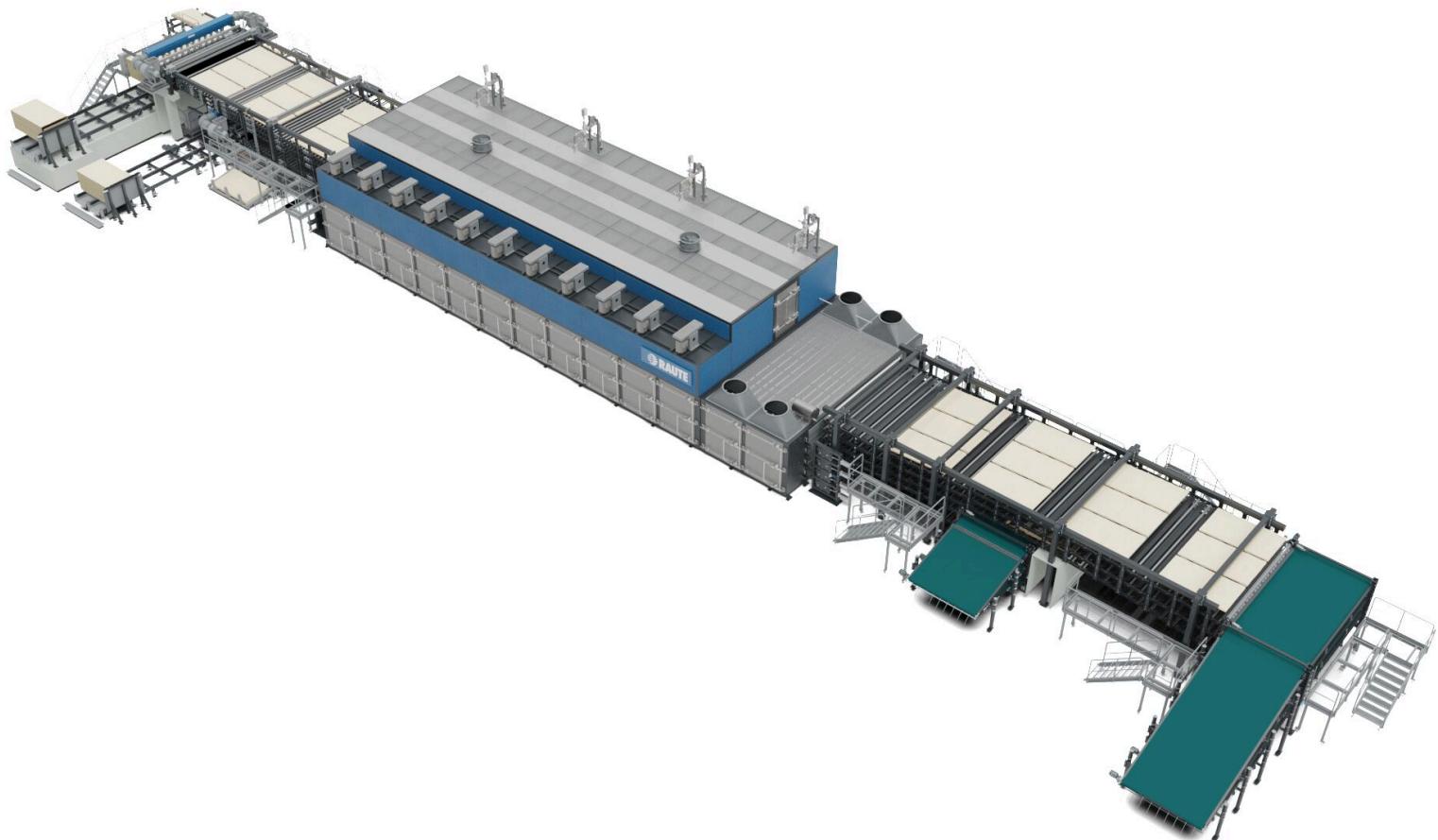


Veneer Drying Line R3

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

-20%

OPTIMAL DRYING
SAVES 20% IN ENERGY

-30%

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

-80%

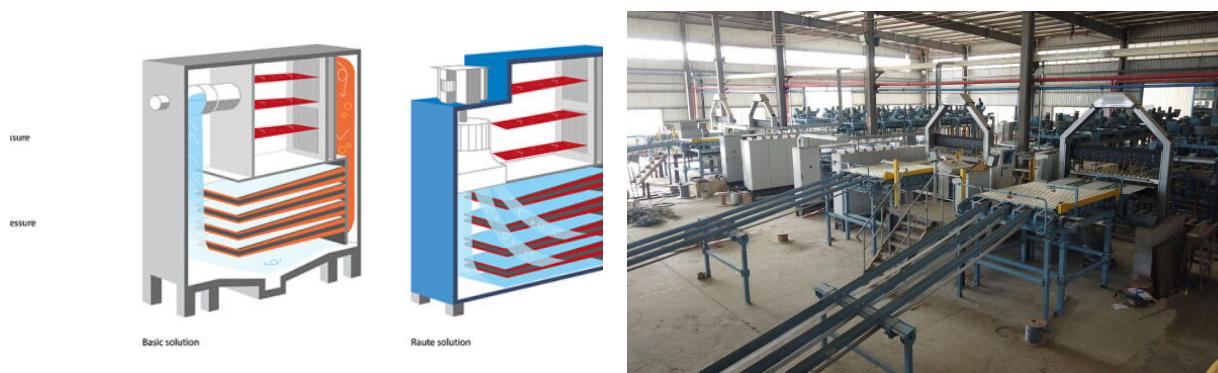
SAVE 80% IN LABOR
COMPARED TO
NATURAL VENEER
DRYING

+15%

DRYING FULL-SIZE
SHEETS IMPROVES
RECOVERY BY 15%



Images and videos



Downloadable material



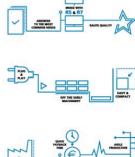
WHAT IS R3 SERIES ALL ABOUT?
THE RAUTE R3 SERIES IS ALL ABOUT EASINESS WITH HIGHEST QUALITY.

Say hello to the new kids on the block - The Raute R3 Series. The R3 Series machines and lines are plug-and-go, the software is user friendly, the machines are compact and when you are starting the industrial veneer production, the dryers are the best choice. And what's more, they all are compact-sized needing only a little floor space.

The R3 lines are the premium Raute-quality, destined to have the job done. The lines are plug-and-play, the commissioning takes only a few hours and the machines are machines with affordable investment price and quick payback time.

The R3 lines are the premium Raute-quality, machinery to have the job done. The beginning has now 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 models and lines to meet your specific drying needs. We are going to introduce new lines and machines to the R3-series.



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



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 with well-controlled veneer drying process:

High veneer value and quality are achieved when produced veneer sheets have even moisture content with a minimized amount of over-dried sheets. This leads to the higher value of the veneer as the sheets have fewer mechanical defects like splits and veneer delamination. The veneer is more stable and has a longer shelf life. All of raw material is savings and more better-quality sheets to the next production phases which leads to higher quality of final products.

Process savings are achieved in the energy consumption versus veneer quality and value 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.

High panel quality and value are produced with even moisture content in the core and surface. The veneer with even moisture content throughout the veneer sheet, splits and veneer 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 quality is good.

THE FUNDAMENTALS OF ECONOMICAL VENEER DRYING PROCESS

Wood structure and water
The wood structure is composed of cell structure, which varies by wood species, the major difference being between broadleaves and coniferous species. In practice, water in the wood is partitioned into three parts of the wood structure: Between wood cells, inside wood cells and inside of cells.

Typically, in the broadleaves wood species the crosswise moisture variation between surface and heartwood is not exceptionally large, from 50% to 60%, as an example. But in coniferous wood species the crosswise moisture variation is much larger, from 200% to 50%, which is partly caused also by a large density difference between light heartwood and dark 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 moisture in wood remains 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