DOUBLE E
GROUP

DLB-2000
CARBON FIBER CORE SHAFTS



For decades, converters have faced the same challenge: how to increase productivity, improve safety, and handle larger rolls without sacrificing performance. The answer wasn't a stronger steel shaft—it was an entirely different approach.

INNOVATION

Double E Group didn't follow the evolution of carbon fiber shaft technology—we started it.

Since introducing carbon fiber shafts to the converting industry in 1986, we've helped converters improve safety, increase throughput and rethink what's possible in roll handling applications.

Today, the DLB-2000 carries that legacy forward, delivering the performance, reliability and innovation that have defined Double E Group for nearly four decades.

Available in both lug and through shaft designs



SCAN ME!

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IMPORTANT FEATURES OF DOUBLE E



THE DLB-2000 — BUILT TO INCREASE THROUGH

Every component of the DLB-2000 is engineered to solve the challenges converters face every day: heavy shafts, excessive deflection, difficult handling, bladder failures and lost production time.

The lightweight carbon fiber construction dramatically reduces shaft weight while maintaining the strength and rigidity required for demanding converting applications. Less weight means safer handling, easier changeovers and reduced operator fatigue. Greater stiffness means less shaft deflection, reduced roll bounce and improved performance at higher operating speeds.

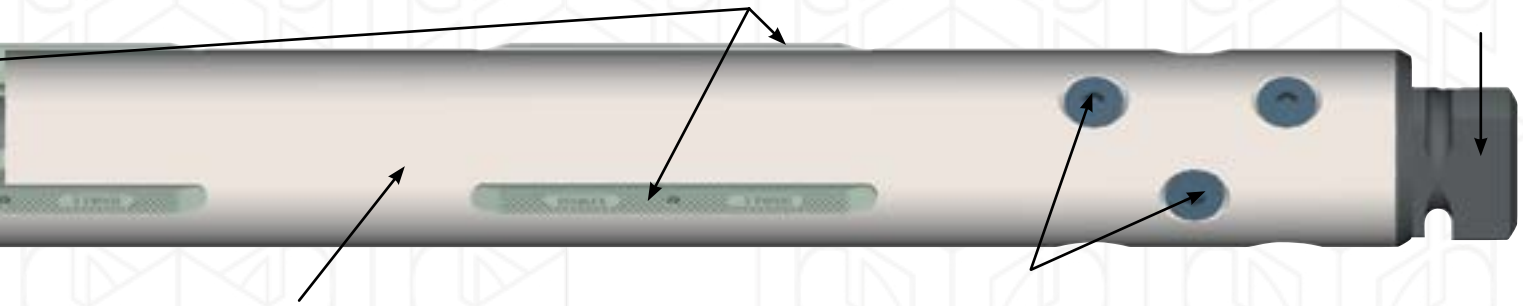
COMPARISON OF SHAFT HOUSING MATERIALS

MATERIAL	TUBE MODULUS OF ELASTICITY (E)		ULTIMATE STRENGTH TUBULAR FORM		DENSITY		ENDURANCE RATING	STIFFNESS TO DENSITY RATIO
	10^6 PSI	[GPa]	10^3 PSI	[MPa]	lbs/in^3	[g/cm^3]		
FIBERGLASS	2	[13.7]	50	[344]	0.09	[2.5]	GOOD	23
ALUMINUM (6061-T4)	10	[68.95]	35	[241]	0.1	[2.76]	POOR	100
ALUMINUM (7075-T6)	10	[68.95]	83	[572]	0.1	[2.76]	POOR	100
TITANIUM (6 AL-4V)	16	[110.30]	140	[965]	0.16	[4.43]	GOOD	100
STEEL – 4130 (COLD WORKED)	30	[207]	110	[758]	0.28	[7.75]	GOOD	107
STEEL – 4140 (HARDENED & TEMPERED)	30	[207]	160	[1103]	0.28	[7.75]	VERY GOOD	107
CARBON FIBER COMPOSITE (33 X 10^6 FIBER FILAMENT MODULUS)	17	[117]	250	[1723]	0.06	[1.66]	EXCELLENT	283
CARBON FIBER COMPOSITE (56 X 10^6 FIBER FILAMENT MODULUS)	30	[206]	263	[1813]	0.06	[1.66]	EXCELLENT	500

E GROUP CARBON FIBER BLADDER SHAFTS

Die-cast aluminum lugs, manufactured with an exclusive diamond plate gripping surface (steel lugs optional)

Easily removed, heat treated, alloy steel journals



Sleeving protects carbon fiber housing from abrasion

Proprietary fastening system does not require a press fit – close tolerance, deep insertion of journals, and flathead screws ensure strong connection and easy maintenance

HPUT, IMPROVE SAFETY & REDUCE DOWNTIME

Beyond the carbon fiber housing, the DLB-2000 incorporates a series of proven design innovations developed through decades of converting experience. A proprietary Polyprene® bladder provides dependable expansion and collapse while resisting heat, punctures and abrasion. Springless lugs eliminate common failure points that shorten bladder life, while a proprietary journal fastening system simplifies maintenance and speeds replacement when service is required.

The result is a shaft designed not only to perform better, but to keep production running longer, safer and more efficiently.

DLB–2000 CARBON FIBER SHAFTS
(available in sizes from 70mm up)

FEATURE	ADVANTAGE	BENEFIT
Carbon Fiber Housing Moduli: Medium (33 million) Ultra-High (56 million)	Low weight	Fewer handling injuries lower worker's compensation expenses and non-productive time
		Meet regulations for single person lifting
	Less deflection	Reduced vibration and less roll bounce
		Heavier roll weights
	High critical speed	More throughput
Sleeving	Protects carbon fiber from abrasion	Long shaft life
Polyprene Bladder	Stretches far less than traditional rubber	Dependable lug collapse ensures consistent, easy removal of shaft from spent cores
	More resistant to heat, puncture, and abrasion	Far less bladder failure
Springless Lugs	No springs to break and puncture bladder	Longer bladder life
	Diamond plate gripping surface	Better grip with less slipping
	Large surface area	
Journal Fastening	No press fit facilitates journal removal	Bladder replacement is quick and easy

DOUBLE JOURNAL SHAFT QUOTE FORM

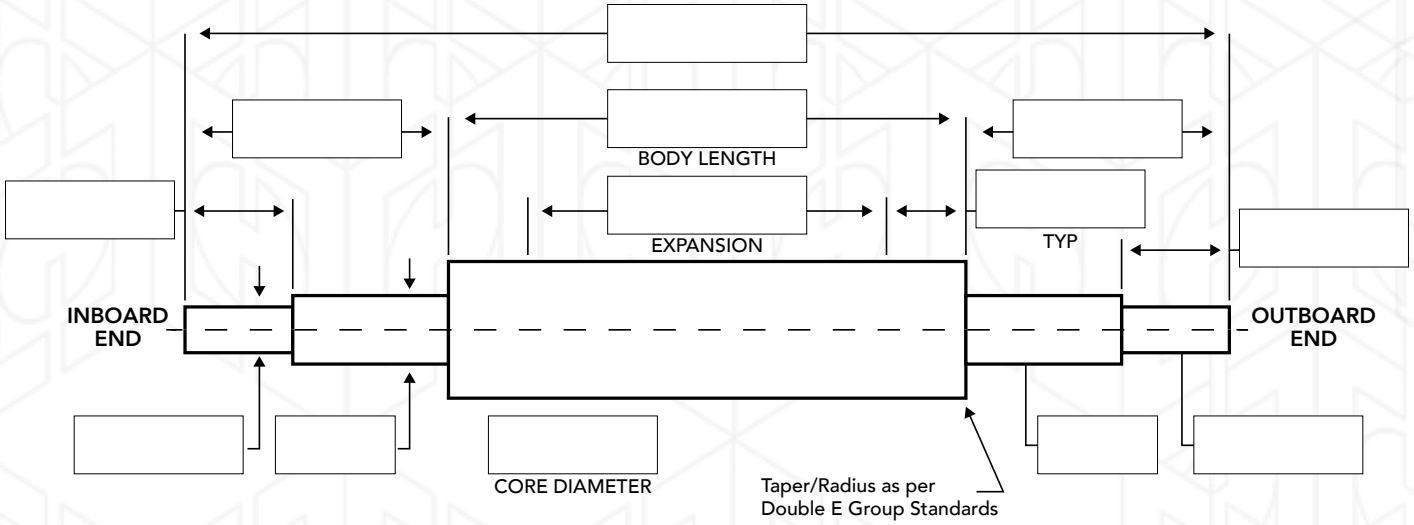
Company Name: _____ Date: _____

Name: _____ Title: _____

Address: _____

City: _____ State: _____ Postal Code: _____ Country: _____

Phone: _____ Fax: _____ E-mail: _____



☐ Leaf ☐ Continuous Lug ☐ Differential

☐ Other _____

Air Valve Style

☐ Inboard ☐ Outboard ☐ Other

☐ Tire ☐ Tank ☐ Thread/Hole

Thread/Hole Size: _____

Quantity: _____

Additional Comments:

_____

_____

_____

_____

Machine Manufacturer: _____

Model Number: _____

Roll Information

☐ Unwind ☐ Rewind

Core ID: _____ Core OD: _____

Core Material: _____

Max Roll Width/Max Weight: _____

Min Roll Width/Min Weight: _____

Roll Material: _____

Max Roll Diameter: _____

Number of Slits: _____

Min Slit Width: _____

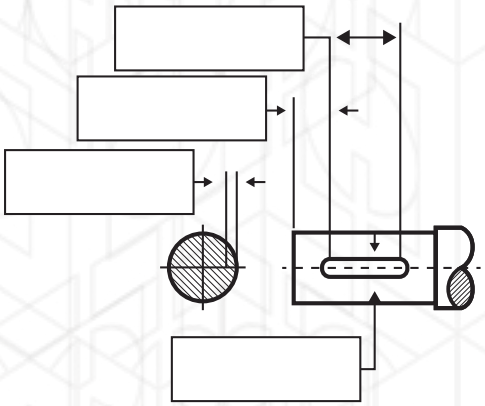
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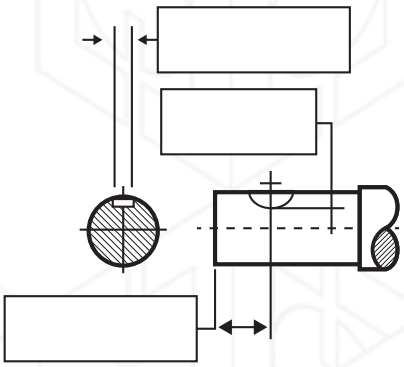
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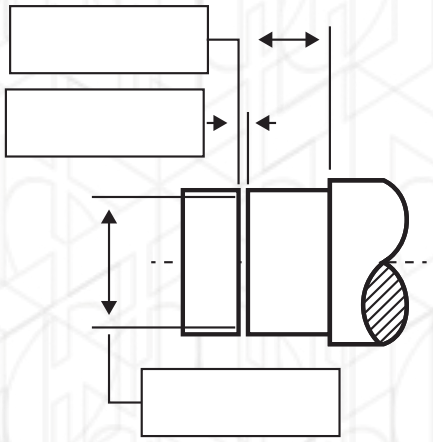
KEYWAY



WOODRUFF

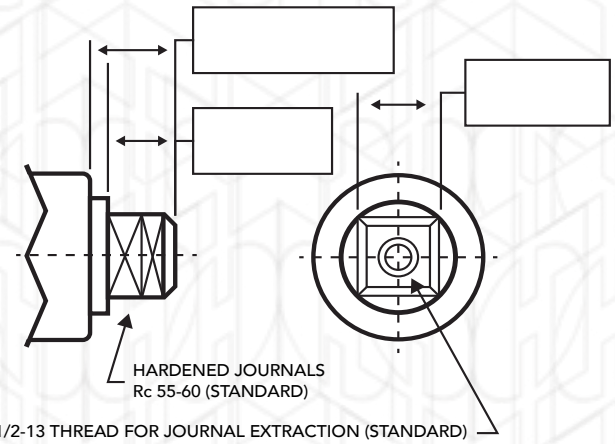


RETAINING RING/O-RING GROOVE

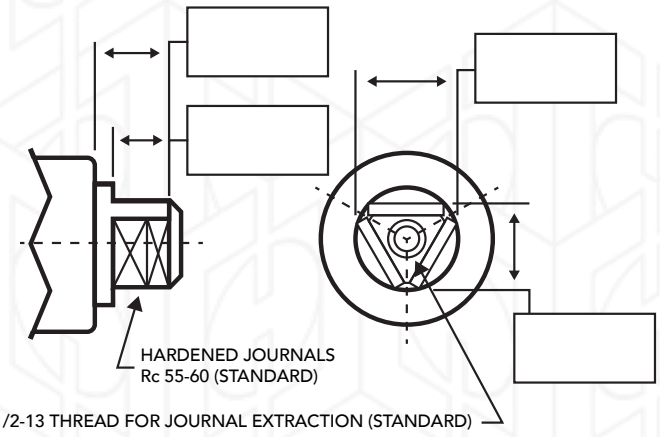


Additional comments:

SAFETY CHUCK SQUARE ENDS



SAFETY CHUCK TRIANGULAR ENDS



Safety Chuck Make: _____

Safety Chuck Model: _____

Safety Chuck Make: _____

Safety Chuck Model: _____

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