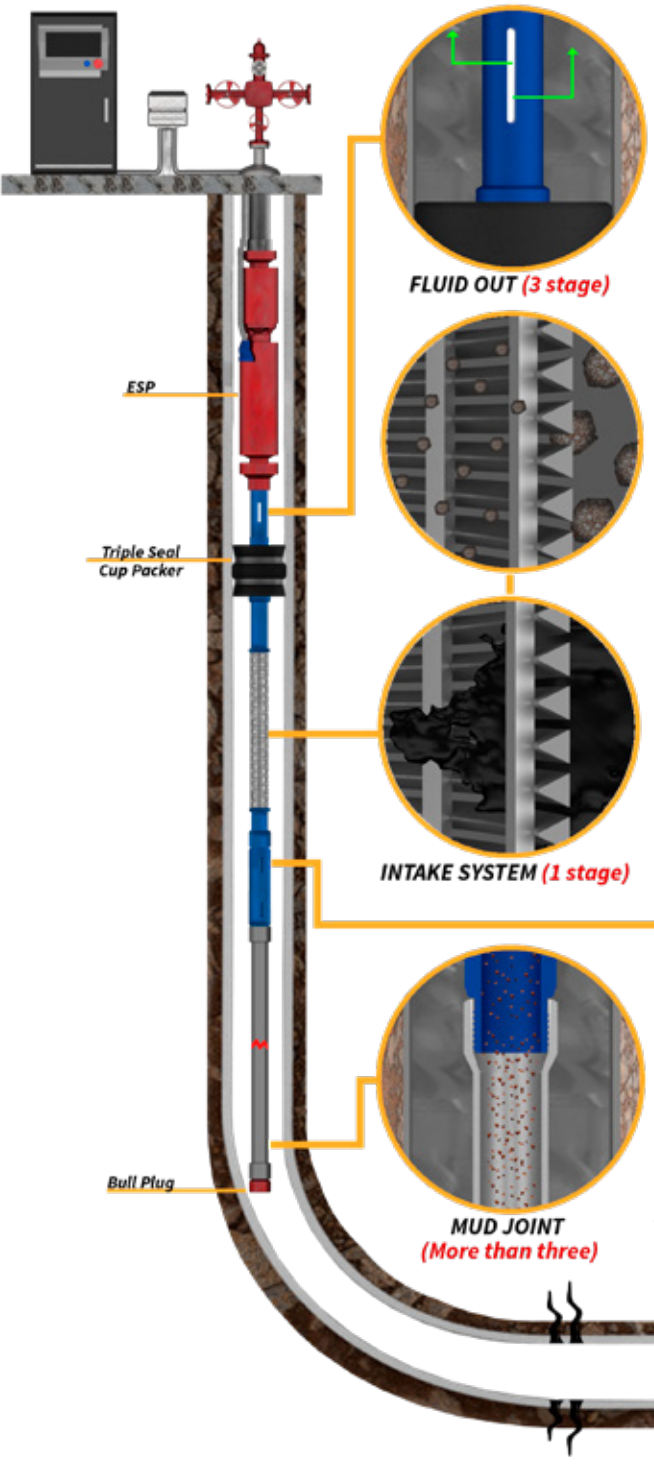
ESP SCREEN VORTEX DESANDER



The ESP Screen Vortex Desander is the most effective tool in the market to control sand problems in ESP wells. This technology combines the capacity of the Tubing Screen to separate coarse to medium particles with the Vortex able to separate fine particles using centrifugal force. The new design provides a longer run time when is combined with the Top Bypass Valve.

The ESP Screen Vortex Desander is installed below the ESP sensor, mechanical packer, or a shroud without any loss of separation efficiency

BENEFITS

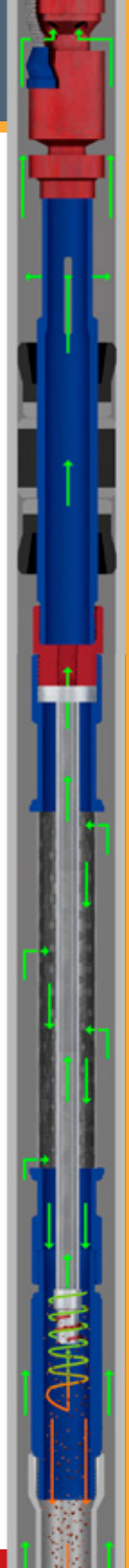
- *Lower lifting costs, reduced downtime and greater operating efficiency.*
- *Reduced pump failures resulting from sand damage.*
- *Two-stage sand separation.*
- *Centrifugal force greatly increases sand separation efficiency.*

Use your device by scanning the QR code

VIDEO

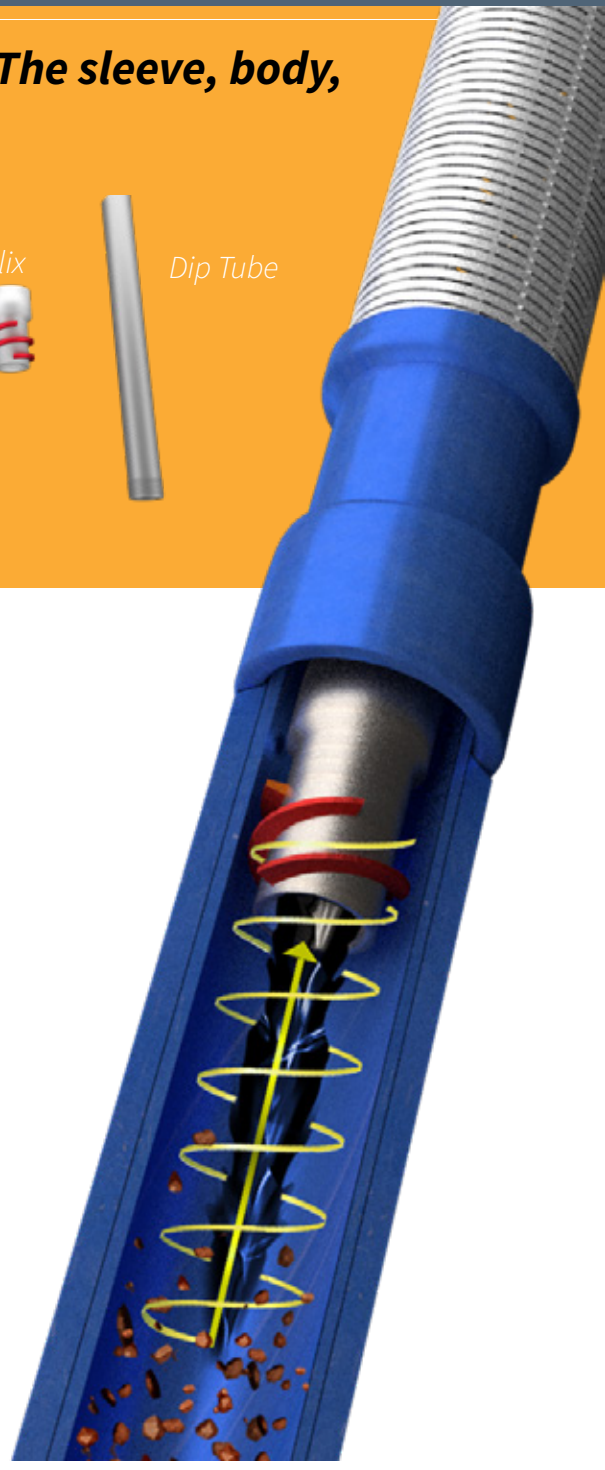
AUGMENTED REALITY

HOW IT WORKS



The ESP Screen Vortex Desander is made up of 4 components, they are: The sleeve, body, dip tube and vortex helix.

1. The Sleeve: *Is the outside portion of the tool, it is slotted to eliminate the possibility of dropping tubing in the event of severe sand cutting.*
2. Body: *The inner portion of the tool, just inside the sleeve, that houses the components and directs solids downward into the tail pipe (mud joint); it is designed to allow long tool life by resisting sand cutting. The length of this section is 22 in.*
3. Dip Tube: *The steel pipe connected to the helix that allows cleaned fluid to enter the production line and be produced up the tubing, while also assisting in the separation of gas.*
4. Vortex Helix: *The inside portion of the tool, with spiral shaped fins, that directs fluid in a circular motion. This is called a vortex, and it separates solids by using centrifugal force to sling solids to the outside of the body.*



VORTEX FLOW CHART

FLOW CHART		HELIX SIZES		
ESP		EUE TUBING SIZE		
MIN	MAX	2-3/8"	2-7/8"	3-1/2"
96	192	HE1.1	HE2.1	HE3.1
132	252	HE1.2	HE2.2	HE3.2
216	440	HE1.3	HE2.3	HE3.3
330	610	HE1.4	HE2.4	HE3.4
410	850	HE1.5	HE2.5	HE3.5
780	1480	HE1.6	HE2.6	HE3.6
1150	1910	HE1.7	HE2.7	HE3.7
1480	2800	HE1.8	HE2.8	HE3.8
2100	3900	HE1.9	HE2.9	HE3.9

Available
-2-3/8"
-2-7/8"
-3-1/2"

GV CUP PACKER RUBBER MATERIAL

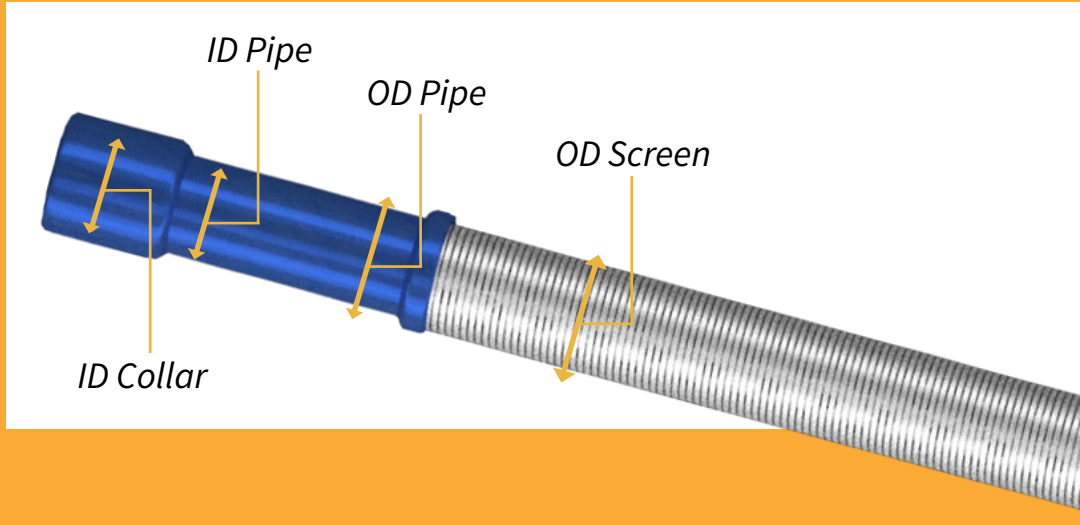
RUBBER TYPE	TEMPERATURE RANGE
NITRILE	70° - 300° F
HSN (HNBR)	70° - 325° F
VITON	100° - 350° F
AFLAS	150° - 400° F

The Tubing Screen is manufactured in three nominal diameters:

2-3/8", 2-7/8", 3-1/2" and 2 lengths: 8' and 23.5'. Each one of these diameters and lengths could be designed with different slot sizes. The size and length of the system for sand management downhole is designed based on the production and mechanical conditions of each well.

23.5 ft

Size	Slot	Open Area
2 3/8	8	176.0
2 7/8		207.3
3 1/2		242.4
2 3/8	10	216.2
2 7/8		253.2
3 1/2		253.9
2 3/8	12	254.4
2 7/8		298.7
3 1/2		349.3
2 3/8	15	308.9
2 7/8		362.8
3 1/2		424.2
2 3/8	20	393.2
2 7/8		461.8
3 1/2		539.9
2 3/8	50	772.4
2 7/8		907.0
3 1/2		1060.4
2 3/8	75	983.1
2 7/8		1154.4
3 1/2		1349.6



Technical Specifications

	Pipe (in)		Screen (in)	Collar (in)	
Size	OD	ID	OD	OD	ID
2-3/8"	2.375	1.941	2.87	3.063	2.375
2-7/8"	2.875	2.441	3.27	3.668	2.875
3-1/2"	3.5	3.066	3.94	4.5	3.5

Thread Connection

Size	Top Connection	Bottom Connection
2-3/8"	2-3/8" EUE box	2-3/8" EUE box
2-7/8"	2-7/8" EUE box	2-7/8" EUE box
3-1/2"	3-1/2" EUE box	3-1/2" EUE box