BOREWELL PIPING SYSTEMS

FIT IT.
FORGET IT!

High impact resistant Borewell Piping Systems to withstand extreme pressure at great depths.

STANDARDS

PIPES
As per IS:12818

PRODUCT RANGE

ScreenPipes: 1 1/2" to 16" (40mm to 400mm)
Casing Pipes: 1 1/2" to 12" (40mm to 305mm)
Column Pipes: 1" to 4" (25mm to 100mm)

EXTENSIVELY USED IN

AGRICULTURE

APPLICATION

- To extract ground water for farms and fields.
- To extract ground water for residential & commercial buildings, public places, etc.

MAJOR ADVANTAGES

- Easy to transport, store, handle and install.
- Saves labour & installation cost.
- Smooth bore ensures higher flow compared to G.I. pipeline of the same size. No clogging.
- Bore diameter remains constant, ensuring constant flow over lifetime.
- Superior resistance to most of the chemicals, no scaling, makes the system almost maintenance free.
- Long life.

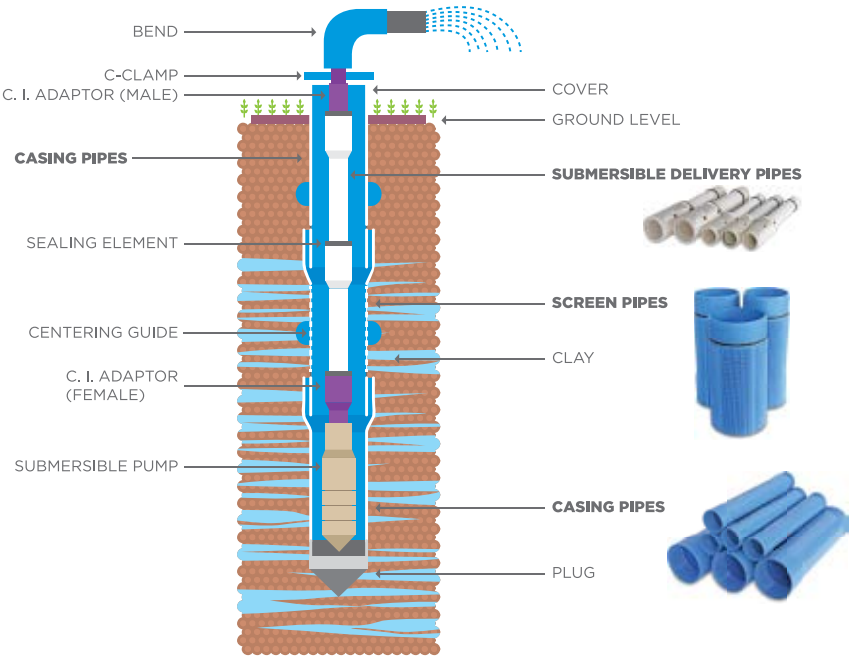
JOINTING METHOD

- Threaded Joint

QUALITY TEST

- Tensile test.
- Impact test.
- Vicat softening temperature test.
- Effect on water test.
- Hydraulic pressure test.

TYPICAL LAYOUT OF BOREWELL



SPECIFICATIONS

Specifications	Screen Pipes			Casing Pipes			Submersible Delivery Pipes/ Rising Main Pipes
	Ribbed	Plain	Medium	CM	CS	CD	
Colour	Blue	Blue	Blue	Blue	Blue	Blue	Ivory
Standard Length	3m	3m	3m	3m	3m	3m	3m
Standards	IS - 12818-2010 / Marked items will bear ISI marks						
Type of Threads	11 TPI V threads up to 80mm, 100mm (CS) Casing pipes as per IS-554-1999 & Trapezoidal threads form 100mm as per IS-12818-2010 with rubber sealing rings.						Square
Notes:							
A) Suitability: For wells	-			Above 80m 262ft. up to 250m 820ft.	up to 80m 262 ft.	Above 250m 820ft. up to 450m 1476ft.	-
B) Threads	Pipes will have internal threads at one end external threads at other end with thread protection cover.						
C) Specification required	Slot width 0.75, 1.00, 1.50, 2.00 & 3.00 mm						

DIMENSIONS

MEDIUM WELL SCREEN (RMS) & DEEP WELL SCREEN (RDS) PIPES WITH RIBS/RIBBED SCREEN PIPES

				Medium Well Screen (RMS)			Deep Well Screen (RDS)		
Nominal Diameter (DN)		Mean Outer Diameter of pipe (d) (mm)		Mean Outer Diameter over Connection, (d's')	Wall Thickness (e) (under ribs) (mm)		Mean Outer Diameter over Connection, (d's')	Wall Thickness, 'e' (mm)	
mm	inches	Min	Max	Max	Min	Max	Max	Min	Max
40.0	1 1/2	52.00	52.20	56.00	3.50	4.00	--	--	--
50.0	2	64.00	64.20	69.00	4.00	4.60	--	--	--
80.0	3	92.00	92.30	98.00	4.00	4.60	--	--	--
100.0	4	117.00	117.30	124.00	5.00	5.70	129.00	7.00	7.90
115.0	4 1/2	129.00	129.30	--	--	--	141.00	7.50	8.50
125.0	5	144.00	144.40	154.00	6.50	7.30	156.00	8.00	9.00
150.0	6	169.00	169.40	182.00	7.50	8.50	184.00	9.50	10.70
175.0	7	204.00	204.50	219.00	8.80	9.80	221.00	11.80	13.60
200.0	8	229.00	229.50	247.00	10.00	11.20	251.00	13.00	14.80
250.0	10	284.00	284.50	302.00	12.50	14.00	309.00	16.00	17.60
300.0	12	334.00	334.60	356.00	14.50	16.20	363.00	19.00	21.00
350.0	14	404.00	404.70	432.00	17.50	19.50	437.00	21.50	23.90
400.0	16	454.00	454.80	483.00	19.50	21.70	494.00	23.50	26.10

PLAIN MEDIUM WELL SCREEN (PMS) & PLAIN DEEP WELL SCREEN (PDS) PIPES

				Plain Medium Well Screen (PMS)			Plain Deep Well Screen (PDS)				
Nominal Diameter (DN)		Mean Outer Diameter of pipe (d) (mm)		Mean Outer Diameter over Connection, (d's')	Wall Thickness (e) (mm)		Outer Diameter at any point d'e' (mm)		Mean Outer Diameter over Connection, d's'	Wall Thickness, 'e' (mm)	
mm	inches	Min	Max	Max	Min	Max	Min	Max	Max	Min	Max
200.0	8	225.00	225.50	243.00	10.00	11.20	224.50	225.80	247.00	13.00	14.80
250.0	10	280.00	280.50	298.00	12.50	14.00	279.40	280.80	304.00	16.00	17.60
300.0	12	330.00	330.60	352.00	14.50	16.20	329.30	331.00	359.00	19.00	21.00
350.0	14	400.00	400.70	428.00	17.50	19.50	399.20	401.20	433.00	21.50	23.90
400.0	16	450.00	450.80	479.00	19.50	21.70	449.10	451.30	490.00	23.50	26.10

MEDIUM WELL CASING (CM) & SHALLOW WELL CASING (CS) PIPES

				Medium Well Casing (CM) Pipes			Shallow Well Casing (CS) Pipes		
Nominal Diameter (DN)		Mean Outer Diameter of pipe (d) (mm)		Mean Outer Diameter over Connection, (d's')	Wall Thickness e (mm)		Mean Outer Diameter over Connection, (d's')	Wall Thickness, 'e' (mm)	
mm	inches	Min	Max	Max	Min	Max	Max	Min	Max
40.0	1 1/2	48.00	48.20	52.00	3.50	4.00	--	--	--
50.0	2	60.00	60.20	65.00	4.00	4.60	--	--	--
80.0	3	88.00	88.30	94.00	4.00	4.60	--	--	--
100.0	4	113.00	113.30	120.00	5.00	5.70	--	--	--
125.0	5	140.00	140.40	150.00	6.50	7.30	--	--	--
150.0	6	165.00	165.40	178.00	7.50	8.50	174.00	5.70	6.50
175.0	7	200.00	200.50	215.00	8.80	9.80	211.00	7.00	7.80
200.0	8	225.00	225.50	243.00	10.00	11.20	238.00	7.60	8.80
250.0	10	280.00	280.50	298.00	12.50	14.00	292.00	9.60	11.00
300.0	12	330.00	330.60	352.00	14.50	16.20	--	--	--

Note: 32mm (1 1/2") Nominal Diameter pipes are available on special request.

DEEP WELL CASING (CD) PIPES

Nominal Diameter (DN)		Mean Outer Diameter of pipe d'em' (mm)		Outer Diameter at any point d'e' (mm)		Mean outer Diameter over Connection, (d's')	Wall thickness, 'e' (mm)	
mm	inches	Min	Max	Min	Max	Max	Min	Max
100.0	4	113.00	113.30	112.80	113.40	125.00	7.00	7.90
115.0	4 1/2	125.00	125.30	124.90	125.40	137.00	7.50	8.50
125.0	5	140.00	140.40	139.70	140.50	152.00	8.00	9.00
150.0	6	165.00	165.40	164.60	165.60	180.00	9.50	10.70
175.0	7	200.00	200.50	199.60	200.60	217.00	11.80	13.60
200.0	8	225.00	225.50	224.50	225.80	247.00	13.00	14.80
250.0	10	280.00	280.50	279.40	280.80	304.00	16.00	17.60
300.0	12	330.00	330.60	329.30	331.00	359.00	19.00	21.00
350.0	14	400.00	400.70	399.20	401.20	433.00	21.50	23.90
400.0	16	450.00	450.80	449.10	451.30	490.00	23.50	26.10

SUBMERSIBLE DELIVERY PIPES/RISING MAIN PIPES/COLUMN PIPES

Product | OD - Outside Dia. | ND - Nominal Dia. in mm			Pressure Kg/cm²	Safe total pump delivery Head (m)	Ultimate Breaking Load (Kg)	Safe Pulling Load (Kg)	Screen Colour	STD Packing
Size	Type	Category						
1 OD-33.30 ND-25.00	Coupler	V 4	12.5	125	850	500	Royal Claret	28
			17	170	950	600	Green	
		Medium	22	220	1250	750	Orange	28
		Std	38	380	1750	1100	Red	28
	Bell Form Coupler	V4	12.5	125	850	500	Royal Claret	28
			17	170	950	600	Green	
1 1/4 OD-42.10 ND-32.00	Coupler	V 4	12.5	125	1350	800	Royal Claret	20
			7	170	1500	900	Green	
		Medium	21	210	1725	1000	Orange	20
		Std	30	300	2350	1400	Red	20
		Heavy	39	390	2900	1750	Blue	20
	Bell Form Coupler	V4	12.5	125	1350	800	Royal Claret	20
			17	170	1500	900	Green	
1 1/2 OD-48.20 ND-40.00	Coupler	V 4	16	160	1850	1100	Green	16
		Medium	22	220	2400	1450	Orange	16
		Std	26	260	2750	1650	Red	16
		Heavy	39	390	3700	2250	Blue	16
2 OD-60.20 ND-50.00	Coupler	Medium	14	140	2450	1450	Orange	12
		Std	20	200	3500	2100	Red	12
		Heavy	27	270	4600	2800	Blue	12
2 1/2 OD-75.00 ND-65.00	Coupler	Medium	11	110	3100	1800	Orange	8
		Std	16	160	4500	2700	Red	8
		Heavy	26	260	6450	3900	Blue	8
3 OD-88.00 ND-80.00	Coupler	Medium	11	110	4100	2450	Orange	6
		Std	17	170	6400	3800	Red	6
		Heavy	26	260	8900	5300	Blue	6
4 OD-113.00 ND-100.00	Coupler	Medium	10	100	6500	3900	Orange	4
		Std	15	150	9250	5550	Red	4
		Heavy	26	260	14450	8700	Blue	4

Note:
Submersible pipes with 'Bellform' available on 1" & 1¼" - v4 catergory with 12.5 & 17kg pressure ratings

GUIDELINES FOR INSTALLATION OF SCREEN & CASING PIPE:

- Drill the bore of the required size & depth in the ground using the method of auger drilling/water jet boring/hydraulic rotary drilling/core drilling. During drilling, care should be taken that it is vertically straight down without any bends. Saves labour & installation cost.

Note:

1. To construct the bore/tube well casing/screening & rising main pipes are required.
2. Casing pipes are highly recommended in the area where loose soil & silt/loose boulders stones are prevalent.

- Fit the rubber gasket properly on the space provided on the ribbed screen/casing pipes.
- Fit "C" clamp below the bell end on the pipe and lower the assembly done with help of chain pulley block (Provide sand trap with end plug as necessary).
- After lowering the pipe up to the clamp level, fix the rubber gasket on another pipe & tighten it gently with the lowered pipe. After tightening, use pipe/chain wrench for proper jointing, but do not overtighten.
- Fix the next clamp with the pipe above and bell end below and connect the chain pulley with the clamp.
- Remove the clamp of lowered pipe & start lowering further.
- Repeat the jointing method till the required depth of borewell.
- Centering guide to be fitted wherever necessary.
- Fill the gravel between pipe & borehole.

GUIDELINES FOR INSTALLATION OF RISING MAIN PIPE:

Once screen & casing pipes are installed properly, follow the below guidelines for installation of PUMP & SUBMERSIBLE DELIVERY PIPE.

- Before starting the installation, pre-check if the submersible pump is in good working condition.
- Join the Trubore metal adaptor with the submersible pump with the help of chain wrench.
- Before starting the pipe assembly, clean the pipe threads with normal water to avoid forceful jointing.
- Before joining the pipe with pump; ensure pump guard is installed properly between pipe coupler & pump metal adaptor.
- Assemble SUBMERSIBLE DELIVERY PIPE with pump, always use strap wrench/rope for last jerk.
- Fix a nylon rope to the cast iron adaptor as a safety measure against falling of submersible pump due to mishap (run the nylon rope throughout the borewell length & tie it with top clamp).
- Fit the "C" clamp below coupler (at a defined location on the pipe) and lower the assembly inside the Casing pipe carefully with the help of a chain pulley.
- Once pipe will be lowered in the borewell up to the clamp level, fix the rubber ring on other pipe and tighten it gently with the help of rope/strap wrench, till half of the ring gets inside the coupler.

IMPORTANT STEPS

Join Metal connector to submersible pipe with the help of chain wrench.

Before starting pipe assembly clean the pipe threads with clean water.

Before joining the pipe with the pump, ensure pumpguard is installed properly.

Before opening or joining the pipe, ensure the coupler is firmly held by hand.

Tighten pipe with hand, till half rubber ring is seen. If required use rope wrench to give a final jerk.

Tighten pipe with hand, till half rubber ring is seen. If required use belt wrench for final jerk.

Lower SUBMERSIBLE DELIVERY PIPE with the help of a chain pully.