

Defender[®] Seal

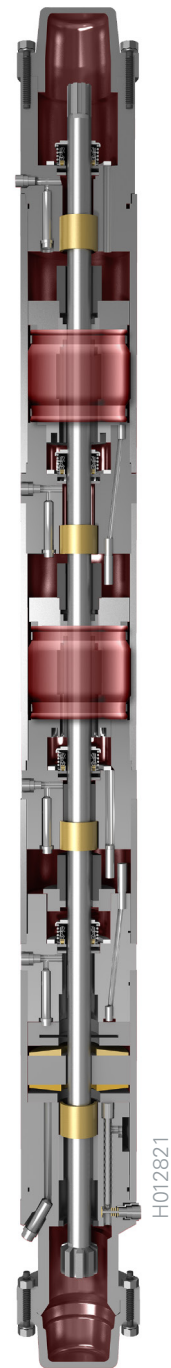
ADVANCED SEAL EXTENDS ESP OPERATIONAL LIFE

OVERVIEW

Summit ESP[®] – A Halliburton Service has developed the Defender[®] super sand seal to operate in extreme downhole environments. Configured for each application, the Defender seal is designed to extend the operational life of electrical submersible pump (ESP) systems with extreme redundancy and a patented design that prevents wellbore abrasives from damaging the seal and motor sections.

Defender[®] Seal Technical Information

		338 Series	400 Series	513 Series
Housing Diameter	in.	3.78	4.00	5.13
	mm	96	102	130
Shaft Diameter	in.	0.875	0.875	1.0625
	mm	22	22	27
Shaft Area	in. ²	0.601	0.601	0.886
	mm ²	338	388	572
Max Ambient Temp	F°	325	325	325
	C°	163	163	163
Std Shaft BHP Limit	HP	283	283	628
	kW	211	211	468
HS Shaft BHP Limit	HP	472	472	1048
	kW	352	252	781
Max Thrust Bearing Load (lbs) (Std)		2472	3600	3928
Max Thrust Bearing Load (lbs) (HL)		3213	4680	5106



For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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