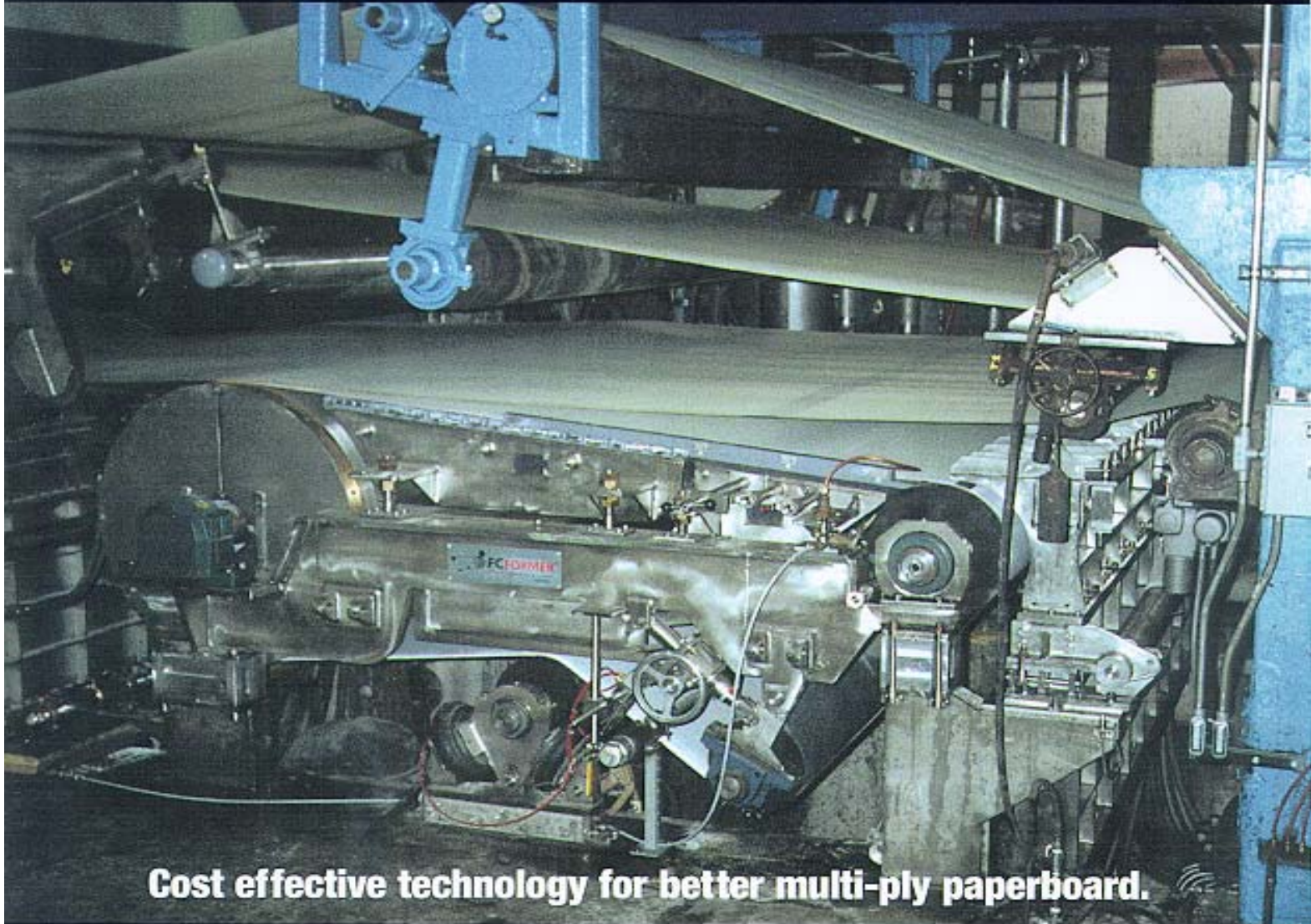


# FCFORMER™



**Cost effective technology for better multi-ply paperboard.**

### *Features*

- Compact design—one unit replaces two cylinder moulds
- High turbulence, hydraulic headbox
- Patented V.I.D.™ and Stepfoil™ drainage units
- Low capital and operating costs with less maintenance
- Modular design/easy installation
- Radial distributor (Octopus™) feed

### *Benefits*

- Reduce board density
- Improve MD/CD ratio
- Improve smoothness/printability
- Reduce furnish costs
- Reduce energy consumption
- Improve CD profile
- Improve productivity

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AN ACCENT ON INNOVATION

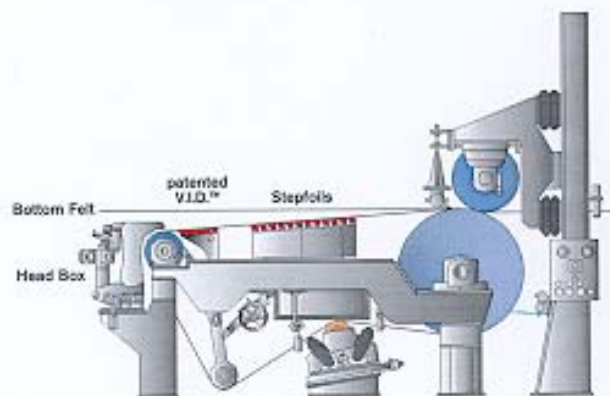
# FCFORMER™ UNIQUE FORMATION

Today's recycled multi-ply board market is placing new demands on the papermaker to increase mill productivity and raise board quality. Rather than face losing market share, numerous multi-ply board mills are planning wet end rebuilds in order to meet higher quality needs.



Conventional 10 former wet end before rebuild

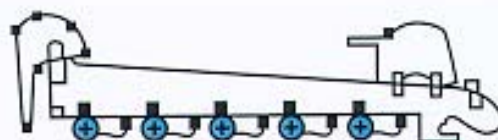
Replacing two conventional hydraulic or vat type forming stations, the FCFormer has the ability to carry a high fiber loading and operate at higher speeds than conventional underfelt formers. These benefits are realized without the need for alterations to the existing felt run.



Typical FCFormer

The forming unit consists of an inclined wire forming table with Kadant AES patented V.I.D.™ forming technology and a hydraulic headbox capable of consistency profiling.

The demand for higher, more uniform quality comes with the converter's expectation of minimal, if any, increase in cost. Kadant AES developed the FCFormer in order to meet this challenge — a solution that is a fraction of the cost of a multi-fourdrinier rebuild.



Felt run after rebuild with 5 FCFormers

Couch nip moisture content is controlled independent of basis weight and sheet bulk is increased due to the unique retention of fiber. Fines are distributed more evenly throughout the sheet Z direction.



patented V.I.D.™ forming unit

The unique, patented V.I.D.™ "counter-flow" activity, illustrated below, enhances drainage without sealing the sheet or decreasing retention.



The **FCFORMER** gives the operator increased control of the papermaking process, unattainable with conventional vat or hydraulic formers.

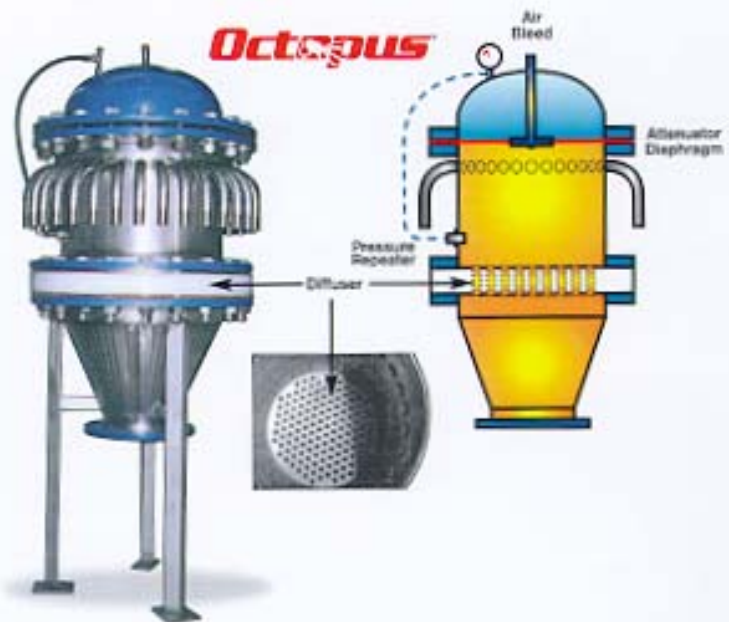
# FCFORMER™ CONSISTENCY PROFILING

## Costs of poor CD profile

The amount of wasted fiber caused by poor CD basis weight profile is high. A large caliper variation forces the papermaker to raise his average basis weight target to stay above minimum specifications. "Aiming high" to compensate for a poor profile wastes fiber.

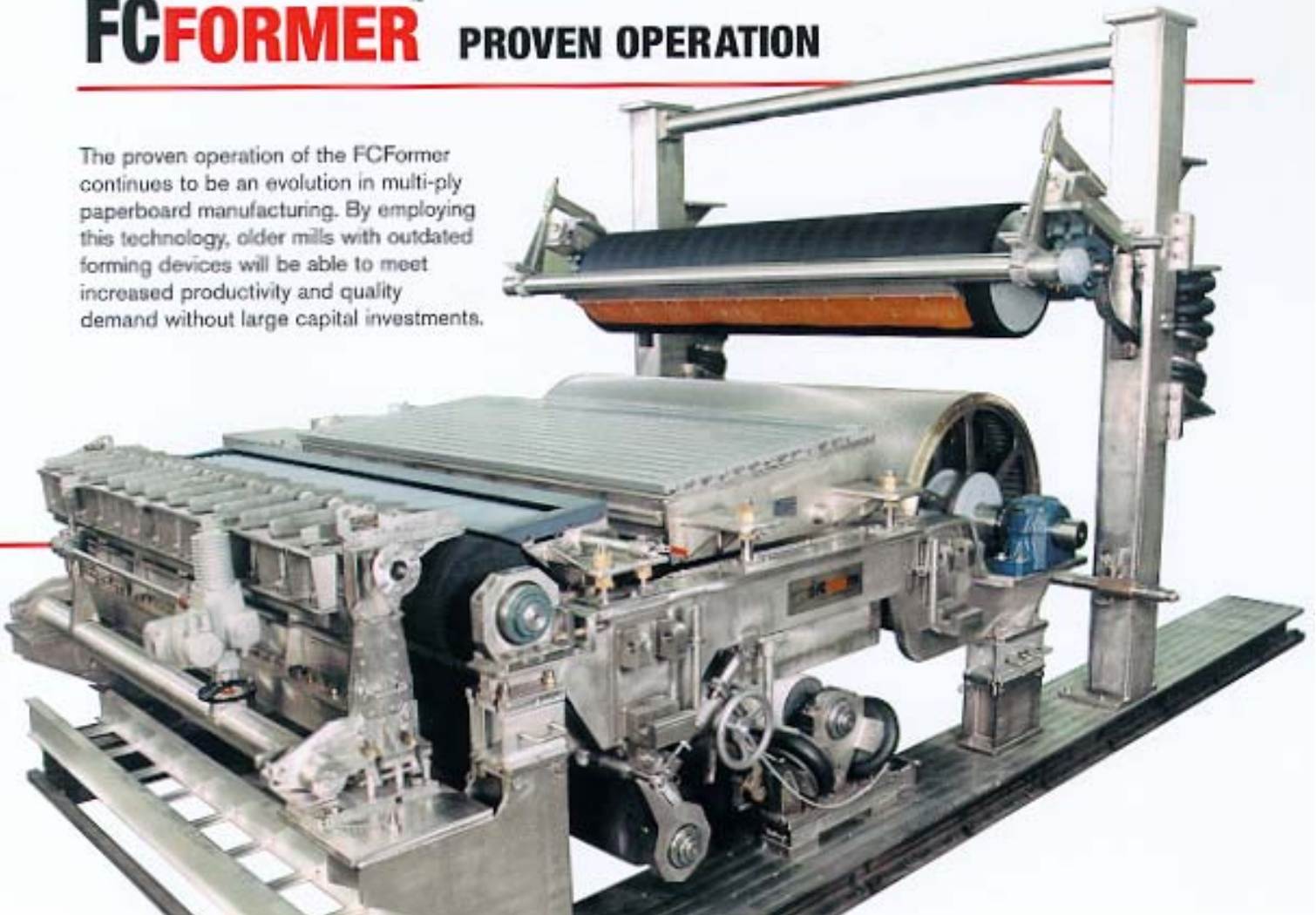
## Consistency profiling on the FCFormer with Octopus™ profiling technology

The Octopus™ approach system supplies stock evenly across the machine via hoses that create discreet forming zones. When the Octopus™ is equipped with dilution control inlet taps, white water is injected into each hose to control the consistency in the individual hose and the corresponding forming zone of the paper machine.

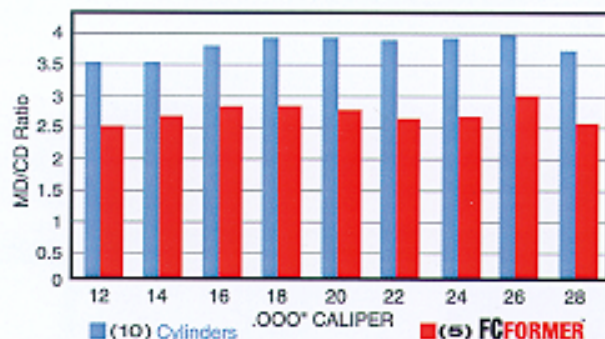


# FCFORMER™ PROVEN OPERATION

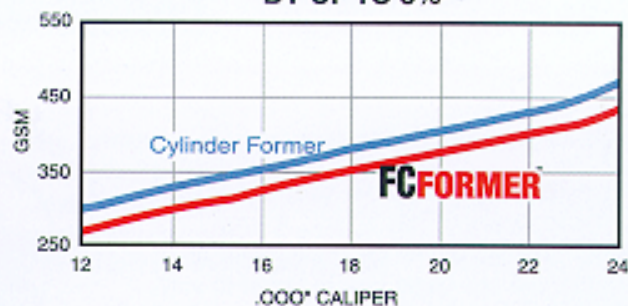
The proven operation of the FCFormer continues to be an evolution in multi-ply paperboard manufacturing. By employing this technology, older mills with outdated forming devices will be able to meet increased productivity and quality demand without large capital investments.



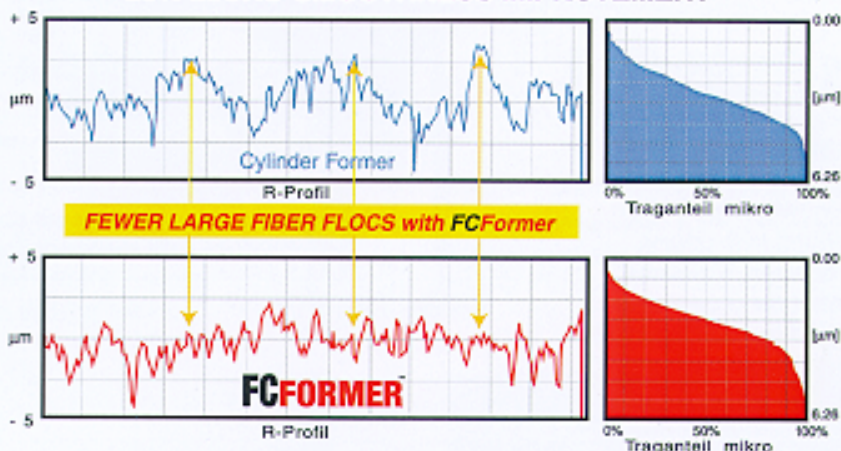
### IMPROVE MD/CD FIBER ORIENTATION RANGE 3.8:1 TO 2.8:1



### REDUCE BOARD DENSITY BY UP TO 5%



### 20% MICRO-SMOOTHNESS IMPROVEMENT



### SHEET QUALITY CHANGES DUE TO FCFORMER<sup>®</sup> INSTALLATION

MACHINE LAYOUT, BOTTOM TO TOP PLY	GRADE PRODUCED	SHEET QUALITY IMPROVEMENTS
Mill #1 5 FCFormers	Clay Coated Boxboard	14% <i>Productivity Increase</i> 22% <i>Smoothness Increase</i> 5% <i>Density Decrease</i> 7% <i>Energy Decrease</i>
Mill #2 8 Counterflow Vats 1 FCFormer 1 Dry Vat	Uncoated • Folding Boxboard • Core Stock	1-5% <i>Density Decrease</i> 90% <i>CD Basis Weight Improvement</i> <i>Improved Squareness Ratio</i> <i>Improved Formation</i>
Mill #3 1 Hydraulic Former 3 FCFormers 1 Hydraulic Former	Clay Coated Boxboard	5% <i>Density Decrease</i> <i>Improved Production Rate</i> 20% <i>Smoothness Improvement</i> <i>Stiffness Ratio 3.5:1 to 2.0:1</i>
Mill #4 2 Hydraulic Formers 2 FCFormers 2 Hydraulic Formers	Clay Coated Boxboard	10% <i>Production Increase</i> 20% <i>Smoothness Increase</i> 12% <i>Squarer Sheet</i> 5% <i>Density Decrease</i>
Mill #5 5 FCFormers	Uncoated Boxboard	<i>Production Increase</i> <i>Density Decreased</i> <i>CD Weight Improvement</i> <i>Controlled Squareness</i>

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