

M-SERIES

ADVANCED CUTTING TECHNOLOGY



Pathfinder
Advanced Cutting Technology



SOLUTIONS

ABOUT PATHFINDER

Our mission – “Providing the most advanced innovative Technology through a passion for our products, outstanding customer support and the highest level of reliability”.

Providing Solutions to maximize your profit

Pathfinder is a manufacturer of CAD/CAM technology servicing all industries involved in cutting flexible and semi-rigid materials.

Since 1996 we have been providing automated cutting room solutions into the apparel, composite, furniture, technical textiles and automotive industry.

“It’s not only about making the sale; it’s about developing relationships that will maximize your profit.”

Products

Pathfinder’s products include single-ply automatic cutters (plotter cutters); Multiply cutters; Computer Aided Design software; automatic pattern nesting software; wide format inkjet plotters, electronic digitizers, production management reporting software; material spreading tables and automatic spreading machines.

History

Pathfinder was founded in 1996 in Melbourne, Australia. Pathfinder’s first automatic knife cutting system was launched at GarmenTech '97, Melbourne-Australia. It all started with two

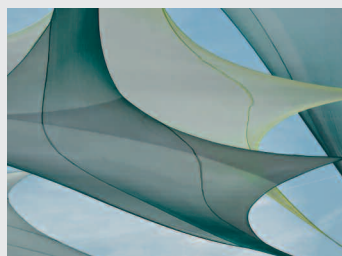
experienced engineers in their fathers’ factory shed, with the vision to create an advanced automatic cutting machine unlike anything available at that time- The K-series knife cutting system was born.

Pathfinder’s self-serving strategy during the start-up phase was to minimise the resources required for installation and support, the K-series had to be engineered not to break down. What started as a strategy to reduce start-up costs is now key to the success of Pathfinder worldwide.

There are hundreds of Pathfinder customers maximizing their profits, enjoying the benefits of a machine that is productive and reliable.

Pathfinder’s first machine installation in 1997 is still in production today, working harder than ever with less than 2 hours of lost production since 1997.

Today, Pathfinder is an international company designing and manufacturing CAD/CAM technology in Melbourne, Australia. Pathfinder employs a team of highly skilled production and software engineers, support and office staff, continuing the tradition of outstanding customer service, product quality and technology.



Apparel | Composites | Furniture | Technical Textiles | Transportation Interiors



M-SERIES

WHAT MAKES THE WORLD'S B

With the evolution of the Pathfinder K-series cutting system developed in 1996 and the experience gained from hundreds of customers over many industries, Pathfinder set out to develop the next generation in cutting technology.

Starting with a clean sheet, the M-series was born.

“If we were to build the ultimate cutting machine starting from scratch - We would build the Pathfinder M-series”

Pathfinder's new M-series cutting technology has been designed to tick all the boxes.

- ☑ Reliability
- ☑ Productivity
- ☑ Quality
- ☑ Lowest Cost of Ownership
- ☑ Environmentally friendly

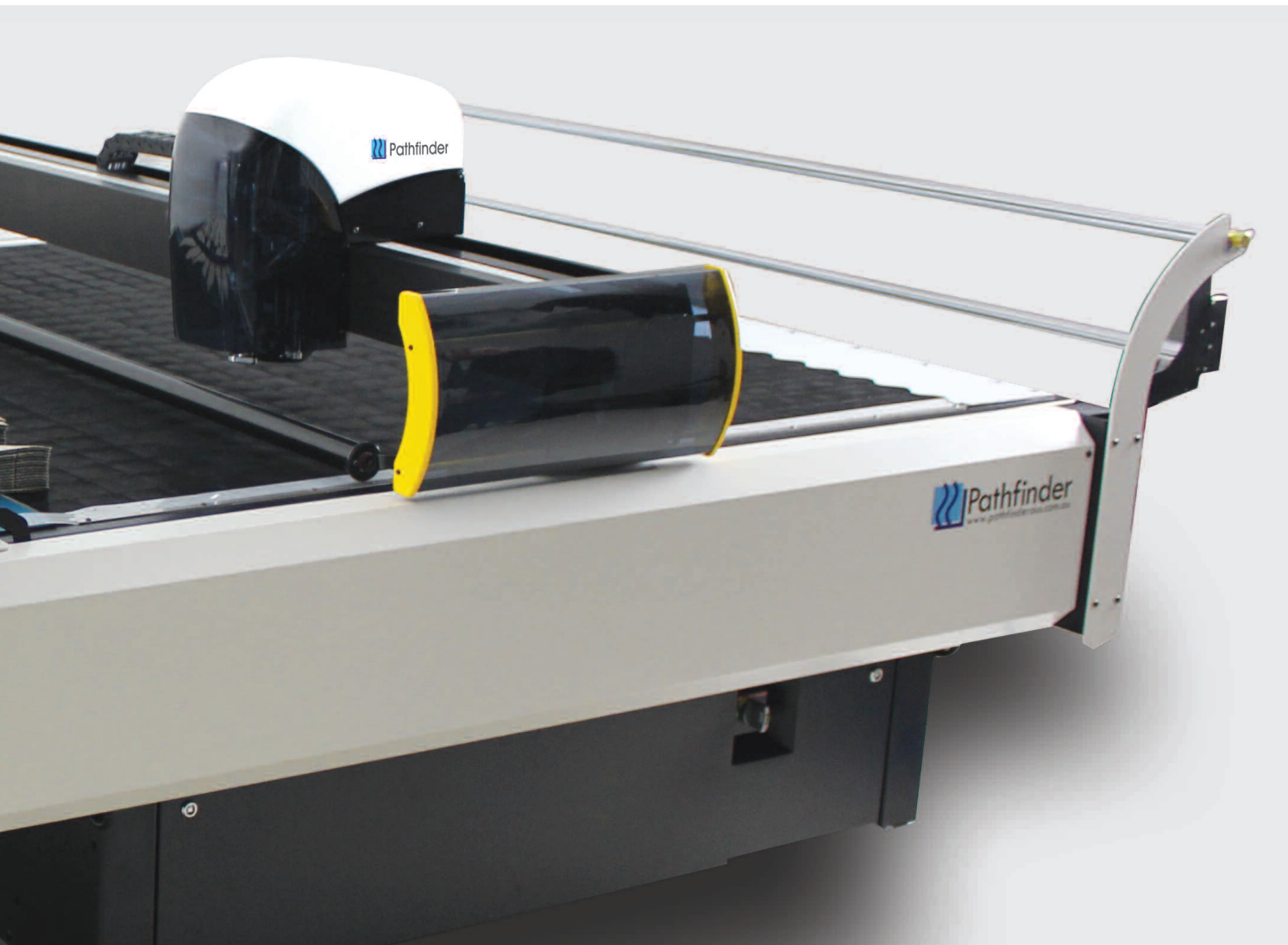
Reliability

Fewer than 50% of the moving components compared to others. The patented QuickDraw® sharpening system is an example of Pathfinder's innovation, engineered with virtually no moving parts and no required adjustments.

A further example is Pathfinder's unique control system comprising only one (1) circuit board assembly, this means that there is less to go wrong and fewer places to look if it ever does.

Productivity

Highest Productivity is achieved by technology that can deliver and combine the best of multiple disciplines: Speed, Motion Control, Ergonomics & Application specific features. The M-series cutting system delivers technology to maximise your profits.



BEST CUTTING TECHNOLOGY?

Quality

Because the Pathfinder M-series cutter is Designed and Manufactured by Pathfinder in our Australian factory, you are guaranteed to get the best technology and quality money can buy.

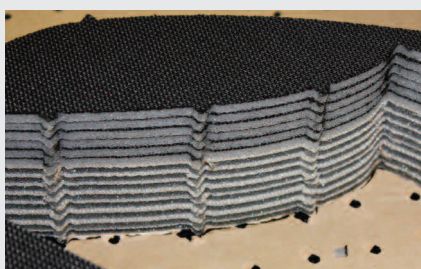
Lowest Cost of Ownership

Delivering the lowest cost of ownership is guaranteed! Pathfinder's business model is not built around spare parts and service income, so you will not find yourself trapped into costly service contracts.

Environment

The M-series cutter is engineered with care for the Environment.

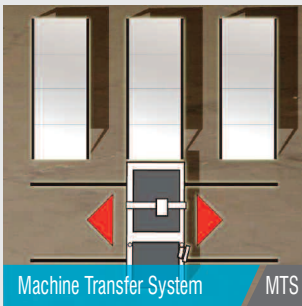
- Lowest Power Consumption due to high efficiency vacuum system.
- Recyclability, 95% of the machine mass can be recycled at the end of its operational life.
- Greenhouse gases: Greenhouse gases produced by parts transport are eliminated due to in-house manufacturing.





OPTIONS

CUSTOMISE YOUR MACHINE FOR YOUR APPLICATION



Machine Transfer System (MTS) enables lateral movement of the machine so that several spreading tables can be serviced. While a table is busy laying material, the cutter can move to another table with a spread ready for cutting.



Production Manager (PRM) enables management to analyse machine and operator performance. Specific performance indicators can be configured to alert management. Pre-configured productivity reports are available including consumable and consumption forecasting.



Pattern matching (PM) feature integrated within PathCut® cutter software for positioning patterns matched to a fabric stripe, motif or pre-printed textiles. Intuitive controls make it easy to learn and increase productivity.



Production Analyst (PRA) enables remote monitoring of multiple Pathfinder cutting systems. Pre-configured reporting alerts and forecasting functionality from the PRM is available.



The Barcode Reader (BCR) enables automatic selection of cut file and pre-set parameters by scanning the job barcode. The BCR deskills the cutter operation, reduces setup time and eliminates the risk of errors.



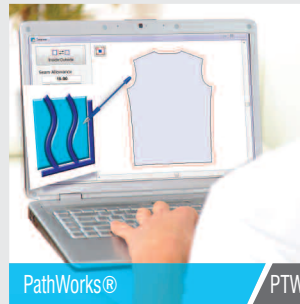
The IceKnife-Pump (IKP) is designed to cool the knife with lubricant to reduce fusing between plies when cutting difficult fabrics. Delivery of lubricant is precisely controlled by PathCut® cutter software.



IceKnife - Air

IKA

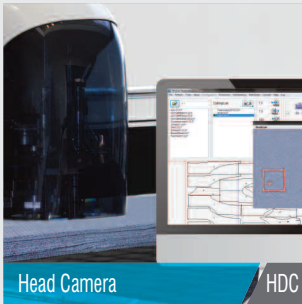
The IceKnife-Air (IKA) is designed to cool the knife with compressed air to reduce fusing between plies when cutting difficult fabrics. The IKA is used when using a lubricant is not possible.



PathWorks®

PTW

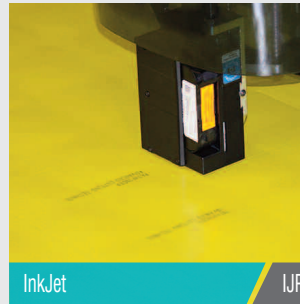
PathWorks® (PTW) is a complete CAD suite integrated within PathCut®. PTW offers flexibility for customers that want to Digitize, create, modify and nest patterns at the cutter.



Head Camera

HDC

Head Camera (HDC) is mounted internally within the cutting head, dynamically interacting with all PathCut® functions. The HDC is typically used in conjunction with Pattern Matching.



InkJet

IJP

InkJet Printing (IJP) system mounted internally within the cutting head for fast part identification, particularly good for applications with lots of text. Printing direct on material or plastic overlay is possible.



Drag Knife

DRG

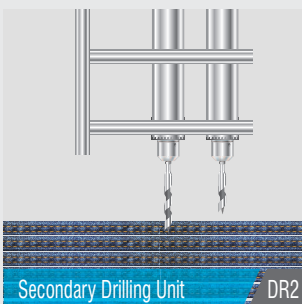
Drag Knife (DRG) utilizes an ultra-fine cutting blade for specialized applications. The DRG can be retrofitted easily within minutes and is available to suit various blade types.



Marking

MRK

Marking (MRK) option will accept a variety of markers from standard ball point, felt tipped and chalk. Particularly useful for part number, instruction and seam line identification.



Secondary Drilling Unit

DR2

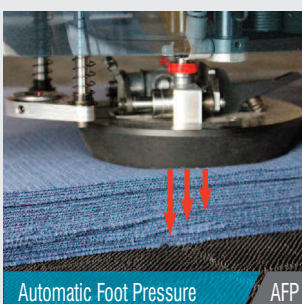
Secondary Drill unit (DR2) used in applications where multiple drill sizes are required. Solid and hollow drill sizes up to 15mm are available and can be replaced in seconds.



Airbrush

ABR

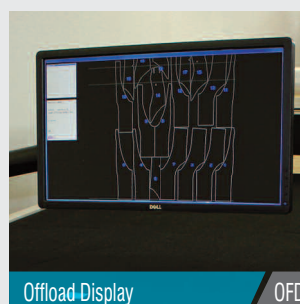
Airbrush (ABR) is used in applications where non-contact marking is essential. Variety of inks and paints can be used and is particularly useful for marking irregular or rough surfaces such as chopped matt fibreglass.



Automatic Foot Pressure

AFP

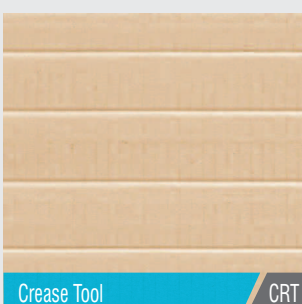
Automatic Foot Pressure (AFP) option is automatically controlled and selected within pre-set parameters. Specialised applications require multiple foot pressures to achieve optimised cutting speeds and cut quality.



Offload Display

OFD

Offload Display (OFD) assists the operator identifying cut parts collected. Mounted centrally above the offload collection area and is synchronised with the conveyor. OFD can be configured to display colour, part ID or unique code.



Crease Tool

CRT

The Crease Tool (CRT) is valuable for those applications where a crease or physical mark on the material is required. This option also supports kerf cutting- kiss cutting applications.



Offload Printer

OFP

Offload Printer (OFP) generates part labels automatically as parts travel onto the offloading area. Labels can be configured to display information required.

TECHNICAL SPECIFICATIONS

	M3-180	M3-220	M3-390	M5-180	M5-220	M5-390	M7-180	M7-220	M7-390	M10-180	M10-220	M10-390	
Characteristics													
Max Cutting Width	(mm/inch)	1800 / 71	2260 / 89	3900 / 153	1800 / 71	2260 / 89	3900 / 153	1800 / 71	2260 / 89	3900 / 153	1800 / 71	2260 / 89	3900 / 153
Cutting Height - max (Compressed)	(mm/inch)	30 / 1.2	30 / 1.2	30 / 1.2	50 / 2	50 / 2	50 / 2	70 / 2.8	70 / 2.8	70 / 2.8	100 / 3.9	100 / 3.9	100 / 3.9
Spread Height - max	(mm/inch)	100 / 3.9	100 / 3.9	100 / 3.9	120 / 4.7	120 / 4.7	120 / 4.7	140 / 5.5	140 / 5.5	140 / 5.5	170 / 6.7	170 / 6.7	170 / 6.7
Speed - max (Per Minute)	(m/inch)	60 / 2362	60 / 2362	60 / 2362	60 / 2362	60 / 2362	60 / 2362	60 / 2362	60 / 2362	60 / 2362	60 / 2362	60 / 2362	60 / 2362
Acceleration - max	(mps ² /g)	8 / 0.81	8 / 0.81	8 / 0.81	8 / 0.81	8 / 0.81	8 / 0.81	8 / 0.81	8 / 0.81	8 / 0.81	8 / 0.81	8 / 0.81	8 / 0.81
Width 'A'	(mm/inch)	2350 / 92.5	2800 / 110	4440 / 175	2350 / 92.5	2800 / 110	4440 / 175	2350 / 92.5	2800 / 110	4440 / 175	2350 / 92.5	2800 / 110	4440 / 175
Working Height	(mm/inch)	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37	825-925 / 33-37
Weight	(Kg/Lb)	1500 / 3300	1700 / 3700	2600 / 5700	1500 / 3300	1700 / 3700	2600 / 5700	1500 / 3300	1700 / 3700	2600 / 5700	1500 / 3300	1700 / 3700	2600 / 5700

Supply													
Electrical - (1x3PH, 50/60Hz, 380V-440V)	(KW/Hp)	15 / 20	15 / 20	22 / 30	15 / 20	15 / 20	22 / 30	15 / 20	15 / 20	22 / 30	15 / 20	15 / 20	22 / 30
Compressed Air (6CFM, 170lts/min)	(bar/PSI)	6.9 / 100	6.9 / 100	6.9 / 100	6.9 / 100	6.9 / 100	6.9 / 100	6.9 / 100	6.9 / 100	6.9 / 100	6.9 / 100	6.9 / 100	6.9 / 100

Operating Environment													
Operational Temperature - max	(°C/°F)	41 / 104	41 / 104	41 / 104	41 / 104	41 / 104	41 / 104	41 / 104	41 / 104	41 / 104	41 / 104	41 / 104	41 / 104
Humidity - max (non-condensing)	%	80	80	80	80	80	80	80	80	80	80	80	80
Noise	dBA	75	75	75	75	75	75	75	75	75	75	75	75

Standard Features

- Windows® operating platform
- Touch Screen user interface (-Y standard, +Y on request)
- Utility drawer
- Vacuum VSD-Digital Vacuum control
- Vacuum Re-sealing blind
- QuickDraw® automatic diamond sharpening system
- Vacuum filter

PathCut® cutter software

- Import standard industry files - DXF, ISO RS274d, ESSI
- Automatic cutting window conveyor advance calculation
- Full screen and zoom graphic display mode
- Display selection of cut order and piece identification
- Vacuum Economiser® power saving function
- Self diagnostic system
- Operator programmable 'end cut'
- Cutting small pieces first - user definable
- Automatic compensation for knife/diamond sharpening stone wear
- Pre-set cutting parameters
- MultiCut™ queuing of nested files
- QuickPath™ automatic cut piece ordering to reduce dry haul
- Visual marker display with scrolling facility
- Automatic Selvage waste cut at programmable intervals
- Comprehensive Self Diagnostics
- Self Adjusting software parameters optimising cut quality
- Marker manipulation features, notch selection, rotation, flip, drill omission, scaling etc...
- PPR - Pathfinder Proportional Reciprocation
- Automatic lay width checking
- System history file - production cut file verification
- Power Fail Re-start sequence - automatic operator prompts
- Maintenance Manager - automatic reporting of maintenance requirements and schedule
- Head parking - user definable
- Automatic conveyor advance pause - user definable
- Units display in metric, imperial/yards and inches
- Automatic proportional slow down of cutting within critical areas

Options

- MTS (Machine Transfer System) - allows machine to move laterally to service multiple tables
- PM (Pattern Match) - for matching patterns to stripes, motifs and pre-printed textiles
- BCR (Barcode Scanner) - automatic opening of production cut request
- PRM (Production Manager) - integrated production reporting
- PRA (Production Analyst) - remote access to production manager data - standalone software
- IKP (IceKnife-Pump) - computer controlled lubricant onto the knife to reduce fusing between parts
- IKA (IceKnife-Air) - controlled delivery of air onto knife to cool and reduce fusing between parts
- HDC (Head Camera) - camera dynamically interacts with PathCut for Matching and other functions
- DRG (Drag Knife) - ultra fine cutting tool for specialty materials
- DR2 (Secondary Drilling Unit) - for drilling multiple hole sizes simultaneously
- AFP (Automatic Foot pressure) - for special applications requiring multiple foot pressures
- CRT (Crease Tool) - creating crease lines or kerf cutting
- PTW (PathWorks®) integrated within PathCut® enabling pattern creation and nesting

Marking/Identification Options

- IKJ (Ink-Jet) - mounted inside the cutting head used for printing part identification
- MRK (Marking) - tool holder accepting a variety of standard marking pens-seam lines/text etc.
- ABR (Airbrush) - non contact paint marking for difficult materials such as fibreglass
- OFD (Offload Display) - synchronised display of delivered cut parts
- OFP (Offload Printer) - thermal self adhesive label synchronised with OFD and delivered cut parts



The data in this leaflet provides general information only. Pathfinder Australia may redesign and/or modify its products, and may change the information contained herein. As in any document of general nature, errors may be discovered in this document, and Pathfinder Australia shall not be held liable for errors that occur unintentionally. All rights reserved. © Copyright 2013 by Pathfinder Australia.

PathWorks®, PhotoDigitiser® and Vacuum Economiser® are registered trademarks of Pathfinder Australia Pty Ltd.