



**Sand Control Systems
Perforated Tubing And Casing Systems**



Keeping Sand In Its Place Since 1969

Wire Wrapped Base Pipe Screen



The Variperm All Welded Wire Wrapped Base Pipe Screen is leading the industry in superior construction, durability, and quality. With a proven record it is a simple choice for reliable sand free production for either vertical or horizontal oil wells.

Wire Wrapped Screen maximizes the open area by utilizing an accurately controlled gauge as low as 0.003". The gauge, or slot size, is determined from a sieve analysis of a formation core sample. Gauge spacing of the Wire Wrapped Screen is permanent.

The specified gauge is maintained downhole under the roughest handling conditions. There are no solder strips, weldbeads, or lugs to block the fluid flow around or through a Wire Wrapped Screen. The large inlet area allows higher production rates with lower entrance velocities and minimal pressure drop.

Casing and tubing which are utilized in the manufacture of Base Pipe Screen are high quality and meet all API standards. Mill certifications and conformance reports are kept on file for all products.

Variperm's screen products are manufactured to meet the specific needs of each individual client, ensuring that every screen is the right screen.

Base Pipe Outer Diameter		Holes Per foot	Holes Per meter	Hole Size inches	Hole Open Area sq.in./ft	Screen Outer Diameter		NU Coupling Outer Diameter		EU Coupling Outer Diameter	
inches	mm					inches	mm	inches	mm	inches	mm
1.900	48.26	84	275.6	3/8	13.0	2.423	61.54	2.200	55.88	2.500	63.50
2.375	60.33	96	315.0	3/8	11.8	2.898	73.61	2.875	73.03	3.063	77.80
2.875	73.03	60	196.9	1/2	10.9	3.406	86.51	3.500	88.90	3.668	93.17
3.500	88.90	72	236.2	1/2	10.7	4.031	102.39	4.250	107.95	4.500	114.30
4.000	101.60	84	275.6	1/2	10.9	4.523	114.88	4.750	120.65	5.000	127.00
4.500	114.30	84	275.6	1/2	9.7	5.040	128.02	5.200	132.08	5.563	141.30

Base Pipe Outer Diameter		Holes Per foot	Holes Per meter	Hole Size inches	Hole Open Area sq.in./ft	Screen Outer Diameter		Coupling Outer Diameter	
inches	mm					inches	mm	inches	mm
4.500	114.30	84	275.6	1/2	9.7	5.040	128.02	5.000	127.00
5.000	127.00	96	315.0	1/2	10.0	5.530	140.46	5.563	141.30
5.500	139.70	96	315.0	1/2	9.1	6.040	153.42	6.050	153.67
6.625	168.28	120	393.7	1/2	9.4	7.187	182.55	7.390	187.71
7.000	177.80	132	433.1	1/2	9.8	7.570	192.28	7.656	194.46
7.625	193.68	144	472.5	1/2	9.8	8.211	208.56	8.500	215.90
8.625	219.08	156	511.8	1/2	9.4	9.228	234.39	9.625	244.48
9.625	244.48	168	551.2	1/2	9.1	10.248	260.30	10.625	269.88
10.750	273.05	180	590.6	1/2	8.7	11.395	289.43	11.750	298.45

Wire Wrapped Base Pipe Pre-Packed Screen



The Pre-Packed Screen has been integrated with the latest Wire Wrap technology to provide outstanding durability and performance.

This screen assembly consists of an inner perforated base pipe, jacketed by two Wire Wrapped Screens. The annulus between the two jackets is packed with a high quality filter media. The gauge of the inner and outer jackets is determined by the size and type of filter media. The gauge should be equal to half of the smallest diameter of the filter media.



The filter media is chosen based on the formation sands that are to be controlled. The standard filter media used is high quality gravel pack silica sand, fully curable resin coated resieved gravel pack sand or ceramic beads are also available.

Industrial vibrating machines are used in conjunction with careful loading of the filter media to ensure proper compaction and even distribution. High intensity light is used during the inspection process of each Pre-Packed Screen. Each assembly is 100% void free.

Pre-Packed Screens are an economical alternative that may be used to complete vertical or horizontal wells when a conventional gravel pack is not feasible.

Base Pipe Outer Diameter		Holes Per foot	Holes Per meter	Hole Size inches	Hole Open Area sq.in./ft	Screen Outer Diameter		Annular Thickness	
inches	mm					inches	mm	inches	mm
1.900	48.26	84	275.6	3/8	13.0	3.406	86.51	0.492	12.50
2.375	60.33	96	315.0	3/8	11.8	4.031	102.39	0.567	14.40
2.875	73.03	60	196.9	1/2	10.9	4.523	114.88	0.559	14.20
3.500	88.90	72	236.2	1/2	10.7	5.040	128.02	0.505	12.83
4.000	101.60	84	275.6	1/2	10.9	5.530	140.46	0.504	12.80
4.500	114.30	84	275.6	1/2	9.7	6.040	153.42	0.500	12.70
5.000	127.00	96	315.0	1/2	10.0	7.187	182.55	0.829	21.06
5.500	139.70	96	315.0	1/2	9.1	7.570	192.28	0.765	19.43
6.625	168.28	120	393.7	1/2	9.4	8.211	208.56	0.512	13.00
7.000	177.80	132	433.1	1/2	9.8	9.228	234.39	0.829	21.06
7.625	193.68	144	472.5	1/2	9.8	10.248	260.30	1.019	25.88
8.625	219.08	156	511.8	1/2	9.4	11.395	289.43	1.084	27.53
9.625	244.48	168	551.2	1/2	9.1	12.415	315.34	1.084	27.53
10.750	273.05	180	590.6	1/2	8.7	14.073	357.45	1.339	34.01

Wire Wrapped Base Pipe Thin-Packed Screen

In situations where it is necessary to maximize the base pipe diameter, minimize the screen assembly diameter, and maintain a large inflow area, Variperm's Thin-Packed Screens meets the challenge.

This screen consists of an inner perforated base pipe covered with a thin inner stainless steel Wire Wrapped jacket, covered by a larger diameter Wire Wrapped jacket. The annular thickness is kept to a minimum.

The gauge of the inner and outer jackets is determined by the size and type of filter media. The gauge should be equal to half of the smallest diameter of the filter media. The filter media is chosen based on the formation sands that are to be controlled. The same manufacturing procedures and principles used in the fabrication of Pre-Packed Screen are used here.

Also, all Variperm sand control products have high mechanical strength. Procedures have been developed that limit the stresses introduced to the weld affected area of each assembly.

Thin-Packed Screens can be combined with a gravel pack to ensure the successful completion of a gravel packed well. If voids exist within the gravel pack its usefulness is compromised. These screens act as a backup and are effective where a gravel pack void would otherwise limit the success of the completion. The minimized outer diameter of the Thin-Pack allows the annulus area of the gravel pack to be maximized.



Base Pipe Outer Diameter		Holes Per foot	Holes Per meter	Hole Size inches	Hole Open Area sq.in./ft	Screen Outer Diameter		Annular Thickness	
inches	mm					inches	mm	inches	mm
1.900	48.26	84	275.6	3/8	13.0	2.870	72.90	0.220	5.59
2.375	60.33	96	315.0	3/8	11.8	3.345	84.96	0.220	5.59
2.875	73.03	60	196.9	1/2	10.9	3.845	97.66	0.220	5.59
3.500	88.90	72	236.2	1/2	10.7	4.470	113.54	0.220	5.59
4.000	101.60	84	275.6	1/2	10.9	4.970	126.24	0.220	5.59
4.500	114.30	84	275.6	1/2	9.7	5.470	138.94	0.220	5.59
5.000	127.00	96	315.0	1/2	10.0	5.970	151.64	0.220	5.59
5.500	139.70	96	315.0	1/2	9.1	6.470	164.34	0.220	5.59
6.625	168.28	120	393.7	1/2	9.4	7.595	192.91	0.220	5.59

Perforated Tubing And Casing Systems



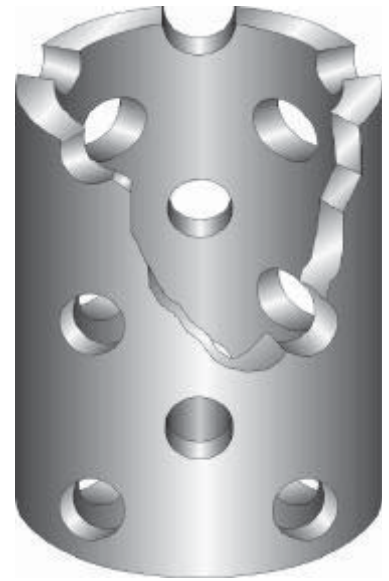
Variperms perforated Liner Systems are a proficient cost effective way of exposing the geological formation to atmospheric pressure.

Multi Spindle Drill Presses are used to produce liners which have a standard open area of 3%. Both the number of perforations per foot and the hole size are adjustable to provide different open areas which may be required by specific applications.

The integrity of the liner is not compromised when it is perforated using circular holes to achieve the required inflow area. The stress concentration factors introduced into the liner as a result of the perforation process are limited when circular holes are used. As a result, the residual stresses caused by the bending and torsional loading which occurs during the installation of the liner are minimized.

Every perforated casing and tubing joint is put through a comprehensive deburring process. Every hole is visually inspected and cleaned of burr material. Variperms understands the importance of completing a well with a clean liner.

Circulation Systems can accommodate a sluffing formation to allow accurate placement of perforated liners. Variperms professional support staff are available to assist in the field when a Circulating System is required.



Base Pipe Outer Diameter		Holes Per foot	Holes Per meter	Hole Size inches	Hole Open Area		Percentage Open Area %
inches	mm				sq.in./ft	sq.cm/m	
1.900	48.26	24	78.7	3/8	2.65	56.1	3.701
2.375	60.33	30	98.4	3/8	3.31	70.1	3.701
2.875	73.03	18	59.1	1/2	3.53	74.8	3.261
3.500	88.90	24	78.7	1/2	4.71	99.7	3.571
4.000	101.60	24	78.7	1/2	4.71	99.7	3.125
4.500	114.30	30	98.4	1/2	5.89	124.7	3.472
5.000	127.00	36	118.1	1/2	7.07	149.6	3.750
5.500	139.70	36	118.1	1/2	7.07	149.6	3.409
6.625	168.28	42	137.8	1/2	8.25	174.6	3.302
7.000	177.80	42	137.8	1/2	8.25	174.6	3.125
7.625	193.68	48	157.5	1/2	9.42	199.5	3.279
8.625	219.08	54	177.2	1/2	10.60	224.4	3.261
9.625	244.48	60	196.9	1/2	11.78	249.4	3.247
10.750	273.05	66	216.5	1/2	12.96	274.3	3.198

Variper Canada Limited is a 100% Canadian owned and operated company offering high quality Wire Wrapped Screens and Perforated Liner Systems to both the Canadian and International Oil and Gas Industries. Variper is able to design, manufacture and implement "fit for purpose" solutions to meet the ever-changing needs of its customers.



Through full control of manufacturing, Variper is able to respond quickly to engineering changes and meet tight delivery schedules. Variper's enthusiasm and high standard of customer service is provided to all customers, no matter how large or small they may be.

Proudly Canadian

The All Welded Wire Wrapped Screen combines high strength and superior corrosion resistance for unsurpassed durability. High quality 304L and 316L stainless steels are the standard materials used in the manufacture of all Variper's screen products. Each individual rib wire is electric resistance welded to the wrap wire at all points of contact. This process develops a strong robust screen with an unobstructed outer surface that allows fluid and particulate to flow freely around and over the screen. Slot size is permanent and accurate.

Variper's engineering and design team are experts in the field of sand control and hole consolidation. The design team works side by side with manufacturing personnel to provide high quality products. At Variper's facility, quality control is an important aspect of the fabrication process. Each individual who is involved in the fabrication of a Variper product takes pride in his or her part of the process. The finished product will not be released for shipment until all in-house and customer specifications are met.



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