



*W*ILL SCREEN & PLANT
BUSINESS – SCREEN

❖ General

- WILL SCREEN & PLANT, since established in 2001, has been growing steadily by manufacturing, engineering, delivering Profile Wedge Wire Screens to domestic and overseas petrochemical, water & wastewater and the other industrial plants.
- WILL S&P has also established its institute of technology through we have been able to develop the technology and know-how and gained ISO 9001, ISO 14001, OHSAS 18001 to become a global leading manufacturer in the filtration industry

❖ Definition of Profile Wedge Wire Screen

- Wedge Wire Screen is a welded stainless steel structure, mainly used for filtration, separation and retention media.
- This is made by wrapping support rods helically with 'V' shaped design that has strong resistance to pressure and corrosion. The distance between the surface profiles is controlled very accurately, as it forms the slot through which the filtrate flows.
- V-shaped design also allows the fluids to go through the slots very smoothly while sludge and debris are filtered without clogging which often happens to the mesh type of screen

❖ Filtrations Direction

- The direction of the flow is determined by the position of the surface profiles in relation to the support profiles. Wedge wire screens are either flow-out-to-in (FOTI) or flow-in-to-out (FITO)

❖ Advantages

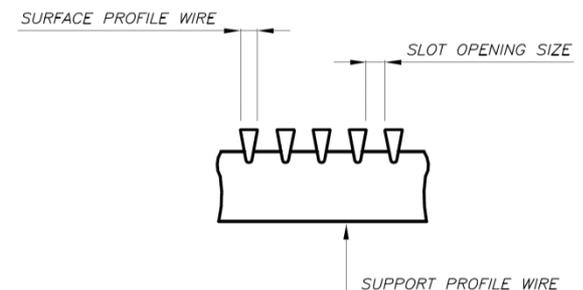
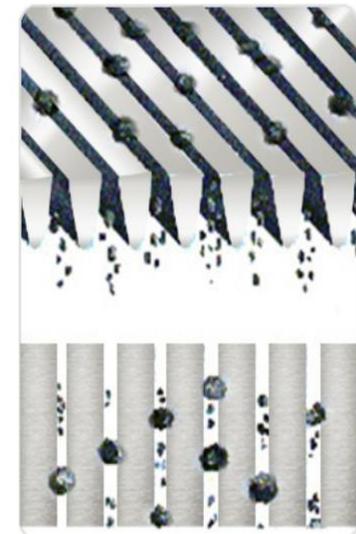
- Non-clogging: The continuous slot formed by the V-shaped surface wires ensures a two-point contact between the particles and the slot, which minimizes clogging.
- High-precision slot sizes: Precise slot sizes are available to meet customer requirements.
- Surface filtration: The V-shaped surface wires allow easy cleaning by mechanical scraping or back flushing.
- Low pressure-drop: Reduce the amount of energy required to pull water through the screen, creating significant savings on operating costs.
- Strong construction: For most applications, the wedge wire screen is self-supporting, because of the welding at each intersection.



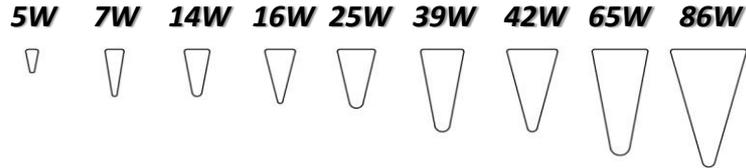
Profile Wedge Wire



Wire Mesh

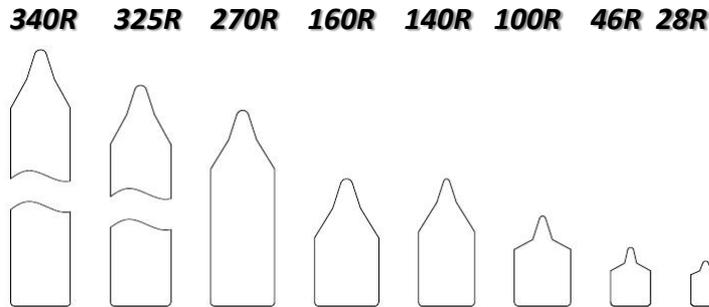


SURFACE PROFILE WIRE



Model	5W	7W	14W	16W	25W	39W	42W	65W	86W
Width (mm)	0.5	0.75	1.0	1.2	1.5	1.7	2.0	2.2	3.0
Height (mm)	1.0	2.0	2.0	2.3	2.5	3.5	3.5	5W	5.0
Weight (g/m)	3	7	11	13	20	30	34	51	68

SUPPORT PROFILE WIRE



Model	340R	325R	270R	160R	140R	100R	46R	28R
Width (mm)	3.0	3.0	3.2	3.2	2.8	2.8	2.0	1.5
Height (mm)	40	25	10	6.5	6.5	4.6	3.0	2.3
Weight (g/m)	916	560	216	141	112	104	37	22

STANDARD SPECIFICATION

Minimum Screen Diameter	20 mm
Minimum Screen Slot	0.025 mm

AVAILABLE MATERIALS

ASTM/ASME		ASTM/ASME	
●	S.S 304	●	S.S 347
●	S.S 304L	●	S31803 (S2205)
●	S.S 316L	●	S32750 (S2507)
●	S.S 317	●	HC-276
●	S.S 310	●	Ti-Gr.2
●	S.S 321		Other Material

- Standard available on stock
- ❖ Other material available for Projects

BAR PROFILE WIRE

Model	500W	900W	Plain 3.4	Diamond 3.0
Width (mm)	5.0	8.0	3.4	3.0
Height (mm)	10	17	6.5	6.5
Weight (g/m)	205	714	122	102

SLOT OPENING EQUIVALENCE

INCH.	MM	MICRON	US STD MESH	INCH.	MM	MICRON	US STD MESH
0.001		25		0.049	1.25	1250	
0.0015		37	400	0.055		1410	14
0.002		50	270	0.059	1.50	1500	
0.003		75	200	0.066		1680	12
0.004	0.100	100	150	0.069	1.75	1750	
0.005	0.125	125	120	0.078	2.00	2000	
0.006		149	100	0.089	2.25	2250	
0.007		177	80	0.094		2380	8
0.008		200	70	0.098	2.50	2500	
0.010	0.250	250	60	0.108	2.75	2750	
0.012		305	50	0.111		2790	7
0.014		355	45	0.118	3.00	3000	
0.016		400	40	0.132		3330	6
0.020	0.500	500	35	0.138	3.50	3500	
0.023		590	30	0.157	4.00	4000	5
0.028		710	25	0.185		4700	4
0.030	0.750	750		0.197	5.00	5000	
0.033		840	20	0.236	6.00	6000	
0.039	1.000	1000	18	0.263		6700	3
0.047		1190	16	0.312		7900	2.5

❖ Calculation

- The flow rate per square foot of cylindrical screen surface can be calculated as follows

$$\text{Open Screen Area} = \frac{S}{W + S}$$

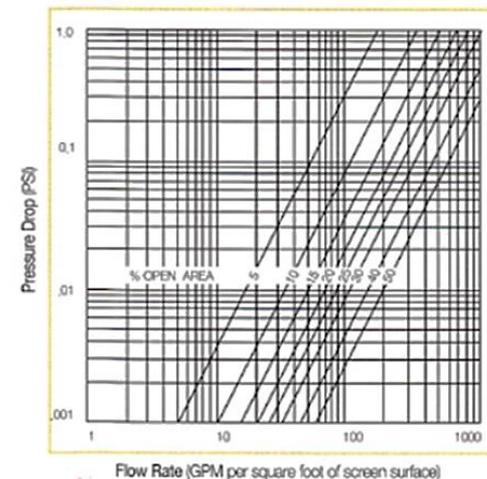
W = Profile Wire surface width
S = Slot opening

$$\text{Screen Dimension} = \pi * D * L$$

$$\text{Pressure Drop} = \frac{144Q}{\pi * D * L}$$

Q= Total flow rate
D= Screen out diameter in inch
L= Screen total length in inch

$$\text{Effective Screen Area (m}^2 \text{ or ft}^2\text{)} = \frac{\text{Open Screen Area}}{\% \text{ Open Area}} \times 100$$



TYPE OF SCREEN



SUPPORT GRID



WELL SCREEN



SIEVE SCREEN



COLLECTOR



CARTRIDGE FILTER



RESIN TRAP & STRAINER



HEADER LATERALS & DISTRIBUTOR



INLET DIFFUSER



TRASH SCREEN

TYPE OF SCREEN



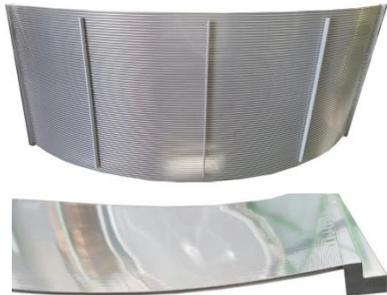
INTAKE SCREEN



SCREW PRESS SCREEN



BAR SCREEN



DSM SCREEN



DRUM SCREEN



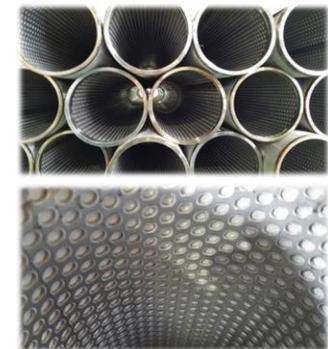
BASKET SCREEN



ICM SCREEN



NOZZLE SCREEN



MESH SCREEN