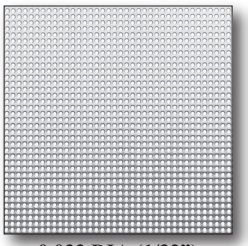
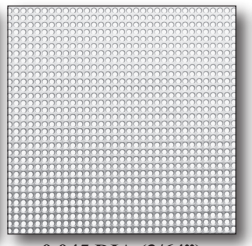
SCREEN OPTIONS

The screen or basket is the heart of the Keckley strainer. The media flows into the open end of the screen or basket and is strained as it passes through the screen towards the outlet. All particles larger than the screen opening are trapped inside. Screens are provided in perforated metal or wire mesh, depending on strainer size and/or material being strained. Only the best materials of the proper gauge to suit the service are used. All seams are spot welded for maximum strength. Double or reinforced screens are spot welded on the end peripheries as well as the seams. Reinforced screens consist of a perforated sheet lined with wire mesh. Keckley engineers have designed the screens to provide maximum total screen area.

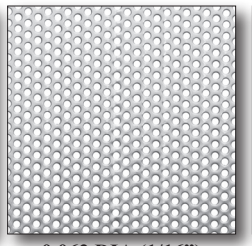
Perforated Sheet Metal Sizes



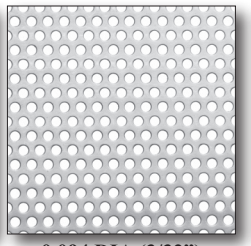
0.033 DIA (1/32")
(on 0.055" Straight Centers)
331 Holes Per Sq. In.
28% Open Area



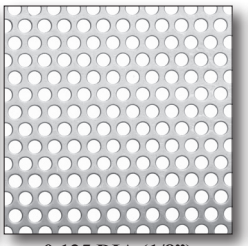
0.045 DIA (3/64")
(on 0.066" Straight Centers)
230 Holes Per Sq. In.
37% Open Area



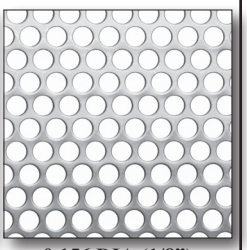
0.062 DIA (1/16")
(on 0.109" Staggered Centers)
98 Holes Per Sq. In.
30% Open Area



0.094 DIA (3/32")
(on 0.156" Staggered Centers)
48 Holes Per Sq. In.
37% Open Area

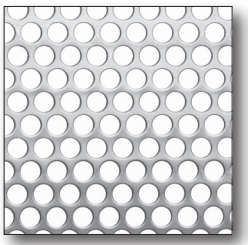


0.125 DIA (1/8")
(on 0.188" Staggered Centers)
33 Holes Per Sq. In.
40% Open Area

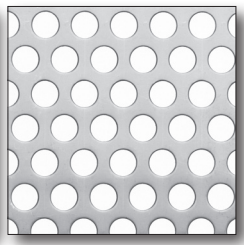


0.156 DIA (1/8")
(on 0.188" Staggered Centers)
33 Holes Per Sq. In.
63% Open Area

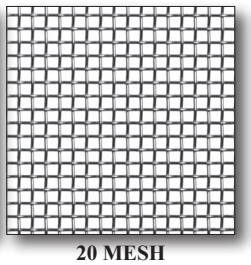
Mesh Sizes



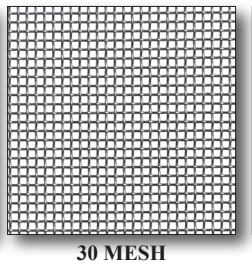
0.188 DIA (3/16")
(on 0.250" Staggered Centers)
19 Holes Per Sq. In.
51% Open Area



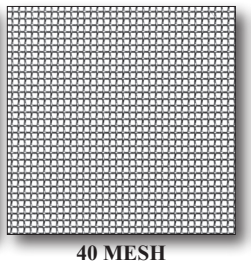
0.25 DIA (1/4")
(on 0.375" Staggered Centers)
9 Holes Per Sq. In.
40% Open Area



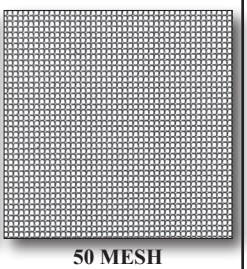
20 MESH
Wire Dia. 0.015
Opening 0.035
49% Open Area



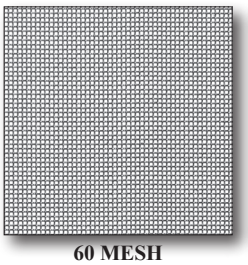
30 MESH
Wire Dia. 0.011
Opening 0.022
45% Open Area



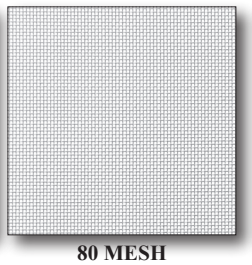
40 MESH
Wire Dia. 0.010
Opening 0.015
36% Open Area



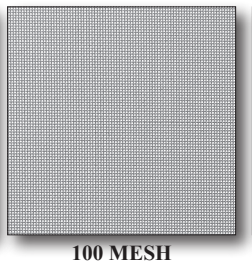
50 MESH
Wire Dia. 0.0085
Opening 0.011
37% Open Area



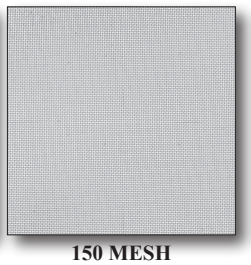
60 MESH
Wire Dia. 0.0065
Opening 0.010
38% Open Area



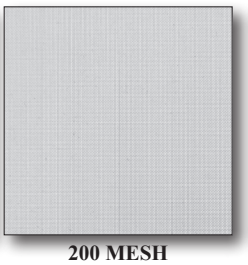
80 MESH
Wire Dia. 0.0055
Opening 0.0070
31% Open Area



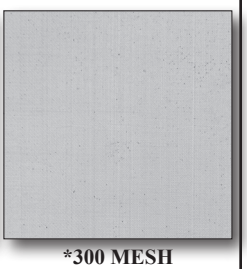
100 MESH
Wire Dia. 0.0045
Opening 0.0055
30% Open Area



150 MESH
Wire Dia. 0.0026
Opening 0.0041
37% Open Area



200 MESH
Wire Dia. 0.0021
Opening 0.0029
34% Open Area



***300 MESH**
Wire Dia. 0.0012
Opening 0.002
41% Open Area

***300 Mesh available in Duplex Strainers only.**

304 Stainless steel screens are standard in all strainers. Other screen materials are available upon request (i.e. 316 SS, Monel, Hastelloy C276, Alloy 20, Duplex Stainless Steel, Titanium). In stainless steel, the smallest perforation obtainable is generallly twice the thickness of the metal itself. Therefore, perforations from 0.033" through 0.250", dependent on metal thickness, are readily available. When extra fine straining is required of the larger strainers, reinforced screens consisting of a perforated sheet lined with wire mesh are recommended. This allows removal of fine particles with added durability.

KECKLEY

Strainer Information

MAGNETS

Magnets can be provided as an option which, when placed inside the strainer screen, will remove very fine iron or steel particles present in fluid.

Magnets provide protection for equipment against abrasive damage.

Strainer Size	Magnets required
2½" – 4"	1 magnets
5" – 6"	2 magnets
8" – 10"	3 magnets
12" – 14"	4 magnets
16" – 18"	5 magnets

*Sizes 2" and smaller strainers can be furnished with magnetic plugs.

REINFORCING BANDS

Reinforcing bands can be used to add additional strength and durability to the screens or baskets when straining conditions have higher than normal pressure drops.

DETERMINING NET FREE AREA RATIOS

To calculate the ratio, use the following formula:

Formula:

1. Choose the size perforation or mesh needed to remove particles from the media passing through the strainer.
2. Multiply the *TOTAL SCREEN AREA* by the *PERCENT OF OPEN AREA of the screen*. The result equals the *OPEN AREA of the screen.*
3. Divide the result (*OPEN AREA of the screen*) by *the INSIDE AREA of the pipe* to give *the ratio of net free area of the screen to the pipe.*

Example: (2" Style B screwed "Y" strainer with a 20 mesh 304 stainless steel screen)

36.23 (*total screen area in²*)
x .49 (*20 mesh = 49% open area*)
17.753 (*total open area of screen*)

17.753" / 3.356" (*inside area of 2" pipe*) = 5.29:1
(RATIO OF NET FREE AREA OF THE SCREEN TO PIPE AREA)

INSIDE AREA OF THE PIPE (in²)							
Size	(in²)	Size	(in²)	Size	(in²)	Size	(in²)
1/4"	0.104	1-1/4"	1.496	4"	12.732	12"	111.946
3/8"	0.191	1-1/2"	2.036	5"	20.008	14"	135.294
1/2"	0.304	2"	3.356	6"	28.894	16"	176.738
3/4"	0.534	2-1/2"	4.788	8"	48.914	18"	223.71
1"	0.864	3"	7.394	10"	78.865	20"	278.04

Screen Opening Equivalents

Fractional Inches	Decimal Inches	Millimeters	Microns	Mesh
--	0.001	--	25	--
--	0.0015	--	37	400
--	0.002	--	50	300
--	0.003	--	75	**200**
--	0.004	1/10	100	**150**
--	0.005	1/8	125	115
--	0.006	--	149	**100**
--	0.007	--	177	**80**
--	0.010	1/4	250	**60**
--	0.011	--	280	**50**
--	0.015	--	406	**40**
--	0.020	1/2	500	--
--	0.022	--	533	**30**
--	0.030	3/4	750	--
1/32	0.033	--	838	--
--	0.035	--	840	**20**
--	0.039	1	1000	16
3/64	0.045	--	1143	--
--	0.046	--	1190	14
--	0.055	--	1410	12
--	0.059	1-1/2	1500	--
1/16	0.062	--	1575	--
--	0.065	--	1680	10
--	0.079	2	2000	9
--	0.093	--	2380	8
3/32	0.094	--	2388	--
--	0.110	--	2790	7
--	0.118	3	3000	--
1/8	0.125	--	3175	--
--	0.131	--	3330	6
--	0.156	4	4000	5
--	0.185	--	4700	4
3/16	0.188	--	4763	--
--	0.197	5	5000	--
--	0.236	6	6000	--
1/4	0.250	--	6350	--
--	0.263	--	6700	3

Sizes in **bold red** are available from stock at Keckley Company.
Consult Factory for the availability of other sizes including those not listed.