PT PIPA MAS PUTIH

PIONER OF SCREEN FABRICATION IN INDONESIA ESTABLISHED IN 1984

PIPAMAS was established as the first manufacturer of oil and gas well screens in Indonesia. This initiative was the beginning of a continuing innovative diversification. Ever since our efforts and expertise are utilized for developing technologies, thereby adopting API-Standards and ISO 9001 as ways of living in our corporate community.






ABOUT US

PT PIPA MAS PUTIH began production of industrial quality screens for the oil, gas, water, mining and food industries in 1985. This has been a period of challenge for all PIPAMAS staff as our company rapidly expanded to meet the market demand for our product.

As a company we have consistently placed great emphasis on Quality and increasing our Productivity, as a result we also have a range of other related down holes tools in production.

Quality and Productivity, the prevailing motto of PIPAMAS, is reflected by our hardworking professional personnel, the application of advanced technology, prudent deployment of the company's capital and well managed company's expenses.

Consequently, production levels are growing steadily without compromising product quality.

These high quality standards can only be achieved through the combination of skilled and dedicated staff, use of premium raw materials, the application of the most sophisticated technology available and strict comprehensive Quality Assurance Program applied to all products.

PROCESESSES

Engineering Services

A Major part of our philosophy of Quality Assurance involves ensuring that our customers receive the personal service which guarantees that our product is tailored to their precise need. If required, our field engineers are available to visit your well location, and together with your technical staff, discuss your drilling program, assist in the well design, recommend your material requirements, as well as help with the correct installation and application of our screens.

Laboratory

Our Laboratory is fully equipped to run Sand Sieve Analysis and Water Sample Test on your behalf. Our technical staff can report their findings to you, and where necessary advise on screen diameter, slot opening, length of screen and type of material to use as well as gravel pack grading to suit your well conditions

PROCESESSES

Quality Control

Quality is not just a word , it is a philosophy of life. Consistent quality standards are an essential part of our customer relationship, and in keeping with that concept, at PT PIPA MAS PUTIH we have structured our entire organization around the principle of an effective Quality Assurance System. From our management team to our sales staff , our design group and of course our production line we always focus on the ultimate quality of our end product. Our Quality Assurance Process starts from before we accept raw materials of processing. All incoming material is scrutinized for strength and metallurgical composition before accepted. This guarantees that the product will not suffer from inherent weakness. Inside out plant, each of our manufacturing process is subjected to Quality Assurance checks to ensure dimensional accuracy. Screen slot opening are constantly monitored for precision and compliance to permissible tolerances, welds undergo through testing for penetration and strength. Finally, all products undergo a rigorous Quality Assurance check prior to ship to guarantee that our customers receive only the best.

PROCESESSES

Wire Wrap

Wire wrapped screens are increasingly being used in the mining and industrial sectors, in the areas of dewatering, separating, filtering, drying, etc. Screens also have an application in the processing of sugar, paper, chemicals and various others.
As a result, only the most sophisticated electronically controlled fusion-welding and wrapping techniques can be used to produce a screen with a continuous slot aperture. In order to stay ahead of the constantly advancing technology, PT PIPA MAS PUTIH evolved a policy of continuously streamlining and upgrading operations and techniques in order to rapidly respond to more sophisticated and complex customer requirements.
The PIPAMAS screen design has a large surface area with relatively small slot sizes an essential feature when controlling fine sands from thin aquifers without a gravel packing. Built into the screen design is sufficient space between the slots to minimize frictional head losses through the mesh, allowing for the tighter tolerances. Our V-shaped slot configuration also minimizes clogging since the V-shaped profile angled inwards has a two pint contact for the particles of the formation sands ensures that these particles will not wedge themselves into the slot, and eventually plug-up the screen, as frequently happens with the slotted pipe design where the slots lie parallel and are prone to plug-up.
We should stress that the application of wire wrapped screens in situations and/or under conditions, and we would advise clients to consult our engineering team prior to these uses.

SAND CONTROL

The geology of the Indonesian archipelago is highly diverse in its structure. In general it consists of unconsolidated formation materials of sand and gravel intermixed with clay, silt and volcanic boulders. Indonesia also has large reservoirs of crude oil and gas, in most parts located at relatively shallow depths.
With a high annual rain fall average, Indonesia has large ground water reserves contained in fairly shallow water basins. This offers great potential for the full development of the country's natural resources.
In order to fully exploit these resources, a careful professional drilling program must be planned. Following the drilling of a test well to evaluate the formation materials encountered, and the reservoir potential proven, well pressure and behavior data should be analyzed.
This preliminary data analysis will determine the holes depth of the completion to be drilled, and generate a checklist of materials required to equip the well for full scale production.
Since the components for a well completion are vital, they should be carefully selected with a view to such considerations as:

1. Strength of materials selected.
2. Serviceability and availability.
3. Performance life and lastly.
4. Cost.

Well completions in unconsolidated formations are notorious for giving sand pumping problems which lead to the plugging of the well's intake portion (screen device). The ultimate result of this is the sanding up of the well, and damage to pumps, valves and instrumentation. As a result, costly works over and replacement of prematurely worn out components are required involving unnecessary down time periods, and reduction of well yield and production rate as a result of sand pumping.
A positive sand control system installed in the well is essential to effectively hold out formation sands and materials.
The size and shape of the formation particles play an important role in determining the porosity, permeability and storage capacity of an oil or gas reservoir or water bearing formation aquifer. Table 1 illustrates the Tyler Mesh Equivalents in Imperial measurements and gives an international standard for grain particle sizes.

SAND CONTROL

The shape of the sand or gravel particles is a vital consideration since the rounder the particle, the greater the volumetric holding capacity of the reservoir or aquifer. This is because the combined voids between these grain particles hold the oil, gas or water, making up the volumetric storage capacity. The more uniform in size and shape the grain particles are, the closer to unity the co-efficient of the formation material will be, and therefore the greater the porosity and permeability of the reserve. Permeability is the degree of ability of a formation to transmit oil, gas or water.

Sand & Gravel	Coarse Sand	Fine Sand
0.131" (6 mesh)	0.046" (14 mesh)	0.023" (28 mesh)
0.093" (8 mesh)	0.033" (20 mesh)	0.016" (35 mesh)
0.065" (10 mesh)	0.023" (28 mesh)	0.012" (48 mesh)
0.046" (14 mesh)	0.016" (35 mesh)	0.008" (65 mesh)
0.033" (20 mesh)	0.012" (48 mesh)	0.006" (100 mesh)
0.023" (28 mesh)	0.008" (65 mesh)	0.004" (150 mesh)
0.016" (35 mesh)	0.006" (100 mesh)	0.003" (200 mesh)
0.012" (48 mesh)		

Table 1 : Range of particle sizes by category expressed in inches and Tyler Mesh equivalents.

All formation particles in the pay zones are in balance and will not migrate towards the well when it is shut in. However when the well is opened for production, the equilibrium between the particles is broken allowing the smaller grain particles to migrate with the flow towards and will eventually intrude into the well, if the particle size is smaller than the openings (or gauge) of the screens device.
Problems can occur in situations where a slotted pipe design is used as a screening device; the machine milled slots cannot be milled to fine slot sizes. A well which is equipped with an intake portion using this type of screen device will rapidly plug-up in the parallel slots, allowing unacceptable percentage of formation material to pass into the well. This wears out equipment as its yield flow-rate deteriorates and the well sands up.
Similar results will be experience when louver, shutter or bridge screens are used unless the producing formation materials are very coarse. (see Table 1).

SAND CONTROL

Experienced drillers around the world have experimented with various systems in an effort to obtain positive sand control for their wells. As a result, the most proven sand control method is to use the following procedure:

1. Perform extensive sand sieve analysis of the formation materials encountered.
2. Install a stainless steel screen of the all-welded continuous slot wedge wire configuration with a slot opening (gauge) dictated by the sieve analysis result.
3. Select a grade of gravel pack material which matches the gauge and slot opening of the screen. This will ensure that it holds out a minimum of 90% of the gravel pack sand selected.

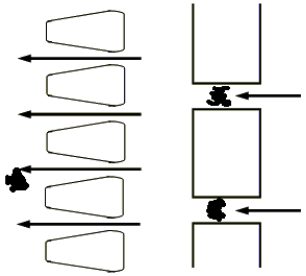


Figure 1 : Illustrates the non-plugging all-welded continuous slot wedge wire type as compared to outmoded slotted pipe.

While drilling through the productive pay zones of the well, representative formation samples can be carefully collected and labeled for quick depth location identification. When the drilling is completed, these samples should be evaluated for actual grain size distribution by the sieve analysis technique. Sieve Analysis requires that each sample must first be head-dried. Between 200-300 grams of dry formation sample should then be taken for actual sieve analysis evaluation. For accurate result this must be an undisturbed true representative formation sample.
It is bad practice to wash the sample, because formation clays of silts may be washed away, similarly do not remove any particles large or small from the core sample.

SAND CONTROL

Each formation sample should the be graded for grain size distribution, by placing sieves of gradually decreasing mesh sizes on a mechanical shaker with the coarsest mesh on top, the formation samples is then poured in and graded according to the mesh sizes used. (see fig.1).
Each retained portion of the sample, starting from the largest size and decreasing layer by layer, should then be weighed on the basis of a continuing cumulative retained percentage of the total weight of the sample.
This data will allow us to accurately determine the exact distribution of the various representative formation samples of grain sizes.
The sieve analysis data are then plotted on graph paper and a smooth curve is drawn through the data points (see fig.2). The vertical scale represents the cumulative retained percentage of the sample while the horizontal scale represents the particle grain size (shown in thousandth of an inch steps).

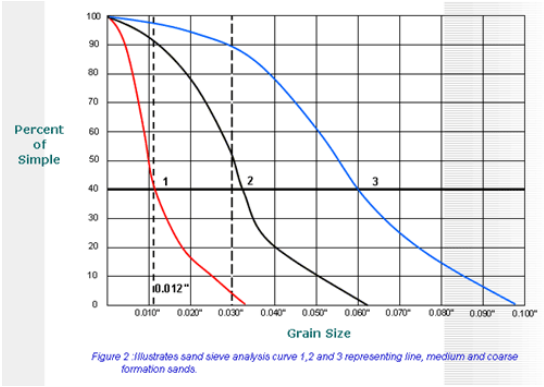


Figure 2 .Illustrates sand sieve analysis curve 1,2 and 3 representing line, medium and coarse formation sands.

These curves are then evaluated by drawing a vertical line down from the intersection point of the curve with the horizontal 40% cumulative retained line.
This vertical line will indicate the exact slot opening or gauge of the screen on the base scale.
This allows us to accurately select the corresponding gauge opening for the screen to guarantee a minimum hold out factor of 90% of the selected gravel pack material.
We have the ability to produce a screen to tolerance of 0.001"; significantly lower than mill-slot casing systems which cannot be fabricated to the narrow and accurate widths required by gravel pack particles sizes. A well completion using mill-slotted casing and gravel pack, will not hold out formation fines and gravel pack materials, resulting in gradual sanding up and the eventual plugging

OUR PRODUCTS

Pipe Base Screen
The base pipe, casing or tubing, is selected to API specifications by size, grade and weight for each of your required applications.

Pre Pack Screen
A pre pack screen is economical, and an ideal solution for low budget rework programs.

Rod Base Screen
Our rod base screens of the all-welded continuous gauge wedge wire type are produced by a sophisticated, electronically controlled fusion-welding process.

Water Well Screen
PIPAMAS screens are custom-built to the strength required for each installation in standard, medium, heavy duty or extra heavy duty configurations.

Water Well Point
Each of our well point screens are produced with careful attention to quality and specifications as out larger screens.

Mining & Industrial Screen
PIPAMAS stationary and vibratory screens are manufactured in a variety of forms and measurements, as required by the copper, coal, cement, iron ore, chemical, petrochemical and food industries.

Down Hole Tool
We manufacture a full range of oil and water well screen fittings as illustrated below in accordance with API, and other specifications for pipe size and telescope size water well screen.

Samples Product with specific design
We are also able to design and manufacture any products with specific design.

OUR PRODUCTS

Pipe Base Screen

The base pipe, casing or tubing, is selected to API specifications by size, grade and weight for each of your required applications. We produce the proven slip-on type of pipe base screen. Our slip-on type of pipe base screen is manufactured from two components: the base pipe and the slip-on screen. The base pipe, casing or tubing, is selected to API specifications by size, grade and weight for each of your required applications. See Table 3, for our standard range.

BASE PIPE							SLIP-ON SCREEN					
API pipe size (in.)	Pipe O/D (in.)	Pipe I/D (in.)	J/K 55 Nom pipe wt lb Per-ft.	Holes per foot	Dia. of holes (in.)	Total area of holes sq.in./ft.	Slip on Screen O/D (in.)	Open area of slip-on screen in sq.in./ft.				Approx. shipping weight lbs/ft
								0.008"	0.012"	0.015"	0.20"	
* 1	1.315	0.967	2.17	60	5/16	4.60	1.72	7.62	10.80	12.96	16.21	3.60
* 1¼	1.660	1.380	2.30	72	5/16	5.52	2.16	9.58	13.57	16.28	20.35	4.50
* 1½	1.900	1.610	2.75	84	5/16	6.44	2.40	10.64	15.07	18.09	22.61	5.20
* 2⅜	2.375	1.995	4.60	96	3/8	10.60	2.86	12.68	17.96	21.56	26.95	7.50
* 2⅞	2.875	2.441	6.40	108	3/8	11.93	3.38	14.99	21.23	25.48	31.85	10.00
* 3½	3.500	2.992	9.20	108	1/2	21.21	4.06	18.00	25.50	30.61	38.26	12.88
* 4	4.000	3.548	9.50	120	1/2	23.56	4.55	20.18	28.58	34.30	42.88	13.80
** 4½	4.500	4.090	11.60	144	1/2	28.27	5.08	15.63	22.53	27.35	34.82	14.50
** 5	5.000	4.494	13.00	156	1/2	30.63	5.62	17.29	24.92	30.26	38.52	18.00
** 5½	5.500	4.950	15.50	168	1/2	32.99	6.08	18.71	26.96	32.74	41.67	19.80
** 6⅝	6.625	5.921	24.00	180	1/2	35.34	7.12	21.91	31.57	38.34	48.80	31.50
** 7	7.000	6.366	23.00	192	1/2	37.70	7.58	23.32	33.61	40.82	51.95	30.50
** 7⅝	7.625	6.969	26.40	204	1/2	40.06	8.20	25.23	36.36	44.16	56.20	34.80
** 8⅝	8.625	7.921	32.00	240	1/2	47.12	9.24	28.43	40.98	49.76	63.33	40.00
** 9⅝	9.625	8.921	36.00	264	1/2	51.84	10.18	31.32	45.15	54.82	69.77	46.20
**10¾	10.750	9.821	45.50	288	1/2	56.55	11.36	34.95	50.38	61.18	77.86	55.40

Table 3 : Illustrates major and specifications of our standard Pipe Base Screen, using J/K-55 tubing and casing by weight as shown in column four.

** Denotes Slip-On Screen construction with 60 Profile Wire.*
*** Denotes Slip-On Screen Construction with 90 Profile Wire.*
Note : Other construction combination available on request

OUR PRODUCTS

Pipe Base Screen

Please give details of special conditions requiring a superior grade of casing such as N-80, SS.304 or SS.316. In the case of slip-on screens, where SS.316 is needed instead of our standard SS.304, please give details so we will meet your exact requirements.

When we have your exact specifications, the casing joint will be cut to the required overall length, with a pin on each end to the thread form required, producing a base pipe joint with two pins. Each joint is supplied with one coupling, hand-tight or power tight as required and weld-on centralizer fins can also be furnished (see figure 6)

Wedge Wire Profiles

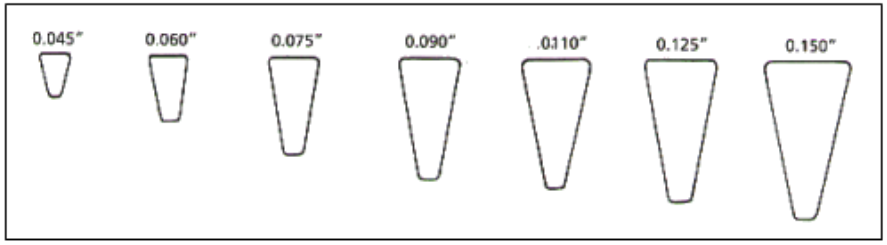


Figure 6 : Illustrates some of our standard profile wire.

Support Rods

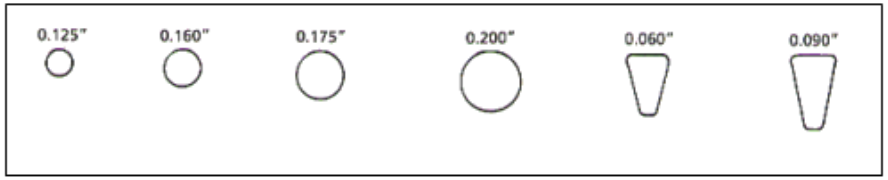


Figure 7 : Illustrates some of our standard support rods.

OUR PRODUCTS

Pipe Base Screen

The base pipe will then be perforated with a series of holes drilled to a pre-determined quantity and pattern, see Table 3 above, to carefully balance flow-capacity at each end for both down-hole handling.

The holes are then debarred and the joint cleaned, inspected and treated to give the base pipe a long shelf life.

Our slip-on screens are manufactured to very exact diameter, length gauge and strength tolerances. This is done by selecting the required profile wire and support rod, which determine the flow-capacity and strength of the slip-on screen. For each gauge opening in the screen we select a slightly greater than that of the perforated base pipe. This will give the pipe base screen optimum flow-capacity at minimum pressure drop across the screen. Having selected the correct profile wire and support rod for a specific application, the slip-on screen can now be fabricated using our highly sophisticated fabricating machines which cylindrically wrap the profile wire into the electronically controlled screen fabricating machine, resulting in a uniform, cylinder-like continuous and constant gauge screen of high strength by fusion-welding the profile wire to the support rods at each intersection.

Because of the large number of support rods and consequently large number of welds per unit length of screen, PIPAMAS slip-on screens are superior in strength and have less likelihood of the profile wire unraveling during setting or pulling of the screen, it is slipped over the perforated base pipe straddling the perforated section.

The protective weld rings are then welded to the base pipe at each end of the slip-on screen, holding it securely in position and adding protection to the slip-on screen in the well during setting and pulling.

OUR PRODUCTS

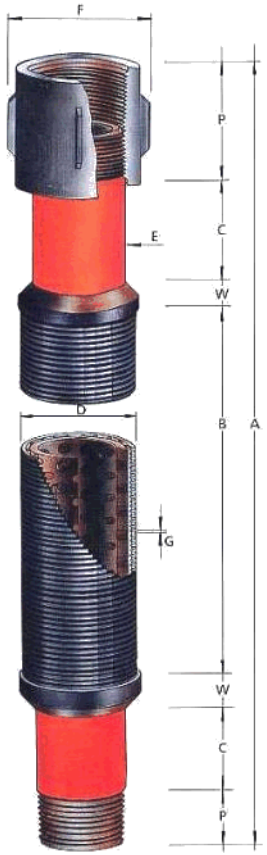
Pipe Base Screen

PIPAMAS standard slip-on screen are manufactured from SS.304 material; however, other materials are available if the conditions in the well dictate the use of a higher grade of stainless steel. For example, when the well conditions are such that the total dissolved solids are greater than 10,000 ppm or the bottom hole temperature is higher than 165° Fahrenheit. In these instances, we would recommend the use of SS.316 material for the slip-on screen, because of its higher nickel content and the presence of molybdenum which has greater corrosion resistance properties.

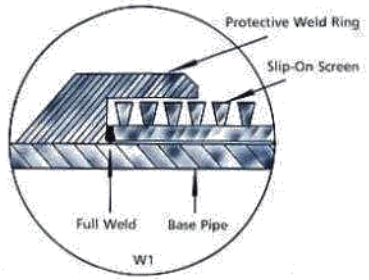
PIPAMAS slip-on screens are constructed in diameters form 1.72" O/D to 10.75" in lengths of up to 30' in one piece and gauge openings from 0.001" accuracy. This then means that the actual pipe base screen joint can be up to 30' of effective screen length plus two blank end lengths.

OUR PRODUCTS

Pipe Base Screen



Description :
A - Overall Joint Length (OAL)
B - Effective Screen Length (ESL)
C - Pin/Box Blank End Length
D - Outside Diameter of the Slip-on Screen
E - Base Pipe API Casing Size, Grade and Weight
F - Weld-On Centralizer Fins to sit inside casing dimension
G - Gauge, Aperture or Slot Opening
P - Pin/Pin/Coupling API Thread Form
W - Protective Weld Ring



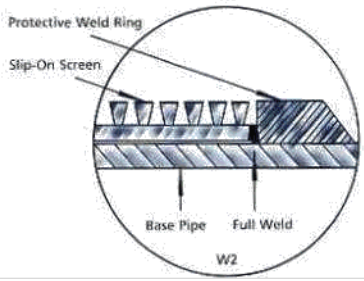


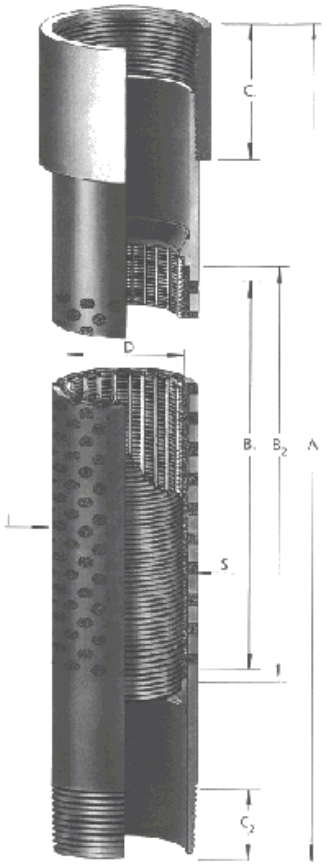
Figure 9 : Illustrates the major dimensions and components making up a Pipe Base Screen.

Figure 10 : Illustrates two types of protective weld rings the recessed type W, for maximum protection against wash out failure, and the conventional flush type W2

OUR PRODUCTS

Pre Pack Screen

A pre pack screen is economical, and an ideal solution for low budget rework programs.



Description :
A - Overall Joint Length (OAL)
B1 - Effective Perforated Length of outer casing
B2 - Effective Screen Length (ESL)
C1 - Box Connector
C2 - Pin Connector
D - Diameter of Screen
I - Perforated Hole
S - Resin Coated Sand

Figure 11 : Illustrates the major dimensions and components making up a Pre Pack Screen.

OUR PRODUCTS

Pre Pack Screen

A pre pack screen consists of one inner screen and one outer perforated seamless casing with an annulus filled with resin coated sand. (See figure 11).

A pre pack screen eliminates the need to under-ream and gravel pack a well. The gauge in a pre pack screen and the range of gravel size is custom-designed and selected to suit the pay zone formation materials of well.

The outer casing is perforated in accordance with pre - designated size and number of holes per foot, while the inner screen gauge size is determined by the selected resin coated sand in the annulus.

For Shallow wells with expected low production rates and thin pay zones; a pre pack screen should be considered.

Another application could be to test an old field and measure its water cut. Evaluate the possibility of putting the well back into production. An old sanded up well which is partially depleted and needs reworking through water injection or steam flooding is another application where a custom-built pre pack screen could be installed after the well has been cleaned out.

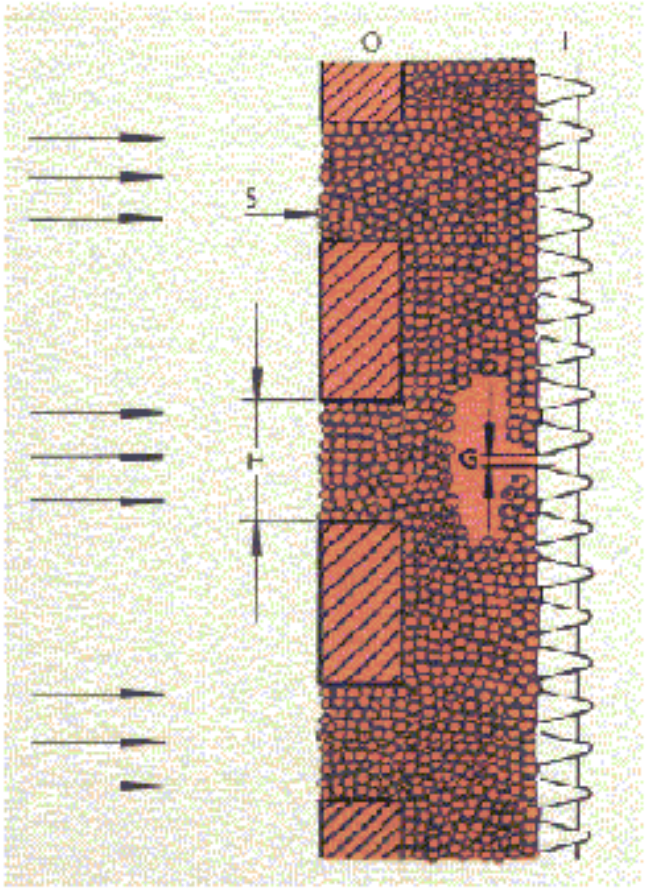
A pre pack screen is economical, and an ideal solution for low budget rework programs.
Our pre pack screens are made out of SS.304 materials and J/K-55 seamless casing.

We can also furnish the pre pack screen with SS.316 or other materials as required. The blank ends can be produced to any desired length with any API thread from required.

The blank ends can be produced to any desired length with any API thread form required.

OUR PRODUCTS

Pre Pack Screen



Description :
O - Outer Perforated Casing
I - Inner Screen
S - Resin Coated Sand
G - Slot Opening of Inner Screen
H - Perforated Hole

Figure 12 : Illustrates a cross-section of the outer perforated casing annulus and resin coated sand and inner screen

OUR PRODUCTS

Rod Base Screen

Our rod base screens of the all-welded continuous gauge wedge wire type are produced by a sophisticated, electronically controlled fusion-welding process.
A number of support rods, 'S', are fed horizontally into our screen fabricating machines at regulated distances from each other, forming a circle, and welded to a continuously wrapped on profile wire, 'P', to produce a screen with a continuous slot opening. Each time the profile wire intersects a support rod, fusion takes place and because of the large number of support rods, our screens have more welds per unit length of screen, resulting in an integrally stronger and superior screen.

We build our rod base screens to three basic strengths: a) standard, b) medium and c) heavy duty

construction. (see Fig.8)

Figure 8 : Illustrates our three basic designs

We do this by selecting a profile wire of smaller or larger cross-section (mass), to get the desired strength. The cross-section of the profile wire is dependent on the dimensions: 'W', 'H' and ' ' making the inter-dimensional ratio very important. By producing a profile wire with the dimension : 'W' held to a minimum, you get more profile wire wraps per foot of screen for any given gauge opening, ensuring that the screen has maximum open area, flow rate. (see Fig.5)

OUR PRODUCTS

Rod Base Screen

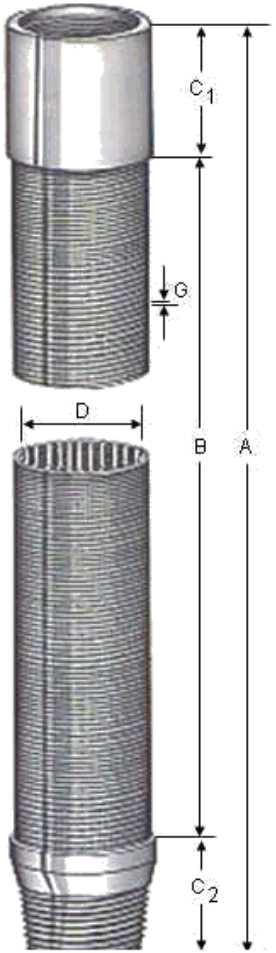


Figure 4 : Illustrates the major dimensions and components making up a Rod Base Screen.

Description :
A - Overall Joint Length (OAL)
B - Effective Screen Length (ESL)
C - Box Connector
C - Pin Connector
D - I/D of Screen
G - Gauge, Aperture or Slot Opening
P - Profile Wire
S - Support Rod
W - Profile Wire Head Width
H - Profile Wire Depth
α - Profile Wire Relief Angle
X - Fuse Part of Wire and Support Rod

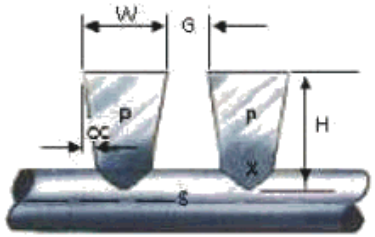


Figure 5 : Illustrates the profile wire being electronically welded to the support rods by fusion process.

OUR PRODUCTS

Rod Base Screen

By increasing the depth of profile wire, dimension 'H', we provide the necessary cross-section to give the screen sufficient strength to withstand the anticipated well pressure.

The careful balancing of dimensions 'W', 'H' and ' ' will result in a rod base screen construction, with maximum open area, flow rate, possible and at the same time provide the necessary in-built strength for its specific well installation.

For the correct in-built column strength, our engineers select support rods by size and number for each screen design to give sufficient in-built column strength which will withstand the anticipated column load in the well, either in tension or compression.
All of our screens are custom-built to exact parameters to meet the specifications and conditions expected in the well while also producing a screen with the maximum open area for a high flow-rate, greater well efficiency and superior in-built strength for dependability and long well life.

API size (in)	Screen O/D (in)	Screen I/D (in)	Tensile Strength (lbs)	Collapse Strength 0.012" gauge (lb/sq.in)	Open Area on square inches per foot of screen by gauge size :						Approx. shipping weight of screen 0.012" gauge in lbs/ft
					0.008"	0.010"	0.012"	0.015"	0.020"	0.025"	
1	1.73	1.05	31,000	4200	6.68	8.88	9.80	11.85	16.11	17.67	3.20
1¼	2.10	1.36	38,000	3500	8.32	10.10	12.00	13.88	17.94	21.94	3.90
1½	2.33	1.62	46,000	3200	8.96	11.22	13.31	15.82	20.08	23.88	5.55
2⅜	2.78	2.00	47,000	3600	10.83	13.24	15.88	19.27	23.88	28.73	6.10
2⅞	3.18	2.44	54,000	3300	7.60	10.05	11.10	13.50	18.38	20.88	6.88
3½	3.70	2.90	54,000	2800	8.88	10.88	12.80	15.80	20.28	25.77	7.65
4	4.40	3.55	58,000	3000	9.66	11.55	14.10	17.24	22.10	28.08	8.80
4½	4.83	4.40	88,000	2600	10.90	13.18	15.55	18.88	24.20	31.45	9.50
5	5.33	4.40	94,000	2600	11.88	14.48	17.35	20.28	26.84	33.39	13.44
5½	5.78	4.92	102,000	2300	12.70	15.54	18.40	22.48	29.00	36.10	16.85
6⅝	7.05	5.92	108,000	2800	10.80	13.60	15.68	19.40	22.30	30.00	22.50
7	7.45	6.38	110,000	2600	11.80	14.00	16.55	20.45	26.58	32.28	27.10
7⅝	8.10	6.92	131,000	2600	12.28	15.88	18.24	21.34	28.85	34.95	35.50
8⅝	9.10	7.92	150,000	2300	13.77	17.16	20.38	25.00	32.50	39.75	37.20
9⅝	10.10	8.92	150,000	2000	15.40	18.90	22.50	27.55	36.44	42.88	42.30
10¾	11.12	9.92	150,000	1700	16.82	20.70	24.80	30.28	39.74	48.38	46.80

Table 2 : Illustrates major dimensions and data for our standard construction Rod Base Screen

OUR PRODUCTS

Rod Base Screen

Table 2, gives details of our standard construction rod base screen by size, major dimensions, open area for a range of frequently used gauge sizes, tensile strength and collapse strength. These are shown for each screen diameter with a 0.012" gauge.

For a smaller gauge the collapse strength will be higher and for a larger gauge the collapse strength will lower. Exact values for other gauges can be furnished on request.

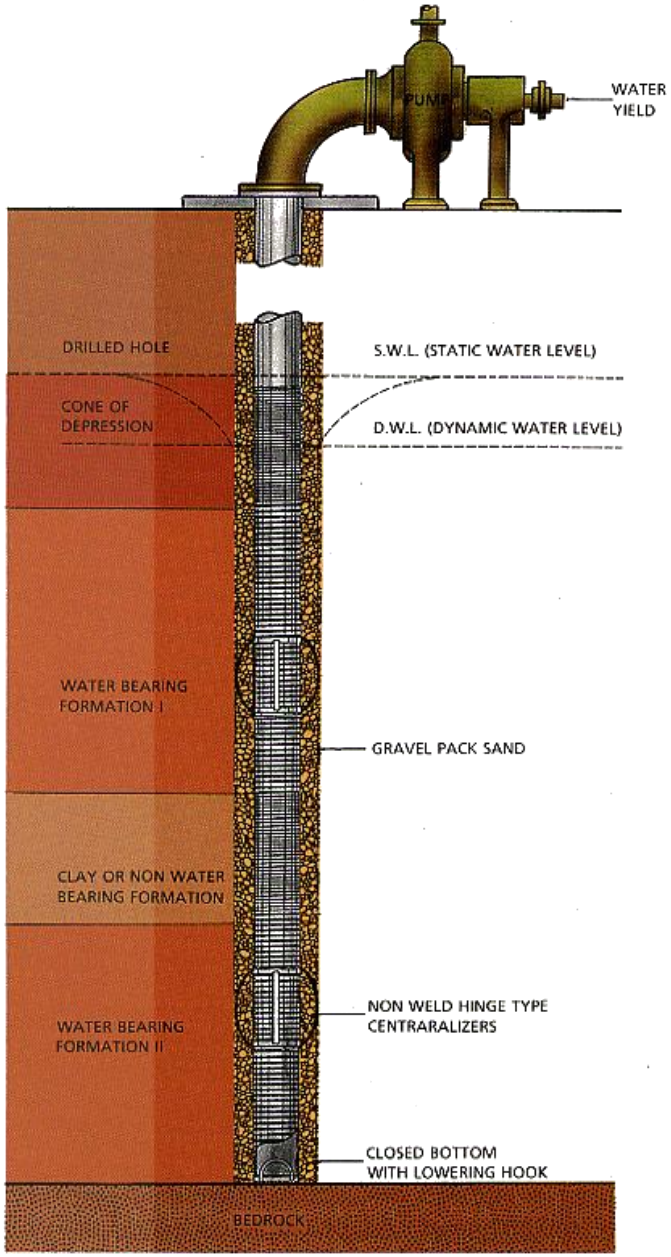
We also produce screens to dimensions not shown in Table 2, with strengths and open areas to suit your needs.
Should you anticipated special conditions, please state your exact requirements and expected well conditions, when ordering.

OUR PRODUCTS

Water Well Screen

PIPAMAS screens are custom-built to the strength required for each installation in standard, medium, heavy duty or extra heavy duty configurations.

Fig.19 : Illustrates a typical water well screen



OUR PRODUCTS

Water Well Screen

In Indonesia's developing agricultural economy, the effective uses of water resource are vital. At PT PIPA MAS PUTIH we have developed our water well screen construction techniques, and design manufacture materials to support the growing ground water development industry.

Regardless of whether the reservoir is to be used for irrigation, or as a potable resource, all water wells must be provided with means to keep sand and gravel from the formation material out of the structure, while allowing sand-free water to flow into the well.

PIPAMAS screens are custom-built to the strength required for each installation in standard, medium, heavy duty or extra heavy duty configurations.

To construct a well properly in a likely location near a river, old river bed or valley. The diameter of the drilled hole should be determined by flow rate (yield) required.

As in the case of Sand Control Analysis, a representative sample of encountered formation materials should be collected during drilling, and stored in plastic bags clearly labeled with the depth at which the samples were obtained.

We would recommend that such samples be collected every five feet: an accepted international procedure which then allows the drilling contractor to maintain a driller’s log - a schematic of the well showing the geological formations encountered. It will also help identify the beginning, depth and end of the water bearing formation, and any static water stands contained in the well.

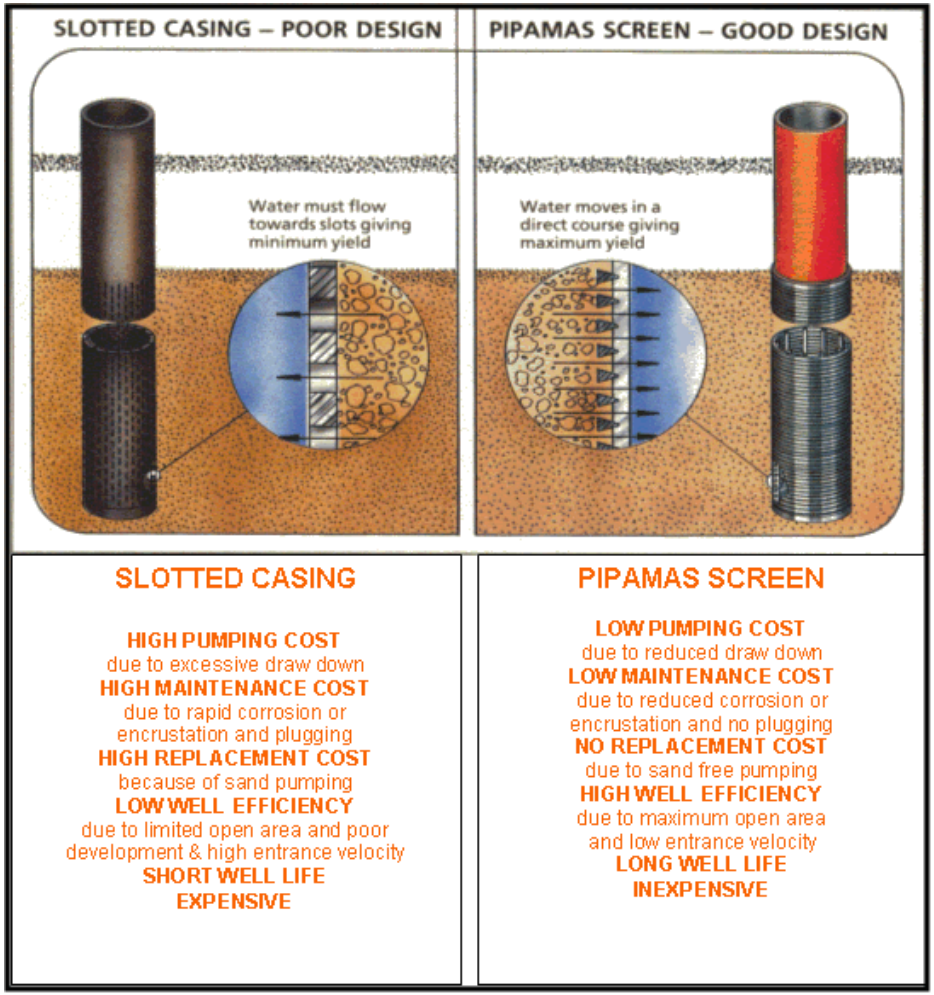
There are two basic types of water bearing formations:
- Water table - where the static water level lies below the ground surface.
- Artisan - where the static water level rise above the ground surface due to subterranean pressure.

OUR PRODUCTS

Water Well Screen

The artisan head can be measured using a header pipe above the ground surface at the point where the water just overflows the top of the header pipe.

The most important factor in constructing water well which will operate trouble-free for several years, in the selection of its components:
- Good quality seamless casing or pipe.
- An efficient pump.
- Non-weld hinge type centralizers (if gravel packing is used).
- A stainless steel screen of the all-welded continuous slot type of construction. (see Figure 19 & Figure 20)



OUR PRODUCTS

Water Well Screen

A water well screen is cylindrical in shape and can be produced in any length up to 30' in one continuous piece to suit your needs. As the intake portion of the down hole production string, the screen should be placed at the depth of the water bearing formation.

The screen has two main functions:
1. It forms part of the well structure and keeps the drilled hole open.
2. It keeps the formation materials, sand and gravel out, allowing sand-free water to flow into the well.

A custom-fabricated screen allows water from the formation to flow freely at a low entrance velocity, of around 0.1 ft or 0.03 meters per second into the well. This type of screen has up to ten times more open area in comparison to the slotted pipe system.(see Figure 23, Figure 21 and Figure 22)

This is done by first calculating the open area required for a given slot opening, determining the dimension 'W', and the well forces that have to be withstood. This will allow the accurate selection of profile wire, 'P'.
(see Figure 23 & Figure 24)

The dimension: 'W', 'H' and ' ' are carefully balanced to give optimum results. The greater the effective mass of the profile wire, the greater the collapse strength of the screen will be to resist expected well pressures.

For tensile and column strength, the size and number of support rods must be calculated to withstand the expected column load in tension or compression, thus accurately selecting the support rod, 'S'.

OUR PRODUCTS

Water Well Screen

When we custom-build your water well screen, we produce a tool with a maximum open area and an in-built strength to with-stand well forces, ensuring a more efficient water well with a longer life expectancy.

Using this screen will result in a small drawdown. Drawdown, being the distance between the static water level and the dynamic water level at a given pumping rate yield, 'Q'. The smaller the drawdown the less energy required to raise the water in the well. As a result the operational costs will be low.

PIPAMAS screen are custom-built to suit each application for the type of material required and type of end connector fitting and to strictly conform to API and other standards.

Wedge Wire Profiles

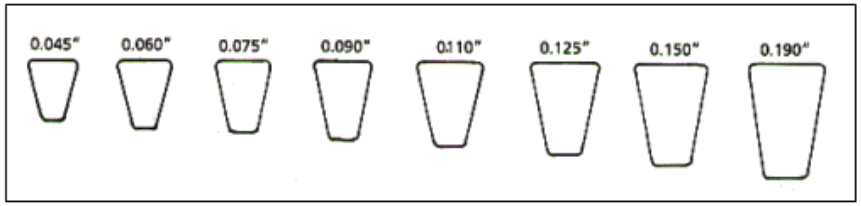


Figure 21 : Illustrates some of our standard profile wire.

Support Rods

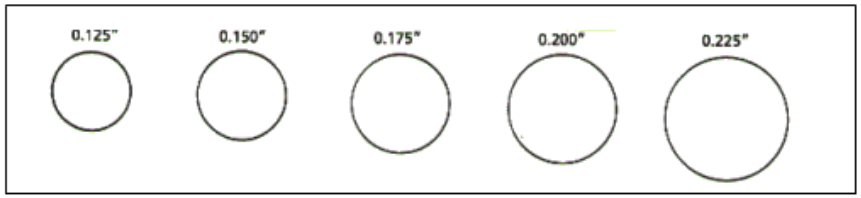


Figure 22 : Illustrates some of our standard support rods.

OUR PRODUCTS

Water Well Screen

ranges are produced in 1” to 30” O/D in lengths to suit your requirements up to 30’.

Slot openings as fine as 0.0001” up to 0.25”, can be manufactured in increments of 0.0001”.

The Safest material selection for a water well screen installation is SS.304, which is stronger than a low carbon steel screen, and will resist corrosion to last much longer.

To determine the corrosive nature of the well, it is important that the acidity (Ph value) of the water from the reservoir be calculated. By taking a water sample from the drilled well we can analyze it in our laboratory to determine the Ph value. This allows us to fabricate screens to your individual well characteristics to maximize production.

Having determined the material and the required collapse strength, tensile and column strength calculations, manufacturing can commence.

PIPAMAS rod base screen of the all-welded continuous slot wedge wire type of construction is produced by a sophisticated, electronically controlled welding fusion process. A number of support rods, ‘S’, are fed horizontally into our screen fabricating machines, at regulated distances from each other, forming a circle, then fusion-welded to a continuously wrapped on profile wire, ‘P’, producing a screen with a continuous slot opening. When the profile wire intersects a support rod, fusion takes place because of the large number of support rods, our screens have more welds per unit length of screen, which result in an integrally stronger screen.

OUR PRODUCTS

Water Well Screen

Since a water well will produce only as much water as the openings in the screen permit, it should be noted that the all-welded continuous slot wedge wire type of screen has up to ten times more open area than the ill-fated slotted pipe. This will ensure maximum yields, a long and trouble-free well life and lower pumping costs, since the drawdown will invariably be smaller.

Another important consideration is that this type of screen is constructed with V-shaped profile wire angled inwards giving only a two point contact for particles of the formations sands which are almost the slot size. This ensures that the formation particles will not wedge themselves into the slot, and gradually plug-up the screen, as is the case with slotted pipes where the slots lie parallel and are prone to plug.

PIPAMAS water well screens are produced from SS.304, SS.316 and Low Carbon Galvanized materials to suit your requirements.

We carry large stocks and a comprehensive range of raw materials for fast deliveries.

OUR PRODUCTS

Water Well Point

Each of our well point screens are produced with careful attention to quality and specifications as out larger screens.
These well points can be supplied with a drive type of well point or a wash down fitting (see Fig.26).

Fig.26 : Illustrates on the left a Well Point with Drive Nose and on the right a Well Point with a Wash Down Nose

OUR PRODUCTS

For small scale clean fresh water production, as required in the 'Desa' or Village throughout Indonesia, a well point should be a serious consideration. These will points are simple and very economical to install in Village situation. They can be driven or washed down into position, down to 100' in depth depending on the type and nature of the geology encountered therefore a full scale drilling rig will not be required. In unconsolidated formation geology, as is mostly encountered in Indonesia, the driving or washing down operation should pose no great difficultly.

Shallow well points are currently supplying millions of people all around the world with fresh clean water for household use and limited agricultural and feed stock needs.

Construction Site De Watering Point Systems

To solve problems of construction site flooding, we also produce de watering point systems by making small lengths which can be lowered into the ground, connected to a header pipe and pumped at the surface, to lower the water table at the construction site.

By Installing a series of our well points, 1.75" or 2.5" O/D standards in lengths of 2' or 3', into ground adjacent to where excavations have to be made, you can ensure safe working conditions.

Our de watering points are made out of SS 304 or Low Carbon Galvanized materials with drive points or wash down nose at one end, with a nipple connection on the other which can be connected through piping or flexible hoses to the header main.

OUR PRODUCTS

Mining & Industrial Screen

PIPAMAS stationary and vibratory screens are manufactured in a variety of forms and measurements, as required by the copper, coal, cement, iron ore, chemical, petrochemical and food industries.
Our engineers can visit your mine or plant to consult with our staff ass to your particular requirements in order to anticipate and prevent problems once you have entered full scale production.

By detailed studies of the field conditions, our engineers can recommend a product designed to meet your exact requirements.

We make flat, stationary, vibratory, curved and round screens with a frame construction to serve the mining industry and suit all the related installation (see Fig.27-34). The majority of PIPAMAS screens are made of stainless AISI.304, however for specific applications, we can recommend and construct high quality alloy screens.

Almost all minerals mined have to undergo many wet process cycles, requiring the application of screens. To select the most efficient type of screen unit design, we must understand the abrasive quality of the ore to be handled and its tendency to splinter during crushing, if such a sample is available.

It is also necessary for us to be aware of the make, measurements and model of the machine in which the screen panels are to be installed, as well as the rate and size of feed and the expected tonnage throughout the process.

Our engineers can then manufacture screens to fit in your equipment and ensure that performance requirements are met.

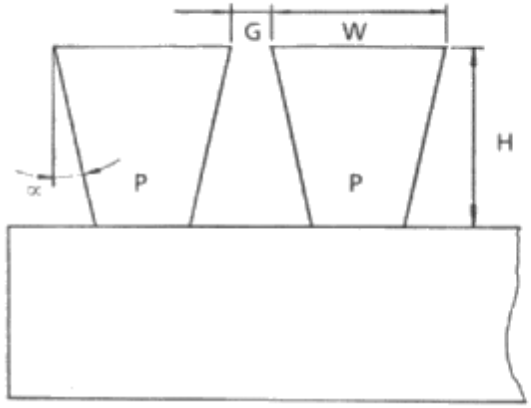
Our screen panels are manufactured to a rigid construction to avoid the development of secondary vibrations (flexing) during operations, which cause premature failure at the screen weld surface due to wear and tear.

OUR PRODUCTS

To obtain the desired tonnage throughput, without blinding or clogging, the screen panel must have sufficient open areas.

Our screen panel is fully bending resistant through the use of a fin style support rod for added strength. The size of the recommended support rod, center spacing and quality used will be dependent on the final application and panel width. The wedge best suited for your installation, will be determined by our technicians by balancing the open area needed to yield the required tonnage, dimension : 'H' (see Fig.35), and wear life, dimension : 'W'. The by considering the abrasive factor of the material being screened, and its tendency to clog we can custom-fabricate screen panel for your installation.

Figure 35 : *Wire and Support Fin as used for Mining Screens.*



DESCRIPTION :
G - Slot Opening
P - Profile wire
W - Profile wire Head Width
H - Profile wire Depth
α - Profile wire Relief Angle

In order to guarantee that our screen panels have a longer wear life, while also maintaining the specified slot dimensions as the panel progressively wear down its dimensions, most of the profile wires selected for special applications have a larger cross-section and a smaller relief angle.

Since your feed material carries large particles, Skid Bars must be arranged on the front line panels of the screen deck to absorb impact and prevent premature and uneven wear of the screens.

OUR PRODUCTS

Stationary mining screens tend to be more flexible and of simpler construction. Open areas for de watering and wear life are the main design considerations.

PIPAMAS mining screens are :
- Accurately made.
- Suitable for rough handling.
- Longer lasting in terms of work lifetime.
- Highly cost effective based on price per ton produced.

We manufacture industrial screens of various types and sizes :
- Vibratory Centrifuge Baskets.
- Vibratory Flat Fin Panels.
- Static Sieve Bends.
- Fine & Wide Slit Screens.
- Fine Slit & Narrower Profiles.
- Pump Intake Strainers.
- And a wide range of associated products.

Panels and screen surfaces can be custom constructed to any required size and can be supplied in a form which meets your industry requirements. The screen surfaces can be made with a variety of end frames: one, two or four sided steel frames of flat angle bar for mounting.

Our engineers can visit your installation, plant or mine site and discuss with your engineering staff any problems you have with your current equipment and suggest solution, in the form of a proposal particularly for our operational requirements to :
- Acquire the screening capacity required.
- Ensure minimum cost per ton produced.
- Design a screen construction to reach a long wear life.

PT Pipa Mas Putih has the capacity to construct a wide variety of mining and industrial screen surfaces for the coal, copper, manganese, iron ore, tin, aluminum, sand & gravel quarries, cement, food processing, water intake municipalities and many other areas on request.

OUR PRODUCTS

Figure 27

Type : Vibratory Centrifuge Basket SS Wedge Wire.
Range : 0.25" and above.
Profile : As per Specification.
Material : Stainless Steel as per AISI 304.
Application : Paper, coal and chemical industries for drying, size separation and filtering.

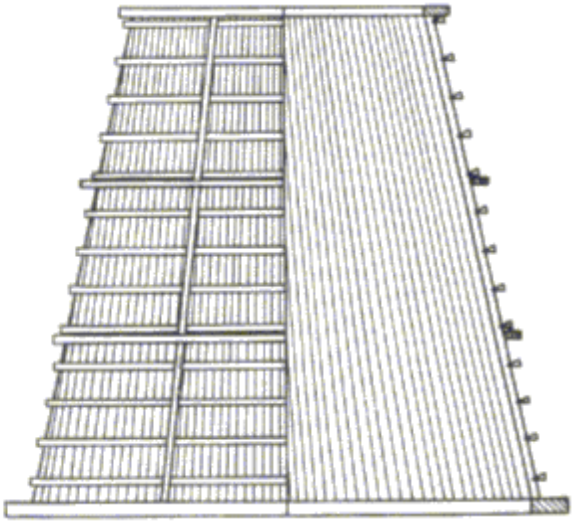
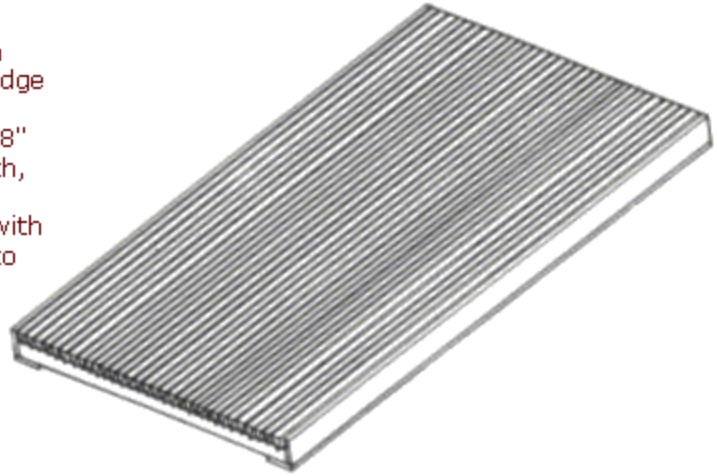


Figure 28

Type : Vibratory Flat Fin Panel SS 304 Wedge Wire.
Range : Panel length of 48" with varying width, 19 1/8 ", 23 1/8" and 27 1/8" std with gauge openings to suit the mining operation.
Application : For mining operation.



OUR PRODUCTS

Figure 29

Type : Static Sieve bend SS 304 Wedge Wire.
Profile : As per Specifications.
Application : Coal dewatering, pulp, sugar, fruits, cannery, meat and fish kneading, chemical industries, etc.

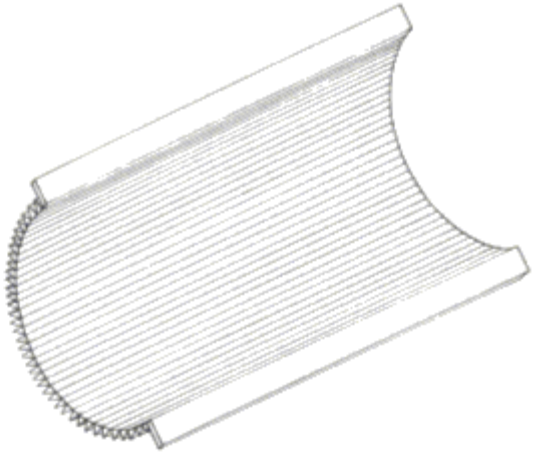
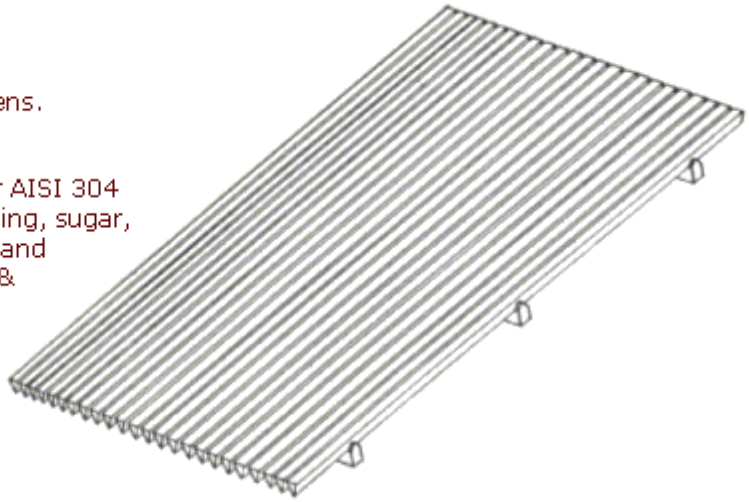


Figure 30

Type : Fine & Wide Slit Screens.
Slit Width : 0.05 mm and above.
Profile : As per Specifications.
Material : Stainless Steel as per AISI 304
Application : Coal, mining & quarrying, sugar, iron ore beneficiation and pelletising, fertilizers & chemicals, ceramic & refractory industries, etc., for de watering, separating, filtering, drying and sizing.



OUR PRODUCTS

Figure 31

Type : Fine & Wide Slit Screens.
Slit Width : 0.014" and above.
Profile : As per Specifications.
Material : Stainless Steel as per AISI 304
Application : Coal, mining & quarrying, sugar, iron ore pelletising, fertilizers & chemicals, ceramic & refractory industries, etc., for de watering, separating, filtering, drying and sizing.

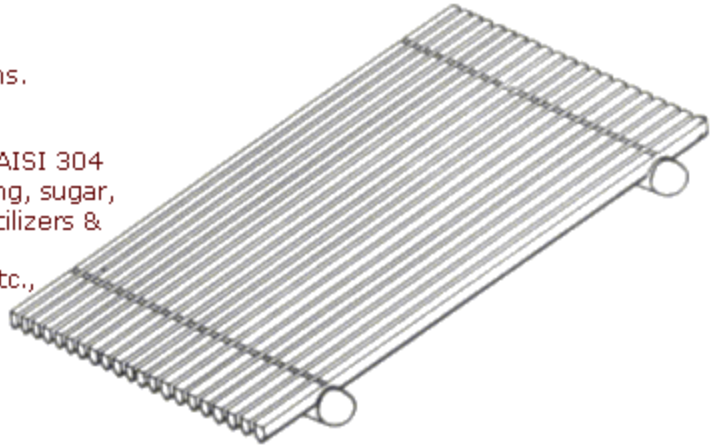
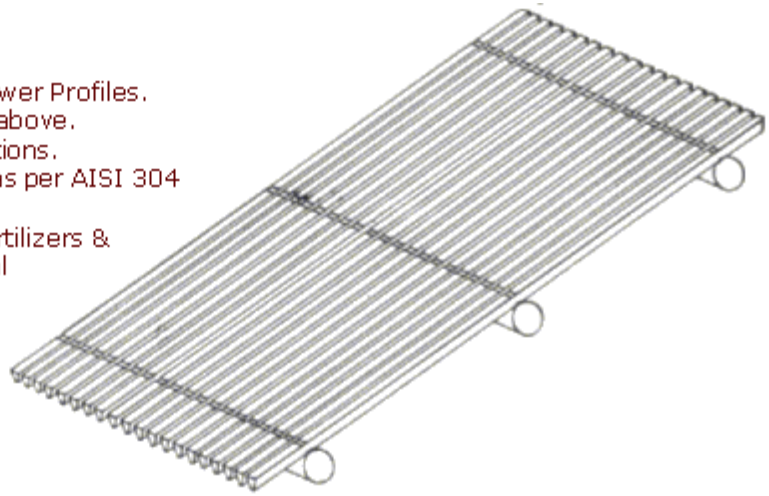


Figure 32

Type : Fine Slit & Narrower Profiles.
Slit Width : 50 microns and above.
Profile : As per Specifications.
Material : Stainless Steel as per AISI 304 Wedge Wire.
Application : Sugar, paper, fertilizers & chemical, Mineral benefication, strach, etc., for screening, filtering, grading, separative, etc.



OUR PRODUCTS

Figure 33

Type : Fine Slits & Narrower Profiles.
Slit Width : 50 microes and above.
Profile : As per Specifications.
Material : Stainless Steel as per AISI 304 Wedge Wire.
Application : Sugar, paper, fertilizers & chemical, mineral benefication, strach, etc., for screening, filtering, grading, separative, etc.

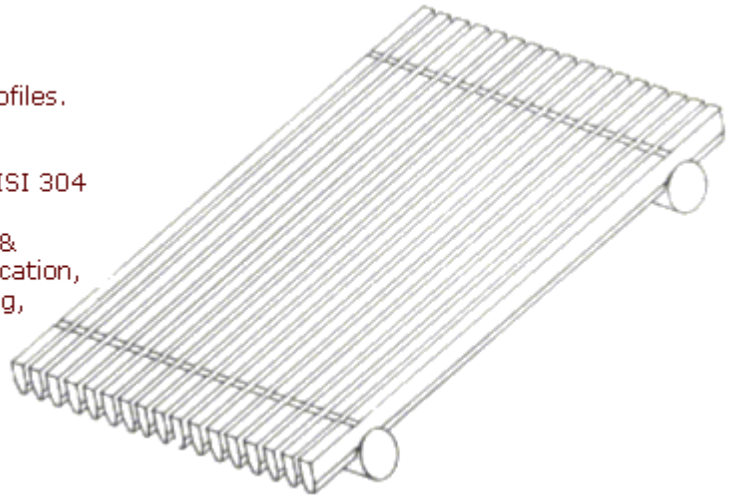
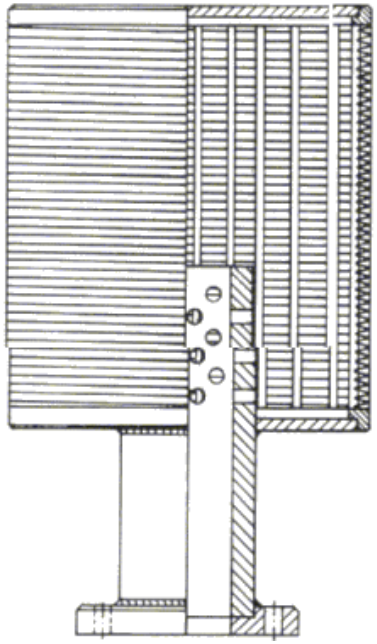


Figure 34

Type : Pump Intake Strainer
Material : Stainless Steel as per AISI 304 Wedge Wire.
Application : Water treatment, chemical plants, etc.



OUR PRODUCTS

Down Hole Tool

We manufacture a full range of oil and water well screen fittings as illustrated below in accordance with API, and other specifications for pipe size and telescope size water well screen.
We are also able to design and manufacture special down hole tools for specific applications.

Fig.13 : Cross Over Pin Box

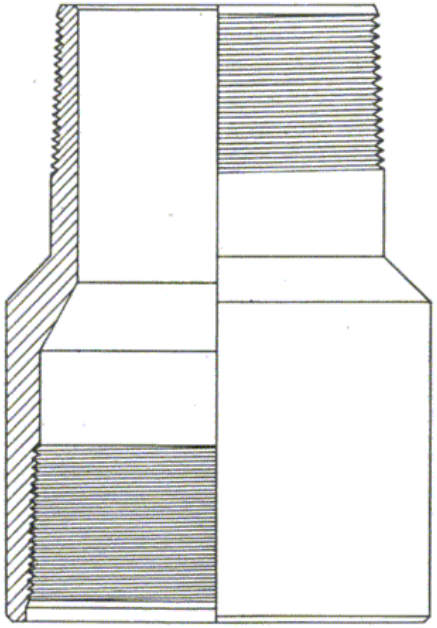
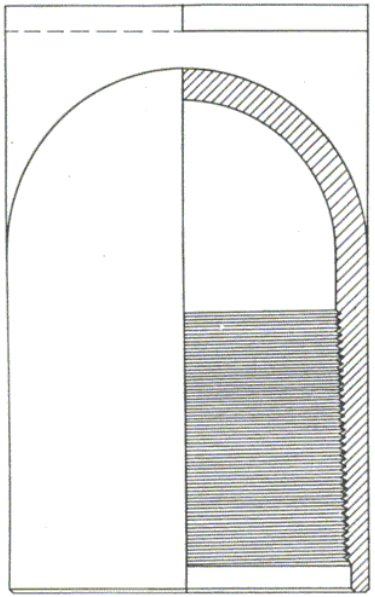


Fig.14 : Bull Plug



OUR PRODUCTS

Down Hole Tool

We manufacture a full range of oil and water well screen fittings as illustrated below in accordance with API, and other specifications for pipe size and telescope size water well screen.
We are also able to design and manufacture special down hole tools for specific applications.

Fig.15 : Coupling/Centralizer Fin

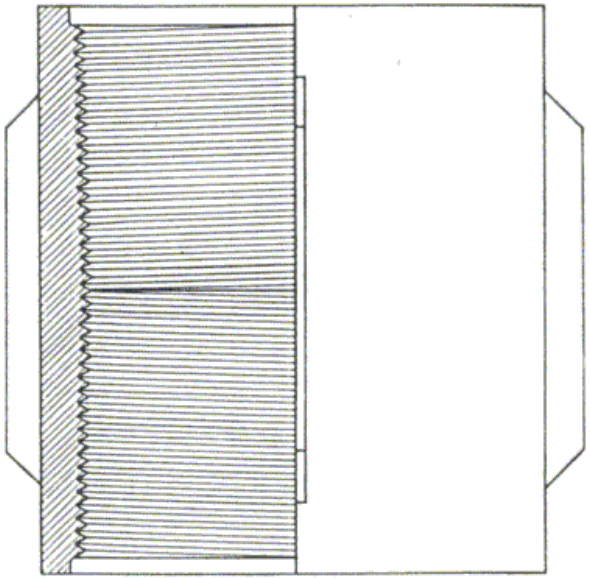
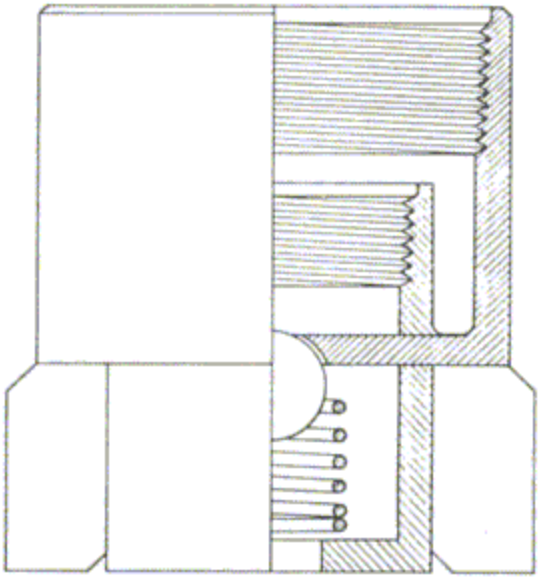


Fig.16 : Wash Down Shoe

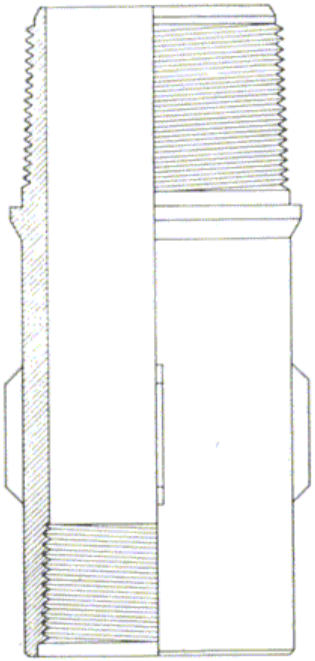


OUR PRODUCTS

Down Hole Tool

We manufacture a full range of oil and water well screen fittings as illustrated below in accordance with API, and other specifications for pipe size and telescope size water well screen.
We are also able to design and manufacture special down hole tools for specific applications.

Fig.17 : Pin Box Blank End/Centralizer Pin



OUR PRODUCTS

Samples Product with specific design

We are also able to design and manufacture any products with specific design.

- Bull Plug
- Cylinder Screen Drum
- Dual Pre-pack Screen
- Dura Grip

*Flow Coupling

- Lead Seat
- Morata Screen
- Perforation Pipe
- Pipe Base Screen
- Flat Screen
- Pre-pack Screen
- Rod Base Screen
- Short Strainer
- Static Screen (with support fin)
- Strainer Screen
- Super Pre-pack Screen
- Tie Back Adapter
- Wedge Wire Screen

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