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## **Drilling Through Composite Stacks Just Got Faster** The New Quackenbush<sup>®</sup> Adaptive Drilling System Makes It Happen



# **Optimizing Cutter Speed F**

The Recoules<sup>®</sup> Adaptive Drilling System automatically matches drill speed to the material regardless of layer thickness, changing speed in less than one second, so it's always drilling at the fastest speed possible. The result is a cycle-time reduction of up to 60% over conventional positive feed drilling and a major increase in productivity.

### Up To 60% Cycle Time Reduction

The adaptive drilling system automatically changes from high to low speed when drilling Ti. High speed can be up to 3X faster, giving impressive cycle time reductions in dissimilar material stacks. Allowable combinations are CFRP/Ti, Ti/CFRP, Ti/CFRP/Ti, Al/CFRP/Ti, and Ti/Al.



20 40 60 80 100 120 140 Time (sec)



500

400 0

Ω

### *Minimize Clean-up Time*

Coolant flow rates are programmable for each material of a stack and can be shut off on breakthrough to reduce cleanup time and further increase productivity.

### **Computer Process Control**

The adaptive programming interface kit allows application and process parameters to be set on the on-board tool memory module. The control box reads



On-board tool memory module

the memory, provides the process control, and stores cycle data. Key programming features are speed, coolant flow, cutter data, maximum holes per cutter, and material stack combination. At the

end of each cycle, data is stored on the control box and can be downloaded to a PC for traceability and diagnostics using an Ethernet connection.





# **Recoules**

# For Maximum Productivity

### **Easy Conversion Of Existing Drills**

The Adaptive Drilling System is designed to enable the most efficient use of your existing equipment. Although the control box can operate only one tool at a time, it can control multiple different applications one after the other. Ease of programmability allows tools to be quickly reconfigured for different hole size and material stack combinations. The tools are based on the proven Quackenbush 158, 230, and 900 series positive feed line. New parts have been kept to a minimum and the on-board memory module is designed to be retro-fittable to existing tools in the field.

### The Leader In Aerospace Drilling

Whether you're working with the special machining requirements of CFRP components or have a general question regarding the latest in drilling technology, you can turn to the experts at Recoules for answers. Call 866-569-9449 or go to www.apextoolgroup.com.



Recoules

### **Specifications**

	Description	Max. Speed*	Min. Speed	Feed Rate	Hole			
Model Number		RPM	RPM	Options	Titanium			
Controller								
642003PT	DMP-111-15 Drill Manager Pneumatic							
Drills								
932QA	Right Angle Adaptive Positive Feed	1200	400	.001"/.002"	7/16"			
158-15QRA	Right Angle Adaptive Positive Feed	1200	400	.001"/.002"	7/16"			
158QRA	Right Angle Adaptive Positive Feed	900	300	.001"/.002"	5/8"			
230QRA	Right Angle Adaptive Positive Feed	900	300	.001"/.002"	5/8"			
942QA	In-Line Adaptive Positive Feed	1200	400	.001"/.002"	7/16"			
230QBA	In-Line Adaptive Positive Feed	1200	400	.001"/.002"	5/8"			
*Based on 90 psi. inlet pressure to DMP								

#### **Retrofit Services**

158 Series	Retrofit and rebuild Quackenbush 158 Series Positive Feed Drill
230 Series	Retrofit and rebuild Quackenbush 230 Series Positive Feed Drill
900 Series	Retrofit and rebuild Quackenbush 900 Series Positive Feed Drill

#### Accessories

1000000					
Part No.	Description	Connection			
642069PT	Adaptive Interface Kit	USB to Tool Memory			
Safet protect 1	ty guard to lubricant and trecervoirs		Air tool oil res to ensure opt tool perform	ervoir imum ance	Transport handle
coolar		Ce bu cc pri run	oolant prime ston allows polant to be med without ning the tool Power On/Off Switch		Coolant reservoir for optimum drill bit performance and life
Air i 3/4"	INIET INIE		Status lights for visual reference of operation	1	air filter
Tamper lockable	-proof cabinet	lles de la	Ethernet connection for cycle data download		Safety valve prevents
Coolant su injection to co	upply line - direct spindle optimizes solant use		Pluggable too communicatio cable for easy service		operation if electrical supply is lost
10' po	Main Air Supply Line* – dir bint of use for optimum mo	ect oil injection to tor performance		Electronic components protected inside sealed lockable cabinet	power supply

\*Warning: Main supply length to tool must not be altered

Apex Tool Group, LLC 1000 Lufkin Road Apex, NC 27539 Phone: 919-387-0099 Fax: 919-387-2614 www.apextoolgroup.com



**Controller Specifications** Electrical Supply: 115V 50/60Hz 2A Pneumatic Supply: 90 psi min 140 psi

Dimensions:

Weight:

max, clean dry air

53 lbs.

W 13" x D 15" x H 26"