OPTIWRAP

Roll Wrapping Systems

Valmet

PESMEL

OptiWrap -Concept

OptiWrap wrapping machine family is a new generation wrapping approach developed from StreamLine wrapping lines. Years of experience and know how makes Optiwrap systems well-engineered and cost efficient solutions for continuous operation.

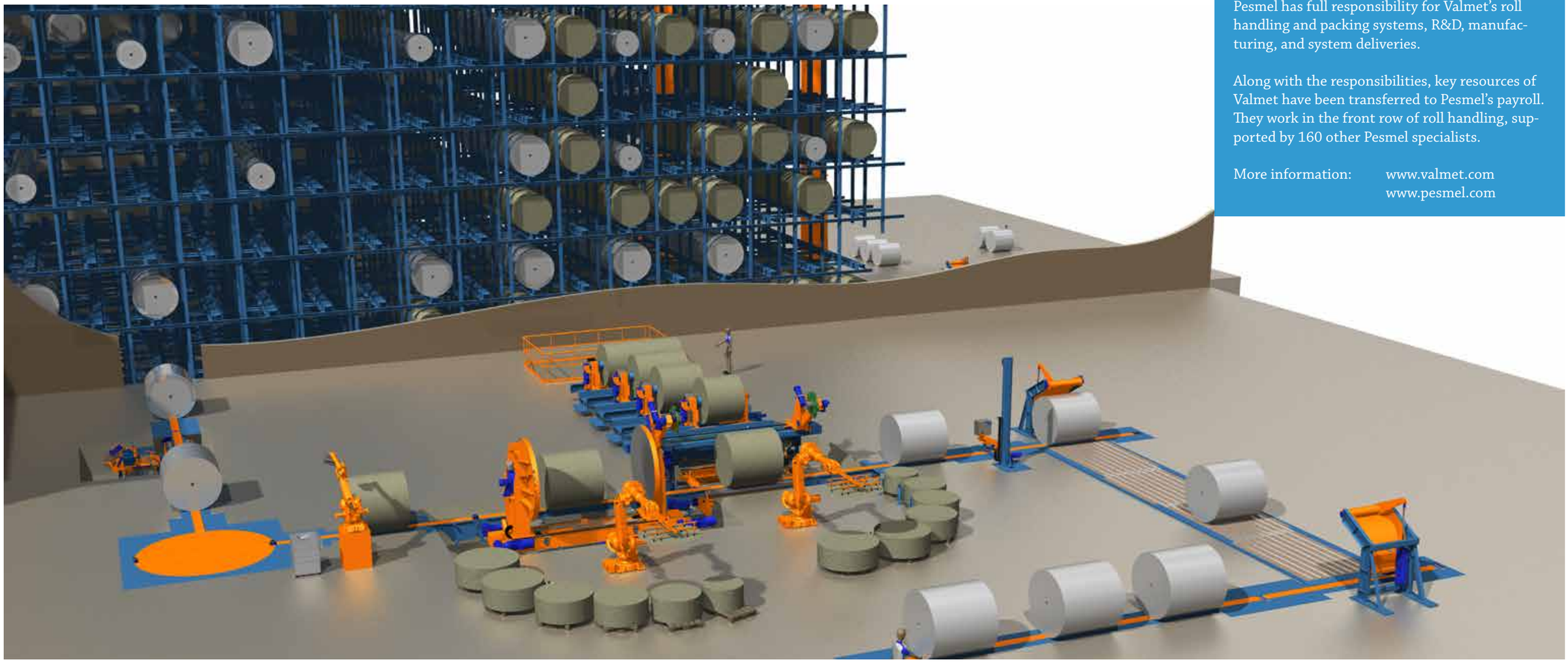
Following the leading edge technology, we carry out constant product development work. When creating the new OptiWrap family, user-friendliness has been one of our main focus. Wrapping systems also emphasize improved safety and energy efficiency according to today's highest requirements.

OptiWrap systems are available with different configurations depending on the capacity requirements. Capacities are ranging from a flow of 30 rolls up to 180 rolls per hour. Wrapping machines are able to handle roll sizes of up to 5,2 meters in width, 10 tons in weight and 2,1 meters in diameter.

Wrapping systems are built from module components. With modular structure and comprehensive workshop tests the line installation and start-up time is minimized. Modularity also enables the increase of automation level to the existing OptiWrap system in the future.

OptiWrap wrapping systems are suitable for new and existing facilities. The wrapping family includes compact special solutions designed for small floor space. The optimal system layout is achieved by first analyzing and studying the customer case and often conducting a feasibility study.

We are able to prodive you complete roll wrapping and handling solution, and even a storage system with full information flow, if needed. A single source supplier quarantees the efficiency and quality of the entire finishing area. We believe the key to an optimally functioning finishing system is a smartly and well-engineered system layout.



Valmet - Pesmel co-operation

Valmet technology offering includes entire pulp mills, tissue, board and paper production lines, as well as power plants for bio-energy production. The company has over 200 years of industrial history.

Pesmel has over 35 years of history and expertise working with customized roll handling, packing and storing system deliveries.

In 2014 Valmet and Pesmel deepened their already 20 years long cooperation. As a contract supplier of Valmet, Pesmel provides kraft wrapping systems according to OptiWrap product family, which is owned and originally developed by Valmet.

Pesmel has full responsibility for Valmet's roll handling and packing systems, R&D, manufacturing, and system deliveries.

Along with the responsibilities, key resources of Valmet have been transferred to Pesmel's payroll. They work in the front row of roll handling, supported by 160 other Pesmel specialists.

More information: www.valmet.com
www.pesmel.com

Wrapping method

OptiWrap wrapping machines are designed for high capacity roll wrapping. Kraft wrapping has strong corner and end protections for example against mechanical stresses in over-sea deliveries. This packing method is recommended especially for paper and board grades, which require the strongest protection.

Based on roll width distribution the most suitable wrapping concept is selected by determinating the presorting arrangement, wrapper stock selection and roll wrapping method.

The wrapping line can be build with three different backstands: traditional, overlap or cassette.

In traditional wrapping there are 4-6 fixed backstands and all the rolls are wrapped with a single wrap.

In overlap wrapping majority of the rolls are wrapped with a single wrap, but wider rolls are wrapped with two or three overlapped wrappers. This is an ideal solution when the roll width range is wide.

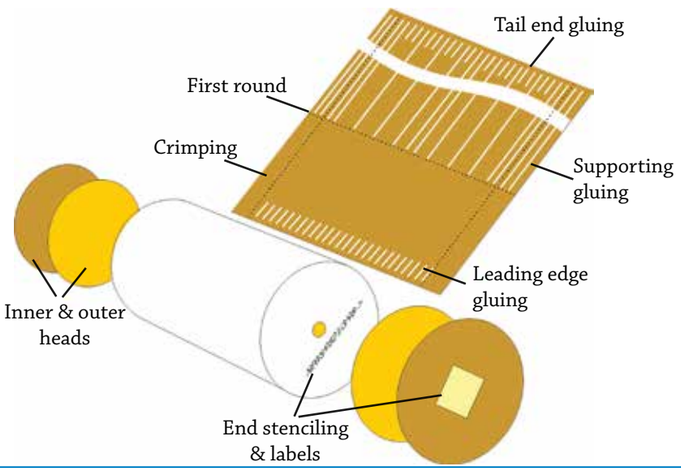
In cassette wrapping the wrapping idea is the same as in overlap wrapping, but there are 1-3 horizontally moving backstands, which enable the wrap material change without an overhead crane. This solution is suitable for cramped places.

Traditional wrapping

Overlap wrapping

Cassette wrapping

Package components



Wrapping line configurations

Wrapping line configuration is created by defining the wrapping capacity and selecting the degree of automation. There are four alternatives that are build from standard modules.

OptiWrap Single
Single station wrapping machine

Capacity:	*up to 50 rolls/h*
Inner and outer head application:	*manual by operator*
Label application:	*manual by operator*
V-slat conveyors:	*3 pcs*

OptiWrap Multi
Conveyor multistation wrapping machine

Capacity:	*up to 100 rolls/h*
Inner and outer head application:	*robotized or manual*
Label application:	*robotized or manual*
V-slat conveyors:	*3 pcs*

OptiWrap Multi
Indexing multistation wrapping machine

Capacity:	*up to 120 rolls/h*
Inner and outer head application:	*robotized*
Label application:	*automated*
Index conveyor:	*4 indexing places*

OptiWrap Multi
High capacity multistation wrapping machine

Capacity:	*up to 180 rolls/h*
Inner and outer head application:	*robotized*
Label application:	*automated*
Index conveyor:	*6 indexing places*

One-sided solution

This wrapping line has unique one-sided design, which allows close location to the winder deck and thus fewer roll handling stages.

The compact design saves 30 % floor space compared to traditional wrapping lines. Another benefit of the design is that the replenishment of wrapping consumables, wrapper rolls and roll end heads is easy. It also gives the operators an excellent view of the roll flow from the winder control room.

The standard configurations can be delivered as one-sided solution.

Tailor-made wrapping line

Our tailor-made solution is generated with close co-operation of each customer utilizing the proven modular technogy and Pesmel's innovative engineering resources. This is a solution when the customer has special packing requirements or challenging facilities.

Tailor-made wrapping lines are custom-made by engineers

Key technologies

Air foil feed table

The advanced air foil technology used in wrapper feeding prevents the packing material wringling.

Package sealing

For package sealing there are two alternatives, hot melt gluing or continuous heat sealing. For superior package quality we recommend the continuous heat sealing patented by Valmet. This sealing method is done without glue and it ensures moisture tight package. All the equipment clean up and maintenance associated with hot melt glue is eliminated with continuous heat sealing.

Head application

Headers can be automatically placed by an industrial robot with double sided gripper. This solution places inner and outer heads online. The head pallets can also be refilled online.

Another solution for head application is Valmet patented head manipulator. It picks up the headers from the head shelves, which are repenished by the operator. Every outer head is measured and the correct one is located to press plate, this ensures a tight, high quality packing.

The OptiWrap wrapping concepts share the following features:

- A service platform between the backstands for easy wrapper change
- Easy access to the open wrapper dispenser; fast recovery in case of jamming enables high uptime of process
- Accurate tension control over the whole wrapping sequence
- On-line crimping with five paddle crimping wheels
- A non-hydraulic system: all hydraulic actuators are replaced with electric gear motor drives, eliminating hydraulic oil and reducing the noise level

Air foil feed table

Continuous heat sealing

Head application system with industrial robot

Control

The wrapping line control systems are designed emphasizing improved safety, user friendliness and energy efficiency.

Controls are based on Safety PLC Control system and distributed Ethernet IO with intelligent sensor technology.

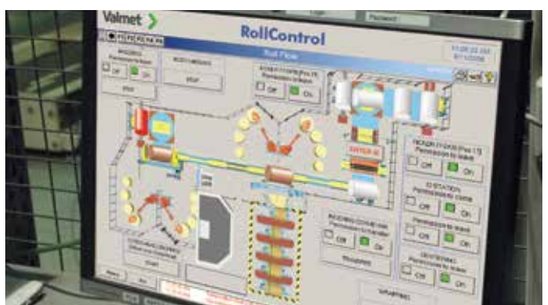
The regenerative drive's and field bus technology brings more speed and accuracy to machine movements, improves diagnostics and increases energy efficiency.

Both field and control room HMIs are build on a same platform for operations and monitoring. This makes the usage and diagnostics easy for the operator. For field use mobile tablet is now also available.

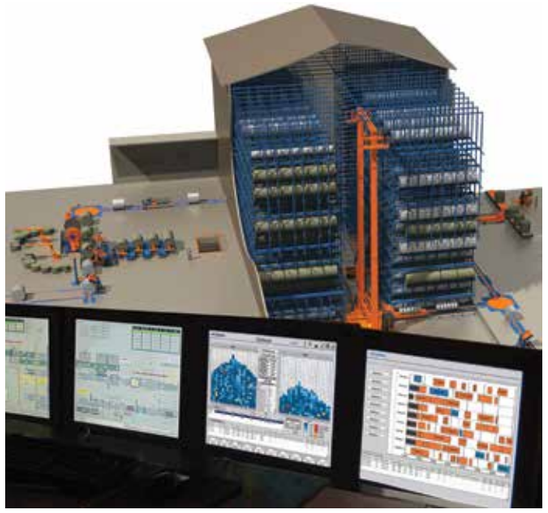
Pesmel Remote Supervisory System

Control system is connectable to Pesmel Remote Supervisory System for monitoring and reporting, alert management, diagnostics and OEE (overall equipment efficiency) and KPI (key process indicator) calculations. These features enable continuous process improvement, better maintenance planning, on-line 24/7 remote support.

Mobile tablet for field use



Wrapping line control HMI



Roll handling and wrapping rebuild

Rebuild maximizes the lifetime of the system and profitability of the original investment. When executing a tailor made roll handling and wrapping system rebuild, new production needs can also be taken into account.

Typically rebuild project starts when there is need for capacity increase, or when the system reliability is poor and runnability cannot meet the mill production.

The system efficiency can be optimized e.g. by upgrading automation level with robots. Rebuild helps also to lower maintenance costs to reasonable level.

Control system update should be considered when control system is aged and spares are no longer available. New HMI connection enables more effective operation, e.g. downtime can be shortened via improved diagnostic system.

Safety upgrade is recommended when the system safety level is not meeting the safety requirements.

Tailored rebuild solutions:

- Automation level upgrade
- Control system update
- Production bottleneck elimination
- Roll package quality improvement to avoid roll damages during transportation
- Safety upgrades

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