

**FOR THIS
GLOBAL DIAPER
MANUFACTURER,
IT CREATED
SAVINGS OF
\$144,500 PER
LINE, PER YEAR.**



PUT THE PRECISION OF VELOCITY TO WORK FOR YOU.

Learn more about how Velocity can ensure high-speed, high-quality production, reduce waste, shrink your environmental footprint, and significantly improve profitability.
Contact your Dynatec rep or visit itwdynatec.com for additional information.



CASE STUDY: VELOCITY™. A HIGH-SPEED METERED APPLICATOR

**WHAT COULD IMPROVING
ADHESIVE PATTERN ACCURACY
AT HIGHER LINE SPEEDS DO FOR
YOUR COMPANY?**

LOCATIONS

Americas

ITW Dynatec
31 Volunteer Drive
Hendersonville, TN 37075
Phone: +1.615.824.3634
Fax: +1.615.264.5248
info@itwdynatec.com
www.itwdynatec.com

China

ITW Dynatec Suzhou
No. 2, Anzhi Street
SIP, Suzhou 215122, China
Phone +86.512.6289.0620
Fax +86.512.6289.0621
info@itwdynatec.cn
www.itwdynatec.cn

Japan

ITW Dynatec K.K.
Fios Kamata
26-11, Nishikamata 7-chome
Ota-ku, Tokyo 144-0051, Japan
Phone: +81.3.5703.5501
Fax: +81.3.5703.5505
info@itwdynatec.co.jp
www.jp.itwdynatec.com

**Europe, Middle East
and Africa**

ITW Dynatec GmbH
Industriestraße 28
40822 Mettmann, Germany
Phone: +49.2104.915.0
Fax: +49.2104.915.111
info@itwdynatec.de
www.itwdynatec.de

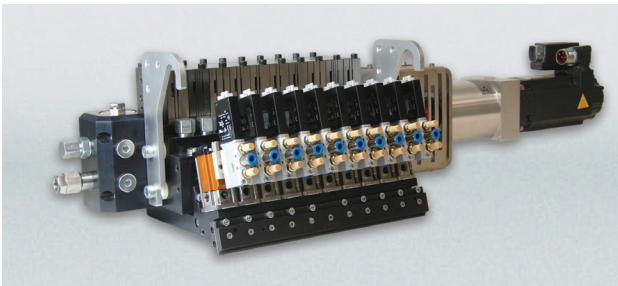
France

ITW Dynatec Tenplus
ZI Croix de Raville
28500 Chérisy, France
Phone: +33.237.6256.47
Fax: +33.237.6256.40
info@itwdynatec.fr
www.itwdynatec.fr



THE CHALLENGE

A global absorbent hygiene manufacturer with a high-speed, premium diaper production line was experiencing high adhesive consumption and material waste within their waistband reinforcement construction process. This was due to the inconsistent placement and weights of the pressure-sensitive adhesive across the substrate. The lack of precision required the manufacturer to overcompensate with higher adhesive coat weights to ensure material bonding standards were met. The plant sought to increase the accuracy of its adhesive application at high speeds without compromising product quality.



THE SOLUTION

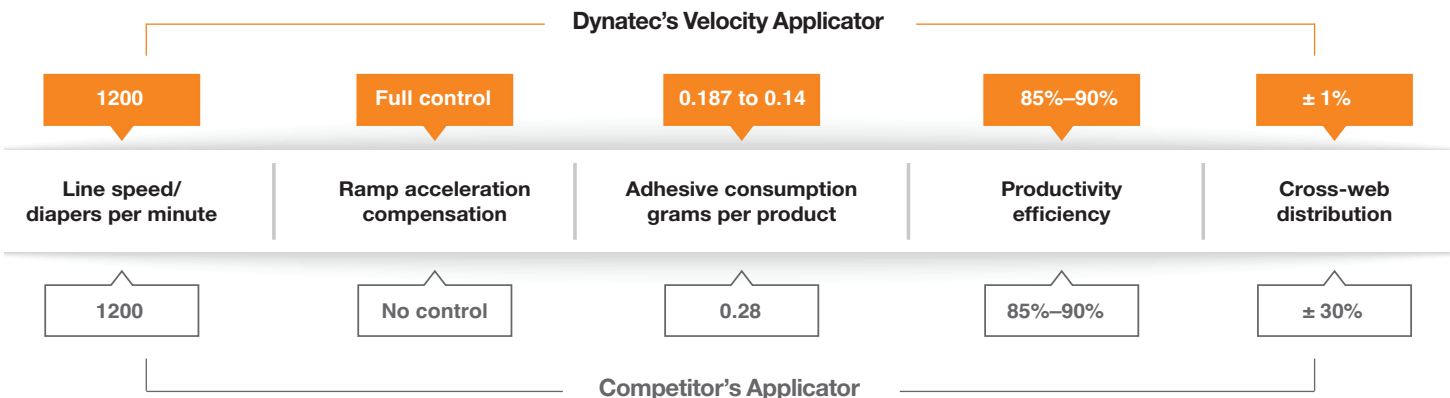
ITW Dynatec ran a four-month test in the plant, 20–25 days per month, 12 to 18 hours per day, with the cycles of 1,200 products per minute, comparing the performance of our Velocity high-speed applicator with that of a leading competitor. The tests were carried out on three different patterns: surge, front seal, and back seal. The competitor required additional hardware, but the Velocity was plug-and-play ready.

THE RESULTS

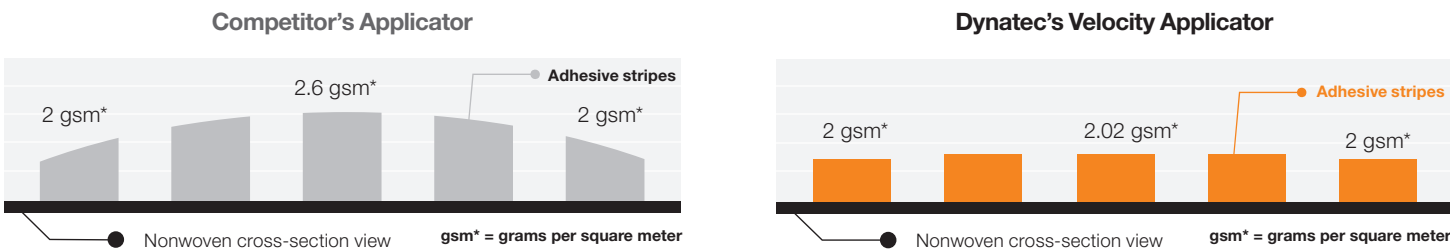
Greater high-speed accuracy. A lot less adhesive.

The competing applicator wasn't able to compensate for line ramp acceleration, resulting in excessive adhesive use and more scrap products. Velocity consistently provided precise pattern and coat weight during ramp acceleration and deceleration and adapted seamlessly to frequently changing product sizes. The plant realized big reductions—over 30%—in adhesive consumption and material waste and a big boost to the bottom line.

Test metrics and results.



A pattern of savings.

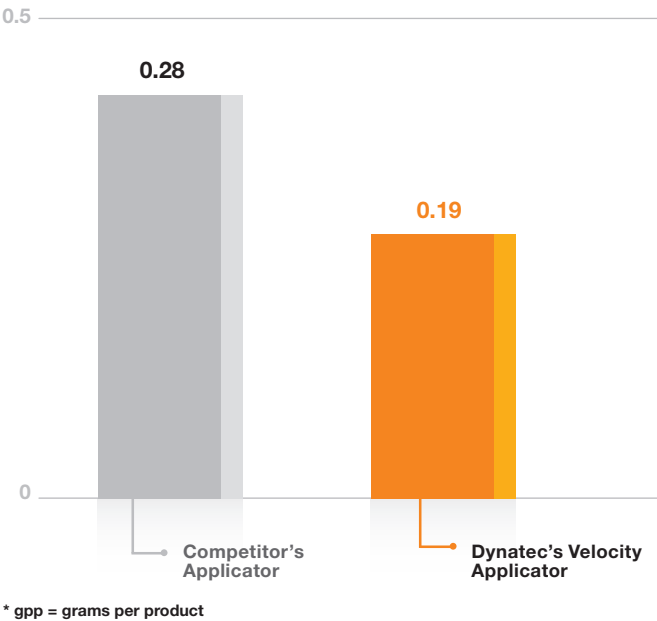


Velocity's high-precision pump can provide accuracy of +/- 1% deviation.

THE DATA

Velocity™ reduced adhesive consumption by more than 30%.

Adhesive Saving: Adhesive Consumption Comparison in gpp*



Velocity's calculated annual savings: \$144,500 per line.

Competitor's Applicator		Dynatec's Velocity Applicator
1,200	Products per minute	1,200
72,000	Products per hour	72,000
1,728,000	Products per day	1,728,000
1,468,800	Productivity efficiency 85% per day	1,468,800
0.28	Adhesive consumption gpp*	0.19
411	Adhesive consumption kg per day	279
150,015	Adhesive consumption kg per year	101,835
3	Adhesive cost per kg/USD	3
450,045	Adhesive cost per year/USD	305,505

* gpp = grams per product



Velocity simplified the adhesive application process.

With fewer pumps and heated hoses, Velocity reduces energy use, improves precision, and enhances reliability.

Competitor's Applicator Applicator with three shim needs:	Dynatec's Velocity Applicator Velocity applicator with metering pumps needs:
3 pumps on melter	1 pump on melter
3 hoses	1 hose
Higher power consumption	Less power consumption
More parts that can break	Fewer parts that can break
Unprecise application	Precise application

You can use your existing melter.

Velocity™ cut ramp-up waste to 0.

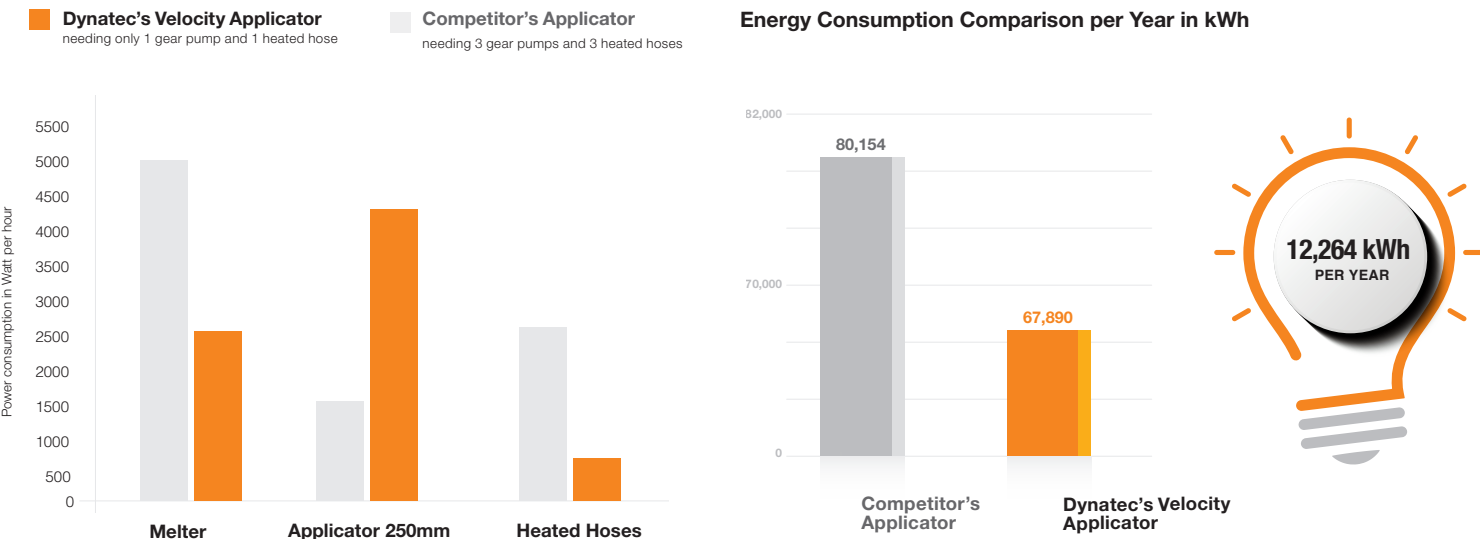
The manufacturer reported “no waste with Velocity.” Here's a breakdown of how a typical Velocity application can cut waste and save more than \$41,000 annually.

Calculation of scrap products and their costs:	
DHP line start/stop per day, circa	15 times
Scrap products per start	50
Total scrap amount per day	750
Total scrap amount per year	273,750
Costs of scrap product per piece in USD	0.15
Costs per day in USD	112.50
Costs per year in USD	41,062 USD



Potential energy savings with Velocity: 12,264 kWh.

A separate test by ITW Dynatec against the competitor's applicator showed that the manufacturer could reduce energy consumption by as much as 12,264 kWh per line, per year with Velocity. That's good for the environment *and* the profit margin.



THE CONFIRMATION

Due to the success of the head-to-head tests, the global diaper manufacturer:

- Purchased 5 additional Velocity applicators and replaced competitive units on 1 adult incontinence and 4 feminine hygiene lines.
- Plans to install Velocity on another 10 lines—8 high-speed baby diaper and 2 adult incontinence lines.