Gardner Denver

VACUUM & PRESSURE PRODUCTS

Plastics Industry

Elmo Rietschle
by Gardner Denver

Conveying & Drying

Pellet Conveying

- Pellets are conveyed through extensive pipe networks
- Conveyed under vacuum (dense phase) or pressure (dilute phase)

Pellet Drying

- Pellets absorb moisture which can affect the quality of the final products
- Pellets are heated and dried to a specific moisture content
- Regenerative blowers are used to circulate heated air through storage silos
- Moisture is removed from the air by desiccant dryers
- Blowers are used to regenerate (dry out) desiccant dryers

G-Series
Regenerative

- Contact-less operation
- Quiet operation
- Tolerant to dust ingestion
- UL/CSA approved
- Service intervals up to 40,000 hours
- 50/60 Hz motors as standard

L-Series
Liquid Ring

- High resistance to corrosion
- Contact-less operation
- Increased water carry-over models
- UL/CSA approval
- 50/60 Hz motors as standard
- Available in partial or closed circulated

V-Series
Rotary Vane

- Compact footprint
- Low noise level
- Long life vanes
- Oil-free or lubricated designs
- Extended maintenance intervals

C-Series
Claw

- Contact-less operation
- Oil-free compression
- Highly efficient
- No wearing parts
- Minimal maintenance

G-BH1

G-BH2

L-BL2

L-BV5

V-VC

V-VTR

C-VLR

C-VLR

Extruding

Extruder Venting

- Vacuum is used to remove air pockets, bubbles and moisture from melted plastic
- During the extruding process, vacuum also removes the low molecular substances
- Vacuum process provides optimal quality, strength and smoothness to the final product

Cooling & Drying

- Hot plastic discharged from extruder is cooled with regenerative blowers
- Blast cooling air ensures the ultimate quality and final product shape

Calibration

- Extruded products such as pipe require exacting final dimensions
- Hot extruded product is sent through a water cooling bath under vacuum
- Vacuum is used as a pressing force to ensure strict dimensional requirements
- Liquid ring pumps are ideal for this process

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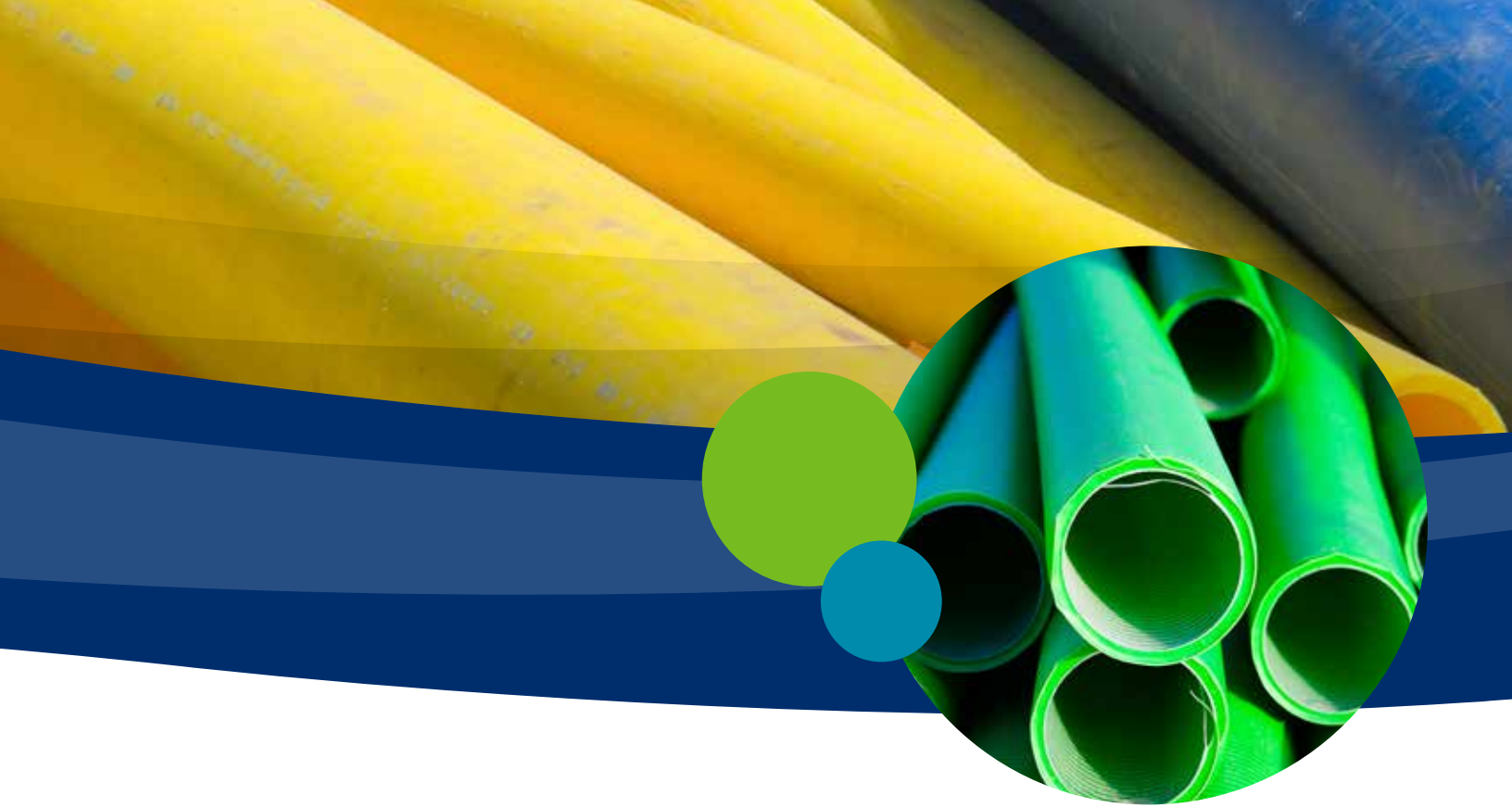
S-Series
Screw

- Continuous variable pitch screws
- Short evacuation times
- Oil-free compression
- High water vapor tolerance
- Minimal maintenance costs



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Forming

Injection Molding

- Melted rubber and plastic are injected into a mold under pressure
- The addition of vacuum speeds up the process by removing trapped gasses during quick-fill conditions
- Vacuum solves quality issues such as part burns, voids, short shots and cosmetic defects

Thermoforming

- Sheets of thermoplastic are clamped down and heated to its softening temperature
- Vacuum force is used to press the sheet to conform to the shape of a mold
- Once cooled, part retains its final shape

Vacuum Bagging

- Items formed by composite layers and glue are placed in a large vacuum bag
- While under vacuum, atmospheric force is used to press the layers together during curing
- Vacuum removes small bubbles, speeds up the curing process and improves final quality

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Fastening

Gluing Plastic Parts

- Composite materials are formed into panels with glue
- Sheets are put into a stack and placed into a bag under vacuum
- Atmospheric pressure produces the required force to press the composites together into the final form during the curing process

Plastic Welding

- Plastic sheets are welded together using high velocity heated air (400–575°F)
- Oil-free rotary vane compressors are used to accelerate the air to the required velocity

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Forming

Expanded Polystyrene (EPS)

- Styrofoam products are formed from small beads of styrene in a form or mold
- Steam is injected into the mold during the process
- Vacuum is used to extract the steam and moisture from the mold

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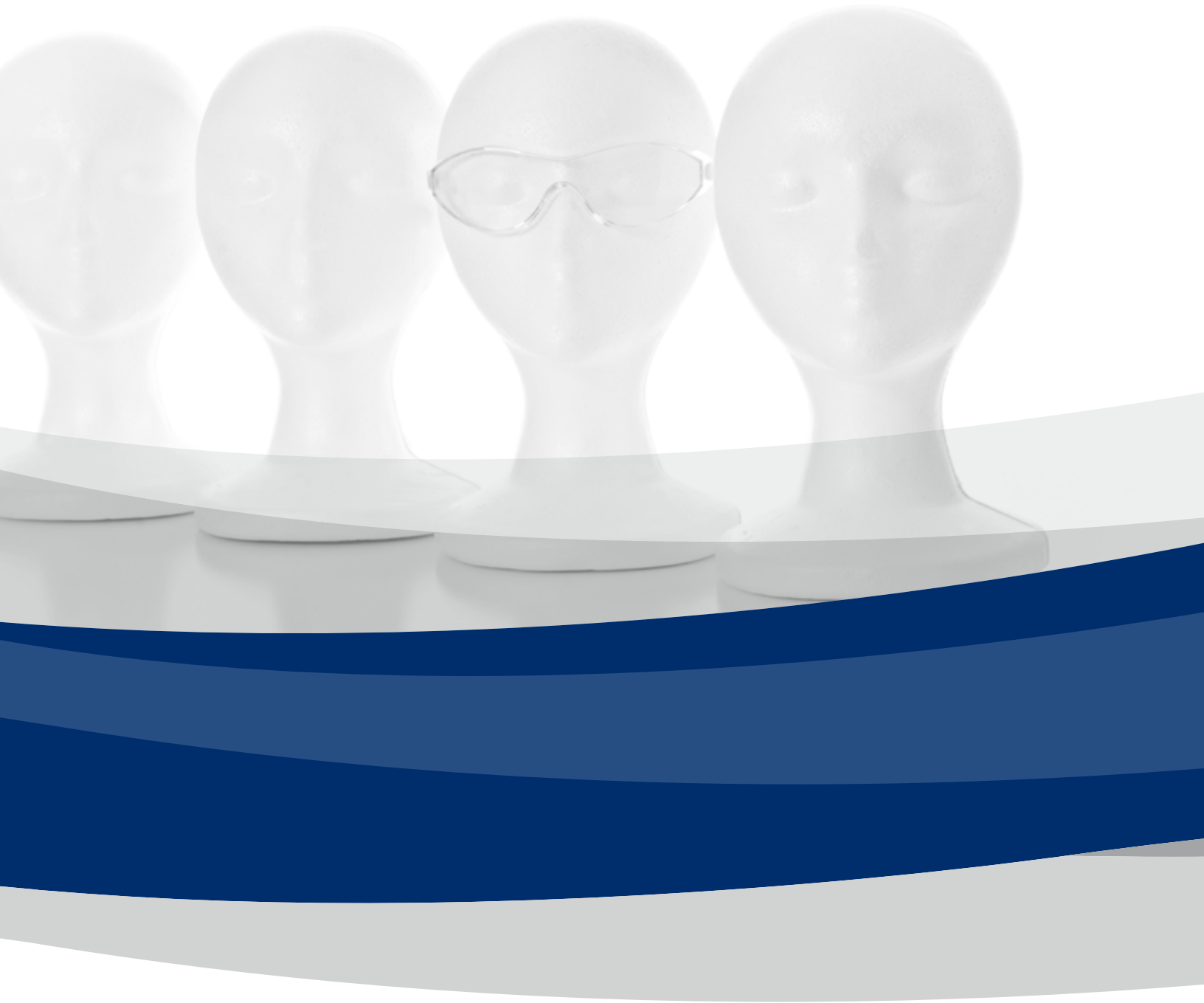

G-BH1

G-BH2

The leader in every market we serve

by continuously improving all business processes

with a focus on innovation and velocity

Gardner Denver®

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