

Kiln Products

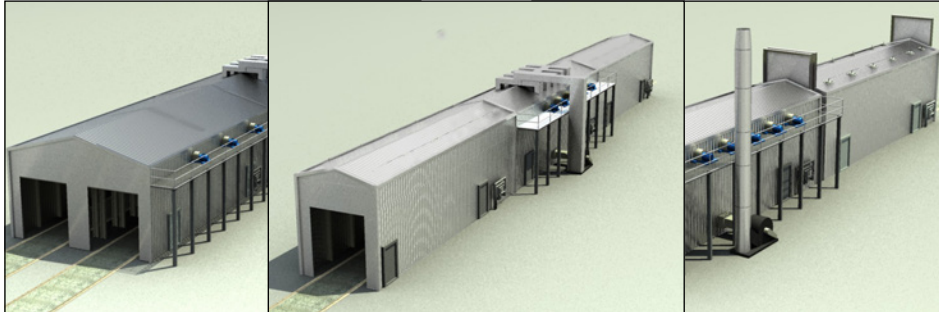


Our kilns help our customers to create beautiful timber products



When you want to produce only the best quality timber products, you can rely on a Windsor kiln.

Continuous Drying Kilns



The Windsor range includes two different CDK kiln configurations.

Windsor CDK-D

The CDK-D has a dual pass design as the timber stacks pass through the CDK in opposite directions.

It incorporates pre-heating, drying and conditioning phases all in one extended chamber. This design includes options for both direct fired and indirect fired heating. The timber is automatically advanced, based on the moisture content of the timber in the central MD (main drying) section, by hydraulic or electric advancer units.

CDK control is via a PC/PLC kiln management program like Dryspec® integrated with the DryTrack® Echo in-kiln moisture measuring system.

Windsor CDK-S

The CDK-S has a single pass design with all the timber passing through the CDK in one direction only.

It also incorporates pre-heating, drying and conditioning phases all in one extended chamber. The design incorporates both direct and indirect heating principles. The timber charge is automatically advanced based on the moisture content of the timber in the MD section.

CDK control is via a PC/PLC kiln management program like Dryspec® integrated with the DryTrack® Echo in-kiln moisture measuring system.

Features and Benefits

- Significant thermal and electrical energy efficiencies.
- Fully automated drying.
- “Hands free” moisture measurement system DryTrack® Echo.
- Batch kilns can be converted to CDK systems to increased production and reduce energy/fuel use.
- CDK technology offers improved grade recovery due to the equalising and conditioning cycles.
- Robust stainless steel and aluminium construction.



Classic Kilns

The Windsor Classic kiln range is based on >30 years' experience in providing efficient drying systems for softwoods.

It is available in six popular, standard sizes which allows for a faster delivery and lower capital investment without compromising the renowned Windsor quality. Windsor Classic kilns have an aluminium portal style structure and are clad in aluminium panels incorporating a layer of resin impregnated insulation.

The standard Classic kiln has a door at one end, but a second door is an option if required. Personnel access doors are fitted on both sides of the stack.

The Classic kiln chamber, fan system, heating coils, steam generator and all other components are fabricated from corrosion resistant stainless steel or aluminium.



Optional extra items

Cart and stack weight supply	Additional vertical baffle sets
Additional door lifter set	Higher fillet velocity using larger motors (15 kW)
High temperature motors - allowing operation up to 110°C	Variable speed fan drives
Choice of kiln controls - Kilnwatch 1000, Kilnwatch 2000 or Dryspec 2000	Drypoint, Dryline or Dryzone in-kiln moisture measuring systems
Wood technology training for operators	Cladding colour

Windsor Classic Kiln - annual production per kiln

Model	Standard	High airflow
Classic 400	4 300m ³	4 700m ³
Classic 500	6 400m ³	7 100m ³
Classic 800	8 600m ³	9 400m ³
Classic 900	10 000m ³	11 000m ³
Classic 1000	11 400m ³	12 600m ³
Classic 1300	14 300m ³	15 700m ³

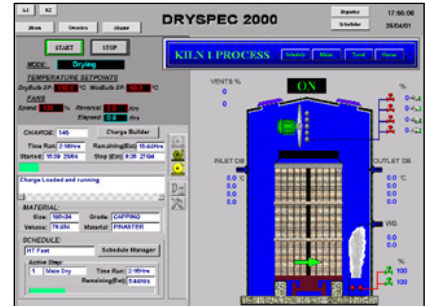
Based Upon:

- GOS plantation pine with an average initial moisture content of 130% ODB
- Running a typical drying schedule of 90°C dry bulb and 60°C wet bulb and 40 mm thick boards GOS
- Operating time of 7884 hours per year. This is 365 days x 24 hours x 90% utilisation.
- (Nominal) annual throughput will also vary depending upon final moisture content requirements.

Batch Kilns



Pioneer Kilns



Windsor Pioneer Kilns are designed specifically for drying softwoods. The Pioneer offers almost unlimited design flexibility.

High Performance

A Windsor kiln will deliver maximum throughput for minimum operating costs

Performance guarantees

We offer a range of performance guarantees to suit each specification

In-kiln conditioning

We offer either in-kiln conditioning systems or stand-alone conditioning chambers. The latter option will increase throughput dramatically, particularly on HT drying operations.

Single track or double track options

We can offer both single and double track kilns. However our experience shows that single track kilns provide better drying results due to the uniform temperature distribution.

Noise reduction

Noise emissions from kilns must be minimised on some sites. We offer a special 'Q' range of kilns designed to reduce the acoustical emissions to meet statutory requirements.

Heating

We offer design options for both indirect heated or direct fired kiln systems.

We can use steam, thermal or HPHW (high pressure hot water) as a heating medium.

Controls

We offer DrySpec or Kilnwatch 2000 controls packages together with our in-kiln DryTrack or DryTrack Echo moisture measuring systems.

Training, Service and Support

Our experienced Service Department and established Wellington based engineering facilities enable us to provide a back-up service which is second to none.

Phytosanitary Steam Chambers



Type PSC



Our Phytosanitary Steam Chamber systems use low pressure saturated steam for the phytosanitary heat treatment of dry timber or logs for export. The Windsor PSC chambers are ideal for heat treating these products to meet International ISPM15 rules.

Energy saving:

The use of low-pressure saturated steam inside the PSC chamber makes them highly thermal efficient. They will use about 1/3 of the thermal energy consumed by a conventional heat and vent kiln.

Improved grade:

A significant advantage is that there will be no drying of the timber or logs. This means that grade recovery for already dried feedstock will increase as distortion is reduced due to the prevention of “over drying”.

No electrical cost:

Other than a small process water pump Windsor PSC chambers do not have circulation fans i.e. there are near zero electricity usage with the technology.

Controls:

Each Windsor PSC system is managed via a Dryspec S controls (PC/PLC) package. Dryspec is robust and easy to use.

Heating Mediums:

We can use either steam, thermal oil or HPHW (high pressure hot water) as a heating medium. On sites where there is no central heat plant we can use direct gas fired technology or provide a package thermal oil heater (gas fired) on each chamber.

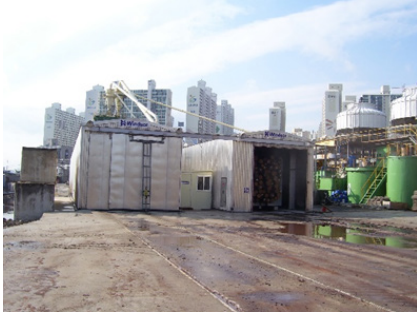
Construction:

The chambers have a 100% aluminium and stainless steel construction.

Log Conditioning



Type LCC



Windsor LCC systems use low pressure saturated steam to efficiently heat/condition logs prior to peeling or slicing.

Significant reduction in the degrade associated with the peeling or slicing of most logs can be achieved if the log core temperature is raised, typically to about 50°C (125°F). Comparisons with peeling at ambient temperatures and at elevated log core temperatures have repeatedly shown that conditioned softwood logs will reduce veneer degrade by up to 18%.

Conditioned peeler feed stock also results in a smoother surface finish on the veneer which effectively reduces the amount of adhesive required for the laminating process.

Traditional methods of log heating, e.g. hot water ponds, often create large volumes of waste water which is environmentally unfriendly.

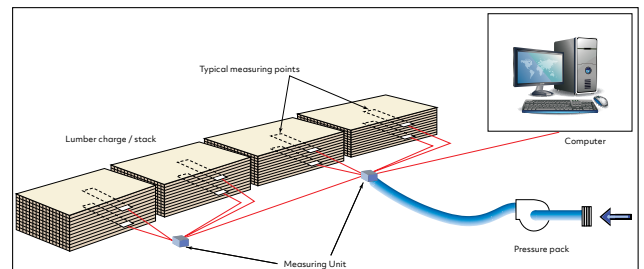
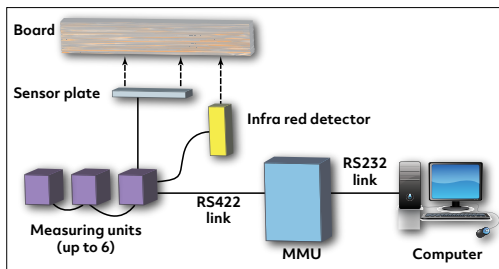
Features and Benefits

- The controlled conditions in a Windsor LCC ensures that all logs are heated uniformly and kept wet.
- Steam conditioning does not cause water staining of the logs.
- The chamber will produce a continuous flow of conditioned logs for your peeler or slicer.
- Reduced capital and running costs.
- Minimal environmental impact when compared with soaking pits or vats.
- Recycling of hot condensate increases thermal efficiency and reduces the volume of waste water.
- Low pressure steam system creates saturated conditions i.e. heating with no drying.
- Robust, fully insulated corrosion resistant stainless-steel chamber with aluminium cladding.
- Steam conditioned logs are free from grit and contaminants which damage peeler knives/blades.
- Windsor LCC systems offer a safer working environment.

Moisture Measuring Systems



Drytrack In-Line & In-Kiln Systems



DryTrack In-Kiln system is a very accurate, wide range moisture content measuring and monitoring system for timber drying systems. The use of DryTrack can help produce high quality dried timber, reduce degrade and energy costs and increase drying production.

DryTrack in-line is a 'non-contact' moisture content (MC) measuring system that can measure both transverse and longitudinal moving boards at the planer mill.

Features and Benefits

- At the end of the drying process DryTrack's accuracy is typically within 1%.
- It prevents timber degrade associated with over drying.
- It reduces the number of "wets" caused by under-drying.
- The system is robust and simple to operate and comes with a 3-year meter card warranty.
- The timber is not damaged by DryTrack's measuring plates - no holes or indentations.
- DryTrack permits successful drying process to be repeated charge after charge
- The system can be calibrated to measure various timber species.
- Robust design
- Easy to operate

Pressure Pack

Windsor's DryTrack system is equipped with a filtered air pressurization package, this keeps the electronics dry and free from steam ingress resulting in prolonged meter card life. A robust blower unit is supplied complete with inlet filter. The Pressure Pack system can be retrofitted to other MC systems.

System Features

Measurement can start at the green moisture content at ambient temperatures or at 80% moisture content (on a dry basis) at operating temperatures.

The system displays readings from each zone or an average for the whole kiln. It can be linked to a kiln management system for added flexibility and greater control or run as a standalone package.

The readings are taken from a large sample of lumber, typically 100 to 120 boards per measuring point.

DryTrack Echo version

DryTrack Echo is an advanced version of the DryTrack system that is operated remotely i.e. no personnel access into the kiln or CDK chamber is required. For higher temperature kilns this provides increased operator safety.

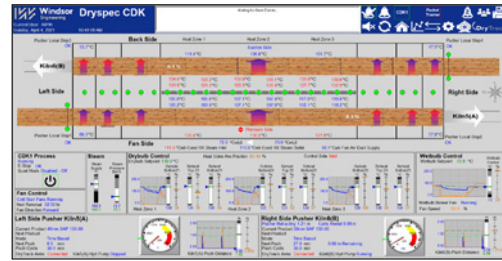
It can also increase production as less time is spent loading a new charge of timber into the kiln.

It is an ideal system for continuous or progressive kilns.

Control Systems



Dryspec®



Dryspec is a SCADA system which is easy to operate, yet powerful in functionality. Dryspec® is an advanced computer and PLC (off the shelf) based management system providing centralised control and a database of any number of timber drying kilns, conditioning chambers or CDKs. It is integrated into our DryTrack and DryTrack Echo in-kiln moisture content systems and heat plants. Dryspec® is structured as the basic process control and reporting system with add-on Advanced Process and Management options.

Kilnwatch 2000

Kilnwatch 2000 is an easy to use, efficient and low capital cost computer control system specifically designed for smaller sites.

Kilnwatch 1000

Kilnwatch 1000 is a simple electronic control system mainly for the smaller timber drying installations having one or two kilns. Each kiln has a dedicated Kilnwatch panel incorporating discrete programmable controllers, timers, relays and a chart recorder needed to perform.

Please contact our Wellington sales office for these products:

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