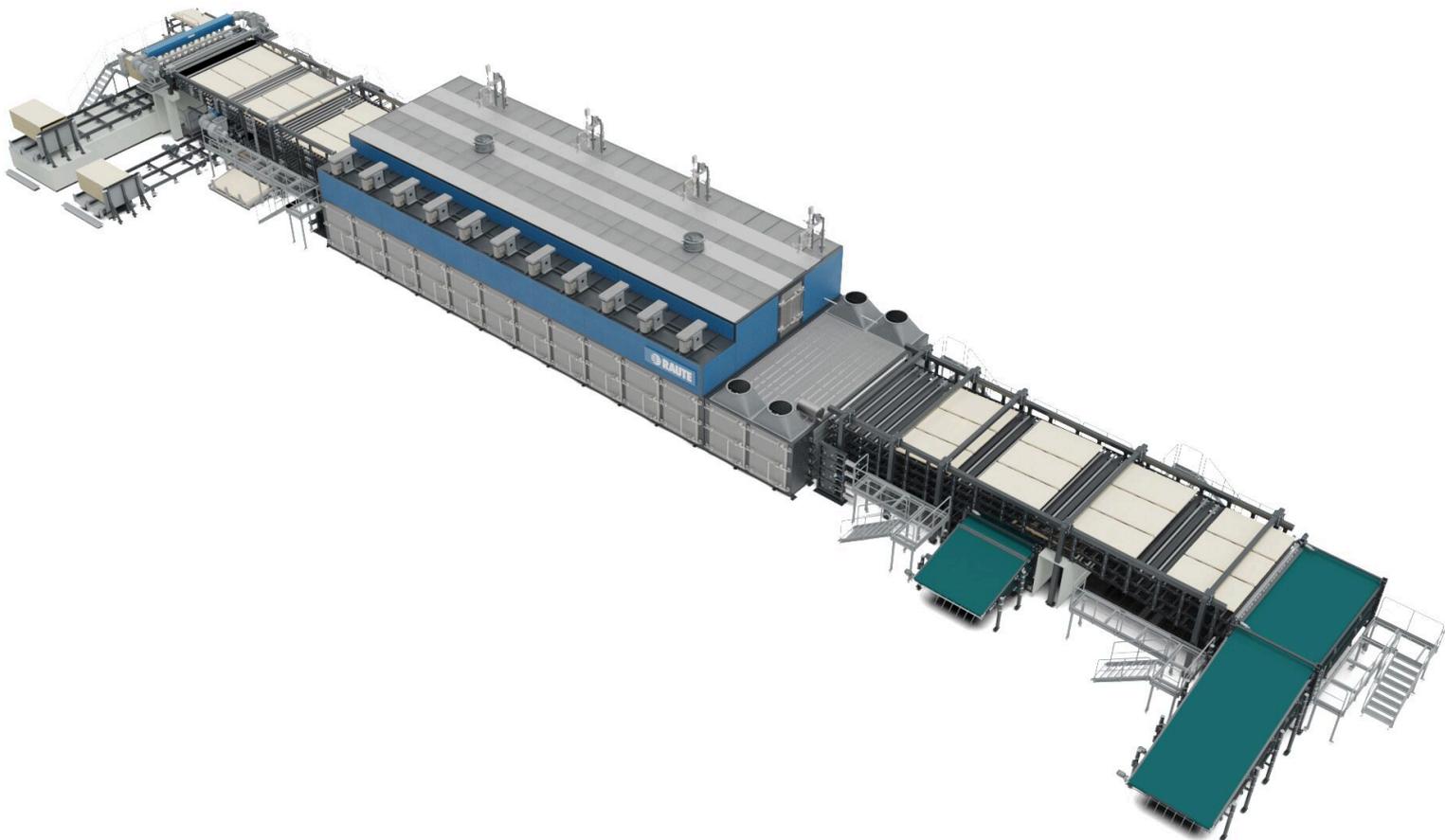


Veneer Drying Line R3

STANDARD FOUNDATION FOR INDUSTRIAL VENEER DRYING



Veneer Drying Line R3 – The easy to install and operate standard

The Veneer Drying Line R3 is your choice when you are starting the industrial veneer drying and you don't need high automation. The line is capable to handle hardwood and softwood when producing veneer sheets. It is easily installed just on a flat floor on rails giving significant savings since no special foundations are needed.

Industrial veneer drying means 80% less operators for the job yet more efficient production. The dryer handles full-sized veneer sheets giving 15% more yield compared to natural drying processes. The line's capacity is 16 feedss per minute with a short drying time.

Standard grayscale veneer visual and moisture analyzers can be installed on the line.

Also, the R3 series dryer has 6 decks giving an advantage of needing 30% less floor space than a traditional 4-deck dryer. Its completely insulated shell not only saves in heating energy but gives even drying from the top to bottom decks.

Key benefits



OPTIMAL DRYING SAVES 20% IN ENERGY



SAVE 30% IN FLOOR AREA COMPARED TO TRADITIONAL 4-DECK DRYER



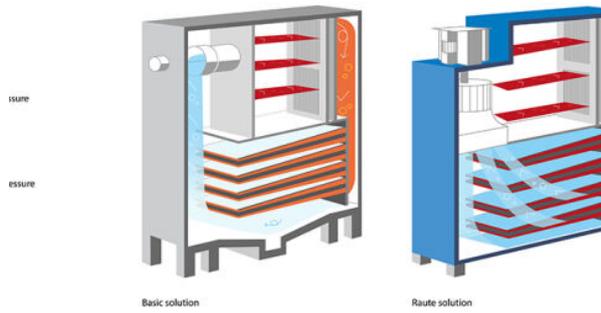
SAVE 80% IN LABOR COMPARED TO NATURAL VENEER DRYING



DRYING FULL-SIZE SHEETS IMPROVES RECOVERY BY 15%



Images and videos



Downloadable material



WHAT IS R3 SERIES ALL ABOUT?
THE RAUTE R3 SERIES IS ALL ABOUT EASINESS WITH HIGHEST QUALITY.

Say hello to the new kids on the block – The Raute R3 Series. The R3 series' machines and lines are most suitable for you when you are starting the industrial veneer production, or you have basic production requirements. And what's more, they all are compact-sized needing only a little floor space.

The split-line R3s are of almost high-quality, destined to have the job done. The line is plug-and-play, so the commissioning takes only a short time. We deliver the machine with affordable investment price and quick, order-oriented, delivery time.

The R3 lines are the premium Raute-quality machines to have the job done. The beginning has never been easier until now. We made it easy for you.

These R3 series lines are the first of many to come. We are constantly developing new machinery and solutions for our customers' changing needs. We are going to introduce new lines and machines to the R3 series, continually.




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VENEER DRYING – WHY TO DO IT AND HOW TO DO IT?




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VENEER DRYING PROCESS AND BENEFITS

This paper discusses the fundamental factors influencing the quality of veneer, the energy needed to dry veneer, and the most optimal conditions for drying.

BENEFITS OF VENEER DRYING PROCESS
 Numerous benefits will be achieved by a well-controlled veneer drying process:

High veneer value and quality are achieved when produced veneer sheets have even moisture content with a minimum amount of over-dried sheets. This leads to the higher value of the veneer as the sheets have fewer mechanical defects like splits and warms, and veneer sheets are in optimum size and format. This means lot of raw material savings and more better-quality sheets to the next production phase which increases your production quantity and earnings.

Process savings are achieved in the energy consumption versus veneer quality and vice versa ratio. The optimized drying process leads to less glue usage and shorter pressing time.

The Hi-automated drying line is **easy to operate** and the line is working all the time with best available efficiency and quality.

High panel quality and value are produced with even moisture content in the core and surface of the panel, establishing dimensional higher quality veneer without holes and splits also establishes higher quality core panel production and higher panel surface quality. You need to do less after repairing when the drying process and the veneer grading are on optimal settings.

THE FUNDAMENTALS OF ECONOMICAL VENEER DRYING PROCESS

Wood structure and water
 The wood material is constructed of cell structure which varies by wood species, the major difference being between broadleaves and coniferous species. In practice, water in the wood is positioned in three locations of the wood structure: between wood cells, inside of wood cells, and inside of cell walls.

Typically, in the broadleaves wood species, the crosswise moisture variation between surface and heartwood is not exceptionally large. From 20% to 40%, as an example. But in the coniferous wood species, the difference can be relatively large, even from 20% to 50%, which is partly caused also by a large density difference between light heartwood and high-density sapwood.

The moisture in wood cells and between cells is called "free water", and water in cell walls is called "bound water". In the veneer drying process, free water is removed first and bound water at the end of the process. Towards the end of the drying process, the wood material starts shrinking.




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Technical specifications

Operators on the Line	2-4
Heat Energy Consumption (KWh/m ³ Dry Veneer)	406
Drying Time (min)*	3.20
Dry veneer capacity* up to (m ³ /h)	9,5
Installed power (kW)	300

Veneer drying

The smart veneer drying solutions for every scale production

Veneer drying is one of the most crucial phases of veneer production. The main objective of the drying process is to produce high-quality optimally dried veneer sheets with the highest possible efficiency. This is carried out by removing water from the sheet and decreasing moisture content to an optimized level by using hot and humid air inside a dryer.

By choosing industrial veneer drying, you improve veneer quality with uniform drying result. As a result, you get high-quality, even moisture content veneer sheets that are ready to be glued and processed further as LVL beams, plywood, panels, or other end-use products.

The successful veneer drying has many positive impacts on your production and veneer quality. With optimized veneer drying conditions, equipment, and process, you produce more high-quality veneer with less energy, raw material, and waste.

The most sophisticated drying solutions include grading. You can grade the dried veneer sheets to different veneer types for plywood or LVL production.

Raute offers two different veneer drying line series called R3 and R7, of which the latter is the most automated line ever created for the veneer production industry. Start your production or add capacity easily with our R3-Series. Put automation and machine vision in full use with R7-Series and master your productivity with high speed.



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Making Wood Matter