant floor in real-time from your smart phone, tablet or computer, and use the data as a powerful business tool to cut costs.

Are your lines running? Could they be more efficient?  
How much hot melt is being used in one hour? One day? One week?  
Should you be considering simple preventative maintenance?



*Choose the option that's right for your business.*



*Machines on Plant Floor*



*Control portal access through your local network*



*Access portal through a stand alone PC*



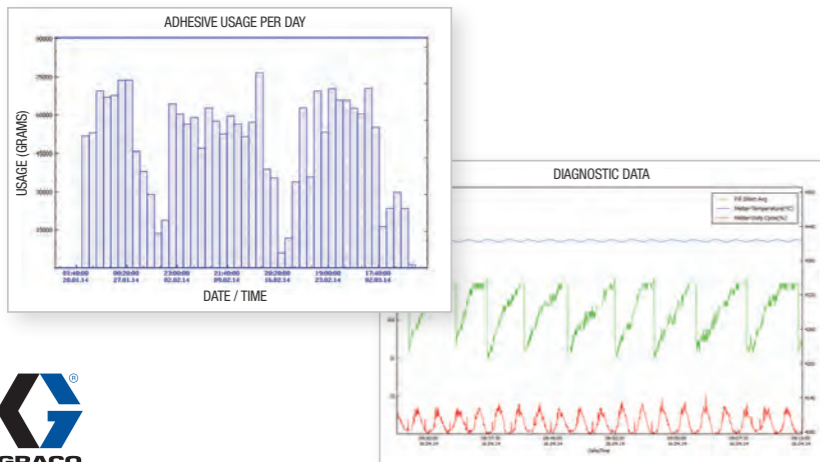
*Allow controlled access for Technical Support*

## Stay in the know

### LineSite puts critical information at your fingertips.

- Check temperatures and review critical performance metrics
- Receive email alerts for system events or alarms
- See how much adhesive each line is using
- Monitor machine diagnostics and prevent issues from causing you downtime
- Respond instantaneously to potential faults and diagnose them remotely
- Review system operating data in an intuitive, graphical format

Log in to your individualized portal for the tools to keep your line running and the flexibility to make the choice that's right for your business.



### Knowledge at fingertips. ▶

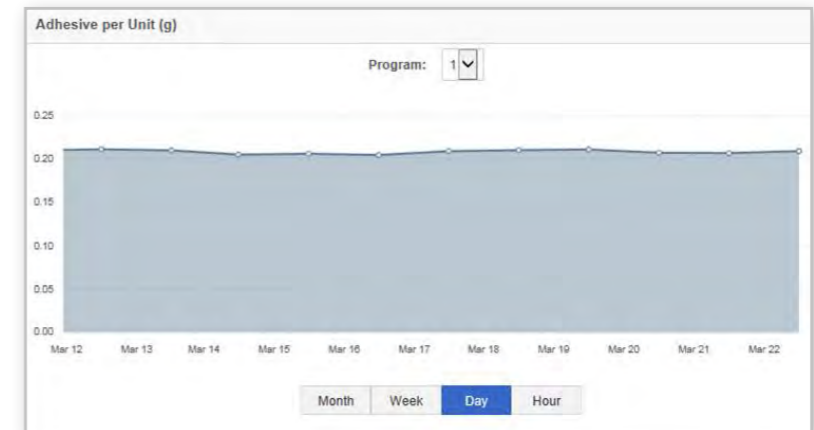
- Know what your lines are doing.
- Track what lines are active.
- View daily productivity.

Machine Name	Status	Adhesive Today	Units Today	Events
Line 604	Inactive	2.27 lb	2304	🔔 📧 📧
Line 608	Active	13.68 lb	14242	🔔 📧 📧
Line 610	Active	4.73 lb	6078	🔔 📧 📧
Line 615	Active	0.11 lb	73	🔔 📧 📧
Line 686	Active	6.25 lb	81173	🔔 📧 📧
Line 687	Active	8.88 lb	106679	🔔 📧 📧
Line 688	Active	2.92 lb	34086	🔔 📧 📧

Adhesive Usage Dashboard

### Peace of mind. ▶

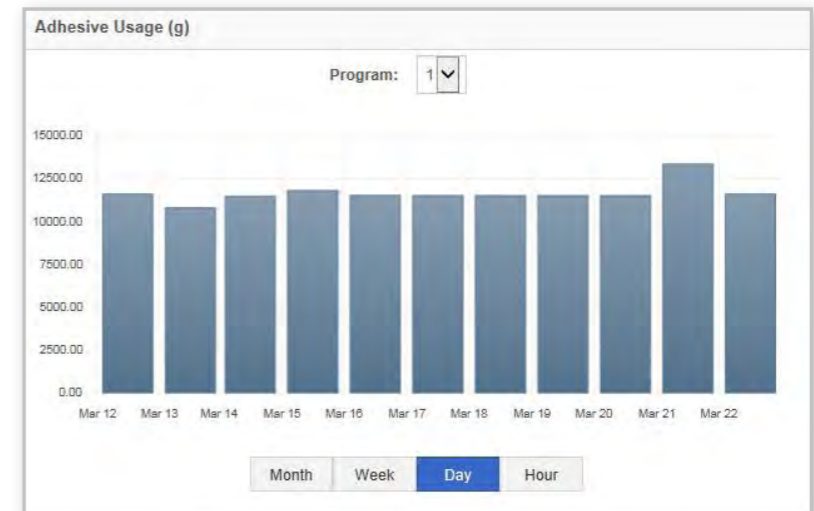
- Know you are applying the right amount of adhesive per package.
- Receive e-mail notifications when any system change occurs.



Adhesive Per Box Report

### Save money. ▶

- Monitor adhesive usage and consumption over time to spot trends.
- Diagnose potential issues faster ultimately improving efficiency of your packaging line.



Total Adhesive Usage



# Specifications



## InvisiPac Feeder System

Material size	1/2" x 1/2" x 1/4" (12mm x 12mm x 6mm)
Maximum Feed Distance	30 ft
Vertical Height	10 ft
Vacuum Transfer Operating Pressure Range	40-100 psi
Vacuum Air Consumption	9.5 scfm@40 psi 17.2 scfm @80 psi (4% duty cycle)

## InvisiPac Hoses

Length	4 – 25 ft (in 2 foot increments)
Maximum Operating Temperature	204°C (400°F)
Maximum Working Fluid Pressure	1500 psi / 103 bar / 10.3 MPa
Time to Temperature	Less than 10 minutes* *
Available for dry or wash-down environments	
Built in over-temperature safety interlock	



## InvisiPac GM100 Plug-Free Hot Melt Adhesive Applicator

Description	Air Open / Air Closed, Ball and Seat
Speed	10,000 cycles/min
Time to Temperature	Less than 10 minutes* *
Maximum Working Fluid Pressure	1500 psi / 103 bar / 10.3 MPa
Operating Pneumatic Pressure Range	40-80 psi / 2.8-5.5 bar / 0.28-0.55 MPa
Maximum Operating Temperature	204°C (400°F)
Ambient Temperature Range	0-50°C (32-122°F)
Solenoid Valve	24 Vac
Graco engineered, factory installed	
Electrical Service	200-240 Vac, 50/60 Hz, 400 W
Approvals and Standards	UL499, CSA88, CE, ISO 9001



## InvisiPac GS35 Plug-Free Hot Melt Adhesive Applicator

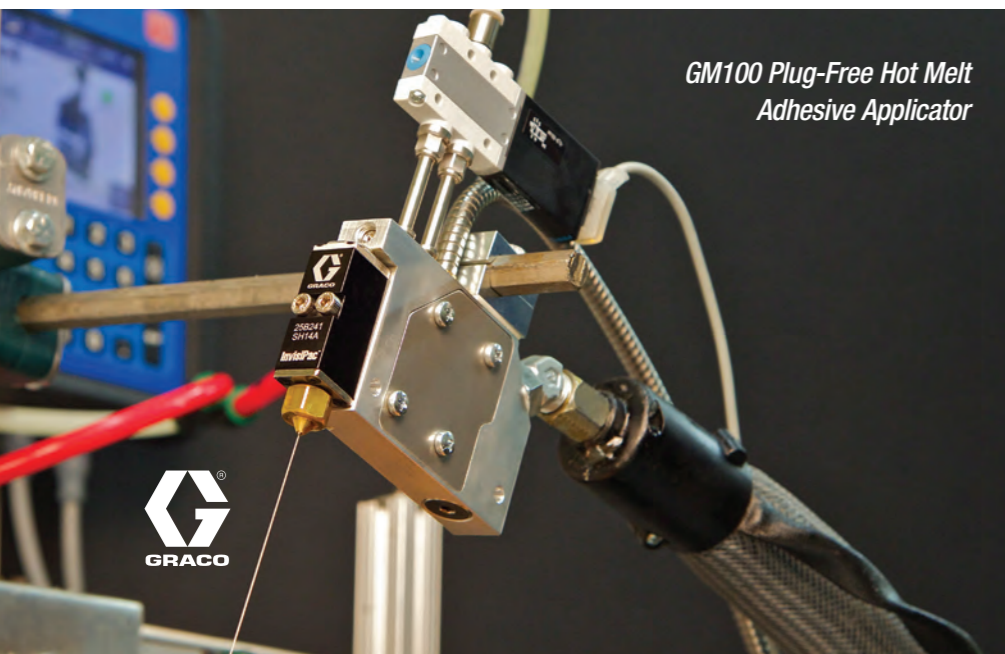
Description	Air Open / Spring Close, Ball and Seat
Speed	Greater than 3,500 cycles/min
Time to Temperature	Less than 10 minutes* *
Maximum Working Fluid Pressure	1500 psi / 103 bar / 10.3 MPa
Operating Pneumatic Pressure Range	40-80 psi / 2.8-5.5 bar / 0.28-0.55 MPa
Maximum Operating Temperature	204°C (400°F)
Ambient Temperature Range	0-50°C (32-122°F)
Solenoid Valve	24 Vac or 110 Vac
Graco engineered, factory installed	
Electrical Service	200-240 Vac, 50/60 Hz, 400 W
Approvals and Standards	UL499, CSA88, CE, ISO 9001

\*\* From 21°C to 177°C (70°F to 350°F), dependent upon power supply, machine configuration and glue type. For detailed dimensions and configurations, see instruction manuals 3A2347, 333347 and 3A2805 available on [www.graco.com](http://www.graco.com)

## InvisiPac Pattern Controller

Description	PC-8	PC-8e
Gun Outputs	8	8
Trigger Inputs	4	4
Encoder	N/A	2
Line Speed Compensation	N/A	2
PLC Enable / Disable	✓	✓
PLC Program Select Bits	4	4
PLC Alarm Output	✓	✓
Integrated Power Supply	✓	✓
Program Storage	20	50
Beads per Output	24	24
Distance Accuracy	1mm, 0.1"	1mm, 0.1"
Time Accuracy	1ms	1ms
Enclosure Environmental Rating	IP54	IP54
Approvals	CE, ETL, cETL	CE, ETL, cETL

Specifications
24VDC, 1A max
NPN or PNP
Differential Line Driver
I/P (4-20mA) or V/P (0-10V)
0-30VDC
Select up to 15 unique programs
0-250VAC (dry contact output)
150W, 24VDC
Each bead can be independently stitched



GM100 Plug-Free Hot Melt Adhesive Applicator





# Graco has you covered.

## *Unmatched Quality.*

Our focus on continued innovation keeps Graco Fluid Automation at the forefront of fluid handling technology. We typically reinvest three times the industry average into research and development. Our mission is to provide customers with products that result in the **lowest total cost of ownership** while maximizing product quality and business success.

## *Global Presence.*

With facilities located in Europe, Asia Pacific and the United States, Graco provides a personalized, **end-to-end partnership experience**. Our engineers will lead the solution planning, testing and refining of your solution in our regional labs to ultimately overseeing the product installation process.

## *Global Support.*

After installation, **in-person support** will be available from our worldwide distribution network of trained and certified distributors who offer relevant experience, product knowledge and responsive service.

There is no better reassurance than Graco technology, product innovation and the people committed to helping you succeed all day, every day.

## Contact us today!

Call **800-746-1334** to speak with a Graco representative, visit **[www.graco.com/invisipac](http://www.graco.com/invisipac)** for more information.



## AMERICAS

### MINNESOTA

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

### MAILING ADDRESS

P.O. Box 1441  
Minneapolis, MN 55440-1441

### OHIO

8400 Port Jackson Ave NW,  
North Canton, OH 44720

## EUROPE

### BELGIUM

Graco BVBA  
Industrieterrein - Oude Bunders  
Slakweidestraat 31  
B-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 Fluid Equipment (Shanghai) Co., Ltd.  
Building 7, No.1-2,  
Wenshui Road 299,  
Jing'an District  
Shanghai, 200436  
The People's Republic of China  
Tel: 86 21 649 50088  
Fax: 86 21 649 50077

### INDIA

Graco India Pvt Ltd.  
Plot No. 295  
Udyog Vihar Phase IV  
Gurgaon, Haryana, India 122015  
Tel: 91 124 6610200  
Fax: 91 124 6610201

### 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  
Gwangyang-Dong, Dongan-Ku,  
Anyang-si, Korea 431-060  
Tel: 82 31 476 9400  
Fax: 82 31 476 9801



# InvisiPac<sup>®</sup>

TANK-FREE<sup>™</sup> HOT MELT DELIVERY SYSTEM

